

Arizona State University

Course Catalog Archive 2023-2024



This document provides an archival record of the course catalog offered during the 2023-2024 academic year. It is a printable option of the online course catalog for accreditation organizations, agencies and university offices for data collection, evaluation purposes and referencing. The courses presented in this archive may no longer be offered. For current course information and offerings, refer to the online version of the course catalog.

For inquiries or questions please contact academic.catalog@asu.edu.

| <u>Course Prefix</u> | <u>Description</u> |
|-----------------------------|--|
| ABS | Applied Biological Sciences |
| ACC | Accountancy |
| ACO | Applied Computing |
| ACT | Actuarial Sciences |
| ADE | Architectural Design and Technology Studios |
| AEE | Aerospace Engineering |
| AEP | Applied Ethics and the Professions |
| AES | Aerospace Studies |
| AET | Aeronautical Engineering Technology |
| AFR | African and African American Studies |
| AGB | Agribusiness |
| AIS | American Indian Studies |
| ALA | Architecture and Landscape Architecture |
| ALD | Aging and Lifespan Development |
| ALT | Alternative Energy Technologies |
| AME | Arts, Media, and Engineering |
| AML | Applied Mathematics for the Life & Social Sciences |
| AMS | American Studies |
| AMT | Aeronautical Management Technology |
| ANB | Animal Behavior |
| ANP | Environmental Analysis and Programming |
| APA | Asian Pacific American Studies |
| APH | Architectural Philosophy and History |
| APL | Applied Linguistics |
| APM | Applied Mathematics |
| ARA | Art Auxiliary |
| ARB | Arabic |
| ARC | Architecture |
| ARE | Art Education |
| ARP | Architecture Professional Studies |
| ARS | Art History |
| ART | Art |
| ASB | Anthropology (Social and Behavioral) |
| ASC | Applied Science Core |
| ASL | American Sign Language |
| ASM | Anthropology (Science and Mathematics) |
| AST | Astronomy |
| ASU | ASU |
| ATC | Air Traffic Control |
| ATE | Architecture and Landscape Architecture |

| <u>Course Prefix</u> | <u>Description</u> |
|-----------------------------|--|
| ATP | Art Therapy |
| BCH | Biochemistry |
| BCS | Serbo-Croatian |
| BDE | Biological Design |
| BIO | Biology |
| BIS | Bachelor of Interdisciplinary Studies |
| BLE | Bilingual Education |
| BMD | Biomedical Diagnostics |
| BME | Bioengineering |
| BMI | Biomedical Informatics |
| BMY | Biomimicry |
| BUA | Business Administration |
| BUS | Business |
| CAP | Counseling and Applied Psychological Science |
| CAS | Complex Adaptive Systems |
| CDE | Child Development |
| CDH | Computational Digital Humanities |
| CED | Counselor Education |
| CEE | Civil and Environmental Engineering |
| CEL | Civic and Economic Thought and Leadership |
| CEN | Computer Engineering |
| CGF | College of Global Futures |
| CHE | Chemical Engineering |
| CHI | Chinese |
| CHM | Chemistry |
| CHS | College of Health Solutions |
| CIS | Computer Information Systems |
| CMN | Communication Studies |
| CNE | Construction Engineering |
| COE | College of Education |
| COM | Communication |
| CON | Construction |
| CPI | Computing & Informatics |
| CPP | College of Public Programs |
| CPY | Counseling Psychology |
| CRD | Community Resources and Development |
| CRJ | Criminology and Criminal Justice |
| CSE | Computer Science and Engineering |
| CSM | Community Sports Management |
| CTE | Culture, Technology & Environment |

| <u>Course Prefix</u> | <u>Description</u> |
|-----------------------------|--|
| DAT | Data Science |
| DBA | Doctor of Business Administration |
| DCE | Dance |
| DCI | Curriculum and Instruction |
| DNP | Doctor of Nursing Practice |
| DSC | Design |
| DSE | Data Science, Analytics and Engineering |
| DST | Disability Studies |
| ECD | Early Childhood Education |
| ECN | Economics |
| ECS | Early Childhood Special Education |
| EDA | Education Administration and Supervision |
| EDP | Educational Psychology |
| EDS | Environmental Design |
| EDT | Educational Technology |
| EDU | Educational Studies |
| EED | Elementary Education |
| EEE | Electrical Engineering |
| EET | Electronics Engineering Technology |
| EGR | Engineering |
| ELL | English as a Second Language |
| ELS | Environmental Life Sciences |
| EMS | Executive Sustainability Leadership |
| ENG | English |
| ENT | Entrepreneurship |
| ENV | Environmental Science |
| EPA | Education Policy Analysis |
| EPD | Environmental Design and Planning |
| ERM | Environmental Resource Management |
| ESS | Environmental Social Science |
| EST | Electronic Systems Technology |
| ETH | Ethnic Studies |
| EVE | Environmental Engineering |
| EVO | Evolutionary Biology |
| EXW | Exercise and Wellness |
| FAS | Family Studies |
| FIN | Finance |
| FIS | Future of Innovation in Society |
| FMP | Film and Media Production |
| FMS | Film and Media Studies |

| <u>Course Prefix</u> | <u>Description</u> |
|-----------------------------|--|
| FOR | Forensics |
| FRE | French |
| FSE | Fulton School of Engineering |
| FSH | Fashion |
| GAP | Global Academic Preparation |
| GBL | Global Launch |
| GCO | Genetic Counseling |
| GCU | Cultural Geography |
| GDE | Global Digital English |
| GER | German |
| GIS | Geographic Information Science |
| GIT | Graphic Information Technology |
| GLE | Global Education |
| GLG | Geological Sciences |
| GPE | Global Professional English |
| GPH | Physical Geography |
| GRA | Graphic Design |
| GRD | Graduate Education |
| GRK | Ancient Greek |
| GSC | Global Security |
| GTD | Global Technology and Development |
| HCA | Health Care Aging |
| HCD | Science of Health Care Delivery |
| HCI | Healthcare Innovation |
| HCR | Health Care Related |
| HCS | Health Care Simulation |
| HDA | Herberger Institute for Design and the Arts |
| HEB | Hebrew |
| HED | Higher and Postsecondary Education |
| HEP | Health Education & Health Promotion |
| HHE | Healthcare and Healing Environments |
| HIN | Hindi Studies |
| HON | Honors |
| HPS | History and Philosophy of Science |
| HRC | Humanities, Arts & Cultural Studies |
| HSC | Health Sciences |
| HSD | Human and Social Dimensions Science and Technology |
| HSE | Human Systems Engineering |
| HSM | Health Sector Management |
| HST | History |

| <u>Course Prefix</u> | <u>Description</u> |
|-----------------------------|---|
| HUL | Humanities Lab |
| IAL | International Affairs and Leadership |
| IAP | Interdisciplinary Arts and Performance |
| IAS | Integrative Studies |
| IBC | Integrated Behavioral Care |
| IDN | Indonesian |
| IDS | Interdisciplinary Studies |
| IED | Indian Education |
| IEE | Industrial Engineering |
| IFT | Information Technology |
| IGD | Innovation in Global Development |
| IND | Industrial Design |
| INT | Interior Design |
| IPI | Interplanetary Initiative |
| ISS | Integrative Social Science |
| ITA | Italian |
| IVD | Innovation and Venture Development |
| JHR | Social Justice and Human Rights |
| JMC | Journalism and Mass Communication |
| JPN | Japanese |
| JST | Jewish Studies |
| JUS | Justice Studies |
| KIN | Kinesiology |
| KOR | Korean |
| LAP | Landscape Architecture Professional Studies |
| LAS | Latin American Studies |
| LAT | Latin |
| LAW | Law |
| LDE | Landscape Architectural Design & Technology Studies |
| LDT | Learning Design and Technologies |
| LES | Legal and Ethical Studies |
| LIA | Liberal Arts and Sciences |
| LIN | Linguistics |
| LPH | Landscape Architectural Philosophy and History |
| LSC | Life Sciences |
| LSE | Learning Sciences |
| LST | Liberal Studies |
| LTC | Landscape Architectural Technology |
| MAE | Mechanical and Aerospace Engineering |
| MAS | Masters of Arts in Interdisciplinary Studies |

| <u>Course Prefix</u> | <u>Description</u> |
|-----------------------------|---|
| MAT | Mathematics |
| MBB | Molecular Biosciences/Biotechnology |
| MCB | Molecular and Cellular Biology |
| MCE | Multicultural Education |
| MCO | Mass Communication |
| MDC | Music and Digital Culture |
| MDL | Medical Laboratory Science |
| MED | Medical Studies |
| MEE | Mechanical Engineering |
| MET | Mechanical & Manufacturing Engineering Technology |
| MFG | Manufacturing Engineering |
| MGE | Middle Grades Education |
| MGT | Management |
| MHL | Music History/Literature |
| MIC | Microbiology |
| MIS | Military Science |
| MKT | Marketing |
| MLS | Master of Liberal Studies |
| MND | Mandarin Chinese |
| MSA | Modern Standard Arabic |
| MSC | Popular Music |
| MSE | Materials Science and Engineering |
| MSI | Music Scholarly Inquiry |
| MTC | Music Theory and Composition |
| MTE | Mathematics Education |
| MUD | Urban Design |
| MUE | Music Education |
| MUP | Music Performance |
| MUS | Music |
| NAN | Nanoscience |
| NAV | Naval Science |
| NEM | Narrative and Emerging Media |
| NEU | Neuroscience |
| NEW | New College |
| NLM | Nonprofit Leadership and Management |
| NTR | Nutrition |
| NUR | Nursing |
| OBS | Obesity Prevention and Management |
| OGL | Organizational Leadership |
| OMT | Operations Management Technology |

| <u>Course Prefix</u> | <u>Description</u> |
|-----------------------------|--|
| PAF | Public Affairs |
| PAX | Peace Studies |
| PBH | Public Health |
| PHI | Philosophy |
| PHS | Physical Sciences |
| PHY | Physics |
| PIT | Public Interest Technology |
| PLB | Plant Biology |
| PLC | Polish Languages and Culture |
| PMG | Project Management |
| POP | Population Health |
| POR | Portuguese |
| POS | Political Science |
| PPE | Physical Education East |
| PPS | Political Psychology |
| PRM | Parks and Recreation Management |
| PSB | Psychology Behavior Analysis |
| PSY | Psychology |
| PTX | Pharmacology/Toxicology |
| PUP | Urban and Environmental Planning |
| QBA | Quantitative Business Analysis |
| RAS | Robotics and Autonomous Systems |
| RCR | Regulatory & Clinical Research |
| RDG | Reading Education |
| REA | Real Estate |
| RED | Real Estate Development |
| REL | Religious Studies |
| ROM | Romanian |
| RTH | Recreational Therapy |
| RUS | Russian |
| SAO | Study Abroad Office |
| SBS | Social and Behavioral Sciences |
| SCM | Supply Chain Management |
| SCN | Science Education |
| SDO | Sandra Day O'Connor |
| SEA | School of Ocean Futures |
| SEC | Solar Energy Engineering & Commercialization |
| SED | Secondary Education |
| SER | Software Engineering |
| SES | Earth and Space Exploration |

| <u>Course Prefix</u> | <u>Description</u> |
|-----------------------------|--|
| SFS | Sustainable Food Systems |
| SGS | School of Global Studies |
| SHS | Speech and Hearing Science |
| SLB | Sports Law and Business |
| SLC | School of International Letters and Cultures |
| SLV | Slavic |
| SMC | Simulation, Modeling and Applied Cognitive Science |
| SOC | Sociology |
| SOS | School of Sustainability |
| SPA | Spanish |
| SPE | Special Education |
| SPF | Social and Philosophical Foundations |
| SSH | Social Science and Health |
| SSP | Sports Science and Performance Programming |
| SST | Studies in Social Transformation |
| STC | Social Technologies |
| STM | Science, Technology, Engineering and Mathematics |
| STP | Statistics and Probability |
| STS | Science, Technology, and Society |
| SWG | Social Work (Graduate) |
| SWU | Social Work (Undergraduate) |
| TAM | Thunderbird Applied Leadership and Management |
| TCL | Transborder Chicana/o and Latina |
| TDM | Tourism Development and Management |
| TEL | Teacher Education and Leadership |
| TEM | Technological Entrepreneurship and Management |
| TGM | Thunderbird School of Global Management |
| THE | Theatre |
| THF | School of Theatre and Film |
| THP | Theatre Performance and Production |
| TMC | Technology Management Core |
| TSS | School of Transborder Studies |
| TWC | Multimedia Writing and Technical Communication |
| UET | Microelectronics Engineering Technology |
| UNI | University |
| URB | Urban and Metropolitan Studies |
| USL | University Service Learning |
| VIP | Vertically Integrated Projects |
| VTN | Vietnamese |
| VTS | Veterans Studies |

| <u>Course Prefix</u> | <u>Description</u> |
|-----------------------------|-------------------------------|
| WAC | Writing Across the Curriculum |
| WPC | W.P. Carey School of Business |
| WST | Women's Studies |
| WWS | World War II Studies |

Classification of Courses

Course Numbering System

Lower-division courses

Lower-division courses, numbered from 100 to 299, are designed primarily for freshmen and sophomores. Certain classes are closed to freshmen who lack the designated prerequisites or whose majors are outside the units offering the courses. This information is available in the course catalog [1] or from the student's academic advisor.

Upper-division courses

Upper-division courses, numbered from 300 to 499, are designed primarily for juniors and seniors. Prerequisites and other restrictions should be noted before registration. Courses at the 400 level apply to graduate degree requirements for some graduate programs when approved by the Graduate College.

Graduate-level courses

Graduate-level courses, numbered from 500 to 799, are designed primarily for graduate students. However, an upper-division undergraduate student may enroll in courses numbered 500-599 with the approval of the student's advisor, course instructor, department chair and dean of the college in which a course is offered. If such a course does not meet an undergraduate graduation requirement, it may be eligible for use in a future graduate program on the same basis as work taken by a nondegree graduate student. Undergraduate students should review additional information about graduate credits earned by undergraduate students [2].

Omnibus courses

Omnibus numbers are used for courses offered on an experimental or tutorial basis or for courses in which the content is new or periodically changes. Each academic unit uses that unit's prefixes with omnibus course numbers. The general nature of the work required for a particular omnibus course is consistent from unit to unit but subject matter varies. Omnibus courses often are offered for a variable number of credit hours.

Within the academic catalog and course catalog, abbreviations are frequently used with a colon to introduce specific omnibus course topics, which are shown in the omnibus course abbreviations chart below (e.g., MGT 494 ST: Cultural Factors in International Business).

| Omnibus Course Abbreviations | | |
|-------------------------------------|-------------------------|--------------------|
| Abbreviation | Title | Number |
| AP | Applied Project | 593, 693, 793 |
| CW | Conference and Workshop | 594 |
| FW | Fieldwork | 583, 683, 783 |
| FYS | First-Year Seminar | 191 |
| HC | Honors Colloquium | 497 |
| I | Internship | 484, 584, 684, 784 |
| P | Practicum | 580, 680, 780 |
| PS | Pro-Seminar | 498 |
| R | Research | 592, 692, 792 |
| RC | Reading and Conference | 590, 690, 790 |
| RM | Research Methods | 500, 600, 700 |
| S | Seminar | 591, 691, 791 |

| | | |
|----|----------------|-------------------------|
| ST | Special Topics | 194, 294, 394, 494, 598 |
|----|----------------|-------------------------|

Omnibus undergraduate courses

191 First-Year Seminar (1-3)

Small course emphasizing student-faculty discussion and interaction.

194, 294, 394, 494 Special Topics (0.25-4)

Covers topics of immediate or special interest to a faculty member and students.

484 Internship (1-12)

Structured practical experience following a contract or plan, supervised by faculty and practitioners.

498 Pro-Seminar (1-7)

Small-group study and research for advanced students within their majors.

499 Individualized Instruction (1-3)

Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis.

Honors Courses

These courses and all with the HON prefix are reserved for students in Barrett, the Honors College.

298 Honors Directed Study (1-6)

Independent study or practicum under the supervision of a faculty member.

492 Honors Directed Study (1-6)

Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project.

493 Honors Thesis (1-6)

Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project.

497 Honors Colloquium (1-6)

A class emphasizing discussion, written and/or oral presentation by students, and active participation.

Omnibus graduate courses

The following courses are described in the Graduate College announcements and are also available from the respective departments. Under special circumstances, at the dean's request and through the approval of the executive vice president and provost of the university, arrangements may be made to increase the standard number of credit hours.

500, 600, 700 Research Methods (1-12)

Course on research methods in a specific discipline.

580, 680, 780 Practicum (1-12)

Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely.

583, 683, 783 Fieldwork (1-12)

Structured, supervised field experience in a field science or other discipline requiring experience in field techniques.

584, 684, 784 Internship (1-12)

Structured practical experience following a contract or plan, supervised by faculty and practitioners.

590, 690, 790 Reading and Conference (1-12)

Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic.

591, 691, 791 Seminar (1-12)

A small class emphasizing discussion, presentations by students and written research papers.

592, 692 Research (1-12)

Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript.

593, 693, 793 Applied Project (1-12)

Preparation of a supervised applied project that is a graduation requirement in some professional majors.

594 Conference and Workshop (1-12)

Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals.

595, 695, 795 Continuing Registration (1)

Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned.

598 Special Topics (1-4)

Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand).

599 Thesis (1-12)

Supervised research focused on preparation of a thesis, including literature review, research, data collection and analysis, and writing.

792 Research (1-15)

Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript.

799 Dissertation (1-15)

Supervised research focused on preparation of a dissertation, including literature review, research, data collection and analysis, and writing.

Other subjects

Visiting student program

The numbers 597, 697 and 797 in the LAW prefix have been reserved for the visiting student program in the Sandra Day O'Connor College of Law.

Global education programs

Courses with the prefix SAO are reserved for participants in programs offered through the Global Education Office [3]. Courses with an SAO subject are used in two ways: either to provide general university elective credit for specific programs or courses or as a placeholder course for participation in partnership and exchange programs.

In the case of a placeholder course, the course remains on the student's academic record until the student's record is updated by the Global Education Office following completion of the student's study abroad program. The SAO-subject course is then dropped from the student's record and replaced with the ASU courses, credits and grades equivalent to the coursework completed abroad. Students must register for at least the

number of credit hours equivalent to full-time study at ASU (i.e., 12 credit hours for undergraduate students and nine credit hours for graduate students during the fall and spring semesters, or one to six credit hours during the summer session). Students participating in a GEO partnership program must register for the subtopic “SAO: Study Abroad Program,” whereas participants in an GEO exchange program must register for the subtopic “SAO: Exchange Program.” The SAO placeholder course is not an indication of the level of coursework or the total number of credit hours the student may complete abroad.

Courses completed as part of these programs that do not have direct ASU course equivalencies are awarded “Department Elective” credit, using a respective subject with a course number of 1DE, 2DE, 3DE or 4DE. Lower-division courses at the 100-level are given 1DE, and 200-level are given 2DE. Upper-division courses at the 300-level are given 3DE, and 400-level are given 4DE.

Source URL: https://catalog.asu.edu/course_classification

Links

[1] <https://catalog.apps.asu.edu/catalog/courses>

[2] https://catalog.asu.edu/course_load

[3] <https://goglobal.asu.edu/>

Course Component Descriptions

Each course is composed of one or more components, different instructional modes or meeting types such as labs, studios, lectures and seminars. A course can have more than one component. However, all components must be scheduled. The primary component is always the graded component.

| Course Component | Description |
|--|---|
| Individualized Instruction (IND) | This is a class in which an individual student is provided an opportunity for original study or investigation in a major or field of specialization on a more autonomous basis. Normally a contract or plan is used, and the student is supervised by faculty or practitioners. |

| Course Component | Description |
|--|--|
| Integrated Lecture/Lab (LEL) | <p>The integrated lecture/lab is a class that has some lecture and some hands-on components but does not require a separate time like a traditional lab. It is scheduled like a lecture. This is primarily used in educational technology, computer science, technology, and engineering. As per ABOR: "At least fifteen (15) contact hours of recitation, lecture, discussion, testing or evaluation, seminar, or colloquium, as well as a minimum of thirty (30) hours of student homework is required for each unit of credit."</p> |
| Laboratory (LAB) | <p>The hands-on, workshop component of a class is usually held in a laboratory. The laboratory time is separate from the lecture although it is often associated to a lecture. This is primarily used in science and engineering. As per ABOR: "Laboratory courses require a minimum of forty-five (45) contact hours per unit of credit."</p> |
| Lecture (LEC) | <p>A lecture is the traditional method of instruction in which students are taught a subject by a member of the faculty. As per ABOR: "At least fifteen (15) contact hours of recitation, lecture, discussion, testing or evaluation, seminar, or colloquium, as well as a minimum of thirty (30) hours of student homework is required for each unit of credit."</p> |
| Practicum (PRA) | <p>A practicum is structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. Internships and student teaching fit into this category. These classes are often held off campus at a professional location. The practicum component should also be used for internships and field studies courses. As per ABOR: "Each unit of internship or practicum must require a minimum of forty-five (45) contact hours per unit of credit."</p> |
| ProMod (PRO) | <p>In ProMod courses the role of lectures is deemphasized in favor of learning based on projects. The learning is driven by the needs of the project, not by predetermined lecture topics. Students will go where the questions take them, leading to an individualized exploration of the issues at hand.</p> |

| Course Component | Description |
|----------------------------|--|
| Recitation (REC) | A recitation is a small interactional meeting that combines formal presentation, review and interaction between the students and an instructor, and it is usually combined with a lecture as the primary component. Recitations are often lead by teaching assistants (TAs) or graduate assistants (GAs) to supplement a lecture. TAs/GAs will review the lecture, expand on the concepts and usually allow for question-and-answer time. The recitation component should also be used for courses previously categorized as discussion (also known as break-outs). As per ABOR: "At least fifteen (15) contact hours of recitation, lecture, discussion, testing or evaluation, seminar, or colloquium, as well as a minimum of thirty (30) hours of student homework is required for each unit of credit." |
| Research (RSC) | Under the supervision of a faculty member or group of faculty, the student conducts research that is expected to lead to a specific project such as dissertation, thesis, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. This component is appropriate to use for continuing registration, dissertation, thesis, individualized instruction, research, etc. |
| Seminar (SEM) | A seminar is a small class that emphasizes discussion, presentations by students, and written research papers. As per ABOR: "At least fifteen (15) contact hours of recitation, lecture, discussion, testing or evaluation, seminar, or colloquium, as well as a minimum of thirty (30) hours of student homework is required for each unit of credit." |
| Studio (STO) | The studio is a hands-on workshop component of design and the arts courses. As per ABOR: "Studios must involve at least thirty (30) contact hours and at least fifteen (15) hours of homework for each unit of credit." |

ABOR Policy # 2-224 regarding Academic Credit can be found at:

<https://public.powerdms.com/ABOR/documents/1491660>

ABOR Definition of a Unit of Credit: An hour of work is the equivalent of 50 minutes of class time (often called a "contact hour") or 60 minutes of independent study work. A minimum of 45 hours of work by each student is required for each unit of credit. Ordinarily, a course must cover a one-week period for every unit of credit given.

During summer sessions, however, six units of credit may be given over a five-week period.

Course Grading Basis Descriptions

| Grading Option | Grading Basis Description |
|----------------|--|
| ELG | Enhanced Learning Grading Basis |
| GNA | Graded with No Audit |
| NOG | No Grade Associated |
| NSW | New South Wales – PluS Alliance courses |
| OP2 | Student Option – Standard Grading or Audit |
| OP3 | Student Option – Grade, Z or Audit |
| OP4 | Student Option – P/F/Z or Audit |
| OP6 | Student Option – GNA or Audit |
| OPT | Student Option – Standard Grading or Audit |
| YGB | Y (Satisfactory) Grading Basis |
| Z1 | Standard Grading with Z Option |
| Z2 | Pass/Fail with Z Option |
| Z3 | Continuing registration |

Grades and Grading Policy

Students can refer to the [2023-2024 Academic Catalog Archive](#) for letter grade and grading policies.

Summer 2023

Summer 2023

| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| ABS | 100 | Discovering the Professions | Focuses on learning and engaging with information and tools that provide the basis for successful life/career planning decisions. Also designed to assist students in balancing career preparation with academic success. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1 | | |
| ABS | 130 | Introduction to Environmental Science | Introduces the interconnected nature of Earth's hydrosphere, lithosphere (soils and rocks), atmosphere, and biosphere. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 4 | SQ | Credit is allowed for only ABS 130 or BIO 130 or ENV 130 OR Visiting University Student |
| ABS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| ABS | 200 | Building Your Professional Self | Focuses on developing a professional narrative, prepares students for the expectations of upper-division coursework and covers how to effectively use online resources resulting in developing the professional self. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 0.5 | | Prerequisite(s): ABS 100 OR Visiting University Student |
| ABS | 207 | Applied Plant Taxonomy | Introduces identification of vascular plants emphasizing seed plants. Surveys seed plant families. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): BIO 182 or BIO 282 |
| ABS | 225 | Soils | Fundamental physical, chemical and biological properties of soils as related to sustainable natural resource management. Both ABS 225 and ABS 226 must be taken to secure General Studies SQ credit. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SQ | Prerequisite(s): CHM 101 or 113 OR Visiting University Student |
| ABS | 226 | Soils Laboratory | Selected exercises to broaden the background and understanding of basic soil principles. Both ABS 225 and ABS 226 must be taken to secure General Studies SQ credit. | N | LAB | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1 | SQ | Pre- or corequisite(s): ABS 225 OR Visiting University Student |
| ABS | 260 | Fundamentals of Sustainable Horticulture | Principles and practices of horticulture, emphasizing development, growth, and propagation of horticultural plants and environmental factors that affect these processes. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 4 | SG | |
| ABS | 270 | Sustainable Biological Systems | Ecological foundations of sustainable biological systems, anthropogenic impacts on ecosystem structure and function, and ecological risk assessment. Examines climate change, water scarcity, deforestation, soil degradation, and human displacement on global ecosystem functions and utilization of natural resources. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | |
| ABS | 271 | Veterinary Medicine Today | Introduces the role of the veterinarian as related to the fields of food supply and veterinary medicine. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | |
| ABS | 274 | Introduction to Wildlife Management | Fundamentals of wildlife conservation and management through lectures, guest speakers and lab activities. Divided into three parts: (1) introduction to conservation, management and the scientific method; (2) themes of earth, water, fire and air; and (3) wildlife techniques and field methods. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 4 | | Prerequisite(s): BIO 182 or 282 OR Visiting University Student |
| ABS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| ABS | 300 | Career Competencies and Skills | Builds on skills developed in previous coursework. Focuses on ensuring students can articulate and give examples of their knowledge and experience in applied biological science core competencies as well as career readiness skills such as leadership, teamwork, communication, professionalism and technology. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 0.5 | | Prerequisite(s): ABS 200 OR Visiting University Student |
| ABS | 302 | Ethical and Policy Issues in Biology | Policy environment and ethics in the practice of biology. Covers ethical reasoning, policy formulation, and regulatory agencies with examples from biotechnology and the environment. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ABS | 311 | Molecular and Cellular Biology | Overview of the biology of the cell; emphasizes structure and function of biomolecules within the cell and their applications associated with recombinant DNA technology, genetic engineering, plant and agriculture biotechnology, and human pharmaceutical development. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): BIO 181 or 281 with C or better OR Visiting University Student |
| ABS | 312 | Structure and Function | Surveys structural and functional attributes of plant and animals of particular importance in the applied biological sciences. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): BIO 182 or 282 with C or better OR Visiting University Student |
| ABS | 314 | Applied Plant Physiology | Understanding control of plant growth and developmental processes through innovated technologies. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): BIO 182 or 282 OR Visiting University Student |
| ABS | 318 | Unseen Life on Earth | Develops an understanding of how microbes exist in the context of both their environment and the organisms they come in contact with. Focuses on how the microbial interactions with the environment play a vital role in the multitude of biological processes that support the Earth system. Studies a myriad of extreme environments that host microbial systems, such as cloud, hydrothermal vent, acid-mine drainage and gut microbiomes. Utilizes a synthesis-driven approach where students apply their knowledge on microbial systems to discern whether life is possible on other planets. Also pays attention to the tools used to evaluate microbial diversity and function, applications of microbial ecology, and how microbes can be harnessed to improve life on Earth. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ABS 318 or ABS 394 (Unseen Life on Earth) OR Visiting University Student |

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| ABS | 350 | Applied Statistics | Statistical methods with applications in the biological sciences and natural resource management. Uses computers and the Internet. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | CS | Prerequisite(s): one course meeting General Studies MA requirement with C or better OR Visiting University Student |
| ABS | 355 | Ecology and Adaptations of Vertebrates | Evolution, systematics, diversity, zoology, conservation and anatomical and physiological adaptations and specializations of the vertebrates. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): BIO 182 or 282 OR Visiting University Student |
| ABS | 360 | Southwest Home Gardening | Multimedia course for nonmajors surveying contemporary topics in Southwest home horticulture, including landscaping, flower and vegetable gardening, citriculture, interiorscaping, and others. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 2 | | |
| ABS | 362 | Landscape Plants | Identification, design, and use of plants in urban landscapes. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 4 | | Prerequisite(s): minimum 45 hours |
| ABS | 363 | Sustainable Landscape Practice | Landscape technologies and practices including landscape design theory, job costing and bidding, sprinkler and drip irrigation design, landscape installation, landscape valuation techniques, landscape ordinances, and maintenance practices of commercial and residential landscapes. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 4 | | Prerequisite(s): ABS 260 |
| ABS | 364 | Urban Forestry | Care, maintenance, and valuation of the urban forest, including public and private landscape codes. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Pre-requisite: ABS 260 |
| ABS | 365 | Future of Agriculture: Vertical Farming | Examines vertical farming in today's agricultural market. Students study the applied innovative technologies, suitable plants, operation management, and the future of vertical farming in modern agriculture. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ABS 365 or ABS 394 (Future of Agriculture: Vertical Farming) OR Visiting University Student |
| ABS | 368 | Plant Propagation | Theory and application of sexual and asexual propagation techniques. Considers plant materials used both for urban horticulture and ecological restoration applications. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | |
| ABS | 369 | Hydroponic Food Crop Production | Covers the principles and practices of hydroponic systems and their applications for indoor vertical farming and greenhouse production. Covers fundamental topics of crop production in hydroponic systems, including plant nutrition, nutrient solution, growing media, soilless cultures, system applications and planting methods. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ABS | 370 | Ecology | Interactions between organisms and their environments; structure and dynamics of populations, communities, ecosystems, and landscapes, with emphasis on vegetation. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): BIO 182 or 282 OR Visiting University Student |
| ABS | 372 | Captive Animal Behavior Management | Natural animal behaviors during captive animal management including wild and domestic animal training and enrichment, exhibit design, husbandry, and livestock management. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): BIO 182 or 282 with C or better; Credit is allowed for only ABS 372 or ABS 394 (Applied Animal Behavior) OR Visiting University Student |
| ABS | 376 | Wildlife Ecology | Explores population biology, conservation genetics, habitat ecology, ecological communities, competition, invasive species, habitat fragmentation and connectivity, and other related topics. Students work in small groups to design, implement, and complete a field-based research project on the ASU Polytechnic campus. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Pre- or corequisite(s): ABS 274; ABS 370 |
| ABS | 377 | International Wildlife Conservation | Studies wildlife around the world including biogeography, biodiversity, conservation topics and the complexity of conserving wildlife in both developed and developing nations. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): BIO 182 or 282; Credit is allowed for only ABS 377 or ABS 494 (International Wildlife Conservation) OR Visiting University Student |
| ABS | 378 | Animal Nutrition | Principles of nutrient metabolism in animal species; emphasizes understanding the interaction of animals with their environment. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Pre-requisites: BIO 181 or BIO 182; CHM 101 or CHM 113 |
| ABS | 380 | Restoration and Wildlife Plants | Important wildland plants, including invasive and endangered species, wildlife food species, and species used for ecosystem restoration such as rangeland revegetation and seeding. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ABS 207 OR Visiting University Student |
| ABS | 381 | Natural Resources Policy | Policies and regulations affecting management of natural resources, with emphases on wildlife, rangeland and ecological restoration. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours |
| ABS | 384 | Natural Resources Measurements | Inventory, sampling and monitoring techniques of natural resources. Data evaluation and interpretation as related to management, restoration and conservation needs of natural resources. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ABS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| ABS | 414 | Plant Pathology | Identification and control of biotic and abiotic factors that cause common disease problems to plants. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): BIO 181 with C or better; BIO 182 or PLB 200 with C or better; ENG 101, 105 or 107 with C or better OR BIO 281 with C or better; BIO 282 with C or better; ENG 101, 105 or 107 with C or better |

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| ABS | 417 | Comparative Immunology | Examines unique but also shared immunological characteristics of animals with the goal of understanding how different animals respond to microorganisms such as viruses, bacteria, fungi and parasites. Presentation of material is guided by hierarchy of structural organization, using molecules, organelles, cells, tissues, organs, organ systems, whole animals and even ecosystems and the environment to convey important concepts related to our relationships with pathogens. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ABS 417 or ABS 394 (Comparative Immunology) OR Visiting University Student |
| ABS | 430 | Watershed Management | Hydrologic, physical, biological, and ecological principles applied to watershed management. Impact of ecosystem manipulations on water yield and quality. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours |
| ABS | 434 | Soil Ecology | Soils viewed in an ecosystem context, soil-plant relationships, nutrient budgets, and abiotic factors that influence soil processes. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Pre-requisites: ABS 370 or BIO 320; Credit is allowed for only ABS 434 or BIO 418 |
| ABS | 435 | Applied Systems Ecology | Simulation modeling as a tool to study ecological processes and human impact on ecosystems and organisms. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Pre-requisites: ABS 370, ABS 350 (or STP 420) |
| ABS | 440 | Ecological Restoration Techniques | Techniques for ecological restoration, riparian and wetland restoration, and monitoring restoration success. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ABS 370 |
| ABS | 441 | Ecological Restoration Practicum | Field experience in the evaluation and monitoring of implemented ecological restoration projects. | N | LEL | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1 | | Pre/Co-requisite: ABS 440 |
| ABS | 452 | Commercial Applications of Fermentation | Biochemical applications and technologies of fermentation including use of fungi and bacteria in fermentation to improve human health and immunity, and produce pharmaceutical drug supplements and medicines, foods, beverages, and alternative fuels. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): BIO 181 or 281 with C or better; Credit is allowed for only ABS 452 or ABS 494 (Commercial Applications of Fermentation) OR Visiting University Student |
| ABS | 460 | Organic Gardening | Applies principles and practices of organic gardening in the low desert, including environmental impacts of modern food production. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 2 | | |
| ABS | 462 | Greenhouse/Nursery Management | Greenhouse structures, environment, and nursery operations. Includes irrigation, nutrition, and other principles relative to production of nursery crops. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 4 | | Pre-requisite: ABS 260 |
| ABS | 464 | Desert Horticulture | Students learn about and practice the principles of sustainable horticulture in an arid climate. Includes capstone projects on sustainability issues related to horticultural practice in arid environments. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ABS 260; Credit is allowed for only ABS 464 or ABS 494 (Sustainable Desert Horticulture) or ABS 498 (Desert Horticulture) OR Visiting University Student |
| ABS | 470 | Life History of Mammals | Evolution, classification, environmental, anatomical and physiological adaptations, ecology, and conservation of mammals worldwide. Emphasis on the identification, habitat relationships, conservation, and management techniques of Arizona and select North American mammals. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ABS 355 or BIO 370 |
| ABS | 472 | Applied Herpetology | Systematics, evolution, ecology and life history of amphibians and reptiles emphasizing wildlife management methodologies. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ABS 355 or BIO 370; Credit is allowed for only ABS 472 or ABS 498 (Applied Herpetology) OR Visiting University Student |
| ABS | 473 | Applied Ornithology | Evolution, ecology, classification and life history of birds, emphasizing wildlife management methodologies. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ABS 355 or BIO 370; Credit is allowed for only ABS 473 or ABS 494 (Applied Ornithology) |
| ABS | 474 | Riparian Ecosystem Management | Management principles of riparian ecosystems based on fluvial geomorphological and ecological concepts. Discusses human impacts to riparian ecosystems. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours |
| ABS | 475 | Habitat Management for Small Wildlife | Habitat management considerations and practices for small game and nongame wildlife species in North America. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ABS 370 or BIO 320 |
| ABS | 476 | Big Game Habitat Management | Conservation and management issues focused on large mammals in North America. Topics include habitat ecology, nutrition, migration, predator-prey dynamics, trophic cascades, habitat management and restoration of populations. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ABS 370 or BIO 320 OR Visiting University Student |
| ABS | 479 | Ecosystem Management and Planning | Principles of ecosystem management, with emphasis on economic and policy constraints on the planning process. Risk assessment and management. Includes the process of complying with NEPA while developing rangeland management plans. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): ENG 101, 105 or 107 with C or better; minimum senior standing OR Visiting University Student |
| ABS | 481 | Riparian and Wetland Restoration | Principles and problems in the restoration of degraded riparian and wetland ecosystems. Construction of wetlands. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ABS 370 |
| ABS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | |
| ABS | 485 | GIS in Natural Resources | Principles of Geographic Information Systems (GIS) utilized in natural resource management. Use of computers for spatial inventory and analysis of natural resources. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |

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| ABS | 486 | Introduction to Remote Sensing | Remote sensing is an important source of environmental information that can support a deeper understanding of trends and clarify management strategies in a wide range of ecological application. Focuses on the application of satellite and aerial/drone remote sensing in environmental science and management. With this basic background, course participants use remote sensing data to make spatial decision. Presents the concepts of biodiversity and wildlife management parallel to the remote sensing information. Image processing instruction and exercises begin with an analysis of digital imagery and proceed through the three broad classes of processing techniques: preprocessing, enhancement and information extraction. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 4 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ABS 486 or ABS 598 (Integration of Remote Sensing) or ABS 598 (Introduction to Remote Sensing) |
| ABS | 489 | Undergraduate Research | Undergraduate research under the supervision of an applied biological sciences faculty member. | N | RSC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-3 | | Prerequisite(s): Junior or senior standing OR Visiting University Student |
| ABS | 490 | Applied Biological Sciences Seminar | Current literature and significant developments related to applications of the biological sciences. May be repeated for credit. | N | SEM | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1 | | Prerequisite(s): Senior standing OR Visiting University Student |
| ABS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | | Prerequisite(s): Barrett Honors student |
| ABS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ABS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| ABS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-3 | | |
| ABS | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | |
| ABS | 541 | Advanced Rangeland Ecosystem Management | Combines the principles of ecology, planning and restoration in the application of rangeland ecosystem management. Studies fundamental topics such as range plant physiology, range plant ecology, rangeland stocking-rates and grazing systems in considering management practices for rangeland ecosystems. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 4 | | Pre-requisite: Degree-or non-degree seeking graduate; Credit is allowed for only ERM 541 or ABS 598 (Adv Rangeland Ecosystem Management) |
| ABS | 542 | Management of Fire Adapted Ecosystems | Fire adapted ecosystems which evolved with high-frequency and low-intensity fires now support a range of regimes from no fire to uncharacteristically large and intense fires, causing a concern about the current and future role of wildland fire as well as forest and rangeland health. Explores management considerations and techniques for reintroducing fire to these ecosystems. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only ABS 598 (Fire Ecology), or ERM 542 |
| ABS | 550 | Vegetation Dynamics | Dynamics of vegetation linking physiological, population, and community ecology. Collection and analysis of vegetation data. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ABS | 555 | Wildlife Dynamics | Explores major concepts in population and community ecology with an emphasis on their application to the study and management of wildlife species. Explores the theory and sometimes controversial nature of these concepts in the form of lectures and discussions. Instructor and student workshops and oral presentations of student research. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ABS 555 (or ERM 550) or ABS 598 (Wildlife Dynamics) or ETM 598 (Wildlife Population Ecology) |
| ABS | 560 | Ecological Modeling | Mathematical modeling of animal populations, food-web structural and ecological processes in space and time. May use modeling tools on computer clusters. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ABS | 570 | Advanced Animal Nutrition | Metabolic and physiological interactions of nutrients in wild and domesticated animals consuming natural feeds. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ABS | 586 | Remote Sensing in Environmental Resources | Principles and application of remote sensing technologies in natural resource management using computerized data from aerial photography and satellite imagery. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ABS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ABS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ABS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| ABS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): ABS 592 |
| ABS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ABS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ABS | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ABS | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACC | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | School of Accountancy | 1-4 | | |
| ACC | 231 | Uses of Accounting Information I | Introduces the uses of accounting information focusing on the evolution of the business cycle and how accounting information is used for internal and external purposes. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): CIS 105 or 236 with C or better; min 25 hours OR Technological Entrepreneurship Management major: EDT 180; min 25 hours OR Pre- or corequisite(s): Engineering Management major: CSE 205; min 25 hours OR Visiting University Student |
| ACC | 232 | Financial Accounting I | Develops an understanding of the theory, concepts, principles and practices underlying preparation, interpretation, and use of external financial reports. Emphasizes interpreting the economic substance of events and transactions and their association with contemporaneous and prospective events, relationships, and outcomes. Gains understanding of the accounting information model and develops an ability to analyze and record business transactions and analyze basic financial statements. Meant for prospective accounting and finance majors (and students who plan current majors in these areas) and develops skills and abilities facilitating success in higher-level accounting courses. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): Accountancy or Finance majors; CIS 105, 220 or 236 with C or better OR Visiting University Student |
| ACC | 241 | Uses of Accounting Information II | Introduces the uses of accounting information focusing on the evolution of the business cycle and how accounting information is used for internal and external purposes. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): ACC 231, 261, or 303 with C or better OR Visiting University Student |
| ACC | 242 | Managerial Accounting I | Develops an understanding of the theory, concepts, principles, and practices underlying managerial accounting. Emphasizes three functions managers must perform within their organizations: plan operations, control activities, and make decisions. Explains what accounting information is necessary, how to collect it, and how to interpret it. Meant for prospective accounting and finance majors and students who plan current majors in these areas and develop skills and abilities facilitating success in higher-level accounting courses. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey Accountancy and Finance majors, and others with School of Accountancy approval; ACC 231, 232, 261, or 303 with C or better OR Visiting University Student |
| ACC | 261 | Honors Fundamentals of Financial Accounting | Covers basic financial accounting concepts and applications. Develops an understanding of the environment in which financial reporting choices are made. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey School of Business Honors student; CIS 105 or CIS 220 or CIS 236 with C or better |
| ACC | 271 | Honors Fundamentals of Managerial Accounting | Covers basic managerial accounting concepts and applications. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey Business major; Barrett Honors student; ACC 231, 232, or 261 with C or better |
| ACC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | School of Accountancy | 1-4 | | |
| ACC | 310 | Intermediate Accounting for Corporate Accountants | Intermediate-level financial accounting course with in-depth focus on asset, liability and owner's equity measurement, revenue determination, investments accounting, lease accounting, financial statement preparation, presentation and analysis. Emphasizes the statement of cash flows and interpreting footnote disclosures. Where appropriate, compares International Financial Reporting Standards and U.S. GAAP (Generally Accepted Accounting Principles). | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey Business (Corporate Accounting) BA major; ACC 241, 242, or 271 with C or better; ECN 221 or 231 with C or better; MAT 210, 251, 265, or 270 with C or better OR Visiting University Student |

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| ACC | 320 | Management Accounting for Corporate Accountants I | Covers internal reporting systems for planning, control, and decision making. Deals with conceptually and computationally understanding the various accounting, economic and/or business models, frameworks and methods in order to be more knowledgeable and literate in these areas while building overall stronger decision-making skills. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey Business (Corporate Accounting) BA major; ACC 241, 242, or 271 with C or better; ECN 221 or 231 with C or better; MAT 210, 251, 265, or 270 with C or better OR Visiting University Student |
| ACC | 330 | Data Analytics in Accounting | Explores accounting concepts through the application of data analytics. Focuses on developing an analytics mindset and learning how to use big data analytical tools to examine and analyze data, and then effectively interpreting results to make business decisions. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s) w/C or better: WPC Accountancy or Finance BS major; ACC 241, 242 or 271; ECN 221 or 231; MAT 211, 266 or 271; Credit allowed for only ACC 330 or ACC 494 (Accounting Analytics or Data Analytics in Accounting) OR Visiting University Student |
| ACC | 340 | External Reporting I | Financial accounting theory and practice related to external reporting. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W.P. Carey Accountancy or Finance BS major; ACC 241, 242, or 271 with C or better; ECN 221 or 231 with C or better; MAT 211, 266, or 271 with C or better OR Visiting University Student |
| ACC | 350 | Internal Reporting | Internal reporting systems for planning, control, and decision making. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey Accountancy BS or Finance BS major; ACC 241, 242, or 271 with C or better; ECN 221 or 231 with C or better OR Visiting University Student |
| ACC | 354 | Governance, Risk, Compliance Internal Controls and Ethics | Equips students to understand, evaluate and participate in corporate governance. Surveys best practices in corporate governance including internal controls, enterprise risk management (ERM), fraud deterrence, and ethical organizational culture. Emphasizes the Committee of Sponsoring Organizations (COSO) framework. Provides the necessary background and understanding of key internal control and ERM concepts and tools for corporate accountants. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey Business (Corporate Accounting) BA major; ACC 310 with C or better; ACC 320 with C or better OR Visiting University Student |
| ACC | 360 | Ethics for Professional Accountants | Addresses ethical obligations and responsibilities of professional accountants. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey Accountancy BS major; ACC 241, 242 or 271 with C or better; ECN 221 or 231 with C or better; MAT 211, 266 or 271 with C or better OR Visiting University Student |
| ACC | 382 | Accounting and Financial Analysis | Introduces nonbusiness majors to financial accounting concepts related to operating, financing, investing, and ethical decisions. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): non-Business student; min 2.0 GPA; min 56 hrs OR nondegree student; min 2.0 GPA OR grad student; Students may not enroll in ACC 382 if credit with min C earned in ACC 231, 232, 241, 242, 261, 271 or BUA 381 OR Visiting University Student |
| ACC | 410 | Financial Statement Analysis | Focuses on core knowledge and skills essential to financial statement analysis. Topics covered include strategic ratio analysis, cash flow analysis, forecasting, pro-forma financial statements and firm valuation. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey Business (Corporate Accounting) BA major; ACC 310 with C or better OR Visiting University Student |
| ACC | 420 | Management Accounting for Corporate Accountants II | Covers the higher-level managerial accounting topics and uses of accounting data to assist corporate accountants in their plans and decisions regarding complex resource allocation, organizational control, and performance evaluation issues. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey Business (Corporate Accounting) BA major; ACC 320 with C or better OR Visiting University Student |
| ACC | 430 | Taxes and Business Decisions | Federal income taxation of sole proprietors, partnerships, corporations, fiduciaries, and individuals with an emphasis on tax consequences of business and investment decisions. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey Accountancy BS student; ACC 340 with C or better; LES 305 with C or better OR Visiting University Student |
| ACC | 435 | Personal Tax Management and Planning | Strategies used by financial planners to help clients achieve greater tax efficiency. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): Business (Financial Planning) BA or Finance BS major; FIN 302, 303, or 380 with C or better OR Visiting University Student |
| ACC | 440 | External Reporting II | Continuation of ACC 340 with emphasis on the recognition, research, and resolution of financial reporting issues. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey Accountancy BS or Finance BS student; ACC 340 with C or better OR Visiting University Student |

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| ACC | 444 | Enterprise Process Analysis and Design | Focuses on the flow of data through ERP systems and discusses the difference between several types of data and the flow of data from various transactions through the database. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s) with C or better: Accountancy BS major; ACC 241, 242, or 271; CIS 360; ECN 221 or 231 OR Computer Information Systems major; ACC 241, 242, or 271; CIS 235 or 236; ECN 221 or 231 OR Visiting University Student |
| ACC | 450 | Principles of Auditing | Standards and procedures in auditing. Planning, evidence gathering and accumulation, and reporting. Ethical and legal considerations. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W.P. Carey Accountancy BS major; ACC 340 with C or better OR Master of Taxation student OR Visiting University Student |
| ACC | 454 | Taxes for Corporate Accountants | Integrates tax compliance, tax planning, accounting, economics and finance. Examines current tax rules while developing the ability to think about taxes in a way that is not specific to the current federal system. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey Business (Corporate Accounting) BA major; ACC 310 with C or better; ACC 320 with C or better OR Visiting University Student |
| ACC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | W. P. Carey School of Business | School of Accountancy | 1-12 | | Prerequisite(s): W. P. Carey BS Accountancy major; ACC 340 with C or better; ACC 350 with C or better; ACC 430 with C or better; ACC 440 with C or better; ACC 450 with C or better; minimum 3.50 GPA; minimum 72 hours |
| ACC | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | W. P. Carey School of Business | School of Accountancy | 1-6 | | Prerequisite(s): Barrett Honors student |
| ACC | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | W. P. Carey School of Business | School of Accountancy | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ACC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | W. P. Carey School of Business | School of Accountancy | 1-4 | | Prerequisite(s): Accountancy BS major OR Visiting University Student |
| ACC | 501 | Fundamentals of Financial Accounting | Covers contemporary financial accounting and reporting systems; emphasizes the interpretation and evaluation of a company's external financial reports. Designed for students with limited business experience and without an undergraduate business degree. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 1.5 | | Prerequisite(s): degree-seeking graduate student |
| ACC | 502 | Financial Accounting | Contemporary financial accounting and reporting systems; emphasizes the interpretation and evaluation of a company's external financial reports. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 1-4 | | Prerequisite(s): W. P. Carey Finance MS or MBA student |
| ACC | 503 | Managerial Accounting | Managerial accounting concepts and procedures for internal reporting applied to the decision making activities of the professional managers. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 1-4 | | Prerequisite(s): W. P. Carey MBA student; ACC 502 with C or better |
| ACC | 504 | Fundamentals of Managerial Accounting | Covers managerial accounting concepts and procedures for internal reporting applied to the decision-making activities of the professional managers. Designed for students with limited business experience and without an undergraduate business degree. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 1.5 | | Prerequisite(s): ASU degree-seeking graduate student; Pre- or corequisite(s): ACC 501 with C or better if completed |
| ACC | 509 | Statistics for Accounting Analytics | Addresses theories of probability and uncertainty through the use of statistics including descriptive, predictive and prescriptive analyses as well as regression and other models to support audit decisions and conclusions. This heavily quantitative course starts with a realization that probability and uncertainty can be alleviated (or compounded) with different statistical decision making and so starts with theories of probability and uncertainty to properly understand these concepts. Once these concepts are grounded, this class focuses on data, techniques and technologies that can aid in appropriate decision making with accounting. Emphasizes formulating real-world models--driven by descriptive, predictive and prescriptive statistics--to represent complex real-world accounting decision problems and on using a variety of tools to gain better insight into properly addressing these problems. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): Master of Accountancy student |
| ACC | 510 | Internal Controls Audit and Fraud Prevention and Detection | Addresses internal control frameworks and U.S. Generally Accepted Auditing Standards (GAAS) related to an auditor's consideration of internal controls for purposes of financial statement audits and audits of internal control over financial reporting. Covers various schemes pertaining to misappropriation of assets, corruption and fraudulent financial reporting. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): Accountancy MACC student; Credit is allowed only for ACC 510 and ACC 591 (Int Contrls Audit, & Fraud Prevention & Detection) |
| ACC | 511 | Accounting for Income Taxes | Primarily the comprehensive study of financial accounting for income taxes. The core content focuses on ASC740, including preparation, review and audit of a corporate tax provision. Course is particularly valuable for students interested in a career in either audit or tax. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 1-4 | | Prerequisite(s): Business graduate student |

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| ACC | 512 | Advanced Auditing | Builds on the skills obtained in the beginning auditing (assurance) course and focuses on audit planning, risk assessment, evidence, and reporting procedures and fraud. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 3 | | Pre-requisite: Master of Accounting student |
| ACC | 513 | Advanced Financial Accounting | Focuses on advanced financial accounting topics along with their application in the financial reporting process. Topical coverage includes consolidations, mergers and acquisitions, derivatives, foreign currency translation, fair value accounting, and equity-based compensation. Addresses the implications of these topics for earnings management and earnings quality. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): Business graduate student |
| ACC | 520 | Statistics and Coding for Accounting Analytics | Addresses analytics in accounting, auditing and tax contexts. Focuses on the introduction of methods and techniques to analyze data sets while also making it easier to interpret, present and utilize the results for financial decision making. Presents frameworks and approaches to equip students to recognize and interpret patterns in data and models and recommend actions. Teaches multiple concepts to improve decision making related to accounting data. Also serves as a practical introduction to the extraction, cleaning and transformation of data for accounting applications. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): Accountancy MACC student; Credit is allowed for ACC 520 or ACC 591 (Accounting Analytics) |
| ACC | 521 | Accounting Analytics Concepts and Tools | Addresses analytics in accounting, auditing and tax contexts. Focuses on the methods and techniques to analyze data sets while also making it easier to interpret, present and utilize the results for financial decision making. Presents additional frameworks and approaches to equip students to recognize and interpret patterns in data and models and recommend actions. Students learn multiple concepts to improve decision making related to accounting data. Also serves as a continuation of the extraction, cleaning and transformation of data for accounting applications. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): Master of Accountancy student |
| ACC | 522 | Innovations with Auditing Technologies | Focuses on understanding the role of technology-related innovations on audits and auditing performance. Looks at both capturing data from recent innovations in technologies for audit applications (e.g., IoT) as well as examining the roles of these recent technology innovations for audit performance (e.g., cognitive computing). | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): Master of Accountancy student |
| ACC | 560 | Ethics for Professional Accountants | Reviews ethics in business, fiduciary responsibility, ethical issues, codes of conduct in the field of accounting. Individualized instruction. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): Master of Accountancy or Master of Taxation student; Credit is allowed for only ACC 560 or ACC 591 (Ethics for Professional Accountants II) |
| ACC | 571 | Taxation of Corporations and Shareholders | Tax aspects of the formation, operation, reorganization, and liquidation of corporations and the impact on shareholders. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 1-4 | | Prerequisite(s): W. P. Carey Taxation student |
| ACC | 573 | Taxation of Pass-Through Entities | Tax aspects of the definition, formation, operation, liquidation, and termination of a partnership. Emphasizes tax planning. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 1-4 | | Prerequisite(s): Taxation MTax student |
| ACC | 575 | Family Financial, Tax and Wealth Transfer Planning | Provides an understanding of family financial planning, individual income tax, taxation of wealth transfers during life (gifts) and at death (estate) with emphasis on identifying planning techniques to maximize family wealth and financial security for individuals and their families. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 1-4 | | Prerequisite(s): Business graduate student |
| ACC | 577 | Tax Research, Professional Responsibilities & Property Transactions | Federal tax issues and consequences, tax authority, property transactions and tax consequences of acquiring, holding and disposing of property. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): Master of Taxation major. Credit is allowed for only ACC 577 or ACC 591 (Tax Research, Professional Responsibilities & Property Transactions) |
| ACC | 581 | ESG Reporting and Ethics | Prepares accounting and finance-oriented students to lead organizations. Explores corporate governance topics including sustainability reporting and related ethical issues from the perspectives of accounting and finance professionals. Corporations employ different governance structures each with its strengths, weaknesses and differing ethical norms. Corporate governance is changing quickly now with thousands of companies that are incorporating environmental, social and governance (ESG) issues and metrics into their internal finance and accounting operations and their external reporting. Utilizes cases supplemented with articles (no textbook) along with substantial discussion and writing components. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): Business graduate student; Credit is allowed for only ACC 581 or ACC 591 (Corporate Gov, Ethics & Sustainability Rptg) or SOS 549 |
| ACC | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | W. P. Carey School of Business | School of Accountancy | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| ACC | 585 | Performance Measurement and Advanced Managerial Accounting | Covers advanced topics in strategic implementation and control, stressing their application to real-world settings. Topics include performance measurement, the design of compensation plans, and the design of information-based control systems to build winning organizations. Utilizes case studies drawn from a wide range of firms in various industries and countries, emphasizing the use of critical thinking to interpret data for solving managerial problems. Should be of interest to anyone thinking of a career in a corporate setting, consulting and private equity. Should also be useful for those interested in public accounting to develop an understanding of client organizations. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): Business graduate student |
| ACC | 586 | Shareholder Value Creation and Financial Statement Analysis | Develops skills necessary to exploit financial reporting information in a business environment and appreciation of reporting issues faced by management. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 1-4 | | Prerequisite(s): ACC 502; FIN 502 |
| ACC | 587 | State and Local Taxation | Multistate taxation and interplay between multistate tax issues and federal and state constitutional limitations. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W.P. Carey Master of Taxation student |
| ACC | 588 | Professional Accounting Research | Applies the technical knowledge of accounting theory and principles developed in other academic courses through the use of "real life" case studies, where such knowledge and professional judgment is applied in resolving advanced accounting problems and issues. | N | RSC | N | OPT | W. P. Carey School of Business | School of Accountancy | 3 | | Pre-requisite: W. P. Carey Master of Accountancy student |
| ACC | 589 | International Taxation | Addresses the U.S. taxation of U.S. individuals and businesses that do business outside the U.S. as well as the U.S. taxation of foreign persons and tax treaties, allocation of income, foreign tax credits, and transfer pricing. Emphasizes planning related to some of the tax issues that commonly arise in cross-border businesses. | N | RSC | N | OPT | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey Master of Taxation student |
| ACC | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | W. P. Carey School of Business | School of Accountancy | 1-12 | | Prerequisite(s): specific Business graduate students |
| ACC | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | W. P. Carey School of Business | School of Accountancy | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACC | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | W. P. Carey School of Business | School of Accountancy | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACC | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | W. P. Carey School of Business | School of Accountancy | 1-12 | | Pre-requisite: Business Administration (Accountancy) PHD student |
| ACC | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | W. P. Carey School of Business | School of Accountancy | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACC | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | W. P. Carey School of Business | School of Accountancy | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACC | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | W. P. Carey School of Business | School of Accountancy | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACC | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | W. P. Carey School of Business | School of Accountancy | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACO | 100 | All About Data: Design, Query, and Visualization | Data modeling and design, spreadsheets, relational databases and querying, visualization and XML. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | CS | |
| ACO | 101 | Introduction to Computer Science | Concepts of problem solving, structured and object-oriented programming in Java, fundamental algorithms, computer system concepts. Social and ethical responsibilities. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | CS | |
| ACO | 102 | Object-Oriented Programming | Object-oriented programming using introductory algorithms and data structures. Overview of concepts in computer science. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | CS | Prerequisite(s): ACO 101 with C or better; Credit is allowed for only ACO 102 or CSE 205 or CST 200 OR Visiting University Student |

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| ACO | 131 | Global Cybersecurity | Introduces the basic concepts and tenets of cybersecurity from a global and cultural perspective, instead of a technical perspective. Explores how various nation-states view and employ cybersecurity in order to achieve their national strategic imperatives. Students articulate and understand fundamental cybersecurity concepts and principles rooted in U.S. and other national policy, compare and contrast various nation-state approaches to national security, the monitoring of other nations and foreign citizens, and how these relate to cybersecurity policies and practices. Students identify and describe cultural and political philosophies regarding personal data and personal privacy and their influence on national security policy and objectives. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | G | Credit is allowed for only ACO 131 or ACO 194 (Global Cybersecurity) |
| ACO | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | |
| ACO | 201 | Data Structures and Algorithms | Static and dynamic data structures, recursive and iterative sorting and searching, object-oriented design and programming, software design models and implementation/testing strategies, professional responsibilities. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | CS | Prerequisite(s): ACO 102 with C or better; MAT 210 or higher with C or better OR Visiting University Student |
| ACO | 240 | Introduction to Programming Languages | Introduces the procedural, object-oriented, functional and declarative languages. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 102 with C or better OR CSE 205 with C or better OR GIS major with GIS 222 with C or better OR Software Engineering graduate student; Credit is allowed for only ACO 240 or CSE 240 |
| ACO | 320 | Database Systems | Entity-relationship and relational data models. Database design theory. Relational algebra, calculus and SQL query languages. Query optimization. XML fundamentals. Transactions, recovery and concurrency control. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 201 with C or better; MAT 243 or 300 with C or better; Credit is allowed for only ACO 220 or ACO 320 or CSE 412 or IFT 300 (or IFT 433) or SER 322 OR Visiting University Student |
| ACO | 321 | Database Development & Applications | Stored procedures and triggers. Security and authorization. Call-level interface. Database Web applications. Advanced topics. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 320 with C or better; Credit is allowed for only ACO 321 or CSE 414 or IFT 458 OR Visiting University Student |
| ACO | 330 | Computer Networks | Network architecture and protocols, principles of network applications, socket programming, flow and congestion control, switching and routing, link-layer technologies, traffic capture and analysis, security. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 201 or CIS 325 with C or better; Credit is allowed for only ACO 330 or CSE 434 OR Visiting University Student |
| ACO | 331 | Network Forensics Analysis | Fundamental principles of network forensics and traffic analysis, evidence acquisition, network intrusion detection and analysis, anomaly detection and analysis, malicious activity detection, network tunneling, and malware forensics. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 330 with C or better; STP 226 or 280 with C or better; Credit is allowed for only ACO 331 or IFT 482 OR Visiting University Student |
| ACO | 350 | Systems Programming | Introduces operating systems as resource managers, processes, threads, memory allocation, file systems, protection, system calls, application program interfaces. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | CS | Prerequisite(s): ACO 201 with C or better; Credit is allowed for only ACO 350 or CSE 330 |
| ACO | 351 | Governance, Risk and Compliance | Broad requirements for effective cybersecurity governance, the elements required to develop an appropriate governance strategy, and the actions required to implement it. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 201 or CIS 235 with C or better |
| ACO | 361 | Secure Coding Concepts | Secure software development process including designing secure applications, writing secure code that can withstand attacks, and security testing and auditing. Focuses on the security issues a developer faces, common security vulnerabilities and flaws, and security threats. Explains security principles, strategies, coding techniques and tools that can help make code more resistant to attacks. Students write and analyze code that demonstrates specific security development techniques. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 201, ACO 240, or CIS 325 with C or better |
| ACO | 386 | STEAM Service Learning | Guided process in which students deepen their understanding of their STEAM content area through knowledge-based problem solving that provides a service to others in the community. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ACO 386 or ENV 386 or FOR 386 or LSC 386 or PTX 386 or LSC 494 (Service Learning in the Life Sciences) |
| ACO | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | |
| ACO | 399 | Supervised Research | Experience within the context of current faculty research projects. Student is assigned responsibility depending on qualifications. | N | RSC | Y | YGB | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-3 | | Prerequisite(s): ACO 102 with C or better; minimum 30 hours OR Visiting University Student |

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| ACO | 401 | Managing Cyber Risks in Enterprise Business Processes | Covers the activities, decisions, risks and controls associated with enterprise business processes. Specific focus on the activities in the sales-to-cash (revenue cycle) and purchase-to-pay (expenditure cycle) processes. Students understand how IT enables performing those processes more efficiently and effectively. In addition to identifying internal controls necessary for accurate, complete performance of processes, also covers the fundamentals of cybersecurity. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 320 or CIS 235 or CIS 236 or CSE 310 or IEE 305 with C or better; Credit is allowed for only ACO 401 or CIS 401 OR Visiting University Student |
| ACO | 402 | Privacy, Ethics and Compliance Issues | Covers the activities, mechanisms and challenges associated with implementing the principles of privacy into corporate structures. Also provides an overview of the privacy regulatory landscapes as well as emerging challenges with privacy. Specific focus areas include the Generally Accepted Privacy Principles framework and the implementation of privacy controls via the use of process and technology. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 401, CIS 401, or CSE 465 with C or better; Credit is allowed for only ACO 402 or CIS 402 OR Visiting University Student |
| ACO | 420 | Big Data Systems | Modern technologies to manage, process and analyze big data. Data processing of large data sets with Map/Reduce. NoSQL data stores. NewSQL databases. Data visualization. Applications. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 320 with C or better |
| ACO | 421 | Data Mining and Warehousing | Introduces data mining from a database perspective, including classification, clustering, and association rules. Data warehousing methodologies. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 320 with C or better; STP 226 or 281 with C or better |
| ACO | 422 | XML and Databases | XML data model, schema specification and validation, querying, storage, indexing, and current research topics. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 320 with C or better |
| ACO | 423 | Data Science | Computational and machine learning methods to extract insights from data: data collection, data cleaning and transformation, exploratory data analysis, data visualization, and machine learning (supervised and unsupervised) algorithms. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 240 with C or better; ACO 320 with C or better; STP 226 or 280 with C or better OR Visiting University Student |
| ACO | 430 | Wireless Networks and Security | Comprehensive course on wireless networks and security covering current industry standards, protocols, research and future trends. Topics include fundamentals of wireless communications, wireless LAN configuration and analysis, wireless security and cellular networks. Sets the groundwork for students to acquire professional certifications such as CWNA, CWAP and CWSP. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 330 with C or better OR Visiting University Student |
| ACO | 431 | Network Security | Digital threats and attacks, cryptography, confidentiality, authentication protocols, message integrity, security in network applications, intrusion detection, malicious software countermeasures, firewalls. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 330 with C or better OR Visiting University Student |
| ACO | 432 | Distributed Systems | Distributed system models, distributed programming technique, clock synchronization, distributed snapshot, distributed mutual exclusion, concurrency control, fault tolerance, security, recent advances. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 330 with C or better OR Visiting University Student |
| ACO | 461 | Security Operations | How organizations monitor and manage the security of their infrastructures in the real world. Explains architecture principles, the use of monitoring tools and technologies, how to interpret different security data sources, as well as how to identify and respond to various security threats within a complex infrastructure. Requires students to utilize security toolsets within a laboratory setting to demonstrate their understanding of the technologies as well as course concepts. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 330 with C or better OR Visiting University Student |
| ACO | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | IND | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): ACO 240 with C or better; ACO 320 with C or better; ACO 330 with C or better; ACO 350 with C or better; MAT 210 with C or better; STP 226 with C or better |
| ACO | 486 | Peer Mentoring in STEM | Advanced students learn and apply mentoring skills in science classes or teaching labs. | Y | SEM | Y | YGB | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ACO 486 or BIO 486 or LSC 486 or MAT 486 or PTX 486 or STP 486 OR Visiting University Student |
| ACO | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | IND | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| ACO | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | IND | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ACO | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| ACO | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-3 | | Prerequisite(s): ACO 240 with C or better; ACO 320 with C or better; ACO 330 with C or better; ACO 350 with C or better; MAT 210 with C or better; STP 226 with C or better |
| ACO | 500 | Research Methods | Course on research methods in a specific discipline. | Y | RSC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACO | 501 | Database Systems and Problem Solving in Python | Design and implementation of databases for scientific applications. Defining and querying database systems using the SQL industry standard language. Data exchange using XML. Programming in Python to solve realistic problems using scientific data. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACO | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACO | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACO | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACO | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACO | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACO | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACO | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACO | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACO | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACO | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACO | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACT | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| ACT | 201 | Introduction to Elements and Techniques of Actuarial Science | Introduces important aspects of actuarial work. Exposes the development of actuarial techniques in the context of life insurance, casualty and property insurance, superannuation and investment. Develops problem-solving skills and gives basic tools for risk management and financial modeling, including the use of Excel spreadsheets for both, calculations and simulations. Shows how studies in related disciplines (such as accounting, demography, economics, statistics, computing and mathematics) are essential to the education of an actuary. Guest speakers from the industry share their knowledge and insight on how to become a successful actuary. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 265 or 270 with B or better OR Visiting University Student |
| ACT | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| ACT | 301 | Risk Management and Insurance | Provides an introduction to the different types of risks faced by individuals, businesses and society along with ways in which they make an assessment of, control and transfer of different types of risks including property risk, liability risk, personal risks and speculative risks such as financial risks. Covers risk management techniques including risk control and risk financing with a focus on insurance policies, and also presents other major topics in personal financial planning, social insurance, insurance operations and regulations, and reinsurance. Also gives attention to contemporary issues and challenges in risk management and insurance. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | SB | Prerequisite(s): MAT 210, 265, or 270; ECN 221, STP 226, or STP 420 OR Visiting University Student |
| ACT | 302 | Fundamentals of Enterprise Risk Management | Examines in detail the Enterprise Risk Management (ERM) as a decision support system that helps organizations understand risk and assure the achievement of their goals. Provides understanding of what risk is and what an ERM process looks like for organizations, including some common challenges and pitfalls of institutionalizing an ERM culture. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ACT 301 OR Visiting University Student |
| ACT | 320 | Property and Casualty Insurance | Examines the fundamental principles and uses of property and casualty insurance. Also includes detailed examination of contracts, rating, underwriting, regulation and financial strength of insurers. In particular, devotes attention to the role of property and casualty insurance in addressing the economic and social problems encountered by businesses. Furthermore, also assists in the preparation to take the State of Arizona's Department of Insurance Property & Casualty exam. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ACT 301 |
| ACT | 330 | Life and Health Insurance | Develops an understanding of life and health insurance and the place of those products in the risk management plans of individuals and businesses. In particular, devotes attention to the role of life and health insurance in addressing the economic and social problems encountered by individuals and businesses. Furthermore, prepares the students to take the State of Arizona's Department of Insurance Life and Health Insurance exam. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ACT 301 |
| ACT | 370 | Software Tools for Business Analytics | Data analysis has become a core aspect of actuarial science. Course focuses on using three important software applications (Excel, R and Python) to conduct data acquisition and cleaning, preparing data for analysis, exploratory data analysis, basic statistical model building (linear regression), and data visualization. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 266 or 271 with C or better; MAT 343 with C or better; Credit is allowed for only ACT 370 or ACT 394 (R in Excel for Business) or DAT 301 or STP 494 (Exploring Data in R and Python) OR Visiting University Student |
| ACT | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| ACT | 410 | Mathematics of Finance | Prepares potential actuaries to master national exams. Provides an understanding of the fundamental concepts of financial mathematics and how those concepts are applied in calculating present and accumulated values for various streams of cash flows as a basis for future use in: reserving, valuation, pricing, asset/liability management, investment income, capital budgeting and valuing contingent cash flows. Topics include: mathematics of compound interest including annuities certain, amortization schedules, yields curves, sinking funds and bonds. Gives an introduction to financial instruments including derivatives and the concept of no-arbitrage as it relates to financial mathematics. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ACT 201 with C or better; MAT 265 or 270 with B or better; Credit is allowed only for ACT 410 or ACT 510 OR Visiting University Student |
| ACT | 415 | Probability for Risk Management | Prepares potential actuaries to master national exams. Develops knowledge of the fundamental probability tools for quantitatively assessing risk. Topics include: introduction to probability concepts including definition of probability, independence, conditional probability, random variables, specific discrete and continuous probability distributions, multivariate random variables, moments and moment generating functions, functions of random variables, sampling distributions and central limit theorem. Emphasizes the application of these tools to problems encountered in actuarial science. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 267 or 272 with B or better; Credit is allowed for only ACT 415 or ACT 515 or STP 326 or STP 421 OR Visiting University Student |
| ACT | 420 | Ratemaking and Reserving | Utilizes information on property and casualty ratemaking and reserving techniques, from an actuarial perspective. Ratemaking and loss reserving are the two fundamental functions performed by actuaries, and are necessary for satisfying an organization's strategic, operational and regulatory goals and requirements. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ACT 301; ACT 370 or DAT 301; Credit is allowed for only ACT 420 or ACT 520 OR Visiting University Student |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|--------------------------------------|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| ACT | 430 | Mathematics of Financial Derivatives | Prepares potential actuaries to master the national exams. Develops knowledge of the theoretical basis of certain actuarial models and the application of those models to insurance and other financial risks. Topics include: option pricing, Black-Scholes formula, delta hedging, exotic options, Brownian motion, interest rate models and simulations. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ACT 410 (ACT 310); ACT 415 or STP 421; Credit is allowed for only ACT 430 or ACT 530 OR Visiting University Student |
| ACT | 435 | Statistics for Risk Modeling | Statistical techniques in business forecasting such as: simple linear regression, multiple linear regression, hypothesis testing and confidence intervals in linear regression models, testing of models, data analysis and appropriateness of models, linear time series models, moving average, regression-based and/or ARIMA models, estimation, data analysis and forecasting with time series models, forecast errors and confidence intervals, classification, clustering and tree-based methods. Emphasizes analysis of various types of real data using R. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ACT 370 or DAT 301; STP 427; Credit is allowed for only ACT 435 or ACT 535 OR Visiting University Student |
| ACT | 440 | Single Life Mortality | Develops an understanding of the key features of long-term insurance coverages (life, health and general); annuities and retirement benefits (pensions, retiree health care, etc.). Students accumulate knowledge of the theoretical basis of actuarial models and the application of those models to long-term insurance and other financial risks. Topics include: life tables, present value determination for life insurances and annuities and premium calculations. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ACT 410; ACT 415 or STP 421; Credit is allowed for only ACT 440 or ACT 540 OR Visiting University Student |
| ACT | 441 | Long-Term Actuarial Mathematics | Focuses on reserving for insurances and annuities for long-term actuarial models including multiple lives and/or multiple decrement models. Expose students to different reserving types as well as interpretation of common profit measures. Other topics include applications of the long-term models to pension plans and retirement benefits. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ACT 440 with C or better; MAT 343 with C or better; Credit is allowed for only ACT 441 or ACT 541 OR Visiting University Student |
| ACT | 450 | Actuarial Models | Provides detailed understanding of the actuarial models and how to apply these models in solving business problems. Students analyze data from an application in a business context, determine a suitable model including parameter values and provide measures of confidence for decision making based on the model. Covers construction and inference for the severity, frequency and aggregate models and their modifications. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ACT 415 or STP 421; STP 427; Credit is allowed for only ACT 450 or ACT 550 OR Visiting University Student |
| ACT | 451 | Short-Term Actuarial Mathematics | Helps the student understand the steps involved in the modeling process and how to carry out these steps in solving business problems. Also enhances students' understanding in actuarial models. Topics include: selection of parametric models, Bayesian estimation, limited fluctuation credibility, Bayesian credibility, Buhlmann and Buhlmann-Straub models, empirical Bayesian methods, simulation techniques in actuarial science, bootstrapping algorithm, Markov Chain Monte Carlo method (MCMC). | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ACT 450 with C or better; Credit is allowed for only ACT 451 or ACT 551 OR Visiting University Student |
| ACT | 455 | Quantitative Risk Management | Quantitative risk management is a quantitative science that uses mathematics in general, and probability and statistics in particular to describe, model and manage various types of risks. Provides an introduction to a set of fundamental concepts, quantitative methods and tools for modern financial risk management. Some topics include: coherent risk measures, financial time series, multivariate distributions, linear and rank correlations, copulas and extreme value theory. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ECN 221, STP 226, or STP 420; Credit is allowed for only ACT 455 or ACT 494 (Quantitative Risk Measures) or ACT 555 or ACT 598 (Quantitative Risk Measures) OR Visiting University Student |
| ACT | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | |
| ACT | 490 | Emerging Risks | Focuses on the development of students' written communication skills employed in a professional business setting by analyzing emerging issues in insurance. Emerging risks such as cyber, drones, driverless cars, climate change and pandemics aren't just trends and may affect insurers in the years to come. Understanding the impacts of such risks on business operations by performing relevant research, assessing credibility of sources, and then effectively communicating them to stakeholders helps prepare students to be successful young professionals as they transition to the workforce. Much of the course is conducted in a workshop format. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ACT 301; Credit is allowed for only ACT 490 or ACT 494 (Emerging Risks) OR Visiting University Student |
| ACT | 491 | Actuarial Exam Preparation Seminar | Provides potential actuaries with review and practice for an actuarial examination. | N | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1 | | Pre- or corequisite(s): ACT 410 (ACT 310) or 415 with B or better if completed OR Visiting University Student |
| ACT | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|--|
| ACT | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-3 | | |
| ACT | 505 | Actuarial Models for Enterprise Risk Management | Actuarial modeling methods used in enterprise risk management. These methods are useful for the quantification of many types of risks faced by businesses and other organizations. Furthermore, these methods look at the correlation between risks that can create unexpectedly large exposures. Students build risk models for an actual enterprise. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACT | 510 | Mathematics of Finance | Provides an understanding of the fundamental concepts of financial mathematics, and how those concepts are applied in calculating present and accumulated values for various streams of cash flows as a basis for future use in: reserving, valuation, pricing, asset/liability management, investment income, capital budgeting and valuing contingent cash flows. Topics include: mathematics of compound interest, including annuities certain, amortization schedules, yields curves, sinking funds and bonds. Introduces financial instruments including derivatives, and the concept of no-arbitrage as it relates to financial mathematics. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; Credit is allowed only for ACT 410 or ACT 510 |
| ACT | 515 | Probability for Risk Management | Develops knowledge of the fundamental probability tools for quantitatively assessing risk. Topics include: introduction to probability concepts including definition of probability, independence, conditional probability, random variables, specific discrete and continuous probability distributions, multivariate random variables, moments and moment generating functions, functions of random variables, sampling distributions and central limit theorem. Emphasizes the application of these tools to problems encountered in actuarial science. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ACT 415 or ACT 515 |
| ACT | 520 | Ratemaking and Reserving | Provides knowledge of property and casualty ratemaking and reserving techniques from an actuarial perspective. Ratemaking and loss reserving are the two fundamental functions performed by actuaries and are necessary for satisfying an organization's strategic, operational and regulatory goals and requirements. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ACT 420 or ACT 520 |
| ACT | 530 | Mathematics of Financial Derivatives | Develops knowledge of the theoretical basis of certain actuarial models and the application of those models to insurance and other financial risks. Topics include: option pricing, Black-Scholes formula, delta hedging, exotic options, Brownian motion, interest rate models and simulations. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ACT 430 or ACT 530 |
| ACT | 535 | Statistics for Risk Modeling | Uses statistical techniques in business forecasting such as: simple linear regression, multiple linear regression, hypothesis testing and confidence intervals in linear regression models, testing of models, data analysis and appropriateness of models, linear time series models, moving average, regression based and/or ARIMA models, estimation, data analysis and forecasting with time series models, forecast errors and confidence intervals. Emphasizes analysis of various types of real data using R. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ACT 435 or ACT 535 |
| ACT | 540 | Single Life Mortality | Develops an understanding of the key features of long-term insurance coverages (life, health and general); annuities and retirement benefits (pensions, retiree health care). Students accumulate knowledge of the theoretical basis of actuarial models and the application of those models to long-term insurance and other financial risks. Topics include: life tables, present value determination for life insurances and annuities and premium calculations. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ACT 440 or ACT 540 |
| ACT | 541 | Long-Term Actuarial Mathematics | Focuses on reserving for insurances and annuities for long-term actuarial models including multiple lives and/or multiple decrement models. Exposes students to different reserving types as well as interpretation of common profit measures. Other topics include applications of the long-term models to pension plans and retirement benefits. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; ACT 540; Credit is allowed for only ACT 441 or ACT 541 |
| ACT | 550 | Actuarial Models | Provides detailed understanding of the actuarial models and how to apply these models in solving business problems. Students analyze data from an application in a business context, determine a suitable model including parameter values and provide measures of confidence for decision making based on the model. Covers construction and inference for the severity, frequency and aggregate models and their modifications. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ACT 450 or ACT 550 |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| ACT | 551 | Short-Term Actuarial Mathematics | Helps the student understand the steps involved in the modeling process and how to carry out these steps in solving business problems. Also enhances students' understanding in actuarial models. Topics include: selection of parametric models, Bayesian estimation, limited fluctuation credibility, Bayesian credibility, Buhlmann and Buhlmann-Straub models, empirical Bayesian methods, simulation techniques in actuarial science, bootstrapping algorithm, Markov Chain Monte Carlo method (MCMC). | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; ACT 550; Credit is allowed for only ACT 451 or ACT 551 |
| ACT | 555 | Quantitative Risk Management | Quantitative risk management is a quantitative science that uses mathematics in general, and probability and statistics in particular to describe, model and manage various types of risks. Provides an introduction to a set of fundamental concepts, quantitative methods and tools for modern financial risk management. Some topics include: coherent risk measures, financial time series, multivariate distributions, linear and rank correlations, copulas and extreme value theory. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ACT 455 or ACT 494 (Quantitative Risk Measures) or ACT 555 or ACT 598 (Quantitative Risk Measures) |
| ACT | 560 | Regression Modeling In Insurance | Introduces advanced applications of regression modeling methods for solving actuarial problems. The generalized linear models are important and frequently used modeling approaches in the insurance industry for traditional actuarial pricing and reserving problems and marketing and operational problems. Prepares students to understand these problems and gain experience in analyzing them through projects involving real-world data. Covered topics include linear models, categorical dependent variables, count dependent variables, generalized linear models, frequency and severity models and others. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACT | 561 | Machine Learning and Risk Management Applications | Exposes students to a wide variety of machine learning techniques applicable to data types and problems that are routinely found within the insurance industry. Application of machine learning is rapidly growing in insurance industry; this course creates a long-term knowledge base for students to remain empowered, and in time, master and use more sophisticated emerging techniques. Chapters covered include neural networks, spatial models, generalized additive models, discriminant analysis, mixture model-based approaches, and others. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACT | 565 | Regulation and Financial Reporting in P&C | Provides an overview of insurance regulation with regard to property and casualty coverages, ratemaking, pricing and solvency, and U.S. tort law as it affects the property and casualty business. Further identifies major U.S. insurance programs administered by government agencies and insurance industry organizations such as: automobile plans; crop insurance; flood insurance; government backstops; guaranty funds; residential markets (auto, workers comp, property); workers compensation (including interaction with Medicare). While addressing financial reporting, solvency and taxation issues, students evaluate the financial health of an insurance entity by completing specific schedules and exhibits. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACT | 570 | Stochastic Calculus for Finance | Uses stochastic calculus as a foundation for advanced mathematics of financial derivatives. Topics covered include: stochastic calculus, martingales and arbitrage, Black-Scholes equation and pricing derivative securities, and fundamental theorems of asset pricing. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACT | 571 | Advanced Mathematics of Financial Derivatives | Applies stochastic calculus to advanced topics in mathematics of financial derivatives. Topics include: term structure models, pricing derivative securities, fundamental theorems of asset pricing, models of equity and fixed income markets, and exotic options. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACT | 575 | Portfolio Theory and Risk Management | Provides an overview of measurement and management of risk and enables students to master the methods and concepts of portfolio theory. Those models and concepts include risk aversion, utility functions as a representation of preferences, efficient frontiers, Markowitz Portfolio theory, the Capital Asset Pricing model, security market line, value at risk and expected shortfall, as well as concepts of coherent risk measures. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACT | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| ACT | 585 | Advanced Mortality Modeling and Management of Longevity Risk | Exposes students to a wide variety of advanced models for forecasting human mortality. Explains the relevant repositories of mortality data in the context of application of most-used advanced mortality forecasting models. Presents both discrete time as well as continuous time stochastic mortality models. Students also learn about approaches for managing longevity risk via natural hedging, reinsurance and mortality-linked derivatives as well as pricing of basic insurance products in the context of advanced mortality models. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACT | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | |
| ACT | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACT | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACT | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ADE | 321 | Architectural Studio I | Introductory building design problems. Emphasizes design process, communication methods, aesthetics, construction, and technology. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Architecture BSD major; ALA 226 with C or better OR Visiting University Student |
| ADE | 322 | Architectural Studio II | Site and building design problems. Emphasizes programmatic and environmental determinants and building in natural and urban contexts. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Pre-requisites: Architectural Studies student; ADE 321 with C or better |
| ADE | 421 | Architectural Studio III | Topical design problems of intermediate complexity, including interdisciplinary problems. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): ADE 322 with C or better OR Visiting University Student |
| ADE | 422 | Architectural Studio IV | Topical design problems of advanced complexity, including interdisciplinary problems. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Architectural Studies BSD major; ADE 421 with C or better |
| ADE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | | Prerequisite(s): Barrett Honors student |
| ADE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ADE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| ADE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-3 | | |
| ADE | 510 | Foundation Architectural Studio | Fundamentals of architectural design, methodology, visualization, and representation. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 6 | | Pre-requisites: Master of Architecture student; Co-requisite: ATE 553 and ATE 563 |
| ADE | 511 | Core Architectural Studio I | Applies design fundamentals in architectural problems, including construction, technology, programmatic and environmental determinants. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 6 | | Pre-requisites: Master of Architecture student; ADE 510 with C or better |
| ADE | 512 | Core Architectural Studio II | Applies architectural design fundamentals to increasingly complex problems, including specific sites and activities. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 6 | | Pre-requisites: Master of Architecture student; ADE 511 with C or better |
| ADE | 521 | Advanced Architectural Studio I | Design problems emphasizing theory, aesthetics, and tectonics as influences on architectural form. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Pre-requisites: Master of Architecture student; Co-requisite: ATE 553 and ATE 563 |
| ADE | 522 | Advanced Architectural Studio II | Design problems emphasizing the comprehensive integration of building systems and technologies as influences on architectural form. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Pre-requisites: Master of Architecture student; ADE 521 with a C or better; Co-requisites: APH 505 and ATE 556 |
| ADE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Herberger Institute of Design and the Arts Graduate student |
| ADE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Herberger Institute of Design and the Arts Graduate student |
| ADE | 621 | Advanced Architectural Studio III | Design problems emphasizing the urban context, planning issues, and urban design theory as influences on architectural form. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Pre-requisites: Master of Architecture student; ADE 522 with a C or better; Co-requisite: APH 515 OR Bldg Des(Energy Perform/Bldgs) MS student |

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| ADE | 622 | Advanced Architectural Studio IV | Individual, student-initiated project reflecting a culminating synthesis of architectural ideas. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): ADE 621 with C or better; Master of Architecture student; Corequisite(s): APH 515 or Built Environment (Energy Perf/Climate Responsive Arch) MS student |
| AEE | 313 | Aircraft Dynamics and Control | Aircraft static stability; equations of motion; dynamic modes and stability; stability derivatives; response to controls; introduces automatic control of aircraft. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering major; AEE 360 with C or better; MAE 318 with C or better |
| AEE | 325 | Aerospace Structures and Materials | Applies structural analysis to aircraft and spacecraft structures. Loads on aerospace structures, buckling and stability, stiffened panels, primary wing and launch-vehicle structure, vibration of large structures, properties and selection of aerospace structural materials. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 4 | | Prerequisite(s): Aerospace Engineering major; MAE 202 with C or better; MAE 213 with C or better; MAE 384 with C or better; MAT 267 or 272 with C or better; Credit is allowed for only AEE 325 or MEE 322 OR Visiting University Student |
| AEE | 344 | Fundamentals of Aircraft Design | Aircraft performance, RFP's, Federal Aviation Regulations, aircraft sizing. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering major; AEE 360 with C or better; MAE 202 with C or better; MAE 214 with C or better; MAE 384 with C or better; Pre- or corequisite(s): AEE 325 with C or better if completed |
| AEE | 360 | Aerodynamics | Airfoils and wings, ideal flow, boundary layers, finite-difference solutions, wind-tunnel testing. AEE 360, AEE 361, and AEE 362 must all be taken to secure L General Studies credit. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | L | Prereq(s) w/C or better:Aero Engr or Mech Engr BSE major; ENG 102, 105 or 108; MAE 242; MAE 384; MAT 267 or 272; Pre- or coreq(s):MAE 301 w/C or better if completed; Credit allowed for only AEE 360 or AEE 394 (Aerodynms I) OR Visiting University Student |
| AEE | 361 | Aerodynamics Laboratory | Flow measurement. Wind-tunnel testing. Engineering laboratory reports. AEE 360, AEE 361, and AEE 362 must all be taken to secure L General Studies credit. | N | LAB | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1 | L | Prerequisite(s) with C or better: ENG 102, 105, or 108; MAE 242; MAE 384; Pre- or corequisite(s) with C or better if completed: AEE 360; MAE 301; Credit is allowed for only AEE 361 or AEE 394 (Aerodynamics I Lab) OR Visiting University Student |
| AEE | 362 | High-Speed Aerodynamics | Compressible flow at subsonic and supersonic speeds; ducts, nozzles and diffusers; normal and oblique shocks, transonic flow, numerical solutions; experimental applications. AEE 360, AEE 361 and AEE 362 must all be taken to secure L General Studies credit. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 4 | L | Prerequisite(s): Aerospace Engineering BSE major; AEE 360 with C or better; AEE 361 with C or better; ENG 101, 105, or 107 with C or better; MAE 241 with C or better; MAE 301 with C or better OR Visiting University Student |
| AEE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-4 | | |
| AEE | 415 | Vibration Analysis | Free and forced response of single and multiple degree of freedom systems, continuous systems; applications in mechanical and aerospace systems numerical methods. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; MAE 213 with C or better; MAE 318 with C or better; MAE 384 with C or better; Credit is allowed for only AEE 415 or MAE 514 OR Visiting University Student |
| AEE | 426 | Design of Aerospace Structures | Flight vehicle loads, design of semimonocoque structures, local buckling and crippling, fatigue, aerospace materials, composites, joints, and finite element applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Aerospace Engineering BSE major; AEE 325 with C or better; Credit is allowed for only AEE 426 or MAE 526 |
| AEE | 445 | Fundamentals of Spacecraft Design | Spacecraft subsystems. Systems engineering, space mission design, space environment. Cost analysis. Risk and reliability analysis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Aerospace Engr (Astronautics) BSE major; AEE 325 w/ C or better; AEE 462 w/C or better; MAE 214 w/ C or better; MAE 318 w/ C or better; Pre- or corequisite(s): AEE 465 w/ C or better if completed; EEE 350 w/ C or better if completed |
| AEE | 462 | Space Vehicle Dynamics and Control | Attitude dynamics and control, orbital mechanics, orbital transfer/rendezvous, spacecraft control systems design. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; MAE 301 with C or better; MAE 318 with C or better |
| AEE | 463 | Aircraft Propulsion | Fundamentals of gas-turbine engines. Analysis and design of components. Alternative aircraft propulsion systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; AEE 362 with C or better; MAE 384 with C or better; Credit is allowed for only AEE 463 or MAE 563 OR Visiting University Student |

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| AEE | 465 | Rocket Propulsion | Rocket flight performance; nozzle design; combustion of liquid and solid propellants; component design; advanced propulsion systems; interplanetary missions; testing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Aerospace or Mechanical Engineering major; AEE 362 with C or better; AEE 462 with C or better; Credit is allowed for only AEE 465 or MAE 565 OR Visiting University Student |
| AEE | 466 | Rotary Wing Aerodynamics and Performance | Introduces helicopter and propeller analysis techniques. Momentum and blade-element, helicopter trim. Hover and forward flight. Ground effect, autorotation and compressibility effects. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering major; AEE 360 with C or better; Credit is allowed for only AEE 466 or MAE 566 |
| AEE | 468 | Aircraft Systems Design | Group projects related to aircraft vehicle design, working from mission definition and continuing through preliminary design. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Aerospace Engineering (Aeronautics) BSE major; AEE 313 with C or better; AEE 325 with C or better; AEE 344 with C or better; Pre- or corequisite(s): AEE 463 with C or better if completed |
| AEE | 471 | Computational Fluid Dynamics | Numerical solutions for selected problems in fluid mechanics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering major; AEE 360 or MEE 340 with C or better; MAE 384 with C or better; Credit is allowed for only AEE 471 or MAE 561 |
| AEE | 478 | Fundamentals of Autonomous Aircraft Systems | First of a two-semester capstone sequence. Introduces autonomous aircraft performance and operations, aircraft performance prediction, ground control and support, sensors, communications and telemetry, aerospace ethics and law, design methods. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Aerospace Engineering (Autonomous Vehicle Systems) BSE major; AEE 313 with C or better; AEE 325 with C or better; AEE 360 with C or better; AEE 362 with C or better; MAE 214 with C or better |
| AEE | 479 | Design of Autonomous Aircraft Systems | Second of a two-semester capstone sequence. Autonomous aircraft design project. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): MAE 400 with C or better; AEE 478 with C or better |
| AEE | 480 | Space Systems Design | Group projects related to space systems design, working from mission definition and continuing through conceptual design. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Aerospace Engineering (Astronautics) BSE major; AEE 445 with C or better; AEE 465 (or MAE 465) with C or better; EEE 350 with C or better; MAE 214 with C or better |
| AEP | 501 | Practical and Professional Ethics | Acquaints students with practical and professional ethics. Assumes no prior experience in ethics, and provides practicable knowledge as well as theoretical knowledge. The first in a series of courses for the MA program in Applied Ethics and the Professions, the course is primarily intended to prepare students in that degree program for their subsequent courses. However, it has been designed to be useful to all graduate students who are interested in learning about practical and professional ethics. The beginning of the course is devoted to the more general subjects of practical ("everyday") ethics and professional ethics, while the remaining weeks are spent focusing on the ethical issues that occur in the context of specific professions, with particular emphasis given to those professions that seem most relevant to the aspirations and interests of the students enrolled in the course. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): graduate student or Barrett Honors student |
| AEP | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AEP | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AEP | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AEP | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRA | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AEP | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Global Futures | School for the Future of Innovation in Society | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| AES | 101 | Air Force Today I | Survey course designed to introduce students to the United States Air Force and Air Force Reserve Officer Training Corps (AFROTC). Featured topics include: mission and organization of the Air Force, officership and professionalism, military customs and courtesies, Air Force officer opportunities, group leadership problems, and an introduction to communication skills. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Aerospace Studies | 2 | | |
| AES | 102 | Leadership Laboratory | Dynamic and integrated grouping of leadership developmental activities designed to meet the needs and expectations of prospective Air Force second lieutenants and complement the AFROTC academic program. Emphasizes common Air Force customs and courtesies, drill and ceremonies, health and physical fitness through group participation. | N | LAB | Y | YGB | The College of Liberal Arts and Sciences | Department of Aerospace Studies | 0 | | Corequisite(s): AES 101 OR Visiting University Student |
| AES | 103 | Air Force Today II | Introduce students to the United States Air Force and encourage participation in Air Force Reserve Officer Training Corps (AFROTC). Featured topics include: introduction to leadership, Air Force core values, introduction to interpersonal communication and team building, and a continuation of communication skills. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of Aerospace Studies | 2 | | |
| AES | 104 | Leadership Laboratory | Dynamic and integrated grouping of leadership developmental activities designed to meet the needs and expectations of prospective Air Force second lieutenants and complement the AFROTC academic program. Emphasizes learning the environments and dynamics of an Air Force officer. | N | LAB | Y | YGB | The College of Liberal Arts and Sciences | Department of Aerospace Studies | 0 | | Co-requisite: AES 103 |
| AES | 201 | The Evolution of USAF Air and Space Power I | Focuses on facilitating the transition from Air Force ROTC cadet to Air Force ROTC candidate. Examines the general aspects of air and space power through a historical perspective. Utilizing this perspective, covers a time period from the first balloons and dirigibles to the modern technology currently used in overseas contingency operations. Featured topics include: Air Force heritage, Air Force leaders, introduction to ethics and values, group leadership problems and continuing application of communication skills. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Aerospace Studies | 2 | | |
| AES | 202 | Leadership Laboratory | Dynamic and integrated grouping of leadership developmental activities designed to meet the needs and expectations of prospective Air Force second lieutenants and complement the AFROTC academic program. Provides application of advanced drill and ceremonies; issuing commands; knowing flag etiquette; and developing, directing, and evaluating skills to lead others. | N | LAB | Y | YGB | The College of Liberal Arts and Sciences | Department of Aerospace Studies | 0 | | Corequisite(s): AES 201 OR Visiting University Student |
| AES | 203 | The Evolution of USAF Air and Space Power II | Provides knowledge-level understanding for general element and employment of air and space power. Furthermore, discusses the importance of Air Force Core Values with use of operational examples and historical Air Force leaders. Continues to develop communication skills. Topics include: the Air Force mission and organization, modern joint expeditionary Airmen, officer opportunities, and professionalism. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Aerospace Studies | 2 | | |
| AES | 204 | Leadership Lab | Dynamic and integrated grouping of leadership developmental activities designed to meet the needs and expectations of prospective Air Force second lieutenants and complement the AFROTC academic program. Emphasizes preparation for field training. | N | LAB | Y | YGB | The College of Liberal Arts and Sciences | Department of Aerospace Studies | 0 | | Co-requisite: AES 203 |
| AES | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of Aerospace Studies | 1-4 | | |
| AES | 301 | Air Force Leadership Studies I | Study of communication skills, leadership and quality management fundamentals, leadership ethics, and professional knowledge required of an Air Force officer. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Aerospace Studies | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| AES | 302 | Leadership Laboratory | Dynamic and integrated grouping of leadership developmental activities designed to meet the needs and expectations of prospective Air Force second lieutenants and complement the AFROTC academic program. Advanced leadership experiences applying leadership and management principles to motivate and enhance the performance of other cadets. | N | LAB | Y | YGB | The College of Liberal Arts and Sciences | Department of Aerospace Studies | 0 | | Corequisite(s): AES 301 OR Visiting University Student |
| AES | 303 | Air Force Leadership Studies II | Continuation of AES 301. Topics include: communication skills, ethics, leadership, professional knowledge, and quality management required of an Air Force officer. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Aerospace Studies | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| AES | 304 | Leadership Laboratory | Dynamic and integrated grouping of leadership developmental activities designed to meet the needs and expectations of prospective Air Force second lieutenants and complement the AFROTC academic program. Emphasizes planning the military activities of the cadet corps and applying advanced leadership methods. | N | LAB | Y | YGB | The College of Liberal Arts and Sciences | Department of Aerospace Studies | 0 | | Co-requisite: AES 303 |

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| AES | 401 | National Security Affairs | Examines advanced ethics, Air Force doctrine, national security process, and regional studies. Special topics include: civilian control of the military, military justice, and officership. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Aerospace Studies | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| AES | 402 | Leadership Laboratory | Dynamic and integrated grouping of leadership developmental activities designed to meet the needs and expectations of prospective Air Force second lieutenants and complement the AFROTC academic program. Advanced leadership experience demonstrating learned skills in planning and controlling the military activities of the corps. | N | LAB | Y | GNA | The College of Liberal Arts and Sciences | Department of Aerospace Studies | 0 | | Corequisite(s): AES 401 OR Visiting University Student |
| AES | 403 | Preparation for Active Duty II | Continuation of AES 401. Topics include: civilian control of the military, doctrine, ethics, military justice, the national security process, and officership. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Aerospace Studies | 3 | | |
| AES | 404 | Leadership Lab | Continuation of AES 402 with emphasis on preparation for transition from civilian to military life. | N | LAB | N | OPT | The College of Liberal Arts and Sciences | Department of Aerospace Studies | 0 | | |
| AET | 210 | Measurements and Testing | Measurement systems, components, system response, and the characteristics of experimental data. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): PHY 112; Pre/Corequisite(s): MAT 266 |
| AET | 215 | Aircraft Systems | Principles and design features of aircraft structures, systems, and materials. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 2 | | |
| AET | 300 | Aircraft Design I | Applied aerodynamics, standard atmosphere, speed measurement, infinite and finite wings, airplane performance. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: AET 215; MET 211, ECE 210, or MAE 212 |
| AET | 415 | Gas Dynamics and Propulsion | Introduces compressible flow, internal and external flow, and aerothermodynamic analysis of propulsion systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): AET 300; MET 340 or MAE 340 or Fulton Schools of Engineering graduate student |
| AET | 417 | Aerospace Structures | Analysis and design of aircraft and aerospace structures. Shear flow. Semimonocoque structures. Effects of dynamic loading. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): MET 213, MET 313 (or ECE 313); MET 212, AET 312 (or ECE 312); AET 300 |
| AET | 420 | Experimental Aerodynamics and Wind Tunnels | Experimental applied aerodynamics related to aeronautical and mechanical design. Wind tunnel design and testing. Low speed flows. | N | LAB | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1 | | Pre-requisites: AET 300; MET 340 |
| AET | 524 | Application of Heat Transfer | Energy conservation, steady-state and transient conduction, convection transfer, free and forced convection Reynolds analogy, blackbody and environmental radiation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 432 or MAE 340; Credit is allowed for only AET 524 or AET 432 |
| AET | 560 | Numerical Methods in Engineering Technology | Analyzes problems in physical sciences, models physical problems, perturbation techniques, curvefitting, data analysis, numerical solutions, ordinary and partial differential equations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Fulton Engineering students; Senior or higher academic level |
| AFR | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| AFR | 200 | Introduction to Africana Studies | Introduces the study of African and African-descended peoples; theory, themes, and perspectives. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G & H | |
| AFR | 202 | Immigration and Ethnic Relations in the U.S. | The ethnic and social consequences of international migration with a focus on the United States. Examines the impact of immigration on both American society and immigrant ethnic minorities over time. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Credit is allowed for only AFR 202 (or AFS 202) or ASB 202 |
| AFR | 210 | Introduction to African American Studies | Examines the political, historical, and cultural origins of African American studies as an academic discipline. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | C | |
| AFR | 212 | Introduction to Ethnic Studies in the U.S. | Covers diversity of experiences and relations among racial and ethnic groups in the United States. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | C | Credit is allowed for only AFR 212 or APA 210 or JUS 210 or TCL 210 OR Visiting University Student |
| AFR | 215 | Bob Marley and Reggae: Lyrics of Resistance | Studies political content, influence, and impact of Caribbean popular music, in particular the music of Bob Marley. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & G | Credit is allowed for only AFR 215 or AFR 394 (Bob Marley: Reggae and Resistance) or JUS 215 |
| AFR | 225 | Black Movements in America | Survey course on the historical and political development of mass movements by African Americans and Black resistance in the United States. Traces nearly 400 years of Black resistance against injustices and mass struggles for equality and liberation. Topics include the anti-slavery movement, anti-lynching campaign, the Civil Rights movement, the Black Power movement, prison abolitionism, the reproductive justice movement, and movements for economic justice. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Credit is allowed for only AFR 225 or JUS 200 (Black Movements in America) |
| AFR | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| AFR | 300 | Precolonial Africa | In-depth course study of contemporary Africa, providing thorough examination of the continent's pre-colonial history, particularly before 1900. The course will study the continent and its people, the way the history of the continent has been interpreted by non-Africans, how the continent's anatomy has affected historical development, and the methodology and interdisciplinary scholarship in the study of Africa | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G & H | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours; Credit is allowed for only AFR 300 (or AFH 300) or ASB 310 |
| AFR | 301 | Race and Racism in Africa/African Diaspora | Advanced study of the concepts of race and racism and how they manifest themselves in the USA, the Caribbean, and Africa. Examines the construction of race, racism, and race relations in Africa and the African Diaspora as well as practices to challenge ethnicity, racism, and racial oppression. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours; Credit is allowed for only AFR 301 (or AFS 301) or JUS 300 |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|---------------------------------|-------|-----------------|--|
| AFR | 302 | History of Black Women in America | Advanced examination of the challenges that black women have faced historically in America and how they have responded to those challenges socially, politically, economically, and culturally. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & H | Prerequisite(s): AFR 200, WST 100, WST 300, or minimum 45 hours; Credit is allowed for only AFR 302 or HST 335 or WST 302 OR Visiting University Student |
| AFR | 304 | Islands of Globalization: Caribbean Politics and Political Economy | In-depth study of the complexities of contemporary Caribbean politics and political economy. Examines the countries that constitute the Caribbean community and common market and the Caribbean Latin American countries such as Cuba and the Dominican Republic and analyzes the historical evolution of the region's political and economic systems and the impact of globalization. Traces the development of the region's political economy from the colonial period to the present; looks at the impact of globalization on contemporary politics, economics, and culture and the region's response. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G & H | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours; Credit is allowed for only AFR 304 (or AFS 304) or JUS 304 |
| AFR | 305 | The Global History of the Trans-Atlantic Slave Trade | Reading- and writing-intensive course that employs critical thought to look at the origins, development, abolition, and impact of Atlantic slave trade as a global economic enterprise and great human tragedy; slavery experience. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & H | Prerequisite(s): AFR 200 or HST 109 or minimum 45 hours; Credit is allowed for only AFR 305 (or AFH 305) or HST 326 OR Visiting University Student |
| AFR | 317 | Genes, Race and Society | An in-depth examination of the biological and social construction of race in western societies. Special emphasis is placed on examining these constructs from a historical perspective. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & H & C | Prerequisite(s): AFR 200 or minimum 30 hours; Credit is allowed for only AFR 317 or JUS 317 |
| AFR | 318 | African and African Diaspora Women Writers | Intersection of race, class, gender, and ethnicity in black women's fiction from the United States, the Caribbean, and Africa. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & G | Prerequisite(s): AFR 200 or WST 100 or WST 300 or minimum 45 hours |
| AFR | 320 | Africa: Politics, Environment, and Development | An in-depth analysis of the African experience as a way to understand the consequences of human environment relationships, wealth and power differentials, and individual and global citizenship. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours |
| AFR | 325 | Music as Political Discourse: Reggae, Calypso, and Hip Hop | This is a reading and writing intensive course that employs critical thought that explores African Diaspora popular music as a medium of social and political expression. It examines the political content of Reggae, Calypso and Hip Hop and their role in triggering and influencing popular discourse in the Caribbean and the USA. Course material will analyze the interrelationships among the musical forms and their role in fostering Black and Pan African Cultural Identity, Political Consciousness and World Peace. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & H & G | Prerequisite(s): AFR 200 (or AFS 200); minimum 45 hours; Credit is allowed for only AFR 325 (or AFS 325) or JUS 326 |
| AFR | 330 | Survey of African American Politics | In-depth study of the dynamics of the African American political experience. Examines the historical development of African American politics from the anti-slavery era to the Civil Rights breakthrough of the 1960's through the present political climate. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & H | Prerequisite(s): AFR 200 or minimum 45 hours; Credit is allowed for only AFR 330 or JUS 330 OR Visiting University Student |
| AFR | 335 | Historical Studies in Race, Crime, and the Law | Studies the historical relationship between the criminal justice system in the United States and a segment of society that has traditionally faced official and unofficial discrimination: American racial minorities. Focuses on the experiences of Mexican Americans and Africans Americans with the criminal justice system. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s):ENG 102, 105, or 108 with C or better; Credit is allowed for only AFR 335 or HST 323 or TCL 335 OR Visiting University Student |
| AFR | 336 | African Art | Anthropological perspective of ancient visual art traditions of Africa. In-depth studies focus on several important themes and case studies that are pivotal to the understanding of the rich and diverse artistic heritage of the African continent. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & G | Prerequisite(s): AFR 200 (or AFS 200) or ASB 102 or minimum 45 hours; Credit is allowed for only AFR 336 (or AFH 336) or ASB 336 |
| AFR | 340 | The Making of Modern Africa | Advanced study of the events and processes leading up to the colonization of Africa and the subsequent changes in African societies under colonial rule and independence. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G & H | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours OR Visiting University Student |
| AFR | 345 | Peoples and Cultures of the Caribbean | Traces the socio-political history of the wider Caribbean from the 15th century to the present. Focuses on the following broad areas: the early years of European settlement and colonization; the construction of slavery and plantation society; and the transition from colonization to political independence. Critically examines the origins and building blocks of Caribbean society as well as analyzes the linkages between the region and the rest of the African diaspora. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G & H | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours; Credit is allowed for only AFR 345 (or AFS 345) or JUS 345 |
| AFR | 350 | Inequality and Diversity in Education | Advanced exploration of various dimensions of diversity in relation to educational systems and outcomes. Through sociological and psychological research, case studies and films, students examine how educational inequality is created and reproduced through individual actions and institutional constraints. Also considers the connection between schooling and human rights and ways in which educational inequality may be addressed. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | L & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; AFR 212, APA 200, APA 210, CDE 232, JUS 210, TCL 210, or minimum 24 hours; Credit is allowed for only AFR 350, APA 350, CDE 350, JUS 365, SOC 350, or TCL 360 OR Visiting University Student |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|---------------------------------|-------|--------------------|--|
| AFR | 351 | Gender and Hip Hop | Interrogates the history and global proliferation of hip hop as a set of cultural and consumer practices including music, dance, art, fashion, language and entrepreneurialism. Uses an intersectional approach to unpack hip hop's contributions to larger social discourses around race, gender, gender expression, sexuality, sexual identity and sexual expression, and youth culture. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AFR 351 or AFR 394 (Gender and Hip Hop) or JUS 351 or JUS 394 (Gender and Hip Hop) or WST 351 or WST 394 (Gender and Hip Hop) OR Visiting University Student |
| AFR | 352 | Borders, Prisons and Suburbs | Explores how the relationship between race and space has been important to the development of broad patterns of social inequality in the United States. Through a variety of readings, films and other material, examines how ideas of race and space have been important to the making and maintenance of national boundaries, citizenship, regional histories and spatial typologies such as border, ghetto, suburb and prison. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): minimum 24 hours; Credit is allowed for only AFR 352 (or AFS 352) or APA 352 or JUS 353 or TCL 353 |
| AFR | 353 | African American Literature: Beginnings through the Harlem Renaissance | Focuses on the history of African American literature through the Harlem Renaissance, as exemplified in selected slave narratives, poems, and fiction. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AFR 353 (or AFH 353) or AMS 353 or ENG 353 or ETH 353 |
| AFR | 354 | African American Literature: Harlem Renaissance to the Present | Examines the literary productions of African Americans from the Harlem Renaissance (about 1920) to the present focusing on fiction, poetry, drama, and essays. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AFR 354 (or AFH 354) or AMS 354 or ENG 354 or ETH 354 OR Visiting University Student |
| AFR | 355 | Democracy and Civil Society in Africa | Advanced examination of contending perspectives on the state and civil society of Africa. Course will specifically analyze the democratic struggles in sub-Saharan Africa. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours |
| AFR | 358 | The Yoruba and the Atlantic World | The Yoruba in the African diaspora is how Africans, separated from their home country and scattered in a new land, managed to retain their traditions and reform their identities. The slave trade led to the spreading of African culture, religion, dance, art and music from one hemisphere to another and contributed to the cultural diversity of the New World. Allows students to trace the experiences of one African cultural group throughout the cycle of the slave experience in the Americas. Utilizes different sources or approaches (e.g., anthropology, archaeology, written document, oral tradition) to provide an understanding of how the Yoruba were integrated into the Atlantic world, the transformations of Yoruba identities and culture, and the strategies for resistance employed by the Yoruba in the New World. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): minimum 30 hours; Credit is allowed for only AFR 358 or ASB 358 or AFS 394/ASB 394/HST 394/SGS 394 (Yoruba in the African Diaspora World) OR Visiting University Student |
| AFR | 360 | Black Families in the Diaspora: U.S. and Caribbean | Within a historical, cultural, social-economic, and international context, the institution of Black families begins with their lives in Africa, South America, and the Caribbean and follows the cultural continuities and adaptations impacting the structure and functioning of contemporary African America families. Theoretical models provide focus to studying voluntary and involuntary migration, family labor force involvement, gender roles, marital relations, parenting, kinship and community networks. Throughout the course attention is given to the role of social policies in shaping the well-being of Black families. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): AFR 200 or FAS 101; Credit is allowed for only AFR 360 or FAS 360 |
| AFR | 363 | African American History to 1865 | In-depth examination of African Americans' roles in American history, thought, and culture from slavery to 1865. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & H & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only AFR 363 or HST 333 OR Visiting University Student |
| AFR | 364 | African American History Since 1865 | In-depth examination of African Americans' role in American history, thought, and culture from 1865 to present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | (HU or SB) & C & H | Prerequisite(s): ENG 102 or 105 or 108 with C or better; minimum 30 hours; Credit is allowed for only AFR 364 or HST 334 OR Visiting University Student |
| AFR | 365 | Unruly Voices: Black Women and Cultural Narratives | In-depth study of African American women writers and how they (re)define female identities and engage a critical cross-cultural dialogue within the context of cultural history in the United States. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & C | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours. Credit is allowed for only AFR 365 (or AFH 364) or WST 364 |
| AFR | 366 | African Archaeology: Precolonial Urban Culture | In-depth analysis of African civilization from the last 10,000 years up to 1850 via archaeological, documentary, and oral data. Places special study on the evidence relating to dynamics of civilizations in ancient Africa, their foundation, growth, and failure, which spans a period of two million years. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & H | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours; Credit is allowed for only AFR 366 (or AFS 366) or ASB 366 |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--|---------------------------------|-------|-----------------|---|
| AFR | 368 | Black Religion: Sex, Power and Eroticism | Explores sexuality and eroticism in the context of the religion, more specifically, the religion of the African Diaspora and Black religious experience in the Americas. Takes an interdisciplinary journey into the intersections of race, sexual norms and mores, and gender dynamics as it pertains to religious praxis, identity and embodied faith. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; min 24 hrs; Credit is allowed for only AFR 368 or AFR 394 (Black Religion: Sex, Power, and Eroticism) or AFS 394 (Religion:Sex,Power,Eroticism) or REL 389 or WST 394 (Religion, Sex, Power, Erotism) |
| AFR | 370 | Family Ethnic and Cultural Diversity | Integrative approach to understanding historical and current issues related to the structure and internal dynamics of diverse American families. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Credit is allowed for only AFR 370 or FAS 370 |
| AFR | 372 | Islam and Islamic Societies in Africa: Social and Political History | An in-depth study of the fundamental principles of Islam. Course will examine various forms of development of Muslim societies and institutions in Africa through time. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | G | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours; Credit is allowed for only AFR 372 (or AFS 372) or REL 362 or SGS 366 or AFS 394/REL 394/SGS 394 (Islam and Islamic Societies in Africa: Social and Political History) |
| AFR | 373 | Islam and World Affairs | Advanced examination of complex trends to construct the roles of Islam as a belief, its institutions, leaders and ordinary believers in contemporary world affairs. Studies different developments, including the rise of (political Islam) fundamentalism, to subsequent changes in the Muslim world, challenges Muslims face, and domestic and international conflicts. Challenges students to reconceptualize and broaden their understanding of the powerful presence of religion in this era of globalization. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | G | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours. Credit is allowed for only AFR 373 (or AFS 373) or REL 363 |
| AFR | 375 | Race, Gender and Sport | Advanced and interdisciplinary examination of the social concepts of race and gender and their economic impact on sports in America. In-depth studies will focus on the role of regulatory agencies, the impact of these regulatory agencies have on sport as well as multiple legal issues surrounding athletics | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): AFR 200 or minimum 45 hours OR Visiting University Student |
| AFR | 383 | Blacks in Science, Medicine and Public Health | In-depth study of Blacks who have made significant contributions to science and medicine in the U.S. Begins with a critical examination of ancient African scientific contributions. Highlights specific individuals, analyzing their life's path to their respective careers. Also discusses the role of racism and discrimination and their efforts to overcome these. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours. Credit is allowed for only AFR 383 (or AFS 383) or AFS 394 (Blacks in Science, Medicine, and Public Health) |
| AFR | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| AFR | 418 | Women of Color in Film | An in-depth analysis of the history and representations of women of color in film and the film industry through the intersections of gender, race, sexuality, class, and nationalism. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & C | Prerequisite(s): WST 100 or WST 300 or minimum 45 hours; Credit is allowed for only AFR 418 or WST 420 |
| AFR | 420 | Race Ethnicity and Politics in the African Diaspora | Reading and writing intensive course that employs critical thought to look at the competition for political power among different ethnic groups in Africa, the Caribbean and the USA and the implications for political stability, economic development, democratic governance, democratization, nationhood and the empowerment of African and African Diasporan populations. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G | Prerequisite(s): AFR 200 (or AFS 200) and minimum junior standing OR minimum 9 upper-division hours in any classes with the following prefix: AFH, AFS, AFR, APA, JUS, POS, SGS, SOC, WST; Credit is allowed for only AFR 420 or JUS 421 |
| AFR | 428 | Critical Race Theory | In-depth analysis of the ways in which race has been historically utilized, constructed, and contested in American civil society. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only AFR 428, APA 428, JUS 428 or SST 428 OR Visiting University Student |
| AFR | 459 | Studies in African American/Caribbean Literatures | Studies in African American or Caribbean literatures according to genre, period, theory, or selected authors. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or HU) & G | Prerequisite(s) with C or better: ENG 101, 105, or 107; ENG 200; one ENG 200- or 300-level literature course OR ENG 101, 105, or 107; minimum 45 hours; Credit is allowed for only AFR 459 or ENG 459 OR Visiting University Student |
| AFR | 460 | Race, Gender, and Media | Readings seminar designed to give students a probing examination of the interface between AHANA Americans and the mass media in the United States. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | C | Prerequisite(s): minimum 2.00 GPA; Credit is allowed for only AFR 460 or MCO 460 OR Visiting University Student |
| AFR | 465 | Harlem Renaissance: a Cultural History: 1877-1945 | Socio-political, historical contexts and worldwide ramifications of the cultural productions (theater, music, visual arts, and literature) of the Harlem Renaissance. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | |
| AFR | 466 | Peoples and Cultures of Africa | An in-depth study of the diversity of African people and culture from an interdisciplinary perspective. Emphasizes social, political, and economic relations, as well as inequality, art, gender roles, slavery, and slave trade. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G | Prerequisite(s): AFR 200 or minimum 45 hours; Credit is allowed for only AFR 466 or ASB 466 OR Visiting University Student |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|---------------------------------|-------|-----------------|--|
| AFR | 470 | Women's International Human Rights | In-depth study of the core themes of a global movement for women's international human rights. Analyzes the historical evolution of the development of international human rights and women's rights within the United Nations and regional human rights systems. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): WST 100, WST 300, or minimum 45 hours; Credit is allowed for only AFR 470 or AFR 598 (Women's International Human Rights) or WST 471 OR Visiting University Student |
| AFR | 480 | Different Voices Within Contemporary Islamic Discourse | Examines modern Muslim discourse on major contemporary issues such as Shari'a, Jihad, secularism, gender, civil rights, democracy, extremism, religious violence. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102 or 105 or 108 with C or better; Credit is allowed for only AFR 480 (or AFS 480) or REL 461 or SGS 442 |
| AFR | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| AFR | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-6 | | Prerequisite(s): Barrett Honors student |
| AFR | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| AFR | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| AFR | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; 9 upper-division hours OR AFR 200; ENG 101, 105, or 107 with C or better; minimum junior standing |
| AFR | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-3 | | |
| AFR | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AFR | 502 | Africa and African Diaspora World | Combines lecture, critical discussion of readings, guest speakers, student presentations and individual research projects. Drawing on various sources (written, oral, archaeology), explores themes linking peoples of Africa and African heritage in Africa, the United States, the West Indies and Latin America, and Europe, the processes of cultural transformations in Africa and the evolution of African cultures and survival in the New World. Explores topics including transatlantic slave trade, comparative slavery, African-American and Latin America emigration to Africa, African immigration to the New World and the Pan-African movement. Emphasizes links between blacks in Africa, the West Indies and the United States, the cultural and political influences they had on each other and the legacy that remains in these areas today. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AFR 500 (Africa and the Diaspora World) or AFR 502 |
| AFR | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AFR | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AFR | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AFR | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AFR | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AFR | 600 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 100 | Introduction to Agribusiness | Overview of agribusiness industries and career opportunities. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | |
| AGB | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 1-3 | | |
| AGB | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 1-4 | | |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------|---------------------------------|-------|-----------------|---|
| AGB | 215 | Fundamentals of Sustainable Food Systems | Introductory food course provides students with a panoramic understanding of American agriculture. Explores American-grown food through history, policy, society, business innovation, and environmental sustainability. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | L | Prerequisite(s): ENG 101, 102, 105, 107, or 108 with C or better; Credit is allowed for only AGB 215 or SFS 215 or SOS 215 OR Visiting University Student |
| AGB | 216 | The Sustainable Plate | Introductory food course explores agriculture by subsectors, such as livestock, grains and fruits and vegetables. Students learn how dietary choices affect health, the environment, and the people who produce and process food. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): ENG 101, 102, 105, 107, or 108 with C or better; Credit is allowed for only AGB 216 or SFS 216 or SOS 216 OR Visiting University Student |
| AGB | 250 | Economics of Resource Allocation: Food and Agriculture | Beginning class that focuses on the specific microeconomic principles that are needed to understand the food industry, agricultural production, food safety and production of renewable natural resources. Focuses extensively on the detailed information that students need to understand the nuances of specific issues associated with the food, agriculture and renewable natural resources, including a keen understanding of monopolistic competition, the economic rationale for governmental regulation, effects of property rights on renewable resources, agricultural price supports, prospect theory and behavioral economics. | N | LEC | N | GNA | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Credit is allowed for only AGB 250 or AGB 294 (Economics of Resource Allocation) OR Visiting University Student |
| AGB | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 1-4 | | |
| AGB | 302 | International Management and Agribusiness | Management and agribusiness issues in the transition of developing countries from subsistence to global operations and competition. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | G | Prerequisite(s): minimum 56 hours OR Visiting University Student |
| AGB | 321 | Agribusiness Marketing | Focuses on food and consumer products marketing at an intermediate level. Covers strategic concepts such as situational analysis, planning and objectives, and target marketing and positioning. Illustrates both the theory and application of strategic decision making through case analysis. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): minimum 56 hours OR Visiting University Student |
| AGB | 333 | Agribusiness Finance | Examines the markets, institutions and current issues important to financing firms in the food and agribusiness sector. Topics include cost of capital, specialized lending institutions (farm credit system), credit decisions, vendor financing, private equity, institutional ownership, cooperatives and risk management. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): minimum 56 hours |
| AGB | 340 | Food Processing | Introduces processed food quality assurance, statistical sampling, and inspection procedures. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | |
| AGB | 360 | Agribusiness Statistics | Statistical methods with applications in agribusiness and resource management. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | CS | |
| AGB | 366 | Agribusiness Production Technologies | Examines methods for managing diverse crop and livestock enterprises with an emphasis on growth, development, marketing, and loss prevention. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | |
| AGB | 367 | Agribusiness Processing Technologies | Biotechnology and other methods used in the production, processing, and distribution of food. | N | LEL | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | |
| AGB | 370 | Food Retailing Strategy Development and Case Competition | Students develop an action plan to address a real-world problem facing food retailers. The National Grocers Association (NGA) provides the case-study question. The NGA is a trade organization representing independent food retailers, as well as wholesalers and suppliers that support these businesses. The course culminates with the student team presenting their recommendations to the case-study question at the NGA's Collegiate Case-Study Competition. Students develop skills in market research, strategy development, communication and presentation. Cash prizes are awarded to the finalist teams. Prospective students are encouraged to contact the professor to learn the case question for the current term. | N | PRO | Y | GNA | W. P. Carey School of Business | Morrison School of Agribusiness | 1-3 | | Pre- or corequisite(s): MKT 300; Credit is allowed for only AGB 370 or AGB 394 (Current Topics in Food Retailing) OR Visiting University Student |
| AGB | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 1-4 | | |
| AGB | 410 | Agribusiness Management | Business operations and human resource management principles applied to real-world problems faced by firms across the food and agribusiness value chain, with emphasis given to the formulation, implementation and evaluation of competitive strategies. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): minimum 56 hours OR Visiting University Student |
| AGB | 414 | Food and Agribusiness Policy Issues | Analysis of agribusiness firm decisions in the ecological, economic, social, and political environments. Special emphasis on ethical issues surrounding food production and consumption. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 56 hours OR Visiting University Student |
| AGB | 420 | Food Advertising and Promotion | Focuses on advertising and promotional strategies in the food industry, with emphasis on consumer packaged goods. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): minimum 56 hours |

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| AGB | 425 | Food Supply Networks | Information, methods and resources used in the management of global food supply networks. Emphasizes systems of food marketing and distribution from the farm to the consumer. | N | LEC | N | GNA | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): minimum 56 hours OR Visiting University Student |
| AGB | 429 | Marketing Communications in the Food and Agribusiness Industries | Focuses on written and oral communication in the food and agribusiness industries. Through real-world projects and collegiate marketing competitions, students address current issues in the food and agribusiness industries. Students learn how to effectively communicate strategic visions. Also entails research in the food and agribusiness industries to support strategic plans. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): AGB 321 or MKT 300, 302, 303, or 390 or minimum 56 hours |
| AGB | 431 | Agribusiness Financial Management | Comprehensive treatment of topics in financial management of agribusiness: capital structure, dividend policy, asset valuation, mergers and acquisitions, risk management. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): AGB 321, FIN 300 or TMC 320 |
| AGB | 433 | Agribusiness Financial Markets | Role and function of agribusiness in U.S. financial system. Topics include rural banking, farm credit system, monetary policy, and federal reserve. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): AGB 333 or FIN 300 |
| AGB | 435 | Commodity Futures and Options Markets | Provides an understanding of how to use futures and options markets in a risk management and pricing context, especially as it pertains to the marketing and procurement of agricultural commodities by grain and livestock merchandisers, food manufacturers, and producers/distributors/consumers of natural resources. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): minimum 56 hours OR Visiting University Student |
| AGB | 440 | Food Safety | Control, prevention, and prediction of microbial and chemical food-borne diseases. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | |
| AGB | 445 | Food Retailing | Critical examination of trends, problems and management functions of food retail managers across various retail institutions. Emphasizes the biological nature of food products and the dietary preferences of consumers. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): AGB 321 or MKT 300 or MKT 302 or MKT 303 or MKT 390 OR Visiting University Student |
| AGB | 452 | Global Food and Agricultural Trade | Applies international trade theory to analyze the effects of government policies and trade agreements on the global food and agribusiness sector. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): minimum 45 hours |
| AGB | 456 | Food Product Innovation and Development | The food product development process and how it interfaces with food technology and packaging concepts. Emphasizes the team approach, which is prevalent in the food industry. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): minimum 56 hours OR Visiting University Student |
| AGB | 481 | Strategic Pricing in Food Markets | By applying the basic concepts of microeconomics to real-world data, this course allows the student to not only gain a book-oriented understanding of how businesses in the food industry behave, but practical, hands-on experience that lasts far beyond the classroom. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): minimum 56 hours |
| AGB | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Morrison School of Agribusiness | 1-12 | | |
| AGB | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | W. P. Carey School of Business | Morrison School of Agribusiness | 1-6 | | Prerequisite(s): Barrett Honors student |
| AGB | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | W. P. Carey School of Business | Morrison School of Agribusiness | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| AGB | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 1-4 | | |
| AGB | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 1-7 | | |
| AGB | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Morrison School of Agribusiness | 1-3 | | |
| AGB | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 1-12 | | |
| AGB | 511 | Advanced Agribusiness Management | Analysis of organization behavior, change, and resource requirements within agribusiness systems. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 514 | Advanced Agribusiness Analysis | Vertical integration and differentiation in food and agricultural industries. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 528 | Advanced Agribusiness Marketing | Theory and analysis of marketing strategy related to food and fiber products. Covers concepts of strategic market planning (e.g., segmenting, targeting and positioning), with application of these concepts at an advanced level. Also examines the broad social, cultural, political and economic issues that impact marketing. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 529 | Advanced Agribusiness Marketing Channels | Analyzes agribusiness market channel systems. Formulation of marketing strategies. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 532 | Advanced Agribusiness Finance | Financial management of agribusiness firms; agribusiness financial analysis, investment analysis, agricultural risk management, and introduction to agricultural financial intermediaries. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 535 | Commodity Analysis | Analysis of commodity markets. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| AGB | 552 | International Agricultural Policy | Uses international trade theory to analyze the effects of government policies, trade agreements, and exchange rates on agribusiness. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusines | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 554 | Advanced International Trade | Advanced international practices in trading of agribusiness, technology, and resource products and services. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusines | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 560 | Advanced Agribusiness Management Systems | Development and use of decision support systems for agribusiness management decision making. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusines | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 561 | Applied Econometrics | Uses model building, hypothesis testing, and empirical analysis in solving agribusiness problems. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusines | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 570 | Managerial Economics for Agribusiness | Concepts in micro- and macroeconomics applied to agribusiness management environments: price formation, market structure, information economics, fiscal and monetary policy. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusines | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusines | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusines | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Morrison School of Agribusines | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 589 | Agribusiness Capstone | Strategic management of organizations focusing on developing value-creating strategies in dynamic environments. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusines | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Morrison School of Agribusines | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusines | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Morrison School of Agribusines | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Morrison School of Agribusines | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusines | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | W. P. Carey School of Business | Morrison School of Agribusines | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusines | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | W. P. Carey School of Business | Morrison School of Agribusines | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 600 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusines | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 701 | Advanced Agribusiness I: Advanced Agribusiness Analysis | Advanced topics include benefit-cost analysis, input-output analysis, consumer demand, agricultural policy, international trade, welfare economics and applied mathematical economics. | N | LEL | N | OPT | W. P. Carey School of Business | Morrison School of Agribusines | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 702 | Advanced Agribusiness II: Applied Econometrics | Econometric analysis techniques applied to multinomial and count models, welfare economics, demand models and maximum likelihood estimation using STATA. | N | LEL | N | OPT | W. P. Carey School of Business | Morrison School of Agribusines | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 703 | Advanced Agribusiness III: Advanced Empirical Models | Microeconomics applied to empirical models involving agribusiness including consumer and producer theory, empirical industrial organization, strategic choice and price behavior. | N | SEM | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusines | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Morrison School of Agribusines | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusines | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--|---------------------------------|-------|-----------------|---|
| AGB | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | W. P. Carey School of Business | Morrison School of Agribusiness | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | RSC | Y | Z3 | W. P. Carey School of Business | Morrison School of Agribusiness | 1 | | |
| AGB | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | W. P. Carey School of Business | Morrison School of Agribusiness | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 101 | Beginning Navajo I | Designed for non-Navajo speakers to develop basic skills in speaking, reading and writing in the Navajo language. Specifically focuses on pronunciation, sounds, basic vocabulary and simple conversation. First of four levels of the Navajo language. | N | LEL | N | GNA | The College of Liberal Arts and Sciences | American Indian Studies Program | 4 | | Credit is allowed for only AIS 101 or AIS 194 (Beginning Navajo I) or SLC 103 or SLC 194 (Beginning Navajo I) OR Visiting University Student |
| AIS | 102 | Beginning Navajo II | Designed for non-Navajo speakers to continue basic skills in speaking, reading and writing in the Navajo language. Emphasizes a continued focus on pronunciation, sounds, basic vocabulary and simple conversation. Second of four levels of the Navajo language. | N | LEL | N | GNA | The College of Liberal Arts and Sciences | American Indian Studies Program | 4 | | Prerequisite(s): AIS 101 or SLC 103; Credit is allowed for only AIS 102 or AIS 194 (Beginning Navajo II) or SLC 104 OR Visiting University Student |
| AIS | 180 | Introduction to American Indian Studies | Introduces the study of American Indian justice issues from an interdisciplinary perspective. Primary topics include sovereignty, law, and culture. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | C | |
| AIS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | American Indian Studies Program | 1-4 | | |
| AIS | 201 | Intermediate Navajo I | Designed for those who have some comprehension of the Navajo language, and have a beginner's level speaking ability. Continuation of Beginning Navajo; aimed to develop skills in speaking, reading, and writing in Navajo by focusing on pronunciation, vocabulary, conversational studies, and verb conjugation. Third of four levels of the Navajo language. | N | LEL | N | GNA | The College of Liberal Arts and Sciences | American Indian Studies Program | 4 | | Prerequisite(s): AIS 101 or SLC 103; AIS 102 or SLC 104; Credit is allowed for only AIS 201 or AIS 394 (Intermediate Navajo I) or SLC 203 OR Visiting University Student |
| AIS | 202 | Intermediate Navajo II | Designed for those who have some understanding of the Navajo language and can speak some Navajo. Continuation of previous coursework; develops skills in speaking, reading and writing in Navajo by focusing on pronunciation, vocabulary, conversational studies and verb conjugation. Fourth and final level of Navajo. | N | LEL | N | GNA | The College of Liberal Arts and Sciences | American Indian Studies Program | 4 | | Prerequisite(s): AIS 101 or SLC 103; AIS 102 or SLC 104; AIS 201 or SLC 203; Credit is allowed for only AIS 202 or AIS 394 (Intermediate Navajo II) or SLC 204 OR Visiting University Student |
| AIS | 280 | American Indian Sovereignty and the Courts | Examines the sovereign status of American Indians and legal relationships between the tribes and the U.S. government. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | H & C | |
| AIS | 285 | Federal Indian Policy | Examines the sovereign status of American Indians and legal relationships between the tribes and the U.S. government. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | H & C | |
| AIS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | American Indian Studies Program | 1-4 | | |
| AIS | 320 | American Indian Philosophies and World Views | Does it make sense to speak about American Indian intellectuals, thinkers or philosophers? Not only have Indians been thinking and thinking deeply for generations, but they have also produced a body of written works that have formed the foundation of contemporary American Indian studies. Covers some of the major figures, their works, and the ideas and opinions (many of which were controversial) that shaped their thinking. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | HU & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; junior standing; Credit is allowed for only AIS 320 or AIS 394 (American Indian Philosophical/World Views) OR Visiting University Student |
| AIS | 360 | Issues in Urban Indian Country | In-depth examination of the historical, social, economic, and political implications of indigenous migrations to urban areas. Over 50% of Native people are living in cities. What are they doing? Why are they there? Are they still under the federal trust relationship? Evaluates the social, political, and economic structures built by American Indians living in the urban environment. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | C | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum junior standing; Credit is allowed for only AIS 360 or 394 (Issues in Urban Indian Country) |
| AIS | 365 | American Indian and Indigenous Film | Introduces and surveys contemporary American Indian and Indigenous narrative film from the rise of the first "Native blockbuster feature film" to the Native indie film "boom" of the 2000s and beyond. Begins with a baseline of the silent era in which American Indian/Native actors and filmmakers plied their craft to some acclaim, into the so-called "war paint years" of genre films, typecasting and tropes, to resistance and mold-breaking beginning in the 1970s. The course does not concern itself primarily with representations, rather it centers the creative work of Native film directors, screenwriters and actors, themselves while seeking to answer "what is an American Indian and Indigenous film?" | N | LEC | N | GNA | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AIS 365 or AIS 394 (American Indian & Indigenous Film) OR Visiting University Student |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--|---------------------------------|-------|-----------------|---|
| AIS | 370 | American Indian Languages and Cultures | Emphasizes understanding of Indian language families and the relationship of oral traditions to culture. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | C | Prerequisite(s): AIS 180 with C or better |
| AIS | 375 | Innovation for American Indian Sustainability | American Indian tribes are poised at an historic opportunity to accelerate innovation within their communities. Many tribal leaders have stated that to create true sustainability, tribes need to practice innovation and sustainable development in a manner that is a cultural match to their traditions and values. Examines topics directly associated with creating tribal economies with innovation, entrepreneurial and sustainability in an American Indian context as key factors. Consists of class lectures, guest speakers, student discussion, individual and group teamwork, and presentations. Participants form into teams to identify, develop and define an innovative product or service idea that addresses a significant need in Indian Country that can be addressed through innovation. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AIS 375 or AIS 394 (Innovation for American Indian Sustainability) |
| AIS | 380 | Contemporary Issues of American Indian Nations | Surveys legal, socioeconomic, political, and educational state of contemporary reservation and urban Indians. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | C | |
| AIS | 381 | American Indian Women | Draws from a diverse range of Indigenous critical traditions to examine discourses of gender, identity, and sexuality as sites of cultural revitalization and conflict and theorizes the meaning of each of these categories from diverse Indigenous communities. Considers contemporary and traditional works by Indigenous women with a special emphasis on the historical, socio-cultural, and legal contexts of each work. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | C | Prerequisite(s): WST 100, 300, or AIS 180 with C or better OR Corequisite(s) if completed 30 hours or more: AIS 180, or WST 100 or 300; Credit is allowed for only AIS 381 or WST 382 |
| AIS | 385 | Entrepreneurship for American Indian Sustainability | Concentrates on developing a product or service idea, creating an entrepreneurial model and plan to implement the product or service in the context of an AI sustainable venture (profit and nonprofit). Begins with a review of established AI context with additional focus on tribal economic development throughout the course. The innovation process executed during the semester and the resulting product/service ideas and choices. Students are also encouraged to embark on new venture ideas as well. Students are then introduced to all aspects of venture (profit and non-profit) and entrepreneurial model creation, including strategy, product/service development planning, marketing, operations, alliances, management, finance and investment. In parallel, teams continue refinement and, where possible, further prototyping of the idea they chose from the previous semester and/or creation of new high-impact, high-potential ideas. | N | LEL | N | GNA | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AIS 385 or AIS 394 (Entrepreneurship for American Indian Sustainability) or SOS 380 |
| AIS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | American Indian Studies Program | 1-4 | | |
| AIS | 420 | American Indian Studies Research Methods | Surveys diverse research methods, including statistical, historical, interpretative, and narrative approaches. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | L | Prerequisite(s): AIS 180 with C or better; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| AIS | 430 | Contemporary Indigenous Spirituality | Why do so many indigenous people across North America want to revitalize their traditional ways when there is supposedly so much opportunity awaiting them in all segments of American society? What are the benefits of such an endeavor and what might be the consequences if this objective is not pursued? This course is premised on the hypothesis that indigenous customs and beliefs contain knowledge that is not only vital to the well-being of the communities in which this native wisdom is found, but also to those communities seeking a more sustainable way of living in the land they call home. After delving into a critique of the religious principles that went into the settling of America, complete with notions of manifest destiny, a way is opened for a more native-oriented discourse on community, nature, economy, and politics. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum junior standing; Credit is allowed for only AIS 430 or 494 (Ind Spirituality in Postmodern) |
| AIS | 440 | Cultural Professionalism | Emphasizes professional and leadership skills to prepare students for academic and career endeavors after undergraduate degree completion. Explores indigenous perspectives on communication, research, professional and leadership skills. Research focuses on addressing the needs of Arizona Indian Nations and Tribes and culminates in a research paper, in-class presentation and community development poster presentation. Showcases research posters in a research symposium in which guests vote on the most innovative and practical poster proposal. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | C | Prerequisite(s): minimum junior standing; Credit is allowed for only AIS 440 or AIS 494 (Cultural Professionalism) |

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| AIS | 445 | American Indian Leadership and Resistance | Examines the modern challenges that leaders face in American Indian communities with a foundation in indigenous concepts of leadership, sovereignty and nationhood. Topics include pre-contact leadership principles and systems of governance, tribal sovereignty, nation-building, politics, governing systems, leadership styles, military leadership, internal disputes and conflict resolution, activism, mobilization, community leadership, political/elected leadership, and other leadership-related topics. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | SB & H & C | Prerequisite(s): minimum junior standing or 3 hours of an AIS course; Credit is allowed for only AIS 445 or AIS 494 (Principles of American Indian Leadership) or AIS 521 |
| AIS | 450 | Indigenous Food Systems and Sovereignty | Allows students to understand the differences between Indigenous food systems, food justice and food sovereignty from an American Indian studies and Indigenous perspective. Explores the interconnections between Indigenous knowledge, food, food systems, ecology and culture. Examines how U.S. colonialism has affected American Indian foods, food systems and health and explores the ways Indigenous peoples and nations are reviving traditional foods and food systems or developing new markets, policies and opportunities for Indigenous food sovereignty. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AIS 450 or AIS 494 (American Indian Food Justice and Sovereignty) OR Visiting University Student |
| AIS | 455 | Human Rights and Cultural Resource Laws | Examines how U.S. laws, policies, executive orders, and court decisions have affected Indian nations and peoples in matters of cultural resources and burial rights. Considers the protests, legal battles, and political campaigns Indians have waged to reaffirm their fundamental human rights in the areas of repatriation and sacred sites protection. Examines the ways in which filmmakers and the media present these issues to the public. Assesses the present status of Indian religious rights and cultural resource laws. Sovereignty and its relationship to Indian spirituality is a theme that permeates the course. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum junior standing; Credit is allowed for only AIS 455 or 494 (American Indian Cultural Resources) |
| AIS | 470 | Tribal Governance | Critical and historical examination of Indigenous governance and leadership. Includes a survey of historical policy developments and political change that laid the foundation for contemporary Indian government and an assessment of the effectiveness of modern tribal administrations and decision-making bodies. Explores the diverse approaches to tribal governance, community-based political strategy and local interpretations and assertions of sovereignty and self-governance. Project work facilitates focused student learning on the challenges and opportunities in government for a specific Indian nation. Case work and consultation with practitioners in Indian government complement textbook reading in law, history and policy. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Pre-requisite: AIS 285; Credit is allowed for only AIS 470 or AIS 494, Tribal Governance |
| AIS | 480 | Actualizing Decolonization | Provides an in-depth investigation of the theory and concepts of colonization, decolonization, and Indigenous peoples in America, with brief comparisons with global Indigenous peoples and experiences. Covers classic scholarly works on colonization and decolonization to understand the frameworks in which colonization and decolonization develops, expands, and impacts Indigenous peoples. Through that theoretical understanding, examines and formulates ways in which decolonization can impact and be integrated into Indigenous lives and communities. Students shift from theory to praxis by writing and presenting on an informal grant proposal for a decolonizing project that can be implemented in an Indigenous or non-Indigenous community. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | HU & C & G | Prerequisite(s): ENG 101; ENG 102; junior standing; Credit is allowed for only AIS 480 or AIS 494 (Readings-Decolonization) OR Visiting University Student |
| AIS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | IND | Y | Z1 | The College of Liberal Arts and Sciences | American Indian Studies Program | 1-12 | | |
| AIS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | The College of Liberal Arts and Sciences | American Indian Studies Program | 1-6 | | Prerequisite(s): Barrett Honors student |
| AIS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | The College of Liberal Arts and Sciences | American Indian Studies Program | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| AIS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | American Indian Studies Program | 1-4 | | |
| AIS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | American Indian Studies Program | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| AIS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | The College of Liberal Arts and Sciences | American Indian Studies Program | 1-3 | | |

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| AIS | 501 | American Indian Studies Paradigms | American Indian Studies emerged as an academic discipline in the late 1960s in part because of increasing dissatisfaction among Indians about the works of historians, anthropologists, and other scholars that was very often marred by methodological and conceptual flaws. Course provides an overview of ways of "doing" Indian studies from an American Indian Studies paradigm(s) through a critical examination of some of the most significant works emanating from this growing body of literature. Critiques paradigms that selected scholars have employed in the researching and writing of their topics. Seminar format allows students to take the lead in discussing each week's readings. Covers a range of scholarship dealing with American Indian issues; explores the development of American Indian Studies as an academic discipline; probes paradigms that Indigenous scholars have developed; and considers how those paradigms differ from those used by other disciplines. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 502 | American Indian Studies Research Methods | Prepares students for thesis research, writing, and completion. Surveys graduate research methods in the field of American Indian Studies including historical, interpretative, and narrative approaches. Focuses on methodological issues specific but not limited to American Indian and Indigenous Studies. Focuses on Indian-centered methodological approaches to research that are essential to qualitative writing of the various topics in Indian country and other issues. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 503 | Contemporary Issues of American Indian Nations | Provides an overview of the current status of American Indian Nations with regard to sovereignty, policy, politics, economy, and society. An exploration of current issues illustrates the unique challenges and innovative solutions put forth by Indian communities. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 504 | American Indian Film and Activism | Examines the American Indian film and activism with emphases on American Indian production, directing, editing, investigative journalism, documentary film, entertainment, and research. Exposes students to the development of activism in film and how film has been utilized to educate, inspire, and contribute to the challenges in Indian Country. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 505 | Contemporary Visual Arts of American Indians | Focuses on a critical analysis of art, film, and media as they intersect with shaping the image and sustaining the culture of American Indians in North America. Examines the persistent and inappropriate stereotypes of American Indians as portrayed in film and media, including explanations for the persistence of negative stereotypes drawing on various aspects of critical race theory including power, politics, and race. Also introduces the scope and diversity of American Indian art and artists and highlights how native artists portray their views and culture through contemporary image making and representations. Stresses the interplay of art with sovereignty, identity, and politics. Emphasizes the powerful and significant connection between contemporary American Indian art and the persistence of indigenous cultures. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 506 | Indigenous American Literature and the Tribal Community | Teaches Indigenous (Indian, Native American, First Nations) literature's role in Indigenous history, cultural history, philosophy, society, culture, and developing cultural traditions. Students learn how tribal communities articulate themselves intellectually and artistically through literature and its development locally, nationally, and internationally. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 508 | Revitalizing Indigenous Languages | Critically examines Indigenous languages, their decline and revitalization from a language ecology and a self-determination perspective. Includes historical, sociopolitical, educational, linguistic, sociolinguistic, and cultural issues that have had and continue to impact Indigenous peoples and their languages worldwide and their reclamation efforts. Also examines various epistemologies, theories, ideologies, and practices of Indigenous people (including American Indian, Indigenous Alaskan, Hawaiian, Maori, Quechua). Topics include: language policy and planning, language acquisition, child language socialization, identity development, bilingual education, Indigenous language pedagogy, and current models and approaches for Indigenous language maintenance and revitalization (ILMR). | N | SEM | N | GNA | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| AIS | 509 | American Indian and Indigenous Rights | Examines the rights of American Indian peoples with an emphasis on asserting indigenous rights in national as well as international forums. Challenges students to address issues related, but limited to: treaty rights, land rights, water rights, self-determination, rights to a distinct culture, religion, language, spiritual practices, customs, ceremonies, nationhood, autonomy, to seek redress and justice, rights to education, rights to protect from destruction and violence, rights to economic development, rights to protect lands from military, ecological, cultural, and environmental threats, and other rights that may effect the lives of American Indian people. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; Credit is allowed for only AIS 509 or AIS 494 (American Indian and Indigenous Rights) |
| AIS | 510 | Social Change in American Indian Communities | Committed to the preservation of political autonomy and cultural identity, American Indian communities are increasingly gaining rule over the effects of social change impinged upon them. Recapturing their histories and redefining colonial relationships, they are forging a preferred future grounded in their own traditional institutions of community, religions, and strengthening of self-determination. Provides students with: (1) an understanding of the enduring struggle of American Indian communities to resist the movement of collective assimilation and retain the right of self-determination; (2) an examination over time of social changes in American Indian communities' social structures and their political and social movements towards the establishment of environmental, economic, and social justice; and (3) knowledge of strategies and tactic for achieving social change within American Indian communities that support Indian self-determination and self-governance. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 511 | Genders and Sexualities in American Indian Societies | Grounds students in the theory and concepts of American Indian genders and sexualities. In American Indian societies, there were more than two genders. With colonization through laws, boarding schools, and loss of culture, language, and land, these different genders were attacked and made to disappear. Examine the concepts of gender and sexuality from Native perspectives and theory, and through western imperial views. Also covers the ways in which decolonization plays a role in understanding indigenous genders and sexualities. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 512 | Historical Trauma, Healing, and Decolonization | In recent years, scholars have begun to explore the prevalence of historical trauma among American Indian communities. This research argues that the genocide, violence, breakdown of customary cultures through external coercion; and oppression that Indians continue to face at the hands of foreign colonizers has left Indians with harmed with intergenerational self-destructive behavior, domestic violence, suicide, anxiety, depression, low self-esteem, and anger. As a result of this violence and oppression, they have developed models of recovering healthy nations while challenging violations of their human rights in the domestic and international arenas. This history has given rise to a widespread cultural revitalization movement often referred to as decolonization. Scholars from an array of academic disciplines are producing a growing body of literature about decolonization. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 513 | Urban Indian Issues | According to the 2010 Census, 64.1% of the American Indian/Alaskan Native population resides in a place outside of tribal areas. Cities such as Los Angeles, New York, and Phoenix have historically counted more than 25,000 American Indian residents. What draws Indigenous families to urban areas? How does an urban address impact the federal trust relationship with nonreservation Indians? What are the social, political, and economic implications for a family who lives off the reservation and away from tribal homeland? Course explores these issues and dynamics and challenges the student to examine the unique identity and contributions of urban Indians. Students learn the history of Indigenous migrations to the city and assess current needs and concerns through consultation work coordinated with Phoenix area Indian Centers and nonprofit organizations. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 514 | American Indian Intellectuals | Does it make sense to speak about American Indian "intellectuals," "thinkers," or "philosophers"? Not only have Indians been thinking and thinking deeply for generations, but they have produced a body of written works that have formed the foundation of contemporary American Indian studies. Course covers some of the major figures, their works, and the ideas and opinions (many of which were controversial) that shaped their thinking. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| AIS | 515 | The Work and Legacy of Vine Deloria, Jr | Vine Deloria, Jr, Standing Rock Sioux (1933-2005) has often been referred to as "Uncle Vine" for his role in the intellectual development of innumerable scholars, as well as legal and political figures, all of whom have striven along side Deloria at making the world a better and more just place for indigenous communities. As such, Deloria has also been labeled "the Dean of American Indian Studies" because of his work at shaping the intellectual and political agenda, which began in 1969 with the seminal publication of Custer Died for Your Sins: An Indian Manifesto and continued posthumously with works on the medicine man traditions throughout North America and a reflection on Carl Gustav Jung's analyses of american indian customs and beliefs. this seminar, the first of its kind, takes a comprehensive look at Deloria's philosophical and legalistic legacy by examining his major works and analyzing, in addition to critiquing, the ideas and opinions that shaped his intellectual career. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 516 | Concepts of Power and Indigeneity | Grounds students in the theory and concepts of power and indigeneity with comparisons with global Indigenous peoples and experiences. Through that theoretical understanding, examines and understands ways in which these concepts impact Indigenous communities and formulates ways in which to develop practical ways to address these issues. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 517 | Customary Tribal Law and Governance | Examines traditional governance systems, institutions, and cultures of American Indians, with emphasis on customary law, justice, and government. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 518 | Tribal Jurisdiction | Examines traditional governance systems, institutions, and cultures of American Indians, with emphasis on customary law, justice, and government. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 519 | Burial Rights, Repatriation, and Sacred Places Matters | Probes U.S. laws and policies, court cases, and Indian struggles for dignity, burial rights, repatriation, and religious freedom from the late 1800s to the present. Examines developments in the United Nations and international arena pertaining to Indigenous human rights, religious freedom, repatriation, and sacred places protection. U.S. policies, laws, practices, court decisions, land developers, pot hunters, and archaeologists have restricted the human rights of American Indians in term of burial rights and religious freedom. Congress has enacted cultural resource and environmental protection laws, religious freedom, and reburial laws that aim to regulate the use and abuse of cultural resources and Indian rights. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 521 | American Indian Leadership and Resistance | Examines the modern leadership struggles in American Indian communities with a foundation of traditional concepts of leadership. Topics include leadership qualities and systems pre-contact, federal-tribal relations, state-tribal relations, tribal politics, internal disputes, activism, mobilization, cultural continuity, social change, community leadership, political/elected leadership, diplomacy, political agendas, and other topics related to American Indian leadership and resistance. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AIS 445 or AIS 494 (Principles of American Indian Leadership) or AIS 521 |
| AIS | 522 | Tribal Governance | Explores American Indian leadership, political ideology, and the history and current state of tribal government. What makes tribal governments tick? Examines past and present challenges faced by leaders and members of indigenous communities. Brainstorms potential strategies for the further enhancement, protection, and assertion of this indigenous "brand" of governance. How do politics, policy development and the ever-changing face of indigenous sovereignty impact the way we think about governance? How can we educate and inspire tribal communities to have greater ownership and interest in government? Students engage with the current research, debate the issues, and learn from people who provide governance to indigenous communities. Case studies focus on specific issues in local communities. Individual portfolio project work facilitates learning and the articulation of leadership and governance as practiced by one particular tribe of your choice. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| AIS | 523 | Community Development with American Indian Communities | Tribal community development is more complicated than large urban population centers or even rural communities because tribal communities continue to struggle with years of colonial, paternalistic, and assimilationist federal policies that have impeded their efforts to become self-determined and self-governing nations. Provides students with the knowledge and skills they need to support community development in American Indian communities within a self-determined and self-governing context. Content includes: (1) a framework for review of current economic, political, social, and cultural issues facing American Indian communities; (2) an overview of community development theories, of the underlying values behind those ideas, and of the linkages between theory and practice in American Indian and other Indigenous communities; and (3) a sampling of intervention strategies and tactics for effective community development in American Indian communities. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 524 | Indian Control of Indian Education: Tribal Colleges and Universities | Examines American Indian control of education from a tribal college and university perspective. Focuses on the tribal college movement, including the historical and contemporary political, policy, research, and best practices that have influenced and sustained tribal colleges and universities. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | American Indian Studies Program | 1-12 | | |
| AIS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | American Indian Studies Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | American Indian Studies Program | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | American Indian Studies Program | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | American Indian Studies Program | 1-12 | | |
| ALA | 100 | Introduction to Environmental Design | Surveys environmental design: includes historic examples and the theoretical, social, technical, and environmental forces that shape them. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU & H & G | Credit is allowed for only ALA 100 or PUP 100 OR Visiting University Student |
| ALA | 102 | Landscapes and Sustainability | Surveys ideas relating to landscapes and sustainability and the role of landscape architecture in the creation of humanized environments. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU & G | |
| ALA | 121 | Design Fundamentals I | Development of visual literacy. Introduces drawing and graphic representation as methods of seeing and problem solving. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Architectural Studies, Environmental Design, Interior Design, or Landscape Architecture major; Credit is allowed for only ALA 121 or INT 120 OR Visiting University Student |
| ALA | 122 | Design Fundamentals II | Exercises in basic design, stressing creative problem-solving methods, principles of composition, and aesthetic evaluation. Development of vocabulary for environmental design. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): ALA 121 with C or better; Architecture, Environmental Design or Landscape Architecture major. Corequisite(s): ALA 124 |
| ALA | 124 | Design Fundamentals II Lecture | Theory and applications of basic design principles, history and theory of how architecture, interior design and landscape architecture design is impacted by basic design. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): Architectural Studies BSD or Environmental Design BS or Interior Design BSD or Landscape Architecture BSLA major; Corequisite(s): ALA 122 or INT 122; Credit is allowed for only ALA 124 or INT 124 |
| ALA | 225 | Design Fundamentals III | Applies history and theory of design fundamentals with an emphasis on architectural and landscape architectural design issues. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 4 | | Prerequisite(s): Architectural Studies major; ALA 122 with C or better; passed Architectural Studies milestone; Corequisite(s): ALA 235 OR Visiting University Student |
| ALA | 226 | Design Fundamentals IV | Basic design, stressing creative problem-solving methods, principles of composition, and aesthetic evaluation. Development of vocabulary for environmental design. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 4 | | Prerequisite(s): ALA 225 with C or better |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|--|
| ALA | 235 | Introduction to Computer Modeling | Fundamentals of computer operation, geographic information systems, geometric modeling of 3-D forms and rendering of light, mathematical modeling of processes using spreadsheets. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | CS | Prerequisite(s): Architectural Studies BSD major; Corequisite(s): ALA 225 OR Environmental Design BS major; Pre- or corequisite(s): EDS 223 OR Landscape Architecture BSLA major; Corequisite(s): LDE 261 OR Visiting University Student |
| ALA | 240 | Sustainable Design in Built Environment | Reviews the physical principles used in the design of sustainable buildings, landscapes, and urban environments. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| ALA | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| ALA | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| ALD | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Aging and Lifespan Development | 1-4 | | |
| ALT | 405 | Power Conditioning | Fundamentals of power electronics; DC-DC converters and DC-AC inverters; battery charge controllers. Lab experience. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: EST 310; Credit is allowed for only ALT 405 or 505 |
| ALT | 412 | Village Energy Systems | The role of energy resources in economic development. The need for and use of energy at the Base of the Economic Pyramid (BoP). Individual Problem Based Learning (PBL) investigations of potential solutions to energy-poverty at the BoP. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Senior Standing in Engineering, Engineering Technology, Mathematics or another Science-based curriculum. Credit is allowed for only ALT 412 or ALT 494 (Village Energy Systems) |
| ALT | 420 | Electrochemical Energy Technologies | Thermodynamic and electrochemical principles of fuel cells. Hands-on experience on fabrication and testing of fuel cells; problem solving skills. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: CHM 113; ALT 360 |
| ALT | 435 | Applied Photovoltaics | Overview of solar radiation, operating principles of photovoltaics, qualitative analysis on influencing parameters. market trends, basics of PV systems. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: ALT 360; ALT 410 (not required for BAS students); Credit is allowed for only ALT 435 or 535 |
| ALT | 445 | Automotive and Stationary Fuel Cell Systems | Practical overview of fuel cell systems for stationary, residential, and transportation applications based on load and duty cycle requirement of specific application. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: ALT 360; CHM 113; Credit is allowed for only ALT 445 or 545 |
| ALT | 502 | Batteries for Portable Electronics | Theoretical and practical overview of primary, secondary, and lithium batteries. Key performance characteristics, construction materials, typical applications, recycling, and disposal. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ALT | 505 | Power Conditioning | Fundamentals of power electronics, DC-DC converters and DC-AC inverters, battery charge controllers. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Credit is allowed for only ALT 405 or 505 |
| ALT | 507 | Evaluations of Photovoltaic and Fuel Cell Systems | Field testing, data collection, and evaluation of real-world photovoltaic and fuel cell systems available on campus and data analysis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ALT | 512 | Village Energy Systems | Establishes leadership in the development of energy resources at the Base of the Economic Pyramid (BoP). Individual Problem-Based Learning (PBL) investigations of potential solutions to energy-poverty at the BoP. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Graduate Standing in Engineering, Engineering Technology, Mathematics or another Science-based curriculum; Credit allowed for only ALT 512 or ALT 598 (Village Energy Systems) |
| ALT | 515 | Alternative Energy Reliability and Standards | Alternative energy systems and their reliability issues, accelerated life and safety testing, standards and codes, regulatory requirements. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ALT | 535 | Applied Photovoltaics | Term projects, overview of solar radiation, operating principles, qualitative analysis on influencing parameters, market trends, basics of PV systems. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: Graduate status; Credit is allowed for only ALT 435 or 535 |
| ALT | 545 | Automotive and Stationary Fuel Cell Systems | Practical overview of fuel cell systems for stationary, residential, and transportation applications based on load and duty cycle requirement of specific applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: Graduate status. Credit is allowed for only ALT 445 or 545 |
| AME | 101 | ASU Digital Culture Experience | Orientation to the Digital Culture program with emphasis on resources for academic success. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 1 | | Prerequisite(s): Digital Culture BA or Digital Culture (Media Processing) BS major OR Visiting University Student |
| AME | 111 | Introduction to Digital Culture | Examines the effects of digital technology on the way we live, communicate, learn, and create. Proposes that we are moving towards a hybrid (physical-digital) existence and culture. Traces that evolution, looks at current examples of hybrid cultural processes and outcomes, and discusses possible future trends. Discusses how these changes are influencing the work and career possibilities of people involved in all aspects of human culture. Comprises diverse readings, media products, class interaction, group discussion and hands-on collaborative projects exploring concepts covered in class. Also includes a number of guest lectures from ASU faculty. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 3 | CS | Credit is allowed for only AME 111 or 194 (Introduction to Digital Culture) |
| AME | 112 | Computational Thinking for Digital Culture | Introduces fundamental concepts relevant for understanding computation. What are algorithms and how can computer code express them? Basics of how real-world signals are captured, encoded, recorded, retrieved and decoded. Designed for students with little or no background in programming. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 3 | | Credit is allowed for only AME 112 or 194 (Computational Thinking for Digital Culture) |

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| AME | 120 | Digital Culture Studio | Provides advice on career preparation and industry skills through a series of guest lectures. Sample topics include resumes, personal Websites and portfolios, how to pitch a project idea, and topics chosen by guest industry presenters. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 1 | | Credit is allowed for only AME 120 or AME 194 (Digital Culture Studio) |
| AME | 130 | Prototyping Dreams | How do you build your dreams? Explores speculative design and inspirational prototyping as a way to imagine and organize worlds. These prototypes do not have to be functional or material, but they must be functional stories, effectively communicating the creator's vision with others. Surveys a number of creative paradigms for imagining alternative worlds that are more ethical and sustainable, and experiments with techniques for physical, digital, literary and artistic prototyping. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only AME 130 or ENG 130 OR Visiting University Student |
| AME | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 1-4 | | |
| AME | 210 | Media Editing | Introduces the fundamental principles of media editing including form, composition, structure, pattern, sequence and rhythm. Using a combination of open source, commercial and custom-designed tools and platforms, students design, construct, communicate and interpret rich media messages. Through creating and critiquing visual compositions, audiovisual artifacts, spatial narratives or generated graphs, students explore the practice of media editing as a spatial, temporal and dynamic process. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 3 | | Credit is allowed for only AME 210 or AME 294 (Media Editing) or DSC 294 (Media Editing) |
| AME | 220 | Programming for the Web | Introduces contemporary Web technologies and the front-end technologies needed to code particularly in contemporary interactive Web applications. Deepens knowledge in the emergence and evolution of Web technologies and standards. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 3 | CS | Prerequisite(s): AME 230 or CSE 110 OR Visiting University Student |
| AME | 230 | Programming for the Media Arts | Introductory-level course in practical aspects of programming systems for media arts. Explores techniques in programming in the context of images, sounds, interaction, networking and data visualization. Uses the processing programming language, an accessible yet powerful environment for learning how to program. Students create images, animations and interactive programs, and learn how to use images, movies, sound files, microphones and cameras in their programs. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 3 | CS | Credit is allowed for only AME 230 or AME 294 (Programming for Media Arts) |
| AME | 240 | Introduction to Physical Computing | Students learn the basic skills required to build physical-computing systems through a series of practical tutorials and design challenges. These skills include basic fabrication with hand and CNC tools, electronic design fundamentals, circuit construction techniques, introductory microcontroller programming and the use of simple sensors and actuators. The primary difference between this introductory-level course and the advanced course is that students in this course are not expected to invent original projects. Projects with clear engineering and design challenges are assigned. Within the scope of these projects there are significant opportunities for creativity but the emphasis is on learning basic skills. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 3 | | Credit is allowed for only AME 240 or AME 294 (Introduction to Physical Computing) |
| AME | 244 | Introduction to Interactive Environments | Introduces software programming in the context of real-time interactivity. Builds the skills and develops the confidence needed to produce interactive audiovisual environments. Primarily uses the Max 7 (cycling74.com) programming language to write code for manipulating digital images, sounds and video in real time. For these systems to be interactive (respond to human activity), uses the tools and techniques for gathering and processing real-time input from sensors such as microphones, electronics, cameras and interface devices. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 3 | | Credit is allowed for only AME 244 or ART 244 or AME 294 (Introduction to Interactive Environments) or ART 294 (Introduction to Interactive Environments) |
| AME | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 1-4 | | |
| AME | 310 | Media Literacies and Composition | When we integrate computational systems into the core of our cultural and social practices, we reinvent how we tell stories. The roles of creators, critics and audiences are blurring at the same time that digital tools allow us to infinitely reproduce and remix narratives, radically changing what we mean by the "work" or "text." These new media platforms empower us to create, share and respond to cultural narratives that defy traditional notions of how stories operate, demanding new literacies. Explores our powers and responsibilities as readers, writers and creators of new cultural languages, including new forms such as games, digital video, electronic literature and social media. Students study relevant media narratives and cultural ecosystems from the 20th and 21st centuries, acquiring a set of literacies that they hone through practices of authorship, critique and collaboration, culminating in the presentation of their own digital media narratives. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 3 | | Prerequisite(s): ENG 101, 105, or 107; minimum 45 hours; Credit is allowed for only AME 310 or AME 394 (Media Literacies & Composition) |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|--|
| AME | 320 | Motion Capture for Integrative Systems | Presents the broad principles and techniques for movement study in oneself and others that includes applied, dynamic anatomy. Also presents the functional techniques for motion capture with a special emphasis on the capture of human movement from visual sensors. Students understand the technology behind motion capture; a high-level understanding of movement and anatomical systems; the ability to perform motion capture and customize it to suit the requirements of specific creative applications in animation, sound and live performance as well as applications in movement rehabilitation and education. Looks at the technology behind various modern motion capture systems based on markers, inertial sensors, accelerometers, and depth sensors, so the student appreciates the technical capabilities and limitations of each technique. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AME 320 or AME 394 (Motion Capture for Integrative Systems) |
| AME | 325 | Technical Lives | Traces the myriad intersections of "life" and "technology" in the history of Western thought and practice—from Ancient Greece to contemporary technoscience. Students investigate these convergences in philosophical works (by Plato, Descartes, Heidegger, Foucault, Gilbert Simondon, and others), in art and design practices (film, architecture, bioart, literature), and in modern technoscientific fields such as biotechnology, artificial life and synthetic biology. Gives students a broad framework for examining the many interwoven histories, philosophies and practices that draw "life" and "technology" together to generate profound ontological, political and economic consequences in the history of the Western world. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only AME 325 or AME 394 (Technical Lives) OR Visiting University Student |
| AME | 330 | Digital-Physical Systems | Hands-on course where students explore digital-physical systems by working with the fundamental building blocks of interactive technologies and examining exemplar works of media art. Basics of electronics, circuit design, sensors, actuators, simple mechanical design, the iterative design process and microcontroller programming. Emphasizes media and arts applications such as real-time interactive performance, robotic installations and tangible computer interfaces. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 3 | | Prerequisite(s): AME 240; minimum 45 hours; Credit is allowed for only AME 330 or AME 394 (How to Build a Digital-Physical System) OR Visiting University Student |
| AME | 333 | Improvising Cyborgs | This experiential and practice-based course provides a multidisciplinary platform for students to work collaboratively to accomplish set creative challenges. Open to anyone with experience working with technology who wants to explore improvisation and performance, not only as art forms, but also to inform their making process, and translate these skills to other areas. Encourages sound/music, dance and visual practitioners to work together. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AME 333 or AME 394 (Improvising Cyborgs) OR Visiting University Student |
| AME | 340 | Compositional and Computational Principles for Media Arts | In much of today's contemporary art practice there is a tight coupling of compositional form, content and underlying computational mechanisms. This integration holds the potential to yield new modes of expression and wholly new art experiences as is evident in emerging forms of real-time generative art, network-based art, game-based art, and interactive performance. As both practitioners and participants, we must develop a critical understanding of the relevant compositional and computational principles that frame this work. Students study relevant media art works from the 20th and 21st century, develop a working understanding of fundamental compositional and computational principles, and apply their understanding through the realization of exploratory media artworks that are presented at the end of the semester. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 3 | | Prerequisite(s): minimum 45 hours |
| AME | 360 | Designing Mixed-Reality Experiences | Augmented reality and virtual reality games, advertisements, installations and other media integrate virtual objects with real-world environments in an emerging computing paradigm called mixed reality. Students learn skills to creatively develop interactive mixed-reality objects and environments. Covers principles behind object-to-object access patterns, virtual physics and interactions, camera-projection coordinate systems, and programming for augmented reality/mixed reality. Although the mixed reality and object-oriented principles transcend programming language and environment, students use C# programming in the Unity Game Engine. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 3 | | Prerequisite(s): AME 230 or CSE 110; Credit is allowed for only AME 360 or AME 394 (Designing & Implementing Mixed-Reality Experiences) OR Visiting University Student |

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| AME | 385 | Collaborative Projects and Research I | Project-based class for experience in collaborative design principles, project pitching and research. Includes readings and small projects with teams formed at the outset of the class. Over the course, teams develop their own project along with a schedule for realization. Project themes vary, yet all projects must explore relationships of digital technologies and cultural products or processes. Includes presentations, discussion and analysis of team projects. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 3 | | Prerequisite(s): BA in The Arts, Design Studies BA, or Digital Culture major; minimum 45 hours OR Visiting University Student |
| AME | 386 | Collaborative Projects and Research II | Project-based class for experience in collaborative design principles, project pitching and research. Includes readings and small projects with teams formed at the outset of the class. Over the course, teams develop their own project along with a schedule for realization. Project themes vary, yet all projects must explore relationships of digital technologies and cultural products or processes. Includes presentations, discussion and analysis of team projects. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 3 | | Pre-requisites: AME 385; Credit is allowed for only AME 386 or 394 (Collaborative Projects & Research II) |
| AME | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEL | Y | OPT | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 1-4 | | |
| AME | 410 | Interactive Materials | Focuses on embedding computation into the physical world and envisioning the future of tangible interactive media. Students make, tinker and experiment with high-tech and low-tech materials ranging from electronics (microcontrollers, sensors and actuators) to softer components including textiles, paper, paints, food and organic/living systems. Grounds hands-on, materially oriented work in theoretical concepts from HCI (Human Computer Interaction), speculative design and design fiction. Students build interactive prototypes as artifacts that exist in fictional worlds to explore emerging dialogues around desirable and undesirable futures. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 3 | | Prerequisite(s): AME 330 |
| AME | 411 | Advanced Interactive Sound | Explores the development of interactive music systems. Covers a variety of sound synthesis methods with particular emphasis as to how they can be used in real-time sound creation. Covers techniques for sensing such as computer vision, sound analysis, tangible interfaces and 3D sensing. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AME 411 or AME 511 or MDC 411 or MDC 511 OR Visiting University Student |
| AME | 430 | Mac Development for Media Arts | Explores native application development for OS X (Macintosh) for use in the domain of media arts. Project-based course covers the native Xcode development environment and the C and Objective-C programming languages. Native applications are able to achieve the highest levels of performance; they leverage the unique technologies built for a platform and they are able to participate in the native user experience (look and feel) that all users of a popular platform expect. To understand native apps for OS X, the course examines a number of code frameworks provided for developers by Apple (the core of which are often called Cocoa), including Foundation, AppKit, AV Foundation, Core Animation and SpriteKit. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 3 | | Prerequisite(s): AME 230; Credit is allowed for only AME 430 or AME 494 (Mac Development for Media Arts) OR Visiting University Student |
| AME | 435 | Mobile Development | Explores native application development for iOS for use in the domain of media arts. Project-based course covers the native Xcode development environment, and the Swift programming language. Native applications are able to achieve the highest levels of performance, they leverage the unique technologies built for a platform, and they are able to participate in the native user experience (look and feel) that all users of a popular platform expect. Examines a variety of frameworks such as UIKit, CoreMotion, CoreLocation, MapKit, AVFoundation AVKit, and SpriteKit to understand native apps for iOS. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 3 | | Prerequisite(s): AME 430 or AME 494 (Mac Development for Media Arts); Credit is allowed for only AME 435 or AME 535 or AME 494 (Mobile Development) or AME 598 (Mobile Development) |
| AME | 444 | Media Installations | Investigates historical and contemporary instances of the media installation, not only as a form of art but as a cultural artifact that appears in a variety of contexts. Students design and build media installations by learning to gather, manipulate and present many different kinds of media using a variety of high- and low-tech tools and techniques. Advanced skills with the tools and techniques for creating and manipulating digital images, sounds, graphics and video. Students learn how to make installations interactive by integrating sensors, input devices and computer vision systems. Design, build and refine media installations, and learn to document these installations at a high level using the latest video editing tools. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 3 | | Prerequisite(s): AME 244 or AME 294 (Introduction to Interactive Environments); Credit is allowed for only AME 444 or AME 494 (Media Installations) or AME 544 or AME 598 (Media Installations) |

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| AME | 470 | Programming for Social and Interactive Media | Web sites, desktop applications connected to the "cloud" and mobile applications depend on services supplied by server-based software that is the invisible center of users' networked experiences. Applications and data servered over the Web are at the core of popular software from social applications such as Facebook, Twitter or Instagram to networked media like iTunes, Netflix or Hulu. Investigates the development of Web applications and services. Creates modern dynamic Web applications using open source technologies. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 3 | | Prerequisite(s): AME 220; minimum 45 hours; Credit is allowed for only AME 470 or AME 570 |
| AME | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 1-12 | | |
| AME | 485 | Digital Culture Capstone I | Senior capstone projects in digital culture are interdisciplinary team projects that offer experience in diverse collaborations for solving complex problems, a proficiency widely demanded by employers. Students integrate, extend and apply information, principles, theories and/or methods learned in previous courses while supervised by the instructor. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 3 | | Prerequisite(s): Digital Culture student; minimum 70 hours; Credit is allowed for only AME 485 or AME 494 (Digital Culture Capstone I) |
| AME | 486 | Digital Culture Capstone II | Senior capstone projects in digital culture are interdisciplinary team projects that offer experience in diverse collaborations for solving complex problems, a proficiency widely demanded by employers. Students integrate, extend and apply information, principles, theories and/or methods learned in previous courses while supervised by the instructor. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 3 | | Pre-requisites: AME 485; Credit is allowed for only AME 486 or 494 (Digital Culture Capstone II) |
| AME | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 1-6 | | Prerequisite(s): Barrett Honors student |
| AME | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| AME | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 1-4 | | |
| AME | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| AME | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 1-3 | | |
| AME | 511 | Advanced Interactive Sound | Explores the development of interactive music systems. Covers a variety of sound synthesis methods with particular emphasis as to how they can be used in real-time sound creation. Covers techniques for sensing such as computer vision, sound analysis, tangible interfaces and 3D sensing. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AME 411 or AME 511 or MDC 411 or MDC 511 |
| AME | 515 | Machine Vision and Pattern Recognition | Covers the field of computer vision, whose broad goal is to create algorithms and systems for processing of visual signals (e.g., images, videos) for low-level, mid-level, and high-level perceptual tasks. Presents the broad principles and techniques for devising computer vision algorithms starting from understanding the imaging process for a pin-hole camera; understanding lenses, image-statistics such as gradients and edges, 3D structure estimation, motion estimation, illumination modeling to perceptual tasks such as shape recognition, texture modeling, face recognition, activity recognition, and scene recognition. The class is a mixture of in-class lectures and discussions, and individual and group projects. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student; Credit allowed for only AME 515 or EEE 515 or EEE 598 (Computational Image Understanding & Pattern Analysis) |
| AME | 516 | Physics-Based Computer Vision | Covers topics in physics-based computer vision and graphics. Includes work on visual computing systems including computational cameras, illumination systems, 3D scanners, rendering/animation and displays. Starting with the basics of traditional photography and the imaging pipeline, proceeds to explore new ways to capture visual information by co-designing camera hardware and software algorithms. Topics covered include plenoptic or multi-modal imaging, coded and compressive sensing, light transport and rendering, programmable illumination, and computational displays. Focuses on understanding and evaluating new imaging technology for specific applications including autonomous vehicles, entertainment and graphics, computer vision and visual recognition, and robotics. Course content delivered via lectures along with written and programming assignments as well as a final project. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 3 | | Prerequisite(s): Herberger Arts, Media and Engineering grad student or Fulton Engineering grad student; Credit is allowed for only AME 516 or AME 598 (Comp Cam, Ltg & Disp) or EEE 516 or EEE 598 (Comp Cam, Ltg & Disp) or EEE 598 (Phys-based Comp Vision) |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|--------------------------------|--|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|---|
| AME | 520 | Movement and Computing | Focuses on computational and humanistic underpinnings for describing human activities for interactive systems. Obtains a holistic understanding of both the computational models, as well as somatic approaches, and enables their translation into meaningful interactive systems for a variety of applications. Project-driven course encourages students to work individually and collaboratively to generate movement to interface with appropriate sensing, analysis and feedback systems with applications in health and well being, creative practices and games. Transdisciplinary course; therefore, expectations for skills and outcomes are multiple and varied, with students expected to work with students and ideas from other disciplines. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 530 | Philosophy of Media Technology | Focuses on media arts and sciences in the 20th and 21st centuries, discussing issues surrounding the evolution of media art research and creation practices, methods of criticism and analysis, transdisciplinary work and research, collaboration and current trends. Emphasizes the methodology, theory and history behind the experimental study of experience via experiential systems. Directed toward those interested in researching, designing, building or critiquing experiential media systems that are culturally or technoscientifically provocative and socially meaningful. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 531 | Experimental Media Philosophy | Engages students in the theory and practice of designing and evaluating experiential media systems. Introduces advanced topics building on ideas and concepts explored in the companion introductory course. Based on furnished examples as well as their own experience, students create and critique a variety of integrated media systems demonstrating technical competence, aesthetic knowledge, analytic rigor and theoretical relevance. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 532 | Creating Interactive Media | Focuses on creation of media of all kinds using computation. Using algorithms it is possible to create complex media that is difficult or impossible by traditional methods. Some techniques can capture the unpredictable evolutionary and emergent behavior found in nature. Investigates influential algorithmic methods including stochastic processes and Markov chains, Perlin noise, cellular automata, fractals, L-systems and genetic algorithms. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 535 | Mobile Development | Explores native application development for iOS for use in the domain of media arts. Project-based course covers the native Xcode development environment, and the Swift programming language. Native applications are able to achieve the highest levels of performance, they leverage the unique technologies built for a platform, and they are able to participate in the native user experience (look and feel) that all users of a popular platform expect. Examines a variety of frameworks such as UIKit, CoreMotion, CoreLocation, MapKit, AVFoundation AVKit, and SpriteKit to understand native apps for iOS. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AME 435 or AME 535 or AME 494 (Mobile Development) or AME 598 (Mobile Development) |
| AME | 544 | Media Installations | Investigates historical and contemporary instances of the media installation, not only as a form of art but as a cultural artifact that appears in a variety of contexts. Students design and build media installations by learning to gather, manipulate and present many different kinds of media using a variety of high- and low-tech tools and techniques. Advanced skills with the tools and techniques for creating and manipulating digital images, sounds, graphics and video. Students learn how to make installations interactive by integrating sensors, input devices and computer vision systems. Design, build and refine media installations, and learn to document these installations at a high level using the latest video editing tools. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AME 444 or AME 544 or AME 598 (Media Installations) |
| AME | 550 | Prototyping Futures | In this project-based course, students work in interdisciplinary teams to explore and envision the future of communities, industries, technologies and other elements of our society. In this process, students develop their understanding of the application of extended reality technologies, practices and methodologies for design, and tools for applying research to constructing prototypical scenarios for the future, in addition to gaining experience in effective collaboration. This course is about critical, methodological and narrative skills--the ability to move fluidly through domains, create low-fidelity prototypes, and devise creative solutions to complex problems by envisioning new realities. The development of deep technical skills in a chosen field follows in each program. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AME 550 or DSC 550 or HSD 550 |

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| AME | 551 | Designing Extended-Reality Experiences | Augmented reality and virtual reality games, advertisements, installations and other media integrate virtual objects with real-world environments in an emerging computing paradigm called extended reality (XR). Students learn skills to creatively develop interactive mixed-reality objects and environments. Expects a basic understanding of Unity. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 570 | Programming for Social and Interactive Media | Web sites, desktop applications connected to the "cloud" and mobile applications depend on services supplied by server-based software that is the invisible center of users' networked experiences. Applications and data servered over the Web are at the core of popular software from social applications such as Facebook, Twitter or Instagram to networked media like iTunes, Netflix or Hulu. Investigates the development of Web applications and services. Creates modern dynamic Web applications using open source technologies. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AME 470 or AME 570 |
| AME | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 590 | Reading And Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | N | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 691 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | YGB | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Herberger Institute for Design and the Arts | The School of Arts, Media and Engineering | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| AML | 100 | Introduction to Applied Mathematics for the Life and Social Sciences | Introduces quantitative techniques as applied to problems in the life and social sciences. Includes challenges like understanding the complexities of the human genome or the implications of globalization for infectious disease, human health, and economic stability. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | MA | Prerequisite(s): MAT 117 or higher with C or better or ALEKS score of 61 or higher; Credit is allowed for only AML 100 or SOS 101 OR Visiting University Student |
| AML | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | |
| AML | 253 | Introduction to Mathematical Tools and Modeling for the Life and Social Sciences | Introduces the evaluation and construction of mathematical models used in the life and social sciences. Includes the basic steps in developing a model, analyzing it, and testing it with actual data. Covers the first steps concerning how to use formal mathematical techniques including developing equation-based relationships, plotting graphs, linear regression, and solving equations using computer software. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): AML 100 or SOS 101 with C or better; MAT 117 with C or better or ALEKS score of 61 or higher; Credit is allowed for only AML 253 or CAS 253 OR Visiting University Student |
| AML | 254 | Introduction to Dynamics and Control in the Biological and Social Sciences | Includes three fundamental topics in dynamics of populations, each topic motivated by a biological example. Covers mathematical tools, both analytic and computational, to solve the problem. Students have a small group project on each topic. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): AML 253; MAT 210, 251, 265, or 270; MAT 266 or 271; Credit is allowed for only AML 254 or AML 294 (Continuous Models for the Life and Social Sciences) or CAS 254 OR Visiting University Student |
| AML | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | |
| AML | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | |
| AML | 406 | Directed Reading and Research in Applied Mathematics for the Life and Social Sciences | Collaborative, practice-oriented course where students produce individual or team-initiated research project reports on pertinent topics in the life and social sciences. Students select topics, design, identify and formulate effective research ideas, and then translate them into clear and effective research plans. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s):AML 100; MAT 342 (or MAT 343); 86 minimum hours OR Visiting University Student |
| AML | 441 | Mathematical Concepts and Tools in Sustainability | Explores various mathematical analysis and models pertinent to sustainability science drawn from both social and natural sciences and introduced in a problem-based context. Demonstrates basic concepts from game theory such as pure-strategy and mixed-strategy Nash equilibriums in such classic games as prisoner's dilemma, hawk-dove, coordination. Explores the evolutionary dynamics of these games through the replicator equations. Studies important concepts of stability and regime shift for selected problems. Also discusses some basic solution concepts in cooperative game theory (depending on interest and time). | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s) with C or better: AML 253, or SOS 210(or SOS 294 Intro to Math Tools & Modeling). Credit is allowed for only AML 441 or 494 (Math Concepts & Tools in Sustainability) or SOS 441 or 494 (Mathematical Concepts and Tools in Sustainability) |
| AML | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | |
| AML | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-3 | | |
| AML | 520 | Agent-Based Modeling | Introduces agent-based modeling to simulate social and social-ecological systems. Topics include design, analysis, and empirical grounding of agent-based models to a variety of application domains including collective action, diffusion processes, resource use, health, and complex societies. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AML | 540 | Statistical Modeling for Sustainability | Equips students with sufficient knowledge of statistical theory and methods of applied data analysis to begin conducting empirical analyses in their domains of interest; bring students to a high level of competency in using a cutting-edge statistical software package (Stata) for data management and data analysis tasks; expose students to applications of statistical methods in the economics/policy/social science sustainability literatures in order to develop an understanding for how statistical tools are operationalized in the research world; and develop an appreciation for the careful synthesis of social and natural science theory, knowledge of data and its limitations and command of statistical tools that constitute quality empirical research. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 4 | | Pre-requisites: Graduate (degree or non-degree) student; Credit is allowed for only AML, ESS or SOS 540 |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| AML | 541 | Mathematical Concepts and Tools in Sustainability | Explores various mathematical analysis and models pertinent to sustainability science drawn from both social and natural sciences and introduced in a problem-based context. Demonstrates basic concepts from game theory such as pure-strategy and mixed-strategy Nash equilibriums in such classic games as prisoner's dilemma, hawk-dove, coordination. Explores the evolutionary dynamics of these games through the replicator equations. Studies important concepts of stability and regime shift for selected problems. Also discusses some basic solution concepts in cooperative game theory (depending on interest and time). | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit allowed for only AML 494 (Math Concepts & Tools in Sustainability), AML 541, SOS 494 (Math Concepts & Tools in Sustainability), SOS 541 or SOS 598 (Math Concepts & Tools in Sustainability) |
| AML | 560 | Theory and Archaeology | Applies social theory to archaeological study of societies of the past. Includes practice theory, hierarchy, space and place, material culture. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AML 560 or ASB 560 |
| AML | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AML | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AML | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AML | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AML | 610 | Topics in Applied Mathematics for the Life and Social Sciences | Introductory course in applied mathematics for the life and social sciences, combined with the first semester of a two-semester course in mathematical biology. Provides a solid introduction to the modeling of biological and social processes as well as to some of the mathematical approaches involved in their analysis and simulation. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AML | 612 | Applied Mathematics for the Life and Social Sciences Modeling Seminar | Presents and applies mathematical modeling principles and techniques for representing the structure and operation of complex life and social systems and processes. Helps students identify potential problems in the life and social sciences and the corresponding mathematical and statistical methods that can be used for their study. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AML | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AML | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AML | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AML | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AMS | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-3 | | |
| AMS | 201 | Introduction to American Studies | Provides an intellectual foundation for the interdisciplinary study of American culture, history, and society. Introduces students to ideas, methods, tools, and theories in the vibrant field of American studies. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | L & C | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| AMS | 276 | U.S. Women's Movements | Historical survey of sources influential in the development of the feminist movement in the United States. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | H & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AMS 276 or WST 276 OR Visiting University Student |
| AMS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| AMS | 326 | Popular Culture | Topics in American popular culture, including theories of popular culture; the history and analysis of mass media, including television, film, and the music industry; and vernacular art and the folk tradition. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| AMS | 330 | American Lives | Examines American society through the study of autobiography and ethnography. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & C | Prerequisite(s): minimum 30 hours OR Visiting University Student |
| AMS | 332 | Studies in Race and Ethnicity | Topics relating to issues of race and ethnicity in American life. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| AMS | 334 | Class in America | Explores social class and inequality in the U.S. including history, culture, work, politics, globalization and intersections of gender, race, ethnicity and place. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only AMS 334 or ETH 333 or WST 334 OR Visiting University Student |
| AMS | 336 | The American Southwest in Literature and Film | Evaluates literary texts and films addressing the diverse literatures and cultures of the American Southwest. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AMS 336 or ENG 334 or ETH 334 OR Visiting University Student |
| AMS | 353 | African American Literature: Beginnings through the Harlem Renaissance | Focuses on the history of African American literature through the Harlem Renaissance, as exemplified in selected slave narratives, poems, and fiction. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AFR 353 (or AFH 353) or AMS 353 or ENG 353 or ETH 353 |
| AMS | 354 | African American Literature: Harlem Renaissance to the Present | Examines the literary productions of African Americans from the Harlem Renaissance (about 1920) to the present focusing on fiction, poetry, drama, and essays. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AFR 354 (or AFH 354) or AMS 354 or ENG 354 or ETH 354 OR Visiting University Student |
| AMS | 380 | Race, Gender, and Class | In-depth examination of how social inequalities are reproduced and perpetuated. Explores the intersections of race, class and gender in culture and society. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): WST 100 or WST 300 or minimum 30 hours; Credit is allowed for only AMS 380 or ETH 380 or WST 380 OR Visiting University Student |
| AMS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| AMS | 412 | Studies in American Politics and Law | Topics in American political and legal systems, including social movements in the United States and women and the law. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | H | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| AMS | 417 | Religious Traditions of the American Southwest | Examines the sacred traditions that have evolved within the North American Southwest context. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| AMS | 420 | Theatre in America | Examines the major movements and pivotal moments in the history of American theatre from the 1700s to its current state, particularly its efforts to establish an identity that reflects the unique and changing citizenry of the United States. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): minimum 40 hours. Credit is allowed for only AMS 420 or IAP 420 or THE 420 |
| AMS | 428 | Peoples and Cultures of the American West, to 1848 | Provides an integrated understanding of change over time within and between the native, Mexican, Anglo, Asian and African American communities of the region by looking into the major formative historical forces affecting these populations individually and collectively. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only AMS 428 or ETH 428 or LAS 428 or MAS 598 (Chicano Cultures in Southwest) OR Visiting University Student |
| AMS | 429 | Interdisciplinary Topics | Senior-level seminar that examines issues relevant to two or more American cultures' fields. Topics may include Southwest/border Hispanic folklore, Southwestern corridors, American art and the city, and the West of the imagination. May be repeated for credit when topics vary. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| AMS | 449 | Hate Speech, Manifestos, and Radical Writings | Examines writings, speeches and texts that provoke radical or even revolutionary social change. At its core, this course asks: What is the radical and what does it do? How do radical writings function as texts, speech acts, inspirational documents, testimonies, accounts of madness, frightening moments, calls to arms, peacekeeping entities or speaking truth to power? Examines injurious speech and provocative writings that span a range of social movements and topics, including radical feminism, radical queer, Black power, indigenous rights, art and performance, anti-technology, animal rights, violence, madness and revolutionary resistance. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): minimum 35 hours; minimum 2.50 GPA; Credit is allowed for only AMS 449 or ETH 449 or WST 449 OR Visiting University Student |
| AMS | 450 | Latina/os, Schooling and Social Inequality | Advanced interdisciplinary understanding of the issues facing Chicano, Mexican American and Latino communities in relation to K-16 schooling in the southwestern United States. Examines various schools of thought that have shaped social discourse and policies, develops a critical perspective on the social and political issues affecting education, and identifies issues--both historical and contemporary--affecting Chicanos in public education. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | C | Prerequisite(s): minimum 45 hours; Credit is allowed for only AMS 450 or ETH 450 or LAS 450 or AMS 429 (Latino/a School & Social Inequity) |

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| AMS | 469 | Abject Bodies and the Politics of Trash | Examines the possibilities inherent in "theorizing from the gutter"; looking at the world not from a lofty "Ivory Tower" but from the slime, the muck, the dumpster, the trash heap, the wasteland, the discarded and the downtrodden. Takes its theoretical framework from a radical 1960s manifesto called SCUM Manifesto by Valerie Solanas and from the French feminist philosophies of Julia Kristeva, who theorized the abject as a relationship with the grotesque that reveals the deep-seated fear of death. Uses these theoretical positions to examine trash, both abstractly and literally. Works through a variety of concepts ranging from actual trash, garbage, waste, toxic sludge, pollution and dirt, and tackles more abstract notions of trash such as the knowledge produced on the fringe in circuses, amusement parks, "trailer trash" zones, freak shows and the bodies of those marked as "Other" or different. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only AMS 469 or ETH 469 or JHR/MAS 598 (Abject Bodies and the Politics of Trash) or WST 469 OR Visiting University Student |
| AMS | 490 | Writing Certificate Portfolio | Preparing a portfolio demonstrating advanced writing skills. Limited to and required of students in the Writing Certificate Program. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1 | | |
| AMS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-6 | | Prerequisite(s): Barrett Honors student |
| AMS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| AMS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| AMS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-7 | L | Prerequisite(s): AMS 201 with C or better; ENG 101, 105, or 107 with C or better |
| AMS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-3 | | |
| AMS | 500 | Research Methods | Course on research methods in a specific discipline. | Y | RSC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| AMS | 502 | American Studies: Theory and Method | Explores some of the major themes in American studies scholarship by considering American cultural formation and change over the last two centuries. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): American Studies MA student |
| AMS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| AMS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| AMS | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AMT | 101 | Introduction to Aeronautical Management Technology | Facilitates entry into aeronautical management technology programs. Emphasizes General Catalog; major and concentration requirements, registration, careers, and Polytechnic campus resources. Introduces various learning styles and strategies that assist students in becoming successful learners. Emphasizes time management techniques and academic integrity. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | |
| AMT | 105 | Flight Operations and Safety I | Supervised private pilot operations, flight instruction, flight safety briefings and recurrent aviation subjects appropriate for private pilots. Flight instruction is considered to be the laboratory for this academic class. Course completion requirements are based on completion of lessons and FAA Practical Exam(s) within the appropriate flight training syllabus and satisfactorily completing all academic requirements. Flight instruction costs are not included in university tuition and fees. Students following the single engine flight training track earn their Single Engine Private Pilot certificate. Students following the multiengine flight training track earn their Single Engine Private Pilot Certificate and their Multiengine Private Pilot certificate. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) major; approved Secondary Flight application; Pre- or corequisite(s): AMT 182 with C or better if completed; AMT 220 with C or better if completed |
| AMT | 110 | Flight Operations and Safety II | Concludes supervised private pilot operations and flight training and introduces students to supervised commercial pilot operations, flight training, flight safety briefings, and recurrent aviation subjects appropriate for private and commercial pilots. Flight instruction costs are not included in university tuition and fees. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) major; AMT 105 with C or better |

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| AMT | 150 | Flight Operations and Safety III | Introduces the tasks of commercial and instrument pilot flight operations. Flight instruction, lecture, quizzes and discussion of the current flight syllabus topics, AMT Student Information Handbook & ATP Student Handbook as well as safety and other informational briefings are primary activities. Students must maintain enrollment in the appropriate Flight Operations and Safety course while engaging in flight training activities. The flight training is considered to be the laboratory for this academic class. Course completion requirements are based on completion of lessons within the appropriate FAA-approved Part 141 training syllabus and satisfactorily completing all academic requirements. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) major; AMT 110 with C or better; Credit is allowed for only AMT 150 or AMT 151 |
| AMT | 151 | Flight Operations and Safety III.a | Introduces the tasks of commercial and instrument pilot flight operations. Flight instruction, lecture, quizzes and discussion of the current flight syllabus topics, AMT Student Information Handbook & ATP Student Handbook as well as safety and other informational briefings are primary activities. Students must maintain enrollment in the appropriate Flight Operations and Safety course while engaging in flight training activities. The flight training is considered to be the laboratory for this academic class. Course completion requirements are based on completion of lessons within the appropriate FAA-approved Part 141 training syllabus and satisfactorily completing all academic requirements. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) major; AMT 110 with C or better; Credit is allowed for only AMT 150 or AMT 151 |
| AMT | 170 | Introduction to Unmanned Aircraft Systems | Introduces the history of unmanned aircraft systems and current and future developments in civil and military operations. Specific blocks deal with elements that form an unmanned aircraft system: unmanned vehicles, communication, navigation, launch and recovery, control stations, payloads, and support equipment. Explores other current issues in unmanned aircraft operations: aviation regulatory system and integration, safety and human factors, ethical and legal issues, and the future unmanned aircraft systems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | |
| AMT | 182 | Private Pilot Ground School | Ground school preparation for Private Pilot Certificate. Aerodynamics, navigation, performance, and regulations. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | |
| AMT | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-4 | | |
| AMT | 201 | Air Traffic Control | Ground and air operations; weather services communications and routing; flight plans, IFR operations, departures and arrivals; and airport conditions and emergencies. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology (Air Traffic Management or Air Transportation Management or Professional Flight or Unmanned Aerial Systems) BS or Applied Science (Aviation) BAS major |
| AMT | 205 | Flight Operations and Safety IV | Continues the tasks of commercial and instrument pilot flight operations. Flight instruction, lecture, quizzes and discussion of the current flight syllabus topics, AMT Student Information Handbook & ATP Student Handbook as well as safety and other informational briefings are primary activities. Students must maintain enrollment in the appropriate Flight Operations and Safety course while engaging in flight training activities. The flight training is considered to be the laboratory for this academic class. Course completion requirements are based on completion of lessons within the appropriate FAA-approved Part 141 training syllabus and satisfactorily completing all academic requirements. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) BS major; AMT 150 with C or better; Credit is allowed for only AMT 205 or AMT 206 |
| AMT | 206 | Flight Operations and Safety IV.a | Continues the tasks of commercial and instrument pilot flight operations. Flight instruction, lecture, quizzes and discussion of the current flight syllabus topics, AMT Student Information Handbook & ATP Student Handbook as well as safety and other informational briefings are primary activities. Students must maintain enrollment in the appropriate Flight Operations and Safety course while engaging in flight training activities. The flight training is considered to be the laboratory for this academic class. Course completion requirements are based on completion of lessons within the appropriate FAA-approved Part 141 training syllabus and satisfactorily completing all academic requirements. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) major; AMT 151 with C or better; Credit is allowed for only AMT 205 or AMT 206 |

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| AMT | 210 | Flight Operations and Safety V | Continues the tasks of commercial and instrument pilot flight operations. Flight instruction, lecture, quizzes and discussion of the current flight syllabus topics, AMT Student Information Handbook & ATP Student Handbook as well as safety and other informational briefings are primary activities. Students must maintain enrollment in the appropriate Flight Operations and Safety course while engaging in flight training activities. The flight training is considered to be the laboratory for this academic class. Course completion requirements are based on completion of lessons within the appropriate FAA-approved Part 141 training syllabus and satisfactorily completing all academic requirements. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) BS major; AMT 205 with C or better; Credit is allowed for only AMT 210 or AMT 211 |
| AMT | 211 | Flight Operations and Safety V.a | Continues the tasks of commercial and instrument pilot flight operations. Flight instruction, lecture, quizzes and discussion of the current flight syllabus topics, AMT Student Information Handbook & ATP Student Handbook as well as safety and other informational briefings are primary activities. Students must maintain enrollment in the appropriate Flight Operations and Safety course while engaging in flight training activities. The flight training is considered to be the laboratory for this academic class. Course completion requirements are based on completion of lessons within the appropriate FAA-approved Part 141 training syllabus and satisfactorily completing all academic requirements. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) major; AMT 206 with C or better; Credit is allowed for only AMT 210 or AMT 211 |
| AMT | 214 | Commercial Pilot Ground School | Ground school leading to FAA Instrument Pilot Rating/Commercial Pilot Certificate (part 1 of 2). 10 hours ground trainer included. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology (Air Traffic Management) BS major; AMT 182 with C or better; AMT 220 with C or better OR Pre- or corequisite(s): AMT 205 with C or better if completed |
| AMT | 220 | Aviation Meteorology | Evaluation, analysis, and interpretation of atmospheric phenomena. Low- and high-altitude weather from the pilot's viewpoint. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | |
| AMT | 222 | Instrument Pilot Ground School | Ground school leading to FAA Instrument Pilot Rating/Commercial Pilot Certificate (part 2 of 2). 10 hours ground trainer included. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) BS major; AMT 110 with C or better OR other Aeronautical Management Technology major; AMT 182 with C or better; AMT 220 with C or better |
| AMT | 250 | Flight Operations and Safety VI | Introduces the tasks of commercial multiengine pilot flight operations. Flight instruction, lecture, quizzes and discussion of the current flight syllabus topics, AMT Student Information Handbook & ATP Student Handbook as well as safety and other informational briefings are primary activities. Students must maintain enrollment in the appropriate Flight Operations and Safety course while engaging in flight training activities. The flight training is considered to be the laboratory for this academic class. Course completion requirements are based on completion of lessons within the appropriate FAA-approved Part 141 training syllabus and satisfactorily completing all academic requirements. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) BS major; AMT 210 with C or better; Credit is allowed for only AMT 250 or AMT 251 |
| AMT | 251 | Flight Operations and Safety VI.a | Introduces the tasks of commercial multiengine pilot flight operations. Flight instruction, lecture, quizzes and discussion of the current flight syllabus topics, AMT Student Information Handbook & ATP Student Handbook as well as safety and other informational briefings are primary activities. Students must maintain enrollment in the appropriate Flight Operations and Safety course while engaging in flight training activities. The flight training is considered to be the laboratory for this academic class. Course completion requirements are based on completion of lessons within the appropriate FAA-approved Part 141 training syllabus and satisfactorily completing all academic requirements. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) major; AMT 211 with C or better; Credit is allowed for only AMT 250 or AMT 251 |

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| AMT | 270 | Unmanned Aircraft | Introduces elements comprising the unmanned aircraft system (UAS). Includes review of UAS, Unmanned Aerial Vehicle (UAV); system development and certification, selection and design, aerodynamics and airframe configurations, characteristics of vehicle types, design standards and regulatory aspects, airframe design, payload types, and control and stability. Students apply concepts acquired in classroom sessions and construct various unmanned aircraft, train to operate using existing simulators, and conduct flight-testing. The final course project is the design, development and construction of a group 1 unmanned aircraft, serving as the core unmanned vehicle used in subsequent UAS courses. Incorporates UAS data collection and analysis throughout the course. Course concepts enable UAS student pilots to become knowledgeable of aerodynamic aspects of UAV to ensure safety of flight and improved maneuverability. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Pre- or corequisite(s): AMT 170 with C or better if completed |
| AMT | 280 | Aerospace Structures, Materials and Systems | Basic aerodynamics, incompressible/compressible airflow, wind tunnel testing, wing theory; analysis of aircraft structures; properties and applications of materials, and aircraft systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 4 | | Prerequisite(s): Aeronautical Management Technology BS major; Pre- or corequisite(s): PHY 111 with C or better if completed; PHY 113 with C or better if completed OR PHY 121 with C or better if completed; PHY 122 with C or better if completed |
| AMT | 285 | Flight Instructor Ground School | Ground school in preparation for the FAA Flight Instructor Certificate. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) BS major; Pre- or corequisite(s): AMT 210 with C or better if completed |
| AMT | 286 | Multiengine Pilot Ground School | Ground school preparation for the FAA Multiengine Rating. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) BS major; Pre- or corequisite(s): AMT 205 with C or better if completed |
| AMT | 287 | Aircraft Powerplants | Theory and performance analysis of gas turbine and reciprocating aircraft engines. Engine accessories, systems, and environmental control. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 4 | | Prerequisite(s): Aeronautical Management Technology BS major; Pre- or corequisite(s): PHY 111 with C or better if completed; PHY 113 with C or better if completed OR PHY 121 with C or better if completed; PHY 122 with C or better if completed |
| AMT | 292 | Flight Instructor Instrument Ground School | Ground school preparation for the FAA Instrument Flight Instructor Rating. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): AMT 210 with C or better; AMT 285 with C or better |
| AMT | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-4 | | |
| AMT | 305 | Flight Operations and Safety VII | Concludes the tasks of commercial single and multi-engine pilot flight operations. Flight instruction, lecture, quizzes and discussion of the current flight syllabus topics, AMT Student Information Handbook & ATP Student Handbook as well as safety and other informational briefings are primary activities. Students must maintain enrollment in the appropriate Flight Operations and Safety course while engaging in flight training activities. The flight training is considered to be the laboratory for this academic class. Course completion requirements are based on completion of lessons within the appropriate FAA-approved Part 141 training syllabus and satisfactorily completing all academic requirements. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): AMT 250 with C or better; Credit is allowed for only AMT 305 or AMT 306 |
| AMT | 306 | Flight Operations and Safety VII.a | Concludes the tasks of commercial single and multi-engine pilot flight operations. Flight instruction, lecture, quizzes and discussion of the current flight syllabus topics, AMT Student Information Handbook & ATP Student Handbook as well as safety and other informational briefings are primary activities. Students must maintain enrollment in the appropriate Flight Operations and Safety course while engaging in flight training activities. The flight training is considered to be the laboratory for this academic class. Course completion requirements are based on completion of lessons within the appropriate FAA-approved Part 141 training syllabus and satisfactorily completing all academic requirements. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): AMT 251 with C or better; Credit is allowed for only AMT 305 or AMT 306 |
| AMT | 308 | Air Transportation | Studies the historical and international development of air transportation and its social, political, and economic impact upon global interrelationships. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | G | Pre-requisite: Minimum 50 hours |

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| AMT | 310 | Flight Operations and Safety VIII | Flight instructor operations for single and multiengine instrument operations. Flight instruction, lecture, quizzes and discussion of the current flight syllabus topics, AMT Student Information Handbook & ATP Student Handbook as well as safety and other informational briefings are primary activities. Students must maintain enrollment in the appropriate Flight Operations and Safety course while engaging in flight training activities. The flight training is considered to be the laboratory for this academic class. Course completion requirements are based on completion of lessons within the appropriate FAA-approved Part 141 training syllabus and satisfactorily completing all academic requirements. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): AMT 305 with C or better; Credit is allowed for only AMT 310 or AMT 311 |
| AMT | 311 | Flight Operations and Safety VIII.a | Flight instructor operations for single and multiengine instrument operations. Flight instruction, lecture, quizzes and discussion of the current flight syllabus topics, AMT Student Information Handbook & ATP Student Handbook as well as safety and other informational briefings are primary activities. Students must maintain enrollment in the appropriate Flight Operations and Safety course while engaging in flight training activities. The flight training is considered to be the laboratory for this academic class. Course completion requirements are based on completion of lessons within the appropriate FAA-approved Part 141 training syllabus and satisfactorily completing all academic requirements. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): AMT 306 with C or better; Credit is allowed for only AMT 310 or AMT 311 |
| AMT | 350 | Aircraft Design and Logistics Management | Fundamental aircraft design principles, including performance factors associated with mission profiles and the identification of basic logistical support requirements. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 4 | | Prerequisite(s): Applied Sci (Aviation) BAS or Aeronautical Mgmt Tech BS major; Pre- or corequisite(s): PHY 111 w/ C or better if completed; PHY 113 w/ C or better if completed OR PHY 121 w/ C or better if completed; PHY 122 w/ C or better if completed |
| AMT | 360 | Aircraft Dispatch Ground School | Aeronautical knowledge areas required for Aircraft Dispatch certification, as well as preparation for the Aircraft Dispatch knowledge examination. Regulations, aerodynamics, emergencies, flight physiology, weight and balance, navigation, aircraft performance, meteorology, and flight operations. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): AMT 214 with C or better; AMT 220 with C or better; AMT 222 with C or better |
| AMT | 370 | Unmanned Aircraft Systems | Students build upon gained knowledge, skills and experience by exploring unmanned aircraft avionics, autopilot systems, first person video (FPV), on-screen displays (OSD), communication systems, command and control (C2), ground control stations (GCS), flight software, and UAV launch and recovery systems. Students continue flight training and gain proficiency in unmanned aircraft operation using simulators and hands-on flight-testing. Students demonstrate their abilities to upgrade and modify their previously constructed unmanned aircraft in order to operate and conduct actual flight-testing. Incorporates UAS data collection and analysis throughout the course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): AMT 270 with C or better |
| AMT | 382 | Air Navigation | Theory and application of modern advanced navigation and flight instrument systems. Introduces crew resource management in multiplace cockpits. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) BS major; AMT 210 with C or better |
| AMT | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-4 | | |
| AMT | 396 | Aviation Professional | Career focus for management and flight students, including internships, writing, interviews, and employment search in aviation industry. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): Applied Science (Aviation) BAS or Aeronautical Management Technology BS major; minimum 50 hours |
| AMT | 408 | National Aviation Policy | Examines aviation and airspace policies and policy process, including agencies involved in formulation, implementation, and evaluation of aviation policy. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology BS or Applied Science (Aviation) BAS major; minimum 50 hours |
| AMT | 410 | Aviation Safety and Human Factors | Aviation accident prevention, human factors, life support, fire prevention, accident investigation, and crash survivability. Development and analysis of aviation safety programs. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology BS or Applied Science (Aviation) BAS major; minimum 50 hours |
| AMT | 442 | Aviation Law and Regulations | Aviation within context of U.S. Common Law system. Public law, administrative rule making, sovereignty, enforcement, and case law analysis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology BS or Applied Science (Aviation) BAS major; minimum 50 hours |
| AMT | 444 | Airport Management and Planning | Orientation to administration and management of modern public airports, including overview of planning, funding, and development of airport facilities. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology BS or Applied Science (Aviation) BAS major; minimum 50 hours |

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| AMT | 456 | Organized Labor in Aviation | Explores topics of labor relations, unions, federations, collective bargaining, grievances and labor legislation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology BS or Applied Science (Aviation) BAS major; minimum 50 hours |
| AMT | 460 | Aircraft Dispatch Capstone | Capstone for aircraft dispatch whereby students are engaged in practical applications of regulations, aerodynamics, emergencies, flight physiology, weight and balance, navigation, aircraft performance, meteorology and flight operations. Uses various scenarios in which students can employ the strategies and procedures necessary for safe flight. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): AMT 360 with C or better |
| AMT | 470 | Unmanned Aircraft Payloads, Sensors, and Control Stations | Builds on previously gained knowledge and experience. Student pilots utilize long-range communication and data links, UAS sensors, geospatial data collection, and still-imaging mosaicking. Students continue flight training using existing simulators and flight-tests during the course. Students apply concepts acquired during classroom sessions and construct a ground control station, modify and upgrade existing unmanned aircraft with payloads/sensors, train to operate sensors using existing simulators, and conduct flight-testing. Incorporates UAS data collection and analysis throughout the course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): AMT 370 with C or better |
| AMT | 482 | Airline Instrument Procedures | Advanced instrument flight using airline instrument procedures and airline crew and cockpit resource management. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) BS major; AMT 382 with C or better |
| AMT | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-12 | | Prerequisite(s): minimum junior standing |
| AMT | 486 | Regional Jet Aircraft Systems | Regional jet airline aircraft systems and flight procedures. Includes theoretical education for regional jet commercial passenger aircraft. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) major; AMT 382 with C or better |
| AMT | 488 | Regional Jet Aircraft Systems II | Regional jet systems, with emphasis on air navigation systems, including Flight Management System (FMS), Selective Calling (SELCAL), and flight profiles. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Pre-requisite(s): Aeronautical Management Technology (Professional Flight) student; AMT 382 with C or better |
| AMT | 489 | Airline Administration | Administrative organizations, economics of airline administration, operational structure, and relationship with federal government agencies. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology BS or Applied Science (Aviation) BAS major; minimum 50 hours |
| AMT | 490 | Regional Jet Operations Capstone | Regional jet aircraft operations and flight procedures. Includes theoretical education for RJ aircraft, FTD and full-motion simulator time. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) BS major; AMT 305 with C or better; AMT 486 with C or better |
| AMT | 491 | Aviation Management Capstone | Integrated group project with industry partner to address current problems in either air carrier or airport management focus area. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Pre- or corequisite(s): AMT 489 with C or better if completed |
| AMT | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-6 | | Prerequisite(s): Barrett Honors student |
| AMT | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| AMT | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-4 | | Prerequisite(s): minimum 45 hours |
| AMT | 495 | Unmanned Aircraft Systems Operations | Capstone course applies student pilots' knowledge and skills gained in previous UAS courses to safely deploy a UAS in response to real-world situation or research. Students collaborate with other university departments, state or federal agencies, and other organizations and conduct actual or simulated missions in geospatial data collection, search and rescue, and near-space operations. Course blocks include flight planning and preparation, aircraft preflight and maintenance, launch and recovery operations, payload operations, normal and emergency procedures, and mission planning and execution. Students continue flight training using existing simulators and flight-tests. Students use real-world situations which require deployment of equipment and systems developed during previous course. Places specific emphasis on aircraft and payload selection based upon proposed mission analysis. Incorporates UAS data collection and analysis throughout the course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): AMT 470 with C or better |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|-------------------|-------|-----------------|---|
| AMT | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-3 | | |
| AMT | 522 | Aviation Law | Examines the U.S. legal system with a focus on the aviation perspective, administrative agencies, FAA enforcement, and case law. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AMT | 523 | Intermodal Transportation Management | Systems theory applied to intermodal transportation networks. Surveys air and ground transportation infrastructure, institutional frameworks, and intermediaries promoting connections between modes. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking) OR Senior in Fulton Schools of Engineering with a University Cum GPA 3.0 or greater |
| AMT | 525 | Airport Planning and Design | Completion of various phases of airport master planning process. Provides guidance for logical and timely development of airports. Project work groups assigned. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AMT | 526 | Aviation Labor Relations | Investigates labor-management relations in the aviation industry, including laws, unionism, collective bargaining, public sector relationships, grievance procedures, and conflict. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AMT | 527 | Airline Management Strategies | Since deregulation, airlines have undergone profound changes through mergers, consolidation, and acquisition. In-depth look at airline management strategies for the 21st century. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AMT | 533 | Aviation Systems and Psychology | Provides an overview of various aviation learning/training situations and how to develop and evaluate instruction appropriate for the situation and the learner. Focuses on determining the most effective instructional strategy for the situation and how to ensure learner preparedness and mastery of the concepts and skills. Considers topics: information processing, memory, instructional design methodologies, learning strategies, expert/novice differences, individual learner differences including generational differences, evaluation of instruction, transfer of knowledge and skills to unique settings. Discussions focus on research findings in these areas and practical application and implementation to improve learning and performance. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AMT | 534 | Airline Pricing and Yield Management | Focuses on the fundamentals of airline economics and the volatility of industry performance at the operating level. Topics include the structure of the airline industry and the various historical and current operational strategies; demand, traffic, price and yield; operating revenues and operating costs. The airline industry is affected by various economic, environmental, political and regulatory conditions. Reviews the implications of these conditions on airline pricing, capacity, fleet selection and scheduling. Analyzes current and predicted future conditions to develop potential strategies for successful revenue management within the industry. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Pre-requisite: degree- or nondegree-seeking graduate student. Credit is allowed for only AMT 534 or AMT 598 (Airline Pricing and Yield Management) |
| AMT | 541 | Aviation Physiology | Surveys human physiology and human performance principles related to modern aircraft and aircraft systems operating in multiple environments. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AMT | 546 | Crew Resource Management/Line-Oriented Flight Training | Evaluates in-depth, multicrew coordination issues for commercial aviation pilots. Stresses importance of critical thinking, decision making, integrated resource utilization. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AMT | 565 | Safety in Complex Systems | Evaluates human error in aerospace systems. Discusses different theories of error and taxonomies as well as safety management systems to help identify hazards and risks and then help mitigate and/or eliminate them. Extensively uses case studies to highlight human failures as well as demonstrate organizational changes that resulted in safe and successful operations. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AMT | 570 | Unmanned Aerial Systems | Examines the system design, operations and employment of unmanned aerial systems (UAS), beginning with an overview of the system and human factors and specific issues involved with UAS design and operations. Communication, remote operations, operator display interface, and situational awareness and teamwork required for successful employment. Evaluates accident data to understand technology and human error concerns. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AMT | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-12 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking) OR Fulton Polytechnic School student |
| AMT | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-12 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking) OR Fulton Polytechnic School student |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--|-------------------------|-------|-----------------|--|
| AMT | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-12 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking) OR Fulton Polytechnic School student |
| AMT | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-12 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking) OR Fulton Polytechnic School student |
| AMT | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-12 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking) OR Fulton Polytechnic School student |
| AMT | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-12 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking) OR Fulton Polytechnic School student |
| AMT | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AMT | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking) OR Fulton Polytechnic School student |
| AMT | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-4 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking) OR Fulton Polytechnic School student |
| AMT | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-12 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking) OR Fulton Polytechnic School student |
| ANB | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ANB | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ANB | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | Y | Z3 | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ANB | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ANB | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ANB | 601 | Research Strategies in Animal Behavior | Using hands-on experiences, teaches key concepts underlying the control and function of animal behaviors and contemporary methods for measuring, analyzing, and reporting animal behaviors. Combines introductory classroom lectures on concepts and methods with direct application in observations and experiments on animal behavior in the field and the lab. Topics include communication, mating behavior and systems, parental care, kin selection, cooperation and competition, migration and dispersal, foraging, and anti-predator strategies. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Pre-requisites: Animal Behavior PhD student |

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| ANB | 602 | Current Issues In Animal Behavior | Student-led seminar course centers on discussions of contemporary literature in the field of animal behavior. Takes a student-driven approach, with course participants selecting a target theme for the semester, selecting individual papers to discuss each week, and leading discussions about relevant merits and shortcomings of each article. Additional topics may include: conceptual frameworks and results from the dissertation projects of participating students, career options and strategies in the behavioral sciences, responsible research conduct in the field, and tactics in manuscript publication and grantsmanship. | N | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Pre-requisites: Animal Behavior PhD student |
| ANB | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ANB | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ANB | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | Y | Z3 | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ANB | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ANP | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| ANP | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| ANP | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APA | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-3 | | Pre-requisite: Freshman status |
| APA | 200 | Introduction to Asian Pacific American Studies | Examines historical and contemporary issues facing Asian Americans and Pacific Islanders in the United States. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | (HU or SB) & C | |
| APA | 210 | Introduction to Ethnic Studies in the U.S. | Covers diversity of experiences and relations among racial and ethnic groups in the United States. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | C | Credit is allowed for only AFR 212 or APA 210 or JUS 210 or TCL 210 OR Visiting University Student |
| APA | 220 | Introduction to Social Transformation | Introduces key concepts in the study of social change, social innovation, and social transformation. Studies examples of social movements, social activism, community organizing, and coalition building and how such efforts have transformed society and culture. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Credit is allowed for only APA 220 or JUS 220 or SST 220 |
| APA | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| APA | 310 | Asian Pacific American Arts and Cultures | In-depth exploration of Asian Pacific American cultural expression in art, literature, film, theatre, dance, and music. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & C | Prerequisite(s): APA 200 or APA 210 or minimum 24 hours |
| APA | 315 | Asian Pacific American Literature | In-depth exploration of the literary history, critical reception, and major theories in Asian Pacific American poetry, fiction, and prose. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & C | Prerequisite(s): APA 200 or APA 210 or minimum 24 hours |
| APA | 330 | Asian Pacific American Genders and Sexualities | In-depth exploration of gender and sexuality issues as they relate to Asian Pacific American experiences, including interracial relationships, stereotypes, feminism, queer theory. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or SB) & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; APA 200 or APA 210 or minimum 24 hours; Credit is allowed for only APA 330 or WST 331 OR Visiting University Student |
| APA | 340 | Asian Pacific Americans and Media | Advanced study of the social construction of Asian Pacific American media images and resistance to those images in various historical contexts. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & C | Prerequisite(s): APA 200 or APA 210 or minimum 24 hours |
| APA | 345 | Asian Pacific Americans and Film | In-depth examination of the representations of Asian Pacific Americans in narrative, popular, experimental, and documentary film. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & C & H | Prerequisite(s): APA 200, APA 210, FMS 100, or minimum 24 hours; Credit is allowed for only APA 345 or FMS 345 OR Visiting University Student |

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| APA | 347 | Immigration, Education and the Family | Cultural processes related to immigration and their impact on the social construction of the immigrant family and the education of other children. Immigration theories, immigration debates and discourses, the immigration landscape of the 21st century, conceptualizations of the family, and the methodological challenges family researchers face. Topics include issues pertaining to education and the family and globalization. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only APA 347 or JUS 347 or APA 394 (Immigration, Education & Family) or JUS 394 (Immigration, Edu. & Family) OR Visiting University Student |
| APA | 350 | Inequality and Diversity in Education | Advanced exploration of various dimensions of diversity in relation to educational systems and outcomes. Through sociological and psychological research, case studies and films, students examine how educational inequality is created and reproduced through individual actions and institutional constraints. Also considers the connection between schooling and human rights and ways in which educational inequality may be addressed. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | L & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; AFR 212, APA 200, APA 210, CDE 232, JUS 210, TCL 210, or minimum 24 hours; Credit is allowed for only AFR 350, APA 350, CDE 350, JUS 365, SOC 350, or TCL 360 OR Visiting University Student |
| APA | 352 | Borders, Prisons and Suburbs | Explores how the relationship between race and space has been important to the development of broad patterns of social inequality in the United States. Through a variety of readings, films and other material, examines how ideas of race and space have been important to the making and maintenance of national boundaries, citizenship, regional histories and spatial typologies such as border, ghetto, suburb and prison. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): minimum 24 hours; Credit is allowed for only AFR 352 (or AFS 352) or APA 352 or JUS 353 or TCL 353 |
| APA | 355 | Asian American Psychology | Reviews the current research and literature about the psychological experiences of Asian Americans, with the appreciation for the historical, sociopolitical and cultural contexts that invariably shape the behavior and well-being of individuals in this diverse population group. Using psychological theory and research as a guiding framework, explores family relationships, identity development, sexuality, model minority stereotypes, racism and discrimination, media images, dating/marriage, race relations, mental health, and other issues affecting Asian American lives. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only APA 355 or APA 360 (Asian Pacific American Psychology) |
| APA | 356 | Race and Child Development | Reviews the current research and literature about the particular role of race in child development. Even though race is not a valid biological construct, it has significant social implications as it shapes how children interact and are treated by others. Through primarily class discussions/activities, presentations and papers, addresses: (1) What are the research and theoretical issues in studying race? (2) What does race and racism mean? (3) How does race influence developmental processes? | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): APA 200 or APA 210 or 30 hours. Credit is allowed for only APA 356 or CDE 356 or APA 394 (Race and Child Development) |
| APA | 360 | Asian Pacific American Experience | Advanced study of the historical and contemporary experiences of Asian Pacific American racial/ethnic groups in the United States. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | (HU or SB) & C | Prerequisite(s): APA 200 or APA 210 or minimum 24 hours OR Visiting University Student |
| APA | 370 | Indigeneity, Race and Ethnic Relations in Hawaii | Examines Native Hawaiian history, culture and worldviews prior to contact with Europe and the United States. Using colonialism, race and racism as the analytical lens, provides a deeper understanding to how racial ideologies and colonialism impacted the cultural, economic, political, environmental and social well-being of the island's indigenous population; the predominately nonwhite immigrant groups that were recruited to work in Hawaii's agricultural industries; the various institutions (e.g., tourism and the military) that continue to maintain structures of inequality and oppression of Kanaka Maoli (Native Hawaiians) and other racial and ethnic groups on the islands; and the ways Native Hawaiians and locals in Hawaii have resisted these efforts. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | H & C | Prerequisite(s): minimum 45 hours; Credit is allowed for only APA 370 or APA 394 (Race and Ethnic Relations in Hawaii) OR Visiting University Student |
| APA | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | Prerequisite(s): APA 200 or APA 210 or minimum 24 hours OR Visiting University Student |
| APA | 428 | Critical Race Theory | In-depth analysis of the ways in which race has been historically utilized, constructed, and contested in American civil society. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only AFR 428, APA 428, JUS 428 or SST 428 OR Visiting University Student |
| APA | 450 | Asian Pacific American Contemporary Issues | Advanced study of the issues shaping Asian Pacific American communities, including immigration, politics, education, health, family, gender, youth, interracial relations, and other contemporary topics. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): APA 200 or APA 210 or minimum 36 hours OR Visiting University Student |
| APA | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|---|---------------------------------|-------|-------------------|---|
| APA | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-6 | | Prerequisite(s): Barrett Honors student |
| APA | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| APA | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | Pre-requisite: APA 200 or APA 210 or minimum 45 hours |
| APA | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| APA | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-3 | | |
| APH | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| APH | 212 | Culture of Place | Explores contemporary conditions in the built environment as they are shaped by cultural phenomena. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU | |
| APH | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| APH | 300 | World Architecture I/Western Cultures | Historical and contemporary built environments of Western civilizations: Mediterranean, Europe, and the Americas as manifestations of cultural history and responses to environmental determinants. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 2-3 | HU & H & G | Prerequisite(s): May not be Pre-Architectural Studies or Architectural Studies BSD student OR Visiting University Student |
| APH | 313 | History of Architecture I | Intensive study of history of architecture from earliest traces to 1300. Examines cultures from around the world. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | (L or HU) & G & H | Prerequisite(s): Architectural Studies BSD major; ALA 100, ALA 102; ENG 101, 105 or 107 with C or better; passed degree milestone review OR non-Arch Studies majors; ENG 101, 105 or 107 with C or better; min junior standing OR Visiting University Student |
| APH | 314 | History of Architecture II | Intensive introduction to history of architecture from roughly 1300 to present day. Examines cultures from around the world. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | (L or HU) & G & H | Prerequisite(s): APH 313 with C or better; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| APH | 336 | 20th-Century Architecture I | Architecture in Europe and America from the foundations of the modern movement to the culmination of the international style. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU | Pre-requisites: Minimum Junior standing or Digital Culture: Design major |
| APH | 337 | 20th-Century Architecture II | Developments in architecture since the international style. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU | Pre-requisite: APH 336 |
| APH | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| APH | 421 | First Concepts: What is... The Writing, Philosophy, and Culture of Architecture | Examines the major writings and concepts that surround the history of architecture. Focuses on (but not exclusively) work in the 20th century. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | L or HU | Prerequisite(s): Architectural Studies BSD or Environmental Design BS major; APH 313 with C or better; APH 314 with C or better; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| APH | 441 | Ancient Arch | Architecture of the ancient Mediterranean world with selective emphasis on major historical complexes and monumental sites. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| APH | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | | Prerequisite(s): Barrett Honors student |
| APH | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| APH | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| APH | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-3 | | |
| APH | 505 | Foundation Theory Seminar | Foundation of conceptual architectural inquiry, stressing the reciprocal and interdependent relationship between design and theory. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisite: Master of Architecture student; Co-requisites: ADE 522; ATE 556 |
| APH | 509 | Foundation Seminar | Historical, technical, theoretical, environmental, and professional issues in architecture. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisite: Master of Architecture; Co-requisite: ADE 510 |
| APH | 515 | Current Issues and Topics | Critical examination of current architectural issues, topics, and discourse. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisites: APH 505 with a C or better; Co-requisite: ADE 621 |
| APH | 581 | Contemporary Urban Design | Explores contemporary city and urban design issues related to contemporary cities. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Herberger Institute of Design and the Arts Graduate student |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|---|-----------------------|-------|-----------------|--|
| APH | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Herberger Institute of Design and the Arts Graduate student |
| APH | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Herberger Institute of Design and the Arts Graduate student |
| APH | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Herberger Institute of Design and the Arts Graduate student |
| APH | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 518 | Englishes in the Global Context | Examines the implications of the global spread of English, including its diverse forms and functions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only APL 518 or APL 591 (World Englishes) or APL 691 (World Englishes) |
| APL | 555 | Disciplinary Discourses | Professional and disciplinary issues in linguistics and applied linguistics. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 557 | Computer-Assisted Language Learning | Explores the field of computer-assisted language learning. Traces the development of computer-assisted language learning (CALL) over the last three decades. Focuses on research that explores how computer technology can help facilitate second language development; relies primarily on empirical data to do so. Examine established as well as new research methods in CALL. Participants participate in one research study and apply theoretical and practical aspects of CALL in these projects. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only APL 557 or ENG 557 or LIN 591 (Intro to Computer Assisted Language Learning) or SLC 557 |
| APL | 558 | Computer-Assisted Language Learning Praxis | Offers graduate students an in-depth practical experience in Computer-Assisted Language Learning (CALL) praxis, including tools, approaches to using technology in the language classroom, the techniques and best practices of online instruction, and the development of a teaching portfolio. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Pre- or corequisite(s): APL 557, ENG 557, or SLC 557; Credit is allowed for only APL 558 or SLC 510 |
| APL | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Pre-requisite: Applied Linguistics Ph.D. student |
| APL | 588 | Spanish Language Acquisition | Examines Spanish language acquisition in children and adults in the context of monolingual and bilingual language acquisition. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate |
| APL | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Pre-requisite: Applied Linguistics Ph.D. student |
| APL | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | The College of Liberal Arts and Sciences | Department of English | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|-------------------------------------|---|-------------------|-------------------|-----------------|---------------|--|-----------------------|-------|-----------------|--|
| APL | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 601 | Introduction to Applied Linguistics | Overview of the field of applied linguistics. Applies linguistic knowledge to the resolution of language-related issues facing multilingual societies (e.g., second language acquisition and ultimate attainment, literacy, language assessment, bilingualism, heritage and indigenous languages, language attitudes, language planning and policy, language and politics, world Englishes). | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 683 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | The College of Liberal Arts and Sciences | Department of English | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 783 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | Department of English | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | The College of Liberal Arts and Sciences | Department of English | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | Department of English | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| APM | 501 | Differential Equations I | Linear and nonlinear ordinary differential equations. Existence and uniqueness of solutions, limit sets, stability, Lyapunov functions, linear systems with constant coefficients. Geometry of behavior in two and three dimensions, including Poincare-Bendixson theorem, Lorenz equations, linearization, sensitive dependence on initial conditions, bifurcations. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 502 | Differential Equations II | Partial differential equations, including classification, method of characteristics, separation of variables, boundary value and initial value problems, Green's functions, maximum principle, distributions, and weak solutions. Students must have already taken or be concurrently enrolled in Differential Equations 1. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 503 | Applied Analysis | Convergence sequences and series of functions; metric space topology, compactness, completeness and the Ascoli-Arzelà Theorem; Contraction Mapping Principle, Implicit Function Theorem; intro to Lebesgue integration leading to L^p -spaces; properties of Hilbert spaces, Fourier transform. Students should have knowledge of linear algebra, multivariable calculus, and analysis at the undergraduate level. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 504 | Applied Probability and Stochastic Processes | Markov chains, Martingales, probability measures, SDE, Brownian motion, Monte Carlo methods. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 505 | Applied Linear Algebra | Fundamentals of linear algebra and numerical linear algebra, including decompositions (LU, QR, SVD), Eigen values, spectral theory, least squares problems. Programming with MATLAB. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 506 | Computational Methods | Covers interpolation, solution of nonlinear equations and systems, numerical differentiation, numerical integration, numerical solution of ordinary and partial differential equations. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 520 | Advanced Numerical Linear Algebra | Extends topics of APM 505. Introduces essential iterative methods, Gauss-Seidel, conjugate gradients. Methods for SVD, total least squares and root-finding applications in image analysis. Students should have basic knowledge of numerical linear algebra and a programming language. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 522 | Numerical Methods for Partial Differential Equations | Numerical methods for parabolic, elliptic, and hyperbolic partial differential equations, including finite difference/volume, finite element, and spectral methods. Mathematical concepts of stability, consistency, and convergence. Applications to scientific, biomedical, and industrial problems. Students should have a basic knowledge of PDE's and a programming language. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 523 | Optimization | Building on a fundamental undergraduate background in linear algebra and calculus, covers continuous optimization, constrained/unconstrained and linear/nonlinear, as well as selected topics in discrete optimization. Some programming experience is needed for course projects. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 524 | Spectral Methods | Extends approximation theory to global methods, including Fourier and orthogonal polynomial expansions. Applications to imaging and hyperbolic, parabolic, and elliptic partial differential equations. Students should have previous graduate courses in ordinary and partial differential equations, basic programming skills. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 525 | High-Performance Computing | Supercomputer architectures, parallel programming environments, languages, libraries, and algorithms for high-performance numerical simulations. Instructor/Department approval is required for this course. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only APM 525, MAE 494 (High-Performance Computing) or MAE 598 (High-Performance Computing) |
| APM | 526 | Advanced Numerical Methods for Partial Differential Equations | Partial content will vary from semester to semester, but may include hyperbolic conservation laws, finite element methods, multigrid methods, and parallel algorithms for partial differential equations. Applications to scientific, biomedical, and industrial problems. Students should have basic knowledge of PDE's and a programming language. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 530 | Mathematical Cell Physiology. | Mathematical modeling of dynamical aspects of cell physiology. Diffusion, membrane transport, intracellular calcium channel kinetics, calcium oscillations and waves. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 531 | Mathematical Neuroscience I | Mathematical modeling of electrochemical processes in nerve cells. Dendritic modeling, dendritic spines and synaptic plasticity, bifurcation analysis of excitable membrane models, deterministic and stochastic methods for threshold dynamics and bursting, relaxation oscillations. Students should have had a previous graduate-level PDE course. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| APM | 533 | Mathematical Population Biology I | Selectively covers population biology models in the forms of systems of difference equations or ordinary differential equations. Focuses on mathematical analysis of population models as well as model formulation and simulation. Students should have a previous graduate-level course in ODE. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 534 | Mathematical Population Biology II | Selectively covers population biology models in the form of partial differential equations and systems. Focuses on mathematical analysis of population models as well as model formulation and simulation. Students should have a previous basic graduate-level course in ODE and PDE. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 535 | Mathematical Models in Medicine | Mathematical models for the etiology, epidemiology, pathogenesis, morphology and treatment of disease. Covers dynamical models of cancer and viral infections. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 541 | Stochastic Modeling in Biology | Markov processes, random walks, martingales, branching processes, logistic growth model, Wright-Fisher model, Kingman's coalescent, bound and site percolations, contact processes, voter models. Students should have previously taken course work in probability and/or stochastic processes (or have a recommendation from their advisor). Recommendation from advisor is typically for students in biology or physics that have not taken statistics courses but have a good background in mathematics. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 560 | Applied Dynamical Systems | Bifurcations, normal forms, pattern formations, mixing, Lagrangian chaos, and applications to fluid dynamics. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 570 | Applied Linear Operators | Bounded linear and compact operators on Hilbert spaces. Linear integral equations, Fredholm and Hilbert-Schmidt theory, and approximate methods. Distributions. Completion of a course in Applied Analysis is strongly recommended prior to enrollment in this course. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 575 | Perturbation Methods in Applied Mathematics | Regular and singular perturbation methods for ordinary and partial differential equations, Boundary layer theory, matched asymptotic expansions, multiple-scale, homogenization, and WKB methods. Application to nonlinear oscillations, bifurcation and stability problems. Completion of a course in Differential Equations II or Partial Differential Equations in Engineering is strongly recommended prior to enrollment in this course. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Pre-requisites: APM 502 or MAE 502; Credit is allowed for only APM 575 or MAE 505 |
| APM | 576 | Theory of Partial Differential Equations I | Existence and uniqueness theorems, boundary value and initial value problems, characteristics, Green's functions, maximum principle, distributions, and weak solutions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 577 | Theory of Partial Differential Equations II | Continuation of existence and uniqueness theorems, boundary value and initial value problems, characteristics, Green's functions, maximum principle, distributions, and weak solutions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): APM 576 |
| APM | 581 | Geometry and Control of Dynamical Systems I | Manifolds, tangent and cotangent bundle, Lie theory, integrability and controllability, and feedback control. Students should have previously taken coursework in differential equations, applied analysis, applied probability, and stochastic processes. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 582 | Geometry and Control of Dynamical Systems II | Variational principles, Euler-Lagrange equations, Hamiltonian systems, optimal control, connections and curvature. Students should have previously taken coursework in differential equations, applied analysis, applied probability, and stochastic processes. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OP4 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| APM | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | LEC | Y | Z3 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARA | 101 | ASU: The Art Experience | Introduces the culture, challenges and opportunities of the School of Art. Addresses essentials for academic and personal success within the university. | N | REC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 1 | | |
| ARA | 110 | Sculpture Safety | Introduces safety and environmental health in the sculpture studios. Pre- or corequisite for all sculpture classes. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Art | 1 | | |
| ARA | 195 | Art in My World | Basic concepts and fundamental questions that provide insights into art making and that affect one's understanding and appreciation of art. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | |
| ARA | 202 | Understanding Photographs | Slide lecture course in understanding photography as a fine art form. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | |
| ARA | 209 | Photography Now | Explores contemporary practice through lectures, readings, exhibition visits, screenings and discussions. Explores work created within the past thirty years up to the present. Students act as a collective "ear to the ground" for the medium, engaging in first-hand experiences and research and being responsible to share those experiences with the class as active agents of discovery. Requires reading current periodicals, attending and discussing photographic lectures and exhibitions both in-class and beyond within the local community. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| ARA | 240 | Encounters with Contemporary Art | Provides an open environment for dialogue and discovery of what it means to be a successful artist, and allows students to explore their own academic and career goals. Exposes students to new ideas and people, and familiarizes them with the School of Art and ASU resources designed specifically for them. Includes an intense focus on professional practices in the fine arts and provides the tools to help students succeed personally and professionally. An acknowledgment of ongoing rigorous studio practice plays a fundamental role in the course, and students expand their abilities to think critically and to communicate articulately about their own work and the work of others through in- and out-of-class projects, discussions and critiques that encourage consideration of their own work in the context of current opportunities and directions in the visual arts. In addition, students have the opportunity to engage with and learn from industry professionals. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | |
| ARA | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ARA | 311 | Art Appreciation and Human Development | Foundations of art for children and young adults. Emphasizes learning, development, and understanding art in historical and cultural contexts. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Prerequisite(s): non-ART student; ENG 101; ENG 102; minimum junior standing |
| ARA | 330 | Issues in Intermedia | Critical survey of recent theory and practice in "intermedia" art. Created specifically to provide a common historical and theoretical framework for students majoring in the intermedia area, as well as to anyone seeking to broaden his or her understanding of non-traditional media, performance, installation, computer art, video, social practice, Webart and interactivity and their relationship to contemporary society and discourse. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 216 or minimum 45 hours; Credit is allowed for only ARA 330 or ARA 494 (Issues in Intermedia) OR Visiting University Student |
| ARA | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |

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| ARA | 396 | Professional Practices for Design and the Arts | Prepares young artists, designers and individuals in other creative fields to successfully enter the professional world of art and culture beyond the support system of the university. Through examining contemporary artists' models of practice and creative entrepreneurship; developing real life materials to promote their practice; engaging with guest artists, designers and other creative professionals; exploring best practices for arts-based businesses; and the array of continuing opportunities, student artists learn how they can shape their lives to sustain their artistic practice once they graduate. Best suited for students who are prepared to seriously contemplate the continuation of their specific practice beyond graduation. Students should enter this course with a collection of work samples that demonstrate their experience in their chosen discipline. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 56 hours; Credit is allowed for only ARA 396 or ARA 394 (Professional Practices for Artist) OR Visiting University Student |
| ARA | 460 | Gallery Exhibitions | Practical experience in all phases of department gallery operations and preparation of gallery publications. | N | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only ARA 460 or 560 |
| ARA | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | |
| ARA | 489 | Writing Art and Design Criticism | Arts writing workshop designed to help develop critical voice in written form. During the course of the semester, students learn about art and design criticism by reading work in a variety of contexts, looking at examples of art and design in person and discussing them, and writing and revising their own pieces of criticism. | N | SEM | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 2.00 GPA; minimum 45 hours OR Visiting University Student |
| ARA | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ARA | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| ARA | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-3 | | |
| ARA | 522 | Studio Art Pedagogy | Principles of learning and instruction for teaching assistants assigned to foundation-level studio art courses and other grad-level students with an interest in studio art pedagogy. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ARA 522 or ARA 598 (Princpl-Core Art Instructio) |
| ARA | 560 | Gallery Exhibitions | Provides practical experience in all phases of art gallery operations. Students learn professional art gallery practices through hands-on experience in the School of Art Student Galleries including Harry Wood, Step, and Gallery 100. Class members assist BFA and MFA candidate students in many phases of exhibition preparation and execution as well as assist with the curation and design of group exhibitions. | N | LEL | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only ARA 460, 560 or 598 (Gallery Exhibitions) |
| ARA | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARA | 589 | Writing Art and Design Criticism | Arts writing workshop designed to help develop critical voice in written form. During the course of the semester, students learn about art and design criticism by reading work in a variety of contexts, looking at examples of art and design in person, analyzing and discussing them, and writing and revising their own pieces of criticism. | N | SEM | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisite: Graduate student (degree seeking or non-degree seeking). Credit is allowed for only ARA 489 or ARA 589 or ARA 598 (Writing Art & Design Criticism) |
| ARA | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARA | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARA | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARB | 101 | Elementary Arabic I | Introduces the basic skills of speaking, listening, reading and writing of Modern Standard Arabic (MSA) for the purpose of communicative goals. Incorporates Arabic cultural knowledge as it is an important element in real-life communication. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Credit is allowed for only ARB 101 or MSA 101 |

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| ARB | 102 | Elementary Arabic II | Reading, writing, speaking, and understanding basic Arabic. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): ARB 101 or MSA 101 with C or better; Credit is allowed for only ARB 102 or MSA 102 OR Visiting University Student |
| ARB | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| ARB | 201 | Intermediate Arabic I | Starts with a review of the basics learned in previous coursework. Expands vocabulary and grammar structures. Addresses all four communication skills: reading, writing, listening and speaking in Modern Standard Arabic. Also introduces aspects of the culture of the Arab world. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): ARB 102 or MSA 102 with C or better; Credit is allowed for only ARB 201 or MSA 201 OR Visiting University Student |
| ARB | 202 | Intermediate Arabic II | Expands vocabulary and grammar structures and continues to develop communicative skills in Modern Standard Arabic. Enables students to attain an advanced level of proficiency in all Arabic language skills: reading, writing, listening and speaking. Also introduces aspects of the culture of the Arab world. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): ARB 201 or MSA 201 with C or better; Credit is allowed for only ARB 202 or MSA 202 OR Visiting University Student |
| ARB | 250 | Middle East Culture in a Global Perspective | Introduces a broader view and examination of Arab culture in a global perspective. Increases students' knowledge of Arab culture, promotes awareness and understanding of Arab customs, values, attitudes and cultural diversity. Using an interdisciplinary thematic approach, students explore and analyze cultural differences, misunderstandings, stereotypes, and be able to explain how they contribute to Islamophobia and other misconceptions about Arabic culture. Thematic areas of emphasis include the Arab family, fine art/music, food, gender identities, religious life, political conflict and war, Islamic tradition and exile and immigration. Taught in English and requires no knowledge of Arabic. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ARB 250 or ARB 294 (Arab Cultures in a Global Perspective) or SLC 250 or SLC 294 (Arab Cultures in a Global Perspective) OR Visiting University Student |
| ARB | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| ARB | 311 | Advanced Arabic Skills I | Focuses on developing all four skills of the Arabic language acquisition: reading, writing, listening, and speaking. Aims to help students acquire an advanced proficiency in Arabic. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ARB 202 with C or better OR Visiting University Student |
| ARB | 315 | Advanced Arabic for Heritage Speakers | Provides an advanced ability to read, understand, write and communicate in Arabic. Covers important topics such as advanced descriptions of one's country, city, university, home and family. Also concentrates on studying advanced questions and answers in the present, past and future tenses. Uses the communicative approach in adopting different pedagogical approaches centered on the communicative method, such as group practice, role play and situational dialogues. Introduces and explains detailed and advanced knowledge of Arabic grammar, structures of Arabic sentences; and the deep connotations of important Arabic vocabulary. Emphasizes building up more vocabulary and grammatical knowledge for communication purposes, introducing cultural, intellectual, business and political contents and terminology in Arabic; and expressing in advanced Arabic one's daily activities, past life and futuristic plans. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Credit is allowed for only ARB 101 or ARB 102 or ARB 201 or ARB 202 or ARB 315 or ARB 394 (Advanced Arabic for Heritage Speakers I) or ARB 394 (Advanced Arabic for Heritage Speakers II) OR Visiting University Student |
| ARB | 321 | Arabic Conversation I | Emphasizes spoken Arabic and conversation skills. Simultaneously develops communicative skills, vocabulary, and cultural awareness. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| ARB | 331 | Arabic/Islamic Culture and Literature | General introduction to the Middle East that synthesizes cultural, social, and literary information. Focuses on the experiences of ordinary Middle Eastern people to convey a grassroots sense of the Middle East. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ARB 331 or SLC 331 OR Visiting University Student |
| ARB | 335 | Arabic Culture and Islam | Develops awareness of Arabic culture and Islam. Covers a variety of cultural topics, including family, status of women, food, music, and Islam. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | |
| ARB | 336 | Introduction to the Qur'an | Introduces the Qur'an and examines the historical, contextual, religious and interpretive dimensions wherein the Qur'an developed. Deals with the structure of the Qur'an, the different sections, suras (Qur'anic chapters), and some of the verses. Also includes an introduction to the idea of revelation, its history, the content and some of the different themes of the Qur'an, and discusses aspects of the Qur'an as a source of law. Taught in English; requires no knowledge of Arabic or Islam. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ARB 336 or ARB 394 (Introduction to the Qur'an) OR Visiting University Student |

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| ARB | 337 | Hadith and Prophetic Tradition | Considers the Hadith as a literary text and as the prophetic tradition in Islam. Focuses on the development of the Hadith as a vast subject in Arabic literature, its collection methodology, Hadith science, and its contents. Gives special attention to the relationship of the Hadith as the second source, after the Qur'an, of Islamic knowledge, Islamic theology, Islamic philosophy and Islamic law. Explores the various ways and approaches in which Muslims employ the Hadith along with the Qur'an in their search for meaning, identity and knowledge. All readings are in English; requires no prior knowledge of Arabic language. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ARB 337 or ARB 394 (Arabic Hadith and Prophetic Tradition) OR Visiting University Student |
| ARB | 340 | Arabic Translation | Covers the fundamentals of English-Arabic and Arabic-English translation including basic techniques of translation through exploring the essential theories and concepts adopted in the process of translation. Also addresses the areas of difficulty aroused during the process of translation. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ARB 311 or 315 with C or better; ENG 102, 105, or 108 with C or better; Credit is allowed for only ARB 340 or ARB 394 (Introduction to Arabic Translation) OR Visiting University Student |
| ARB | 341 | Quran Text and Women | Addresses Muslim women scholars' argument that it is not the religion but the patriarchal interpretation of the Quran that have kept Muslim women oppressed. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | |
| ARB | 351 | Classical Arabic Literature | Provides a survey in classical Arabic literature. Focuses on the development of classical Arabic poetry and prose since their interceptions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| ARB | 352 | Modern Arabic Literature in Translation | Surveys the major trends, themes and genres of modern Arabic literature in translation. Provides a foundational knowledge of modern literature in the Arabic language. Focuses on continuity and change, cultural diversity and multiplicity in the Middle East, and the social, religious and historical aspects of modern Arab culture. No knowledge of Arabic language is required for this course. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, ENG 105 or ENG 107 with C or better; Credit is allowed for only ARB 352 or ARB 394 (Introduction to Modern Arabic Literature) |
| ARB | 360 | Islamic Philosophical Literature | Covers the most important Muslim philosophers and their contributions to philosophy. Concentrates on presenting and analyzing the main Islamic theories in philosophy, such as the different theories of creation, the role of reason and rationalism versus traditionalism. In addition, provides detailed information about the Islamic philosophical theories of language and meaning, and how these theories influenced the development of many distinct philosophical and literary works in the Arab-Islamic world. Also portrays Arabic language as a philosopher which provides philosophical definitions and analyses of many important concepts. Some of the famous philosophers which this course covers are the following: Al-Farabi, Ibn Sina, Al-Ghazali and Ibn Rushd. Those philosophers and their theories are still highly influential today in the Arab-Islamic culture. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ARB 360 or ARB 394 (Islamic Philosophy) |
| ARB | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| ARB | 411 | Advanced Arabic Skills II | Focuses on developing all four skills of the Arabic language acquisition: reading, writing, listening, and speaking. Aims to help students acquire an advanced proficiency in Arabic. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): ARB 311 with C or better |
| ARB | 421 | Arabic Conversation II | Focuses on developing all four skills of the Arabic language acquisition: reading, writing, listening, and speaking. Aims to help students acquire an advanced proficiency in Arabic. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| ARB | 422 | Advanced Arabic Media | Advanced language course designed to improve students' reading, writing, listening, speaking and debating skills. Exposes students to Arabic language used in the media. Incorporates news items from print and electronic media sources, including print and online news articles, television news and YouTube videos, among other materials. The purpose of using many sources is to enable the students to have an advanced experience reading diverse media materials. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): ARB 311 or 315 OR Visiting University Student |
| ARB | 427 | Arabic Prose: Reading the Arabian Nights | Surveys Arabic prose treasures such as Maqama, Hikaya, Khabar, Risala and Drama. Pays particular attention to the collection of folklore tales known as The Arabian Nights (The Thousand and One Nights), using them as one of the most fascinating "world" texts, loaded with fairy tales, fables, romances, farces, legends and folk stories. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ARB 202 or 315 with C or better; Credit is allowed for only ARB 427 or ARB 494 (Modern Arabic Prose) |

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| ARB | 428 | Arab Women's Writing | Offers a survey of Middle Eastern women's literary work in English translation. Themes focus on a comprehensive view of women's writing through several lenses, including: gender, religion and socio-political systems to introduce women's writing in modern Arabic literature through the prisms of Arabic literary criticism and feminist theory within historical contexts. Explores different genres, including autobiographical, short stories and novels, and cinematic production. Selective literary texts include leading 20th-century female writers whose works in translation represent a wide range of geographical, ideological and cultural influence. Featured writers include Rajaa al Sania, Latifa Zayyat, Radwa Ashur, Hanan al-Shaykh, Nawal Al Sadawi and others. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ARB 428 or ARB 494 (Arab Women Writing Across Generations/ in Eng) or SLC 428 or SLC 494 (Arab Women Writing Across Generations/ in Eng) OR Visiting University Student |
| ARB | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| ARB | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| ARB | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ARB | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| ARB | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| ARB | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARB | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARC | 101 | Architecture Project I | Project-based studio to introduce beginning concepts of architectural thinking. Students work collaboratively and individually on a semester-long design project. Introduces and guides students through an iterative design process leading to a public exhibition of their work. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| ARC | 102 | Architecture Project II | Project-based studio to enhance beginning concepts of architectural thinking. Students work collaboratively and individually on a semester-long design project. Introduces and guides students through an iterative design process leading to a public exhibition of their work. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| ARC | 111 | Architecture of Architecture I | Introduces the nature of architecture. Students work individually and collectively to document the built environment that surrounds us all, developing new ways of seeing and thinking and documenting their discoveries in a wiki. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| ARC | 112 | Architecture of Architecture II | Introduces the history and discourse of global architecture. Students work individually and collectively to document the built environment that has shaped our collective histories, developing new ways of seeing and thinking and documenting their discoveries in a wiki. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| ARC | 201 | Architecture Project III | Project-based studio to develop models of architectural thinking. Students work collaboratively and individually on a semester-long design project, developing an iterative design process leading to a public exhibition of their work. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| ARC | 202 | Architecture Project IV | Project-based studio to further develop concepts of architectural thinking. Students work collaboratively and individually on a semester-long design project, developing an iterative design process leading to a public exhibition of work. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| ARC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| ARC | 301 | Architecture Project V | Project-based studio to master concepts of architectural thinking. Students work collaboratively and individually on a semester-long design project, mastering an iterative design process leading to a public exhibition of work. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ARC | 302 | Architecture Project VI | Project-based studio to master concepts of architectural thinking. Students work collaboratively and individually on a semester-long design project, mastering an iterative design process leading to a public exhibition of work. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ARC | 351 | Architecture of Collaboration | Covers models of collaboration. Students learn tactics and strategies to work in teams and to collaborate on projects. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|---|-------------------|-------|-----------------|---|
| ARC | 352 | Architecture of Leadership | Covers models of leadership. Students learn tactics and strategies to work in teams and to collaborate on projects. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ARC | 353 | Architecture of Presentation | Covers models of oral and written communication. Students learn tactics and strategies to present their work. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ARC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| ARC | 401 | Architecture Studio I | Project-based studio introducing an iterative design process. Students work individually and collectively on a semester-long design project leading to a public exhibition of work. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 6 | | Prerequisite(s): ARC 301 with C or better; minimum 3.00 GPA OR Visiting University Student |
| ARC | 402 | Architecture Studio II | Project-based studio further enhancing the iterative design process. Students work individually and collectively on a semester-long design project leading to a public exhibition of work. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 6 | | Prerequisite(s): ARC 401 with C or better OR Visiting University Student |
| ARC | 421 | Architecture Technology I | Covers conventions in architectural technology. First principles of structural forces and thermodynamics. Material and methods of construction. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): minimum 45 hours; Pre- or corequisite(s): ARC 401 OR Visiting University Student |
| ARC | 422 | Architecture Technology II | Covers conventions of building systems in architectural technology, including integration of construction, tectonics and energy systems. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): minimum 45 hours; Pre- or corequisite(s): ARC 402; ARC 432 OR Visiting University Student |
| ARC | 431 | Contemporary Architecture and Urbanism 1970 to the Present | Addresses issues of global architecture and urbanism in the late 20th and early 21st centuries. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU & H | Prerequisite(s): ARC 111 or 112 with C or better OR minimum 56 hours OR Visiting University Student |
| ARC | 432 | Architecture History | Survey of global history and theory of architecture and design spanning a chronological period from prehistory to the 17th century. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): minimum 56 hours; Pre- or corequisite(s): ARC 402 OR Visiting University Student |
| ARC | 434 | Great Cities | Historical survey of great cities from antiquity to the present. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | (L or HU) & H | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 56 hours; Credit is allowed for only ARC 434 (APH 414) or MUD 598 (Great Cities) OR Visiting University Student |
| ARC | 436 | Charles and Ray Eames | Survey of American designers Charles and Ray Eames, their innovation design thinking and masterworks. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | HU | Prerequisite(s): minimum 56 hours OR Visiting University Student |
| ARC | 441 | Architecture Representation | Covers the history and conventions of architectural drawings, models, diagrams and other forms of representation. Applies contemporary techniques and tools to representation architectural works. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): minimum 45 hours; Pre- or corequisite(s): ARC 401; ARC 421 OR Visiting University Student |
| ARC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): minimum 56 hours; Pre- or corequisite(s): ARC 301 |
| ARC | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | | Prerequisite(s): Barrett Honors student |
| ARC | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | | Prerequisite(s): Barrett Honors student |
| ARC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| ARC | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-7 | | |
| ARC | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARC | 501 | Advanced Architecture Studio I | Project-based studio introducing an integrative design process. Students work individually and collectively on a semester-long design project leading to a public exhibition of work. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 6 | | Prerequisite(s): Architecture MArch student |
| ARC | 502 | Advanced Architecture Studio II | Project-based studio further enhancing the integrative design process. Students work individually and collectively on a semester-long design project, developing their understanding leading to a public exhibition of work. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 6 | | Prerequisite(s): Architecture MArch student; ARC 501 with C or better |
| ARC | 522 | Advanced Architecture Technology I | Covers integration of building systems and regulations in applied architectural technology. Project-based synthesis of building construction, tectonics and energy systems. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Architecture MArch student |
| ARC | 531 | Advanced Architecture History | Survey of global history and theory of architecture and design spanning a chronological period from the 17th century to present. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Architecture MArch student |
| ARC | 532 | Architectural Theory I | Foundation of conceptual architectural inquiry, stressing the reciprocal and interdependent relationship between design and theory. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Architecture MArch student |
| ARC | 541 | Advanced Architecture Representation | Explores and analyzes advancing techniques in architectural drawings, models, animation, virtual and augmented reality. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Architecture MArch student |
| ARC | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|-------------------------------------|---|-------------------|-------------------|-----------------|---------------|---|-------------------|-------|-----------------|--|
| ARC | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARC | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARC | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARC | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARC | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARC | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARC | 599 | Thesis | Supervised research focused on preparation of a thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARC | 601 | Advanced Architecture Studio III | Design problems emphasizing advancement of the discipline of architecture through topical research in conjunction with faculty. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 6 | | Prerequisite(s): Architecture MArch student; ARC 502 with C or better |
| ARC | 602 | Advanced Architecture Studio IV | Individual, student-initiated project reflecting a culminating synthesis of architectural ideas. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 6 | | Prerequisite(s): Architecture MArch student; ARC 601 with C or better |
| ARC | 622 | Advanced Architecture Technology II | Advancing innovations in architectural technology. Research-based explorations focused on emerging developments in building construction, tectonics and comfort systems. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Architecture MArch student |
| ARC | 631 | Architectural Theory II | Advanced architectural theory course that explores contemporary topics. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Architecture MArch student |
| ARC | 651 | Architecture Research | Critical examination and implementation of architectural research methods--historical, qualitative, simulation and modeling, case study, experimental, correlational, logic and argumentation. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Architecture MArch student |
| ARC | 662 | Architecture Practice | Critical examination of organizational modes and missions of contemporary architectural practice, including the business of architecture, stakeholders, ethics, and legal and professional responsibilities. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Architecture MArch student |
| ARC | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARC | 799 | Dissertation | Supervised research focused on preparation of a dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | The Design School | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARE | 250 | Teaching Inquiry in Art | Issues in teaching and learning through directed, guided, and independent inquiry about artworks and through art making. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ARS 101 or 102; 6 hours (2 classes) from ART 111, 112, 113, or 115 with C or better OR Visiting University Student |
| ARE | 301 | Studio Art and Human Development | Study of human development in studio art from early childhood to adult years. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | |
| ARE | 370 | Teaching Visual Culture | Explores issues and applications of everyday aesthetics that contain powerful technological, social, and economic factors. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s) with C or better: BA or BFA Art major: ARE 250 OR BIS Interdisciplinary Studies (Studio Art concentration) or Studio Art minor: ARS 101 or ARS 102; ART 110; ART 112 (or ART 113, 115 or 116) OR Visiting University Student |
| ARE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|---|---------------|-------|-----------------|---|
| ARE | 446 | Multicultural Issues in Art Education | Explores multicultural issues, ethnicity and cultures related to art and education. Discussion course on facts and sometimes controversial interdisciplinary materials draws upon knowledge from various disciplines. Emphasizes art educational issues and teaching. Also explores international and global issues concerning multiculturalism. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ARE 446 or ARE 494 (Multicultural Issues in Art Education) or ARE 546 or ARE 598 (Multicultural Art Education) OR Visiting University Student |
| ARE | 482 | Teaching Art Processes | Art traditions of the 20th century as a basis for studio and art history instruction. Meets art postbaccalaureate certification requirement. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisite: Fine Arts Art student |
| ARE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | |
| ARE | 486 | Art Education: Strategies and Applications | Implementation and evaluation of art instruction for K-12 population. Includes teaching of Saturday classes in the Children's Art Workshop. Meets art postbaccalaureate certification requirement. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art student; ARE 482 with C or better OR Visiting University Student |
| ARE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-6 | | Prerequisite(s): Barrett Honors student |
| ARE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ARE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ARE | 496 | Methods and Assessment of Learning in Art | Individual or group research on the assessment of art learning incorporating theory and practice. Meets art postbaccalaureate certification requirement. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ARE 250 with B- or better |
| ARE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-3 | | Prerequisite(s): minimum 90 hours |
| ARE | 510 | Visual Culture Research | Research on instruction of everyday aesthetics and related issues that contain powerful technological, social, and economic factors. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 520 | Issues in Teaching Inquiry in Art | Issues in teaching and learning focused both on inquiry about artworks and on inquiry through art making. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 525 | Research on Art Instruction | Research methods and assessment of learning in art. Pilot studies on the effects of instruction on learning. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 530 | Issues in Teaching Studio Art | Critical examination of issues concerning teaching multicultural art to different populations of students. Historical and philosophical foundations reviewed. Recommended to be taken before ARE 535. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 535 | Research on Teaching Studio Art | Review of empirical and historical research methods, learning theory, and assessment of learning in studio art, including developmental studies and their limitations. Pilot studies on the effects of instruction upon learning. Recommended to be taken after ARE 530. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 540 | Teaching Art in Cultural Contexts | Relationship of multicultural perspectives to teaching/learning art criticism, aesthetics, studio art, and art history. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 546 | Multicultural Issues in Art Education | Explores multicultural issues, ethnicity and cultures related to art and education. Discussion course on facts and sometimes controversial interdisciplinary materials draws upon knowledge from various disciplines. Emphasizes art educational issues and teaching. Also explores and analyzes international and global issues concerning multiculturalism. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Degree- or Nondegree-seeking graduate; Credit is allowed for only ARE 446, 494 (Multicultural Issues in Art Education), 546 or 598 (Multicultural Art Education) |
| ARE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |

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| ARE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | School of Art | 1 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARE | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARE | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | School of Art | 1 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-15 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | School of Art | 1 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Art | 1-15 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARP | 451 | Architecture Field Studies | Organized field study of architecture in specified national and international locations. Credit/no credit. May be repeated for credit with director approval. | N | PRA | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-6 | | |
| ARP | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): ADE 322 with C or better; Corequisite(s): ADE 421 |
| ARP | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Pre-requisites: Master of Architecture student; ADE 522 with a C or better |

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| ARP | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OP3 | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Prerequisite(s): Herberger Institute for Design and the Arts graduate student |
| ARS | 100 | Introduction to Art | Provides an introduction to the understanding and enjoyment of art through the study of painting, sculpture, design, photography, and the decorative arts. Students gain an awareness of meaning, functions, and significance of art, while learning an art-related vocabulary and a set of analytical tools for discussing and understanding art from around the world. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Prerequisite(s): Non-Art majors; Credit is allowed for only ARS 100 or ARS 300 OR Visiting University Student |
| ARS | 101 | Art from Prehistory Through Middle Ages | History of Western art from the Paleolithic period through the Middle Ages. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & H | |
| ARS | 102 | Art from Renaissance to Modernism | Introduces art history through a study of visual art, architecture and material cultures from the 15th century to the present. Develops an understanding of artistic terms and process within the framework of a chronological, and at times thematic, survey. Includes the political, cultural, social, economic and religious changes throughout history that are depicted in art. Provides an opportunity for students to reflect on how art was and is used as a vehicle to communicate, reflect, inspire and provide evidence of cultural shifts, changes and shared human experiences. Art history is comprised of various classes with different focuses on time, place or theme; these courses all work to teach human history through a visual approach. The focus on visual literacy, historical contextualization and an image-based framework directs the instruction toward a student-centered dynamic; students work directly in engaging their own understanding by learning how to interpret art works from lectures and texts. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & H | |
| ARS | 120 | Introduction to Global Museum Studies | Exposes the broad scope of what museums do by exploring their history and the critical issues they face today. Acquaints students with the historical and contemporary function of museums and the concepts they currently engage with, such as authorship, authenticity, identity, education, interpretation, storytelling, technology, ethics, cultural heritage, public engagement and diversity. Enhances reading materials with talks by museum professionals, films and discussion boards. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only ARS 120 (ARS 350) or ARS 394 (Introduction to Museums) |
| ARS | 121 | Introduction to Global Heritage Studies | Heritage is something that can be passed from one generation to the next, something that can be conserved or inherited, and something that has historic or cultural value. For instance, there are 1121 physical sites across the globe that the United Nations has designated as World Heritage, ranging from the Grand Canyon National Park to Stonehenge and the Alhambra, from Auschwitz Birkenau and Machu Pichu to the Great Barrier Reef. Heritage can be a physical site like these places, but it can also be intangible, as in language, culture, popular song, food, literature or dress. Focuses on key concepts, definitions, theories and debates central to understanding what heritage is, and on heritage studies as a field of inquiry. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only ARS 121 or ARS 494 (Intro to Global Heritage Studies) or SGS 494 (Intro to Global Heritage Studies) |
| ARS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ARS | 201 | Art of Asia | History of the art of the Asian cultures, with emphasis on China, Japan, and India. Meets non-Western art history requirement. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & H & G | |
| ARS | 202 | Art of Africa, Oceania, and the Americas | History of art of Africa, Oceania, and the New World. Meets non-Western art history requirement. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & H & G | |
| ARS | 221 | Museum and Heritage Histories, Theories and Debates | Establishes the theoretical foundation for students interested in pursuing future work and studies in museums and/or heritage institutions across the globe. Through readings and discussions, explores a broad range of topics, including the history and philosophy of museums; intangible versus tangible heritage; cultural patrimony and repatriation; the social, economic and political contexts that shape museums; the influence of the digital age on these institutions; and the main functions of museums and historic sites--collection and care of objects, exhibits, interpretation, education and governance. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only ARS 221 or ARS 494 (Museum Histories, Theories, And Debates) |

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| ARS | 223 | Introduction to Museums and Social Justice | A recent spate of scandals and protests have forced some of the world's greatest museums and heritage institutions to face up to some difficult ethical issues. These include reassessments of their board-vetting procedures to avoid reputational controversies, a more thorough review of corporate sponsors vis-a-vis a museum's mission, the development of action plans to address the legacy of colonial theft and Nazi looting. Nonprofit organizations and heritage institutions are also reassessing staffing demographics, salary differentials, and discussing ways to address racial and gender diversity in acquisition policies, permanent collection displays and exhibition schedules. Examines past and current controversies and investigates the ways in which these unprecedented events are fundamentally changing the definition of what constitutes arts and heritage institutions in the twenty-first century. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ARS 120 (ARS 350); Credit is allowed for only ARS 223 or ARS 494 (Museums in Global Contexts) OR Visiting University Student |
| ARS | 250 | History of Photography | History of photography from the 19th century to the present. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | |
| ARS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ARS | 300 | Introduction to Art | Parallels ARS 100 course content but requires a higher level of accomplishment and comprehension. Introduces visual culture, the purpose of art, and the relationship between art and visual culture. Students learn how visual culture pervades our everyday lives and how understanding visual literacy can help us participate more fully in the world around us. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Prerequisite(s): Non-Art majors; minimum 2.00 GPA; minimum 55 hours; Credit is allowed for only ARS 100 or ARS 300 OR Visiting University Student |
| ARS | 310 | The Renaissance in Tuscany | Course taught in Florence, Italy. History of arts in Tuscany with focus on city of Florence from 14th through 16th centuries. Completion of ARS 101 and 102 suggested. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | |
| ARS | 323 | Curatorial Activism | Current art world statistics demonstrate that the fight for gender and race equality in the art world is far from over: only 14% of the work displayed at MoMA in 2016 was by non-white artists; only a third of artists represented by U.S. galleries are female, but over two-thirds of students enrolled in art and art-history programs are young women. However, there are many curators working worldwide to offset these racial and gender disparities. Arranged in thematic sections focusing on feminism, race and sexuality, this course examines and illustrates pioneering examples of exhibitions that have broken down boundaries and demonstrated that new approaches to curating are possible, from Linda Nochlin's "Women Artists" at LACMA in the mid-1970s to the Whitney Biennial of 2019. This course profiles key exhibitions by pioneering curators, including Okwui Enwezor, Nan Goldin, Marcia Tucker, Catherine de Zegher, Fred Wilson, Jonathan Katz, and other curators who understand that institutions must be a driving force in this area and a vital source of inspiration for today's expanding new generation of curators. | N | LEC | N | Z1 | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ARS 323 or ARS 494 (Curatorial Activism) OR Visiting University Student |
| ARS | 330 | The Portrait | Examines the history and production of portraits in contexts of social hierarchies, historical events, gender, politics, class, morality and aesthetics with a focus on the 15th to the 21st centuries in painting, sculpture and photography. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Prerequisite(s): one 100-level course in APH, ARS, ASB, ENG, FMS, HST, MHL, MUS or SLC with B- or better; Credit is allowed for only ARS 330 or ARS 394 (Genre: Portraits) OR Visiting University Student |
| ARS | 331 | 18th- and 19th-Century European Jewelry Design | The 18th century was defined by stylish sociability that included beautiful dress, sumptuous interiors and exquisite, fashionable jewelry. Who were the influencers for jewelry design during this period? How was society defined by these ornaments? What were the rules of engagement? Did these opulent ornaments affect social strategies? How did jewelry materials evolve into more modern and recognizable forms? All of these questions are answered in this course. The cultural history of jewelry design mirrors the historical and collective customs of society from the established aristocracy, to the rising middle classes, to the expansion of cultural awareness among every world citizen when travel became widely available. So much so, that upon the turn of the 19th century, jewelry design shifted from appearing as solely a status of power and wealth to an eloquent symbol of worldly knowledge and cultural awareness. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ARS 331 or FSH 331 or ARS 394 (18th & 19th Century European Jewelry Design) OR Visiting University Student |

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| ARS | 340 | Art in America | American art from colonial times through the Second World War. Not available to students who have completed ARS 542. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & H | Prerequisite(s): Art BA or BFA major: ARS 101 with C or better; ARS 102 with C or better OR Studio Art minor or BIS Studio Art concentration: ARS 101 with C or better; Credit is allowed for only ARS 340 or ARS 542 |
| ARS | 345 | Art and Television | Critical introduction to the interrelation of technology and visual art using the tools of art history and media/cultural studies. Students read theorists of the relation between visual art and the mass media, and use them to analyze early presentations of visual art and art history on television of the 1960s and 1970s. Examines the contemporaneous and parallel development of video art--an artistic medium appropriated from television technology--through the study of key video artworks. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 2.00 GPA; minimum 45 earned hours |
| ARS | 362 | Survey of Aztec, Maya and Inka Art | Art history of the Aztecs, Maya, Inka and their ancestors before the arrival of Europeans. Covers their prolific artistic production starting with their earthworks in the deserts of Peru and ending with their stone pyramids and painted codices of Guatemala and Mexico. Meets non-Western Art History Requirement. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Prerequisite(s): minimum 45 hours |
| ARS | 369 | Mexican Art | Critically examines how Mexico and its people have represented themselves and been represented by others from ancient times to the 20th century. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Prerequisite(s): minimum 30 hours; Credit is allowed for only ARS 369 (ARS 469) or ARS 394 (Mexican Art) OR Visiting University Student |
| ARS | 370 | The Art of the Comic | Examines popular culture art forms of comics, comic books and graphic novels as they relate to the art of the west as well as their greater global context. Explores the various genres of comics and investigates a variety of themes found in comics, including war, gender construction, and the impact of globalization on western culture and society. Students become familiar with some of the most important comic artists, and the studio processes for the creation of comics. Concludes with an investigation of the impact of comic art on fine art around the world and on live-action films. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ARS 370 or ARS 394 (The Art of the Comic) |
| ARS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ARS | 402 | Art of Ancient Egypt | Aesthetic, philosophical, and cultural basis of Egyptian art from pre-Dynastic period through New Kingdom. Emphasis on sculpture and architectural monuments. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & H | Prerequisite(s): ARS 101 or 102 with C or better; Credit is allowed for only ARS 402 or ARS 502 OR Visiting University Student |
| ARS | 403 | Art of the Aztec Empire | Provides a greater knowledge of the art and architecture of the Nahuatl-speaking Aztecs of Central Mexico from the time of their first appearance in the archaeological record until the Spanish invasion of Central Mexico in 1521. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 30 hours; Credit is allowed for only ARS 403 or ARS 503 or ARS 494 (Art of the Aztec Empire) or ARS 598 (Art of the Aztec Empire) |
| ARS | 404 | Greek Art | History of art, architecture of Aegean civilizations (Cycladic, Minoan, Mycenaean) and of Greece to end of Hellenistic period. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & H | Prerequisite(s): ARS 101 with C or better; Credit is allowed for only ARS 404 or ARS 504 |
| ARS | 406 | Roman Art | Art and architecture of Etruria, the Roman Republic, and the Roman Empire. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & H | Prerequisite(s): Art BA or BFA major: ARS 101 with C or better; ARS 102 with C or better OR Studio Art minor or BIS Studio Art concentration: ARS 101 with C or better |
| ARS | 414 | Monasteries, Madonnas and Manuscripts | Sculpture, painting, architecture and minor arts in western Europe, ca. 1030-1200, considered within religious, economic and social contexts. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only ARS 414 or ARS 514 |
| ARS | 418 | German Renaissance and Reformation Art | Graphics, painting, sculpture, and architecture, ca. 1450-1550. Reformation themes and Renaissance style considered within religious, political, social, and economic contexts. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Prerequisite(s): ARS 101 or ARS 102 OR any 200-level or higher course in ASB, ENG, FRE, GER, HST, ITA or REL with B- or better; Credit is allowed for only ARS 418 or ARS 598 (German Renaissance and Reformation Art) |
| ARS | 422 | Italian High Renaissance Art and Mannerism | History of Italian art during the 16th century, including the achievements and influence of Leonardo da Vinci, Raphael, and Michelangelo. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Pre-requisites: ARS 101; ARS 102; Credit is allowed for only ARS 422 or 522 |
| ARS | 424 | Italian Baroque Art | Italian painting, sculpture, and architecture of the 17th century. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & H | Pre-requisites: ARS 101; ARS 102 |

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| ARS | 434 | Revolution to Impressionism in 19th-Century Art | Between 1770 and 1900, a period called the long 19th century, Europeans experienced rapid and extensive changes in politics, culture, social and economic structures, scientific methods, and technology. The Industrial and French Revolutions reflected rapid developments rooted in the 16th-17th century Scientific Revolution and rising nationhood. Considers how in this period European art reflected and shaped historical events in content, style, representational strategies and new roles for art and artists. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & H | Prerequisite(s): any 200-level course or higher in APH, ARS, ENG, FMS, HST, or MHL with B or better; Credit is allowed for only ARS 434 or ARS 534 |
| ARS | 435 | The Pre-Raphaelites | Visual and literary works by Victorian Pre-Raphaelites as works in themselves and through relations between images and texts. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): any 200-level or higher course in APH, ARS, ENG, FMS, HST, or MHL with B or better; Credit is allowed for only ARS 435 or ARS 533 or ENG 428 |
| ARS | 438 | Art of the 20th Century I | Developments and directions in art between 1900 and World War II. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & H | Prerequisite(s): ARS 102 with B- or better or one course in ARS, ENG or HST at 200 level or higher with B or better OR Visiting University Student |
| ARS | 439 | Art of the 20th Century II | Art since World War II, with consideration of new concepts and experimentation with media and modes of presentation. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & H | Prerequisite(s): ARS 102 or 438 with B- or better; Credit is allowed for only ARS 439 or ARS 539 |
| ARS | 440 | Identity and World Film | Examines how films around the world represent gender, race, ethnicity, and sexual orientation through the lens of genres and their variations and how genres reinforce or critique stereotypes. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | C | Prerequisite(s): any 200-level or higher course in APH, ARS, ENG, FMS, HST, or MHL with B or better; Credit is allowed for only ARS 440 or ENG 465 or FMS 427 OR Visiting University Student |
| ARS | 441 | Public Art | Explores the lively field of contemporary public art, particularly as defined by percent-for-art programs established through city ordinances during the last forty years. Also considers historical precedents, including Civil War monuments and the City Beautiful Movement. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Minimum 50 hours; Minimum 2.00 GPA; Credit is allowed for only ARS 441, 498 (Public Art), 541 or 591 (Public Art) |
| ARS | 442 | Critical Issues in American Painting | Explores issues of national identity and western expansion, Manifest Destiny, through images of race and violence in western American painting from 1800 to the early 20th century. Includes "claiming and settling the wilderness," cultures in conflict, the cowboy, and visions of an enchanted land. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Prerequisite(s): ARS 101; ARS 102 OR Visiting University Student |
| ARS | 443 | Artists in Film: Artists' Biopics | Examines artists' "biopics," biographical films about artists, chronologically from the subgenre's first appearance in 1936 to recent films. Explores relationships between film and history and between film and myths of creativity; major directors' attraction to artists' biopics; stereotypes of artists (e.g., genius, deviant); and how notions of creativity are inflected by gender, race and national identity. Assignments include weekly readings and film viewings and one short paper; optional documentaries and films are also available. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): any 200-level or higher course in APH, ARS, ENG, FMS, HST, or MHL with B or better; Credit is allowed for only ARS 443 or FMS 430 |
| ARS | 444 | Films of India | Examines classic, Bollywood and diasporic films of India from 1950 to the present. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): any 200-level or higher course in APH, ARS, ENG, FMS, HST, or MHL with B or better; Credit is allowed for only ARS 444 or ARS 544 or FMS 426 or ARS 494 (Films of India) or ARS 494 (South Asian Cinema) |
| ARS | 445 | History of Animation | Covers popular art forms of animated films as they relate to the art of the west as well as their greater global context. Begins with a brief look at the importance of storytelling in human culture before turning to the roots of animation; the invention of moving animated pictures in the early 20th century; the rise of major animation studios like Walt Disney, Fleischer Studios and Warner Bros.; television animation; foreign animation classics; and the recent work of independent animators. Students become familiar with some of the most important animation directors and the studio processors for the creation of animated films. Concludes with an investigation of the impact of animation on fine art and live-action films. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ARS 445 or ARS 494 (History of Animation) |
| ARS | 456 | Introduction to Museums | Broad scope of what museums do by exploring their history and the critical issues they face. Acquaints students with the basic functions of specific museum departments and staff, including the role of director, curator, registrar, preparator, as well as fund raising, marketing, audience development, education, exhibitions, conservation, ethics, cultural/heritage tourism and public art. Guest speakers and field trips enhance classroom material. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ARS 101 or ARS 102 OR any 200-, 300- or 400-level course in ASB, ENG or HST with B- or better |

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| ARS | 460 | Art Now | Critical overview of major issues and controversies of the last 10 years within the global, national, and local art scene. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ARS 101 or 102 with B- or better or one course in ARS, ENG, or HST at the 200 level or higher with B or better, OR Digital Culture major |
| ARS | 465 | Native Art of North America | Native American art forms of the United States and Canada from prehistoric times to the present. Meets non-Western art history requirement. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & C & H | Prerequisite(s): minimum 45 hours; minimum 2.00 GPA; Credit is allowed for only ARS 465 or ARS 565 OR Visiting University Student |
| ARS | 472 | Art of China | Study of major forms in Chinese art: ritual bronze, sculpture, ceramic, calligraphy, painting, and architecture. Meets non-Western art history requirement. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Prerequisite(s): minimum 50 hours; minimum 2.00 GPA OR Visiting University Student |
| ARS | 473 | Art of Japan | Japanese art from the Joman period to the present. Meets non-Western art history requirement. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Prerequisite(s): minimum 55 hours; Credit is allowed for only ARS 473 or ARS 574 OR Visiting University Student |
| ARS | 475 | Chinese Painting | From Ku K'ai-chin to Ch'i Pai-shih. Major artists, styles, and movements in Chinese painting. Meets non-Western art history requirement. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Pre-requisites: Minimum 50 hours; Minimum 2.00 GPA; Credit is allowed for only ARS 475 or 575 |
| ARS | 480 | Research Methods | Methodology and resource material for art historical research. Techniques of scholarly and critical writing and evaluation of bibliographic sources. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | L | Prerequisite(s): Art (Museum Studies) BA or Art (Art History) BA major; ARS 101 with C or better; ARS 102 with C or better; ENG 101, 105, or 107 with C or better; minimum 56 hours OR Visiting University Student |
| ARS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | |
| ARS | 485 | Women in the Visual Arts | Historical study of art by women in various media; related social, political, educational issues; representation of women in art. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | L | Prerequisite(s): ARS 101; ARS 102; ENG 101, 105, or 107 with C or better; Credit is allowed for only ARS 485 or ARS 585 OR Visiting University Student |
| ARS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-6 | | Prerequisite(s): Barrett Honors student |
| ARS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ARS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ARS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| ARS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-3 | | Pre-requisite: Minimum 90 hours |
| ARS | 501 | Methodologies and Art History | History of the discipline and an exploration of various methodologies, critical theory, and bibliographies used by art historians. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARS | 502 | Critical Studies in Egyptian Art | Egyptian art from pre-Dynastic to New Kingdom periods. Focus on aesthetic, philosophical, and cultural contexts. Research paper and readings required. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only ARS 402 or 502 |
| ARS | 503 | Art of the Aztec Empire | Provides a greater knowledge of the art and architecture of the Nahuatl-speaking Aztecs of Central Mexico from the time of their first appearance in the archaeological record until the Spanish invasion of Central Mexico in 1521. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ARS 403 or ARS 503 or ARS 494 (Art of the Aztec Empire) or ARS 598 (Art of the Aztec Empire) |
| ARS | 504 | Critical Approaches to Greek Art | Art and architecture of Aegean civilizations (Cycladic, Minoan, Mycenaean) and of Greece to end of Hellenistic period. Research paper and readings required. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only ARS 404 or 504 |
| ARS | 506 | Critical Studies in Roman Art | Art and architecture of Etruria, the Roman Republic, and the Roman Empire. Research paper and/or supplemental readings required. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARS | 514 | Monasteries, Madonnas and Manuscripts | Sculpture, painting, architecture and minor arts in western Europe, ca. 1030-1200, considered within religious, economic and social contexts. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ARS 414 or ARS 514 |

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| ARS | 533 | The Pre-Raphaelites | Explores Pre-Raphaelite culture, both literature and art, and relevant social history, from the Pre-Raphaelite Brotherhood through Aestheticism and early twentieth century, focusing on interactions between images and texts. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only ARS 435 or ARS 533 or ENG 428 |
| ARS | 534 | Art and Visual Culture of the 19th Century | Critical study of visual arts using primary source material from mid-19th century to WWI within philosophical, socioeconomic, and economic contexts. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ARS 434 or 534 |
| ARS | 538 | Art of the 20th Century I | Charts how the avant-garde in the early 20th century developed different strands of modern art as it sometimes grew closer to, and at other times veered away from, radical politics. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only ARS 438, 538 or 598 (Art of 20th Century I) |
| ARS | 539 | Art of the 20th Century II | General introduction to major trends and issues of Euro-American art created between 1955 to around the turn of the 21st century. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): graduate student (degree seeking or nondegree seeking). Credit is allowed for either ARS 439 or ARS 539 or ARS 598, Art of 20th C |
| ARS | 540 | Identity and World Film | Examines how films around the world represent gender, race, ethnicity, and sexual orientation through the lens of genres and their variations and how genres reinforce or critiques stereotypes. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only ARS 540, FMS 527 or (ARS 494, ENG 465, FMS 494 or ARS 598 Identity and World Film) |
| ARS | 541 | Public Art | Explores the lively field of contemporary public art, particularly as defined by percent-for-art programs established through city ordinances during the last forty years. Considers historical precedents including Civil War monuments and the City Beautiful Movement. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only ARS 441, 498 (Public Art), 541 or 591 (Public Art) |
| ARS | 543 | Artists in Film: Artists' Biopics | Examines artists' "biopics," biographical films about artists, chronologically from the subgenre's first appearance in 1936 to recent films. Explores relationships between film and history and between film and myths of creativity; major directors' attraction to artists' biopics; stereotypes of artists (genius, deviant, etc.); and how notions of creativity are inflected by gender, race and national identity. Assignments include weekly readings and film viewings and one short paper; optional documentaries and films are also available. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ARS 443 or ARS 543 or FMS 430 or FMS 543 or ARS 598 (Artists in Film: Biopics) |
| ARS | 544 | Films of India | Examines classic, Bollywood and diasporic films of India from 1950 to the present. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking). Credit is allowed for only ARS 444, ARS 544, ARS 598 (Films of India) or FMS 426 |
| ARS | 555 | Museums and Social Justice | A recent spate of scandals, protests and a global pandemic have forced museums and heritage institutions to face up to some difficult ethical and financial issues. In the wake of the Black Lives Matter protests, these include reassessments of staffing demographics, salary differentials, and discussions of how best to address racial and gender diversity in acquisition policies, permanent collection displays and exhibition schedules. The #MeToo movement has resulted in difficult conversations about sexual harassment and gender discrimination in museums as well. Other recent public controversies have demanded reevaluations of board vetting procedures to avoid reputational controversies, a more thorough review of corporate sponsors vis-a-vis a museum's mission, and the development of action plans to address the legacy of colonial theft and Nazi looting. Covid-19 has also greatly affected museums--attendance, annual budgets--and has resulted in mass layoffs and organizational restructurings, as museums are left to wonder about their financial viability moving forward. Also discusses whether museums have a moral responsibility to respond to and become engaged with compelling social justice issues like race, immigration, health care, climate change--or whether they should remain neutral. Indeed, the question of museums and social justice has plagued the museum world's preeminent professional organization, the International Council of Museums (ICOM), which, since 2017, has been attempting to redefine the museum as a site for public discourse on urgent topics; amidst debate and turmoil, a possible redefinition of museums of the 21st century as sites for social justice. Examines these current controversies and events. Each module focuses on one issue, with specific case studies in some instances. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| ARS | 574 | Art of Japan | Critical examination of the nature and history of Japanese art, its rich heritage and its indebtedness to foreign sources. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ARS 473 or ARS 574 |
| ARS | 575 | Approaches to Chinese Painting | Critical history of Chinese painting from Eastern Chou to 1911. Emphasis on masters, regional developments, and conceptual underpinnings. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Minimum 108 hours; Senior or Postbaccalaureate Undergraduate or Graduate; Credit is allowed for only ARS 475 or 575 |
| ARS | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARS | 585 | Women in the Visual Arts | Historical study of art by women in various media; related social, political, educational issues; representation of women in art. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only ARS 485 or 585 |
| ARS | 586 | Theories of Contemporary Art | Upper-level introduction to a variety of issues in contemporary art theory. Over the course of the semester, students travel through a different thematic segment each week. Topics covered include globalization, activism, relational aesthetics, art and ecology, as well as other themes that have found increased relevance as new art forms, media and theory proliferate in the 21st century. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ARS 586 or ARS 591 (Theories of Contemporary Art) |
| ARS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | School of Art | 1 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR senior or postbaccalaureate undergraduate student; minimum 108 hours |
| ARS | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARS | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARS | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARS | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARS | 710 | Current Research in Art History | Review and critical evaluation of contemporary literature and research in art history. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Design, Environment and the Arts PhD student |
| ARS | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| ARS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARS | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | School of Art | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARS | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Art | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ART | 107 | Photography as Experience | Introduces photography as both a social phenomenon and a creative expression. Explores personal and cultural relationships to photography and investigates the role that images play in our everyday experiences. Through readings, lectures, shooting assignments, peer critiques and discussions, students practice making images as well as interpreting photographs as a visual language. Introduces photography basics of vision, light, composition, camera controls and digital workflow. Class readings and lectures address contemporary and historical photographers and various philosophical and technical approaches to the medium. Encourages students to use whatever cameras they have access to and likely already use on a regular basis, be it a DSLR or an iPhone. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only ART 107 or ART 194 (Photography as Experience) |
| ART | 108 | Digital Literacy for the Arts | Effective, efficient, practical and innovative computer-aided visual communication has become essential for business in the contemporary art market. Serves as an introduction to computing in art and design fields. Students use computers to create, design, analyze and problem solve through the exploration of visual design software, fundamental elements of computer-aided design, and peer feedback. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | CS | Credit is allowed for only ART 108 or ART 194 (Digital Literacy for the Arts) or FSH 108 or FSH 194 (Digital Literacy for the Arts) |
| ART | 109 | Making as Seeing and Thinking | Working from supplies that can be found at the local hardware store, explores how manual and material modes of making can open up to creative thinking. Through a series of units that introduce the fundamentals of 3D construction, simultaneously looks at how such skills are being used in contemporary art and how they can become useful. This is achieved through weekly lectures, readings and hands-on studio assignments. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only ART 109 or ART 194 (Making as Thinking) |
| ART | 110 | Drawing as Seeing and Thinking | Immerses students from a broad range of non-art disciplines in the practice of drawing. Considers and reflects on drawing in its most expanded form: as a primary tool of communication and creative problem solving, as movement, as sensory experience and as its own unique method of cognition. Divides class meetings among lectures, exercises, field excursions and opportunities for critical dialogue. Students leave with an appreciation of the unique power of mark-making and an improved understanding of its application in their lives. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Credit is allowed for only ART 110 or 194 (Drawing as Seeing and Thinking) OR Visiting University Student |
| ART | 111 | Foundation Drawing | Fundamental, technical, and perceptual skills using common drawing media and their application to pictorial organization. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art BA major or BFA major OR Visiting University Student |
| ART | 112 | 2-D Design | Fundamentals of pictorial design. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art, Art-Exploratory, Minor in Studio Art, or BIS concentration in Studio Art student OR Visiting University Student |
| ART | 113 | Pictorial Investigations and Color Theory | Fundamentals of pictorial design and color theory through an introduction to various studio methodologies. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | |
| ART | 115 | 3-D Design | Fundamentals of 3-D form. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | |
| ART | 116 | Introduction to Digital Media | Concentrates on the fundamentals of digital media, including imagery, sound, video, animation, and the Web. Assignments are given to engage students in the technical, conceptual, and aesthetic aspects of digital media. Students employ a diverse range of techniques and software as they become familiar with contemporary artistic processes involving the use of the computer and/or other technologies. Consists of hands-on experimentation and production supplemented by slide lectures, videos, visiting artists, and academic research. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only ART 116 or ART 194 (Introduction to Digital Media) OR Visiting University Student |

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| ART | 121 | Introduction to Photography I | Students learn how to use camera operations with their own DSLRs (Digital Single Lens Reflex). Students learn how to edit, enhance and sequence digital images with Adobe software. Over the course of the semester, students gain exposure to the history of photography and photography as fine art. As students develop visual literacy, they become sensitive to the ways mass media instrumentalizes photography to sell, persuade, and exploit. Students engage in the analysis and critique of creative output. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | |
| ART | 122 | Introduction to Photography II | Students gain fluency in speaking and writing about images, building on the Photoshop and Lightroom skills they previously learned. Students study the color of light and color temperature to achieve accurate and manipulated color on the screen and for output. Over the course of the semester, students become more sensitive to color and use it expressively in their creative work. Each student participates in critique as they hone their critical voice. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 121 with C or better OR Visiting University Student |
| ART | 123 | Introduction to Photography for Nonmajors | An introduction to photography, with emphasis on investigating personal, social, cultural and aesthetic concerns with the camera. Class lectures address contemporary and historical photographers and various philosophical and technical approaches to the medium. Lab sections emphasize the creative process through camera work and darkroom procedures using 35 mm film, as well as digital capturing from cell phone camera to DSLR. Students leave this class with a better understanding of the role of photographs in culture and in their own lives. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | |
| ART | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ART | 202 | Photography I Lab | An introduction to photography, with emphasis on investigating personal, social, cultural and aesthetic concerns with the camera. Class lectures address contemporary and historical photographers and various philosophical and technical approaches to the medium. Lab sections emphasize the creative process through camera work and darkroom procedures using 35 mm film, as well as digital capturing from cell phone camera to DSLR. Students leave this class with a better understanding of the role of photographs in culture and in their own lives. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 0 | | Corequisite(s): ART 201 |
| ART | 203 | Photography: Material Studies I | Expects students to have some control over the medium and an understanding of the basics of photography as a mode of creative expression. Further develops skills in making, printing and analyzing silver gelatin images. Explores in-depth the ways in which light affects imagery, the ways in which images interact in culture, and student's own potential for creative expression through photography. Participation in critiques, discussions and presentations is essential and are a significant part of the grade. In addition, students spend extensive amounts of time out of class both shooting, developing film and working in the darkroom. Deepens the questions and creative vision developed in the introductory courses and discusses the reasons why a recent historical monochromatic process might serve ideas. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 121; ART 122 OR Visiting University Student |
| ART | 206 | Digital Photography I | Through readings, lectures, demonstrations and regular shooting assignments and critique, introduces the basic concepts of photography as a form of creative expression. With an emphasis on the student's own creative practice, covers technical, aesthetic and conceptual aspects of photography and explores how meaning is created in a photograph. Introduces basic digital editing, camera controls, selection and sequencing. Assignments cover traditional genres such as landscape, portrait and still life. Places a strong emphasis on interaction with classmates' work and receptivity to critique. Fully manual DSLR is suggested but not required for this course. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only ART 206 or ART 294 (The Still Image in Digital Culture) OR Visiting University Student |

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| ART | 207 | Digital Photography II | Through readings, lectures, demonstrations and regular shooting assignments and critique, introduces the basic concepts of digital photography as a form of creative expression. With an emphasis on the student's own creative practice, explores the ways in which the recently increased speed of creation and dissemination have led to the ubiquity of photography and how these aspects have radically altered how photographs function in today's world. Covers technical, aesthetic and conceptual aspects of digital photography and explores how meaning is created in a digital photograph. Students learn digital editing, camera controls, file formats, workflow and explores media theory in relation to digital imaging technology. Assignments cover topics such as appropriation, social media, surveillance, vernacular and ritual photography. Places a strong emphasis on interaction with classmates' work and receptivity to critique. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | |
| ART | 208 | View Camera Photography | View camera and darkroom techniques. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 121 (ART 204) with C or better OR ART 123 (ART 201) with C or better OR Visiting University Student |
| ART | 211 | Drawing | Continued development of technical and perceptual skills. Emphasizes materials and pictorial content. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): complete two from ART 111, 113, or 116 with C or better OR ART 110 with C or better OR Visiting University Student |
| ART | 214 | Figure Drawing | Development of skill and expressiveness in drawing the basic form, construction, and gesture from the human figure. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): complete two from ART 111, 113, or 116 with C or better OR ART 110 with C or better OR Visiting University Student |
| ART | 215 | Photography: Digital Compositing | Photographically based lab/lecture course designed to address ideas and concepts using digital montage/manipulation as an expressive medium. Emphasizes both assignments and self-defined projects. Includes discussion of technological theory and the extent to which digital imaging has affected the field of photography in the fine arts and professional arenas. Introduces new and more advanced techniques, but students also review retouching, coloration, enhancement and montage techniques. Covers the basic principles of pattern design in relationship to photography and the use of the computer as a pattern generator. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 121; ART 122 OR Visiting University Student |
| ART | 216 | Contemporary Art in Practice: Methods, Making, Meaning | Investigates multidisciplinary practices of making art within a contemporary context. Encourages students to explore various methods of artmaking with emphasis on understanding that materials and actions hold meaning. Relying on principles and techniques from foundation-level classes, students learn to choose appropriate media for a particular idea and construct work that is concept driven and incorporates cross-disciplinary approaches. Students develop individual and diverse approaches to fusing traditional art disciplines with experimental, performative, spatial and digital technologies if desired. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art BA, Art BFA, Digital Culture (Art) BA, Fashion BA major, Fashion minor, or Studio Art minor; ART 108, 110, 113, or 115 with C or better; ART 116 OR Visiting University Student |
| ART | 217 | Introduction to Computer Animation | Prepares students for the exciting world of digital animation. Looks back at animation through history and how it has developed into what we understand today. Looks at history, theory, principles, practices and animation techniques. Expands the student's current knowledge of 3D digital animation and how it has changed and affected society through time. Students use learned techniques to create art in animation. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only ART 217 or ART 294 (Introduction to Animation) OR Visiting University Student |
| ART | 218 | 3D Tools | Introduces 3D data capture, 3D modeling and rendering, and 3D prototyping and fabrication through creative/research activities using CNC and rapid prototyping tools. Projects are given to engage students in the technical, conceptual, and aesthetic aspects of digital media. Students employ a diverse range of techniques, software tools, and hardware in the course of making their creative/research projects, becoming familiar with contemporary artistic and engineering processes involving the use of the computer and/or other technologies. Consists of hands-on experimentation and production supplemented by slide lectures, videos, visiting artists, and academic research. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only ART 218 or 294 (3D Tools) |
| ART | 223 | Painting | Fundamental concepts and materials of traditional and experimental painting media. Emphasizes preparation of painting supports, composition, and color. Lab. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): complete two from ART 111, 113, or 116 with C or better OR ART 110 with C or better OR Visiting University Student |

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| ART | 227 | Watercolor | Fundamental concepts, materials, and techniques of watercolor. Emphasizes problem solving, basic skills, composition and color. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): complete two from ART 111, 113, or 116 with C or better OR ART 110 with C or better OR Visiting University Student |
| ART | 231 | Sculpture I | Explores sculptural forms through concepts related to basic materials. Students learn how to create original sculptures using mold-making, wood-working and sheet metal construction. Focuses on studio production, safety, aesthetic criticism and history of sculpture. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | |
| ART | 235 | 3D Tools for Sculptors | Explores the ever-changing role of technology in the production of contemporary sculpture. Concentrates on the fundamentals of 3D modeling. Introduces a diverse range of modeling programs allowing students to create fully rendered sculptures that are viewed in a virtual gallery and imagined as public art at a monumental scale through Google Earth. Discusses options to output the sculptures created beyond the virtual to explore the question: What is next? | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only ART 235 or ART 294 (3D Modeling for Virtual Worlds) or ART 294 (3D Tools for Sculptors) |
| ART | 244 | Introduction to Interactive Environments | Introduces software programming in the context of real-time interactivity. Builds the skills and develops the confidence needed to produce interactive audiovisual environments. Primarily uses the Max 7 (cycling74.com) programming language to write code for manipulating digital images, sounds and video in real time. For these systems to be interactive (respond to human activity), uses the tools and techniques for gathering and processing real-time input from sensors such as microphones, electronics, cameras and interface devices. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only AME 244 or ART 244 or AME 294 (Introduction to Interactive Environments) or ART 294 (Introduction to Interactive Environments) |
| ART | 253 | Introduction to Printmaking | Introduces basic monotype, intaglio, relief, and related techniques. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art student; ART 113 with C or better OR Visiting University Student |
| ART | 261 | Ceramic Survey | Handforming methods, throwing on the wheel, decorative processes, and glaze application. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 115 with C or better; minimum 45 hours; Pre- or corequisite(s): ART 113 with C or better if completed OR Visiting University Student |
| ART | 272 | Introduction to Metals and Jewelry | Emphasizes metal fabrication. Basic techniques of cutting, piercing, forging, soldering, and forming of non-ferrous metals. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art BA or Art BFA major; ART 115 with C or better; maximum junior standing OR Visiting University Student |
| ART | 274 | Wood I | Fundamental woodworking techniques to produce creative functional 3-D objects. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | |
| ART | 276 | Introduction to Textiles | Explores traditional and contemporary materials and basic techniques related to fibers. Embroidery, feltmaking, dyeing, block printing, plaiting, 3D structures. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): complete two from ART 111, 113, 115, or 116 with C or better OR ART 110 with C or better OR Visiting University Student |
| ART | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ART | 300 | Photo Editing: Narrative/Non-Narrative | Explores how structure in images can be created both within the image (by setting up a picture) and by sequencing images that may or may not have had any relation when they were created. By exploring two prevalent ways in which images function in the art world--the directoral mode and sequencing mode--students gain valuable tools in terms of understanding how to construct meaning with their images. Emphasizes creating cohesive and complete sequences both narrative and non-narrative. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 206; ART 207; ART 317 OR Visiting University Student |
| ART | 301 | Photography: Material Studies II | Recognizing alternative processes of the inherent characteristics of nonsilver processes and their use in communicating ideas. 6 hours a week. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major with completed portfolio; ART 203 with C or better OR Visiting University Student |
| ART | 302 | The Still and Moving Image: Digital Photography and Video | Through screenings, readings, discussion and practical assignments, explores the differences between the still and the moving image coming from the perspective of a still photographer. How does the addition of time, sound and movement affect the way we experience images? How have the histories of photography and cinema overlapped and how are they different? How does the fact that video and film are no longer prohibitively expensive for most people affect the approach that people take to creating videos? How can photographers make engaging video using their photo skills? Looking at practitioners and learning basic video editing tools--as well as various methods for output--students create video and still images with an understanding of the intersections, variations and potential of the similar yet markedly different languages of film, video and still photography. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 206; ART 207 |

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| ART | 303 | Portraiture Photography | Photographing people. Critical discussions and slide lectures on issues in portraiture. 6 hours a week. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 121 (ART 204) with C or better; ART 122 (ART 205) with C or better OR non-Art major; ART 122 (ART 205) with C or better; ART 123 (ART 201) with C or better OR Visiting University Student |
| ART | 304 | Junior Photographic Projects | Interpretation and manipulation of light as a tool in the performance of expressive photography. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 121 (ART 204) with C or better; ART 122 (ART 205) with C or better; ART 203, 208, 215, or 294 (Photographic Lighting I) OR Visiting University Student |
| ART | 308 | 2D Digital Animation | Advanced animation course continues the technical, conceptual and aesthetic world of 2D digital animation. In addition to craft and technique, principles of narrative, visual rhythm, character, sound and image are a primary focus. Through assignments, tutorials, discussions and critiques, students expand their knowledge of the history of animated cinema, live action cinema, visual art, games, mobile media, performance and visual culture. Students who come in with foundational animation experience find this course to be the next level in 2D digital animation. Students produce strong conceptual work that demonstrate their command of the software with attention to the rhythm, proportion, volume, color and light/dark, smartly employing formal mechanisms of story, character and motif to produce well-crafted, expressive animations. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ART 308 or ART 394 (2-D Computer Animation) OR Visiting University Student |
| ART | 310 | Landscape Photography | Photographing landscapes. Critical discussion and presentations on issues in landscape photography. 6 hours a week. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 121; ART 122; ART 203, 208, 215, or 294 (Photographic Lighting I) OR Visiting University Student |
| ART | 311 | Intermediate Drawing | Emphasizes composition and exploration of drawing media. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 211 with C or better OR Visiting University Student |
| ART | 312 | Illustration | For the purposes of this class, to illustrate means to illuminate. The prompts challenge students to engage in storytelling and explore text/imagery relationships while simultaneously honing basic rendering skills. At times we find images to "illuminate," enhance or subvert the meaning of written language and at other times we create language as a result of creating an image. The interplay between text and images is a constant in this class. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 110 or 111; Credit is only allowed for ART 312 or ART 394 (Illustration) OR Visiting University Student |
| ART | 313 | Experimental Film | Facilitates the exploration of 16 mm motion picture film as material and methodological fodder for artists. Students use original, found, and hand-altered footage to create projects of their own design. Covers basic techniques including camera operation, film exposure, and analog editing practices. Explorations also include in-class experiments, readings, discussions and screenings. For upper-division undergraduate and graduate art students attracted to the material and theoretical issues embodied in film and who are curious about how film might inform their own ongoing advanced artistic pursuits. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 121; ART 122; ART 203, 208, 215, or 294 (Photographic Lighting I) OR Visiting University Student |
| ART | 314 | Intermediate Figure Drawing | Drawing from the model with greater reference to structural, graphic, and compositional concerns. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 214 or 394 (Figure Drawing for Non-Majors) with C or better; minimum 2.00 GPA OR Visiting University Student |
| ART | 317 | Advanced Digital Photography | Builds on the skills and conceptual underpinnings of previous coursework and is the final course in the required photo foundation for the Digital Photography BFA. Students build on their understanding of photography in relation to the technical, aesthetic and conceptual aspects of photography. Requires students to create a short video and create physical objects, including printed photographs and a book. Places a strong emphasis on idea development, interaction with classmates' work and receptivity to critique. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 206; ART 207 OR Visiting University Student |

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| ART | 318 | Photography: Material Studies III | Despite the convenience of modern photographic technology, many artists prefer to enrich their methods with the tactile wonders of traditional processes. This course has a finer focus on project-based work. Explores salt print, 3-color gum bichromate, wet plate collodion, albumen printing processes, daguerreotypes, as well as 21st-century alternative processes. Provides new opportunities for digital/analog hybrid processes and alternative ways of presentation, such as videos, photo sculptures and performances. Involves intensive studio work, lecture and critique sessions. Students must have a film or digital camera to produce new images for the projects assigned in this course. Also requires a basic understanding of Adobe Photoshop for digital negative outputting. Expects students to share ideas, techniques and their photographic experimentations. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 121; ART 122; ART 203; ART 301 OR Visiting University Student |
| ART | 320 | Science and Art of Botanical Design | Discover the multifaceted practice of botanical design as a science and an art form. Students exercise plant maintenance, study botanical nomenclature and postharvest care, and review theories of biophilic design, botanical wellness, ecopsychology, sociohorticulture, and ecotherapy. To learn the art behind the science, students learn to create botanical arrangements using the design process in each lab session. Explores topics including construction methodology, technique, and innovation as well as reviews the botanical design industry and its historical periods. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 4 | SG | Prerequisite(s): minimum 45 hours; Credit is allowed for only ART 320 or ART 394 (Science and Art of Botanical Design) OR Visiting University Student |
| ART | 323 | Intermediate Painting | Development of competency in skills and expression. Assigned problems involve light, space, color, form, and content. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 223 or 394 (Painting for Non-Majors) with C or better; minimum 2.00 GPA OR Visiting University Student |
| ART | 325 | Figure Painting | The human figure clothed and nude as the subject for painting in selected media. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 214 or 223 with C or better OR Visiting University Student |
| ART | 327 | Intermediate Watercolor | Explorations of personal expression in watercolor. Continued development of watercolor skills using traditional and experimental materials and techniques. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 227 or 394 (Watercolor for Non-Majors) with C or better; minimum 2.00 GPA OR Visiting University Student |
| ART | 331 | Sculpture II | Emphasizes metal fabrication as an expressive sculptural process. Techniques in welding, cutting and bending of metals and their aesthetics. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Studio Art BIS major or Studio Art minor; ART 110 with C or better; ART 115 with C or better OR Pre- or corequisite(s): Art BA or BFA major; ART 231 with C or better if completed OR Visiting University Student |
| ART | 332 | Sculpture III | Explores diverse media with a focus on mold-making processes. Development of the sculpture portfolio. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 331 with C or better |
| ART | 333 | Foundry Casting Methods | Fine art and techniques of metal casting: mold making, foundry safety, finishing techniques, application of patinas, and history of casting. 6 hours a week. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art Majors: ART 331 with C or better, or Non-art majors: ART 231 with C or better OR Visiting University Student |
| ART | 345 | Visualization and Prototyping | Studio/seminar introduces concepts of computer visualization, modeling, and rapid prototyping in an interdisciplinary manner. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Digital Art OR Intermedia student |
| ART | 346 | 3D Computer Imaging and Animation | Focuses on the modeling, texturing, surfacing, lighting and rendering portions of the 3D animation pipeline. Covers poly modeling, sculpting, edge flow, UV texturing, materials and PBR workflows, properties of lighting, and efficient rendering techniques. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | CS | Prerequisite(s): Film and Media Production BFA major or ART 217 with C or better OR Visiting University Student |
| ART | 348 | Animation Motion Studies | Focuses on using the principles of animation in 3-D and open source, pre-rigged characters for animation and dialog studies. Course studio format follows similar industry standard of dailies for frequent feedback and to encourage progress. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Film and Media Production BFA major or ART 346 with C or better OR Visiting University Student |
| ART | 351 | Intaglio I | Introduces concepts and techniques of intaglio processes, including non-acid and acid techniques such as drypoint, line etch, aquatint, photo etching; introduces multiple plate printing ala poupee wiping, chine colle, and basic color. Idea-generating exercises include visual signifiers of identity, democratic multiple, time and space, the disembodied gaze, and reconsidering beauty. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 253 with C or better OR Studio Art minor; ART 110 with C or better; ART 112 or 113 with C or better |
| ART | 352 | Lithography I | Monochromatic and color planographic printmaking utilizing stone and aluminum plate processes. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 253 with C or better OR Studio Art minor; ART 110 with C or better; ART 112 or 113 with C or better OR Visiting University Student |

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| ART | 354 | Screen Printing | Introduces paper, direct, and photographic stencil techniques. 6 hours a week. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; complete two from ART 111, 112, 113 with C or better OR Studio Art minor; ART 110 with C or better; ART 112 or 113 with C or better OR Visiting University Student |
| ART | 360 | Ceramic Throwing | Design analysis and production of functional pottery. Emphasis on throwing techniques, surface enrichment, and glaze application. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 42 hours OR Visiting University Student |
| ART | 364 | Ceramic Handbuilding I | Search for form using handbuilding techniques. Kiln firing and related problems. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 42 hours OR Visiting University Student |
| ART | 365 | Ceramic Handbuilding II | Continuation of previous coursework with an additional focus on large-scale works, surface treatments, and glaze decoration with related kiln firing applications. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 261 with C or better; ART 364 with C or better OR BIS Studio Art emphasis or Studio Art minor; ART 364 with C or better OR Visiting University Student |
| ART | 367 | Ceramic Vessels | Focuses on the exploration and creation of ceramic vessel forms utilizing a variety of technical approaches. Students develop a personal direction through guided assignments focusing on both historical/contemporary vessels, function vs. design, and various forming processes. Students should have previous experience with either wheel-throwing or hand-building techniques. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ART 367 or ART 394 (Ceramic Vessels) |
| ART | 372 | Casting and Jewelry Techniques | Covers lost wax casting for jewelry scale work and alternative casting methods and mold making as well as other techniques such as chain making and marriage of metals. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art student; ART 272 with C or better |
| ART | 373 | Form Emphasis in Metals | Covers forming non-ferrous metals using techniques such as anticlastic and sinclastic forming, raising, fold forming. Projects focus on hollow forms using these various techniques. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art student; ART 272 with C or better |
| ART | 374 | Wood II | Individual and directed problems in wood related to the production of unique functional art objects. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 274 with C or better OR Visiting University Student |
| ART | 376 | Weaving and Dyeing | Focuses on loom-controlled woven structures in conjunction with a variety of dye techniques. In the investigation of these new practices, an emphasis is placed on technical issues, historical trajectories and contemporary contexts. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major: ART 276 with C or better OR Fashion BA major: FSH 201 with C or better OR All other majors: ART 110, 112, 113, 115, or 116 with C or better OR Visiting University Student |
| ART | 377 | Textile Design | Explores a variety of surface design processes such as sewing, embroidery, dyeing and interlacing, as well as the construction of collage, piece work and creatively fabricates sculptural forms with their newly soft design materials. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 276 with C or better or FSH 201 with C or better OR Visiting University Student |
| ART | 378 | Digital Textiles | Starting in the 19th century with advent of the Jacquard loom, which is often noted as the inspiration for the modern day computer, explores the interwoven history and practice of textiles and technology. Taking theoretical and practical approaches, works through textile techniques, such as knitting, printing and wearables, as well as research and readings. Emphasizes applying the information presented to support individual bodies of work. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s) C or better: ART 110 or 111; ART 112, 113, 115, or 116; min 2.00 GPA OR Dig Cult stdnt; AME 111; AME 112 or 130; min 2.00 GPA OR Fashion maj; FSH 201; Credit for only ART 378 or 394 (Digital Textiles) OR Visiting University Student |
| ART | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ART | 400 | The Photobook | Photographers have long seen the photobook as an excellent way to showcase their work. From the mid 1960s art photographers have used self-publishing through methods as simple as a photocopier to disseminate their work. Recent advances in the accessibility of high-quality reproduction capacities have resulted in an explosion of flexible and creative ways for photographers to execute their ideas and contribute to a wide range of conversations. Practical and theoretical course on the photobook. Students learn about the history of the photobook and the multitude of contemporary applications from the major photography publishers such as Aperture, through to the small press and self-publishing and the exciting world of art book fairs. Students also create a handmade photobook and create and order a print-to-order book of their own work. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 206; ART 207; ART 317 OR Visiting University Student |

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| ART | 401 | Traditional Genres in Digital Photography: Land and Place | Through practical shooting assignments, readings, lectures and critiques, students learn about expressing ideas about land and place through photography. This course both celebrates, challenges and subverts the tradition of landscape photography. Pays particular attention to the ways in which photography reinforces notions of land and can be a way to address issues of pollution, sustainability and climate change, ownership, borders and the relationship between the social, the political and the physical landscape. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 206; ART 207; ART 317; Credit is allowed for only ART 401 or ART 494 (Traditional Genres: Photographing Place and Space) OR Visiting University Student |
| ART | 402 | Traditional Genres in Digital Photography: Photographing People | Through practical assignments, lectures, readings, discussion and critique, investigates the traditional photographic genre of portraiture. Students create works and conduct research which questions and contextualizes these images in historical and contemporary art. Addresses such questions as what defines a portrait and the social, political and cultural impacts these have had on photography and art, as well as how photographs of people have been transformed with the advent of digital technology and how this affects images in a broader cultural and social history. Emphasizes the students' work and a final portfolio of portraits. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 206; ART 207; ART 317 OR Visiting University Student |
| ART | 403 | Senior Photographic Projects | Technical and philosophical refinement of personal aesthetic with various photographic media. 6 hours a week. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 301, 303 (ART 404), 304, 310 (ART 410), 313 (ART 408), 318 (ART 418), 394 (Digital Printing), or 394 (Street Photography) OR Visiting University Student |
| ART | 405 | Traditional Genres in Digital Photography: The Constructed Image | Through practical shooting assignments, readings, lectures and critiques, students learn about expressing ideas through photographs that are constructed for the camera. Students create works that question and are contextualized in historical and contemporary art. Ranging from the traditional genre of still life, early composited photographs, posed portraits, glitch art, to straight photography, emphasizing composing and manipulating subject matter to create an image rather than photographing the subject as is. Introduces Photoshop for basic edits and digital compositing. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 206; ART 207; ART 317; Credit is allowed for only ART 394 (Photography as the Constructed Image) or ART 405 OR Visiting University Student |
| ART | 406 | New Genres in Digital Photography | Explores the ways in which contemporary technology and the key changes--ubiquity, speed and reproducibility--have spawned new genres in photo-based art. Explores these emerging and changeable genres and examines the potential they present for creative expression and in-depth conversation about new ideas. Defines these new genres: selfie sticks, Instagram, screenshots from Google Streetview or remote cameras that we control from our home computer. Students are given weekly assignments and at the end of the course create a project within one of the new genres. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 206; ART 207; ART 317 OR Visiting University Student |
| ART | 407 | Digital Photography Capstone | Culminating class of the online Digital Photography degree. It is organized around a single, major self-directed project. Students will submit work once a week for critiques and will participate in their classmates' critiques as well. Classmates and instructor will guide each student towards the best execution of their vision. Students will complete course with a portfolio of images that may be realized in a variety of forms including but not limited to: an online gallery, a website, or a printed portfolio or a photobook. Students will also write an artist statement to accompany the work and conduct research where there is an audience for their work. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 206; ART 207; ART 317 |
| ART | 409 | Photographic Exhibition | Care of photographic prints, print presentation, and exhibition. Practical experience in gallery operations. 6 hours a week. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 301, 303 (ART 404), 304, 310 (ART 410), 313 (ART 408), 318 (ART 418), 394 (Digital Printing), or 394 (Street Photography) OR Visiting University Student |
| ART | 411 | Advanced Drawing | Visual and intellectual concepts through problem solving and independent study. Emphasizes the individual creative statement. 6 hours a week. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 211 with C or better; ART 311 with C or better OR Visiting University Student |
| ART | 412 | Advanced Techniques in Digital Photography | Highly technical course consists mainly of technical applications, readings, quizzes and discussion. Focuses on learning advanced image-editing software such as Photoshop, and photo management and manipulation software. Covers montage and color management systems including profiling for color printing and monitors. Students also learn about using digital backs on medium format and view cameras. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 206; ART 207; ART 317 OR Visiting University Student |
| ART | 414 | Advanced Figure Drawing | Various media and techniques on an advanced level. The human figure as an expressive vehicle in various contexts. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 314; Credit is allowed for only ART 414 or ART 514 OR Visiting University Student |

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| ART | 417 | Storyboarding and Narrative Sequencing | Focuses on the representation and manipulation of time, cause and effect, and viewpoints in narrative sequences. Designed for students interested in live action film, animation, video gaming and comic book formats. Although storyboarding is typically considered a preparatory stage, students are to treat each project as a finished piece, thereby requiring an amplified level of attention and understanding with a special emphasis on consistency and coherence. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 110 or 111; Credit is allowed for only ART 417 or ART 494 (Storyboarding and Narrative Sequencing) OR Visiting University Student |
| ART | 423 | Advanced Painting | Further exploration of techniques and concepts of painting. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major: ART 323 with C or better; min 2.00 GPA OR All other majors: ART 110 with C or better; ART 112, 113, 115, or 116 with C or better; min 2.00 GPA; Credit is allowed for only ART 423 or ART 523 OR Visiting University Student |
| ART | 424 | Stop Motion Animation | Hands-on studio focuses on creating original stop motion animations. Covers the theory of timing for animation, how to plan and collaborate on animations and about the history of the art form. In-class activities include demonstrations, project work, and viewing of and discussion of stop motion animated films. Homework includes hands-on animation as well as reading, writing and viewing of films. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ART 424 or ART 494 (Stop Motion Animation) OR Visiting University Student |
| ART | 425 | Intermediate Figure Painting | The human figure clothed and nude as the subject for painting in selected media. 6 hours a week. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 325 with C or better; Credit is allowed for only ART 425 or ART 525 |
| ART | 427 | Art on Paper | Advanced techniques, concepts, and processes with water media and mixed painting and drawing media on paper. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): two from ART 111, 112, 113, 115, 116 with C or better OR ART 110 with C or better; Credit is allowed for only ART 427 or ART 527 OR Visiting University Student |
| ART | 428 | Video and Sound as Sculptural Materials | Students learn to incorporate video and sound into sculptures and installations. Covers basic video and sound capturing and editing, but emphasizes new techniques for controlling and presenting video and sound: Max/MSP programming language, Arduino microcontrollers and Raspberry PI. The latest developments in video and sound for sculpture and sculpture for video and sound. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art BA or BFA major; ART 231 with C or better; Credit is allowed for only ART 428 or ART 494 (New Systems-Sculpture) or ART 528 |
| ART | 429 | Painting and Drawing Research Studio | Advanced-level students produce a series of drawings, paintings and/or mixed media works based around their chosen theme. Students apply their technical and conceptual abilities developed in previous courses into innovative statements of individual expression. Expects students to have a high level of motivation, a consistent work ethic, and a desire to advance their creative practice. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Painting and Drawing BFA major; ART 311, 314, 323, or 425 with C or better; minimum 2.00 GPA; Credit is allowed for only ART 429 or ART 494 (Painting and Drawing Studio Capstone) |
| ART | 430 | Advanced Sculpture: Materials and Techniques | Encourages individual investigation in sculpture with an emphasis on the development of a personal approach to materials and techniques. Students have acquired a strong background in the basic techniques and materials in sculpture in previous classes and now are working toward the development of a portfolio or body of work. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 331 OR Visiting University Student |
| ART | 431 | Special Problems in Sculpture | Development of a personal approach to sculpture. Emphasis on form, individual problems, and related color technology. Professional practices and presentation. 6 hours a week. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art student; ART 231, ART 331 and 332 with C or better |
| ART | 432 | Neon Sculpture | Techniques for creating neon in an art context. Glass tube bending and fabrication. Construction of artworks utilizing light-generating gasses. 6 hours a week. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art student; ART 231 with C or better or BIS Studio Art emphasis or Studio Art minor; ART 110 and 115 with C or better |
| ART | 433 | Foundry Casting Methods | Thorough and directed course for the professional preparation of sculptors. Requires participation in all aspects of the foundry process, including serving on both a casting and foundry process maintenance team. Provides a history of the use of cast metal in the visual arts and an understanding of how casting processes can be applied to contemporary sculptural concepts. Requires participation in special projects such as exhibitions, iron casting, and field trips to local foundries as the semester course schedule dictates. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 331 with C or better OR Non-art majors; ART 231 with C or better OR Visiting University Student |

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| ART | 434 | Advanced Sculpture: Context and Content | Studio-based class offers an opportunity for guided individual study with an emphasis on content, context and professional practices. Students work on developing a series of related works on a theme of their choosing. Assignments help students gain a greater understanding of the themes and ideas that are important in their art and expand their awareness of historical and contemporary artist working along similar lines. Requires students to develop a packet for self-promotion including a resume, portfolio and artist statement and to submit these materials to a competitive exhibition, commission, residency, scholarship or similar opportunity. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 331 |
| ART | 435 | Foundry Research Methods | Research in foundry techniques. | N | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ART | 436 | Architectural Sculpture | Sculptural concepts as related to architecture and other man-made environments. Scale drawing, models and relief sculpture. Students learn to produce proposals for large-scale and public commissions. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art Majors: ART 331 with C or better, or Non-art majors: ART 231 with C or better |
| ART | 438 | Moving and Interactive Systems in Sculpture | Explores the use of Arduino microcontrollers to control light, sound, interactivity and movement in sculptures and installations. Covers basics of electronic circuits, mechanics and audio electronics. Also covers historical and contemporary artists who incorporate technology into their work. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art (Sculpture) BFA major; ART 231 with C or better OR Art BFA major; ART 115 with C or better; Credit is allowed for only ART 438 or ART 538 OR Visiting University Student |
| ART | 439 | Studio Inquiry: Practice and Cultural Context | Investigates how intermedia practice can expand discourse within contemporary art, life and society. Encourages investigation of visual art, conceptual art, digital art, emergent media, installation, performance, art/life practices, social art practice, and with emphasis on research, production and theory. Students expand their ability to assess interdisciplinary strategies. Through reinforcing artistic rigor, students deepen their ability to employ intermedia methods as artistic communication, to express a personalized point of view. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major or Digital Culture (Art) BA major; ART 111, 112, or 113 with C or better OR Studio Art minor or BIS Studio Art emphasis; ART 110; ART 116; Credit is allowed for only ART 439 or ART 539 OR Visiting University Student |
| ART | 440 | Experimental Video Art | Explores creative possibilities through the production of experimental video art works referencing new approaches to concept, theory and art practice. Curriculum emphasizes the use of metaphor and simulation to depict reality and linear story telling. Students study relational aesthetics, content, stylistic formats and presentation issues as they reference time-based media. The technical component concentrates on the use and operation of equipment for video recording, audio mixing, lighting, video editing and computer graphics. Students create stand-alone video works, video installations, multimedia time-based performances, through individual and group projects. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 116 with C or better OR Studio Art minor or non-Art major; minimum 45 hours; Credit is allowed for only ART 440 or ART 529 OR Visiting University Student |
| ART | 441 | Video Art | Utilizing video and audio equipment essential to the production of broadcast quality video art. 2 hours a week. May be repeated for credit. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1 | | Prerequisite(s): Art portfolio completed; corequisite ART 440 |
| ART | 442 | Art and Community | Explores public and socially engaged art practice that is often collaborative, participatory and involves developing relationships with people and communities as a fundamental material of the work. Many social practice artists aim to initiate real-world change through artistic experimentation, activism, social intervention or interpretation of community stories, tragedies and celebrations. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ART 442 or ART 542 OR Visiting University Student |
| ART | 443 | Performance Art: Actions, Gestures, Journeys | Performance art is the act of doing. It is not about representing, recounting, re-enacting or acting. It is an art form of direct action. Students work with the elements of time, space and the body as material to speak to cultural histories and collective contemporary experience while learning critical thinking skills and gaining knowledge about historical and contemporary performance artists. Students create performances and context-specific projects by making connections between art, life and public space. Since performance art and live art cannot be separated from the body who makes it, this course continually investigates the meaning and significance of performance art. For instance, what distinguishes an action as art? Is it different from an everyday action like brushing your teeth? What makes it different? When is a job or labor a performance? How does a person (artist or audience) know when the art begins or when it ends? All performances are documented and presented in video or still photography examples online. Select works are posted on the Live Art Platform website at the end of the semester. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Studio Art minor or BIS Studio Art emphasis; ART 110 with C or better; ART 116 with C or better OR Art major OR Performance and Movement BA major; Credit is allowed for only ART 443 or ART 543 OR Visiting University Student |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|---|---------------|-------|-----------------|---|
| ART | 444 | Short Subject: Documentary Video | Students investigate documentary video as an art form with close attention to the aesthetic as well as the informational content. Emphasizes the intersection between standard documentary modes and experimental video art. Researches and discusses contemporary and historical materials in both documentary and video art. Emphasizes concept and content development, in preparation for the production and post-production of a documentary video art work by each student. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ART 444 or ART 494 (Documentary Video Art) or ART 544 or ART 598 (Documentary Video Art) OR Visiting University Student |
| ART | 445 | Digital Processes for Printmaking | Introduces digital applications and processes as they relate to all areas of photo-mechanical printmaking processes. Comprised of three smaller sections to give a broad overview of possibilities and how they relate to analog printmaking techniques, including image capture, film generation and analog processes, and digital and inkjet printing. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 50 hours; Credit is allowed for only ART 445 or ART 545 OR Visiting University Student |
| ART | 449 | Computer Animation and Video | Integrates 3-D fine arts animation with video and compositing. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Film (Film and Media Production) BA or Film (Filmmaking Practices) BA or Film and Media Production BFA major or ART 217 with C or better OR Visiting University Student |
| ART | 451 | Advanced Intaglio | Gives students the opportunity to further develop their skills with intaglio printmaking techniques. Primary areas of research include image development, multiple plate and color printing. Additional techniques include lift grounds, spit bite aquatint, white ground, and viscosity printing. Develops sharper critical responses, both aesthetically and conceptually, to their own work, as well as the work of other artists. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 351 with C or better; credit is allowed for only ART 451 or ART 551 |
| ART | 452 | Advanced Lithography | Continuation of ART 352. 6 hours a week. May be repeated for credit. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art student or completion of portfolio milestone; ART 253 and ART 352 with C or better |
| ART | 453 | Experimental Printmaking: Expanding the Matrix | Alternative methods of working with print techniques, including installations, actions or performances, and other nontraditional formats. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): at least one of the following: ART 351, 352, 354, 355, 456, 459, 477, 478, 494 (Relief), or 394 (Photolithography) with C or better; Credit is allowed for only ART 453 or ART 553 |
| ART | 454 | Advanced Screen Printing | Continuation of paper, direct, and photographic stencil techniques. 6 hours a week. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 354 with C or better OR Visiting University Student |
| ART | 455 | Artists' Books | Concepts, materials, techniques and structures related to book arts. Explores a variety of traditional and nontraditional binding structures, basic editioning and low-tech printing techniques while simultaneously working on studio assignments that challenge them on a conceptual level. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ART 455 or ART 494 (Artists' Books) or ART 555 OR Visiting University Student |
| ART | 456 | Letterpress Studio | Equipment, techniques and applications of letterpress printing. Students hand set type and create photopolymer plates and are encouraged to integrate the tactile quality of letterpressed type and image with other media. Discusses conceptual and material aspects of letterpress. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 253 with C or better; minimum 2.50 GPA; Credit is allowed for only ART 456 or ART 556 OR Visiting University Student |
| ART | 457 | Fine Printing and Bookmaking II | Continuation of ART 456. Bookbinding, book design and printing, advanced typography, theory, and presswork. May be repeated for credit. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art student; ART 253 with C or better; ART 456 with C or better; Credit is allowed for only ART 457, ART 557 or ART 598 (Fine Printing and Bookmaking II) |
| ART | 458 | Paper Studio | The equipment, techniques and applications of papermaking, exploring both traditional sheet forming, paper pulp painting as well as sculptural paper. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art student with ART 112 with C or better, OR non-Art majors with 56 minimum credit hours and minimum 2.50 GPA; Credit is allowed for only ART 458 or ART 558 |
| ART | 459 | Monoprinting | Nonmultiple printed image using a variety of technical approaches. 6 hours a week. May be repeated for credit. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): BA or BFA Art major, minimum 45 hours; or BIS Interdisciplinary Studies (Studio Art concentration) or Studio Art minor; ART 110, 112, 113, 115 or 116 with C or better |
| ART | 460 | Ceramic Clay | Research into various clay body formulations, local natural materials, slip glazes, and engobes. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 261 with C or better; Pre- or corequisite(s): ART 360 with C or better if completed; ART 364 with C or better if completed OR Visiting University Student |

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| ART | 461 | Animation Capstone I | In this studio course, advanced-level students envision and develop plans for a substantial animation project of their own. This project could be a very short film individually produced in any animation medium, or a more substantial film produced in collaboration with other students. Students generate an idea, pitch it and create storyboards and layouts for their animation. Leads directly into and is required before subsequent course where students produce and screen their films. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art (Animation) BFA major; ART 308 with C or better; ART 346 with C or better; ART 417 with C or better; minimum 2.00 GPA |
| ART | 462 | Animation Capstone II | In this studio course, advanced-level students continue developing their substantial animation projects that they have previously developed. Provides an industry model of start-to-finish guide with which students can develop their pre-production contents into polished final animation within a pre-set production timeline. Includes frequent updates, critique and one-on-one personal meetings during studio sessions. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art (Animation) BFA major; ART 461 with C or better; minimum 2.00 GPA |
| ART | 463 | Ceramic Glaze Research | Glaze calculation and formulation using various glaze colors and surfaces. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 261 with C or better; Credit is allowed for only ART 463 or ART 563 OR Visiting University Student |
| ART | 466 | Special Problems in Ceramics | Emphasis on personal expression within structure of seminars, critiques, and studio work. Professional methods of presentation/documentation of work. 6 hours a week. May be repeated for credit. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 261 with C or better; ART 364 with C or better OR Visiting University Student |
| ART | 467 | Art and Ecology | Designed for students with advanced independent studio art practices or sustainability studies students who have an interest in the way that their lives and practices engage environments. Through readings, slide presentations, discussions, guest visits, hands-on activities and screenings, explores the work of many contemporary ecological artists engaging with environments and environmental issues from a multitude of angles. Artists engage land remediation, agriculture, socio-ecological justice, sustainable materials, landscape design and much more. As cultural workers must be informed, the course content addresses some basic literacy with regard to environmental concerns and shares examples of realized accessible sustainable solutions. In addition to learning about ecologies and artists, students complete three art or research projects, inspired by assignments. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ART 467 or ART 494 (Art and Ecology) or ART 567 or ART 598 (Art and Ecology) or SOS 467 or SOS 494 (Art and Ecology) or SOS 567 or SOS 598 (Art and Ecology) |
| ART | 472 | Advanced Jewelry and Surface Techniques | Covers jewelry forms and techniques including surface embellishment such as granulation, keum-boo and filigree to be used as tools for aesthetic expression and expand student awareness of historical and contemporary jewelry/metalwork. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art student; ART 272 and ART 372 with C or better |
| ART | 473 | Advanced Metals and Mechanisms | Covers new techniques and develops existing skills in non-ferrous metal forming and mechanism fabrication while further refining fitting and finishing techniques, incorporating concept with craft and emphasizing professional practices/portfolio development. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art student; ART 272 with C or better; ART 373 with C or better; Credit is allowed for only ART 473 or 598 (Adv. Metals & Mechanisms) |
| ART | 474 | Advanced Wood | Extended experience and advanced techniques in the use of wood to create functional works of art. 6 hours a week. May be repeated for credit. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art student; ART 274 with C or better; ART 374 with C or better OR Visiting University Student |
| ART | 476 | Advanced Textile Construction | Expanding on technical knowledge of knit and woven structures, this course emphasizes the creation of a body of work. The materialization ranges from the functional to the formal to the conceptual depending on one's research trajectory within his or her program of study. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art student; ART 276 with C or better; ART 376 with C or better |
| ART | 477 | Printed Textiles | Techniques for screen printing on fabric exploring pattern as a compositional element. Various stencil methods including photographic processes. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major: ART 276 with C or better; ART 377 with C or better OR Fashion BA major: FSH 201 |
| ART | 478 | Advanced Surface to Form | Broadening knowledge of surface design and the construction of 3D structures, presents advanced explorations in embroidery, dyeing and quilting. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 276, ART 377 and ART 477 with C or better; Credit is only allowed for ART 478 or ART 578 |
| ART | 479 | 3-D Fibers: Construction and Content | Explores hand-constructed fiber techniques through the context of the history and communities from which they came, as well as contemporary applications. Emphasizes research and the development of one's work through studio and social practice. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major or Studio Art minor; ART 276 with C or better; Credit is allowed for only ART 479 or ART 579 or ART 598 (3-D Fibers) |
| ART | 482 | Senior Exhibitions/Portfolio | Capstone course required of all BFA studio art majors. Students participate in a group exhibition and focus on professional practices, including exhibition display and advertisement, career planning, and development of a professional packet with artist statement, CV, and digital portfolio. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art BFA major; minimum 100 hours |

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| ART | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): Art student |
| ART | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | STO | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-6 | | Prerequisite(s): Barrett Honors student |
| ART | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | STO | N | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ART | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ART | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| ART | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-3 | | Prerequisite(s): Art student |
| ART | 501 | Cross-Practice Critique | Engages graduate students in deep, sustained critical discussion about artwork made by students in the class. Students investigate together the process(es) of critiquing artwork and consider and discuss the underlying assumptions and values they bring to this method of communication and pedagogy. Helps students develop and improve their critical voice at whatever level they are at, including the ability to receive and accept critical feedback of their work. Encourages students to hone their sense of personal agency in the context of "the crit." | N | LEL | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate |
| ART | 508 | Experimental Film | Facilitates the exploration of 16 mm motion picture film as material and methodological fodder for artists. Students use original, found, and hand-altered footage to create projects of their own design. Covers basic techniques including camera operation, film exposure, and analog editing practices. Explorations also include in-class experiments, readings, discussions and screenings. For upper-division undergraduate and graduate art students attracted to the material and theoretical issues embodied in film and who are curious about how film might inform their own ongoing advanced artistic pursuits. Graduate level focuses on the development of a personal approach. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ART | 514 | Graduate Figure Drawing | Advanced study of the human figure as an expressive vehicle in various contexts. Graduate level focused on the development of personal approach. Timed poses of short and long duration with emphasis on using the figure to enhance the student's individual research. Includes art historical component to enable students to fit themselves into the context of the use of the figure as it relates to the study of the history of art. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR senior or postbaccalaureate undergraduate with minimum 108 hours; Credit is allowed for only ART 414 or ART 514 |
| ART | 518 | Advanced Alternative Processes | Despite the convenience of modern photographic technology, many artists prefer to enrich their methods with the tactile wonders of the traditional processes that this course introduces. Part two of Alternative Processes with a finer focus on project-based work. Explores salt print, 3-color gum bichromate, wet plate collodion, albumen printing processes, daguerreotypes, as well as 21st-century alternative processes. Provides new opportunities for digital/analog hybrid processes and alternative ways of presentation, such as videos, photo sculptures and performances. Involves intensive studio work, lecture and critique sessions. Students must have a film or digital camera to produce new images for the projects assigned in this course. Also requires a basic understanding of Adobe Photoshop for digital negative outputting. Students are expected to share ideas, techniques and their photographic experimentations. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ART | 523 | Graduate Painting | Concentrates on formal and conceptual skills and explores a variety of topics, including historical and contemporary painting issues, visual literacy, critical thinking, and professional practices. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR Senior or Postbaccalaureate undergraduate with minimum 108 hours; credit is allowed for only ART 423 or 523 |
| ART | 525 | Advanced Figure Painting | Advanced study of the human figure clothed and nude as the subject for painting in selected media. Graduate-level study focuses on the development of personal expression. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 425 or ART 525 |

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| ART | 527 | Art on Paper | Exploration focused on conceptual and technical approaches combining mixed media painting and drawing on paper and related surfaces. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 427 or ART 527 |
| ART | 528 | Video and Sound as Sculptural Materials | Students learn to incorporate video and sound into sculptures and installations. Covers basic video and sound capturing and editing, but emphasizes new techniques for controlling and presenting video and sound: Max/MSP programming language, Arduino microcontrollers and Raspberry Pi. The latest developments in video and sound for sculpture and sculpture for video and sound. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 428 or ART 528 or ART 598 (New Systems Sculpture) |
| ART | 529 | Experimental Video Art | Explores creative possibilities through the production of experimental video art works referencing new approaches to concept, theory and art practice. The experimental video art curriculum emphasizes the use of metaphor and simulation to depict reality and linear story telling. Students study relational aesthetics, content, stylistic formats and presentation issues as they reference time-based media. The technical component concentrates on the use and operation of equipment for video recording, audio mixing, lighting, video editing and computer graphics. Students create stand-alone video works, video installations, multimedia time-based performances, through individual and group projects. Graduate students create a collaborative video anthology. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 440 or ART 529 |
| ART | 530 | Digital Compositing | Fine arts digital compositing of computer animation, video, and video editing of composites with audio. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR senior OR postbaccalaureate undergraduate with minimum of 108 earned hours |
| ART | 532 | Neon Sculpture | Emphasizes techniques for creating neon in an art context, including glass bending and fabrication. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ART | 533 | Foundry Casting Methods | Thorough and directed course for the professional preparation of sculptors. Students are expected and required to participate in all aspects of the foundry process, including serving on both a casting and foundry process maintenance team. Students deepen their knowledge of the history of the use of cast metal in the visual arts and understanding of how casting processes can be applied to contemporary sculptural concepts, participating in special projects such as exhibitions, iron casting, and field trips to local foundries as the semester course schedule dictates. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ART | 538 | Moving and Interactive Systems in Sculpture | Explores the use of Arduino microcontrollers to control light, sound, interactivity and movement in sculptures and installations. Covers basics of electronic circuits, mechanics and audio electronics. Also covers historical and contemporary artists who incorporate technology into their work. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 438 or ART 538 or ART 598 (Experimental Systems in Sculpture) |
| ART | 539 | Studio Inquiry: Practice and Cultural Context | Investigates how intermedia practice can expand discourse within contemporary art, life and society. Encourages investigation of visual art, conceptual art, digital art, emergent media, installation, performance, art/life practices, social art practice, and with emphasis on research, production and theory. Students expand their ability to assess interdisciplinary strategies. Through reinforcing artistic rigor, students deepen their ability to employ intermedia methods as artistic communication, to express a personalized point of view. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 439 or ART 539 |
| ART | 540 | Visualization and Prototyping | Explores advanced concepts of computer visualization, modeling and prototyping in an interdisciplinary manner. Looks at "visualization" quite broadly--from 2D visualizations such as graphs and maps, to tangible 3D models, to dynamic and immersive 4D systems. Engages a variety of approaches to 3D data capture and modeling. Prototypes original designs--objects, assemblies, and systems--using 3D computer modeling techniques, desktop and enterprise level 3D printing, and novel systems for experiencing time and space, including stop motion film and AR/VR. Theoretical and historical lecture/discussion are supplemented with visiting artists, engineers, scholars and field trips. Students must be familiar with computer graphics applications and should have experience with 3D modeling applications. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 540 or ART 494 (Visual Prototyping) or ART 598 (Visual Prototyping) |
| ART | 542 | Art and Community | Through studio practice, research and presentations, explores intermedia social art practice, public practice, art/life practice, relational aesthetics, community-based projects, and other critical theories and conventions that engage art and community. Graduate students, in conjunction with the instructor, create their own workplan for the course. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 442 or ART 542 |

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| ART | 543 | Performance Art: Actions, Gestures, Journeys | Performance art is the act of doing. It is not about representing, recounting, re-enacting or acting, or but simply doing. It is an art form of direct action. Students work with the elements of time, space, and the body as material to speak to cultural histories and collective contemporary experience while learning critical thinking skills and gaining knowledge about historical and contemporary performance artists. Students create performances and context-specific projects by making connections between art, life and public space. Since performance art/live art cannot be separated from the body who makes it, this course continually investigates the meaning and significance of performance art. For instance, what distinguishes an action as art? Is it different from an every day action like brushing your teeth? What makes it different? When is a job or labor a performance? How does a person (artist or audience) know when the art begins or when it ends? All performances are documented and presented in video or still photography examples online. Select works are posted on the Live Art Platform website at the end of the semester. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 443 or ART 543 |
| ART | 544 | Short Subject: Documentary Video | Students investigate documentary video as an art form with close attention to the aesthetic as well as the informational content. Emphasizes the intersection between standard documentary modes and experimental video art. Researches and discusses contemporary and historical materials in both documentary and video art. Emphasizes concept and content development in preparation for the production and post-production of an 8-10 minute documentary video art work by each student. Each student's documentary video art work is archived on the "ASU Documentary Video Art" Vimeo account that is viewable by the public. Each student produces a 4-minute excerpt of the longer 8-10 minute documentary for purposes of screening it at the Scottsdale Museum of Contemporary Art. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 444 or ART 494 (Documentary Video Art) or ART 544 or ART 598 (Documentary Video Art) |
| ART | 545 | Digital Processes for Printmaking | Introduces digital applications and processes as they relate to all areas of photo-mechanical printmaking processes. Course is comprised of three smaller sections to give a broad overview of possibilities and how they relate to analog printmaking techniques: image capture, film generation and analog processes, and digital and inkjet printing. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 445 or ART 545 |
| ART | 550 | Photolithography | Covers various photolithography processes including black and white, multiple color, and CMYK photo reproduction techniques, looking at the transformation of the photo image into print and the nature of printed photographic images. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 550 or ART 598 (Photolithography Prints) |
| ART | 551 | Advanced Intaglio | Gives students the opportunity to further develop their skills with intaglio printmaking techniques. Primary areas of research include image development, multiple plate and color printing. Additional techniques include lift grounds, spit bite aquatint, white ground, and viscosity printing. Develops sharper critical responses, both aesthetically and conceptually, to their own work, as well as the work of other artists. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or senior or post-baccalaureate undergraduate with minimum of 108 earned hours; credit is allowed for only ART 451 or 551 |
| ART | 553 | Experimental Printmaking: Beyond the Matrix | Focuses on the development of concepts in printmaking beyond the traditional two-dimensional image on paper that is contained in a portfolio or frame. Explores alternative techniques and materials, methods of extending the print beyond 2 dimensions, and expanding the concept of what is a print. Students are encouraged to understand printmaking within the wider context of contemporary art, especially those directly related to the student's main artistic emphasis (if not printmaking). | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or senior or postbaccalaureate undergraduate with minimum 108 hours; Credit is allowed for only ART 453 or ART 553 |
| ART | 554 | Graduate Screenprinting | Focuses on the development of screenprinting techniques and the ability to utilize these techniques as an expressive visual method of exploring and developing individual research concepts. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ART | 555 | Artists' Books | Graduate-level introduction to concepts, materials, techniques and structures related to book arts. Explores a variety of traditional and nontraditional binding structures, basic editing and low-tech printing techniques while simultaneously working on studio assignments that challenge on a conceptual level. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 555 or ART 598 (Artists' Books) or ART 455 |
| ART | 556 | Letterpress Studio | The equipment, techniques and applications of letterpress printing. Students hand-set type and create photopolymer plates and are encouraged to integrate the tactile quality of letterpressed type and image with other media. Discusses conceptual and material aspects of letterpress. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 456 or ART 556 |

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| ART | 557 | Fine Printing and Bookmaking | Continuing study of letterpress in fine art--the book arts--with emphasis on the book. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 457 or ART 557 or ART 598 (Fine Printing and Bookmaking II) |
| ART | 558 | Paper Studio | The equipment, techniques and applications of papermaking, exploring both traditional sheet forming, paper pulp painting as well as sculptural paper. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 458 or ART 558 |
| ART | 559 | Monoprinting | Investigates monoprint/monotype printmaking and its aesthetic possibilities. Students acquire basic and advanced skills in the medium through demonstrations, problem solving exercises, and experimentation. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR senior or postbaccalaureate undergraduate student; minimum 108 hours |
| ART | 563 | Ceramic Glaze Research | Focuses on an investigation into the science and art of clay and glazes and a process of exploration of materials and surfaces, which continues to evolve with the students' evolving creative expression. The first assignments help students choose a direction to investigate for their own artwork. Each student selects a particular glaze to focus on during the term. Investigates ways of altering and improving recipes, focusing on one particular glaze quality at a time. By the end of the term students understand their glaze focus extensively and know how to go about altering all glaze types for special effects and required changes. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 463 or ART 563 |
| ART | 567 | Art and Ecology | Designed for students with advanced independent studio art practices or sustainability studies students who have an interest in the way that their lives and practices engage environments. Through readings, slide presentations, discussions, guest visits, hands-on activities and screenings, explores the work of many contemporary ecological artists engaging with environments and environmental issues from a multitude of angles. Artists engage land remediation, agriculture, socio-ecological justice, sustainable materials, landscape design and much more. As cultural workers must be informed, the course content addresses some basic literacy with regard to environmental concerns and shares examples of realized accessible sustainable solutions. In addition to learning about ecologies and artists, students complete three art or research projects, inspired by assignments. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 467 or ART 494 (Art and Ecology) or ART 567 or ART 598 (Art and Ecology) or SOS 467 or SOS 494 (Art and Ecology) or SOS 567 or SOS 598 (Art and Ecology) |
| ART | 576 | Advanced Textile Construction | Expanding on technical knowledge of knit and woven structures, this course emphasizes the creation of a body of work. The materialization ranges from the functional to the formal to the conceptual depending on one's research trajectory within his or her program of study. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 476 or ART 576 or ART 598 (Woven Structures) |
| ART | 578 | Advanced Surface to Form | Broadening knowledge of surface design and the construction of 3D structures, this class presents advanced explorations in embroidery, dyeing and quilting. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 478 or ART 578 or ART 598 (Advanced Surface Design) |
| ART | 579 | 3-D Fibers: Construction and Content | Explores hand-constructed fiber techniques through the context of the history and communities from which they came, as well as contemporary applications. Emphasizes research and the development of one's work through studio and social practice. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisite: Degree- or Nondegree-seeking graduate; Credit is allowed for only ART 479, 579 or 598 (3D Fibers) |
| ART | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or senior or postbaccalaureate undergraduate with minimum of 108 earned hours |
| ART | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or senior or postbaccalaureate undergraduate with minimum of 108 earned hours |
| ART | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| ART | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | School of Art | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student or senior or postbaccalaureate undergraduate with minimum of 108 earned hours |
| ART | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student or senior or postbaccalaureate undergraduate with minimum of 108 earned hours |
| ART | 621 | In Practice | Advanced study. 3 hours a week each section. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ART | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | Z2 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ART | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-12 | | |
| ASB | 100 | Introduction to Global Health | Current global health crises, challenges; tools for describing health and disease; ecological, cultural, social, historical, political-economic factors; comparative health systems. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G | Credit is allowed for only ASB 100 or SSH 100 |
| ASB | 101 | Anthropology: Understanding Human Diversity | Provides an integrated understanding of biological, historical, and cultural evolutionary processes that account for human variation. Specifically examines how humans evolved and how they obtained the characteristics that make us a unique species. Considers cultural and biological models of cooperation, resource acquisition and distribution, sex and marriage, parenting, conflict and warfare, political structures, power and status, sex roles, ritual, religion, and language. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G | |
| ASB | 102 | Introduction to Cultural Anthropology | Introduces concepts and methods of sociocultural anthropology, with illustrative materials from a variety of communities in a globalizing world. Explores the concept of culture and examines a variety of social, political and economic dimensions of how humans organize their lives. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G | |
| ASB | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-3 | | Pre-requisites: Freshman standing, Maximum 25 hours |
| ASB | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | |
| ASB | 202 | Immigration and Ethnic Relations in the U.S. | The ethnic and social consequences of international migration with a focus on the United States. Examines the impact of immigration on both American society and immigrant ethnic minorities over time. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & C | Credit is allowed for only AFR 202 (or AFS 202) or ASB 202 |
| ASB | 210 | Human Sexuality: Anthropological Perspectives | Examines the sexual nature and behavior of humans from both a biological and an anthropological point of view across various cultures around the globe. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G | |
| ASB | 211 | Women in Other Cultures | Cross-cultural analysis of the economic, social, political, and religious factors that affect women's status in traditional and modern societies. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (HU or SB) & G | |
| ASB | 220 | The Expressive Culture of Latin America and the Caribbean: A Transborder Perspective | Interdisciplinary social science introduction to various forms of cultural expressions found throughout Latin America and the Caribbean region and in Latina/o communities within the United States. Uses a transborder perspective to examine how migration, race, ethnicity, gender, power, history and identity shape and influence different aspects of Latina/o culture and identity. Focuses on the study of a wide array of expressive practices including music, dance, verbal arts, myths and folktales, festivals, sports and food in Mexico, the Spanish Caribbean and their counterpart Latina/o communities in the United States. Class lectures and readings introduce basic concepts such as ethnography, ethno-musicology, culture, representation and globalization. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (L or HU or SB) & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ASB 220 or TCL 230 OR Visiting University Student |
| ASB | 222 | Buried Cities and Lost Tribes | Archaeology through its most important discoveries. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (HU or SB) & G & H | |
| ASB | 223 | Aztecs, Incas and Mayas | Archaeological and historical study of the three best-known ancient cultures of Mesoamerica and South America. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (HU or SB) & G & H | |
| ASB | 230 | Beginning Social Research | Introduces basics of social research design; fosters independent thinking and critical analysis. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB | |

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| ASB | 250 | Introduction to Evolution and Medicine | Introduces applications of evolutionary biology to medicine. Discusses topics ranging from the evolution of antibiotic resistance to aging, obesity, Alzheimer's disease and cancer using an evolutionary framework to better understand how these diseases/issues came to be, and what can be done to prevent/treat/mitigate these conditions. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G | Credit is allowed for only ASB 250 or ASB 294 (Introduction to Evolutionary Medicine) or ASM 294 (Evolution and Medicine) or BIO 250 or BIO 294 (Introduction to Evolutionary Medicine) OR Visiting University Student |
| ASB | 252 | Sports and Culture | Cross-cultural examination of symbolic and social dimensions of sports past and present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G | |
| ASB | 272 | Economic Justice | Surveys key environmental justice issues and movements. Uses interdisciplinary social science perspectives to review and analyze U.S. and international case studies. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB | Credit is allowed for only ASB 272 or SOS 272 |
| ASB | 275 | Culture, Language and Learning | Examines the dynamic and complex interplay of language, culture and learning within and across individuals, groups, institutions and cultures in diverse multicultural, multilingual and transborder contexts. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & C | Credit is allowed for only ASB 275 or TCL 275 |
| ASB | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | |
| ASB | 300 | Food and Culture | Uses the case of food to explore how culture shapes human well-being, including the impact of political-economic systems on what we have and chose to eat. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (L or SB) & C | Prerequisite(s): ENG 101, 105, 107, or 111 with C or better; Credit is allowed for only ASB 300 or SSH 300 OR Visiting University Student |
| ASB | 301 | Global History of Health | Examines disease and health transitions in broadest context of human history, from primate ancestors to hunter-gatherers, to transcontinental contact, colonialism, industrialization, urbanization. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 301 or HST 301 or SSH 301 OR Visiting University Student |
| ASB | 302 | Ethnographic Field Study | Fieldwork study of cultural adaptation through ethnographic research methods and local culture. Taught in Latin America or other international locations. | N | PRA | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (L or SB) & G | Prerequisite(s): ASB 102, ASB 222, ASB 223, or ASM 104; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| ASB | 305 | Poverty and Global Health | From perspectives of anthropology and allied fields, explores critical, social justice, and ethical issues in health care, research, and disparities. Focuses on vulnerable and special populations. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (L or SB) & G | Prerequisite(s): ENG 101, 105, 107, or 111 with C or better; Credit is allowed for only ASB 305 or SSH 305 OR Visiting University Student |
| ASB | 310 | Precolonial Africa | In-depth course study of contemporary Africa, providing thorough examination of the continent's pre-colonial history, particularly before 1900. The course will study the continent and its people, the way the history of the continent has been interpreted by non-Africans, how the continent's anatomy has affected historical development, and the methodology and interdisciplinary scholarship in the study of Africa | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G & H | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours; Credit is allowed for only AFR 300 (or AFH 300) or ASB 310 |
| ASB | 311 | Principles of Social Anthropology | Comparative analysis of domestic groups and economic and political organizations in primitive and peasant societies. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G & H | |
| ASB | 316 | Money and Culture | Using the fundamentals of economic anthropology, investigates how culture shapes our relationship to money and decision making. Provides a foundation for thinking about how production, exchange and consumption can be explained by looking at human behavior, thought and culture, and encourages students to apply anthropological knowledge to real-world situations. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| ASB | 319 | The North American Indian | Archaeology, ethnology, and linguistic relationship of the Indians of North America. Does not include Middle America. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Pre-requisites: ASB 102, ASB 222, or ASB 223 |
| ASB | 322 | Peoples of Latin America | Indigenous, mestizo, and national cultures, rural and urban peoples in the region that today we call Latin America. Covers historic and contemporary events and cultures. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (L or SB) & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; ASB 102 with C or better or minimum 45 hours OR Visiting University Student |
| ASB | 325 | Peoples of Southeast Asia | Cultural-ecological perspective on the peoples of mainland and insular Southeast Asia. Subsistence modes, social organization, and the impact of modernization. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | G | |
| ASB | 326 | Human Impacts on Ancient Environments | World survey of successful and unsuccessful ancient societies and their impacts on the environment, as well as modern society's impact in the "anthropocene." Through lecture and discussions, addresses the nature of humans' impact on the environment through antiquity (both beneficial and deleterious effects), debates about human-made versus natural causes of environmental impacts, and alternative ways to minimize potentially harmful consequences of human activities including social and environmental policy. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & H | Prerequisite(s): minimum 45 hours OR Visiting University Student |

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| ASB | 327 | Disaster! | Examines the causes of disasters, such as famines and pandemics, throughout human history. Explores cases in which social responses to disaster have helped people survive or led to their demise. Through hands-on activities, students gain experience with popular tools to understand human responses to disasters. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (L or SB) & C | Prerequisite(s): ASB 102 with C or better or minimum 45 hours; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| ASB | 330 | Understanding Archaeology | In-depth study and critique of theories and methods for reconstructing the lives of prehistoric peoples. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G & H | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ASB | 333 | Frauds, Myths and Mysteries | Depictions of archaeology in popular culture are full of dubious tales of ancient extraterrestrials, giants and widespread scientific conspiracy. Explores such fantastic claims and learn how archaeologists separate plausible arguments from pseudoscience. Critically examines how and why such pseudoscientific claims develop and take hold of the public imagination. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (HU or SB) & G | Prerequisite(s): minimum 42 hours OR Visiting University Student |
| ASB | 335 | Ancient Ruins of the Southwest | Archaeological exploration of the major cultural developments in the prehispanic Southwest, including Mesa Verde, Chaco Canyon, Mimbres, Hohokam and Rio Grande. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & H & C | Prerequisite(s): ASB 102, ASB 222, ASB 223, or minimum 45 hours OR Visiting University Student |
| ASB | 336 | African Art | Anthropological perspective of ancient visual art traditions of Africa. In-depth studies focus on several important themes and case studies that are pivotal to the understanding of the rich and diverse artistic heritage of the African continent. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | HU & G | Prerequisite(s): AFR 200 (or AFS 200) or ASB 102 or minimum 45 hours; Credit is allowed for only AFR 336 (or AFH 336) or ASB 336 |
| ASB | 337 | Pyramids and Hieroglyphs: Life in Ancient Mesoamerica | Preconquest cultures and civilizations of Mexico. The Aztecs, Mayas, and their predecessors. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (HU or SB) & G & H | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ASB | 338 | Archaeology of North America | In-depth study of the origin, spread, and development of the prehistoric Indians of North America up to historic tribes. Does not include the Southwest. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB | Pre-requisites: ASB 102 or ASB 222 or ASB 223 |
| ASB | 339 | Grassroots Social Movements | Explores how groups mobilize collectively to produce social, political, economic and cultural change, with an emphasis on the United States. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ASB 339 or POS 339 or SBS 339 or SOC 339 OR Visiting University Student |
| ASB | 340 | Migration and Culture | Examines migration and culture embedded in a transnational field of social, economic and political processes. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 340 or SOC 328 OR Visiting University Student |
| ASB | 342 | Mexico-U.S. Borderlands | Contemporary examination of socioeconomic and political dimensions of border communities, and formation of Mexican-origin communities within and outside the Southwest. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & C | Credit is allowed for only ASB, SBS or SOC 342 |
| ASB | 343 | Latinas/os and the Environment | Examines the nexus among race/ethnicity, migration, class and the built and natural environment. Explores the proposition that Latina/o and other ethnic minorities and socioeconomically disadvantaged populations bear a disproportionate burden of environmental challenges and its consequences for equality, health and quality of life. Key topics include environmental racism, vulnerability and resilience, climate change, community organizing, and mobilization. Pays considerable attention to community-based efforts to deal with environmental problems affecting the Latina/o population in the U.S. Southwest. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): ENG 101 or 105 or 107 with C or better OR minimum 24 hours; Credit is allowed for only ASB 343 or PUP 343 or SOS 343 or TCL 343 or ASB/PUP/SOS/TCL 394 (Latinos and the Environment) |
| ASB | 344 | Technology and Society | Development of technology in relation to society, work, science, the environment, public health, and cultural values related to social change. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ASB 344 or SOC 334 OR Visiting University Student |
| ASB | 345 | Culture and Society Transformation | Uses video documentaries and movies to explore the way in which cultural values, economic background and human interaction impact and transform societies. Societal changes in Central and Eastern Europe make a good case study for contrasting and comparing with other societies and understanding global trends and issues in today's world. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G | Prereq(s): ENG 101, 105, or 107 with C or better; Credit for only ASB 345 or ASB 394 (Cult & Soc Transform) or JUS 343 or JUS 394(Cult & Soc Transform) or ROM 343 or SLC 343 or SLC 394 (Cult & Soc Transform) or SOS 344 or SOS 394 (Cult & Soc Transform) |
| ASB | 346 | Marriage and Family Diversity | Social, economic, and cultural factors that shape family diversity in relation to generational and gender dynamics within the family. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & C | |

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| ASB | 348 | The Borders of Language | In-depth focus on language use, multilingualism and social life in borderlands contexts, in and out of school. Explores the historical and contemporary dimensions of language use in the borderlands, including Indigenous languages, English and Spanish, and hybrid forms. Also introduces theories and methods in the field of linguistic anthropology. Students conduct research on everyday linguistic practice and connect it to broader sociopolitical realities. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | L | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only ASB 348 or ASB 394 (The Borders of Language) or ENG 348 or ENG 394 (The Borders of Language) or TCL 348 or TCL 394 (The Borders of Language) |
| ASB | 350 | Anthropology and Art | Art forms of people in relationship to their social and cultural setting. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | HU | |
| ASB | 353 | Death and Dying in Cross-Cultural Perspective | Scientific and humanistic approaches to the study of death and dying from the perspective of anthropology and allied disciplines. Uses a global, comparative approach across space and time from the earliest human burials to contemporary funeral events. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3-4 | (HU or SB) & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 353 or SOC 353 OR Visiting University Student |
| ASB | 355 | Traditional Medicine and Healing | In-depth study of world views, practices, and roles of shamans and traditional and contemporary healers. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | HU or SB | Prerequisite(s): ASB 102, ASB 222, ASB 223 or ASM 104 or SSH 100 or ASB 100 with C or better |
| ASB | 356 | Central American Studies | Part of the summer ASU study abroad Costa Rica Program, which is a language and social sciences immersion program in the capital city, San Jose. A summer offering permits students to enroll in the program without conflicting with full course loads during the fall or spring semester. However, the course is proposed as a stand-alone course that can be offered in a regular semester as well. | N | REC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | Credit is allowed for only ASB 356 or GCU 356 or POS 354 or SBS 356 or SOC 356 |
| ASB | 357 | Society, Drugs and Health | Analyzes how humans use exogenous chemicals to change psychology, biology and behavior, and what positive and negative consequences this has for human health. Explores how such chemical technologies arise through cultural evolution, how societies decide what are appropriate and inappropriate uses of such technologies, how these technologies change what is considered normal biological functioning and behavior, and how these technologies shape human health. Through this substantive topic, introduces basic concepts and tools in two related fields--medical anthropology and epidemiology. A consistent focus in the course is developing tools that can be applied to improve the provision of care and health care policy. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ASB | 358 | The Yoruba and the Atlantic World | The Yoruba in the African diaspora is how Africans, separated from their home country and scattered in a new land, managed to retain their traditions and reform their identities. The slave trade led to the spreading of African culture, religion, dance, art and music from one hemisphere to another and contributed to the cultural diversity of the New World. Allows students to trace the experiences of one African cultural group throughout the cycle of the slave experience in the Americas. Utilizes different sources or approaches (e.g., anthropology, archaeology, written document, oral tradition) to provide an understanding of how the Yoruba were integrated into the Atlantic world, the transformations of Yoruba identities and culture, and the strategies for resistance employed by the Yoruba in the New World. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): minimum 30 hours; Credit is allowed for only AFR 358 or ASB 358 or AFS 394/ASB 394/HST 394/SGS 394 (Yoruba in the African Diaspora World) OR Visiting University Student |
| ASB | 361 | Human Cultural Beginnings | Biosocial evolution in the Plio-Pleistocene, emphasizing technological achievements and the relationship between technology and environment in Eurasia and Africa. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | H | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ASB | 362 | People and Plants | Offers a global survey of ethnobotany, the study of the uses of plants by people. Integrating botany, anthropology and archaeology, students learn about the roles plants have played as foods, tools, medicines and foci of religious devotion and ritual experience across human history. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ASB | 363 | From Cells to Society: Understanding Complexity | Equips students with concepts and empirical examples they need to understand the role of complexity in the world around them. Complexity science is based on the fundamental principle that entities and phenomena in the world around us are systems composed of many parts that interact to produce their global characteristics. For example, cells interact to produce organs and tissues, which in turn interact to produce physiological processes (i.e., the capacity to metabolize food to produce new compounds and energy) and physical infrastructure (skeletal and muscular structure) which produce organisms. Organisms, (e.g., humans) interact to form groups, villages, cities, nations. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AML/ASB/BIO/SOS 394 (From Cells to Societies) or ASB 363 or BIO 363 or CAS 363 or SOS 363 OR Visiting University Student |

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| ASB | 366 | African Archaeology: Precolonial Urban Culture | In-depth analysis of African civilization from the last 10,000 years up to 1850 via archaeological, documentary, and oral data. Places special study on the evidence relating to dynamics of civilizations in ancient Africa, their foundation, growth, and failure, which spans a period of two million years. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & H | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours; Credit is allowed for only AFR 366 (or AFS 366) or ASB 366 |
| ASB | 368 | Hunter-Gatherers | Studies of known hunting and gathering societies with the goal of developing approaches to understanding past and/or present hunting and gathering societies. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB | Prerequisite(s): minimum 45 hours |
| ASB | 370 | Ethics of Eating | This multidisciplinary course examines the elements of modern food systems and current ethical issues regarding food production, distribution and consumption. Also provides a foundation for investigating the effects of social inequality in food systems and global and local responses to address those challenges. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | L or SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ASB 370 or ASB 394 (Production, People, and Environments) or ASB 394 (Ethics of Eating) or SOC 370 or SOS 370 or SSH 370 OR Visiting University Student |
| ASB | 371 | Language Hegemony and Culture | Historical and cultural analysis of language and the ideological constructs imposed upon resident populations in the Southwest North American region since 1540. Analyzes the suppositions, ideologies, premises and mechanisms by which Spanish and English became imposed among Native peoples and later national populations of Mexicans during the 19th century and continuing with their descendants and migrating populations crossing the bifurcated border. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 371 or HST 371 or SLC 371 or SPA 371 or TCL 371 or ASB/HST/SLC/SPA/TCL 394 (Language Hegemony & Culture in SW North America) |
| ASB | 373 | Applying Anthropology | Takes key findings from the most recent research across the fields of anthropology (archeology, biological anthropology, cultural anthropology and linguistic anthropology) and identifies how it is helpful in addressing the daily personal and professional challenges we all face. Topics include health and disease, death and dying, and communication through language. Suitable for nonmajors and assumes no prior background in anthropology. Emphasizes practical skills development. Engages students in both written and oral forms of communication and interpretation and evaluation of evidence, with a view to building practical skills for everyday professional and personal life. Requires and expects writing as part of this class. Writing assignments are relevant and interesting by applying them to issues and challenges encountered across students' lives. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ASB 373 or ASB 394 (Applying Anthropology) OR Visiting University Student |
| ASB | 374 | Cultures and Politics of the Internet | Explores the culture and politics of the Internet in global perspective, including virtual communities, free software, copyleft, blogs, and hacktivism. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | Credit for only ASB 374, POS 374, SBS 374 or SOC 374 |
| ASB | 375 | Humans and the Environment: What's the Connection? | How do diverse human groups across global ecosystems (desert, tropics, arctic, alpine, urban) interact with and adapt to their environments and how are these relationships changing in response to globalization, climate change and other social, historical and political-economic drivers? Cultures situated in landscapes are the basis for an incredible global diversity of worldviews and behaviors that in turn affect how humans experience and "use" their environments. This course will provide an introduction to current and benchmark literature and methods in environmental and ecological anthropology that address people-environment interactions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (L or SB) & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ASB 375 or SOS 375 OR Visiting University Student |
| ASB | 376 | Global Health Policy | Examines the relationship among global policy, population dynamics and human health. Learn about what quantitative indicators (i.e., measures) can tell us about the scope, distribution and determinants of population health problems. The population focus organizes the course according to the broad domains of fertility, morbidity and mortality. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): minimum 42 hours; Credit is allowed for only ASB 376 or ASB 494 (Global Health Policy) OR Visiting University Student |
| ASB | 378 | Globalization: Migration, Mass Media, McDonald's | Explores the impact of globalization on local societies and cultures by focusing on the international migration of peoples, the global expansion of capitalism and global mass media and popular culture. Examines both the socioeconomic causes and consequences of globalization, as well as how local peoples around the world have been affected by, participated in and resisted the forces of globalization. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (L or SB) & C | Prerequisite(s): ENG 101, 105, 107, or 111 with C or better; Credit is allowed for only ASB 378 or TCL 378 OR Visiting University Student |
| ASB | 380 | Language, Culture and Gender | Focuses on how language, thought and culture are intertwined in everyday practice. Students learn the central role of language in shaping and reflecting social norms and social actions cross-culturally. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB | Prerequisite(s): minimum 42 hours OR Visiting University Student |

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| ASB | 383 | Religion and Sports | Religion and sport in America are both long-held and passionately maintained cultural components. The first part provides a framework for understanding scholarly analyses and approaches regarding the intersections of religion and sport primarily in the 20th and 21st centuries. Indeed, religious sentiments and doctrines have played and continue to play an important role in creating today's American sporting culture. The second part seeks to understand particular arguments framing sports as a space of religious expression or more boldly as a religion in the United States. To gain various perspectives, students engage with various materials including scholarly works, recorded lectures and podcasts, popular culture videos, and conduct qualitative interviews with student athletes. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only ASB 383 or REL 383 or REL 394 (Religion and Sports) |
| ASB | 389 | Ethnographic Field Lab | Hands-on, guided ethnographic qualitative research and interpretative analysis. | N | LAB | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-6 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 389 or SBS 389 or SOC 389 |
| ASB | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ASB | 395 | Topics in Comparative Culture | In-depth study of specific topic(s) cross-culturally. Students engage with the subject matter through critical evaluation of literature, hands-on analysis and interpretation of data, and scientific writing. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G | Prerequisite(s): minimum 42 hours |
| ASB | 408 | Advanced Evolutionary Medicine | Explores the application of the principles of evolution to the fields of medicine and public health and places disease in the context of changing environments, both exposures and the encompassing ecology of life in which an individual is imbedded. Focuses on the biological aspects of evolutionary theory through the use of molecular genetics; population genetics; and the use of evolutionary thinking and analysis with translational, clinical and public health intersections. A foundation in evolutionary medicine is useful for students with interests including but not limited to: premed, population genomics, maternal and child health, mental health, cancer, microbiome, aging, anthropology, biology, public health, global health and medicine. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): minimum 30 hours; Credit is allowed for only ASB 408 or ASB 494 (Evolutionary Med) or ASB 507 or ASB 591 (Evolutionary Med) or BIO 408 or BIO 494 (Evolutionary Med) or BIO 507 or BIO 591 (Evolutionary Med) OR Visiting University Student |
| ASB | 412 | History of Anthropology | Historical treatment of the development of the culture concept and its expression in the chief theoretical trends in anthropology between 1860 and 1950. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| ASB | 417 | Politics and Culture | Comparative examination of the forms and processes of political organization and activity in primitive, peasant, and complex societies. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| ASB | 421 | Education and Society | Uses contemporary sociological perspectives to examine effects of schools and schooling on individuals and society. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 421 or SOC 421 OR Visiting University Student |
| ASB | 442 | Global Cities | This close look at megacities in the global south decisively challenges the outdated impression that the rest of the world's cities still lag way behind the U.S. and Europe. The social sciences' debate over "global cities" anchors our examination of the reorganization of metropolitan social space under impact of neoliberal globalization since the 1970s. Explores urban inequalities of slums and dreamworlds; compares vernacular and transnational styles of urbanism (in architecture, design, markets, consumerism, jobs, ads, ways of living); and asks how transnational flows of people, capital and culture have reconfigured ethnic relations and national identities rooted in global cities. Students become virtual transnational flâneurs, tacking between the slums and skyscrapers of global cities, and conduct guided research on a global megacity to investigate how the production of the global city changes the lived space and urban culture of local residents, and how they respond. We ask, whose city is it? | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | Prerequisite(s): minimum junior standing; Credit is allowed for only ASB 442 or SBS 460 |
| ASB | 443 | Cross-Cultural Studies in Global Health | Direct investigations of society, ecology, and health in international settings. | N | PRA | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3-6 | (L or SB) & G | Prerequisite(s): ASB 100; ENG 101, 105, or 107 with C or better; Credit is allowed for only ASB 443 or SSH 403 OR Visiting University Student |

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| ASB | 447 | Citizenship, Nationalism and Identity | Critical examination of citizenship, national belonging and identities by examining contemporary social issues and discourses from global and comparative perspectives. Aims to understand complexities of national belonging that go beyond legal, formal citizenship, such as how cultural, racial/ethnic, class and gender differences challenge the limits of national citizenship. Explores case studies that show how members of different societies demonstrate their positions as legitimate national citizens in different and often conflicting ways, especially in order to defend social justice and human diversity. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & C & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 447 or POS 447 or SBS 447 OR Visiting University Student |
| ASB | 448 | Maternal and Child Health | Explores how genetics, nutrition, disease ecology, clinical access, legal systems, cultural practices and historical context contribute to maternal and child health. Draws from diverse fields including epidemiology, anthropology, biology, medicine, global health, public policy and sustainability to integrate a complex understanding of the myriad influences that shape maternal and child health and thereby affect our broader society. Evaluates the translation of basic science into clinical practice and public policy as well as the roles and partnerships among local, national and international organizations for improving human health worldwide. Provides up-to-date information about basic science, public policy and global health of maternal and child health to develop skills translatable in the workforce. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prereq(s): minimum 45 hours; Credit is allowed for only ASB 448 or ASB 494 (Matrnl &Chld Hlth) or ASB 548 or ASB 598 (Matrnl &Chld Hlth) or BIO 448 or BIO 494 (Matrnl &Chld Hlth) or BIO 548 or BIO 598 (Matrnl &Chld Hlth) OR Visiting University Student |
| ASB | 452 | Community Partnerships for Global Health | Supervised community-based activities relevant to a global perspective on contemporary U.S. health. Addresses community-identified issues using appropriate methodologies. | N | PRA | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3-9 | SB | Prerequisite(s): ASB 100; minimum 45 hours; Credit is allowed for only ASB 452 or SSH 402 OR Visiting University Student |
| ASB | 455 | Practicum for Social Sciences | Students integrate theoretical, methodological, ethical and experiential learning related to social science research questions. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3-9 | SB | Prerequisite(s): minimum 42 hours |
| ASB | 457 | Global Mental Health | Brief overview of the field of global mental health, an emerging field and one of vital importance for both research and evidence-based interventions. Mental health has been identified as one of the leading causes of death and disability and thus deserves a critical look at why this is occurring globally. Introduces the concept of the field of global mental health, cross-cultural problems and possible solutions. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (L or SB) & G | Prerequisite(s): ASB 100; ENG 101, 105, or 107 with C or better; Credit is allowed for only ASB 457 or ASB 498 (Global Mental Health) OR Visiting University Student |
| ASB | 462 | Medical Anthropology: Culture and Health | Role of culture in health, illness, and curing; health status, provider relations, and indigenous healing practices in United States ethnic groups. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & C | Credit is allowed for only ASB 462 or SSH 404 OR Visiting University Student |
| ASB | 463 | Political Ecology of the Border | Examines the political ecology of the human-environment relationship in Mexico and on the U.S.-Mexican border. Through case studies, students learn about the most pressing environmental issues facing human populations and their communities on both sides of the U.S.-Mexican border and the various ways in which these issues are dealt with. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 463 or SOS 463 or TCL 443 |
| ASB | 464 | The Ethnography of Mexico and the Borderlands | Students learn basic principles of ethnographic research and obtain a better understanding of the social, ecological, cultural, political and economic processes affecting people in Mexico and in the U.S.-Mexico borderlands. Through case studies, students become aware of the variety of issues shaping the lives of those living in these regions. Focuses on contemporary issues such as migration, economy, gender, labor, health and the environment. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 464 or TCL 444 or TCL 598 (The Ethnography of Mexico and the Borderlands) OR Visiting University Student |
| ASB | 466 | Peoples and Cultures of Africa | Surveys African peoples and their cultures, external contact, and changes. Meets non-Western requirement. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G | Prerequisite(s): AFR 200 or minimum 45 hours; Credit is allowed for only AFR 466 or ASB 466 OR Visiting University Student |
| ASB | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | |
| ASB | 490 | Earliest Cities | Archaeological research on the origins and development of the earliest urban centers around the world. Applies urban theory and comparative analysis. Compares ancient and modern cities. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & H | Prerequisite(s): ASB 222 or 223 with C or better; minimum 45 hours; Credit is allowed for only ASB 490 or PUP 490 |
| ASB | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-6 | | Prerequisite(s): Barrett Honors student |
| ASB | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |

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| ASB | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | |
| ASB | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-6 | | Prerequisite(s): Barrett Honors student |
| ASB | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-7 | | |
| ASB | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-3 | | |
| ASB | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 501 | Professionalism | Presents students both information about the tools, opportunities and skills needed to navigate graduate training and future career success, as well as the opportunity to consider all this for themselves. Presents traditional, timeless tools for success, while also taking into account recent and profound changes to the academy that have changed how academic work is done and communicated. Also touches upon considering and preparing for a range of possible career paths for PhDs. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASB 501 or ASB 591 (Professionalism) |
| ASB | 503 | Medical Anthropology | Theory in medical anthropology and cross-cultural studies that illustrate particular theories. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 504 | Global Health Policy | Examines the relationship among global institutions and policies, population dynamics and human health. Uses extant data to conduct comparative analyses of population data and health-related policies and practices. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 507 | Advanced Evolutionary Medicine | Explores the application of the principles of evolution to the fields of medicine and public health and places disease in the context of changing environments, both exposures and the encompassing ecology of life in which an individual is imbedded. Focuses on the biological aspects of evolutionary theory through the use of molecular genetics; population genetics; and the use of evolutionary thinking and analysis with translational, clinical and public health intersections. A foundation in evolutionary medicine is useful for students with interests including but not limited to: premed, population genomics, maternal and child health, mental health, cancer, microbiome, aging, anthropology, biology, public health, global health and medicine. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking grad stdnt; Credit is allowed for only ASB 408 or ASB 494 (Evol Medicine) or ASB 507 or ASB 591(Evol Medicine) or BIO 408 or BIO 494 (Evol Medicine) or BIO 507 or BIO 591 (Evol Medicine) |
| ASB | 510 | Health: Social and Biocultural Theories | Comparative and critical approaches to complexities of health, drawn from anthropology and related fields Focuses on theories that address how social and cultural factors shape human health. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 517 | Uncertainty and Decision Making | Knowledge is always incomplete, yet decisions must be made. Explores uncertainty and its relation to decision making, with a particular focus on the ways that science and science-derived information is applied with the intent of improving decisions. Explores the many meanings and origins of uncertainty, using theoretical and case-based approaches. A central theme is the relation among uncertainty, scientific prediction, and decision making, especially in politically charged issues, for example as related to management of the environment. Ultimately understands how effective decisions can be made in the face of inevitable uncertainties and contested knowledge. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only ASB 517 or BIO 517 or BIO 591 (Uncertainty & Decision Making) or HSD 517 or POS 527 or SOS 518 |
| ASB | 525 | Introduction to Material Culture | Considers how objects embody social relationships and therefore cultural meanings. Seminar explores theories that give insight into social processes such as exchange, consumption, and identity. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 526 | Survey Topics in Global Nutrition | Nutrition is at the nexus of human health, food systems, water, sanitation and hygiene (WASH) and gender, among others important intersecting human and environmental systems. Explores the current landscape of nutrition and its intersection with these topics by synthesizing research, programmatic, and policy documents and public communications and through hands-on exploration and analysis of publicly available datasets. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|--------------------------------------|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| ASB | 530 | Changing Human-Nature Relationships | Explores key concepts in Western and non-Western thinking now intersecting in the Anthropocene to influence human interactions with and descriptions of Nature. Humans may protect Nature, but simultaneously use/overuse resources and drive change in social-ecological systems. Examines evolving assumptions about Nature, values/world views, progress, change, uncertainty, rationality, knowledge, tradeoffs and control/management, using a range of theoretical lenses (e.g., environmental/ecological/historical anthropology, culture, geography, ecology, economics, institutions, economic development, complex systems and sustainability science). Also studies a set of iconic Human-Environmental challenges and examines how theories and assumptions explain behaviors and human, ecological and policy outcomes. In turn, focuses on lessons that emerge for interdisciplinary scholarship. Encourages students to apply methods, concepts and theories to their evolving research questions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASB 530 or SOS 553 |
| ASB | 537 | Topics in Mesoamerican Archaeology | Explores changing organization of pre-Columbian civilizations in Mesoamerica through interpretive issues, such as regional analysis, chiefdoms, urbanism, and exchange. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 541 | Theory in Sociocultural Anthropology | Basic issues and concepts in sociocultural anthropology. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 548 | Maternal and Child Health | Explores how genetics, nutrition, disease ecology, clinical access, legal systems, cultural practices and historical context contribute to maternal and child health. Draws from diverse fields including epidemiology, anthropology, biology, medicine, global health, public policy and sustainability to integrate a complex understanding of the myriad influences that shape maternal and child health and thereby affect our broader society. Evaluates the translation of basic science into clinical practice and public policy as well as the roles and partnerships among local, national and international organizations for improving human health worldwide. Provides up-to-date information about basic science, public policy and global health of maternal and child health to develop skills translatable in the workforce. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prereq(s): degree or non-degree seeking graduate student; Credit is allowed for only ASB 448 or ASB 494 (Matrnl &Child Hlth) or ASB 548 or ASB 598 (Matrnl &Child Hlth) or BIO 448 or BIO 494 (Matrnl &Child Hlth) or BIO 548 or BIO 598 (Matrnl &Child Hlth) |
| ASB | 560 | Theory and Archaeology | Applies social theory to archaeological study of societies of the past. Includes practice theory, hierarchy, space and place, material culture. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AML 560 or ASB 560 |
| ASB | 567 | Southwestern Archaeology | Broad coverage of Southwestern cultural developments focusing on current debates and rigorous use of archaeological data in making cultural inferences. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 568 | Intrasite Research Strategies | Research issues within a single site context. Topics include quantitative spatial analysis, site definition, sampling, distributional analysis, and substantive interpretation. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 572 | Museum Collection Management | Principles and practices of acquisition, documentation, care, and use of museum collections; registration, cataloging, and preservation methods; legal and ethical issues. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 573 | Museum Administration | Formal organization and management of museums, governance, personnel matters, fund raising and grantsmanship, legal and ethical issues. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASB 573 or HST 573 |
| ASB | 574 | Exhibit Design and Development | Exhibition philosophies and development; processes of planning, designing, staging, installing, evaluating, and disassembling temporary and long-term exhibits. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 579 | Critical Issues in Museum Studies | Current debates of museum practice from an anthropological perspective. Addresses issues of collection, presentation, authenticity, and authority. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | REC | Y | Z1 | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|---------------------------------|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| ASB | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | REC | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASC | 315 | Numeracy in Technology | Contextual uses of mathematics in applied sciences. Emphasizes using mathematical methodologies to solve technology-related problems. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | MA | Prerequisite(s): BAS major OR Visiting University Student |
| ASC | 325 | Physical Sciences in Technology | Physical systems and their interrelationships on technology systems. Real-world applications of physical systems. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 4 | SQ | Prerequisite(s): BAS major |
| ASC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| ASC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| ASC | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-3 | | Pre-requisites: Polytechnic BAS student |
| ASL | 101 | American Sign Language I | Basic receptive/expressive conversational skills; basic grammar and syntax rules. Orientation to deafness and deaf culture. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | |
| ASL | 102 | American Sign Language II | Further development of receptive/expressive conversation skills in ASL; finger spelling. Continued exploration of deaf culture. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | Prerequisite(s): ASL 101 or SHS 101 with C or better and taken within the past two years OR Visiting University Student |
| ASL | 201 | American Sign Language III | Continued development of fluency in ASL with emphasis on more abstract concepts and the ability to narrate events. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | Prerequisite(s): ASL 102 or SHS 102 with C or better and taken within the past two years OR Visiting University Student |
| ASL | 202 | American Sign Language IV | Further development of fluency in ASL with emphasis on literature, folklore, and signing narratives with multiple characters. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | Prerequisite(s): ASL 201 or SHS 201 with C or better and taken within the past two years OR Visiting University Student |
| ASL | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |

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|---------|-------------|------------------------------------|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| ASL | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| ASL | 410 | Deaf Culture | Provides students with an overview of issues related to deaf, hard of hearing and comprehensive vision hearing loss (CVHL). Topics include historical, cultural, educational and political issues, technology, arts and literature as it relates to the deaf community. Taught primarily in English. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | C | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ASL 410 or ASL 494 (Deaf Culture) or SHS 410 or SHS 494 (Deaf Culture) or SLC 410 or SLC 494 (Deaf Culture) OR Visiting University Student |
| ASL | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| ASL | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| ASL | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-7 | | |
| ASL | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| ASL | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASL | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASL | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASL | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASL | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASL | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASM | 104 | Bones, Stones, and Human Evolution | Physical anthropology and archaeology. Evidence and processes of human evolution and of culture change. Primates. Fossil hominids and their tools. Race, variation, and heredity. Environment and human biology. Prehistoric culture and society. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 4 | SB or SG | |
| ASM | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | |
| ASM | 201 | Epidemics and Outbreaks | Covers epidemiologic methods for the control of conditions such as infectious and chronic diseases, mental disorders, community and environmental health hazards, and unintentional injuries. Other topics include quantitative aspects of epidemiology, including data sources, measures of morbidity and mortality, evaluation of association and causality, and study design. A background in basic biology and a basic understanding of the principles of human diseases helpful in succeeding in this course. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Credit is allowed for only ASM 201 or SSH 201 OR Visiting University Student |
| ASM | 246 | Human Origins | History of discoveries and changing interpretations of human evolution. Earliest ancestors to emergence of modern humans. Humanity's place in nature. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB | |
| ASM | 275 | Forensic Anthropology | Discusses the role of the forensic anthropologist in medico-legal investigations involving skeletonized human remains. Includes forensic recovery techniques, identification of decedents through skeletal and dental analysis, and reconstructing the crime scene through analysis of trauma patterns. Covers the legal aspects of forensic practice and considers historical case studies and the contributions forensic anthropologists make to mass disaster investigations and human rights abuses. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 4 | SB or SG | |
| ASM | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | |
| ASM | 300 | Anthropological Sciences Seminar | Focuses on the ways in which research findings are produced by diverse theories and methods in the anthropological sciences, usually in combination with other life and physical sciences, with a strong focus on combination anthropological conceptual frameworks with quantitative methodologies. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): Anthropology BS major; Two of the following: ASB 102, 222 or 223, AML 100 or ASM 104 with a C or better OR Visiting University Student |
| ASM | 301 | Peopling of the World | Reviews all evidence for human dispersal during the last 100,000 years, origins of language, cultures, races, and beginnings of modern humans. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB | Prerequisite(s): ASM 104 OR Visiting University Student |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| ASM | 310 | War and Peace: The Evolution of Conflict and Cooperation | Examines the evolutionary foundations of conflict and cooperation using theories and evidence spanning humans and other animals. Covers mechanisms of nonviolent conflict in nature, strategies for violent conflict and mechanisms to reduce the cost of conflict. Additionally, examines how cooperation evolved in humans and other animals. Topics include nepotism, reciprocity, cultural group selection and the evolution of moral sentiments. Also examines the interaction between cooperation and warfare. Topics include the relation between violence and morality, and how warfare shapes cultural evolution. The course ends examining combat-induced Post Traumatic Stress Disorder and Moral Injury, and how it relates to the evolution of cooperation and warfare. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASM 310 or ASM 394 (War & Peace: Origins of Conflict & Cooperation) or PAX 310 OR Visiting University Student |
| ASM | 313 | Great Adaptations | Tiny hummingbirds and huge whales commute thousands of miles every year, male bower birds construct elaborately decorated structures to impress females, and some parasites program suicidal behavior into their hosts. These amazing (and sometimes bizarre) behaviors are all adaptations--traits that have been favored by selection because they enhance the ability of individuals to survive and reproduce successfully. The study of adaptation helps us to understand how evolution generates complexity and to understand the processes that underlie the rich diversity of life. Covers the principles of natural selection and a diverse and remarkable range of adaptations in nature. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASM 313 or ASM 394 (Great Adaptations) OR Visiting University Student |
| ASM | 332 | Life and Death in Ancient Egypt | Reveals ancient Egyptian life through recent research in archaeology and physical anthropology on cemeteries, tombs, and the dead themselves. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): ENG 101, 105, 107, or 111 with C or better; Credit is allowed for only AFR 332 (or AFS 332) or ASM 332 |
| ASM | 338 | Anthropological Field Session | Anthropological field techniques, analysis of data, and preparation of field reports. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | |
| ASM | 341 | Human Osteology | Osteology, human paleontology, and osteometry. Description and analysis of archaeological and contemporary human populations. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 4 | | Prerequisite(s): ASM 104 with C or better; 25 minimum hours |
| ASM | 342 | Evolution of Human Behavior | Examines how evolutionary theory informs our understanding of human behavior, psychology and culture. Explores evolutionary explanations of human behavioral variation and cultural diversity and the influence of natural selection on shaping human cognition. Topics include nepotism, economic decisions, behavioral strategies throughout the life course, mate choice and sexual behavior, perception and judgment, motivation and emotions, social learning and culture, cooperation and prosociality, interpersonal violence and warfare, and norms and moral sentiments. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s) with C or better: ASM 104 (or BIO 181 or 282). Credit is allowed for only ASM 342 or BIO 327 |
| ASM | 344 | Fossil Hominids | The fossil evidence for human evolution, emphasizing the concepts and methods for reconstructing the past. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 4 | | Pre-requisite: ASM 104 |
| ASM | 345 | Disease and Human Evolution | Interaction of people and pathogens from prehistoric times to the present, with emphasis on disease as an agent of genetic selection. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): ASM 104 or BIO 100 or BIO 181 or BIO 182 or BIO 281 or BIO 282 OR Visiting University Student |
| ASM | 350 | Geoarchaeology | Geologic context relevant to archaeological research. Topics include sediments, deposition environments, soils, anthropogenic and biogenic deposits, and quaternary chronology. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): ASB 222 or 223, GLG 101 or 103, or GPH 111 with C or better OR Visiting University Student |
| ASM | 365 | Doing Archaeology | Using hands-on analysis of artifacts and a mock site, this advanced introduction to archaeology acquaints the student with the field and laboratory methods applied by archaeologists, the information archaeologists use, and how they construct knowledge of the past. | N | PRA | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3-4 | | Prerequisite(s): ASB 222 (or ASB 223 or 335 or 337) |
| ASM | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | |
| ASM | 401 | Health and Human Biology | Health and biology in contexts of human evolutionary history, biological and cultural variation, lab-based health status assessments, core concepts of human variation. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3-4 | | Prerequisite(s): ASB 100 or ASM 104 OR Visiting University Student |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| ASM | 403 | Evolutionary Medicine and Global Health | Fundamentally, the practice of medicine is applied biology to improve human health and well-being and is embedded within population and global scales. Integrates the life and social sciences to tackle the current and emerging global health challenges of the 21st century with an evolutionary biology lens with current medical knowledge enhancing our understanding of health. Uses topics such as human-pathogen coevolution; development and aging; human migration; diseases (infectious, metabolic and autoimmune); and physiological and behavioral mechanisms of immunity to explore the broad arena of human health within a deep time and global context. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prereq(s): min 45 hrs; Credit is allowed for only ASM 403 or ASM 494(Evol Med & Gbl Hlth) or ASM 503 or ASM 598(Evol Med & Gbl Hlth) or BIO 403 or BIO 494(Evol Med & Gbl Hlth) or BIO 510 or BIO 598(Evol Med & Gbl Hlth) OR Visiting University Student |
| ASM | 414 | Urban, Environmental and Health Challenges | Design and practical application of collaborative social science research on rotating, current topics related to contemporary urban, environmental and/or health challenges. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ASM | 443 | Primatology | Evolution and adaptations of nonhuman primates, emphasizing social behavior. Includes material from fossil evidence and field and lab studies in behavior and biology which must be critically integrated with relevant competing theories concerning the evolution of primate behavior and biology. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): ASM 104 with C or better; minimum 56 hours; Credit is allowed for only ASM 443 or ASM 543 OR Visiting University Student |
| ASM | 446 | Principles of Human Genetics | Molecular and cellular analysis of the human genome. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | L | Prerequisite(s): ASM 301, BIO 340, LSC 347, or MBB 347 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only ASM 446 or ASM 546 or BIO 446 or BIO 546 OR Visiting University Student |
| ASM | 450 | Bioarchaeology | Surveys archaeological and physical anthropological methods and theories for evaluating skeletal and burial remains to reconstruct biocultural adaptation and lifeways. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G | Prerequisite(s): ASM 104 OR Visiting University Student |
| ASM | 452 | Dental Anthropology | Human and primate dental morphology, growth, evolution, and genetics. Within- and between-group variation. Dental pathology and behavioral-cultural-dietary factors. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 4 | SG | Pre-requisites: ASM 104. Credit is allowed for only ASM 552 or ASM 452 |
| ASM | 456 | Infectious Disease and Human Evolution | Study of infectious disease and humanity, using evidence from anthropology, history, medicine, and ancient skeletons. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Pre-requisite: ASM 345 |
| ASM | 459 | Forensic Anthropology | Applies anthropology, primarily human osteology, to legal questions, including individual identification, crime scenes, forensic reports, police work, and court testimony. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): ASM 275; ASM 341 OR Visiting University Student |
| ASM | 460 | Human Growth and Development: An Evolutionary Perspective | How growth and development influences human variation; stages of human life; evolution through the fossil record; genetic, environmental, and biocultural factors. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): ASM 104 with C or better; ASM 341, 342, 344, 345, or 348 |
| ASM | 463 | A Practical Guide to Bayesian Data Analysis | Teaches how to do Bayesian data analysis using MCMC methods. Includes practical application with specific problems; also covers a range of historical and theoretical topics including probability theory, the history of Bayesian data analysis and frequentist alternatives, Markov chains and causality. Introduces students to executing Bayesian analysis via MCMC methods and also helps them see how these methods work and why they had to wait until the late 20th century to become widespread. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASM 463 or ASM 494 (Bayesian Statistics in Theory and Practice) or ASM 563 or ASM 594 (Bayesian Statistics in Theory and Practice) OR Visiting University Student |
| ASM | 465 | Quantification and Analysis for Anthropologists | Statistical and quantitative strategies for envisioning and exploring archaeological, physical anthropological, bioarchaeological, and socialcultural data. Univariate and bivariate methods. A basic understanding of algebra is necessary to be successful in this course. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | CS | |
| ASM | 466 | The Evolution of Preindustrial Technology | Over the last few hundred thousand years we have spread to every continent except Antarctica, thriving in habitats that range from tropical forests to arctic tundra. Technology is one of the keys to this success. Human populations living in different habitats rely on different, specialized tool kits--weapons and snares for hunting, boats, nets and tackle for fishing, housing for shelter, baskets and pottery for transportation and storage. The scholarly study of these tool sets is crucial for understanding human evolution. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASM 466 or ASM 494 (Evolution of Technology) or ASM 591 (Evolution of Technology) OR Visiting University Student |
| ASM | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|--|
| ASM | 503 | Evolutionary Medicine and Global Health | Fundamentally, the practice of medicine is applied biology to improve human health and well-being and is embedded within population and global scales. Integrates the life and social sciences to tackle the current and emerging global health challenges of the 21st century with an evolutionary biology lens with current medical knowledge enhancing our understanding of health. Uses topics such as human-pathogen coevolution; development and aging; human migration; diseases (infectious, metabolic and autoimmune); and physiological and behavioral mechanisms of immunity to explore the broad arena of human health within a deep time and global context. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit for only ASM 403 or ASM 494(Evol Med & Glbl Hlth) or ASM 503 or ASM 598(Evol Med & Glbl Hlth) or BIO 403 or BIO 494(Evol Med & Glbl Hlth) or BIO 510 or BIO 598(Evol Med & Glbl Hlth) |
| ASM | 506 | Clinical Gross Anatomy | Dissection of the human body with an emphasis on the application of anatomical knowledge to clinical applications. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 6 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASM 506 or BIO 506 |
| ASM | 525 | Primate Paleobiology | Seminar-based survey of primate evolution, focusing on comparative biology of the extant primates and the fossil record through the Miocene. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASM | 530 | Paleoanthropology | Seminar-based in-depth study of the fossil record of human evolution and its geological, environmental, and phylogenetic contexts. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASM | 543 | Primateology | Advanced study of nonhuman primate behavioral adaptations, emphasizing comparative sociality, incorporating data on behavior and biology from field and captivity. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit allowed for ASM 443 or 543 |
| ASM | 546 | Principles of Human Genetics | Examines human molecular genetics from an evolutionary perspective, particularly analysis, current debates, the Human Genome Project, disease, ethics. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking); credit is allowed for only BIO 446, ASM 446, BIO 546 or ASM 546 |
| ASM | 548 | Geoarchaeology | Geologic context relevant to archaeological research. Topics include sediments, deposition environments, soils, anthropogenic and biogenic deposits, and quaternary chronology. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASM | 552 | Dental Anthropology | Evolutionary anthropology of non-human primate and human dentition and research from extant and extinct species of non-human primates and hominins. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 4 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only ASM 452 or ASM 552 |
| ASM | 555 | Advanced Human Osteology | Intensive lab course covers identification of human skeletal remains and bone fragments from archaeological contexts. Emphasizes skeletal biology, variation, anatomical landmarks, determinants of age, sex, and stature. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 4 | | Prerequisite(s): Anthropology graduate student OR ASM 341 |
| ASM | 560 | Human Growth and Development: An Evolutionary Perspective | How growth and development influences human variation; stages of human life; evolution through the fossil record; genetic, environmental, and biocultural factors. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASM | 563 | A Practical Guide to Bayesian Data Analysis | Teaches how to do Bayesian data analysis using MCMC methods. Includes practical application with specific problems; also covers a range of historical and theoretical topics including probability theory, the history of Bayesian data analysis and frequentist alternatives, Markov chains and causality. Introduces students to executing Bayesian analysis via MCMC methods and also helps them see how these methods work and why they had to wait until the late 20th century to become widespread. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASM 463 or ASM 494 (Bayesian Statistics in Theory and Practice) or ASM 563 or ASM 594 (Bayesian Statistics in Theory and Practice) |
| ASM | 564 | Models of Social Evolution | Over the last four decades biologists have developed a rich mathematical theory explaining how natural selection shapes animal social behavior. To read and understand the literature in primary journals one must understand this body of theory. This course presents the theory in such a way that advanced students in evolutionary biology and anthropology can use the theory and read primary literature. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASM 494 (Models in Social Evolution) or ASM 564 or ASM 591 (Models in Social Evolution) |
| ASM | 565 | Quantitative Archaeology | Formal methods of structuring, codifying, and analyzing data for archaeological problems. Designing research to yield data amenable to productive analysis. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASM | 568 | GIS and Spatial Technologies in Anthropological Research | In-depth survey of spatial technologies in anthropological research, including GIS, spatial modeling, remote sensing, and image analysis and classification. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| ASM | 570 | Fundamentals of CAS Science | Many phenomena of critical relevance to human society are dynamic systems that change over individual and evolutionary time scales, and are highly interactive, both within and between systems. That is, they are complex adaptive systems (CAS), and thus share isomorphic properties like near-decomposability, hierarchical organization, scale-free networks, self-organized criticality, and emergence. Fundamentals of CAS science explores the diverse, interdisciplinary applications of a complex adaptive systems across the social, behavioral, and life sciences. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASM 570 or BIO 570 or CAS 570 or SOS 570 |
| ASM | 573 | Lithic Analysis | Analysis and interpretation of chipped stone artifacts. Focus on both techniques and underlying concepts and their application to real collections. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASM | 579 | Proposal Writing | Proposal writing and reviewing with a focus on the NSF dissertation improvement grant format. Discusses professional development. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASM 579 or SOS 579 |
| ASM | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASM | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASM | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASM | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASM | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASM | 611 | Paleopathology | Explores patterns of disease manifested in the human skeleton and differential diagnosis of infectious, metabolic, neoplastic, congenital, and other conditions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking); ASM 555 |
| ASM | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASM | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 111 | Introduction to Solar Systems Astronomy | Properties and origins of the solar system, exoplanets, astrobiology. History, properties of light, instruments, study of solar system and nearby stars. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 4 | SQ | |
| AST | 112 | Introduction to Stars, Galaxies, and Cosmology | Structure and evolution of stars, star clusters, galaxies, cosmology. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 4 | SQ | |
| AST | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | |
| AST | 301 | Physics of Astrophysics | Develops critical physical and mathematical concepts for contemporary astrophysics. Assumes prior knowledge of algebra and calculus. Through the textbook, introduces students to a variety of physical forces in the context of astrophysical processes, including electromagnetic interactions and light, gravity and motion, interactions between light and matter in astrophysical systems, and the strong (nuclear) force responsible for the fusion processes fueling stars. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): MAT 210 or higher with C or better; (PHY 111 and 113 with C or better) or (PHY 121 and 122 with C or better); (PHY 112 and 114 with C or better) or (PHY 131 and 132 with C or better) OR Visiting University Student |
| AST | 321 | Introduction to Planetary and Stellar Astrophysics | Physical laws; celestial mechanics; properties of planets, the sun, and other stars; formation and evolution of stars and planetary systems. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): AST 301 with C or better OR MAT 266 or 271 with C or better; PHY 121 and 122 (or PHY 150) with C or better OR Visiting University Student |
| AST | 322 | Introduction to Galactic and Extragalactic Astrophysics | Evolved stars, introduction to relativity, galaxies and interstellar matter, structure and dynamics of galaxies, cosmology. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): AST 301 with C or better OR MAT 266 or 271 with C or better; PHY 121/122 with C or better or PHY 150 with C or better |
| AST | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | |

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| AST | 421 | Astrophysics I | Selected astrophysical topics, including stellar evolution, star formation, interstellar medium, galactic structure, extragalactic astronomy, high-energy astrophysics, and cosmology. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): AST 321 or 322 with C or better; PHY 252 with C or better |
| AST | 422 | Astrophysics II | Same range of astrophysical topics as for AST 421 but emphasizes different specific topics in a given year. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): AST 321 or 322 with C or better; PHY 252 with C or better OR Visiting University Student |
| AST | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-6 | | Prerequisite(s): Barrett Honors student |
| AST | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| AST | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | |
| AST | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-7 | | |
| AST | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-3 | | |
| AST | 521 | Stars and Interstellar Medium I | Radiative transfer, atomic and molecular properties, stellar atmospheres, line profiles, nonlocal thermodynamic equilibrium, interstellar gas and dust, star formation. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 522 | Stars and Interstellar Medium II | Stellar structure, radiative transport, boundary conditions, equations of state, nuclear reactions, opacity, nucleosynthesis, chemical evolution of the galaxy, stellar evolution. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 523 | Stars and Interstellar Medium III | Structure of the interstellar medium, gaseous nebulae, recombination theory, ionization fronts and shock waves, galactic magnetic fields, magnetohydrodynamics, molecular clouds. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 531 | Galaxies and Cosmology I | Structure and evolution of the Milky Way, stellar properties, populations and associations/clusters, interstellar medium, dark matter. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 532 | Galaxies and Cosmology II | Structure of galaxies and the nearby universe, Hubble sequence, kappa-space, stellar populations, active galaxies, galaxy environments. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 533 | Galaxies and Cosmology III | Issues in modern cosmology, the distance scale, cosmological parameters, cosmological tests, cosmic background radiation, early universe, galaxy formation and evolution. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 540 | Astronomical Instrumentation and Data Analysis | Studies a range of optical astronomical hardware including telescopes, digital detectors and instrument design and theory. Focuses on the use of CCDs in terms of operation, calibration, use, measurement, limitations, noise and signal, statistics, and preliminary understanding prior to data reduction. Discusses practical optical astronomical observing: the choice of filters and their design, planning your observing run, bringing your data home and the types of data you will need. Final class project requires the reduction and measurement of data using computers. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AST 540 or AST 598 (Optical Astro Tech & Data) or AST 598 (Observing Instrumentation and Data Analysis) |
| AST | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| AST | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASU | 9 | ASU-Uber Online Orientation | Students that are a part of the ASU & Uber Education Partnership will learn about ASU's mission as the New American University, discover the value of a university degree from a research institution, discuss academic integrity, explore the tools used in online courses, become familiar with the partnership and identify key components of a work/life/school balance plan. | N | LEC | N | NOG | Office of the Provost | Online and Extended Campus | 0 | | |
| ASU | 10 | Connect: ASU Orientation | Students enrolled in the Starbucks College Achievement Plan will learn about ASU's mission as the New American University, discover the value of a university degree from a research institution, discuss academic integrity, explore the tools used in online courses, and identify key components of a work/life/school balance plan. | N | LEC | N | NOG | Office of the Provost | Online and Extended Campus | 0 | | |
| ASU | 11 | ASU Online Orientation | Students enrolled in ASU Online Orientation will learn about ASU and its mission as the New American University, discover the value of a university degree from a research institution, discuss academic integrity, explore the tools used in online courses, and identify key components of a work/life/school balance plan. | N | LEC | N | NOG | Office of the Provost | Online and Extended Campus | 0 | | |
| ASU | 12 | SDAP Online Orientation | Students enrolled in the Starbucks Degree Achievement Plan Orientation will learn about ASU's mission as the New American University, discover the value of a university degree from a research institution, discuss academic integrity, explore the tools used in online courses, and identify key components of a work/life/studies balance plan. | N | LEC | N | NOG | Office of the Provost | Online and Extended Campus | 0 | | |
| ASU | 19 | Jump Start | One-week program for incoming first-year students to ASU and is designed to set them up for academic success. Introduces the tools and processes that support their journey. Students learn how to connect with other students via collaborative environments. | N | LEC | N | YGB | University College | University Academic Success Program | 0 | | Prerequisite(s): Jump Start or SPIRIT student |
| ASU | 42 | Online Military Orientation | Active duty and veteran students enrolled in ASU 42 will explore ASU academic, veteran, and career resources, discover the value of a university degree from a research institution, discuss academic integrity, explore the tools used in online courses, and craft a plan balancing work, school, and life. | N | LEC | N | NOG | Office of the Provost | Online and Extended Campus | 0 | | |
| ASU | 101-AEE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1 | | Prerequisite(s): Aerospace Engineering undergraduate student OR Visiting University Student |
| ASU | 101-AMT | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): undergraduate Aviation programs major |

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| ASU | 101-BME | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1 | | Prerequisite(s): Biomedical Engineering student OR Visiting University Student |
| ASU | 101-CAI | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1 | | Prerequisite(s): School of Computing and Augmented Intelligence major OR Visiting University Student |
| ASU | 101-CEE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1 | | Prerequisite(s): Fulton Schools of Engineering student OR Visiting University Student |
| ASU | 101-CHE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1 | | Prerequisite(s): Chemical Engineering major OR Visiting University Student |
| ASU | 101-CHS | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): College of Health Solutions student OR Visiting University Student |
| ASU | 101-CLS | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1 | | Prerequisite(s): College of Integrative Sciences and Arts undergraduate student OR Visiting University Student |
| ASU | 101-CNE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 1 | | |
| ASU | 101-CON | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 1 | | Prerequisite(s): Fulton Schools of Engineering student OR Visiting University Student |

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| ASU | 101-CPP | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1 | | Prerequisite(s): Watts College of Public Service and Community Solutions OR Visiting University Student |
| ASU | 101-CS | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Prerequisite(s): Cronkite School of Journalism and Mass Communication student OR Visiting University Student |
| ASU | 101-CSE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1 | | Prerequisite(s): School of Computing and Augmented Intelligence major OR Visiting University Student |
| ASU | 101-EEE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1 | | Prerequisite(s): Electrical Engineering undergraduate student OR Visiting University Student |
| ASU | 101-EGR | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1 | | Prerequisite(s): Engineering undergraduate student OR Visiting University Student |
| ASU | 101-ERM | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1 | | Prerequisite(s): Environmental and Resource Management student or Visiting University Student |
| ASU | 101-EVE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1 | | Prerequisite(s): Fulton Schools of Engineering student OR Visiting University Student |
| ASU | 101-FSE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1 | | Prerequisite(s): Fulton Schools of Engineering student OR Visiting University Student |

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| ASU | 101-GIT | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1 | | Prerequisite(s): Graphic Information Technology BS major OR Visiting University Student |
| ASU | 101-HDA | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1 | | Prerequisite(s): Herberger Institute for Design and the Arts student OR Visiting University Student |
| ASU | 101-HNR | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Barrett, The Honors College | Barrett, The Honors College | 1 | | Prerequisite(s): Barrett Honors student |
| ASU | 101-HSE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1 | | Prerequisite(s): Human Systems Engineering student OR Visiting University Student |
| ASU | 101-IEE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1 | | Prerequisite(s): School of Computing and Augmented Intelligence major OR Visiting University Student |
| ASU | 101-IFT | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 1 | | Prerequisite(s): Information Technology student OR Visiting University Student |
| ASU | 101-LA | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Dean, The College of Liberal Arts and Sciences | 1 | | Prerequisite(s): The College of Liberal Arts & Sciences student OR Visiting University Student |
| ASU | 101-MAE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1 | | Prerequisite(s): Mechanical Engineering undergraduate student or Aerospace Engineering undergraduate student OR Visiting University Student |

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| ASU | 101-MEE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1 | | Prerequisite(s): Mechanical Engineering undergraduate student OR Visiting University Student |
| ASU | 101-MSE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1 | | Prerequisite(s): Materials Science and Engineering BSE major OR Visiting University Student |
| ASU | 101-MSN | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1 | | Prerequisite(s): School of Manufacturing Systems and Networks major OR Visiting University Student |
| ASU | 101-NCIAS | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1 | | Prerequisite(s): New College of Interdisciplinary Arts and Sciences undergraduate student OR Visiting University Student |
| ASU | 101-NU | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Prerequisite(s): Edson College of Nursing and Health Innovation or Nutrition student OR Visiting University Student |
| ASU | 101-ONL | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1 | | Prerequisite(s): ASU Online students OR Visiting University Student |
| ASU | 101-SOS | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): School of Sustainability student OR Visiting University Student |
| ASU | 101-TE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): Mary Lou Fulton Teachers College student OR Visiting University Student |

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| ASU | 101-TEM | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1 | | Prerequisite(s): Technological and Entrepreneurship Management student OR Visiting University Student |
| ASU | 101-TPS | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Polytechnic School | 1 | | Prerequisite(s): Ira A. Fulton Schools of Engineering - The Polytechnic School student OR Visiting University Student |
| ASU | 101-UC | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | University College | Dean, University College | 1 | | Prerequisite(s): University College students OR Visiting University Student |
| ASU | 101-WPC | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | W. P. Carey School of Business | Dean, W. P. Carey School of Business | 1 | | Prerequisite(s): W.P. Carey student OR Visiting University Student |
| ASU | 120 | Emerging Leaders I | Students develop in academic areas while also gaining essential career skills in creativity, problem solving, and teamwork. Students learn how to think critically and manage a project from inception to completion. Through course discussions and assignments, students examine connections between their work in other courses and ASU 120. This is the first part of a two-part curriculum which continues into the spring semester. Separate grades will be issued for each semester. | N | LEC | N | GNA | University College | Dean, University College | 3 | | Credit is allowed for only ASU 120 (or ASU 150) or UNI 120 OR Visiting University Student |
| ASU | 121 | Emerging Leaders II | Students continue to develop in academic areas while gaining essential career skills in creativity, problem solving and teamwork. Students learn how to think critically and manage a project from inception to completion. Through course discussions and assignments, students examine connections between their work in other courses and this course. Second part of a two-part curriculum, which continues from the fall semester. Separate grades are issued for each semester. | N | LEC | N | GNA | University College | Dean, University College | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| ASU | 140-CHS | ProMod | Project-based learning. | Y | PRO | Y | GNA | College of Health Solutions | College of Health Solutions | 0-18 | | |
| ASU | 140-CLS | ProMod | Project-based learning. | Y | PRO | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 0-18 | | |
| ASU | 140-CPSCS | ProMod | Project-based learning. | Y | PRO | Y | GNA | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 0-18 | | |
| ASU | 140-CS | ProMod | Project-based learning. | Y | PRO | Y | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 0-18 | | |
| ASU | 140-FSE | ProMod | Project-based learning. | Y | PRO | Y | GNA | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 0-18 | | |
| ASU | 140-HDA | ProMod | Project-based learning. | Y | PRO | Y | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 0-18 | | |
| ASU | 140-HNR | ProMod | Project-based learning. | Y | PRO | Y | GNA | Barrett, The Honors College | Barrett, The Honors College | 0-18 | | Prerequisite(s): Barrett Honors student |
| ASU | 140-LA | ProMod | Project-based learning. | Y | PRO | Y | GNA | The College of Liberal Arts and Sciences | Dean, The College of Liberal Arts and Sciences | 0-18 | | |
| ASU | 140-NCIAS | ProMod | Project-based learning. | Y | PRO | Y | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 0-18 | | |

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| ASU | 140-NU | ProMod | Project-based learning. | Y | PRO | Y | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 0-18 | | |
| ASU | 140-SOS | ProMod | Project-based learning. | Y | PRO | Y | GNA | College of Global Futures | School of Sustainability | 0-18 | | |
| ASU | 140-TB | ProMod | Project-based learning. | Y | PRO | Y | GNA | Thunderbird School of Global Management | Dean, Thunderbird School of Global Management | 0-18 | | |
| ASU | 140-TE | ProMod | Project-based learning. | Y | PRO | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 0-18 | | |
| ASU | 140-WPC | ProMod | Project-based learning. | Y | PRO | Y | GNA | W. P. Carey School of Business | Dean, W. P. Carey School of Business | 0-18 | | |
| ASU | 194-CLS | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| ASU | 194-LA | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-4 | | |
| ASU | 194-NCIAS | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| ASU | 194-UC | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | University College | Dean, University College | 1-4 | | |
| ASU | 230 | Life by Design | Living a meaningful life that is true to you is one of life's greatest endeavors. And, it's a process that can seem overwhelming and difficult to figure out. College offers the opportunity to explore interests and find career paths that align to your genuine interests and personal goals. But where do you start on this journey of self-discovery? Start with this course; it introduces the design thinking process--a strategy used by the world's top designers to launch products and services--and applies that process to your individualized career and life plans. You'll learn how aspects of your life that may feel disconnected (e.g., skills, ambition, interests, relationships, family needs, lifestyle) can and should work together in helping you discover careers that fit you. You'll explore how the college experience--through majors, classes, experiential learning, networking and other student services--can support your journey. And you'll develop a growth mindset that helps you. | N | LEC | N | GNA | University College | Dean, University College | 3 | | Credit is allowed for only ASU 230 or ASU 294 (Life by Design) |
| ASU | 240-CHS | ProMod | Project-based learning. | Y | LEC | Y | GNA | College of Health Solutions | College of Health Solutions | 0-18 | | |
| ASU | 240-CLS | ProMod | Project-based learning. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 0-18 | | |
| ASU | 240-CPSCS | ProMod | Project-based learning. | Y | LEC | Y | GNA | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 0-18 | | |
| ASU | 240-CS | ProMod | Project-based learning. | Y | LEC | Y | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 0-18 | | |
| ASU | 240-FSE | ProMod | Project-based learning. | Y | LEC | Y | GNA | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 0-18 | | |
| ASU | 240-HDA | ProMod | Project-based learning. | Y | LEC | Y | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 0-18 | | |
| ASU | 240-HNR | ProMod | Project-based learning. | Y | LEC | Y | GNA | Barrett, The Honors College | Barrett, The Honors College | 0-18 | | Prerequisite(s): Barrett Honors student |
| ASU | 240-LA | ProMod | Project-based learning. | Y | LEC | Y | GNA | The College of Liberal Arts and Sciences | Dean, The College of Liberal Arts and Sciences | 0-18 | | |
| ASU | 240-NCIAS | ProMod | Project-based learning. | Y | LEC | Y | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 0-18 | | |
| ASU | 240-NU | ProMod | Project-based learning. | Y | LEC | Y | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 0-18 | | |
| ASU | 240-SOS | ProMod | Project-based learning. | Y | LEC | Y | GNA | College of Global Futures | School of Sustainability | 0-18 | | |
| ASU | 240-TB | ProMod | Project-based learning. | Y | LEC | Y | GNA | Thunderbird School of Global Management | Dean, Thunderbird School of Global Management | 0-18 | | |
| ASU | 240-TE | ProMod | Project-based learning. | Y | LEC | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 0-18 | | |
| ASU | 240-WPC | ProMod | Project-based learning. | Y | LEC | Y | GNA | W. P. Carey School of Business | Dean, W. P. Carey School of Business | 0-18 | | |
| ASU | 294-UC | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | University College | Dean, University College | 1-4 | | |
| ASU | 340-CHS | ProMod | Project-based learning. | Y | PRO | Y | GNA | College of Health Solutions | College of Health Solutions | 0-18 | | |
| ASU | 340-CLS | ProMod | Project-based learning. | Y | PRO | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 0-18 | | |
| ASU | 340-CPSCS | ProMod | Project-based learning. | Y | PRO | Y | GNA | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 0-18 | | |

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| ASU | 340-CS | ProMod | Project-based learning. | Y | PRO | Y | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 0-18 | | |
| ASU | 340-FSE | ProMod | Project-based learning. | Y | PRO | Y | GNA | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 0-18 | | |
| ASU | 340-HDA | ProMod | Project-based learning. | Y | PRO | Y | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 0-18 | | |
| ASU | 340-HNR | ProMod | Project-based learning. | Y | PRO | Y | GNA | Barrett, The Honors College | Barrett, The Honors College | 0-18 | | Prerequisite(s): Barrett Honors student |
| ASU | 340-LA | ProMod | Project-based learning. | Y | PRO | Y | GNA | The College of Liberal Arts and Sciences | Dean, The College of Liberal Arts and Sciences | 0-18 | | |
| ASU | 340-NCIAS | ProMod | Project-based learning. | Y | PRO | Y | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 0-18 | | |
| ASU | 340-NU | ProMod | Project-based learning. | Y | PRO | Y | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 0-18 | | |
| ASU | 340-SOS | ProMod | Project-based learning. | Y | PRO | Y | GNA | College of Global Futures | School of Sustainability | 0-18 | | |
| ASU | 340-TB | ProMod | Project-based learning. | Y | PRO | Y | GNA | Thunderbird School of Global Management | Dean, Thunderbird School of Global Management | 0-18 | | |
| ASU | 340-TE | ProMod | Project-based learning. | Y | PRO | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 0-18 | | |
| ASU | 340-WPC | ProMod | Project-based learning. | Y | PRO | Y | GNA | W. P. Carey School of Business | Dean, W. P. Carey School of Business | 0-18 | | |
| ASU | 394-CLS | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 0.5-4 | | |
| ASU | 394-UC | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | University College | Dean, University College | 0.5-4 | | |
| ASU | 440-CHS | ProMod | Project-based learning. | Y | LEC | Y | GNA | College of Health Solutions | College of Health Solutions | 0-18 | | |
| ASU | 440-CLS | ProMod | Project-based learning. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 0-18 | | |
| ASU | 440-CPSCS | ProMod | Project-based learning. | Y | LEC | Y | GNA | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 0-18 | | |
| ASU | 440-CS | ProMod | Project-based learning. | Y | LEC | Y | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 0-18 | | |
| ASU | 440-FSE | ProMod | Project-based learning. | Y | LEC | Y | GNA | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 0-18 | | |
| ASU | 440-HDA | ProMod | Project-based learning. | Y | LEC | Y | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 0-18 | | |
| ASU | 440-HNR | ProMod | Project-based learning. | Y | LEC | Y | GNA | Barrett, The Honors College | Barrett, The Honors College | 0-18 | | Prerequisite(s): Barrett Honors student |
| ASU | 440-LA | ProMod | Project-based learning. | Y | LEC | Y | GNA | The College of Liberal Arts and Sciences | Dean, The College of Liberal Arts and Sciences | 0-18 | | |
| ASU | 440-NCIAS | ProMod | Project-based learning. | Y | LEC | Y | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 0-18 | | |
| ASU | 440-NU | ProMod | Project-based learning. | Y | LEC | Y | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 0-18 | | |
| ASU | 440-SOS | ProMod | Project-based learning. | Y | LEC | Y | GNA | College of Global Futures | School of Sustainability | 0-18 | | |
| ASU | 440-TB | ProMod | Project-based learning. | Y | LEC | Y | GNA | Thunderbird School of Global Management | Dean, Thunderbird School of Global Management | 0-18 | | |
| ASU | 440-TE | ProMod | Project-based learning. | Y | LEC | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 0-18 | | |
| ASU | 440-WPC | ProMod | Project-based learning. | Y | LEC | Y | GNA | W. P. Carey School of Business | Dean, W. P. Carey School of Business | 0-18 | | |
| ATC | 230 | Fundamentals of Air Traffic Management | Introduces the manuals, procedures, maps, charts, and regulations used by air traffic controllers in the National Airspace System (NAS). | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): AMT 201 with C or better |
| ATC | 331 | Tower Operations | Provides knowledge of air traffic control procedures, phraseology, equipment, and aircraft separation requirements used in ATC towers. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): ATC 230 with C or better |
| ATC | 332 | TRACON Operations | Provides knowledge of air traffic control procedures, phraseology, equipment, and aircraft separation requirements used in FAA TRACONs. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): ATC 230 with C or better |
| ATC | 333 | En Route Operations | Provides knowledge of air traffic control procedures, phraseology, equipment, and aircraft separation requirements used in FAA ATC En Route Centers. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): ATC 230 with C or better |
| ATC | 431 | Tower Operations and Procedures | Opportunity to operate in tower simulator environment to run scenarios for local and ground control and flight data/clearance delivery. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): ATC 331 with C or better |
| ATC | 432 | TRACON Operations and Procedures | Opportunity to operate in tower simulator environment to run scenarios for local and ground control and flight data/clearance delivery. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): ATC 332 with C or better |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|---|-------------------|-------|-----------------|---|
| ATC | 433 | En Route Operations and Procedures | Opportunity to operate in tower simulator environment to run scenarios for local and ground control and flight data/clearance delivery. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): ATC 333 with C or better |
| ATC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-12 | | Prerequisite(s): minimum junior standing |
| ATC | 491 | Air Traffic Management Capstone | Overview of problem solution tools, quality metrics, and current technology initiatives related to air traffic management and related industry problems in a project environment. Student projects focus on airport and airspace requirements. Student teams work with partners from industry, government, and academia to define project objectives and work toward a formal recommendation to help solve the specified problem. Class discussions focus on project management, organizational structures, strategic initiatives, strategy implementation and execution. Uses review and analysis of current industry problems and resolutions to provide examples of practical solutions. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Pre- or corequisite(s); ATC 431 with C or better if completed; ATC 432 with C or better if completed; ATC 433 with C or better if completed |
| ATC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-4 | | |
| ATE | 242 | Introduction to Architectural Technology | Materials and methods of construction. Aesthetic, code and construction costs. Exposure to building information management (BIM). | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Architectural Studies major. Corequisite(s): ALA 226 |
| ATE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| ATE | 361 | Architectural Technology I | Introduces load distribution on structures. Static analysis of determinant beams, trusses, arches, and rigid frames. Computer applications. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Corequisite(s): ADE 321 OR Visiting University Student |
| ATE | 362 | Architectural Technology II | Strength of materials. Stresses in beams and columns. Thermal effects on structures. Analysis, design, and detailing of wood structural systems. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): ATE 361 with C or better |
| ATE | 451 | Building Systems I | Principles of solar radiation, heat and moisture transfer, and environmental control systems as form influences. Energy-conscious design. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Co-requisites: ADE 421 |
| ATE | 452 | Architectural Technology III | Architectural design implications of heating, ventilation, and air conditioning systems. Principles of lighting, daylighting, and acoustics, and their applications. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): ATE 362 with C or better; Corequisite(s): ADE 422 |
| ATE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-3 | | |
| ATE | 521 | Building Environmental Science | Scientific principles relating to comfort and environmental control. Heat and moisture transfer. Solar/natural energies for heating, cooling, and lighting. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisites: Bldg Design MS, Master of Architecture, Master of Urban Design, or Master of Landscape Architecture student |
| ATE | 550 | Passive Heating and Cooling | Theory, analysis, and application of passive and low-energy systems in order to maximize comfort and minimize energy consumption in buildings. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisites: Bldg Design MS, Master of Architecture, Master of Urban Design, or Master of Landscape Architecture student |
| ATE | 553 | Architectural Technology IV | Design and integration of building systems, including mechanical, electrical, plumbing, security, communications, fire protection, and transportation. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Master of Architecture student; Corequisite(s): ADE 521; ATE 563 |
| ATE | 556 | Architectural Technology V | Comprehensive design development through the understanding and integration of building materials and systems. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Corequisite(s): ADE 522; APH 505 |
| ATE | 560 | Building Energy Analysis | Computer simulation of building thermal behavior. Software review. Detailed study of selected simulation models using case study projects. | N | LAB | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisites: Bldg Design MS, Master of Architecture, Master of Urban Design, or Master of Landscape Architecture student |
| ATE | 562 | Experimental Evaluation | Instrumentation, measurement and computational techniques for analysis of building components, and assessment of thermal and luminous performance. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisites: Bldg Design MS, Master of Architecture, Master of Urban Design, or Master of Landscape Architecture student |
| ATE | 563 | Architectural Technology VI | Analysis, design, and detailing of steel buildings and frames. Lateral analysis of small rigid and braced frame systems. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Master of Architecture student |
| ATE | 582 | Environmental Control Systems | Heating, ventilation, and air-conditioning systems. Loads, psychrometrics, refrigeration cycle, air/water distribution, controls, energy performance standards, and utility rates. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisites: Bldg Design MS, Master of Architecture, Master of Urban Design, or Master of Landscape Architecture student |
| ATE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ATE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Pre-requisites: Herberger Institute of Design and the Arts Graduate student |

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| ATE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Pre-requisites: Herberger Institute of Design and the Arts Graduate student |
| ATE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Pre-requisites: Herberger Institute of Design and the Arts Graduate student |
| ATE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | The Design School | 1 | | Pre-requisites: Herberger Institute of Design and the Arts Graduate student |
| ATE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ATE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Herberger Institute of Design and the Arts Graduate student |
| ATP | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ATP | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ATP | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | |
| ATP | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ATP | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-7 | | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| BCH | 341 | Physical Chemistry with a Biological Focus | Thermodynamics, equilibrium, states of matter, solutions and chemical kinetics with a focus on biological systems. For students in biochemical, premedical, biomedical and educational curricula. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): CHM 114 or 116 or 118 with C or better; CHM 231 or 233 or 333 with C or better; MAT 251 or 265 or 270 with C or better; PHY 101 or 112 or 131 with C or better; Credit is allowed for only BCH 341 or CHM 341 OR Visiting University Student |
| BCH | 361 | Advanced Principles of Biochemistry | Advanced consideration of the structures, properties, and functions of proteins, enzymes, nucleic acids, carbohydrates, and lipids; principles and theory of the utilization and synthesis of these materials by living systems, and the relationship of these processes to energy production and utilization. The course is recommended for pre-health students. No credit for Biochemistry majors. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): CHM 231 with C or better OR Pre- or corequisite(s): CHM 234 or CHM 334 with C or better if completed OR Visiting University Student |
| BCH | 367 | Elementary Biochemistry Laboratory | Qualitative/quantitative analyses of constituents of biological systems, enzyme activity measurements and metabolic studies. | N | REC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | | Pre- or corequisite(s): BCH 361 or LSC 366 with C or better if completed OR Visiting University Student |
| BCH | 371 | Modern Concepts in Biochemistry | Detailed examination of the chemical structure, conformation and function of proteins, carbohydrates, lipids and nucleotides; analysis of the energetics, enzymes and control of the metabolic pathways by which these molecules are degraded or synthesized. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): BIO 182 with C or better; CHM 234 with C or better; CHM 238 with C or better or Forensic Science BS major OR Visiting University Student |
| BCH | 372 | Modern Concepts in Biochemistry Laboratory | Analyzes protein structure, purification and function using spectroscopic, chromatographic, electrophoretic and other methods. | N | LAB | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Pre- or corequisite(s): BCH 371 OR Visiting University Student |
| BCH | 392 | Introduction to Research Techniques | Instrumental methods and philosophy of research by actual participation in chemical research projects. May be repeated for total of 6 semester hours. | N | RSC | Y | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1-3 | | |
| BCH | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1-4 | | |
| BCH | 461 | General Biochemistry | Structure, chemistry, and metabolism of biomolecules and their role in the biochemical processes of living organisms. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): CHM 234 or 334 with C or better; Corequisite(s): BCH 341 or CHM 341 or CHM 346 with C or better if completed OR Visiting University Student |
| BCH | 462 | General Biochemistry | Continuation of BCH 461. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): BCH 461 with C or better OR Visiting University Student |
| BCH | 463 | Biophysical Chemistry | Principles of physical chemistry as applied to biological systems. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): BCH 341 or CHM 341 or CHM 346 with C or better OR Visiting University Student |

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| BCH | 467 | Analytical Biochemistry Laboratory | Quantitative analysis, separation and purification of biological molecules. Applies chemical and physical methods to the characterization of biological macromolecules. | N | REC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; Pre- or corequisite(s): BCH 462 with C or better if completed OR Visiting University Student |
| BCH | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | |
| BCH | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| BCH | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| BCH | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1-4 | | |
| BCH | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1-3 | | |
| BCH | 501 | Current Topics in Biochemistry | Varies by topic. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1-2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BCH | 520 | Chemical Biology | Chemical biology, broadly defined, is the application of chemical tools toward the study biological problems. The purpose of this class is to provide the foundation for translational research involving cross-disciplinary approaches to tackling significant problems in the biosciences. This one-semester class will cover topics ranging from traditional molecular biology and biochemistry to state-of-the-art techniques in genomics and proteomics. Particular emphasis will be placed on modern concepts in enzymology. The class will be taught using a combination of current literature and text-based materials. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Pre-requisite: Graduate students (degree and nondegree); Credit is allowed for only BCH or CHM 520 |
| BCH | 561 | Advanced Topics in Biochemistry | Topics selected from emerging areas of biochemistry based primarily on current literature. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BCH | 564 | Bionanotechnology | The use of biomolecules, bioelectronics, and biomedicine for applications in nanotechnology. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BCH 564 or NAN 564 |
| BCH | 568 | Molecular Mechanisms of Photosynthesis | Structure and function of photosynthetic complexes; mechanism of energy conversion in plants, bacteria, and model systems. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BCH 568 or PLB 558 |
| BCH | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BCH | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BCH | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BCH | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BCH | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BCH | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BCS | 101 | Elementary Serbo-Croatian | Structural grammar, basic vocabulary; introduction and reinforcement of aural/oral, reading, and writing skills. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | |
| BCS | 102 | Elementary Serbo-Croatian | See BCS 101. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | |
| BCS | 201 | Intermediate Serbo-Croatian | Systematic review of grammar. Development of vocabulary through reading and writing. Drill in aural/oral skills. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | |
| BCS | 202 | Intermediate Serbo-Croatian | See BCS 201. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | |
| BCS | 311 | Bosnian/Croatian/Serbian Composition and Conversation I | Develops writing ability and oral expression. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): BCS 202 with C or better OR Visiting University Student |

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| BCS | 312 | Bosnian/Croatian/Serbian Composition and Conversation II | Develops writing ability and oral expression. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): BCS 311 with C or better OR Visiting University Student |
| BCS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| BCS | 495 | Serbo-Croatian for Heritage Speakers | Generates professional proficiency by developing communicative and written competency in standard literary Serbo-Croatian. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | |
| BDE | 502 | Research Methods in Biological Design | Introduction to research, the scientific method, literature survey, experiments and research documentation, time management, technical writing and peer review, technical presentations, ethics and safety, academic and industrial research, funding and proposals, industrial research and intellectual property. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 3 | | Prerequisite(s): Biological Design MS or Biological Design PhD student |
| BDE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BDE | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BDE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BDE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BDE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BDE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BDE | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1-12 | | |
| BDE | 702 | Fundamentals of Biological Design II | Emphasizes the integrative areas of computational bioinformatics, systems biology, and synthetic biology, and their application in biomedical research. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BDE | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BDE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BDE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BDE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 100 | The Living World | Principles of biology. Cannot be used for major credit in the biological sciences. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 4 | SQ | |
| BIO | 100M | The Living World | Principles of biology. Cannot be used for major credit in the biological sciences. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 0.25-4 | SQ | |
| BIO | 108 | Concepts in Plant Biology | Introduces concepts of plant biology that are of human relevance using commercially important, edible, and medicinal plants as examples. Not for majors in the biological sciences. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 4 | SQ | |

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| BIO | 109 | Field Natural History of Arizona | Studies the common plants and animals of Arizona including their distribution, adaptations, behavior and ecology. Introduces basic field techniques used in the study of natural history. Off-campus field trips. Cannot be used for major credit in the biological sciences. | N | LEL | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | SG | |
| BIO | 112 | Discovery: Why Sex? | "Why?" is a question that animates the youngest of children to the most seasoned of scientists. The acts of asking and answering "Why?" highlight the integrated nature of scientific knowledge and discovery. Demonstrates scientific disciplines are not walled cities in which knowledge is neatly segregated from lines of inquiry and knowledge in other disciplines. Instead, scientific concepts weave throughout and between disciplines and scientists increasingly rely on colleagues from different scientific fields to find answers to scientific questions. So our journey to find responses to the question "Why Sex?" takes us not just to biology, but also to earth science and to physics. Along the way, scientists are linked together not only through concepts that crosscut the disciplines, but also in their reliance upon key scientific skills such as the ability to observe, think critically, measure, gather data and communicate their findings. | N | LEL | N | GNA | The College of Liberal Arts and Sciences | School of Life Sciences | 4 | SG | Credit is allowed for only BIO 112 or BIO 194 (Discovery: Why Sex?) OR Visiting University Student |
| BIO | 113 | Dinosaurs | Principles of evolution, ecology, behavior, anatomy and physiology using dinosaurs and other extinct life as case studies. Geological processes and the fossil record. Cannot be used for major credit in the biological sciences. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | SG | |
| BIO | 130 | Introduction to Environmental Science | Introduces the interconnected nature of Earth's hydrosphere, lithosphere (soils and rocks), atmosphere, and biosphere. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | SQ | Credit is allowed for only ABS 130 or BIO 130 or ENV 130 OR Visiting University Student |
| BIO | 130M | Introduction to Environmental Science | Introduces the interconnected nature of Earth's hydrosphere, lithosphere (soils and rocks), atmosphere, and biosphere. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 0.25-4 | SQ | |
| BIO | 140 | Greek and Latin Roots in Bioscientific Terminology | Introduces students to the ancient Greek and Latin root words most commonly used in biological, medical, and other scientific terminology, and gives practice identifying them in context. The knowledge of these root words enables students to memorize with greater ease and increased retention the bioscientific terminology they encounter in other coursework as well as in their medical or scientific profession. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Credit is allowed for only BIO 140 or GRK 140 or LAT 140 or SLC 140 OR Visiting University Student |
| BIO | 145 | Introduction to Marine Biology | Introduces non-majors to the basic concepts of marine biology, the study of the ocean and the diverse life forms that reside in the diverse habitats found there. Includes an extensive discussion on ocean conservation, including threats facing marine life and policy solutions to those threats. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | SG | Prerequisite(s): minimum 25 hours; Credit is allowed for only BIO 145 or LSC 145 or LSC 294 (Introduction to Marine Biology) OR Visiting University Student |
| BIO | 151 | Biological Thinking | The science behind the science of life. Masters the core concepts of modern biology, understands the scientific discoveries that lie behind those concepts, and develops scientific reasoning skills so that students can contribute discoveries of their own. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 4 | SQ | Prerequisite(s): Life Sciences student; ALEKS score below 61; Credit is allowed for only BIO 100 or BIO 151 OR Visiting University Student |
| BIO | 160 | Introduction to Anatomy and Physiology | Terminology and essential concepts in human anatomy and physiology, as well as the structure and function of the human body. Designed for students in the health-related professions. Acquaints the student with human anatomy, structure and function, and basic disease concepts. Organizes and presents course concepts by organ systems, and the laboratory component of the course emphasizes human structure and function. The course has 3 contact hours for lecture and 2 contact hours for lab per week. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 4 | SQ | |
| BIO | 181 | General Biology I | Biological concepts emphasizing principles and the interplay of structure and function at the molecular, cellular, and organismal levels. Intended for life sciences, biology, and health-related science majors. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 4 | SQ | Credit is allowed for only BIO 181 or BIO 281 or BIO 282 |
| BIO | 182 | General Biology II | Biological concepts emphasizing principles and the interplay of structure and function at the organismal, population, and community levels. Intended for life sciences, biology, and health-related science majors. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 4 | SG | Prerequisite(s): BIO 181 with C or better; Credit is allowed for only BIO 182 or BIO 281 or BIO 282 OR Visiting University Student |
| BIO | 189 | School of Life Sciences Undergraduate Research Apprentice | Students gain exposure to contemporary issues in research excellence, mentoring skills and professional development. Enriches individual lab research experiences for students by bringing them together in a peer-community environment. Introduces the resources students have at their disposal (e.g., on campus, online) to facilitate research productivity and career planning. Rigorously evaluates their research processes and products in light of their eventual professional plans. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): minimum 2.75 GPA; Credit is allowed for only BIO 189 or BIO 194 (SOLS Undergraduate Research Apprentice) OR Visiting University Student |

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| BIO | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| BIO | 201 | Human Anatomy and Physiology I | Studies the structure and function of the human body. Topics include cells, tissues, integumentary system, skeletal system, muscular system, and nervous system. Cannot be used for major credit in the life sciences. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 4 | SG | |
| BIO | 201M | Human Anatomy and Physiology I | Studies the structure and function of the human body. Topics include cells, tissues, integumentary system, skeletal system, muscular system, and nervous system. Cannot be used for major credit in the life sciences. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 0.25-4 | SG | |
| BIO | 202 | Human Anatomy and Physiology II | Studies the structure and function of the human body. Topics include cardiovascular, respiratory, lymphatic/immune, endocrine, renal, digestive, and reproductive systems. Cannot be used for major credit in the life sciences. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 4 | SG | Prerequisite(s): BIO 201 with C or better OR Visiting University Student |
| BIO | 230 | How Nature Works | Teaches biology through the lens of function, thereby providing a core understanding in biology for all students, no matter their background. Explores the process of scientific discovery and how biological knowledge can inform other disciplines. Each week investigates a new topic regarding how ecosystems and organisms function--e.g., How do ecosystems cycle nutrients? How do animals move through air, water and on land? How do organisms defend themselves against disease? Covers core concepts in biology as well as how these concepts apply to other disciplines. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Credit is allowed for only BIO 230 or BMY 230 |
| BIO | 250 | Introduction to Evolution and Medicine | Introduces applications of evolutionary biology to medicine. Discusses topics ranging from the evolution of antibiotic resistance to aging, obesity, Alzheimer's disease and cancer using an evolutionary framework to better understand how these diseases/issues came to be, and what can be done to prevent/treat/mitigate these conditions. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | SB & G | Credit is allowed for only ASB 250 or ASB 294 (Introduction to Evolutionary Medicine) or ASM 294 (Evolution and Medicine) or BIO 250 or BIO 294 (Introduction to Evolutionary Medicine) OR Visiting University Student |
| BIO | 282 | Conceptual Approaches to Biology for Majors II | Builds upon established conceptual foundations, covers the themes and concepts underlying organismal biology, with an emphasis on physiology and ecology. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): School of Life Sciences student; BIO 281 with C or better; Credit is allowed for only BIO 181 or BIO 182 or BIO 282 OR Visiting University Student |
| BIO | 289 | School of Life Sciences Undergraduate Researcher | Students gain exposure to contemporary issues in research excellence, mentoring skills, and professional development in this seminar. Enriches individual lab research experiences students by bringing them together in a peer-community environment. Introduces students to the resources they have at their disposal (e.g. on campus, online) to facilitate research productivity and career planning. Rigorously evaluates their research processes and products, in light of their eventual professional plans. | N | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): minimum 3.00 GPA OR Corequisite(s): BIO 310, or BIO 494 (Advanced Study Practicum), or BIO/HPS/MBB/MIC 484/492/493/495/496/499 OR Visiting University Student |
| BIO | 293 | The Health Sciences Workplace | Provides exposure to the health science workplace and helps students explore the full range of careers that are open to those who major at the undergraduate level in the health sciences including managerial and administrative aspects. Includes short presentations by professionals in a variety of fields, including biotechnology and bioenterprise, business and the health sciences. Ample opportunities for questions and personal interactions. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | |
| BIO | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| BIO | 301 | Field Natural History | Organisms and their natural environment. Cannot be used for major credit in the biological sciences. Both BIO 300 and BIO 301 must be taken to secure SQ General Studies credit | N | PRA | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | SG | Pre- or corequisite(s): BIO 300 or LSC 310 with C or better if completed |
| BIO | 302 | Cancer--Mother of All Diseases | History of cancer; disease statistics; pathogenesis; diagnosis, treatment and prevention; case studies. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | L | Prerequisite(s): BIO 181, BIO 182, BIO 201, BIO 281, BIO 282, MIC 205, or MIC 220 with C or better; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| BIO | 303 | Plant Diversity and Evolution | An examination of the major groups of land plants, emphasizing evolutionary history, comparative data, and phylogenetic methods. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 4 | L or SG | Prerequisite(s) with C or better: BIO 181; BIO 182; ENG 101, 105, or 107 OR BIO 281; BIO 282; ENG 101, 105, or 107; Credit allowed for only BIO 303 or ENV 300 or PLB 300 OR Visiting University Student |
| BIO | 304 | Plants and Civilization | Plants and plant products used by people throughout the world. Cultivation, processing, and uses in modern life (beverages, fibers, foods, medicinals, and perfumes). | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | L | Prerequisite(s) with C or better: BIO 181; BIO 182; ENG 101, 105, or 107 OR BIO 281; BIO 282; ENG 101, 105, or 107; Credit is allowed for only BIO 304 or ENV 302 or PLB 302 OR Visiting University Student |

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| BIO | 305 | Biology Behind the Crime Scene | Explores biological technology behind forensic techniques like fingerprinting, Polymerase Chain Reaction (PCR), and paternity testing. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | SG | Pre-requisites: Minimum Sophomore standing |
| BIO | 306 | Modes of Biological Thought | Involves students in the process of biological discovery to examine how we identify truth in biological science. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | L | Prerequisite(s): ENG 101 or 105 with C or better; BIO 181 (or BIO 188) and BIO 182 (or BIO 187) with C or better OR Visiting University Student |
| BIO | 307 | Research Colloquium: Identifying a Research Question | Develops critical thinking abilities, introduces students to what it means to do scholarly research, and familiarizes students with other tools needed to develop a research proposal in biology and society. | N | LEC | N | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): Biological Sciences (Biology and Society) BS major; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| BIO | 308 | Plant Physiology | Concepts of plant function: carbon metabolism, energy acquisition, regulation of growth and development, stress responses, and water and nutrient uptake. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s) with C or better: BIO 181 (or BIO 188) and BIO 182 (or BIO 187 or both PLB 200 and 201) OR BIO 281 and 282; CHM 116; Credit is allowed for only BIO 308 or PLB 308 |
| BIO | 309 | Plant Anatomy | Development and mature structure of tissues of vascular plants; patterns and modifications of the leaf, stem, root, and flower. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): BIO 181 with C or better; BIO 182 or PLB 200 with C or better OR BIO 281 with C or better; BIO 282 with C or better |
| BIO | 310 | Special Problems and Techniques | Qualified undergraduates may investigate a specific biological problem under the direction of a faculty member. | N | IND | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-3 | | |
| BIO | 311 | Biology and Society | Explores interactions between biological sciences and society, e.g., biomedical, environmental, ethical, historical, legal, philosophical, political, and social issues. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better OR BIO 281 with C or better; BIO 282 with C or better; Credit is allowed for only BIO 311 or HPS 340 OR Visiting University Student |
| BIO | 312 | Bioethics | Critical examination of moral questions arising in biomedical contexts, particularly due to new technologies and scientific discoveries. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | HU | Prerequisite(s): minimum 45 hours; Credit is allowed for only BIO 312 or IAS 340 or PHI 320 OR Visiting University Student |
| BIO | 313 | The Flora of Arizona | Overview of Arizona's flora and plant communities; emphasizes identification, classification, and natural history of the state's native vascular species. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s) with C or better: BIO 181 (or BIO 188) and BIO 182 (or BIO 187 or both PLB 200 and 201) OR BIO 281 and 282; Credit is allowed for only BIO 313 or PLB 310 |
| BIO | 314 | Research Colloquium in Biology and Society I | Develops critical thinking abilities, research methods and writing skills for research in the interactions between biological sciences and society. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): Biological Sciences (Biology and Society) BS major; ENG 101, 105, or 107 with C or better; Pre- or corequisite(s): BIO 307 with C or better if completed OR Visiting University Student |
| BIO | 315 | Science, Values, and the Public | Examines science, communication, and a range of public opinion to understand science as a discourse of profound social power. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Minimum 35 hours; Credit is allowed for only ENG 370 or BIO 315 |
| BIO | 316 | History of Biology: Conflicts and Controversies | Focuses on 19th and 20th centuries, considering biology as a discipline. Evolution, problems of heredity, development, and cell theory. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | H | Credit is allowed for only BIO 316 or HPS 330 OR Visiting University Student |
| BIO | 317 | History of Science II | Development and application of scientific thinking from the 18th century to the present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | HU & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only BIO 317 or HPS 323 OR Visiting University Student |
| BIO | 318 | History of Medicine | Scientific study of the human body, changing theories of disease, evolution of practical opinions on treatment, and the emerging institutionalization of medical practice. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | HU & H | Credit is allowed for only BIO 318 or HPS 331 OR Visiting University Student |
| BIO | 320 | Fundamentals of Ecology | Organization, functioning, and development of ecological systems; energy flow; biogeochemical cycling; environmental relations; population dynamics. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 181 with C or better; BIO 182 (or PLB 200) with C or better; CHM 116 or 118 with C or better OR BIO 281 with C or better; BIO 282 with C or better; CHM 116 or 118 with C or better OR Visiting University Student |
| BIO | 321 | Introductory Ecology Laboratory | Lab and field observations and experiments to test current concepts and theories in ecology. | N | LAB | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 2 | | Pre- or corequisite(s): BIO 320 with C or better if completed OR Visiting University Student |
| BIO | 322 | Conservation of Biodiversity | Species-level approaches to the protection, management, and restoration of biological resources from scientific and policy perspectives. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 181 with C or better; BIO 182 (or PLB 200) with C or better OR BIO 281 with C or better; BIO 282 with C or better OR Visiting University Student |

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| BIO | 323 | Ecosystem Restoration and Management | Ecosystem-level approaches to the protection, management, and restoration of biota and ecosystem processes from local to global scales. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 181 with C or better; BIO 182 (or PLB 200) with C or better OR BIO 281 with C or better; BIO 282 with C or better |
| BIO | 324 | Environmental Ethics | Examines a full range of philosophical positions pertaining to our moral relationship to the natural world; anthropocentrism, individualism, biocentrism. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | HU | Credit is allowed for only BIO 324 or PHI 310 OR Visiting University Student |
| BIO | 325 | Oceanography | Introduces marine geology, chemistry, and physical and biological oceanography. Methods of oceanic exploration, environmental and social aspects of oceans. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s) w/ C or better: BIO 100, BIO 182, BIO 282, SES 220, SES 225, or both GLG 101 & 103, or both SES 121 & 123; CHM 101, 113, 114, 117, or both CHM 107 & 108; Credit allowed for only BIO 325 or CHM 385 or GLG 325 OR Visiting University Student |
| BIO | 327 | Evolution of Human Behavior | Examines how evolutionary theory informs our understanding of human behavior, psychology and culture. Explores evolutionary explanations of human behavioral variation and cultural diversity and the influence of natural selection on shaping human cognition. Topics include nepotism, economic decisions, behavioral strategies throughout the life course, mate choice and sexual behavior, perception and judgment, motivation and emotions, social learning and culture, cooperation and prosociality, interpersonal violence and warfare, and norms and moral sentiments. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): ASM 104, BIO 181 or 282 with C or better; Credit is allowed for only ASM 342 or BIO 327 |
| BIO | 328 | History of Science I | Development and application of scientific thinking from ancient times through the 17th century. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | HU & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only BIO 328 or HPS 322 OR Visiting University Student |
| BIO | 331 | Animal Behavior | Theories of evolutionary, genetic, physiological, and ecological bases of animal behavior. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s) with C or better: BIO 181; BIO 182 OR BIO 281; BIO 282; Credit is allowed for only BIO 331 or LSC 331 OR Visiting University Student |
| BIO | 340 | General Genetics | Science of heredity and variation. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prereqs w/C or btr: non-Molec Biosci&Biotec maj; BIO 181; BIO 182 OR non-Molec Biosci&Biotec maj; BIO 181, BIO 281 or MBB 245; MBB 247 OR non-Molec Biosci&Biotec maj; BIO 281; BIO 282; Credit allowed for BIO 340 or MBB 347 OR Visiting University Student |
| BIO | 342 | General Genetics Laboratory | Explores general principles of inheritance with special reference to Mendelian, molecular, and computational genetics via lab experiments. | N | LAB | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 2 | | Prerequisite(s): BIO 340 with C or better; Credit is allowed for only BIO 342 or MBB 347 OR Visiting University Student |
| BIO | 343 | Genetic Engineering and Society | Introduces genetic engineering, with emphasis on applications (transgenic plants and animals, cloning, vaccines, therapeutics, and diagnostics). | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 4 | L | Prerequisite(s): BIO 340 or MBB 347 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only BIO 343 or MBB 343 OR Visiting University Student |
| BIO | 345 | Evolution | Processes of adaptive change and speciation in sexual populations. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 340, LSC 347, or MBB 347 with C or better OR Visiting University Student |
| BIO | 351 | Developmental Biology | Principles of developmental biology, including the development of major organ systems and their underlying molecular and cellular mechanisms. Illustrated mainly using vertebrate examples. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 340 or LSC 347 or MBB 347 with C or better OR Visiting University Student |
| BIO | 352 | Laboratory in Vertebrate Developmental Anatomy | Morphology of representative embryonic and adult vertebrates. | N | LAB | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 2 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better OR BIO 281 with C or better; BIO 282 with C or better; Pre- or corequisite(s): BIO 351 with C or better OR Visiting University Student |
| BIO | 353 | Cell Biology | Surveys major topics in cell biology, including structural, biochemical, and molecular aspects of cell function. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s) with C or better: BIO 181; BIO 182; CHM 116 or 118 OR BIO 281; BIO 282; CHM 116 or 118 OR Biomedical Engineering BSE major; BIO 181; CHM 114 or 116 OR Visiting University Student |
| BIO | 354 | Cell Biology Laboratory | Investigational lab using modern molecular and cellular techniques to analyze molecular, biochemical, and anatomical traits of cells. | N | LAB | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Pre- or corequisite(s): BIO 353 with C or better if completed OR Visiting University Student |

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| BIO | 355 | Introduction to Computational Molecular Biology | Introduces the mathematical skills used in molecular biology, genomics, and bioinformatics. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | CS | Prerequisite(s): MAT 119, 210, 243, 251, 265, or 270 or STP 220, 226, or 231 with C or better; Credit is allowed for only BIO 355 or CPI 480 or MAT 355 or MBB 355 OR Visiting University Student |
| BIO | 357 | Cell and Molecular Biology Laboratory | Laboratory concepts and techniques central to cell biology and molecular biology emphasize principles and the interplay of these two sub disciplines. Intended for life sciences, biology, and health-related science majors. | N | LAB | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 2 | | Prerequisite(s): BIO 353 with C or better; Credit is allowed for only BIO 357 or BIO 394 (Cell and Molecular Biology Laboratory) OR Visiting University Student |
| BIO | 360 | Animal Physiology | Principles and mechanisms of physiological regulation in animals, with a focus on humans. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better OR BIO 281 with C or better; BIO 282 with C or better; CHM 116 or 118 with C or better OR Visiting University Student |
| BIO | 361 | Animal Physiology Laboratory | Experimental lab studies of physiological mechanisms in animals and model systems. | N | LAB | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 2 | | Pre- or corequisite(s): BIO 360 with C or better if completed OR Visiting University Student |
| BIO | 363 | From Cells to Society: Understanding Complexity | Equips students with concepts and empirical examples they need to understand the role of complexity in the world around them. Complexity science is based on the fundamental principle that entities and phenomena in the world around us are systems composed of many parts that interact to produce their global characteristics. For example, cells interact to produce organs and tissues, which in turn interact to produce physiological processes (i.e., the capacity to metabolize food to produce new compounds and energy) and physical infrastructure (skeletal and muscular structure) which produce organisms. Organisms, (e.g., humans) interact to form groups, villages, cities, nations. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AML/ASB/BIO/SOS 394 (From Cells to Societies) or ASB 363 or BIO 363 or CAS 363 or SOS 363 OR Visiting University Student |
| BIO | 370 | Vertebrate Zoology | Characteristics, classification, evolution, and natural history of the major groups of vertebrate animals. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better OR BIO 281 with C or better; BIO 282 with C or better OR Visiting University Student |
| BIO | 382 | Spanish for Biomedical Sciences | Focuses on developing the communicative skills necessary to engage students with the human aspect of health in Spanish. Students develop cultural and linguistically appropriate skills which address the communication needs across the healthcare continuum, to provide culturally competent services. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): SPA 202, 204, or 210 with C or better or Spanish placement test score of 521+; Credit is allowed for only BIO 382 or BIO 394 (Spanish Biomedical Sciences) or SPA 382 or SPA 394 (Spanish Biomedical Sciences) OR Visiting University Student |
| BIO | 385 | Comparative Invertebrate Zoology | Characteristics, life cycles, adaptations, and evolution of invertebrate animals. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better OR BIO 281 with C or better; BIO 282 with C or better |
| BIO | 386 | General Entomology | Specialized focus on form, activities, and classification of insects. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better OR BIO 281 with C or better; BIO 282 with C or better OR Visiting University Student |
| BIO | 389 | School of Life Sciences Undergraduate Research Scholar | While performing undergraduate research at ASU, students gain exposure to contemporary issues in research excellence, mentoring skills, and professional development. Goals include: enriching individual lab research experiences of each student by bringing them together in a peer-community environment; introducing students to the resources they have at their disposal (e.g., on campus, online) to facilitate research productivity and career planning; rigorously evaluating their research processes and products, in light of their eventual professional plans. | N | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): School of Life Sciences major; minimum 3.00 GPA OR Visiting University Student |
| BIO | 390 | Medical/Dental Field Placement | Field placement for students exploring a career in a health profession. Requires classroom sessions and fieldwork. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | |
| BIO | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| BIO | 400 | Topics in Neuroscience | Covers in-depth important and emerging developments in neuroscience, emphasizing lectures that include readings of recent reviews and contemporary publications in peer-reviewed journals. Includes a significant writing component; students learn skills for writing scientific publications and grant applications. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 360 with C or better; Credit is allowed for only BIO 400 or KIN 400 or PSY 400 or SHS 400 |

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| BIO | 403 | Evolutionary Medicine and Global Health | Fundamentally, the practice of medicine is applied biology to improve human health and well-being and is embedded within population and global scales. Integrates the life and social sciences to tackle the current and emerging global health challenges of the 21st century with an evolutionary biology lens with current medical knowledge enhancing our understanding of health. Uses topics such as human-pathogen coevolution; development and aging; human migration; diseases (infectious, metabolic and autoimmune); and physiological and behavioral mechanisms of immunity to explore the broad arena of human health within a deep time and global context. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prereq(s): min 45 hrs; Credit is allowed for only ASM 403 or ASM 494(Evol Med & Gbl Hlth) or ASM 503 or ASM 598(Evol Med & Gbl Hlth) or BIO 403 or BIO 494(Evol Med & Gbl Hlth) or BIO 510 or BIO 598(Evol Med & Gbl Hlth) OR Visiting University Student |
| BIO | 405 | Sonoran Desert Field Botany | Plants are the most important organisms on the planet and a fundamental knowledge of them is critical for any biological career--especially the fields of conservation, ecology, sustainability and systematics. Arizona is a diverse state and therefore, an ideal place to explore a wide variety of landscapes and their constituent plants. Introduces the important species of the Sonoran Desert within about a 50-mile radius of Tempe. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): minimum 45 hours; Credit is only allowed for BIO 405 or BIO 498 (Sonoran Desert Field Botany) |
| BIO | 407 | Novel Ecosystems | This primarily field course challenges preconceptions and received wisdom. Visit and discuss a variety of sites within about one hour's drive of ASU Tempe. These sites range from apparently relict desert mountain parks to effluent-dominated wetlands, active agricultural fields, newer and older commercial and residential areas, recreational ponds and (presently) abandoned vacant lots. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 320; BIO 322 or 323 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only BIO 407 or BIO 494 (Novel Ecosystems) OR Visiting University Student |
| BIO | 408 | Advanced Evolutionary Medicine | Explores the application of the principles of evolution to the fields of medicine and public health and places disease in the context of changing environments, both exposures and the encompassing ecology of life in which an individual is imbedded. Focuses on the biological aspects of evolutionary theory through the use of molecular genetics; population genetics; and the use of evolutionary thinking and analysis with translational, clinical and public health intersections. A foundation in evolutionary medicine is useful for students with interests including but not limited to: premed, population genomics, maternal and child health, mental health, cancer, microbiome, aging, anthropology, biology, public health, global health and medicine. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): minimum 30 hours; Credit is allowed for only ASB 408 or ASB 494 (Evolutionary Med) or ASB 507 or ASB 591 (Evolutionary Med) or BIO 408 or BIO 494 (Evolutionary Med) or BIO 507 or BIO 591 (Evolutionary Med) OR Visiting University Student |
| BIO | 410 | Techniques in Conservation Biology and Ecology | Lecture, field, and laboratory experience in techniques used in conservation biology and ecology. Course is modular, with each module instructed by a discipline-specific expert (e.g., plant ecologist, mammal conservationist, soil ecologist). | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; BIO 320 with C or better; BIO 322 or BIO 323 with C or better |
| BIO | 411 | Quantitative Methods in Conservation and Ecology | Quantitative methods in conservation ecology: develop mathematical models of ecological and natural resource systems and use the models to better understand and inform management of ecosystems. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): BIO 320 or 322 with C or better; BIO 415 or STP 226 or STP 231 with C or better; MAT 210, 251, 265, or 270 with C or better OR Visiting University Student |
| BIO | 412 | Conservation in Practice | Global biodiversity patterns, processes, and conservation; global environmental change; sustainable use of natural resources; emphasizing international approaches to conservation biology. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only BIO 412 or SOS 412 |
| BIO | 414 | Research Colloquium in Biology and Society II | Further develops critical thinking abilities, research methods and writing skills for research in the interactions between biological sciences and society. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): BIO 307 with C or better; BIO 314 with C or better; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| BIO | 415 | Statistical Models for Biology | Statistical methods applied to biological problems, design of experiments, estimation, significance, analysis of variance, regression, correlation, chi square, and bioassay; the use of computers. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 4 | CS | Prerequisite(s): MAT 210, MAT 251, MAT 265, MAT 270, STP 226, or STP 231 with C or better; Credit is allowed for only BIO 415 or BIO 514 OR Visiting University Student |
| BIO | 416 | Biomedical Research Ethics | Considers issues related to values in science such as collaboration, finances, legal issues, media, mentoring, ownership of ideas, scientific integrity. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only BIO 416 or HPS 410 OR Visiting University Student |
| BIO | 417 | Experimental Design | Fixed, random, mixed models; crossed and nested factorial designs; balanced and unbalanced data; completely randomized, blocked, repeated measure designs; ANCOVA. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 415 with C or better |
| BIO | 418 | Soil Ecology | Soils viewed in an ecosystem context, soil-plant relationships, nutrient budgets, and abiotic factors that influence soil processes. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Pre-requisite: ABS 370 or BIO 320. Credit is allowed for only ABS 434 or BIO 418 |

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| BIO | 419 | Physiological Plant Ecology | Physiological and morphological responses and adaptations of plants to their environment, emphasizing mechanisms that influence carbon and water balance, growth, and population distributions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 320 or PLB 308 with C or better; Credit is allowed for only BIO 419 or PLB 419 or BIO 519 or PLB 519 |
| BIO | 420 | Immunology: Molecular and Cellular Foundations | Antibody/antigen interactions, cellular response, cytokines, immunogenetics, immunoregulation, autoimmunity, psychoneuroimmunology research/medical perspectives. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 353, BIO 360, or MIC 220 with C or better; Credit is allowed for only BIO 420 or MIC 420 OR Visiting University Student |
| BIO | 421 | Landscape Ecology | Discusses how landscape heterogeneity interacts with ecological processes, and implications for biodiversity conservation, resource management, and landscape and urban planning. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 320 with C or better; Credit is allowed for only BIO 421 or BIO 521 or SOS 421 or SOS 521 OR Visiting University Student |
| BIO | 422 | Ecosystem Ecology | Explores the structure, development and dynamics of ecosystems, with a focus on the exchange of energy and materials between the atmosphere, soils, water, biosphere, and anthro-sphere. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 320 with C or better; Credit is allowed for only BIO 422 or BIO 494 (Ecosystem Ecology) |
| BIO | 423 | Population and Community Ecology | Organization and dynamics of population and communities. Theoretical and empirical approaches. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 320 with C or better |
| BIO | 425 | Marine Conservation Ecology | Marine conservation biology is increasingly important for society, as evidenced by frequent media coverage and the recent report by the U.S. Commission on Ocean Policy. Expect exposure to multiple perspectives on important conservation issues in the marine environment and gain valuable experience in critical thinking, communication skills, and the use of science in effective debate. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better OR BIO 281 with C or better; BIO 282 with C or better OR Visiting University Student |
| BIO | 426 | Limnology | Structure and function of aquatic ecosystems, with emphasis on freshwater lakes and streams. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3-4 | L | Prerequisite(s): BIO 320 with C or better; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| BIO | 427 | Fire | A survey of fire on Earth--history, ecology, behavior, and management. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | H | Prerequisite(s): BIO 181 with C or better; BIO 182 (or PLB 200) with C or better OR BIO 281 with C or better; BIO 282 with C or better |
| BIO | 429 | Human Impacts on Ecosystem Functioning | Explores our current understanding of how humans are impacting the functioning of ecosystems and how changes in ecosystems would affect provisioning of ecosystem services and ultimately human well-being. The two primary drivers of ecosystem change are growth of the human population and increased consumption per capita. These drivers affect the Earth's cycles of carbon, nitrogen and water, as well as regional and global-scale changes in biodiversity and climate. Includes an in-depth discussion of scenarios for the next 50 and 100 years, which articulate costs and benefits of alternative development pathways in terms of climate change, food production, clean water and biodiversity. Scenarios of change in biodiversity lead to the topic of the consequences of biodiversity change for the functioning of ecosystems from the point of view of their productivity and stability. Human activities have disrupted several biogeochemical cycles including nitrogen and carbon cycles. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 320 (or SOS 326); Credit is allowed for only BIO 429, BIO 528, SOS 429, SOS 528, or SOS 494/598 (Human Impacts on Ecosystem Functioning), or BIO 494/598 (Human Impacts on Ecosystem Functioning) |
| BIO | 430 | Plant Geography | Plant communities of the world and their interpretation, emphasizing North American plant associations. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 181 or GPH 111 or PLB 200 with C or better; Credit is allowed for only BIO 430 or GPH 422 or PLB 422 |
| BIO | 431 | Genes, Development, and Evolution | Contribution of genes, developmental processes, and evolution to pattern of phenotypic variation, including disease. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | L | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better; ENG 101, 105, or 107 with C or better OR BIO 281 with C or better; BIO 282 with C or better; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| BIO | 432 | Why People Steal, Cheat and Lie | Explores the ecological and evolutionary causes of selfishness and cooperation in human societies. Students apply biological models to predict patterns of behavior in human populations and evaluate these models with empirical data. Develops new scientific and philosophical perspectives on human behavior by integrating ideas from complementary disciplines, including biology, psychology, anthropology, criminology, sociology and philosophy. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | SB | Prerequisite(s): BIO 182 or 282; Credit is allowed for only BIO 432 or BIO 494 (Why People Steal, Cheat, and Lie) OR Visiting University Student |
| BIO | 434 | People and Nature: Ecosystem Services | Explores the drivers of biodiversity change and the consequences they have for human wellbeing, taking both an ecological and an economic perspective. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Pre-requisites: MAT 117 or higher or SOS 101; junior standing. Credit is allowed for only BIO 434, SOS 434, or BIO 494 (Ecosys Servcs:People&Nature) |

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| BIO | 435 | Research Techniques in Animal Behavior | Experimental and field studies of animal behavior; description and quantification of animal behavior and interpretation of behavior within an evolutionary framework. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 331 with C or better |
| BIO | 436 | Sociobiology and Behavioral Ecology | Surveys animal and human social behavior examined from ecological and evolutionary perspectives using theoretical and empirical constructs. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 331 with C or better OR Visiting University Student |
| BIO | 438 | Marine Biology | Covers the marine habitat, the organisms that live in it and their ecology, in the open water as well as on the sea floor, from coasts to open sea. Includes aspects of oceanography, ecology and biology of marine organisms, ranging from the smallest plankton to whales, as well as issues related to the changing marine environment and conservation. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): with C or better: BIO 181; BIO 182; BIO 320 or 325 OR BIO 281; BIO 282; BIO 320 or 325; Credit is allowed for only BIO 438 or BIO 494 (Marine Biology) or LSC 434 OR Visiting University Student |
| BIO | 439 | Computing for Research | Works mainly with command-line programs for data analysis, with a major focus on sequence-based analysis. An interactive flipped course, with required hands-on aspects both in class trouble-shooting and for out-of-class assignments where students work on problem-solving and implementation. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s) with C or better: BIO 181; BIO 182 OR BIO 281; BIO 282; Credit is allowed for BIO 439 or BIO 539 or EVO 539 or MCB 539 or BIO 498 (Computing Rsrch) or BIO 598 (Computing Rsrch) or EVO 598 (Computing Rsrch) or MCB 598 (Computing Rsrch) |
| BIO | 440 | Functional Genomics | Covers emerging fields of genomics and proteomics. Discusses key technologies and their applications to the study of genomes. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 340 or LSC 347 or MBB 347 with C or better; Credit is allowed for only BIO 440 or MBB 440 or MCB 540 |
| BIO | 443 | Applied Molecular Genetics and Genomics | Nature and function of the gene; emphasizes the molecular genetic disease states; molecular biology; regulation of gene expression; genomics. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): LSC 347 with C or better; CHM 233 with C or better; CHM 237 with C or better |
| BIO | 446 | Principles of Human Genetics | Molecular and cellular analysis of the human genome. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | L | Prerequisite(s): ASM 301, BIO 340, LSC 347, or MBB 347 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only ASM 446 or ASM 546 or BIO 446 or BIO 546 OR Visiting University Student |
| BIO | 448 | Maternal and Child Health | Explores how genetics, nutrition, disease ecology, clinical access, legal systems, cultural practices and historical context contribute to maternal and child health. Draws from diverse fields including epidemiology, anthropology, biology, medicine, global health, public policy and sustainability to integrate a complex understanding of the myriad influences that shape maternal and child health and thereby affect our broader society. Evaluates the translation of basic science into clinical practice and public policy as well as the roles and partnerships among local, national and international organizations for improving human health worldwide. Provides up-to-date information about basic science, public policy and global health of maternal and child health to develop skills translatable in the workforce. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prereq(s): minimum 45 hours; Credit is allowed for only ASB 448 or ASB 494 (Matrnl &Chld Hlth) or ASB 548 or ASB 598 (Matrnl &Chld Hlth) or BIO 448 or BIO 494 (Matrnl &Chld Hlth) or BIO 548 or BIO 598 (Matrnl &Chld Hlth) OR Visiting University Student |
| BIO | 450 | Advanced Developmental Biology | Current concepts and experimental methods involving differentiation and biosynthetic activities of cells and organisms, with examples from microorganisms, plants, and animals. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 351 with C or better |
| BIO | 451 | Cell Biotechnology: Cell Culture, Immunocytochemistry and Bioimaging | Fundamentals of creating and maintaining cell culture for the purpose of experimental design and analysis. Cell culture technique, cell behavior, cell signaling and regulation, histology, transgenic fluorescent protein expression, immunocytochemistry and various bioimaging techniques including live cell, epi-fluorescent and confocal microscopy. Working with established cancer-derived cell lines and primary neural disassociated cultures, students perform various experimental techniques for cell imaging preparation and acquisition. Focuses on image analysis and presentation using ImageJ. During the second half of the semester, students propose and develop an experimental project in which they will collect data, do analysis and prepare the results for a final project presentation. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): BIO 343, BIO 353, MBB 343 or MBB 347 with C or better; Credit is allowed for only BIO 451 or BIO 551 OR Visiting University Student |
| BIO | 452 | Philosophy of Biology and Medicine | Examines fundamental topics in the philosophy of biology and their implications for medicine. Examples include biological mechanisms and evidence-based medicine, species concepts and race, reductionism and the nature of individuality, and theories of function and health. Uses these topics throughout the semester to address two overarching questions about whether biology is fundamentally different from physics and whether medicine can be reduced to applications of biology. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): minimum 25 hours; Credit is allowed for only BIO 452 or HPS 452 or PHI 452 or BIO/HPS/PHI 394 (Philosophy of Biology and Medicine Introduction) or BIO/HPS/PHI 494 (Philosophy of Biology and Medicine) OR Visiting University Student |

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| BIO | 453 | Animal Histology | Microscopic study of animal tissues. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s) with C or better: BIO 201, 353, or 360 or MIC 220 |
| BIO | 461 | Comparative Animal Physiology | A comparative approach to understanding the function of animal physiological systems. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 360 with C or better OR Visiting University Student |
| BIO | 462 | Endocrine Physiology | Mechanisms of action of hormones; endocrine control of homeostasis, growth, stress responses, and reproduction. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 360 with C or better OR Visiting University Student |
| BIO | 465 | Neurophysiology | Detailed treatment of cellular and organismal neurophysiology and nervous system function. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 360 with C or better |
| BIO | 467 | Neurobiology | Introduces major areas of neurobiology, from fundamental cellular and molecular processes through systems neuroscience and neural bases of behavior. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 360 with C or better; Credit is allowed for only BIO 467 or BIO 476 or BIO 477 OR Visiting University Student |
| BIO | 471 | Ornithology | Biology of birds. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better OR BIO 281 with C or better; BIO 282 with C or better OR Visiting University Student |
| BIO | 472 | Mammalogy | Classification, structure, habits, ecology, and distribution of mammals, emphasizing North American forms. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better OR BIO 281 with C or better; BIO 282 with C or better |
| BIO | 474 | Herpetology | Classification, structure, habits, ecology and distribution of reptiles and amphibians, emphasizing North American forms. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better OR BIO 281 with C or better; BIO 282 with C or better OR Visiting University Student |
| BIO | 475 | Advanced Human Anatomy | Continues study of the human body. Specifically, explores and differentiates anatomic concepts at an advanced level. Additional didactic assignments designed to facilitate critical evaluation of pathophysiological principles and common misconceptions of human physiology, as well as a capstone presentation project. Grades are determined by class exercises, presentations and a series of critical thinking exercises. | N | LEL | Y | GNA | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 201 with C or better; BIO 202 with C or better OR BIO 360 with C or better; Credit is allowed for only BIO 475 or BIO 494 (Advanced Study Practicum: Anatomy & Physiology) OR Visiting University Student |
| BIO | 476 | Cellular and Molecular Neuroscience | Explores the cellular and molecular neurobiology of the central nervous system across many levels (genetic, molecular, cellular and network) by examining the principles underlying the function of individual neurons and how these principles give rise to integrated neuronal networks. Emphasizes critical thinking and problem solving in all evaluation exercises, including daily class participation. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 360 with C or better; Credit is allowed for only BIO 467 or BIO 476 OR Visiting University Student |
| BIO | 477 | Systems and Behavioral Neuroscience | Explores the functions of the nervous system across many levels (genetic, molecular, cellular and network) in regard to how neural systems produce behavior, and how problems (e.g., injury, disease) of the CNS arise and can be overcome. Examines principles underlying the function of individual neurons and how these principles give rise to integrated neuronal networks. Emphasizes critical thinking and problem solving in all evaluation exercises, including daily class participation. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 476 with C or better; Credit is allowed for only BIO 467 or BIO 477 OR Visiting University Student |
| BIO | 480 | Methods of Teaching Biology | Methods of instruction, experimentation, organization, and presentation of appropriate content in biology. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 181 with C or better; BIO 182 (or PLB 200) with C or better OR BIO 281 with C or better; BIO 282 with C or better |
| BIO | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | |
| BIO | 486 | Peer Mentoring in STEM | Advanced students learn and apply mentoring skills in science classes or teaching labs. | Y | SEM | Y | YGB | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ACO 486 or BIO 486 or LSC 486 or MAT 486 or PTX 486 or STP 486 OR Visiting University Student |
| BIO | 489 | School of Life Sciences Undergraduate Research Fellow | While performing undergraduate research at ASU, students gain exposure to contemporary issues in research excellence, mentoring skills, and professional development. Goals include: enriching individual lab research experiences of each student by bringing them together in a peer-community environment; introducing students to the resources they have at their disposal (e.g., on campus, online) to facilitate research productivity and career planning; rigorously evaluating their research processes and products, in light of their eventual professional plans. | N | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): School of Life Sciences major; minimum 3.50 GPA OR Visiting University Student |
| BIO | 490 | Surgical Field Placement | Advanced field placement for students exploring a career in a health profession. Requires classroom sessions and fieldwork. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 390 with C or better OR Visiting University Student |

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| BIO | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| BIO | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| BIO | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| BIO | 495 | Undergraduate Research | Supervised research in biology/microbiology/molecular biosciences and biotechnology/or plant biology. | Y | RSC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-3 | | Prerequisite(s): junior or senior standing OR Visiting University Student |
| BIO | 496 | Undergraduate Thesis | Guided research culminating in the preparation of an undergraduate thesis based on supervised research done in this and previous semesters. | N | RSC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): junior or senior standing; Credit is allowed for only BIO 496 or HPS 496 or MBB 496 or MIC 496 OR Visiting University Student |
| BIO | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-7 | | |
| BIO | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-3 | | |
| BIO | 500 | Research Methods | Course on research methods in a specific discipline. | Y | RSC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 502 | Transmission Electron Microscopy | Theory, use, and methods of preparing biological materials for transmission electron microscopy. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Pre/Co-requisites: BIO 504 |
| BIO | 503 | Bioimaging Lab | Provides a fundamental understanding of light-based microscopy through the training and use of instruments contained within the Biodesign Imaging Facility (part of the Advanced Light Microscopy Facility, ASU Biosciences Core). Examines the use and research applications of bright field, contrast, epi-fluorescent, total internal reflective fluorescence (TIRF), confocal and super-resolution microscopy modalities. Gives additional focus to image ethics, analysis and presentation using programs such as Elements and FIJI. During the second half of the semester, students propose and develop an experimental project based on their graduate research in which they collect data, do analysis and prepare results for a final project presentation. | N | LAB | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 2 | | Pre- or corequisite(s): BIO 504 |
| BIO | 504 | Bioimaging | Lecture survey of modern techniques for imaging tissues, cells, and macromolecules, including light microscopy (e.g. video, fluorescence, confocal, multiphoton, single molecule), electron microscopy (e.g. transmission, scanning, cryogenic, tomographic) and ancillary techniques. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 506 | Clinical Gross Anatomy | Dissection of the human body with an emphasis on the application of anatomical knowledge to clinical applications. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 6 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASM 506 or BIO 506 |
| BIO | 507 | Advanced Evolutionary Medicine | Explores the application of the principles of evolution to the fields of medicine and public health and places disease in the context of changing environments, both exposures and the encompassing ecology of life in which an individual is imbedded. Focuses on the biological aspects of evolutionary theory through the use of molecular genetics; population genetics; and the use of evolutionary thinking and analysis with translational, clinical and public health intersections. A foundation in evolutionary medicine is useful for students with interests including but not limited to: premed, population genomics, maternal and child health, mental health, cancer, microbiome, aging, anthropology, biology, public health, global health and medicine. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking grad stdnt; Credit is allowed for only ASB 408 or ASB 494 (Evol Medicine) or ASB 507 or ASB 591(Evol Medicine) or BIO 408 or BIO 494 (Evol Medicine) or BIO 507 or BIO 591 (Evol Medicine) |
| BIO | 510 | Evolutionary Medicine and Global Health | Fundamentally, the practice of medicine is applied biology to improve human health and well-being and is embedded within population and global scales. Integrates the life and social sciences to tackle the current and emerging global health challenges of the 21st century with an evolutionary biology lens with current medical knowledge enhancing our understanding of health. Uses topics such as human-pathogen coevolution; development and aging; human migration; diseases (infectious, metabolic and autoimmune); and physiological and behavioral mechanisms of immunity to explore the broad arena of human health within a deep time and global context. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit for only ASM 403 or ASM 494(Evol Med & Gbl Hlth) or ASM 503 or ASM 598(Evol Med & Gbl Hlth) or BIO 403 or BIO 494(Evol Med & Gbl Hlth) or BIO 510 or BIO 598(Evol Med & Gbl Hlth) |

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| BIO | 514 | Statistical Models for Biology | Fundamental concepts of statistics and how to apply a range of standard statistical tools to the analysis of biological data. Uses the software applications SPSS and R to carry out these tests, and how to identify the particular situations in which each test is appropriate. Topics include: basic probability, descriptive statistics, estimation, hypothesis testing, t-tests, analysis of variance, regression, correlation, chi-square analysis, randomization tests, and nonparametric statistics. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 415 or BIO 514 |
| BIO | 515 | Science, Technology and Public Affairs | Explores the political, economic, cultural, and moral foundations of science and technology policy and governance in democratic society. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only BIO 515 or GLG 547 or HSD 515 or PAF 547 or SOS 516 |
| BIO | 516 | Foundations of Bioethics | Advanced introduction to the theoretical and normative foundations of the field of bioethics. | N | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 517 | Uncertainty and Decision Making | Knowledge is always incomplete, yet decisions must be made. Explores uncertainty and its relation to decision making, with a particular focus on the ways that science and science-derived information is applied with the intent of improving decisions. Explores the many meanings and origins of uncertainty, using theoretical and case-based approaches. A central theme is the relation among uncertainty, scientific prediction, and decision making, especially in politically charged issues, for example as related to management of the environment. Ultimately understands how effective decisions can be made in the face of inevitable uncertainties and contested knowledge. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only ASB 517 or BIO 517 or BIO 591 (Uncertainty & Decision Making) or HSD 517 or POS 527 or SOS 518 |
| BIO | 518 | History of Biology | Covers themes such as the voyages of discovery, systematics, and classification; morphology and embryology; Darwin and evolutionary biology; the rise of genetics; molecular and organismal approaches of post-WWII biology; recent history of biology. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 518 or HPS 516 |
| BIO | 519 | Physiological Plant Ecology | Physiological and morphological responses and adaptations of plants to their environment, emphasizing mechanisms that influence carbon and water balance, growth, and population distributions | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only BIO 519, PLB 419 or PLB 519 |
| BIO | 521 | Landscape Ecology | Discusses how landscape heterogeneity interacts with ecological processes, and implications for biodiversity conservation, resource management, and landscape and urban planning. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only BIO 421 or BIO 521 or SOS 421 or SOS 521 |
| BIO | 522 | Populations: Evolutionary Ecology | Principles of population biology and community ecology within an evolutionary framework. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 522 or EVO 601 |
| BIO | 526 | Sustainability Science: Interactions Between Human and Environmental Systems | Addresses core ideas in sustainability science--an emerging field of research dealing with the interactions between human and environmental systems. The problem that motivates the course is the challenge of sustainability: improving the well-being of present and future generations in ways that conserve the planet's life support systems over the long term. Students critically discuss a set of presentations and papers covering the field in a systematic way, drawing on and integrating contemporary research from earth systems science, resource economics, institutional analysis, ecology, geography, development studies, health sciences, engineering, and other disciplines. Covers from the theory of sustainability to its multiple applications in the field and explores the impacts of different value systems on both theory and applications. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 526 or GCU 526 or SOS 526 or BIO 591 (Sust Sci: Int Btwn Hum &Env Sys) or GCU 591 (Sust Sci: Int Btwn Hum &Env Sys) or SOS 591 (Sust Sci: Int Btwn Hum &EnvSys) |
| BIO | 527 | Environmental Ethics and Policy Goals | Advanced seminar in applied environmental ethics, focusing on the most influential and policy-relevant approaches in the field of environmental ethics. Core topics include the historical and philosophical foundations of alternative understandings of environmental responsibility; the debate over utility and preservation in environmental policy argument; and the interplay of ethical principles, scientific knowledge and societal priorities in environmental decision making. Consideration of the ethical and value dimensions of biodiversity conservation, wilderness protection, environmental valuation, environmental activism, climate change and sustainability, among other challenges. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 527 or SOS 527 or BIO 591 (Environ Ethics & Policy Goals) |

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| BIO | 528 | Human Impacts on Ecosystem Functioning | Explores our current understanding of how humans are impacting the functioning of ecosystems and how changes in ecosystems would affect provisioning of ecosystem services and ultimately human well-being. The two primary drivers of ecosystem change are growth of the human population and increased consumption per capita. These drivers affect the Earth's cycles of carbon, nitrogen and water, as well as regional and global-scale changes in biodiversity and climate. Includes an in-depth discussion of scenarios for the next 50 and 100 years, which articulate costs and benefits of alternative development pathways in terms of climate change, food production, clean water and biodiversity. Scenarios of change in biodiversity lead to the topic of the consequences of biodiversity change for the functioning of ecosystems from the point of view of their productivity and stability. Human activities have disrupted several biogeochemical cycles including nitrogen and carbon cycles. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): Degree- or Nondegree-seeking graduate; Credit is allowed for only BIO 429, BIO 528, SOS 429, SOS 528, or SOS 494/598 (Human Impacts on Ecosystem Functioning), or BIO 494/598 (Human Impacts on Ecosystem Functioning) |
| BIO | 530 | Scientific Teaching | Guides graduate students to better understand issues related to undergraduate learning in science courses, and prepares students to become more effective teachers. Topics focus on emerging research that supports active and student-centered learning activities as well as methods that include the 5Es, concept-mapping, and "backward" design. Students reflect on their own teaching philosophy, and begin building an ePortfolio documenting and validating their ability to teach effectively. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only BIO 530 or 591 (Scientific Teaching) |
| BIO | 531 | Advanced Scientific Teaching | Further develops the teaching abilities of graduate students by applying knowledge into the more advanced teaching activities including large class sizes, diverse student populations, online delivery, and technology-integrated teaching. Students have more in-depth practice fully developing lesson plans, assessments and other teaching activities based on the concepts of evidence-based teaching. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only BIO 531 or BIO 594 (Advanced Scientific Teaching) |
| BIO | 532 | Recent Papers in Discipline-Based Education Research | Discipline-based education research is a newly emerging scholarly field that combines the knowledge of teaching and learning with the deep knowledge of discipline-specific science content. Currently, discipline-based education research is being used to transform the way we teach undergraduate science courses. Readings in recent papers in the field of discipline-based education research, spanning the disciplines of physics, chemistry, geosciences and biology. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 533 | K-12 STEM Education and Outreach | Trains students to create, evaluate and implement K-12 science lessons for science clubs, classrooms and other outreach activities, such as those organized by the ASU Graduate Partners in Science Education. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 494 (K-12 Stem Education) or BIO 533 or BIO 598 (K-12 Stem Education) |
| BIO | 539 | Computing for Research | Works mainly with command-line programs, focusing on sequence-based analysis. An interactive flipped course, with required hands-on aspects both in class debugging and troubleshooting and for out-of-class assignments where students work on problem solving and implementation. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 539 or EVO 539 or MCB 539 or BIO 498 (Comp for Research) or BIO 598 (Comp for Research) or EVO 598 (Comp for Research) or MCB 598 (Comp for Research) |
| BIO | 541 | SOLS Seminar Series | Explores cutting-edge research in the life sciences as presented by distinguished experts at Arizona State University and beyond, representing a diversity of concepts and perspectives. | N | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 542 | SOLS Current Topics in the Life Sciences | Explores current topics in the life sciences by discussing scientific experiments and results with peer scientists. Practices interpreting results and determining the significance of experimental findings, and gains experience with the culture of scientific discourse by giving short presentations, asking and answering questions. | N | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 543 | Molecular Genetics and Genomics | Advanced study of genetics, focusing on the molecular basis of inheritance and gene expression in eukaryotes and prokaryotes, and study of genomics, or the high-throughput analysis of the entire organism's genes and their function. Knowledge of general genetics recommended before registering for this course. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| BIO | 544 | Discovering Biodiversity | Collecting natural history specimens is not only an expression of our human curiosity for the natural world. This activity forms the evidential basis of much that we understand about biodiversity, its evolutionary history, and what changes take place across ecological space and time. How do biodiversity scientists build up this knowledge? More precisely, how do we create specimen-based information that drives our understanding of past, present and future trends in biodiversity? This research-active course gives critical skills in documenting biodiversity "from the specimen up." Students learn about current methods in biodiversity documentation in the field and research collection, including concepts and practices needed to collect, process, digitize, publish and analyze high-quality biodiversity data through open, standard-compliant information environments. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 494 (Discovering Biodiversity) or BIO 544 or EVO 598 (Discovering Biodiversity) |
| BIO | 545 | Populations: Evolutionary Genetics | Mathematical models in the description and analysis of the genetics of populations. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 546 | Principles of Human Genetics | Examines human molecular genetics from an evolutionary perspective, particularly analysis, current debates, the Human Genome Project, disease, ethics. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only ASM 446, 546, BIO 446 or 546 |
| BIO | 548 | Maternal and Child Health | Explores how genetics, nutrition, disease ecology, clinical access, legal systems, cultural practices and historical context contribute to maternal and child health. Draws from diverse fields including epidemiology, anthropology, biology, medicine, global health, public policy and sustainability to integrate a complex understanding of the myriad influences that shape maternal and child health and thereby affect our broader society. Evaluates the translation of basic science into clinical practice and public policy as well as the roles and partnerships among local, national and international organizations for improving human health worldwide. Provides up-to-date information about basic science, public policy and global health of maternal and child health to develop skills translatable in the workforce. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prereq(s): degree or non-degree seeking graduate student; Credit is allowed for only ASB 448 or ASB 494 (Matrnl &Child Hlth) or ASB 548 or ASB 598 (Matrnl &Child Hlth) or BIO 448 or BIO 494 (Matrnl &Child Hlth) or BIO 548 or BIO 598 (Matrnl &Child Hlth) |
| BIO | 549 | Phylogenetic Biology and Analysis | Basic theory and general concepts of phylogenetic inference as well as practical, hands-on experience with many of the commonly used methods for inferring and interpreting phylogenetic trees. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 551 | Cell Biotechnology | Fundamentals of creating and maintaining cell culture for the purpose of experimental design and analysis. Cell culture technique, cell behavior, cell signaling and regulation, histology, transgenic fluorescent protein expression, immunocytochemistry and various bioimaging techniques including live cell, epi-fluorescent and confocal microscopy. Working with established cancer-derived cell lines and primary neural disassociated cultures, students perform various experimental techniques for cell imaging preparation and acquisition. Focuses on image analysis and presentation using ImageJ. During the second half of the semester, students propose and develop an experimental project in which they collect data, do analysis and prepare the results for a final project presentation. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 451 or BIO 551 or BIO 598 (Cell Biotechnology Laboratory) |
| BIO | 552 | Developmental Genetics | Genetic approaches to the analysis of development during the life cycle of eukaryotic organisms, and the role of genes in the unfolding of the differentiated phenotype. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 557 | Practical Applications in Computational Life Sciences | Working group to troubleshoot challenges in computational life sciences. | N | LEC | Y | OP2 | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 498 (Pract Apps in Comp. Life Sci) or BIO 557 or BIO 598 (Pract Apps in Comp. Life Sci) or EVO 557 or EVO 598 (Pract Apps in Comp. Life Sci) |
| BIO | 564 | Cellular Physiology and Signaling | Emphasizes the molecular basis for cell structure, function and intercellular signaling. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| BIO | 568 | Stress and the Brain | Covers the fundamentals of stress and brain interactions. Presents a foundation from a historical perspective, then the basics of an organism's stress response, including the activation of the sympathetic nervous system and the hypothalamic-pituitary-adrenal axis. The stress response is highly conserved and allows organisms to respond and adapt to their environment. A highly effective and robust stress response facilitates adaptation and behavioral flexibility. However, a maladaptive stress response can produce detrimental outcomes. The ultimate goal is to understand the dynamic and reciprocal processes by which the stress response and brain interact to produce behavioral flexibility and resilience or detrimental outcomes. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s) degree- or nondegree-seeking graduate student; Credit is allowed for either BIO 568 or PSY 568 |
| BIO | 570 | Fundamentals of CAS Science | Many phenomena of critical relevance to human society are dynamic systems that change over individual and evolutionary time scales, and are highly interactive, both within and between systems. That is, they are complex adaptive systems (CAS), and thus share isomorphic properties like near-decomposability, hierarchical organization, scale-free networks, self-organized criticality, and emergence. Fundamentals of CAS science explores the diverse, interdisciplinary applications of a complex adaptive systems across the social, behavioral, and life sciences. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASM 570 or BIO 570 or CAS 570 or SOS 570 |
| BIO | 571 | Evolutionary Medicine Capstone | Provides a culminating experience in which students bring together the knowledge learned in prior courses in the program in a way that is meaningful and relevant to their professional goals. Focuses on projects that students carry out to demonstrate their ability to integrate the core concepts of evolutionary thinking and analysis; and places disease in the context of changing environments, exposures and the encompassing ecology of life in which an individual is embedded. Demonstrations weave perspectives from biology, anthropology, public health and medicine. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): Evolutionary Medicine graduate certificate student |
| BIO | 578 | Environmental Leadership and Communication | America remains inactive about the ramifications of critical societal challenges such as climate change, environmental hazards and living sustainably, and less than 2% of Congress has any professional background in science. Environmental issues are no longer local and solutions cannot remain provincial. Scientists must become envoys of knowledge that is global; science is now part of an unavoidable and contentious public discussion on these issues, and we need it to catalyze solutions. Increasingly, scientists who are communicators are moving into positions of leadership, engaging with society and changing their academic institutions from within. This seminar provides leadership training and important skills for early career scientists to communicate science. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 578 or BIO 591 (Environmental Leadership and Communication) |
| BIO | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| BIO | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 597 | Capstone | Provides a culminating experience for the MS Biology degree. Students bring together knowledge learned in prior courses in a way that is meaningful and relevant to their professional goals. Each student must summarize current knowledge on an important topic in the biological sciences, and demonstrate his or her ability to integrate core concepts of biological thinking. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 610 | Introduction to Responsible Conduct of Research (RCR) in Life Sciences | Introduces ethical and regulatory issues in the nine core areas of responsible conduct of research. Discusses real and hypothetical cases that tie broad ethical considerations to current concern of scientists. | N | REC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 611 | Current Topics in Responsible Conduct of Research (RCR) in Life Sciences | Explores a single topic in the responsible conduct of research in depth. Topic changes depending on current issues in responsible conduct of research as well as the interests of the instructor and students. Possible topics include: responsible authorship; conflicts of interest; human subjects research; and misconduct, data management, and academic integrity. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 615 | Biology and Society Lab | This course brings together graduate students, postdocs, and faculty members in biology and society. Sessions include panel discussions of biology and society topics from multiple perspectives, student-led discussions of important literature, practice presentations of papers for national meetings, discussion of dissertation and thesis ideas, and other activities that help to forge an active intellectual lab group. | N | LAB | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 615 or HPS 615 |
| BIO | 620 | Research Prospectus Writing | Workshop-style course where students develop and peer review graduate-level project prospectuses, such as those for NSF grant proposals, journal articles, theses, and dissertations. Appropriate for graduate students in Biology and Society, History and Philosophy of Science, the life sciences, and related programs. | N | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only BIO or HPS 620 |
| BIO | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIS | 343 | Social Processes in Organizations | Examines social processes and human interactions within different organizational contexts and engages in experiential learning through team-based projects. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum junior standing or minimum 56 hours; Credit is allowed for only BIS 343 or OGL 343 OR Visiting University Student |

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| BIS | 345 | Organizational Ethics | Explores and considers normative and applied ethics within a variety of organizations. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | HU | Prerequisite(s): minimum 45 hours; Credit is allowed for only BIS 345 or OGL 345 OR Visiting University Student |
| BIS | 350 | Diversity and Organizations | Students engage in a critical analysis of individual, cultural and organizational diversity. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 56 hours. Credit is allowed for only BIS 350 or OGL 350 OR Visiting University Student |
| BIS | 353 | Interdisciplinary Leadership | Offers interdisciplinary perspectives on the theory and practice of leadership in a range of organizational environments | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum junior standing |
| BIS | 357 | Assessment in Organizations | Considers the role and function of assessment in effective organizations. Provides the knowledge and tools required to identify, collect and analyze information to assess organizations. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum junior standing or minimum 56 hours; Credit is allowed for only BIS 357 or OGL 357 OR Visiting University Student |
| BLE | 220 | Foundations of Structured English Immersion | Examines current educational practices and historical legal issues. Prepares teacher candidates with a provisional Structured English Immersion endorsement. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | L | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; ENG 101, 105, or 107 with C or better; Credit is allowed for only BLE 220 or BLE 408 or ELL 515 |
| BLE | 221 | Theories for Acquiring and Learning Languages | Languages are tools people use and learn to use for a variety of purposes. While nearly all people naturally acquire at least one language in their lifetime, the construct of bilingualism or multilingualism can occur as either an elective or a forced process. The context or the decision that leads to second or multiple language learning can have profound effects on the way and the extent to which those languages are learned. Examines the variables affecting both language acquisition and language learning as well as some methods to better facilitate these processes. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): non-Teacher Preparation student |
| BLE | 322 | Reading Methods in BLE/ESL Settings | Instructional/assessment strategies, including systematic, research-based phonics, vocabulary, comprehension, spelling, writing, phonemic writing in Spanish/English. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| BLE | 324 | Social Studies for Diverse Language Classrooms | Social studies education standards, curriculum, and instructional strategies for English language learners. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |
| BLE | 335 | Language Diversity in Classrooms | Issues in sociolinguistics and language variation in schools with a focus on classroom interaction, instruction, curriculum, assessment, and language policy. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | SB | Prerequisite(s): admission to the Professional Program |
| BLE | 336 | Culturally Sustaining and Transformative Pedagogies | Prospective educators examine culturally sustaining and transformative pedagogies (CSTP). Use of CSTP frames their reflection on educator positionality, attunement to cultural and community knowledge resources in field experiences, and development of their own teacher praxis plans oriented toward CSTP. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |
| BLE | 338 | Foundations of Second Language Acquisition and Development | Introduces educators to theoretical and critical perspectives related to the nature of language, language variation and language acquisition among second language learners and bi/multilinguals, with considerations for bilingualism and biliteracy development, instruction and assessment in various K-12 education settings. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | L | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; ENG 101, 105, or 107 with C or better; minimum 30 hours |
| BLE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| BLE | 396 | Clinical Experience I | Applies course content in BLE/ESL elementary education classrooms grades 1-8: emphasizes observation, pupil management, planning and delivery of instruction, and assessment. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-2 | | Prerequisite(s): admission to the Professional Program |
| BLE | 397 | Clinical Experience II | Applies course content in BLE/ESL elementary education classrooms grades 1-8: emphasizes observation, pupil management, planning and delivery of instruction, and assessment. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-2 | | Prerequisite(s): admission to the Professional Program |
| BLE | 400 | Principles of Language Minority Education | Overview of philosophical and theoretical foundations of bilingual education and ESL models of instruction. Other topics include significant legislative and judicial measures. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |
| BLE | 404 | Instructional Design for Culturally and Linguistically Diverse Students | Provides a foundation in instructional design to meet the academic and linguistic needs of culturally and linguistically diverse students, with a focus on English language learners. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours; Credit is allowed for only BLE 404 or ELL 504 or SPE 404 |

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| BLE | 407 | SEI for Secondary Students | Examines foundations, assessment, English language learner proficiency standards, and strategies (including SEI) for the 7-12 classroom. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | L | Prerequisite(s): admission to the Professional Program; ENG 101, 105, or 107 with C or better |
| BLE | 408 | Structured English Immersion (SEI) Methods | Examines current educational practices and historical legal issues. Prepares teacher candidates with a provisional Structured English Immersion endorsement. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | L | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; ENG 101, 105, or 107 with C or better; minimum 39 hours; Credit is allowed for only BLE 220 or BLE 408 or ELL 515 |
| BLE | 411 | Science Curriculum, Instruction and Assessment in BLE/ESL Settings | Methods, management strategies, and assessment procedures for teaching science to BLE/ESL students in elementary schools. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| BLE | 412 | Mathematics Curriculum, Instruction and Assessment in BLE/ESL Settings | Teaching, management, and assessment of mathematics in K-8 BLE/ESL settings. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| BLE | 413 | Language Arts in BLE/ESL Settings | Literacy and language arts instruction; assessment of reading and writing; transition literacy skills, particularly critical reading of content. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| BLE | 436 | Equitable Practices in Diverse Classrooms | Provides theoretical lenses to analyze the culture of schools and classrooms and equips future educators to recognize the hidden curriculum in classroom organization, student regulation and disciplinary actions, discourse, relationships, pedagogical choices, and other environmental and curricular factors that perpetuate inequities. Explores tools and approaches to transform the educational context and to advocate for just and equitable learning experiences for historically marginalized youth. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum junior standing OR Visiting University Student |
| BLE | 478 | Student Teaching: BLE/ESL Elementary Schools 1-8 | Student teaching in BLE/ESL elementary education classrooms grades 1-8: synthesized experience in curriculum, instruction, assessment and classroom management. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3-15 | | Prerequisite(s): admission to the Professional Program |
| BLE | 481 | Reading Practicum | Applies concepts from BLE 414. Supervised school-based experiences in teaching reading to BLE/ESL students. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |
| BLE | 511 | Introduction to Language Minority Education | Historical, philosophical, theoretical, and pedagogical foundations of language minority education in the United States. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| BLE | 520 | ESL for Children | Examines approaches to second-language development for children congruent with recent research in second-language acquisition in children. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| BLE | 522 | Bi/Multilingual Acquisition and Development | Introduces educators to theory and research related to the acquisition and development of languages among second language learners, and bi/multilinguals, with considerations to language and bi/literacy development and instruction in formal schooling contexts and other learning environments. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or post-baccalaureate undergraduate student |
| BLE | 529 | Language Assessment and Evaluation of ESL/BLE Students | Assessment and evaluation of linguistic minorities; test theory, score interpretation; culturally responsive assessment; assessment of language and school achievement. | N | SEM | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BLE | 531 | Linguistically and Culturally Sustaining Pedagogy | Examines asset-based approaches to educating multilingual learners that acknowledge and sustain home culture and identity (including approaches to assessment, instruction, theories of learning and development and advocacy). | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Education (Educ Multiling Learners) MA or Educ Multiling Learners Certificate stdnt; BLE 534; BLE 536; BLE 537 OR non-Edu (Educ Multiling Learners) MA and non-Educ Multiling Learners Cert degree- or nondegree-seeking grad stdnt |
| BLE | 534 | Language, Policy and Power: Past and Present | Examines theories, concepts and findings in language policy and planning for educating multilingual learners locally, nationally and globally. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BLE | 535 | Sociolinguistic Issues in Bilingual Education | Surveys major theoretical issues (e.g., language situations, communicative competence, language attitudes) interrelating language, social processes, and bilingual education. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| BLE | 536 | Education for Social Transformation | Theoretical and practical issues concerning education for social transformation. Recognizes features, reflections, affordances and challenges to transforming education through interactions and exchanges. Also considers assessment frameworks to assist educating multilingual learners. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BLE | 537 | Linguistics for Educators | Main theories and approaches within linguistics and their application to language learners in educational contexts. Areas include phonetics, phonology, morphology, syntax and translanguaging. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BLE 537 or LIN 510 |

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| BLE | 538 | Methods for Educating Multilingual Learners | Applied methods and pedagogies for educating multilingual learners. Includes pedagogies supported by second language acquisition (including multilingual perspectives); multiliteracies; and bilingualism including heteroglossic bilingual instructional practices, translanguaging practices, critical multilingual awareness and complex language/literacy use. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BLE | 561 | Parent Involvement in Language Minority Education Programs | Examines issues, approaches, and strategies for improving parental and community involvement in the schooling of language minority children and youth. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| BLE | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate student; minimum 9 hours in English as a Second Language MA program |
| BLE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| BLE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| BLE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| BLE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| BLE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| BLE | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| BLE | 597 | Capstone | Reflective, experience-based integration of theory and practice; professional development for individuals working with English language learners. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): MA English as a Second Language major |
| BLE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| BMD | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMD | 501 | Introduction to Biomedical Informatics | Overview of the field of biomedical informatics for use of computers and information in healthcare and the biomedical sciences. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Degree- or Nondegree-seeking graduate. Credit is allowed for only BMD 501 or BMI 501 |
| BMD | 502 | Foundations of Biomedical Informatics Methods I | First semester of a two-semester course surveying the methods and theories underlying the field of biomedical informatics. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Degree- or Nondegree-seeking graduate. Credit is allowed for only BMD 502 or BMI 502 |
| BMD | 507 | Introduction to Digital Image Processing and Analysis | Core course with four sections for students seeking to concentrate in biomedical imaging informatics. The first section analyzes the concepts and terms of image processing and analysis. The second section evaluates key algorithms in image processing (e.g., image filtering, Fourier transform, image restoration). The third section examines advanced image analysis methods (e.g., image segmentation, mathematical morphology, image topology, shapes and boundaries, color processing, image coding and compression, wavelet, and special effects). The fourth section develops the practical applications of image processing and analysis in medicine and biology. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BMD 507 or BME 507 or BMI 507 |

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| BMD | 510 | Current Perspectives in Biomedical Diagnostics | Seminar course using external speakers who review the current state of the biomedical diagnostics industry in terms of technology, regulation or legal issues. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Biomedical Diagnostics MS student; BMD 502 or BMI 502; BMD 511; BMD 513; BMD 514; BMD 667; minimum 3.00 GPA |
| BMD | 511 | Health Economics, Policy, and Payment Models | Economics provides a framework to understand and predict human decision making under scarcity, uncertainty and imperfect information. Examines concepts central to health care economics and their application to important decisions made by patients, families, practitioners, administrators and policy makers. Uses an individual family's scenario through a progressive case study to evaluate how incentives and information affect the health and health care of each family member. Each meeting integrates basic economic principles, existing facts and knowledge from economic research, and individual perspectives and experience regarding how these concepts apply to health care policy. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Degree- or Nondegree-seeking graduate; Credit is allowed for only BMD 511 or HCD 511 |
| BMD | 513 | Principles of Diagnostic Technology: Immunoassays | Provides a detailed understanding of the theory and applications of advanced diagnostic assay systems and devices. Students gain knowledge in immunoassay design and validation with particular attention to the manipulation of the immune system for disease recognition. This module assumes no former knowledge of immunoassays, but some knowledge would be advantageous. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BMD 513 or BMD 598 (Principles of Diagnostic Technology 2: Immunology) |
| BMD | 514 | Principles of Diagnostic Technology: Molecular Diagnostics | Survey course covering topics such as multiple types of analytes including DNA, RNA and protein; a multitude of disease application areas; major molecular diagnostic platforms; development of molecular diagnostics tests; sample preparation; and future prospects for molecular diagnostics. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree or nondegree-seeking graduate student; Credit is allowed for only BMD 514 or BMD 598 (Molecular Diagnostics) |
| BMD | 550 | Translational Bioinformatics | Provides an introduction to bioinformatics methods and applications used in the field of translational medical research. Topics include bioinformatics data acquisition and management, analysis methodologies, and applications. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BMD 550 or BMI 550 |
| BMD | 562 | Bioethical Issues in Applied Biomedicine | Examines bioethical challenges in real-world health care settings, including emerging health advancements, technological innovations, an ever-changing social and cultural landscape, and increased attention to deeply challenging and personal decisions. Analyzes contextual history of bioethics and applies theory to modern-day ethical dilemmas. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMD | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMD | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMD | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMD | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMD | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): BMD 502 or BMI 502; BMD 511; BMD 513; BMD 514; BMD 667; minimum 3.00 GPA |
| BMD | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): Biomedical Diagnostics MS student; BMD 502 or BMI 502; BMD 511; BMD 513; BMD 514; BMD 667; minimum 3.00 GPA |
| BMD | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMD | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| BMD | 617 | Genetics and the Law | Provides background on genetics and recent genetic advances; addresses the legal consequences and issues associated with such advances. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2-3 | | Prerequisite(s): College of Law student or College of Health Solutions graduate student; Credit is allowed for only BMD 617 or LAW 617 |
| BMD | 667 | Regulation of Medical Diagnostics | Examines the regulation of drugs, medical devices, and biologics (e.g. vaccines) by the Food and Drug Administration. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate |
| BMD | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 100 | Introduction to Biomedical Engineering | Introduces engineering design methods, experimental practices, data gathering, presentation and statistical analysis. Lecture/labs focus on device design and application, including hands-on experience. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): Biomedical Engineering BSE major OR Visiting University Student |
| BME | 111 | Engineering Perspectives on Biological Systems | Biological concepts for the emerging engineer. Introduces biological and earth systems engineering, materials, structures, fluid mechanics, bioelectricity, and the dynamic, nonlinear nature of nature. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): Engineering undergraduate student OR Visiting University Student |
| BME | 121 | Programming in Biomedical Engineering | Introduces computer programming in the context of scientific and engineering problem solving. Topics include loops, functions, pointers, data structures, and algorithms in the context of a biomedical problem. Culminates in an introduction to object-oriented programming, with a look at modern wireless (iPad and iPhone) devices for biomedical applications. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1 | | Prerequisite(s): Biomedical Engineering BSE major; Pre- or corequisite(s): MAT 265 or 270 OR Visiting University Student |
| BME | 122 | Statistics for Biomedical Engineers | Introduces statistics tests in the context of common biomedical experiments. Students perform basic linear regression and correlation analyses, experiment using power analysis, generate descriptive statistics, and perform statistical tests using statistical software. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 2 | | Prerequisite(s): Biomedical Engineering BSE major; Pre- or corequisite(s): MAT 265 or 270 with C or better if completed OR Visiting University Student |
| BME | 182 | Biomedical Engineering Product Design and Development I | Continuation of hands-on training and implementation of medical device product design and development skills; FDA-regulated U.S. and global medical device healthcare markets and opportunities, business development in regulated environments, medical product and project management planning, exempt and Class I medical devices, medical product component and device levels, identification and selection of customer needs, translation of customer needs, product specification development, virtual and physical prototypes, prototype product specification verification, product design and development process documentation, FDA regulatory best-industry practices. | N | LAB | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1 | | Prerequisite(s): Biomedical Engineering BSE major; Pre- or corequisite(s): ENG 101, 105, or 107 with C or better if completed OR Visiting University Student |
| BME | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-4 | | |
| BME | 200 | Conservation Principles in Biomedical Engineering | Applies bioengineering analysis and problem solving of mass, energy, and charge balances to medical and biological systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s) with C or better: Biomedical Engineering BSE major; BIO 181; CHM 114 or 116; PHY 121; Pre- or corequisite(s) with C or better if completed: BME 210 or MAE 215; MAT 274 or 275 OR Visiting University Student |
| BME | 210 | Programming for Biomedical Engineers: Introduction to Computers, Programming and Data | Computers are ubiquitous tools in all engineering disciplines. Biomedical engineering pushes the limits of computational power in all applications--from small computers embedded in medical devices to large computer clusters used in research projects. Understanding the fundamental operation of computers, and how to efficiently and effectively program them, are critical knowledge and skills for biomedical engineers. Covers the fundamentals of computer architecture and operation, and how to program them. Utilizes the MATLAB and Python programming languages and prepares students for applying these languages for problem solving in upper-level biomedical engineering classes. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | CS | Prerequisite(s): Biomedical Engineering BSE major; MAT 265 or 270 with C or better; Pre- or corequisite(s): BME 122 with C or better if completed; MAT 266 or 271 with C or better if completed OR Visiting University Student |
| BME | 211 | MATLAB & Mathcad in Biomedical Engineering | Introduces the basics of MATLAB and Mathcad programming in the context of biomedical engineering conservation of mass problem solving. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1 | | Prerequisite(s): Biomedical Engineering BSE major; CHM 114, 116 or 118 w/ C or better; BIO 181 w/ C or better; Pre- or corequisite(s): PHY 131 or 151 w/ C or better if completed; MAT 274 or 275 w/ C or better if completed OR Visiting University Student |

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| BME | 213 | Biomedical and Bioengineering Ethics | Explores ethical issues in biomedical and medical sciences and engineering practices and includes professional ethics, medical ethics, engineering ethics and the Biomedical Engineering Society (BMES) Code of Ethics, the ethics of human and animal tissue and subjects use in biomedical science and engineering research, responsible conduct for research, ethical issues in the design and manufacture of medical devices for developing and developed countries, and the impact of biomedical engineering solutions on society and the environment. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1 | | Prerequisite(s): Biomedical Engineering BSE major OR Visiting University Student |
| BME | 214 | FDA Regulatory Processes and Technical Communications | Develops writing skills to factually and effectively communicate all facets of biomedical product design and development activities that are required to successfully conceive, develop, and launch a medical device into the market place using the FDA quality systems best practices that are utilized by the health care technology industry. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1 | | Prerequisite(s): Biomedical Engineering BSE major; Pre- or corequisite(s): ENG 102, 105, or 108 with C or better if completed OR Visiting University Student |
| BME | 235 | Physiology for Engineers | Physiology of the nervous, muscular, cardiovascular, endocrine, renal, and respiratory systems. Emphasizes use of quantitative methods in understanding physiological systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 4 | | Prerequisite(s) with C or better: Biomedical Engineering BSE major; BIO 181; CHM 114 or 116; Pre- or corequisite(s) with C or better if completed: BME 210 or CSE 110; PHY 121; PHY 122 OR Visiting University Student |
| BME | 282 | Biomedical Engineering Product Design and Development II | Hands-on training and implementation of product design skills that combine virtual analytical model prototype development with component and sub-assembly integration to develop both virtual and physical prototypes of a medical device product at the product architecture level and verify selected product architecture specifications from design input and earlier design process verification steps. | N | LAB | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1 | | Prerequisite(s): Biomedical Engineering BSE major OR Visiting University Student |
| BME | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-4 | | |
| BME | 300 | Bioengineering Product Design | The fundamentals of financial and organizational structure of business and how it influences bioengineering analysis, design, and decision making; biomedical ethics and device and drug regulation; and fundamentals of business and technical management. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): Biomedical Engineering BSE major; BME 100 or FSE 100 with C or better; BME 213 with C or better; BME 214 with C or better; ENG 102, 105, or 108 with C or better; minimum junior standing OR Visiting University Student |
| BME | 301 | Numerical Methods in Biomedical Engineering | Applications of numerical methods to biomedical engineering problems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 2 | | Prerequisite(s): Biomedical Engineering BSE major; MAT 274 or 275 with C or better OR Visiting University Student |
| BME | 316 | Biomechanics for Biomedical Engineers | Biomechanics provides conceptual and mathematical tools that are necessary for understanding how living things move. Focuses on human biomechanics with an emphasis on the musculoskeletal system. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): Biomedical Engineering BSE major; PHY 121 with C or better; PHY 122 with C or better; Pre- or corequisite(s): BME 235 or BIO 202 with C or better if completed OR Visiting University Student |
| BME | 318 | Biomaterials | Material properties of natural and artificial biomaterials. Tissue and blood biocompatibility. Uses of materials to replace body parts. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 4 | | Prerequisite(s): Biomedical Engineering BSE major; BIO 181 with C or better; BIO 202 or BME 235 with C or better; CHM 114 or 116 with C or better; MAT 274 or 275 with C or better OR Visiting University Student |
| BME | 322 | Statistics for Biomedical Engineering | Introduces parametric and nonparametric statistics tests in the context of common biomedical experiments. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1 | | Prerequisite(s): Biomedical Engineering BSE major; MAT 274 or 275 with C or better OR Visiting University Student |
| BME | 331 | Transport Phenomena for Biomedical Engineering | Transport phenomena with emphasis on momentum, energy, and mass transport in living systems, medical devices, and other therapeutic/diagnostic applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): Biomedical Engineering BSE major; BME 200, 212, or 294 (Conservation Principles) with C or better; MAT 274 or 275 with C or better; PHY 121 with C or better OR Visiting University Student |

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| BME | 340 | Thermodynamics for Biomedical Engineers | Thermodynamics is a branch of science dealing with processes (chemical or mechanical) and the subsequent energy and mass transfers. Studies whether a process is favorable (possible) or unfavorable (impossible) while assessing energy and mass transfer within each specific stage of the process. The operation of living systems is heavily based on the use of chemical reactions and or mechanical processes such as beating of the heart, biochemical reactions of a drug in liver, phase equilibria. Covers the fundamental principles and laws of thermodynamics. Helps students think thoroughly about the applications of thermodynamics in biological sciences and bioengineering with the main emphasis on basic concepts and problem-solving skills. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): Biomedical Engineering BSE major; BME 200 with C or better; Pre- or corequisite(s): MAT 267 or 272 with C or better if completed OR Visiting University Student |
| BME | 350 | Signals and Systems for Bioengineers | Applies principles of calculus and ordinary differential equations to analysis and computer processing of biosignals and linear modeling of biosystems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): Biomedical Engineering BSE major; MAT 274 or 275 with C or better; Pre- or corequisite(s): EEE 202 with C or better if completed OR Visiting University Student |
| BME | 360 | Control in Biological Systems | Illustrates the basic principles of control through examples from evolved and synthetic biological systems. Surveying topics including feedback and feedforward control mechanisms, insulation of circuits via modularity, and discovering optimal intervention strategies. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): Biomedical Engineering BSE major; EEE 202 with C or better; MAT 275 with C or better; Pre- or corequisite(s): BIO 353 with C or better if completed; BME 362 with C or better if completed OR Visiting University Student |
| BME | 362 | Methods in Molecular and Cellular Biology | Gives junior-level undergraduate students hands-on experience on the methods used in molecular and cellular biology lab, especially methods to engineer or analyze DNA and protein. | N | LAB | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1 | | Prerequisite(s): Biomedical Engineering BSE major; Pre- or corequisite(s): BIO 353 with C or better if completed OR Visiting University Student |
| BME | 370 | Microcomputer Applications in Biomedical Engineering | Uses microcomputers for real-time data collection, analysis, and control of experiments involving actual and simulated physiological systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): Biomedical Engineering major; EEE 202 with C or better; BME 350 with C or better |
| BME | 382 | Biomedical Engineering Product Design and Development III | Continuation of hands-on training and implementation of medical device product design and development skills; experimental practices, data gathering, presentation, and statistical analysis in regards to demonstration of validation and verification tools and testing, identification and selection of customer needs, translation of customer needs, product specification development, virtual and physical prototypes, prototype product specification verification, product design and development process documentation, FDA regulatory best industry practices. | N | LAB | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1 | | Prerequisite(s): Biomedical Engineering BSE major; BME 182 with C or better; BME 282 with C or better OR Visiting University Student |
| BME | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-4 | | |
| BME | 413 | Biomedical Instrumentation | Principles of medical instrumentation. Studies of medical diagnostic instruments and techniques for the measurement of physiologic variables in living systems. Both BME 413 and BME 423 need to be taken together to secure L General Studies credit. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | L | Prerequisite(s): Biomedical Engineering BSE major; BIO 202 or BME 235 with C or better; BME 350 with C or better; ENG 101, 105, or 107 with C or better; Corequisite(s): BME 423 OR Visiting University Student |
| BME | 416 | Advanced Biomechanics | Mechanical properties of bone, muscle, and soft tissue. Static and dynamic analysis of human movement tasks such as locomotion. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): Biomedical Engineering major; BME 316 with C or better |
| BME | 417 | Biomedical Engineering Capstone Design I | Technical, regulatory, economic, legal, social, and ethical aspects of medical device systems engineering design. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 4 | L | Prerequisite(s) with C or better: Biomedical Engineering BSE major: BME 122; BME 300; BME 301; BME 316; BME 318; BME 331; BME 360 or 370; BME 382; ECN 211 or 212; ENG 101, 105, or 107. |
| BME | 423 | Biomedical Instrumentation Laboratory | Lab experience with problems, concepts, and techniques of biomedical instrumentation in static and dynamic environments. Both BME 413 and BME 423 need to be taken together to secure L General Studies credit. | N | LAB | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1 | L | Prerequisite(s): Biomedical Engineering BSE major; ENG 101, 105, or 107 with C or better; Corequisite(s): BME 413 OR Visiting University Student |
| BME | 434 | Applications of Bioengineering Transport Phenomena | Develops mathematical models of transport phenomena in physiological systems, medical devices, and pharmacokinetic analysis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; BME 331 with C or better |

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| BME | 465 | Magnetic Resonance Imaging | Provides a foundation in the fundamental concepts of magnetic resonance imaging and some applications to measure physiological processes and changes with respect to disease. Incorporates real-time demos using a bench-top MRI system. Several local MR experts present guest lectures on specialized topics. Requires a working knowledge of the fundamentals of signal analysis and Fourier transform theory and linear algebra to be successful in this course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): BME 350 or EEE 304; Credit is allowed for only BME 465 or BME 494 (Principles Magnetic Resonance) or BME 565 or BME 598 (Principles Magnetic Resonance Spectroscopy & Imaging) |
| BME | 467 | Tissue Engineering and Regenerative Medicine | Covers the fundamentals of engineering and developmental biology concepts relevant to tissue engineering and regenerative medicine (TERM). Topics covered range from basic cell biology principles to nutrient exchange parameters to cell material interactions that inform engineering design of regenerative strategies. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s) w/ C or better: Biomedical Engineering major; BME 318; BME 331; BIO 353; MAT 275; Credit is allowed for only BME 467 or BME 567 or BME 598 (Regenerative Medicine) OR Visiting University Student |
| BME | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-12 | | |
| BME | 490 | Biomedical Engineering Capstone Design II | Individual projects in medical systems or medical device design and development. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 4 | L | Prerequisite(s): Biomedical Engineering BSE major; BME 417 with C or better; ENG 101, 105, or 107 with C or better |
| BME | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-6 | | Prerequisite(s): Barrett Honors student |
| BME | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| BME | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-4 | | |
| BME | 507 | Introduction to Digital Image Processing and Analysis | Core course with four sections for students seeking to concentrate in biomedical imaging informatics. The first section analyzes the concepts and terms of image processing and analysis. The second section evaluates key algorithms in image processing (e.g., image filtering, Fourier transform, image restoration). The third section examines advanced image analysis methods (e.g., image segmentation, mathematical morphology, image topology, shapes and boundaries, color processing, image coding and compression, wavelet, and special effects). The fourth section develops the practical applications of image processing and analysis in medicine and biology. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BMD 507 or BME 507 or BMI 507 |
| BME | 521 | Advanced Motor Neuroscience for Engineers | Overview of sensorimotor brain structures. Application of nonlinear, adaptive, optimal, and supervisory control theory to eye-head-hand coordination and locomotion. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 525 | Surgical Techniques | Principles of surgical techniques, standard operative procedures, federal regulations, guidelines, and state-of-the-art methods. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 2 | | Pre-requisites: Graduate Engineering students only |
| BME | 526 | Introduction to Neural Engineering | Introduces the field of neural engineering. Neural engineering, as with all engineering fields, can be thought of as applied scientific understanding, in this case, applied neuroscience. Covers aspects of neurophysiology, neuroanatomy, neurosurgery, biophysics, electronics and signal processing; integrates these knowledge areas into neural engineering applications. Covers an entire process for conducting research in neural engineering: surgical implantation of electrodes, data acquisition, processing neural signals, decoding neural data, and controlling prosthetic devices. Provides foundation for working with neural engineering applications and conducting research in neural engineering. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only BME 526 or BME 598 (Intro to Neural Engineering) |
| BME | 527 | Biomedical Device Design | Basic phenomena behind various types of biomedical devices which measure indicators using optical, thermal and other modalities. Provides an introductory coverage of the theory and history of these devices and includes some hands-on activities to use, reverse engineer and analyze data gathered from in-class activities with currently existing devices. Uses Matlab to perform most of the analysis. Preliminarily exposes students to principles of device design and testing with consideration to FDA regulations and requirements. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): graduate Biomedical Engineering student; Credit is allowed for only BME 527 or BME 598 (Biomedical Device Design) |
| BME | 556 | Human Systems Neuroscience | Systems-level neuroscience course focusing on human diseases. Classes involve lectures and/or other activities such as observations of clinical procedures and tours of clinical facilities (e.g., the neurosurgical suite, imaging facilities). | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 4 | | Prerequisite(s): BME PhD student or Neuroscience PhD student; Credit is allowed for only BIO 598 (Human Sys Neuroscience) or BME 556 or NEU 556 |

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| BME | 561 | Clinical Neuroscience | Fundamental mechanisms that underlie diseases and disorders of the central and peripheral nervous systems. Introduces assessment and pharmacological, surgical and rehabilitative management of nervous systems disorders. Prior knowledge of neural systems is helpful. Identifies the mechanisms by which key disease and trauma states impact neural systems and how clinicians identify the locus and type of damage based on clinical and imaging criteria. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 564 | Cyber Biomedical Systems | Engineering principles involved in the modeling, design and analysis of hybrid systems that involve computers controlling and interacting with biomedical systems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BME 564 or BME 598 (Cyber Biomedical Systems) |
| BME | 565 | Magnetic Resonance Imaging | Provides a foundation in the fundamental concepts of magnetic resonance imaging and some applications to measure physiological processes and changes with respect to disease. Incorporates real-time demos using a bench-top MRI system. Several local MR experts present guest lectures on specialized topics. Requires a working knowledge of the fundamentals of signal analysis and Fourier transform theory and linear algebra to be successful in this course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): Engineering graduate student, Chemistry MS or PhD student, or Physics MS or PhD student; Credit is allowed for only BME 565 or BME 465 or BME 494 (Principles Magnetic Resonance) or BME 598 (Principles Magnetic Resonance Spectro & Imaging) |
| BME | 566 | Medical Imaging Instrumentation | Design and analysis of imaging systems and nuclear devices for medical diagnosis, therapy and research. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 567 | Tissue Engineering and Regenerative Medicine | Covers the fundamentals of engineering and developmental biology concepts relevant to tissue engineering and regenerative medicine (TERM). Topics covered range from basic cell biology principles to nutrient exchange parameters to cell material interactions that inform engineering design of regenerative strategies. Prior knowledge of high-level engineering mathematics (up to differential equations), engineering transport concepts (particularly mass transfer), and biology is expected. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): Biomedical Engineering graduate student; Credit is allowed for only BME 467 or BME 567 or BME 598 (Regenerative Medicine) |
| BME | 568 | Human Factors and System Design in Assistive Technologies | The field of human factors engineering as it relates to the design, development and use of assistive technology for individuals with sensory, motor and cognitive disabilities. Includes lectures, guest lectures, hands-on demonstrations and class discussions of relevant and current topics related to human-centered design of assistive technology. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): BME graduate student; Credit is allowed for only BME 568 or BME 598 (IGERT: Human Factors) |
| BME | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-4 | | Prerequisite(s): Bioengineering graduate student |
| BME | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| BME | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 101 | Introduction to Bioinformatics | Introduces existing and future applications of biomedical informatics. Overview of history and present state of the field. Introduces topics in translational bioinformatics, such as sequence alignment, the Human Genome Project, gene expression analysis, genome-wide association studies, next-generation sequencing. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |
| BMI | 102 | Introduction to Population Health Informatics | Applies information and computer science and technology to public health practice, research, policy and decision support. This new scientific area focuses on the capture, management and use of electronic public health data. Introduces the field of population health informatics and the current systems that are used for population health decision making. This is not a programming course or a mathematics course. While these backgrounds are prominent in the field, this course provides the history and context of the field and enables students to develop their own population health informatics system using techniques of their choice. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |
| BMI | 110 | Introduction to Python | First in a series of courses on using the Python programming language to solve biomedical problems. Introduces Python as a language for object-oriented programming and for scripting tasks. Basic concepts and techniques of computation, data structure and software development. Examples focus on healthcare-related applications. Includes a broad knowledge of computation, Python programming, standard libraries, and commonly used techniques in data manipulation. Students develop a Python program to address a biomedical challenge in a term project. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only BMI 110 or BMI 294 (Introduction to Python) |
| BMI | 201 | Introduction to Clinical Informatics | Introduces existing and future applications of biomedical informatics. Overview of history and present state of the field. Provides an introduction to biomedical informatics techniques and applications used in clinical environments. Includes searching and organizing free text information, decision analysis techniques and clinical decision support systems, and clinical applications including physician order entry used in electronic medical records. Also covers challenges in clinical informatics, including sociotechnical and cognitive issues in implementation and use. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | |
| BMI | 210 | Data Structures and Algorithms in Python | Introduces concepts of data structures and algorithms (such as recursion, sorting, arrays, trees and dictionaries) and designing and implementation of Python code to efficiently resolve problems in biomedical research, healthcare and population health. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BMI 110 OR Visiting University Student |
| BMI | 211 | Modeling Biomedical Decisions | First semester of a three-semester course sequence surveying the methods and theories underlying the field of biomedical informatics. Explores models of medical decision making, including classical decision theory, Bayesian, and cognitive models. Also includes a component discussing evaluation methods in biomedical informatics. | N | PRA | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |

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| BMI | 221 | Knowledge Representation for Biomedical Informatics | Introduces topics in knowledge representation and modeling, including frame-based systems, logic-based systems, rule-based systems, inference, and reasoning. Overview of history and present state of the field. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |
| BMI | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| BMI | 310 | App Development for Clinical and Population Health | Covers core object-oriented language concepts. Enables learners to successfully apply object-oriented programming language features to develop multiplatform (work in iOS, Android and Windows phones) mobile apps. Final project allows learners to apply the knowledge and skills learned to develop a health solution. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only BMI 310 or CSE 335 OR Visiting University Student |
| BMI | 311 | Modeling Biomedical Knowledge | Introduces concepts of artificial intelligence and knowledge modeling using medical informatics examples. Historical foundations and motivations of AI in medical applications; problem solving, reasoning, knowledge management, and planning as applied to medical informatics problems. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |
| BMI | 312 | Modeling Biomedical Data | Third semester of a three-semester course surveying the methods and theories underlying the field of biomedical informatics. Explores methods of use in the design and maintenance of biomedical databases, machine learning techniques, information retrieval in biomedicine and other methods specific to bioinformatics. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |
| BMI | 330 | Topics in Translational Bioinformatics | Provides an introduction to bioinformatics methods and applications used in the field of translational medicine research. Topics include bioinformatics data acquisition and management, including microarrays, database modeling and integration; analysis methodologies, including statistics and data mining; and applications. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |
| BMI | 332 | Team Dynamics for Healthcare IT Projects | Teaches the fundamentals of leadership, management, and team dynamics in a project-focused software engineering environment, and with a focus on informatics and healthcare applications. Teaches students about team and group dynamics, recognizing dysfunctional teams, and helping to fostering productive group and leadership skills. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |
| BMI | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| BMI | 404 | Clinical Environments | Designed for medical informatics students who have no significant clinical experience in the U.S. Introduces medical terminology and exposes students to the clinical environments in which health care providers create, manage, and use clinical information. Students attend lectures and spend a significant portion of time examining and reporting on different clinical settings throughout the semester. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |
| BMI | 410 | Database Management in Health Care | Database fundamentals and the use of databases in health care. Fundamental concepts in relational database design spanning both operational and analytical use cases. Students learn and practice SQL syntax. Discusses modern implementations of databases in health care; exposes students to the most common forms of modern health care data: EHR data, claims (pharmacy and medical), and health care data models (includes health care data warehouses). When possible, exposes students to real (deidentified) data and database schemas, but synthetic data may also be used that closely matches the format it is intended to represent. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only BMI 410 or BMI 394 (Database Management in Healthcare) |
| BMI | 440 | Software Engineering for Biomedical Informatics | Provides a survey of software engineering with application to biomedical informatics. Teaches general theories, models, and specific techniques such as requirement analyses, architecture design, system modeling, software evaluation and project management. Uses specific examples from biomedical research, patient care, clinical education and public health for illustration of the concepts. Exposes students to interdisciplinary, team-oriented approach to developing software systems for biomedical and health applications. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BMI 310 or CSE 335 OR Visiting University Student |
| BMI | 461 | Advanced Topics in Biomedical Informatics I | Covers current trends and cutting-edge research areas of clinical, public health, and consumer health informatics. Particular emphasis on research that is of relevance to patients, and the healthy public, covering such topics as outbreak detection and the personal health record. Also covers research on the use of technology in medical education, and the ways in which clinical decision support systems are applied in contemporary medical practice. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |

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| BMI | 462 | Advanced Topics In Biomedical Informatics II | Covers current trends and cutting-edge research areas of bioinformatics, imaging informatics, and translational science. Emphasizes informatics approaches to the novel data sources that are supplied by the next generation of methods for affordable gene sequencing, and initiatives underway to accelerate the integration of novel research findings into everyday clinical practice. Includes a series on modeling and simulation, current approaches to computer-aided diagnosis of medical images, ways in which technology can support the discovery of new knowledge, and the application of telemedicine to remotely facilitate clinical care. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |
| BMI | 465 | Introduction to Comparative Genomics | Explores genomic sequences and hypotheses for their structure, evolutionary history, and underlying mechanisms. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only BMI 465 or BIO 455 |
| BMI | 482 | Capstone I | First course in capstone sequence for biomedical informatics majors emphasizing the development of technical skills and effective team work within the context of a research project in biomedical informatics. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| BMI | 483 | Capstone II | Second course in capstone sequence for biomedical informatics majors emphasizing the development of technical skills and effective team work within the context of an applied project in biomedical informatics. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): BMI 482 with C or better; ENG 101, 105, or 107 with C or better |
| BMI | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | |
| BMI | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): Barrett Honors student |
| BMI | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| BMI | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| BMI | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-3 | | |
| BMI | 501 | Introduction to Biomedical Informatics | Overview of the field of biomedical informatics for use of computers and information in healthcare and the biomedical sciences. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Degree- or Nondegree-seeking graduate. Credit is allowed for only BMD 501 or BMI 501 |
| BMI | 502 | Foundations of Biomedical Informatics Methods I | First semester of a two-semester course surveying the methods and theories underlying the field of biomedical informatics. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Degree- or Nondegree-seeking graduate. Credit is allowed for only BMD 502 or BMI 502 |
| BMI | 504 | Introduction to Clinical Environments | Course is divided into three sections. The first section covers medical and health care concepts and terms, and discuss observational techniques. In the second portion, students investigate a variety of different clinical environments and report back to the class on their findings. The final portion summarizes the key points of information technology in these clinical environments. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): graduate BME or BMI major; Credit is allowed for only BMI 404 or BMI 504 |
| BMI | 505 | Foundations of Biomedical Informatics Methods II | Surveys advanced methods and theories underlying the field of biomedical informatics. Provides an introduction to machine learning and natural language processing and an overview of database systems. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; BMI 502 with C or better |
| BMI | 506 | Clinical Decision Support | The course will provide an in-depth analysis of computer-based approaches to supporting clinical decision making for providers and patients (as well as healthy individuals, for disease prevention/health maintenance). The history of the field of clinical decision support (CDS) and the spectrum of methodologies will be reviewed. Practical issues involved in successful implementations of CDS will be discussed. The roles of standards and infrastructure will be examined. Current research topics and foci will be explored. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 507 | Introduction to Digital Image Processing and Analysis | Core course with four sections for students seeking to concentrate in biomedical imaging informatics. The first section analyzes the concepts and terms of image processing and analysis. The second section evaluates key algorithms in image processing (e.g., image filtering, Fourier transform, image restoration). The third section examines advanced image analysis methods (e.g., image segmentation, mathematical morphology, image topology, shapes and boundaries, color processing, image coding and compression, wavelet, and special effects). The fourth section develops the practical applications of image processing and analysis in medicine and biology. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BMD 507 or BME 507 or BMI 507 |

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| BMI | 515 | Applied Biostatistics in Medicine and Informatics | Comprehensive treatment of the statistical methods used most often to analyze quantitative data collected in medical and biomedical informatics studies, including clinical trials, epidemiologic studies, studies of the accuracy and performance of screening and diagnostic tests, and studies to develop predictive models. Students learn to use SAS statistical software to analyze biomedical data. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 516 | Advanced Biomedical Data Analysis | Acquisition, conversion and organization of biological data into relevant diagnostic, therapeutic, and research information using information extraction and data mining. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; BMI 501 with C or better |
| BMI | 517 | Advanced Biostatistics for Biomedical Research and Health Care | Covers the use of computation as a tool for biostatistical data analysis and methods development, especially for research on multivariable regression analysis of biostatistics and health science. Major topics include understanding of hypothesis testing; regression model development; multivariable regression analyses on continuous, binary and censored outcomes; how to handle statistics issues related to regression modeling such as collinearity, overfitting and missing data. Students use the SAS and R statistical programming language to display and analyze data, and to evaluate statistical procedures and algorithms. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BMI 515; Credit is allowed for only BMI 517 or BMI 598 (Biostatistics with Computational Applications) |
| BMI | 520 | Modeling Gene Regulatory Networks | Computational and mathematical modeling used to approximate gene regulatory networks as well as signaling pathways and inference of model parameters. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; BMI 505 with C or better; BMI 516 with C or better |
| BMI | 540 | Problem Solving in Biomedical Informatics | Theory and practice of software engineering principles as they apply to large- and medium-scale clinical systems from bench to bedside. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BMI 601 with C or better |
| BMI | 550 | Translational Bioinformatics | Provides an introduction to bioinformatics methods and applications used in the field of translational medical research. Topics include bioinformatics data acquisition and management, analysis methodologies, and applications. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BMD 550 or BMI 550 |
| BMI | 555 | Statistical Learning for Data Mining | Surveys data analysis methods for massive data sets and provides experience in analysis with computer software. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; BMI 515, IEE 572, or IEE 578; Credit is allowed for only BMI 555 or CSE 572 or IEE 520 |
| BMI | 560 | Teaching in Biomedical Informatics | Student serves as a teaching assistant with a faculty member who is teaching either a required or elective course in the Biomedical Informatics curriculum. Such courses will generally be BMI courses but with the approval of the student's faculty program advisor may include a course that is an approved elective in the BMI program but is offered in another department within the university. The experience provides a significant teaching role, either lecturing or moderating small group sessions or laboratories. Grading class homework assignments and designing/grading examinations will also typically be part of the experience. Assisting other students outside of class and being available during office hours will also generally be part of the student teacher's role. A student may also receive 1 hour of credit for participating substantively in the design of a new course, working closely with a faculty member. Generally in such circumstances the student should then serve as course teaching assistant when it is offered for the first time (separate enrollment in this course). | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): Biomedical Informatics PhD student |
| BMI | 570 | BMI Symposium | Students attend the BMI Symposium Speaker Series twice a month and the student journal club discussion on alternate weeks. During the journal club weeks, each student leads a discussion on a current topic pertinent to the field of biomedical informatics. | N | SEM | Y | YGB | College of Health Solutions | College of Health Solutions | 1 | | Pre-requisite: BMI Graduate student |
| BMI | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Pre-requisite: Biomedical Informatics Masters student |
| BMI | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | N | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): Biomedical Informatics MS student |

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| BMI | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): Health Informatics MAS, Biomedical Informatics MIP, or Biomedical Informatics MS student |
| BMI | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): graduate Biomedical Informatics student |
| BMI | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Health Solutions | College of Health Solutions | 1-12 | | Pre-requisite: Biomedical Informatics Masters student |
| BMI | 601 | Fundamentals of Health Informatics | Offers an overview of the field of health informatics. Combines perspectives from medicine and computer science for use of computers and information in health care and the health sciences. Includes an overview of health information literacy and data standards. Covers specific applications and general methodology in health informatics using current topics in the field. Discusses evaluations of health systems. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 602 | Programming in a Health Care Domain | Intensive introduction to object-oriented programming concepts focused on the unique challenges such as those related to data volume, complexity, and uncertainty inherent to applications in a health care domain. Also covers the fundamentals of algorithm analysis and data structure design. Stresses a software engineering approach to abstraction for problem decomposition and solution formulation, with object-oriented and reusability concepts introduced early. Emphasizes the use of generic data structures and abstractions from template libraries for reusability, as well as modular design. In addition, also covers basic concepts of algorithms and data structures. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 603 | Health Informatics Database Modeling and Applications | Thorough coverage of the foundations of database systems and their specific use and modeling in healthcare and biomedical environments. Students learn through hands-on experience with the modeling and implementation of health-related databases using the relational approach. Topics include an overview of database models and architecture, database design, SQL, XML, and data warehousing as they are applied in clinical domains. Students are encouraged to explore database-related topics of their own, choosing ones that are relevant to a bioinformatics or clinical domain. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 604 | Health Information Communication | Students learn to locate, retrieve, and store information with an emphasis on electronic search, retrieval, and storage. They also learn to assess the validity and quality of information, improve the quality of information, and how to improve the quality of, protect, and effectively communicate health information. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Health Informatics MAS student |
| BMI | 605 | Health Information Systems and Applications | Explores the use of information systems in different health care settings, analyzing operational and strategic objectives for their deployment. Emphasizes the analysis of the different factors that influence decision making during the process of design and deployment of systems, including human factors, hardware, software, policy, communications, and the successful management of such systems. Also covers guidelines for the design and successful deployment of systems to meet those objectives and includes discussion of architectures, components, and models. Analyzes specific case studies of successfully and unsuccessfully deployed systems. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| BMI | 608 | Project Management for Interdisciplinary Teams | Introduces students to the health care team and explores tools and techniques for establishing effective interdisciplinary teams in a health care setting, emphasizing collaborative clinical decision-making and patient management. By working in small teams, the course puts into practice these techniques, allowing students to collaborate with other health professionals to solve specific problems, provide services, or develop new understandings. Also covers the concepts, skills, tools, and techniques involved in the management of information system projects, providing an introduction to the established discipline of project management, with a specific focus on how they apply to managing information systems for a biomedical setting. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 610 | Clinical Culture and the Health Care Environment | Designed for medical informatics students who have no significant clinical experience in the U.S. Introduces medical terminology and reviews clinical environments in which health care providers create, manage and use clinical information. Students perform observations in a variety of clinical environments. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Health Informatics MAS student |
| BMI | 612 | Applied Data Mining | Comprehensive introduction to data mining methods and algorithms used most often to analyze data collected in biomedical informatics studies, including genomics and proteomic disease association studies, clinical trials, clinical image analysis and studies of the accuracy and performance of screening and diagnostic tests. Emphasizes assessing data quality, understanding how to select an overall approach to analysis, and presenting and interpreting the results of data mining analysis. Students learn to use Excel to effectively display data collected in biomedical research studies and Weka software to analyze data using approaches that are used commonly in biomedical studies. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 613 | Workflow Analysis and Redesign in Health Systems Engineering | Provides an overview of workflow analysis and process redesign and their use in quality improvement activities, including specification. Uses case examples to highlight key concepts and measurement concepts and covers techniques. Includes the links of systems engineering to fundamentals of decision theory, statistics and optimization. Includes discussion of current successful techniques for systems engineering. System engineering seeks to enable the successful design, implementation, deployment and maintenance of successful systems. Emphasizes gathering and analysis of customer needs for the specification and documentation of required functionality early in the system's lifecycle. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 614 | Current Perspectives in Health Informatics | Seminar course using external speakers to discuss and review the current state of the health informatics field. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BMI 601 |
| BMI | 615 | Human Factors Engineering for Biomedical Applications | Fundamental principles of human-computer interaction and human factors and how to apply them to real-world problems through class projects, homework, and real-world design. Focuses on learning why user-friendly interfaces can greatly improve work productivity and enhance the quality of healthcare without radically changing the underlying technology. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 616 | Clinical Decision Support and Evidence-Based Medicine | Focuses on the major problems of human decision making in health care including causes of errors, decreased quality and increased costs. Explores the role of information technology, primarily through computer-based clinical decision support (CDS), to address these problems. Explores key methods used to provide CDS, the capabilities and limitations of current approaches, and the challenges for managing and updating the knowledge needed to deliver CDS in an enterprise setting. Origins of evidence-based decision making and policy formulation; how to use the tools and approaches that have been developed to support evidence-based decision making and policy formulation; and the history and evolution of systematic review and meta-analysis as a tool to inform decisions and policies based on evidence. Students gain hands-on experience by conducting a systematic review and a meta-analysis and using the results to draw conclusions and formulate health policy. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| BMI | 617 | Principles of Evidence-based Medicine | The origins of evidence-based decision making and policy formulation; how to use the tools and approaches that have been developed to support evidence-based decision making and policy formulation. The history and evolution of systematic review and meta-analysis as a tool to inform decisions and policies based on evidence. Hands-on experience by conducting a systematic review and a meta-analysis and using the results to draw conclusions and formulate policy. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): Health Informatics MAS student |
| BMI | 618 | Leadership and Change in Clinical Environments | Introduces tools and techniques for leading interdisciplinary teams in health care settings. Provides an opportunity for collaboration with health care professionals to solve specific problems, provide services or develop new understandings. Covers the concepts, skills, tools and techniques involved in the management of projects with a specific focus on how they apply to managing information systems projects in biomedical settings. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): Biomedical Informatics PhD student |
| BMI | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-15 | | Prerequisite(s): Biomedical Informatics PhD student |
| BMI | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Health Solutions | College of Health Solutions | 1-15 | | Prerequisite(s): Biomedical Informatics PhD student |
| BMY | 230 | How Nature Works | Teaches biology through the lens of function, thereby providing a core understanding in biology for all students, no matter their background. Explores the process of scientific discovery and how biological knowledge can inform other disciplines. Each week investigates a new topic regarding how ecosystems and organisms function--e.g., How do ecosystems cycle nutrients? How do animals move through air, water and on land? How do organisms defend themselves against disease? Covers core concepts in biology as well as how these concepts apply to other disciplines. | N | LEC | N | OPT | College of Global Futures | School of Complex Adaptive Systems | 3 | | Credit is allowed for only BIO 230 or BMY 230 |
| BMY | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-4 | | |
| BMY | 302 | Principles of Life | Explores nature's universal design guidelines based on 3.8 billion years of successful strategies across all life. Develops participants' understanding of the deep patterns found in nature, and acts as an introduction into the methodology of biomimicry--including the review and study of life's operating conditions on Earth; the six primary principles; and their related sub-principles. Gives the knowledge necessary to bring these design guidelines into practice and provides opportunity to integrate them into one's discipline. | N | LEC | N | OPT | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): SOS 110 with B or better |
| BMY | 304 | The Practice of Biomimicry | Explores the process of nature-based design from a methodology-based approach. Deep dives into the biomimicry process and reviews how biology and biomimicry can be incorporated into the four major phases of any design process: scoping, discovering, creating and evaluation. Introduces the art of translating biological concepts into strategies for application and building a taxonomy of design principles. Includes a practicing tools component and a final multi-week group project. Offers the structure for which biomimicry can be put to practice. | N | LEC | N | OPT | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): SOS 110 with B or better OR Visiting University Student |
| BMY | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-4 | | |
| BMY | 430 | Biomimicry Practicum | Allows participants to dive deep into the biomimicry tools and resources presented during the program and to apply them selectively to a specific and unique opportunity of the student's choosing. Projects should have meaningful outcomes achievable within the semester, and allow the investigation of biomimicry life's principles as well as engage students in the scoping, discovering, creating and evaluating phases of biomimicry thinking. Deliverables are milestone based with the final deliverable having an application in a real-world setting. | N | PRA | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): BMY 230; BMY 302; BMY 304 |
| BMY | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | |
| BMY | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-4 | | |

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|---------|-------------|-----------------------------|--|-------------------|-------------------|-----------------|---------------|---------------------------|------------------------------------|-------|-----------------|---|
| BMJ | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-7 | | |
| BMJ | 501 | Essentials of Biomimicry | Offered as a sampler of the various topics (discipline, emulate, ethos, (re)connect and iSites, human-nature connection, biomimicry thinking, and life's principles) within the discipline of biomimicry. Each week is devoted to a specific topic and is led by a different instructor. Provided a basic overview of each aspect of the discipline with ample opportunity for conversation and dialogue around the specific components, with an understanding that greater depth into each topic can be learned by taking the advanced BMJ courses. | N | LEC | N | OP2 | College of Global Futures | School of Complex Adaptive Systems | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMJ | 502 | Life's Principles | Life's principles are nature's universal design guidelines based on 3.8 billion years of successful strategies across all life. With instruction by Dr. Dayna Baumeister, this 16-week online course takes participants on a deep dive of life's principles, including the review and study of life's operating conditions, the six primary principles and their related sub-principles. Gives participants the experience necessary to bring these design guidelines into practice. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 4 | | Pre- or corequisite(s): Biomimicry MS or Biomimicry certificate student; BMJ 501 |
| BMJ | 503 | Biology Taught Functionally | Biomimicry teaches biology through the lens of function, thereby providing a core understanding in biology for all students, no matter their background. Explores how biologists gather and research information and how that knowledge can inform other disciplines. Also introduces the art of translating biological concepts into strategies for application, which is then carried throughout all the courses. Students learn how to work with biologists on a biomimicry team and how to weave biology and biomimicry together. The biologists in the cohort not only learn to look at nature through the function lens, but also act as subject matter experts for their interdisciplinary teams and teaching assistants. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 4 | | Pre- or corequisite(s): Biomimicry MS or Biomimicry certificate student; BMJ 501 |
| BMJ | 504 | Biomimicry Thinking | Biomimicry thinking is the practice of biomimicry from a methodology-based approach. It is a 15-week intensive in the methodology of biomimicry that reviews how biology and biomimicry can be incorporated into the four major phases of any design process: scoping, discovering, creating and evaluating. Covers the art of translating biological concepts into strategies for application and building a taxonomy of design principles. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 4 | | Prerequisite(s): Biomimicry MS student or Biomimicry certificate student; Pre- or corequisite(s): BMJ 501 |
| BMJ | 511 | Biomimicry and Design | Prepares participants to facilitate the design of sustainable innovations using the biomimicry philosophy and methodology. Participants engage in a series of lectures and assignments to demystify the design thinking process, understand how to harness the potential of approaching challenges with a design mind, distill a design challenge, understand user needs, build a bridge between biology and design, use a methodology for discovering models from nature, abstract design principles from biological strategies, and translate those principles into sustainable innovations. Participants with or without a design background equally experience a deep immersion into the world of biomimetic design. | N | LEC | N | OPT | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): BMJ 504 |
| BMJ | 512 | Biomimicry and Engineering | Prepares participants to understand the field of engineering; identify the types of engineers and what each one does; what constrains engineers work under, materials selected by engineers, how to present biological ideas to engineers and how to integrate ideas from their discipline into sustainable engineering designs using biomimicry principles. Most examples used are of large engineered structures. These structures play critical functions in human systems, have a significant impact on the environment and last for over 100 years, so it is important to imbed as much sustainability into their design as possible. Requires a final team project designed to put these ideas into practice. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): BMJ 502; BMJ 504 |
| BMJ | 516 | Biomimicry and Business | Addresses business topics from the biomimicry point of view; explains mechanisms and tools for comparing and contrasting business and nature. Challenges participants to question conventional ways of conducting business and come up with new approaches based on a different point of view. Recommend BMJ 502 and BMJ 504 to be successful in this course. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Pre- or corequisite(s): Biomimicry MS student; BMJ 501 |

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| BMY | 517 | Human-Nature Connection | Grounds the emerging discipline of biomimicry as a continuation of our ancestral connection with nature. Human-Nature Connection (HNC) engages participants in an exploration of the meaning and value of connecting with nature. Topics include defining humans, nature, and our connection with nature; establishing the evolutionary, personal, and socio-cultural influences on the different expressions of this connection; and illustrating the relevance of biomimicry to the human-nature connection. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 2 | | Pre- or corequisite(s): Biomimicry MS student; BMY 501 |
| BMY | 530 | Virtual Design Lab Practicum | Practicum designed to allow participants to dive deep into the biomimicry tools and resources presented during the program and to apply them selectively to a specific and unique opportunity of the student's choosing. Projects should have a meaningful outcome achievable within the semester, and should engage the scoping, discovering, creating and evaluating phases of biomimicry thinking. Deliverables are milestone based, and the final deliverable should have application in a real-world setting. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 2 | | Prerequisite(s): BMY 501; BMY 502; BMY 503; BMY 504; Biomimicry MS student with minimum 20 hours or Biomimicry Certificate student with minimum 13 hours; Pre- or corequisite(s): Biomimicry MS or Biomimicry Certificate student |
| BMY | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | N | LEC | Y | GNA | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): Biomimicry MS student; BMY 501; BMY 502; BMY 503; BMY 504 |
| BMY | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMY | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | REC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMY | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMY | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Global Futures | School of Complex Adaptive Systems | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMY | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | GNA | College of Global Futures | School of Complex Adaptive Systems | 1-4 | | Pre- or corequisite(s): Biomimicry MS student; BMY 501 |
| BUA | 380 | Small Business Leadership | Develops leadership skills needed to form, lead, and operate a small business. Emphasizes creating a vision, research, and problem solving. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Pre-requisites: Non-business student with a minimum ASU cumulative GPA of 2.00 and a minimum of 56 earned hours, OR Non-degree student with a minimum ASU Cum GPA of 2.00, OR Graduate student. |
| BUA | 381 | Small Business Accounting and Finance | Accounting and finance skills needed by small business owners to acquire, allocate, and track monetary resources and evaluate performance. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Pre-requisites: Non-business student with a minimum ASU cumulative GPA of 2.00 and a minimum of 56 earned hours, OR Non-degree student with a minimum ASU Cum GPA of 2.00, OR Graduate student. Must not have earned credit in ACC 382. |
| BUA | 383 | Small Business Working Relationships | Addresses communication and the people in a business--clients, employees, suppliers, competitors, governments, family, and self development. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Pre-requisites: Non-business student with a minimum ASU cumulative GPA of 2.00 and a minimum of 56 earned hours, OR Non-degree student with a minimum ASU Cum GPA of 2.00, OR Graduate student. |
| BUA | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 1-4 | | |
| BUS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Prebusiness Office | 1-4 | | |
| BUS | 384 | Business Operations and Planning | Planning and executing plans--the what, when, where, how, and who from product/service/project idea to pay back or completion. | N | LEC | N | OPT | W. P. Carey School of Business | Prebusiness Office | 3 | | Prerequisite(s): SCM 300 or 303 OR Visiting University Student |
| BUS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Prebusiness Office | 1-4 | | Prerequisite(s): minimum 45 hours |
| BUS | 424 | Sales and Negotiations | Principles and techniques of selling, merchandising and negotiations applicable for all businesses and organizations. | N | LEC | N | OPT | W. P. Carey School of Business | Prebusiness Office | 3 | | Prerequisite(s): MKT 300 |

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| BUS | 434 | Business Risk Management | Strategies to manage business risk: derivatives, insurance, self-insurance and public policy. | N | LEC | N | OPT | W. P. Carey School of Business | Prebusiness Office | 3 | | Prerequisite(s): FIN 300, 302 or 303 OR Visiting University Student |
| BUS | 436 | Frontiers in Risk Management | Highlights practices and challenges faced by firms in terms of identifying, measuring and communicating a variety of business and financial risks, as well as designing and implementing risk management strategies as a critical component of the overall strategic management process. Emphasizes a variety of financial and nonfinancial risks in a holistic framework. Develops an understanding of the risk management practices and challenges faced by firms in a variety of business settings and industries. | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 3 | | Prerequisite(s): FIN 300, 302 or 303 OR Visiting University Student |
| BUS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Prebusiness Office | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAP | 120 | Introduction to Counseling | Provides an introduction to and broad overview of the field of counseling. Covers several counseling topics related to ethics, prevention, intervention and treatment, as well as multicultural counseling. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | |
| CAP | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| CAP | 220 | Self in a Multicultural Society | Covers current theories and research on culture, race and ethnicity, gender and other specific aspects of cultural diversity in a multicultural society. Explores themes, theories, topics and research related to power, privilege and oppression in the United States. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | C | |
| CAP | 240 | Counseling Skills | Provides an introduction to counseling skills and intervention techniques used in treatment. Focuses on active listening, self-awareness and other related skills. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): CAP 120 OR Visiting University Student |
| CAP | 260 | Survey of Careers in Counseling and Applied Psychology | Provides a broad overview of the various career opportunities in counseling and applied psychology fields. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1 | | Prerequisite(s): CAP 120 or PSY 101 |
| CAP | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| CAP | 310 | Addictions I: Foundations and Basic Principles | Covers the history, overview and principles of addiction as well as symptoms of co-occurring mental health issues prevalent in individuals with addictions and substance abuse disorders. Students also learn basic screening and assessment tools used to detect, evaluate and manage risks associated with individuals who have co-occurring disorders | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): CAP 120 OR Visiting University Student |
| CAP | 315 | Trauma and Crisis Intervention | The role of counselors in traumatic events, crises and situations. Also introduces students to counseling skills and techniques particularly specialized for crises such as child abuse, partner violence, war, natural disasters and many others. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): CAP 120 |
| CAP | 320 | Theories of Counseling and Psychotherapy | Provides the theoretical foundations and knowledge related to the principles of counseling. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): CAP 120 or PSY 101; ENG 102, 105, or 108 with C or better OR Visiting University Student |
| CAP | 325 | Professional Practice and Ethics in Counseling | Discusses ethical issues (confidentiality, informed consent, integrity, respect) and professional codes of conduct in the counseling field. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): CAP 120; CAP 240 OR Visiting University Student |
| CAP | 330 | Group Counseling | Provides an overview of theories, techniques and approaches to group counseling and therapy. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): CAP 120; CAP 240 |
| CAP | 335 | Addiction Group Counseling | Offers an overview of the role and efficacy of group therapy in substance abuse treatment. Students learn about the different types of substance abuse treatment groups; screening and criteria for groups; group development and stages of treatment; and group leadership skills and techniques (e.g., motivational interviewing). Through weekly discussions, journal reflections and experiential activities, students learn the various techniques used in group substance abuse treatments. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): CAP 120; CAP 240 |
| CAP | 340 | Multicultural Counseling Theory and Practice | Provides an overview of multicultural theory, research and practice. Topics include acculturation, identities, prejudice and other related topics. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): CAP 120; CAP 220 |
| CAP | 342 | Community Outreach, Prevention and Intervention | Provides an understanding of the methodologies in community outreach and prevention treatment. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): CAP 120; CAP 220 |
| CAP | 351 | Issues in Assessment, Diagnosis and Treatment | Builds upon previous coursework. Provides students with an understanding of the major screening, assessment and diagnostic approaches for substance abuse and addictions. Students obtain knowledge of (1) models, (2) instruments and (3) diagnostic criteria, and the ability to link this knowledge to treatment planning and interventions for addictions. The goal of this course is not to diagnose or treat individuals with disorders. Rather, it is designed to give students a basic understanding of diagnostics and evidence-based treatments to inform work in the mental health field. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): CAP 310 with C or better OR Visiting University Student |

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| CAP | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | Prerequisite(s): minimum 45 hours |
| CAP | 400 | Advanced Counseling Research Methods | Builds upon introductory research methods and provides students with a strong foundation of research knowledge in counseling. Covers critical reading and analysis of peer-reviewed journal articles, types of research methodologies and proposal development. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): CAP 120; PSY 290 OR Visiting University Student |
| CAP | 420 | School Counseling | Provides an overview of counseling in school settings. Covers the role of school counselors in supporting youth and adolescents in many areas such as developmental disabilities/mental illness, as well as ethical and legal issues. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): CAP 120; CAP 240 OR Visiting University Student |
| CAP | 440 | Addictions II: Treatment, Recovery and Relapse Prevention | Builds upon previous course work. Covers philosophies and models of treatment, recovery, relapse prevention and continuing care in substance abuse counseling. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): CAP 120; CAP 310 OR Visiting University Student |
| CAP | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | PRA | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): minimum 45 hours |
| CAP | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | | Prerequisite(s): Barrett Honors student |
| CAP | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | RSC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | | Prerequisite(s): Barrett Honors student |
| CAP | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| CAP | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-7 | | Prerequisite(s): minimum 45 hours |
| CAP | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-3 | | Prerequisite(s): minimum 45 hours |
| CAS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-4 | | |
| CAS | 253 | Introduction to Mathematical Tools and Modeling for the Life and Social Sciences | Introduces the evaluation and construction of mathematical models used in the life and social sciences. Includes the basic steps in developing a model, analyzing it, and testing it with actual data. Covers the first steps concerning how to use formal mathematical techniques including developing equation-based relationships, plotting graphs, linear regression, and solving equations using computer software. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): AML 100 or SOS 101 with C or better; MAT 117 with C or better or ALEKS score of 61 or higher; Credit is allowed for only AML 253 or CAS 253 OR Visiting University Student |
| CAS | 254 | Introduction to Dynamics and Control in the Biological and Social Sciences | Includes three fundamental topics in dynamics of populations, each topic motivated by a biological example. Covers mathematical tools, both analytic and computational, to solve the problem. Students have a small group project on each topic. | N | LEC | N | OPT | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): AML 253; MAT 210, 251, 265, or 270; MAT 266 or 271; Credit is allowed for only AML 254 or AML 294 (Continuous Models for the Life and Social Sciences) or CAS 254 OR Visiting University Student |
| CAS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-4 | | |
| CAS | 298 | Honors Directed Study | Independent study or practicum under the supervision of a faculty member. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-6 | | Prerequisite(s): Barrett Honors student |
| CAS | 363 | From Cells to Society: Understanding Complexity | Equips students with concepts and empirical examples they need to understand the role of complexity in the world around them. Complexity science is based on the fundamental principle that entities and phenomena in the world around us are systems composed of many parts that interact to produce their global characteristics. For example, cells interact to produce organs and tissues, which in turn interact to produce physiological processes (i.e., the capacity to metabolize food to produce new compounds and energy) and physical infrastructure (skeletal and muscular structure) which produce organisms. Organisms, (e.g., humans) interact to form groups, villages, cities, nations. | N | LEC | N | OPT | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AML/ASB/BIO/SOS 394 (From Cells to Societies) or ASB 363 or BIO 363 or CAS 363 or SOS 363 OR Visiting University Student |
| CAS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-4 | | |
| CAS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-6 | | Prerequisite(s): Barrett Honors student |
| CAS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-6 | | Prerequisite(s): Barrett Honors student |
| CAS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-4 | | |
| CAS | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-6 | | Prerequisite(s): Barrett Honors student |

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| CAS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-7 | | |
| CAS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 501 | Fundamentals of Complex Systems Science: Evolution | The enormous diversity of biological, social and technological systems is the product of evolution. As Darwin put it poetically: "There is grandeur in this view of life, with its several powers, having been originally breathed by the Creator into a few forms or into one; and that, whilst this planet has gone cycling on according to the fixed law of gravity, from so simple a beginning endless forms most beautiful and most wonderful have been and are being evolved." In short, complexity is the product of evolutionary processes. This, in turn, implies that understanding complexity requires us to understand its evolutionary origins. This course is a comprehensive introduction to the evolutionary history of complex systems and the principles and mechanisms that guide this dynamic. Covers the consequences of evolutionary history of complex systems, such as vulnerability to failure or limits of the potential of these systems to change and adapt. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 502 | Fundamentals of Complex Systems Science: Computation | Most systems are complex. Complex systems share a number of critical features across all domains, including the fact that all complex systems process information and perform computations in the broadest sense. Explores the informational and computational dimensions of complex systems with an emphasis on how complex systems acquire, process, store and transmit information in a systematic way across the social, behavioral and life sciences and engineering. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 503 | Fundamentals of Complex Systems Science: Collectives | From neurons in a brain to fish in a school to people in an economy, collectives are all around us. These are complex systems in which we understand in some detail how the individual components behave and interact, but the behavior we are interested in is at the larger scale of the aggregate. The behavior of systems like these is challenging to predict and understand largely due to the sheer number of interacting components, as well as the unintuitive way that contributions from individuals scale up to have large collective effects. Complex systems science has developed an array of conceptual tools to help understand collective behavior. Explores these foundational concepts, including emergence, scaling laws, dynamical modes and coarse-graining. Uses these tools to de-mystify powerful aggregate-scale effects, from impressive feats of swarm intelligence to potentially harmful instabilities and hysteresis. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 520 | Agent-Based Modeling | Agent-based modeling is a method to study the macro-level consequences of micro-level interactions of agents representing individuals, households, firms or other type of actors. Agent-based modeling is used to study the dynamics of complex adaptive systems across different domain areas. Covers the basics of agent-based modeling including programming computer simulations and how this method is used to study complex adaptive systems in different application areas. Examines the method for scientific research, especially the various ways of doing model analysis. Students perform individual assignments. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 521 | Methods for Complex Systems Science: Network Analysis | Network science within the framework of complex adaptive systems. Begins with general introductions to different kinds of networks and their basic network properties. Then progresses to the mathematics and algorithms of network analysis while learning about computational feasibility and the importance of random graph comparisons. Each week students are responsible for readings and a write-up of that week's topics. These write-ups help build toward the final assignment incorporating all topics covered in this class. Upon completion, students should feel confident incorporating networks and their associated complexity into their research and worldview. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| CAS | 522 | Methods for Complex Systems Science: Dynamical Systems | Focuses on the mechanisms through which complexity emerges in evolving and dynamical network architectures. Some of the best-known examples include gene expression networks, adaptive ecological networks, and neural networks for cognitive information processing. Complex systems theory deals with dynamical systems with a large number of interacting variables. Therefore, after an introduction to graph and network theory, the course covers the basic concepts of dynamical systems theory: continuous and discrete systems, attractor dynamics, bifurcation, and chaos. After introducing information theory, devoted to the fundamentals, the second part focuses on applications, especially to network dynamics. Students acquire familiarity through the analysis of concrete examples of both deterministic and random dynamics in the form of Boolean networks and random walks. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 523 | Methods for Complex Systems Science: Statistics and Dimensionality Reduction | Because complex systems involve a large number of interacting components, observational studies of these systems typically generate data sets of high dimension. Examples include the hundreds or thousands of distinct neurons in a brain, genes in a cell, people in a society, firms in an economy, or texts in a corpus. To make sense of such data, a diverse set of data analytic tools has been developed to summarize key properties at the population level (statistics) and characterize predictable lower-dimensional patterns (dimensionality reduction). Provides a guided tour of such tools most relevant to complex adaptive systems. With a solid foundation in inferential statistics, students encounter PCA-type linear projections, nonlinear manifold techniques, topic modeling, clustering methods, network statistics, as well as more abstract foundations for how these methods work and when they fail. Students hone their data skills by applying state-of-the-art open-source software to real-world datasets. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 540 | Socioecological Complex Systems | We live in a world that is neither wholly human nor wholly natural. Human decisions and actions combine with biological processes and physical forces transform cities, rural landscapes, ecosystems and biogeography, river systems, coastlines and the atmosphere. By emphasizing the importance of networks and feedbacks, complexity science is especially helpful in providing insight into the complex interactions between the human and natural components of the socioecological systems that are so critical to our lives and wellbeing. Examines key concepts for understanding socioecological system dynamics from a complex systems perspective. Explores how methods drawn from complexity science can trace the complex web of feedbacks between social, biological and geophysical processes and help to better understand and plan for change and stability in socioecological systems. Also looks at how complexity science can help contribute to relevant policy and governance for SES. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 541 | Complex Urban Systems | Despite occupying only a tiny fraction of the world's area, cities house over half of earth's human population, consume over two thirds of global energy, and emit over 70% of global CO2 emissions. It is estimated that the combined ecological footprint of earth's urban areas already exceeds the entire area of our planet, and still globally 3 million more people migrate to cities every week. Cities are also the global engines of innovation, wealth creation, and production efficiencies. Thus, cities are both drivers of unsustainable behavior and our best hope for innovating sustainable solutions. Examines key concepts for understanding the complexity of urban systems, and explores how methods drawn from complexity science can be applied to urban structures and dynamics to better understand both past and future outcomes. Shows how complexity science might contribute to relevant policy and governance of cities and whether such a contribution is advisable. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 2-3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 542 | Sustainability as a Problem Complexity | Sustainability challenges are complex challenges. Sustainability as a problem of complexity explores in a systematic way the interconnected nature of sustainability challenges and presents a complex systems science-based framework for developing sustainability solutions. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| CAS | 543 | Complexity Economics | Complexity economics is the study of economic systems as evolving, complex systems. These systems consist of interacting individuals who perceive their environments, and take actions based on multiple criteria, which in turn affect their environments and the decisions available to other individuals. Complexity economics is not an extension of conventional, neo-classical economic theory and practice, which is based on the concepts of equilibrium, optimization and aggregation. Complexity economic attempts to understand economic phenomena through concepts of evolution, emergence, path dependency and the interdependent relationships between heterogenous individuals whose actions shape their environments. This offers a new basis for theory and practice that better reflects not only real problems and scenarios, but also how individuals make decisions and how those decisions have consequences for both the environment and society. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 544 | Innovation in Complex System | Innovation is a central property of complex systems. Without innovation there would be no evolution of complex systems. Explores the dynamics of innovation in complex systems across a number of different domains, including biological, social, cultural and technological innovations. Focuses on the common principles and differences guiding innovation dynamics. Also focuses on unintended consequences of innovation, such as cascading effects and innovation traps and investigates why certain systems fail to innovate. Identifies common features of innovation across complex systems. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 545 | Disease as a Complex System | Disease and failure are properties of complex systems. All organisms, groups, societies, technologies, ecosystems and the planetary system are complex systems. Disease can be seen as a failure in complex system function and has, at its root cause, the breakdown of complex regulatory structures that maintain function and facilitate adaptation. Comprehensive introduction into the origins, mechanisms and consequences of disease in a number of complex systems ranging from organisms to the planet and the technosphere. Explores disease, failure and health of these systems and investigates the underlying complex systems properties that are responsible for these different states. Identifies common features of failure across complex systems. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 546 | Bio-Inspired AI and Optimization | Provides a survey of a variety of algorithms for optimization and multiagent control that are inspired by natural systems. Algorithms inspired by biological or physical systems can often be viewed as idealized models of those antecedent systems. Consequently, also explores potential problems (and solutions) in these algorithms that are analogous to fundamental but less well-known issues in the biological and physical systems that inspire them. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 570 | Fundamentals of CAS Science | Many phenomena of critical relevance to human society are dynamic systems that change over individual and evolutionary time scales, and are highly interactive, both within and between systems. That is, they are complex adaptive systems (CAS), and thus share isomorphic properties like near-decomposability, hierarchical organization, scale-free networks, self-organized criticality, and emergence. Fundamentals of CAS science explores the diverse, interdisciplinary applications of a complex adaptive systems across the social, behavioral, and life sciences. | N | SEM | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASM 570 or BIO 570 or CAS 570 or SOS 570 |
| CAS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| CAS | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | College of Global Futures | School of Complex Adaptive Systems | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 599 | Thesis | Supervised research focused on preparation of a thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 600 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 691 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | College of Global Futures | School of Complex Adaptive Systems | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 791 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | RSC | Y | Z3 | College of Global Futures | School of Complex Adaptive Systems | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 799 | Dissertation | Supervised research focused on preparation of a dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Global Futures | School of Complex Adaptive Systems | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 232 | Human Development | Lifespan development from conception through adulthood, with emphasis on family influences. Recognition of individuality within the universal pattern of development. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | |

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| CDE | 244 | Children Facing Health Care Challenges | Provides a comprehensive introduction to family-centered care, psychosocial assessment of the hospitalized and chronically ill child, and techniques to support their coping. Utilizes the principles/theories of child development, and introduces the role of a child-life specialist in the promotion of effective coping through play, preparation and education among children, youth and families facing challenges related to health care and hospitalization. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Credit is allowed for only CDE 244 or CDE 294 (Children Facing Health Care Challenges) OR Visiting University Student |
| CDE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | |
| CDE | 312 | Adolescence | In-depth examination of the developmental and social processes that help explain modern adolescence. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): CDE 232, PSY 101, SOC 101, or TEL 215 with C or better; minimum 24 hours; Credit is allowed for only CDE 312 or SOC 312 OR Visiting University Student |
| CDE | 337 | Early Childhood Intervention | Explores how child development theory affects practice with children and families, emphasizing development of young children and early intervention. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | |
| CDE | 338 | Child Development Practicum | Supervised practicum in the Child Development Lab preparing students for work in child care centers and agencies serving young children and families. | N | PRA | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 2-4 | | Prerequisite(s): minimum 45 hours |
| CDE | 350 | Inequality and Diversity in Education | Advanced exploration of various dimensions of diversity in relation to educational systems and outcomes. Through sociological and psychological research, case studies and films, students examine how educational inequality is created and reproduced through individual actions and institutional constraints. Also considers the connection between schooling and human rights and ways in which educational inequality may be addressed. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | L & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; AFR 212, APA 200, APA 210, CDE 232, JUS 210, TCL 210, or minimum 24 hours; Credit is allowed for only AFR 350, APA 350, CDE 350, JUS 365, SOC 350, or TCL 360 OR Visiting University Student |
| CDE | 356 | Race and Child Development | Reviews the current research and literature about the particular role of race in child development. Even though race is not a valid biological construct, it has significant social implications as it shapes how children interact and are treated by others. Through primarily class discussions/activities, presentations and papers, addresses: (1) What are the research and theoretical issues in studying race? (2) What does race and racism mean? (3) How does race influence developmental processes? | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & C | Prerequisite(s): APA 200 or APA 210 or 30 hours. Credit is allowed for only APA 356 or CDE 356 or APA 394 (Race and Child Development) |
| CDE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | |
| CDE | 414 | The School-Aged Child: Development in the Elementary Years | Examines children's physical, social-emotional and neurological development across the elementary school years, as well as the socialization influences of primary people and contexts engaged with children during this developmental period. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): CDE 232 with C or better OR Visiting University Student |
| CDE | 418 | Aging and the Life Course | Examines aging as a process of change and adaptation over the lifespan, patterned by social, cultural, and historical forces. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & H | Prerequisite(s): FAS 101, 330, PSY 101 or SOC 101 with C or better; minimum 30 hours; Credit is allowed for only CDE 418 or SOC 418 OR Visiting University Student |
| CDE | 430 | Infant and Toddler Development in the Family | Discover the world of babies and toddlers. Learn about important changes in biological/physical, cognitive, emotional and social domains of development from conception to age three. Consider the influences of parents, family and environment. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): minimum 30 hours OR Visiting University Student |
| CDE | 450 | Childhood Disorders and Family Functioning | Examines the presentation, development and treatment of a wide range of neurodevelopmental, psychological, emotional and behavioral disorders of childhood. Applies family theories to understand the implications of these disorders for children and families. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | L | Prerequisite(s): CDE 232 or PSY 101 with C or better; ENG 101, 102, 105, 107, or 108 with C or better; minimum 45 hours OR Visiting University Student |
| CDE | 469 | Multivariate Statistics for Social Sciences | Provides instruction and hands-on experience with statistical methods for examining the effects of multiple variables. Focuses on multivariate techniques and how statistical techniques can lead to a better understanding of substantive issues. As this is an applied course, lectures and coursework focus more on the application and interpretation of multivariate techniques than on the mathematics behind the statistical techniques. Topics typically include data visualization, correlation, simple regression, multiple regression, logistic regression, multinomial regression, ordinal regression, and principal component analysis. Also teaches how to conduct these statistical techniques and undertake basic programming in the R computer program. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): DAT 300, ECN 221, GIS 270, PSY 230, SOC 390, or STP 226 with C or better; Credit is allowed for only CDE 469 or GIS 469 or SOC 469 or CDE 498/GIS 494 (Multivariate Statistics for Social Sciences) OR Visiting University Student |
| CDE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | |

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| CDE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| CDE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | |
| CDE | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-6 | | Prerequisite(s): Barrett Honors student |
| CDE | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-7 | | |
| CDE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-3 | | |
| CDE | 501 | Social Statistics | Understands and uses statistics for applications in the social sciences. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): Degree- or Nondegree-seeking graduate; Credit is allowed for only CDE 501, SOC 501 or SOC 598 (Statistics for Social Sciences) |
| CDE | 531 | Theoretical Issues in Child Development | Major developmental theories, related research, and their application to family interaction. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 533 | Research Issues in Child Development | In-depth exploration and critique of research focusing on child development in a family setting. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 534 | Risk and Resilience in Children and Adolescents | Integrates child development, family theory, and research to understand risk and resilience in children and adolescents. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisites: CDE 531; FAS 500 |
| CDE | 570 | Child Development for Infant Family Practice | Examines development during infancy and early childhood with an emphasis on social and emotional development, mental health, and early parent-child relationships. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-IFP student |
| CDE | 571 | Infant Mental Health for Infant Family Practice | Surveys the biological and environmental risk factors that jeopardize the mental health of infants and young childre; overview of prevention and intervention strategies. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-IFP student |
| CDE | 572 | Assessment of Infants, Toddlers, and Families for Infant Family Practice | Developmentally appropriate assessment of mental disorders and developmental disabilities in infants, toddlers, and preschool children and parent-child relationships. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-IFP student |
| CDE | 573 | Cultural Competence for Infant Family Practice | Examines cultural issues impacting parent-child relationships and child rearing and the effectiveness of infant mental health and early intervention services on families of various ethnic and cultural backgrounds. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-IFP student |
| CDE | 574 | Observation and Reflection for Infant-Family Practice | Strategies for observing infant behavior and parent-child relationships and skills for reflective, relationship-based intervention. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-IFP student |
| CDE | 575 | Advanced Observation and Reflection for Infant-Family Practice | Advanced strategies for observing infant behavior and parent-child relationships and skills for reflective relationship-based intervention. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-IFP student |
| CDE | 576 | Applied Research Methods for Infant Family Practice | Survey and critical examination of child development, parent-child relationships, family relationships, and early intervention research and the application to IFP. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-IFP student |
| CDE | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| CDE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 610 | Gender Development | Examines current theories and research concerning the various aspects of gender and developmental change. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 612 | Children's Peer Relationships | Studies scientific theory, research, and evidence on peer relationships and social competence from early childhood through adolescence. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite(s): CDE 531 with C or better |
| CDE | 634 | Prevention and Child Development | Advanced training in research and theory-based approaches to developing and evaluating prevention programs for children at risk. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite: CDE 534 |
| CDE | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 783 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDH | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| CDH | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| CDH | 501 | Digital Humanities: Critical Theory and Methods | Digital technologies are now intricately woven into our lives--whether it's in terms of authoring a paper in a text editor, sending texts and emails, or doing data analysis. Popular narratives of the "big" and the "new" celebrate and sometimes bemoan the ways that these tools shape our communication, access to information, habits and even our physical bodies. Focuses on the histories of these technologies, their operations, popular conceptions about such tools, and their affordances and limits for humanities scholarship. Students learn how to leverage digital technologies, but also how to critically read them. Broad ranging; in addition to surveying the "big tent," students are encouraged to utilize their final projects to engage with specific disciplinary digital tools and methods relevant to their scholarly work. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CDH 501 or HST 504 or REL 504 |
| CDH | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDH | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDH | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDH | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CED | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| CED | 250 | Career Development | Covers models of the individual, the world of work, and decision making with emphasis on individual application. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| CED | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | |
| CED | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| CED | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-3 | | |
| CED | 501 | Intro to Research and Evaluation in Counseling | Introduction to the basic models of research and evaluation in the field of counseling. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking).; Credit is allowed for only CED 501 or 591 (Res. & Eval. in Counseling) |
| CED | 502 | Counseling Research Data Analysis | Descriptive statistics, visual approaches, estimation, and inferential methods for univariate and bivariate counseling research problems using statistical software. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only CED 502 or CED 591 (Counseling Research Data Analysis) |
| CED | 522 | Theories of Counseling and Psychotherapy | Presents major theories of psychological intervention as well as underlying personality theory upon which they are based. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Counseling MC or Counseling Psychology PhD or Counselor Education MEd student |
| CED | 523 | Psychological Tests | Standardized tests in the study of the individual, with emphasis on test score interpretation in counseling. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| CED | 527 | Prevention and Consultation | Community focus with emphasis on outreach, prevention, psychoeducation, consulting, and advocacy from a systematic multicultural perspective. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Counseling MC or MED student OR Counseling Psychology PhD student; Credit is allowed for only CED 527 or CPY 660 |
| CED | 529 | Lifespan Human Development | Issues and models of human development as it occurs across the lifespan. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CED | 534 | Occupations and Careers | The world of work, career development, education, and training for occupational entry and mobility. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| CED | 545 | Assessment and Diagnosis | Theory and methods commonly used to assess mental health diagnoses utilizing the most current version of the Diagnostic and Statistical Manual of Mental Disorders. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Counseling MC or Counseling Psychology PhD or Counselor Education MEd student |
| CED | 567 | Group Dynamics and Counseling | Group process factors, theory, and diversity issues determining effective interaction in small groups. Emphasis placed on lecturettes, self awareness, and experiential components. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Counseling MC or Counseling Psychology PhD or Counselor Education MEd student |
| CED | 577 | Counseling Prepracticum | Focus on racial, social, and cultural factors in the development of helping relationships through integration of cognitive and affective self-awareness with counseling skills. | N | LEC | N | YGB | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Counseling MC or Counseling Psychology PhD student |
| CED | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| CED | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| CED | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| CED | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| CED | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| CED | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |

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| CED | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| CED | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| CED | 645 | Professional Issues and Ethics | Ethical, legal, and professional issues of concern to practitioners and researchers functioning in a variety of settings. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or postbaccalaureate student; Credit is allowed for only CED 645 or CPY 645 |
| CED | 671 | Multicultural Counseling | Provides awareness of the influence of sociocultural variables on human development and explores implications for counseling minority populations. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate student; Credit is allowed for only CED 671 or CPY 671 |
| CED | 672 | Couple and Family Counseling | Couple and family counseling theories. Emphasizes a systems-communication model utilizing cocounseling. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CED | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): Counseling graduate student |
| CED | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): Counseling graduate student |
| CED | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| CED | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| CED | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| CED | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| CED | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| CEE | 181 | Technological, Social, and Sustainable Systems | Introduces the importance and role of technological, social, and sustainable systems in the modern world. Provides a framework for the theory and practice of sustainable engineering. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | HU | Credit is allowed for only CEE 181, FSE 181, or SOS 181 |
| CEE | 210 | Engineering Mechanics I: Statics | Force systems, resultants, equilibrium, distributed forces, area moments, fluid statics, internal forces, friction, and stability. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): FSE 100 with C or better; MAT 266 or 271 with C or better; PHY 121 with C or better; PHY 122 with C or better; Corequisite(s): MAT 242; Credit is allowed for only CEE 210 or CNE 210 OR Visiting University Student |
| CEE | 212 | Engineering Mechanics II: Dynamics | Kinematics and kinetics of particles, translating and rotating coordinate systems, rigid body kinematics, dynamics of systems of particles and rigid bodies, and energy and momentum principles. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): CEE 210 or CNE 210 with C or better; MAT 242 with C or better; MAT 274 or 275 with C or better; Credit is allowed for only CEE 212 or CNE 212 OR Visiting University Student |
| CEE | 213 | Introduction to Deformable Solids | Strain-displacement and stress-strain-temperature relations. Stresses and deformations due to axial, shear, torsional and bending moments. Buckling, stability. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): CEE 210, CNE 210, or EVE 214 with C or better; MAT 274 or 275 with C or better; Credit is allowed for only CEE 213 or CNE 213 OR Visiting University Student |
| CEE | 281 | Surveying | Theory and fieldwork in construction and land surveys. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): MAT 170 or higher with C or better; Credit is allowed for only CEE 281 or CNE 241 or CON 241 OR Visiting University Student |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| CEE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-4 | | |
| CEE | 300 | Engineering Business Practice | Engineering economic principles, cost/benefit analysis, project financing and delivery, management of engineering design, business practices, ethical and professional responsibilities. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | L | Prerequisite(s): Engineering BSE major; ENG 101, 105, or 107 with C or better; MAT 267 with C or better; minimum junior standing OR Visiting University Student |
| CEE | 321 | Structural Analysis and Design | Statically determinate and indeterminate structures (trusses, beams, and frames) by classical and matrix methods. Introduces structural design. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 4 | | Prerequisite(s): Civil Engineering BSE or Construction Engineering BSE major; CEE 212 or CNE 212; CEE 213 or CNE 213 with C or better; Credit is allowed for only CEE 321 or CNE 321 OR Visiting University Student |
| CEE | 341 | Fluid Mechanics for Civil Engineers | Fundamental principles and methods of fluid mechanics forming the analytical basis for water resources engineering. Conduit and open channel flow. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 4 | | Prerequisite(s): Civil Engr BSE major; CEE 212 with C or better; CEE 213 with C or better OR Environmental Engr BSE major; EVE 214 with C or better; Pre- or corequisite(s): CEE 384 or MAE 384 with C or better if completed OR Visiting University Student |
| CEE | 351 | Geotechnical Engineering | Index properties and engineering characteristics of soils. Compaction, permeability and seepage, compressibility and settlement, and shear strength. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 4 | | Prerequisite(s): Civil Engring BSE, Construction Engring BSE, or Environmental Engring BSE major; CEE 212 or CNE 212 with C or better; CEE 213 or CNE 213 with C or better; Credit is allowed for only CEE 351 or CNE 351 OR Visiting University Student |
| CEE | 353 | Civil Engineering Materials | Structure and behavior of civil engineering materials, including steel, aggregate, concrete, masonry, asphalt, wood, composites. Atomic structure and engineering applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 4 | | Prerequisite(s): Civil Engr BSE, Construction Engr BSE, or Environmental Engr BSE major; CEE 213 or CNE 213 w/C or better; Credit is allowed for only CEE 353 or CNE 353 or EVE 354 or EVE 394 (Materials in the Environment) OR Visiting University Student |
| CEE | 361 | Introduction to Environmental Engineering | Concepts of air and water pollution; environmental regulation, risk assessment, chemistry, water quality modeling, water and wastewater treatment systems designs. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 4 | | Prerequisite(s): Fulton Engineering undergraduate student; CEE 213 with C or better; CHM 114 or 116; Pre- or corequisite(s): IEE 380 OR Visiting University Student |
| CEE | 372 | Transportation Engineering | Fundamental background of highway and traffic engineering in the areas of planning, design, and operations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE major; CEE 212 with C or better; CEE 213 with C or better; Pre- or corequisite(s): IEE 380 OR Visiting University Student |
| CEE | 384 | Numerical Methods for Engineers | Numerical methods and computational tools for selected problems in engineering. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | CS | Prerequisite(s): Fulton Engineering major; MAT 274 or 275 with C or better; MAT 242 or 343 (or 342 for non-MAE major) with C or better; Pre- or corequisite(s): MAT 267 or 272 with C or better if completed OR Visiting University Student |
| CEE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-4 | | |
| CEE | 400 | Earth Systems Engineering and Management | Introduces earth systems engineering and management, and the technological, economic and cultural systems underlying the terraformed Earth. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | (L or HU) & H | Prerequisite(s): Civil Engr BSE major; CEE 300 with C or better; ENG 101, 105, or 107 with C or better OR non-CEE junior or senior; ENG 101, 105, or 107 with C or better; Credit is allowed for only CEE 400 or CNE 400 OR Visiting University Student |
| CEE | 412 | Pavement Analysis and Design | Design of flexible and rigid pavements for highways and airports. Surface, base, and subgrade courses. Cost analysis and pavement selection. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE major; CEE 351 with C or better; CEE 353 with C or better; Credit is allowed for only CEE 412 or 511 OR Visiting University Student |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| CEE | 420 | Steel Structures | Behavior of structural components and systems. Design of steel members and connections. Load and resistance factor design methods. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE or Construction Engineering BSE major; CEE 321 or CNE 321 with C or better; CEE 353 or CNE 353 with C or better; Credit is allowed for only CEE 420 or CNE 420 OR Visiting University Student |
| CEE | 421 | Concrete Structures | Behavior of concrete structures and the design of reinforced and prestressed concrete members, including footings. Partial design of concrete building system. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE major or Construction Engineering BSE major; CEE 321 or CNE 321 with C or better; CEE 353 or CNE 353 with C or better; Credit is allowed for only CEE 421 or CNE 421 OR Visiting University Student |
| CEE | 423 | Structural Design | Analysis and design of reinforced concrete steel, masonry, and timber structures. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE major; CEE 421 with C or better; Pre- or corequisite(s): CEE 420 with C or better if completed |
| CEE | 432 | Developing Software for Engineering Applications | Matrix and computer applications to structural engineering and structural mechanics. Stiffness and flexibility methods, finite elements, and differences. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE major; CEE 321 with C or better; Credit is allowed for only CEE 432 or CEE 532 |
| CEE | 440 | Hydrology | Descriptive and quantitative hydrology; hydrologic cycle, models, and systems. Rain-runoff models. Hydrologic design. Concepts, properties, and basic equations of groundwater flow. Emphasizes quantitative methods. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): CEE 341 or MEE 340 or GLG 362 with C or better; Credit is allowed for only CEE 440 or CEE 545 or CEE 598 (Hydrology) or GLG 471 or GLG 490 (Hydrology) OR Visiting University Student |
| CEE | 441 | Water Resources Engineering | Applies the principles of hydraulics and hydrology to the engineering of water resources projects; design and operation of water resources systems; water quality. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE or Environmental Engineering BSE major; CEE 341 with C or better; Credit is allowed for only CEE 441 or CEE 544 or CEE 598 (Water Resources Eng) OR Visiting University Student |
| CEE | 452 | Foundations | Applies soil mechanics to foundation and retaining wall systems, including bearing capacity, settlement, and lateral earth pressure. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE major or Construction Engineering major; CEE 351 or CNE 351 with C or better; Credit is allowed for only CEE 452 or CNE 452 OR Visiting University Student |
| CEE | 453 | Earth Structures Engineering | Principles and design considerations of earth structures. Slope stability, compaction, earth retaining structures embankments, and earthen dams. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE or Construction Engineering BSE major; CEE 351 or CNE 351; Credit is allowed for only CEE 453 or CEE 494 (Earth Structures) or CEE 598 (Earth Structures) OR Visiting University Student |
| CEE | 462 | Unit Operations in Environmental Engineering | Design and operation of unit processes for water and wastewater treatment. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE major; CEE 361 with C or better OR Environmental Engineering BSE major; EVE 302 with C or better OR Visiting University Student |
| CEE | 466 | Urban Water System Design | Capacity; planning and design of water supply; domestic and storm drainage; and solid waste systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE major; CEE 341 with C or better; CEE 361 with C or better OR Environmental Engineering BSE major; CEE 341 with C or better; EVE 261 with C or better OR Visiting University Student |
| CEE | 467 | Environmental Microbiology | Overview of the microbiology of natural and human-impacted environment, microbial detection methodologies, waterborne disease outbreaks, risk assessment, and regulations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE major; CEE 361 or MIC 220 with C or better OR Environmental Engineering BSE major; EVE 303 with C or better; Credit is allowed for only CEE 467 or CEE 567 OR Visiting University Student |
| CEE | 470 | Sustainable Environmental Biotechnologies | Introduces principles of green chemistry and green engineering and their integration in the design of sustainable bioengineering and biotechnology applications that protect environmental quality and human health. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): CEE 361; Credit is allowed for only CEE 470 or CEE 494 (Sustainable Environmental Biotechnologies) or CEE 570 or CEE 598 (Sustainable Environmental Biotechnologies) OR Visiting University Student |

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| CEE | 474 | Transportation Systems Planning | Transportation systems modeling procedures, travel characteristics analysis, traffic predictions, transportation systems management, and transit planning methods. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE major; CEE 372 with C or better; CEE 384 with C or better; Credit is allowed for only CEE 474 or CEE 574 or CEE 598 (Transportation Systems Planning) OR Visiting University Student |
| CEE | 475 | Highway Geometric Design | Design of visible elements of roadway, design controls, at-grade intersections, freeways, and interchanges. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE major; CEE 372 with C or better; Credit is allowed for only CEE 475 or CEE 576 |
| CEE | 481 | Civil Engineering Project Management | Civil engineering project management and administration, planning and scheduling, cost estimating and bidding strategies, financial management, quality control and safety, and computer applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE major; CEE 321 with C or better; CEE 351 with C or better; CEE 372 with C or better; Credit is allowed for only CEE 481 or CEE 585 |
| CEE | 483 | Highway Materials, Construction, and Quality | Properties of highway materials, including aggregates, asphalt concrete, and portland cement concrete; construction practice; material delivery, placement, and compaction; quality control. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE major; CEE 351 with C or better; CEE 353 with C or better; CEE 372 with C or better; Credit is allowed for only CEE 483 or CEE 583 OR Visiting University Student |
| CEE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-12 | | |
| CEE | 485 | Sustainable Civil and Environmental Systems Engineering | Provides working knowledge of operations research methodologies, both the traditional and more modern metaheuristic techniques, to evaluate sustainable civil engineering systems and quantitatively evaluate project alternatives involving single or multiple goals. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE major; CEE 300; MAT 242 with C or better |
| CEE | 486 | Integrated Civil Engineering Design | Requires completion of a civil engineering design in a simulated practicing engineering environment. Limited to undergraduates in their final semester. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 4 | L | Prereq(s): ENG 101, 105, or 107 with C or better; Civil Engr; CEE 321; CEE 341; CEE 351; CEE 353; CEE 361; CEE 372 OR Constr Engr; CEE 321, CNE 321; CEE 351, CNE 351 OR Envir Engr; CEE 341; EVE 302; EVE 303; Credit is allowed for only CEE 486 or CNE 486 |
| CEE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-6 | | Prerequisite(s): Barrett Honors student |
| CEE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-6 | L | Prerequisite(s): Barrett Honors Engineering student; ENG 101, 105, or 107 with C or better |
| CEE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-4 | | |
| CEE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-3 | | |
| CEE | 501 | Machine Learning Techniques in Civil Engineering | General field of machine learning and deep learning, covering key principles, methods and tools. A mix of hands on coding and applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil, Environmental, and Sustainable Engineering graduate student or Data Science, Analytics and Engineering MS student or Environmental Engineering MS student |
| CEE | 502 | Front-End Planning | Principles and applications for effective early planning of capital facilities, including: finance, economics decision making, risk management, team alignment and front-end planning processes and tools. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): graduate Civil Engineering or Construction or Construction Engineering student; Credit is allowed for only CEE 502 or CON 502 or CON 598 (Front End Planning) or CEE 598 (Front End Planning) |

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| CEE | 506 | Life Cycle Assessment for Civil Systems | Covers fundamental and advanced concepts of the life cycle assessment framework exploring products, services, activities and infrastructure systems. Examines key concepts for system boundary selection, functional unit selection, inventorying, impact assessment and interpretation stages with a focus on energy and environmental assessment. Advanced concepts include allocation of effects, problem formulation for assessing footprints versus decisions or policies, and assessment of infrastructure interdependencies and supply chains. Exposes tools and data sources and presents approaches for evaluation of sensitivity and uncertainty of results. Encourages students with broad sustainability interests to enroll and explore how life cycle assessment can aid their work by shifting their views from direct to cradle-to-grave effects. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only CEE 506 or CEE 598 (Lifecycle Assessment) or SOS 546 or SOS 598 (Lifecycle Assessment) |
| CEE | 507 | Urban Infrastructure Anatomy and Sustainable Development | Understanding how built environment infrastructure systems interact with ecosystem services is critical for policies and decisions directing urban sustainability. Brings together students from several disciplines to develop a semester-long research project focused on a particular urban sustainability problem in Phoenix. During the semester, students are given background on how infrastructure systems work and are interdependent, and explore tools and methods for urban sustainability assessment with peers from several disciplines. As a class, students evaluate a particular urban sustainability problem for Phoenix, interact with local policy and decision makers in developing solutions, and present their findings at the end of the semester to the ASU community. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): degree-or nondegree-seeking graduate. Credit for only CEE 507 or 598(Urban Infrastruct Anatomy/Sustainable Dev) or PUP553 or 598(Urban Infrastruct Anatomy/Sustainable Dev) or SOS547 or SOS598 (Urban Infrastr Anatomy & Sustain Dev) |
| CEE | 511 | Pavement Analysis and Design | Design of flexible and rigid pavements for highways and airports. Surface, base, and subgrade courses. Cost analysis and pavement selection. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering or Construction Engineering graduate student; Credit is allowed for only CEE 412 or CEE 511 |
| CEE | 512 | Pavement Performance and Management | Pavement management systems, including data collection, evaluation, optimization, economic analysis, and computer applications for highway and airport design. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering or Construction Engineering graduate student |
| CEE | 513 | Pavement Evaluation, Maintenance, and Rehabilitation | Provides the necessary information for pavement engineers to evaluate, identify, and select reliable and cost-effective rehabilitation alternatives for existing Hot Mix Asphalt (HMA) and Portland Cement Concrete (PCC) pavements. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Civil, Environmental, and Sustainable Engineering Graduate student |
| CEE | 514 | Bituminous Materials and Mixture | Types of bituminous materials used in pavement mixtures. Chemical composition, physical properties, desirable aggregate characteristics, optimum asphalt contents, superpave asphalt binder, mixture design. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Graduate Civil Engineering student |
| CEE | 515 | Properties of Concrete | Materials science of concrete. Cement chemistry, mechanisms of hydration, interrelationships among micro- and macro-properties of cement-based materials. Mechanical properties, failure theories, fracture mechanics of concrete materials. Cement-based composite materials and the durability aspects. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Engineering CEE or Construction Engineering graduate student |
| CEE | 516 | Sustainable Energy and Material Use | Sustainable engineering; overall energy needs and impacts; thermodynamics, heat transfer, and fluid mechanisms; atmospheric energy systems; field investigation; current and future urban energy systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil, Environmental, and Sustainable Engineering graduate student; Credit is allowed for only CEE 516 or SOS 534 |
| CEE | 520 | VLSI Design for Reliability | Modeling and design solutions for very large-scale integration (VLSI) reliability. Statistical design under static and dynamic variability. Aging effects and resilient design techniques. Radiation effects in VLSI. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student; Credit is allowed for only CEE 520 or EEE 520 or EEE 598 (VLSI Design for Reliability) |
| CEE | 521 | Stress Analysis | Introduces tensors: kinematics, stress analysis, and constitutive assumptions leading to elastic and plastic behavior. Strain energy and energy methods; applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only CEE 521 or MAE 520 |
| CEE | 523 | Structural Damage | Fundamental mechanisms of damage in infrastructural materials from both imposed mechanical and environmental loading. Covers assessment of damage through noninvasive tools involving stress-wave, electrical, electro-chemical, radiographic and optical techniques. Methods for strengthening of structural elements and selected methods of design of strengthening systems for concrete and steel structures. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): graduate Civil or Construction Engineering student; Credit is allowed for only CEE 523 or CEE 598 (Structural Damage Evaluation and Strengthening) |
| CEE | 524 | Advanced Steel Structures | Strength properties of steel and their effects on structural behavior. Elastic design of steel structures. Plastic analysis and design of beams, frames, and bents. Plastic deflections. Plastic design requirements. Multistory buildings. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Engineering CEE Graduate student |

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| CEE | 526 | Finite Elements for Engineers | Direct stiffness, method of weighted residuals, weak formulation, and variational techniques in the solution of engineering problems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): graduate Engineering student; APM 505 or MAE 501 with C or better; Credit is allowed for only CEE 526 or MAE 527 |
| CEE | 527 | Advanced Concrete Structures | Ultimate strength design. Combined shear and torsion. Serviceability. Plastic analysis. Special systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Engineering CEE or Construction Engineering graduate student |
| CEE | 530 | Prestressed Concrete | Materials and methods of prestressing. Analysis and design for flexure, shear, and torsion. Prestress losses due to friction, creep, shrinkage, and anchorage set. Statically indeterminate structures. Design of flat slabs, bridges, and composite beams. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Engineering CEE or Construction Engineering graduate student |
| CEE | 532 | Developing Software for Engineering Applications | Fundamentals of engineering software development and object-oriented programming. Programming in C++. Development of matrix toolbox. Introduces finite element method. Computer graphics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Engineering CEE or Construction Engineering graduate student; Credit is allowed for only CEE 432 or CEE 532 |
| CEE | 533 | Structural Optimization | Linear and nonlinear programming. Problem formulation. Design sensitivity analysis. FEM-based optimal design of structural and mechanical systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; CEE 526 or MAE 527 with C or better; MAE 501 with C or better; Credit is allowed for only CEE 533 or EEE 589 or MAE 521 |
| CEE | 536 | Structural Dynamics for Civil Engineering | Free vibration and forced response of discrete and continuous systems, exact and approximate methods of solution, response spectra, computational techniques, special topics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Construction Engineering or Engineering CEE graduate student |
| CEE | 540 | Groundwater Hydrology | Physical properties of aquifers, well pumping, subsurface flow modeling, unsaturated flow, numerical methods, land subsidence, and groundwater pollution. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Engineering CEE Graduate student |
| CEE | 541 | Surface Water Hydrology | Hydrologic cycle and mechanisms, including precipitation, evaporation, and transpiration; hydrograph analysis; flood routing; statistical methods in hydrology and hydrologic design. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Engineering CEE Graduate student |
| CEE | 543 | Water Resources Systems | Theory and application of quantitative planning methodologies for the design and operation of water resources systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Engineering CEE Graduate student |
| CEE | 544 | Water Resources Engineering | Applies fundamental conservation laws of fluid mechanics to open channel flow. Uses the governing physical equations of open channel flow to solve a range of engineering problems, including design of canals, computation of water surface profile, design of spillways, stilling basins and energy dissipators. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CEE 441 or CEE 544 or CEE 598 (Water Resources Eng) |
| CEE | 545 | Hydrology | Descriptive and quantitative hydrology; hydrologic cycle, models and systems. Rain-runoff models. Hydrologic design. Concepts, properties and basic equations of groundwater flow. Emphasizes quantitative methods. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil, Environmental and Sustainable Engineering MS, MSE or PhD major; Credit is allowed for only CEE 440 or CEE 545 or CEE 598 (Hydrology) or GLG 471 or GLG 490 (Hydrology) |
| CEE | 546 | Advanced Watershed Hydrology | Watershed processes leading to runoff generation and the transformation of meteorological forcing through a hydrologic system. Emphasizes physical mechanisms and their treatment in numerical models. Quantification of uncertainty in hydrological modeling through probabilistic methods. Provides hands-on experience with data analysis and hydrologic models. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CEE 546 or GLG 546 or GLG 598 (Advanced Watershed Hydrology) |
| CEE | 548 | Advanced Environmental Analysis | Statistical methods used to describe, analyze, test and model environmental data. Specifically focuses on exploratory data analysis, the main probability distributions used to describe environmental data, hypothesis testing, time series analysis and multivariate data analysis. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEE | 549 | Ecohydrology of Semiarid Landscapes | Interactions between terrestrial plants and limiting resources in arid and semiarid environments. Temporal and spatial aspects of plant-water relations. Process-oriented discussion and examples using simple and complex numerical models. Provides experience with data analysis and instrumentation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CEE 549 or CEE 598 (Ecohydrology of Semiarid Landscapes) or GLG 549 or GLG 598 (Ecohydrology of Semiarid Landscapes) |
| CEE | 550 | Soil Behavior | Physicochemical aspects of soil behavior, stabilization of soils, and engineering properties of soils. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Engineering CEE or Construction Engineering graduate student |
| CEE | 551 | Advanced Geotechnical Testing | Odometer, triaxial (static and cyclic) back pressure saturated and unsaturated samples, pore pressure measurements, closed-loop computer-controlled testing, in-situ testing, and sampling. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Engineering CEE or Construction Engineering graduate student |

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| CEE | 552 | Soil Improvement | Physical, chemical and biological methods for improving (modifying) the properties of the ground for engineering purposes; the applicability of these techniques to different ground conditions (e.g., sand, silt, clay) and design objectives (e.g., erosion control, stability, liquefaction mitigation); design of ground improvement programs for common ground modification techniques used in practice. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): graduate Civil Engineering student; Credit is allowed for only CEE 552 or CEE 598 (Soil Improvement) |
| CEE | 553 | Advanced Soil Mechanics | Applies theories of elasticity and plasticity to soils, theories of consolidation, failure theories, and response to static and dynamic loading. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Engineering CEE or Construction Engineering graduate student |
| CEE | 554 | Shear Strength and Slope Stability | Shear strength of saturated and unsaturated soils strength-deformation relationships, time-dependent strength parameters, effects of sampling, and advanced slope stability. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Engineering CEE or Construction Engineering graduate student |
| CEE | 555 | Advanced Foundations | Deep foundations, braced excavations, anchored bulkheads, reinforced earth, and underpinning. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Engineering CEE Graduate student |
| CEE | 557 | Geoenvironmental Engineering | Environmental site assessment, solid waste management, waste containment system design, soil and groundwater remediation, soil erosion control, brownfields development. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Engineering CEE or Construction Engineering graduate student |
| CEE | 558 | Unsaturated Soil Mechanics | Advanced unsaturated soil mechanics theory, including introduction of stress-state variables and constitutive relationships for unsaturated flow and stress-strain applications. Knowledge of CEE 351 or equivalent material is required to be successful in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Civil, Environmental, and Sustainable Engineering Graduate student |
| CEE | 559 | Geotechnical Earthquake Engineering | Characteristics of earthquake motions, selection of design earthquakes, site response analyses, seismic slope stability, and liquefaction. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Engineering CEE or Construction Engineering graduate student |
| CEE | 560 | Soil and Groundwater Remediation | Presents techniques for remediation of contaminated soils and groundwaters with basic engineering principles. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Engineering CEE Graduate student |
| CEE | 561 | Physical-Chemical Treatment of Water and Waste | Theory and design of physical and chemical processes for the treatment of water and wastewaters. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3-4 | | Pre-requisite: Engineering CEE Graduate student |
| CEE | 562 | Environmental Biochemistry and Waste Treatment | Theory and design of biological waste treatment systems. Pollution and environmental assimilation of wastes. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3-4 | | Pre-requisite: Engineering CEE Graduate student |
| CEE | 563 | Environmental Engineering Chemistry | Analyzes water, domestic and industrial wastes, lab procedures for pollution evaluation, and the control of water and waste treatment processes. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Engineering CEE Graduate student |
| CEE | 564 | Contaminant Fate and Transport | Fate and transport processes with emphasis on governing equations and parameters relevant to the migration of chemicals in the environment. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Engineering CEE Graduate student |
| CEE | 565 | Advanced Environmental Biotechnology | Emerging topics in environmental biotechnology and related problem-solving techniques. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; CEE 562; CEE 567 |
| CEE | 566 | Water Reuse and Reclamation | Reuse and reclamation of water, tertiary treatment technologies of water for reuse applications, cloth filtration and UV disinfection, agricultural reuse and engineering, landscape irrigation, industrial reuse, environmental restoration, groundwater recharge, direct and indirect potable reuse, water reuse planning and dual distribution systems, storage requirements. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CEE 566 or CEE 598 (Water Reuse & Reclaim) |
| CEE | 567 | Environmental Microbiology | Overview of the microbiology of natural and human-impacted environment, microbial detection methodologies, waterborne disease outbreaks, risk assessment, and regulations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisites: Engineering CEE Graduate student; Credit is allowed for only CEE 467 or 567 |
| CEE | 569 | Air Quality Engineering | Chemical and physical processes by which air pollutants are generated and controlled with an emphasis on urban air quality. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only CEE 569 or CHE 469 or CHE 569 |
| CEE | 570 | Sustainable Environmental Biotechnologies | Introduces principles of green chemistry and green engineering and their integration in the design of sustainable bioengineering and biotechnology applications that protect environmental quality and human health. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisites: Civil, Environmental and Sustainable Engineering MS, MSE or PhD student; Credit is allowed for only CEE 470, 494 (Sustainable Environmental Biotechnologies), 570 or 598 (Sustainable Environmental Biotechnologies) |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| CEE | 572 | Life Cycle Assessment for Civil Systems | Concepts of the life cycle assessment (LCA) framework exploring products, services, activities and infrastructure systems. Examines key concepts for system boundary selection, functional unit selection, inventoring, impact assessment and interpretation stages with a focus on energy and environmental assessment. Advanced concepts include allocation of effects, problem formulation for assessing footprints versus decisions or policies, and assessment of infrastructure interdependencies and supply chains. Exposure to tools and data sources occur throughout the course; presents approaches for evaluation of sensitivity and uncertainty of results. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): graduate Civil Engineering or Construction Engineering major; Credit is allowed for only CEE 572 or CEE 598 (Life Cycle Assessment for Civil Systems) |
| CEE | 573 | Transportation Operations | Driver, vehicle, and roadway characteristics; traffic control devices; traffic engineering studies; and transportation system management measures. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Engineering CEE Graduate student |
| CEE | 574 | Transportation Systems Planning | Planning; energy and environment; sustainability and climate change; past, present and future technologies; demand analysis; economic theory; network analysis and system optimization. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil, Environmental, and Sustainable Engineering or Construction Engineering graduate student; Credit is allowed for only CEE 474 or CEE 574 or CEE 598 (Transportation Systems Planning) |
| CEE | 576 | Highway Geometric Design | Design of visible elements of roadway, design controls, at-grade intersections, freeways, and interchanges. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Engineering CEE Graduate student; Credit is allowed for only CEE 475 or 576 |
| CEE | 578 | Activity-Travel Behavior Modeling | Regression and discrete choice models of activity-travel behavior for transportation demand forecasting; computational travel forecasting methods and statistical modeling tools based on the principles of microsimulation; interpretation and use of econometric model outputs for transportation planning and policy analyses. | N | LEC | N | OP3 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only CEE 578 or CEE 598 (Activity Travel Behavior Model) |
| CEE | 579 | Transportation Data Collection and Analysis Methods | Types of transportation data; travel survey data collection and analysis methods to support transportation planning and modeling; sampling methods, experimental design, survey methodology and classic exploratory statistical analysis of travel survey data. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only CEE 579 or CEE 598 (Transportation Data Collection and Analysis) |
| CEE | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | N | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-12 | | Pre-requisite: Engineering CEE Graduate student |
| CEE | 581 | Advanced Earth Systems Engineering and Management | Advanced introduction to earth systems engineering and management, and the technological, economic and cultural systems underlying the terraformed Earth. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Civil, Environmental, and Sustainable Engineering Graduate student; Credit is allowed for only CEE 581 or SOS 552 |
| CEE | 582 | Industrial Ecology and Design for Sustainability | The conceptual, ethical, and practical challenges in the design, manufacture, and life cycle performance of products; environmental evaluation via materials flow analysis and life cycle assessment; global economic, environmental, cultural, and social aspects of competitive and functional product development and manufacture. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil, Environmental, and Sustainable Engineering graduate student; Credit is allowed for only CEE 582 or SOS 515 |
| CEE | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-12 | | Prerequisite(s): Civil, Environmental, and Sustainable Engineering or Construction Engineering graduate student; Credit is allowed for only CEE 483 or CEE 583 |
| CEE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-12 | | Pre-requisite: Civil, Environmental, and Sustainable Engineering Graduate student |
| CEE | 585 | Civil Engineering Project Management | Civil engineering project management and administration, planning and scheduling, cost estimating and bidding strategies, financial management, quality control and safety, and computer applications. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): MS, MSE or PhD Civil, Environmental and Sustainable Engineering major. Credit is allowed for only CEE 481 or CEE 585 |
| CEE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | N | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-12 | | Pre-requisite: Civil Engineering MS or MSE student |
| CEE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-12 | | Pre-requisite: Engineering CEE Graduate student |
| CEE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-12 | | Pre-requisite: Civil Engineering MS or MSE student |

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| CEE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-12 | | Pre-requisite: Civil, Environmental, and Sustainable Engineering Graduate student |
| CEE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1 | | Pre-requisite: Civil Engineering MS or MSE student |
| CEE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-4 | | Prerequisite(s): Civil, Environmental, & Sustainable Engr MS, Civil, Environmental, & Sustainable Engr MSE, Civil, Environmental, & Sustainable Engr PhD, Construction Engr MSE, Environmental Engr MS, or Sustainable Engr MSE graduate student |
| CEE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | N | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-12 | | Pre-requisite: Civil Engineering MS or MSE student |
| CEE | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | N | IND | Y | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-12 | | Pre-requisite: Civil Engineering PhD student |
| CEE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | N | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-15 | | Pre-requisite: Civil Engineering PhD student |
| CEE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | IND | Y | Z3 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1 | | Pre-requisite: Civil Engineering PhD student |
| CEE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-15 | | Prerequisite(s): Civil Engineering PhD student |
| CEL | 100 | Great Ideas of Politics and Ethics | Introduces fundamental debates and ideas of politics in both the West and beyond. Surveys ancient, medieval and modern thinkers in the Greek, Jewish, Christian and Muslim traditions, tracing their influences on contemporary debates with focus on the great questions of human nature, social and political life, and the relationship between religion and politics. Studies both the ideas and historical statesmanship of such figures as Plato, Cicero, Tertullian, Aquinas, Saadyah Gaon, Maimonides, Al-Farabi, Ibn Rushd (Averroes) and Al-Ghazali, as well as various leaders and writers from modernity in America and abroad. Includes separate discussion to encourage active learning; expects students to write analytical papers and make a class presentation. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | HU | Credit is allowed for only CEL 100 or CEL 194 (Great Ideas of Politics and Ethics) |
| CEL | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-3 | | |
| CEL | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-4 | | |
| CEL | 200 | Great Debates in American Politics | Introduces fundamental ideas and debates about liberty and equality in American thought from the colonial era to the present, focusing on major political figures and issues--ideas that continue to shape political debates in 21st-century America, thus providing crucial foundations for future leadership roles in either public affairs or the private sector. A major theme is the tension between liberty and equality and between constitutionalism and democracy, in three centuries as a democratic, commercial republic. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | HU | Credit is allowed for only CEL 200 or CEL 294 (Great Debates in American Politics and Economics) |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|--|
| CEL | 235 | Debating American Constitutionalism | Examines the arguments and questions raised during the debates over the 1787 Constitution, which provide resources to understand and contribute to contemporary political debates. Reviews fundamental issues such as political power, federalism, republicanism, representation, separation of powers, protection of rights, slavery and the character of the people and their leaders. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | HU | Credit is allowed for only CEL 235 or CEL 294 (Federalists, Anti-Federalists & Enduring Debate) |
| CEL | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-4 | | |
| CEL | 300 | Debating Capitalism | Explores and debates the politics, economics and morality of "capitalism"--the system of society that allows space for markets, profit-seeking and money-making. Readings cover the period from antiquity to modern commercial society. Authors studied include Aristotle, the Apostles, Aquinas, Locke, Franklin, Smith, Marx and Weber. Also serves as a broad introduction to the study of political economy. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only CEL 300 or CEL 394 (Capitalism and Great Economic Debates) OR Visiting University Student |
| CEL | 304 | Classical to Modern Economic Thought | Provides an introduction to the schools of thought concerned with explaining and influencing economic activity. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s): ECN 211 or 213 with C or better; ECN 212 or 214 with C or better; MAT 211 or 271 with C or better; Credit is allowed for only CEL 304 or ECN 304 or CEL/ECN 394 (Classical to Modern Economic Thought) OR Visiting University Student |
| CEL | 305 | Classical Political Statecraft | Examines political leadership, ambition and the common good in the texts of thinkers from the Ancient world. From thinkers as diverse as Sun Tzu, Thucydides and Tacitus, to Plato, Cicero and Dante, asks questions about the essence of the common good, justice and war as they were lived and discussed by the contemporaries of the age. Proceeds through discussion and student-led presentations of the enduring questions these texts raise. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| CEL | 320 | Modern Political Thought: Origins and Debates about Modern Liberty | Examines crucial debates in modern political thought, especially in the United States. A focus is defining what is distinctive about "modern thought," with recourse to Tocqueville's Democracy in America on the difference between ancien régime monarchies and modern liberal democratic polities. Other primary readings include works from such seminal moderns as Machiavelli, Hobbes and Locke, but America (not Europe) is the ultimate focus. Queries the core documents and ideas of the American Founding, and discerns the complex interplay of classical republican and liberal intellectual traditions. Close reading of The Federalist and selected Anti-Federalist writings prepare for a broader re-examination of the American political tradition, concluding with the ongoing dispute among progressivism, socialism and conservatism. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only CEL 320 or CEL 394 (Mod Political Thght:Orgns & Debats abt Mod Librty) |
| CEL | 345 | Modern Economic Classics | Explores the ideas and writings of the leading economic thinkers of the last 100 years. Emphasizes those thinkers who have had a major impact on public policy. Thinkers covered include Keynes, Hayek, Schumpeter, Polanyi, Galbraith, Friedman and Piketty. Also attends to the way economics and, more generally, social science have increasingly shaped public policy over the course of the last century. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only CEL 345 or CEL 394 (Clsscs of Mod Ecnmic Thght:Smith to Hayek & Beyond) |
| CEL | 350 | Philosophy, Politics and Economics | Prepares the foundation for students to become active participants, as citizens and leaders, in a liberal democratic society that faces an uncertain future. Provides familiarity with core conceptual tools provided by philosophy, politics and economics, and an appreciation for the foundation they provide together to address social and political uncertainties we face today as well as in the future. Reliance on any one disciplinary set of tools and skills is useful, of course, but the real challenges of any liberal democracy are met by neither technocratic nor bureaucratic solutions. They require an awareness of the relevance of ethics, politics and economics, as well as an appreciation for the limitations of each and the necessity of thinking through their interactions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only CEL 350 or CEL 394 (Philosophy, Politics and Economics) OR Visiting University Student |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| CEL | 375 | Politics and Leadership in the Age of Revolutions, 1776-1826 | Examines political thought and political leadership in the era of the American, French, Haitian and Latin American Revolutions. Begins with a look at Enlightenment political thought, focusing on natural rights, constitutionalism and political economy. Then considers leading political ideas connected with each of the great upheavals that began with the American Revolution and ended, 50 years later, with the independence of Latin America. Examines the record of political leadership during the same episodes, via biographies of figures such as Washington and Jefferson, Sièyes and Robespierre, Toussaint and Napoleon, Bolivar and San Martin. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only CEL 375 or CEL 394 (Politics & Leadership in the Age of Revolution) |
| CEL | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-4 | | |
| CEL | 429 | Studies in European Literature and Culture | Literary, cultural, and historical issues. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s) with C or better: ENG 101, 105, 107; ENG 200; one ENG 200- or 300-level literature course OR ENG 101, 105, 107; min 45 hours; Credit is allowed for only CEL 429 or ENG 429 or REL 429 or SLC 429 or THE 429 OR Visiting University Student |
| CEL | 475 | Statesmanship and American Grand Strategy | Discusses great ideas and figures in political leadership and statesmanship, from ancient Greece and early modern Europe to America's founding and the present global uncertainty, especially the major arguments about war, peace and international affairs--ideas that shape foreign policy and grand strategy debates in the 21st century, thus providing crucial foundations for future leadership roles. Major thinkers and episodes include Thucydides, Plutarch, Montesquieu, George Washington, Lincoln, Truman and the Cold War, and Reagan, as well as contemporary debates about America's post-Cold War strategies for its leadership role in global affairs. Incorporates a Marshall brief (a policy presentation) and a group simulation exercise. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only CEL 475 or CEL 494 (Statesmanship and American Grand Strategy) |
| CEL | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-12 | | |
| CEL | 485 | Capstone Seminar in Civic and Economic Thought and Leadership | Integrates theory and practice by studying selected topics of the intellectual foundations for leadership with exemplars of leadership and statesmanship, culminating in a research presentation and paper. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 60 hours |
| CEL | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-6 | | |
| CEL | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-6 | | |
| CEL | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-4 | | |
| CEL | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-7 | | |
| CEL | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-3 | | |
| CEL | 501 | Literary Leaders | Examines literary leaders, both in respect to depictions of leadership in works of classical and compelling literature, as well as literary authors who led the way and set the standards in their respective genres. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CEL 501 or CEL 598 (Literary Leaders) |
| CEL | 503 | Classic Texts in Political Philosophy and Justice | Provides an overview of the four major periods of political thought--ancient, medieval, modern and post-modern--and engages students in close readings of classic texts from each of these periods. The concept of justice serves as an organizing theme, complemented by analyses of other political concepts such as virtue, the common good, natural law, rights, liberty and equality. Texts include: Plato's Republic, Aristotle, Politics, St. Thomas Aquinas' Summa Theologica, Machiavelli's The Prince, Thomas Hobbes' Leviathan, John Locke's Second Treatise of Government, Hamilton, Madison, Jay's The Federalist and John Rawls' A Theory of Justice. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| CEL | 510 | Classic Texts in Natural Science and Philosophy | Studies the development of natural philosophy and theories of scientific knowledge from Plato and Aristotle to Newton and Darwin. Gives particular attention to the period known as the Scientific Revolution, inspired most famously by Francis Bacon. Explores the relationships among natural philosophy, epistemology, moral philosophy and political philosophy. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEL | 513 | Classic Texts in Leadership and Statesmanship | Encounters classic texts featuring analyses and discussions of important historical leaders and their actions. These texts both situate examples of leadership and statesmanship in their historical context, and highlight timeless principles of wise and effective leadership. Texts include Thucydides' History of the Peloponnesian War, Plutarch's Lives, Cicero's On Duties, Shakespeare's histories, and the writings and speeches of Abraham Lincoln. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CEL 513 or ENG 513 |
| CEL | 520 | Classic Texts in the Foundations of Logic | Provides an introduction to the principles of logical thought through close readings of Euclid's Elements and Aristotle's Organon. Students learn and demonstrate Euclidean geometric proofs in class, and reflect in discussion upon the relationship between Euclidean geometry and the logical principles analyzed in Aristotle's works. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEL | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEL | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEL | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRO | Y | GNA | The College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEL | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEL | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-4 | | |
| CEL | 599 | Thesis | Supervised research focused on preparation of a thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEN | 503 | Algorithms for Computer-Aided Design of Digital Systems | Provides the algorithmic underpinnings of CAD (Computer-Aided Design) tools for digital systems--from high-level algorithmic specifications down to an optimized network of logic cells. Covers the underlying theory and algorithms that have been incorporated into many commercial tools over the past two decades. Covers behavioral to RTL (Register-Transfer Level) synthesis, and from RTL to logic, including combinational and sequential network optimization, gate and interconnect timing models, retiming of sequential networks, clock tree design and optimization. To be successful in this course, students need an undergraduate background in combinational and sequential logic design, discrete mathematics, and a strong background (preferably at the graduate level) in fundamentals of data structures and algorithms; strong experience in programming (C or C++) and coding and documentation standards. (All code developed in class is in Python). | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Comp Scie or Comp Engrn or Elect Engrn graduate student; Credit is allowed for only CEN 503 or CEN 591 (Digital Logic Synthesis&Verifi) or CEN 598 (Algo Synth & Opt Digital Sys) or CSE 591 (Digital Logic Synthesis&Verifi) |

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| CEN | 571 | Hardware Acceleration and FPGA Computing | Graduate students collaboratively work on challenging class projects that focus on designing and optimizing hardware accelerators for computationally intensive algorithms to advance real-life applications. Topics include energy-delay models, timing, circuit optimization, architecture techniques, architecture flexibility, DSP arithmetic, data flow control, and field-programmable gate (FPGA) essentials. In order to be successful in this course, students should have prior knowledge of at least one of the following topics: (1) digital integrated circuits and VLSI systems; or (2) a domain of computational algorithms, e.g., digital signal processing, machine learning. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science, Computer Engineering, or Electrical Engineering graduate student; Credit is allowed for only CEN 571 or CEN 598 (Hardware Acceleration and FPGA Computing) |
| CEN | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | |
| CEN | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | |
| CEN | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEN | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEN | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEN | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | |
| CEN | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEN | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEN | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEN | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEN | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEN | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEN | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEN | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEN | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| CGF | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | College of Global Futures | 1-4 | | |
| CGF | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | College of Global Futures | 1-4 | | |
| CGF | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | College of Global Futures | 1-4 | | |
| CGF | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | LEC | Y | Z1 | College of Global Futures | College of Global Futures | 1-6 | | Prerequisite(s): Barrett Honors student |
| CGF | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | LEC | Y | Z1 | College of Global Futures | College of Global Futures | 1-6 | | Prerequisite(s): Barrett Honors student |
| CGF | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | College of Global Futures | 1-4 | | |
| CGF | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | Y | LEC | Y | OPT | College of Global Futures | College of Global Futures | 1-6 | | Prerequisite(s): Barrett Honors student |
| CGF | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Global Futures | College of Global Futures | 1-7 | | |
| CGF | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Global Futures | College of Global Futures | 1-3 | | |
| CGF | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Global Futures | College of Global Futures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CGF | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Global Futures | College of Global Futures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CGF | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Global Futures | College of Global Futures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CGF | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Global Futures | College of Global Futures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHE | 211 | Introduction to Chemical Processing | Applies chemical engineering analysis and problem solving to chemical processes material and energy balance methods and skills. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): CHM 116 with C or better; MAT 266 or 271 with C or better OR Visiting University Student |
| CHE | 231 | Introduction to Transport Phenomena I: Fluids | Transport phenomena, with emphasis on fluid systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): CHE 211 with C or better; MAT 267 or 272 with C or better; PHY 121 with C or better; Pre- or corequisite(s): MAT 274 or 275 with C or better if completed |
| CHE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-4 | | |
| CHE | 334 | Introduction to Transport Phenomena II: Heat and Mass Transfer | Applies heat and mass transport principles. Design of heat exchangers and continuous contactors. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Chemical Engineering BSE major; CHE 231 with C or better; MAT 275 with C or better OR Visiting University Student |
| CHE | 342 | Introduction to Applied Chemical Thermodynamics | Applies conservation and accounting principles with nonideal property estimation techniques. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Chemical Engineering BSE major; CHE 231 with C or better; Pre- or corequisite(s): MAT 267 or 272 with C or better if completed OR Visiting University Student |
| CHE | 352 | Chemical Engineering Lab I | Engineering lab equipment, data collection and analysis; strengthens ability to generate written reports and oral presentations; reinforces teamwork skills; strengthens and extends the understanding of earlier technical contents in the curriculum; strengthens abilities in recognizing and understanding key issues associated with lab and process safety. | N | LAB | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | L | Prerequisite(s): Chemical Engineering BSE major; CHE 334 with C or better; CHE 342 with C or better; ENG 101, 105, or 107 with C or better; PHY 131 with C or better OR Visiting University Student |
| CHE | 384 | Numerical Methods for Chemical Engineers | Study and application of numerical methods in solving problems commonly encountered in chemical engineering. Emphasizes chemical engineering applications using MATLAB and Excel. Roots, linear algebraic equations, matrices, curve fitting, differentiation, integration, ordinary and partial differential equations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | CS | Prerequisite(s) w/C or better: Chm Engr BSE major; MAT 242, 342, 343; MAT 274, 275; Pre- or coreq(s): MAT 267, 272 w/C or better if completed; Credit allowed for CEE 384, CHE 384, CHE 394 (Num Mthds for Chm Eng), or MAE 384 OR Visiting University Student |
| CHE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-4 | | |

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| CHE | 432 | Principles of Chemical Engineering Design | Chemical process hierarchical synthesis, modeling, design and optimization, process flow simulation, separation system design, energy integration, project-scale engineering economics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Chemical Engineering BSE major; CHE 433 with C or better; CHE 442 with C or better OR Visiting University Student |
| CHE | 433 | Modern Separations | Design of modern separation equipment in chemical engineering other than fractionation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; CHE 334 with C or better; CHE 342 with C or better |
| CHE | 442 | Introduction to Chemical Reactor Design | Applies kinetics to chemical reactor design. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; CHE 334 with C or better; CHE 342 with C or better; Credit is allowed for only CHE 442 or CHE 505 |
| CHE | 451 | Chemical Engineering Laboratory II | Operation, control and design of experimental and industrial process equipment; strengthens abilities in recognizing and understanding key issues associated with lab and process safety; group research projects. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Chemical Engineering BSE major; CHE 352 with C or better; CHE 384 with C or better; CHE 433 with C or better; CHE 442 with C or better OR Visiting University Student |
| CHE | 461 | Process Dynamic Control | Process dynamics, instrumentation, and feedback applied to automatic process control. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | CS | Prerequisite(s): Chemical Engineering BSE major; CHE 384 with C or better; CHE 433 with C or better; CHE 442 with C or better OR Visiting University Student |
| CHE | 462 | Process Design | Applies economic principles to optimize equipment selection and design; process safety; development and design of process systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | L | Prerequisite(s): Chemical Engineering BSE major; CHE 432 with C or better; CHE 433 with C or better; CHE 442 with C or better; ENG 101, 105, or 107 with C or better |
| CHE | 468 | Polymer Principles and Processing | Covers relevant polymer synthesis techniques, molecular and structural characterization methods, elastic deformation and viscoelasticity models related to processing, and block polymer morphology. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prereq(s): Chem Eng BSE mjr; CHE 231 w/ C or better; CHM 233 w/ C or better; Credit for only CHE 468 or CHE 568 or CHE 494(PolyPrin & Proc) or CHE 598(PolyPrin & Proc) or CHM 494(PolyPrin & Proc) or CHM 598(PolyPrin & Proc) OR Visiting University Student |
| CHE | 469 | Air Quality Engineering | Chemical and physical processes by which air pollutants are generated and controlled with an emphasis on urban air quality. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Chem Engr BSE major; CHE 342 OR Civil Engr BSE major; CEE 361 OR Environmental Engr BSE major; EVE 302 OR Materials Scie & Engr BSE major; MSE 330; Credit is allowed for only CEE 569 or CHE 469 or CHE 569 OR Visiting University Student |
| CHE | 473 | Fuel Cells and Biofuel Cells | Provides a comprehensive analysis of fuel cell technologies. Begins by discussing the different types of fuel cells and the thermodynamic and kinetic fundamentals that control their performance. Discusses the materials and techniques used to characterize fuel cells. Finishes with a specific analysis of biofuel cells and their applications. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Chemical Engineering BSE major; CHE 231 with C or better; Credit is allowed for only CHE 473 or CHE 494 (Fuel Cells & Biofuel Cells) or CHE 573 or CHE 598 (Fuel Cells & Biofuel Cells) OR Visiting University Student |
| CHE | 475 | Biochemical Engineering | Applies chemical engineering methods, mass transfer, thermodynamics, and transport phenomena to industrial biotechnology. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Pre-requisites: CHE 334 and 442 |
| CHE | 477 | Inorganic Membranes and Thin Films | Synthesis and properties of various types of inorganic membranes and thin films, with focus on the sol-gel process and its use for synthesis of porous materials and thin films. Inorganic membranes and thin films represent a new research area of great importance for chemical engineers, materials scientists and chemists. They are finding increasing applications in separation processes, chemical reactor systems, fuel cells and batteries of impact on energy and environment. Requires prior knowledge of inorganic chemistry, physical chemistry, calculus, thermodynamics, mass transport, basic materials science, and separation processes to be successful in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): CHE 433 or MSE 420; Credit is allowed for only CHE 477 or CHE 577 or CHE 494 (Inorganic Membrane and Films) or CHE 598 (Inorganic Membrane and Films) |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|------------------------------|-------|-----------------|--|
| CHE | 478 | Biomass Energy Conversion Technology | Fundamentals and applications of biomass conversion process technologies. Gives a brief review on fundamentals of engineering thermodynamics, the chemistry of plant materials and reaction kinetics. Focuses on surveying the state-of-the-art technologies for cost-effective biomass conversion to biofuels including liquid fuels (bioethanol and biodiesel) and gaseous fuels (methane, hydrogen and synthesis gas). Considers both biological and thermochemical processes for the conversion of biomass to biofuels and chemicals. Also covers applications of biofuels in transportation, energy production in power plants and fuel cells, and economics, environmental impact, and policy issues relevant to biofuels. The course is of value to engineering students who are interested in the technologies of the developing field of biofuels, as well as engineers, managers and policymakers. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Chem Engrnr BSE major; CHM 116 w/ C or better; CHE 231 w/ C or better; Credit is allowed for only CHE 478 or CHE 578 or CHE 494 (Biomass Energy Conversion Tech) or CHE 598 (Biomass Energy Conversion Tech) OR Visiting University Student |
| CHE | 479 | Microbial Bioprocess Engineering | Investigates the application of basic chemical engineering principles to the design and understanding of biochemical and biological processes. Discusses enzyme kinetics and enzymatic processes; specifically emphasizes the development and application of whole cell bioprocesses for the production of chemicals, food, biofuels and pharmaceuticals, as well as applications in bioremediation. In addition to traditional topics such as the stoichiometry and kinetics of microbial growth, bioreactor design/operation, and downstream processing, also introduces contemporary topics of metabolic engineering and synthetic biology. Complements theoretical concepts presented in lectures with the presentation of relevant research topics and/or industrial applications. Introduces fundamental biochemical engineering concepts, primarily to chemical engineers. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Chemical Engineering BSE major; CHE 342 with C or better; CHE 442 with C or better; Credit is allowed for only CHE 479 or CHE 494 (Microbial Bioprocess Engineering) or CHE 598 (Microbial Bioprocess Engineering) |
| CHE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-12 | | |
| CHE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-6 | | Prerequisite(s): Barrett Honors student |
| CHE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| CHE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-4 | | Prerequisite(s): Fulton Engineering undergraduate student OR Visiting University Student |
| CHE | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-7 | | Prerequisite(s): Fulton Engineering undergraduate student |
| CHE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-3 | | |
| CHE | 518 | Fundamentals of Microelectronics Packaging | Multidisciplinary foundation course in addressing electrical, thermal, materials, chemical, manufacturing, and reliability problems in packaging. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only CHE 518 or EEE 518 or MAE 518 or MSE 548 |
| CHE | 533 | Transport Processes I | Unified treatment of momentum, heat, and mass transfer from molecular theory, and continuum points of view. Continuum equations of microscopic and macroscopic systems and multicomponent and multiphase systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): graduate Engineering major. Credit is allowed for only BME 533 or CHE 533 or MAE 533 |
| CHE | 543 | Thermodynamics of Chemical Systems | Classical and statistical thermodynamics of nonideal physicochemical systems and processes; prediction of optimum operating conditions. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student |
| CHE | 544 | Chemical Reactor Engineering | Reaction rates, thermodynamics, and transport principles applied to the design and operation of chemical reactors. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student |
| CHE | 561 | Advanced Process Control | Dynamic process representation, linear optimal control, optimal state reconstruction, and parameter and state estimation techniques for continuous and discrete time systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student |
| CHE | 568 | Polymer Principles and Processing | Covers relevant polymer synthesis techniques, molecular and structural characterization methods, elastic deformation and viscoelasticity models related to processing, and block polymer morphology. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only CHE 468 or CHE 568 or CHE 494 (Polymer Principles & Proc) or CHE 598 (Polymer Principles & Proc) or CHM 494 (Polymer Principles & Proc) or CHM 598 (Polymer Principles & Proc) |

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| CHE | 569 | Air Quality Engineering | Chemical and physical processes by which air pollutants are generated and controlled with an emphasis on urban air quality. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only CEE 569 or CHE 469 or CHE 569 |
| CHE | 573 | Fuel Cells and Biofuel Cells | Provides a comprehensive analysis of fuel cell technologies. Begins by discussing the different types of fuel cells and the thermodynamic and kinetic fundamentals that control their performance. Discusses the materials and techniques used to characterize fuel cells. Finishes with a specific analysis of biofuel cells and their applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only CHE 473 or CHE 494 (Fuel Cells & Biofuel Cells) or CHE 573 or CHE 598 (Fuel Cells & Biofuel Cells) |
| CHE | 577 | Inorganic Membranes and Thin Films | Synthesis and properties of various types of inorganic membranes and thin films, with focus on the sol-gel process and its use for synthesis of porous materials and thin films. Inorganic membranes and thin films represent a new research area of great importance for chemical engineers, materials scientists and chemists. They are finding increasing applications in separation processes, chemical reactor systems, fuel cells and batteries of impact on energy and environment. Requires prior knowledge of inorganic chemistry, physical chemistry, calculus, thermodynamics, mass transport, basic materials science, and separation processes to be successful in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only CHE 477 or CHE 577 or CHE 494 (Inorganic Membrane and Film) or CHE 598 (Inorganic Membrane and Film) |
| CHE | 578 | Biomass Energy Conversion Technology | Fundamentals and applications of biomass conversion process technologies. Gives a brief review on fundamentals of engineering thermodynamics, the chemistry of plant materials and reaction kinetics. Focuses on surveying the state-of-the-art technologies for cost-effective biomass conversion to biofuels including liquid fuels (bioethanol and biodiesel) and gaseous fuels (methane, hydrogen and synthesis gas). Considers both biological and thermochemical processes for the conversion of biomass to biofuels and chemicals. Also covers applications of biofuels in transportation, energy production in power plants and fuel cells, and economics, environmental impact, and policy issues relevant to biofuels. The course is of value to engineering students who are interested in the technologies of the developing field of biofuels, as well as engineers, managers and policymakers. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only CHE 478 or CHE 578 or CHE 494 (Biomass Energy Conversion Technology) or CHE 598 (Biomass Energy Conversion Technology) |
| CHE | 579 | Microbial Bioprocess Engineering | Investigates the application of basic chemical engineering principles to the design and understanding of biochemical and biological processes. Discusses enzyme kinetics and enzymatic processes; specifically emphasizes the development and application of whole cell bioprocesses for the production of chemicals, food, biofuels and pharmaceuticals, as well as applications in bioremediation. In addition to traditional topics such as the stoichiometry and kinetics of microbial growth, bioreactor design/operation, and downstream processing, also introduces contemporary topics of metabolic engineering and synthetic biology. Complements theoretical concepts presented in lectures with the presentation of relevant research topics and/or industrial applications. Introduces fundamental biochemical engineering concepts, primarily to chemical engineers. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only CHE 579 or CHE 598 (Microbial Bioprocess Engineering) |
| CHE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-12 | | Prerequisite(s): Fulton Engineering graduate student |
| CHE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-12 | | Prerequisite(s): Fulton Engineering graduate student |
| CHE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-12 | | Pre-requisites: Chemical Engineering Master's degree student |
| CHE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-12 | | Prerequisite(s): graduate CHE major |
| CHE | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | SEM | Y | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-12 | | Prerequisite(s): Fulton Engineering graduate student |
| CHE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1 | | Prerequisite(s): Fulton Engineering graduate student |

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| CHE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-4 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| CHE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-12 | | Pre-requisites: Chemical Engineering Master's degree student |
| CHE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-15 | | Pre-requisites: Chemical Engineering Doctoral student |
| CHE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1 | | Prerequisite(s): Fulton Engineering graduate student |
| CHE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-15 | | Pre-requisites: Chemical Engineering Doctoral student |
| CHI | 101 | First-Year Chinese I | Pronunciation, grammar, elementary conversation, and development of basic reading and writing skills. Standard dialect. 5 class hours. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Credit is allowed for only CHI 101 or MND 101 OR Visiting University Student |
| CHI | 102 | First-Year Chinese II | Pronunciation, grammar, elementary conversation, and development of basic reading and writing skills. Standard dialect. 5 class hours. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): CHI 101; Credit is allowed for only CHI 102 or MND 102 OR Visiting University Student |
| CHI | 110 | Intensive Chinese I | Adopts different pedagogical approaches to help students acquire basic skills in listening, speaking, reading and writing in Modern Standard Chinese. While linguistic elements are the focus of this course, appropriate cultural information related to language use is also an important component of instruction. Trains students to be able to function successfully in Chinese culture. Students don't simply learn to "speak Chinese" or read and write characters as some form of party trick. Teaches a practical skill set that allows students to communicate and behave appropriately in Chinese culture. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 6-8 | | Credit is allowed for only CHI 101 or CHI 102 or CHI 110 |
| CHI | 120 | Introduction to Chinese Culture | Introduces geographical, historical, literary, and intellectual premises of Chinese culture. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only CHI 120 or SLC 120 OR Visiting University Student |
| CHI | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| CHI | 201 | Second-Year Chinese I | Systematic review of grammar. Development of vocabulary through reading and writing. Drill in aural/oral skills. 5 class hours. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): CHI 102 or 110 with C or better; Credit is allowed for only CHI 201 or CHI 210 or MND 201 OR Visiting University Student |
| CHI | 202 | Second-Year Chinese II | Systematic review of grammar. Development of vocabulary through reading and writing. Drill in aural/oral skills. 5 class hours. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): CHI 201; Credit is allowed for only CHI 202 or MND 202 OR Visiting University Student |
| CHI | 205 | Chinese Calligraphy | Introduces styles and techniques of Chinese writing. Requires no knowledge of Chinese or Japanese. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | |
| CHI | 210 | Intensive Chinese II | Intensive 2nd-year college-level Modern Standard Chinese designed for students who are highly motivated and have successfully completed at least 1st-year college-level Modern Standard Chinese language course or equivalent. Reviews and reinforces 1st-year Chinese grammatical patterns and introduces new ones in order to further develop students' communicative competence in listening, speaking, reading and writing in modern Chinese. Introduces over 500 new characters and presents and expands an equal number of spoken vocabulary items. Students increase their vocabulary, consolidate their grammar, describe objects and express ideas more accurately and fluently. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 6-8 | | Prerequisite(s): CHI 102 with B or better or CHI 110 with C or better; Students who have credit for CHI 201 or CHI 202 may not enroll in CHI 210 |
| CHI | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| CHI | 301 | Third-Year Chinese I | Expansion of proficiency in listening comprehension, speaking, reading, and writing. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): CHI 202 or 210 with C or better OR Visiting University Student |
| CHI | 302 | Third-Year Chinese II | Continuation of CHI 301. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): CHI 301 with C or better OR Visiting University Student |
| CHI | 307 | Introduction to Literary Chinese I | Reading in various genres of pre-20th century literature (wen-yen), with analysis of the structure of the classical writings. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): CHI 202, CHI 210, JPN 202, or KOR 202 with C or better OR Visiting University Student |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|-------------------------------------|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-------------------|---|
| CHI | 308 | Introduction to Literary Chinese II | Reads stories of Chinese common set phrases (chengyu) and texts from various schools of thought in early China. The texts used are in Chinese, and the class activities are conducted in English. Works on acquiring a basic mastery of the grammar and core vocabulary of Chinese through a combination of introduction of basic syntactical features of the language and critical reading of example texts. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): CHI 202, CHI 210, JPN 202, JPN 210, or KOR 202 with C or better OR Visiting University Student |
| CHI | 321 | Chinese Literature | Masterworks of the tradition from the 7th century BCE through the 13th century. Readings, lectures, and examinations are in English. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | |
| CHI | 322 | Chinese Literature | Masterpieces from the later tradition and its transition to modern times. Readings, lectures, and examinations are in English. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | |
| CHI | 333 | China | Political, economic, social, and cultural history of the Chinese people from early times to the 17th century. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 30 hours; Credit is allowed for only CHI 333, HST 383 or SLC 333 |
| CHI | 336 | Interpreting China's Classics | Study of selected Confucian and/or Taoist classics and ways they have been read in both Asian and Western scholarship. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 30 hours; Credit is allowed for only CHI 336, HST 386 or SLC 336 |
| CHI | 338 | Daode Jing: Way to the West | At 5,000 words, the Daode Jing [Tao-te ching, "the Scripture of the Way and its Powers," attributed to the Sage Laozi] is perhaps the shortest religious book in the world. It is also the most widely misinterpreted. In China, Daoists, Buddhists and Confucians have each taken its short, pithy statements as warrant for their very different belief systems. In the West, missionaries, new-age pundits, hippies, rock-stars, mystics and LSD advocates each claim to understand the "true meaning" of Laozi's mystical words. But "the farther one travels, the less one knows..." Students read representative samples of these explanations to understand why this brief book of wisdom has endured for over 2000 years. Requires no knowledge of Chinese. Presents all Chinese texts in the translations of the instructor. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only CHI 338 or REL 338 OR Visiting University Student |
| CHI | 343 | Daoism | Introduces the history, doctrines, and practices of Taoism from the mid-second century CE up to the present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 24 hours; Credit is allowed for only CHI 343 or REL 343 OR Visiting University Student |
| CHI | 345 | Chinese Film and Civilization | Screening and discussion of recent films from China, Taiwan, and Hong Kong in the context of modern Chinese civilization. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| CHI | 346 | Chinese Religions | Examines the history and practices of Chinese religions with particular attention to culture, society, and history. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only CHI 346 or REL 346 |
| CHI | 348 | Pathways into Chinese Culture | Introduces some important aspects of China's cultural history and traditions. Provides an overview of Chinese history and culture and reviews major developments in science and technology. Incorporates current social and cultural topics and reviews through the lens of historical context. Classroom activities enable students to gain a better understanding of traditional Chinese culture with respect to both elite and popular culture. Conducted in Mandarin and is designed for the students who are currently enrolled in CHI 301 and CHI 401 or whose Chinese proficiency level in all four skills (speaking, listening, reading and writing) are at the intermediate mid to intermediate high level according to ACTFL guidelines. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): CHI 202 or 210 with C or better OR Visiting University Student |
| CHI | 380 | The Chinese Language | Introduces the Chinese languages from linguistic perspectives. Topics include the linguistic structure and characteristics (phonetics, phonology, morphology and syntax) of the Chinese language; linguistic history and dialects of Chinese; and its relationship with culture. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| CHI | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| CHI | 401 | Fourth-Year Chinese I | Focuses on solidifying and improving students' knowledge of modern Mandarin. Emphasizes learning strategies to increase reading and listening comprehension, as well as further strengthening oral fluency and written skills. Surveys a wide variety of original text and media materials, in both full-form and simplified characters. Conducted in Chinese. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): CHI 302 with C or better OR Visiting University Student |
| CHI | 402 | Fourth-Year Chinese II | Continuation of CHI 401. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): CHI 401 with C or better OR Visiting University Student |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| CHI | 407 | Chinese for Academic and Professional Purposes I | Part of the Chinese Flagship program; course has a three-fold objective: (1) to improve language proficiency in all four language skills; (2) to support other Flagship courses by introducing specific vocabulary, literary genres, key reference materials; and (3) to develop the use of explicit language learning strategies that support professional-level literacy. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): CHI 402 with C or better OR Visiting University Student |
| CHI | 408 | Chinese for Academic and Professional Purposes II | Part of the Chinese Flagship Program. Improves language proficiency in all four language skills; supports other Flagship courses by introducing specific vocabulary, literary genres, key reference materials; develops the use of explicit language learning strategies that supports professional level literacy. All course work in Mandarin Chinese. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): CHI 407 with C or better |
| CHI | 451 | Chinese Cultural History I | China's classics in translation studied both for their intrinsic ideas and for the origins of Chinese thought. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (HU or SB) & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 55 hours; Credit is allowed for only CHI 451, HST 451 or SLC 451 |
| CHI | 452 | Chinese Cultural History II | Evolution of Confucian thought, its synthesis with Taoism and Buddhism, and modern reactions against, and uses of, Confucian traditions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & G & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 55 hours; Credit is allowed for only CHI 452 or HST 452 or SLC 452 |
| CHI | 470 | Modern Chinese Literature and Culture | Readings in modern Chinese literary texts, including prose, fiction, and poetry. Course content changes with instructor. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): CHI 302 with C or better |
| CHI | 482 | History of the Chinese Language | Introduces the history of the Chinese language. Graduate/advanced undergraduate-level introductory course on the historical changes of the sounds, writing system, grammar, and other aspects of the Chinese language. Topics include the historical phonology of Chinese, development of graphs (Hanzi), some topics of syntactic changes in texts, morphology, lexicography, cultural implication of language. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): CHI 302; CHI 308 OR Visiting University Student |
| CHI | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| CHI | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| CHI | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| CHI | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| CHI | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 501 | Proseminar: East Asian Humanities | Provides MA and PhD students with a solid understanding of both the history of their academic discipline, as well as the various methodological approaches employed in the professional study of East Asian literature, history, language and culture. Centers on the close reading and discussion of a wide range of secondary sources, dealing with key issues in the development of East Asian humanities. Topics include premodern and modern discourses of language and literature; the trajectories of academic disciplines and approaches such as philology, sinology/Japanology, area studies and comparative literature; academic theories of space and temporality; translation studies; and book history. In addition to pursuing independent research, participants are expected to make regular presentations summarizing the main points in each week's readings. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CHI 501 or JPN 501 |
| CHI | 502 | Academic Writing | Trains graduate students in research methodology and conventions in academic writing. Centers on fine tuning students' command of the various components in English expository essays within the academic field of East Asian studies. Also addresses various contexts in academic writing, such conferences and proposals targeting audiences beyond the disciplinary boundaries of East Asian studies. | N | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CHI 502 or JPN 502 |
| CHI | 514 | Advanced Classical Chinese | Close readings in selected premodern texts, with focus on special grammatical features, and increased vocabulary. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 561 | Readings in Traditional Xiaoshuo | Introduces major issues, texts, and resource materials for the study of narrative forms, including short stories and longer works of fiction. Focuses on the period from 1400 to 1900. One year of university-level classical Chinese or equivalent proficiency; three years of university-level modern Chinese recommended. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|-------------------------------|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| CHI | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 596 | Second Language Methodologies | Provides a solid overview of current methodologies in foreign/second language teaching and learning, including the World-readiness standards for learning languages and the Proficiency Guidelines of the American Council on the Teaching of Foreign Languages (ACTFL). Focuses on current pedagogical trends and theories in several areas of second language acquisition, including grammar and vocabulary, reading, writing, listening and speaking, and intercultural competence. Also provides opportunities to obtain practice in creating and adapting instructional materials, preparing and implementing individual lesson plans, written and oral assignments, and exams. Focuses on discussing student diversity in today's classrooms and differences between heritage and second language learners. Students have the opportunity to research a topic of their interest. Course consists of lectures, discussion, hands-on experience to encourage meaningful and collaborative learning. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking grad stdnt; Credit only allowed for CHI 591 (Lang Teach Mthd & Prin) or CHI 596 or SLC 591 (Lang Teach Mthd & Prin) or SLC 596 or SPA 591 (Teach Mthd) or SPA 591 (Lang Teach Mthd & Prin) or SPA 596 |
| CHI | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-15 | | |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| CHI | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 101 | Introductory Chemistry | Elements of general chemistry. Adapted to the needs of students in nursing and kinesiology and those preparing for general chemistry. Recommended for General Studies credit. Cannot be used for major credit in chemical or biochemical sciences. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 4 | SQ | |
| CHM | 107 | Chemistry and Society | General chemical principles and concepts presented in context of social and technological issues, e.g., energy, pollution, global warming, and others. This lecture course may be combined with the laboratory CHM 108 for those interested in lab course credit. Cannot be used for major credit in chemical or biochemical sciences. Both CHM 107 and CHM 108 must be taken to secure SQ credit. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | SQ | |
| CHM | 108 | Chemistry and Society Laboratory | Experiments in chemical principles presented in chemistry and society lectures (CHM 107). Students must complete both CHM 107 and CHM 108 to receive an SQ (General Studies). | N | LAB | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | SQ | Pre- or Corequisite(s): CHM 107 OR Visiting University Student |
| CHM | 111 | General Chemistry Laboratory for Majors I | Laboratory course in general chemistry for chemistry and biochemistry majors intended to complement CHM 117 lecture course. Covers a diverse range of laboratory experiments appropriate to chemistry and biochemistry majors designed to reinforce chemical principles and to develop a broad range of chemical synthesis skills. Uses modern analytic and characterization techniques to study the physical and chemical properties of substances. Suitable for students who have completed introductory chemistry at the high school level. Both CHM 117 and CHM 111 must be taken to secure SQ General Studies credit. | N | LAB | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | SQ | Pre- or corequisite(s): Biochemistry, Biophysics, or Chemistry major; CHM 117 with C or better if completed OR Visiting University Student |
| CHM | 112 | General Chemistry Laboratory for Majors II | Continuation of CHM 111 laboratory course in general chemistry for chemistry and biochemistry majors intended to complement CHM 118 lecture course. Covers a diverse range of laboratory experiments appropriate to chemistry and biochemistry majors designed to reinforce chemical principles and to develop a broad range of chemical synthesis skills. Uses modern analytic and characterization techniques to study the physical and chemical properties of substances. Both CHM 118 and CHM 112 must be taken to secure SQ General Studies credit. | N | LAB | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | SQ | Prerequisite(s): Biochemistry, Biophysics, or Chemistry major; CHM 111 with C or better; Pre- or corequisite(s): CHM 118 with C or better if completed OR Visiting University Student |
| CHM | 113 | General Chemistry I | Principles of chemistry. Adapted to the needs of students in the physical, biological, and earth sciences. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 4 | SQ | Prerequisite(s): CHM 101 with C or better or ALEKS score of 61 or higher OR Pre- or corequisite(s): MAT 170, 171, 210, 251, 265 or 270 with C or better if completed OR Visiting University Student |
| CHM | 114 | General Chemistry for Engineers | Chemical principles with emphasis toward engineering. Students without high school chemistry or are chemical engineering majors must enroll in the CHM 113, 116 sequence instead of CHM 114. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 4 | SQ | Prerequisite(s): CHM 101 with C or better or ALEKS score of 61 or higher OR Pre- or corequisite(s): MAT 170, 171, 210, 251, 265, or 270 with C or better if completed OR Visiting University Student |
| CHM | 116 | General Chemistry II | Continuation of CHM 113. Equilibrium theory, thermodynamics, kinetics, electrochemistry, nuclear chemistry, descriptive chemistry. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 4 | SQ | Prerequisite(s): CHM 113, 114, or 117 with C or better OR Visiting University Student |
| CHM | 117 | General Chemistry for Majors I | Lecture course in general chemistry for chemistry and biochemistry majors and is complemented by the CHM 111 laboratory course. Covers electronic structure of atoms and molecules, intermolecular forces, bonding models, molecular geometry, physical states of matter, gas laws, and chemistry of condensed matter and modern materials. Highlights chemical reactivity, periodic trends and descriptive chemistry. Both CHM 111 and CHM 117 must be taken to secure SQ General Studies credit. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | SQ | Prerequisite(s): Biochemistry, Biophysics, or Chemistry major; CHM 101 with C or better, or ALEKS score of 61 or higher, or Pre- or corequisite(s): MAT 170, 171, 210, 251, 265, or 270 with C or better if completed OR Visiting University Student |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|------------------------------|-------|-----------------|---|
| CHM | 118 | General Chemistry for Majors II | Continuation of CHM 117 lecture course in general chemistry for chemistry and biochemistry majors and is complemented by the major's CHM 112 laboratory course. Topics include thermodynamics, properties of solutions, chemical equilibrium, aqueous chemistry, acids and bases, electrochemistry, chemical kinetics, nuclear chemistry, coordination chemistry. Both CHM 118 and CHM 112 must be taken to secure SQ General Studies credit. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | SQ | Prerequisite(s): Biochemistry, Biophysics, or Chemistry major; CHM 117 with C or better OR Visiting University Student |
| CHM | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1-3 | | Pre-requisites: Biochemistry or Chemistry major; Maximum 45 hours |
| CHM | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1-4 | | |
| CHM | 231 | Elementary Organic Chemistry | Surveys organic chemistry, with emphasis on the reactivity of basic functional groups. Both CHM 231 and 235 must be taken to secure SQ General Studies credit. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | SQ | Prerequisite(s): CHM 101, 114, 116, or 118 with C or better OR Visiting University Student |
| CHM | 233 | General Organic Chemistry I | Chemistry of organic compounds. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): CHM 116 or 118 with C or better OR Visiting University Student |
| CHM | 234 | General Organic Chemistry II | Continuation of CHM 233. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): CHM 233 or 333 with a C or better; Credit is allowed for only CHM 234 or CHM 334 OR Visiting University Student |
| CHM | 235 | Elementary Organic Chemistry Laboratory | Organic chemistry experiments in synthesis, purification, analysis, and identification. Both CHM 231 and 235 must be taken to secure SQ General Studies credit. | N | REC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | SQ | Pre- or corequisite(s): CHM 231 with C or better if completed OR Visiting University Student |
| CHM | 237 | General Organic Chemistry Laboratory I | Microscale organic chemical experiments in separation techniques, synthesis, analysis and identification, and relative reactivity. | N | REC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | | Pre- or corequisite(s): CHM 233 with C or better if completed; Credit is allowed for only CHM 237 or CHM 337 OR Visiting University Student |
| CHM | 238 | General Organic Chemistry Laboratory II | Continuation of CHM 237. | N | REC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | | Prerequisite(s): CHM 237 or 337 with C or better; Pre- or corequisite(s): CHM 234 with C or better if completed; Credit is allowed for only CHM 238 or 338 OR Visiting University Student |
| CHM | 240 | Mathematical Methods in Chemistry | Introduces mathematical/computational methods in chemical kinetics, thermodynamics, quantum chemistry. Mathematical-based computer lab. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | CS | Prerequisite(s): CHM 116 or 118 with C or better; Pre- or corequisite(s): MAT 267 or 272 with C or better if completed OR Visiting University Student |
| CHM | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1-4 | | |
| CHM | 302 | Environmental Chemistry | Explores major environmental issues, problems, and solutions from analytical and chemistry perspectives. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): CHM 114, 116, or 118 with C or better; CHM 231, 233, or 333 with C or better OR Visiting University Student |
| CHM | 303 | Environmental Chemistry Laboratory | Lab in environmental chemistry to complement CHM 302. First-hand experience with sampling methods, analytical techniques, and environmental lab methods. Both CHM 303 and CHM 348 must be taken to secure L General Studies credit. | N | LAB | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 2 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; Pre- or corequisite(s): CHM 302 with C or better if completed OR Visiting University Student |
| CHM | 325 | Analytical Chemistry | Advanced principles and theory of quantitative analysis, including stoichiometry, equilibria, photometric methods, electrochemistry, separation processes, statistical data analysis, and applications to advanced topics in analytical chemistry. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): CHM 116 or 118 with C or better OR Visiting University Student |
| CHM | 326 | Advanced Analytical Chemistry Laboratory | Practical methods of quantitative analysis for chemistry majors, including titrimetric, gravimetric, and photometric analysis, and analytical separation processes, statistical data analysis, and applications to advanced topics in chemical analysis. | N | REC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | | Pre- or corequisite(s): CHM 325 with C or better if completed OR Visiting University Student |
| CHM | 327 | Instrumental Analysis | Principles of instrumental methods in chemical analysis. Electroanalytical and optical techniques. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): CHM 325 with C or better; CHM 326 with C or better; Pre- or corequisite(s): CHM 346 with C or better if completed OR Visiting University Student |
| CHM | 328 | Instrumental Analysis Laboratory | Experiments in chemical analysis by electroanalytical and optical techniques. | N | LAB | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 2 | | Pre- or corequisite(s): CHM 327 with C or better if completed |

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| CHM | 341 | Elementary Physical Chemistry | Thermodynamics, equilibrium, states of matter, solutions, and chemical kinetics. For students in premedical, biological, and educational curricula. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): CHM 114, 116, or 118 with C or better; CHM 231, 233, or 333 with C or better; MAT 251, 265, or 270 with C or better; PHY 101, 112, or 131 with C or better; Credit is allowed for only BCH 341 or CHM 341 OR Visiting University Student |
| CHM | 343 | Elementary Physical Chemistry Laboratory | Physical chemistry experiments. | N | REC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | | Pre- or corequisite(s): BCH 341 or CHM 341 with C or better if completed; Credit is allowed for only CHM 343 or CHM 348 and CHM 349 OR Visiting University Student |
| CHM | 345 | Physical Chemistry I | Introduces quantum chemistry with application to electronic structure and dynamics of atoms and molecules. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): CHM 116 or 118 with C or better; CHM 240 OR PHY 201 OR both MAT 274 or 275; MAT 242, 342 or 343 with C or better; MAT 267 or 272 with C or better; PHY 131 or 151 with C or better OR Visiting University Student |
| CHM | 346 | Physical Chemistry II | Introduces equilibrium and statistical thermodynamics. Laws of thermodynamics, equations of state, multicomponent chemical and phase equilibria, and electrochemistry. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): CHM 345 with C or better |
| CHM | 348 | Physical Chemistry Laboratory I | Lab experiments in spectroscopy and computational chemistry. To secure L General Studies credit the following must be taken: CHM 303 & CHM 348 or CHM 348 & CHM 349 & CHM 452. | N | REC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; Pre- or corequisite(s): CHM 345 with a C or better if completed OR Visiting University Student |
| CHM | 349 | Physical Chemistry Laboratory II | Lab experiments in thermodynamics, electrochemistry, and computational chemistry. CHM 348, CHM 349 and CHM 452 must be taken to secure L General Studies credit. | N | REC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; Pre- or corequisite(s): CHM 346 with C or better if completed OR Visiting University Student |
| CHM | 385 | Oceanography | Introduces marine geology, chemistry, and physical and biological oceanography. Methods of oceanic exploration, environmental and social aspects of oceans. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s) w/ C or better: BIO 100, BIO 182, BIO 282, SES 220, SES 225, or both GLG 101 & 103, or both SES 121 & 123; CHM 101, 113, 114, 117, or both CHM 107 & 108; Credit allowed for only BIO 325 or CHM 385 or GLG 325 OR Visiting University Student |
| CHM | 392 | Introduction to Research Techniques | Instrumental methods and philosophy of research by actual participation in chemical research projects. | Y | RSC | Y | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1-3 | | |
| CHM | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1-4 | | |
| CHM | 433 | Advanced Organic Chemistry I | Reaction mechanisms, reaction kinetics, linear free energy relationships, transition state theory, and Woodward-Hoffmann rules. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): BCH 341, CHM 341 or 346 with C or better; CHM 234 or 334 with C or better; Credit is allowed for only CHM 433 or CHM 531 OR Visiting University Student |
| CHM | 435 | Medicinal Chemistry | Principles of medicinal and pharmaceutical chemistry. Drug design, synthesis, and mechanism of action. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): BCH 361 or BCH 461 or CHM 460; CHM 234 or CHM 334; Credit is allowed for only CHM 435 or CHM 535 OR Visiting University Student |
| CHM | 442 | Practical NMR Spectroscopy | Covers the practical operation of NMR spectrometers, common ¹ H/ ¹³ C/X nuclei NMR spectroscopy, safety around NMR spectrometers and basic NMR data processing, handling and analysis. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | | Prerequisite(s): CHM 101, 114, 116, or 118 with C or better; Credit is allowed for only CHM 442 or CHM 494 (Practical Nuclear Magnetic Resonance Spectroscopy) or CHM 542 |
| CHM | 452 | Inorganic Chemistry Laboratory | Preparation and characterization of typical inorganic substances, emphasizing methods and techniques. CHM 348, CHM 349 and CHM 452 must be taken to secure L General Studies credit. | N | REC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; Pre- or corequisite(s): CHM 453 with C or better if completed OR Visiting University Student |
| CHM | 453 | Inorganic Chemistry | Principles and applications of inorganic chemistry. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): BCH 341, CHM 341 or 346 with C or better OR Visiting University Student |
| CHM | 460 | Biological Chemistry | Structure and function of macromolecules and their involvement in the processing of energy and information by living cells. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): CHM 234 or 334 with C or better; CHM 346 with C or better |
| CHM | 471 | Solid-State Chemistry | Crystal chemistry, thermodynamics and electrochemistry of solids, nonstoichiometric compounds, diffusion and solid-state reactions, crystal growth, and selected topics. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Pre- or corequisite(s): CHM 346 with C or better if completed; Credit is allowed for only CHM 471 or CHM 571 |

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| CHM | 480 | Methods of Teaching Chemistry | Organization and presentation of appropriate content of chemistry; preparation of reagents, experiments, and demonstrations; organization of stock rooms and laboratories; experience in problem solving. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | |
| CHM | 481 | Geochemistry | Origin and distribution of the chemical elements. Geochemical cycles operating in the Earth's atmosphere, hydrosphere, and lithosphere. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): BCH 341, CHM 341, CHM 346, or GLG 321 with C or better; Credit is allowed for only CHM 481 or GLG 481 OR Visiting University Student |
| CHM | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | |
| CHM | 489 | Field Geochemistry | Explores basic field measurements and sampling techniques for environmental systems, with a focus on carbon cycling in the Colorado River. Surveys a variety of geochemical principles, including: equilibrium aqueous speciation, acid-base chemistry, solution-mineral equilibrium systems, oxidation-reduction reactions, organic and environmental geochemistry and biogeochemical cycles. Applies chemical principles and analytical techniques to answer questions about environmental systems and processes. | N | LEL | N | GNA | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | L | Prerequisite(s): CHM 302, GLG 321, or GLG 481 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only CHM 489 or GLG 489 OR Visiting University Student |
| CHM | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| CHM | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| CHM | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1-4 | | |
| CHM | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1-3 | | |
| CHM | 501 | Current Topics in Chemistry | Varies by topic. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1-2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 520 | Chemical Biology | Chemical biology, broadly defined, is the application of chemical tools toward the study biological problems. The purpose of this class is to provide the foundation for translational research involving cross-disciplinary approaches to tackling significant problems in the biosciences. This one-semester class will cover topics ranging from traditional molecular biology and biochemistry to state-of-the-art techniques in genomics and proteomics. Particular emphasis will be placed on modern concepts in enzymology. The class will be taught using a combination of current literature and text-based materials. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Pre-requisites: Graduate students (degree and non-degree); Credit is allowed for only BCH 520 or CHM 520 |
| CHM | 524 | Separation Science | Addresses principles and applications for all areas of chemical separations. Emphasizes separations principles in microfluidics and its interface with nanotechnology and traditional electronic materials. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 531 | Advanced Organic Chemistry I | Reaction mechanisms, reaction kinetics, linear free energy relationships, transition state theory, molecular orbital theory, and Woodward-Hoffmann rules. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Pre-requisite: degree- or nondegree-seeking graduate. Credit is allowed for only CHM 433 or CHM 531 |
| CHM | 535 | Medicinal Chemistry | Principles of medicinal and pharmaceutical chemistry. Drug design, synthesis, and mechanism of action. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Pre-requisites: Graduate degree or non-degree seeking students; Credit is allowed for only CHM 435 or 535 |
| CHM | 540 | Integrated Physics and Chemistry | Collaborative inquiry methods for teaching and coordinating physics and chemistry. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only CHM 540 or PHS 540 |
| CHM | 541 | Advanced Thermodynamics | Equilibrium thermodynamics. Chemical reactions, phase equilibria, and stability in multicomponent systems. Aqueous solutions and electrochemistry. Introduces statistical thermodynamics. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only CHM 541 or MSE 524 |
| CHM | 542 | Practical NMR Spectroscopy | Covers the practical operation of NMR spectrometers, common ¹ H/ ¹³ C/X nuclei NMR spectroscopy, safety around NMR spectrometers and basic NMR data processing, handling and analysis. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CHM 442 or CHM 542 or CHM 598 (Practical Nuclear Magnetic Resonance Spectroscopy) |

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| CHM | 543 | Computational Chemistry | Provides basic concepts and practical experience in computational chemistry as applied to molecules and solids. Systematically covers theoretical background and applied aspects of electronic structure methods/simulation, and related visualization techniques. Provides weekly laboratory session will provide hands-on experience with state-of-the-art molecular and solid-state simulation/visualization packages, with an emphasis on their reliability, predictive capability and practical limitations. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 546 | Molecular Spectroscopy and Group Theory | Applies quantum mechanics to the general problem of the interaction of light with molecular systems. Angular momentum and group theory. Symmetry classifications. Overview of the formalism and experimental techniques in different resonant-based spectroscopies. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 547 | Data Modeling for the Natural Sciences: Applications, Basics and Computation | Data analysis courses that go beyond teaching elementary topics such as fitting residuals, error propagation and p-values are rarely offered in the physical sciences. Thus, data analysis, much like programming, is something often learned and improvised "on the job." Yet, with an explosion of experimental methods generating large quantities of data, students would benefit from a clear presentation of methods of data analysis, many of which are straightforward to implement and would raise our community standard for how data is currently being treated. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prereq(s): degree- or nondegree-seeking grad stdnt; Credit for only CHM 494/CHM 598/PHY 598 (Data-Driv Inf&StochProc) or CHM 494/CHM 598 (StatMechII: Stoch proc&inf) or CHM 494/CHM 598/PHY 598 (Unravel the noise:data-driv model&ana) or CHM 547 or PHY 547 |
| CHM | 553 | Advanced Inorganic Chemistry | Principles of modern inorganic chemistry applied over the entire periodic system. Bonding theory, chemical reactivity, spectroscopic and magnetic properties. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 560 | Matter and Light | Interactions of light with matter. Lasers and spectroscopy. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CHM 560 or PHS 560 |
| CHM | 571 | Structure, Bonding, and Symmetry in Materials | Principles of structural and materials chemistry, emphasizing crystal chemistry. Symmetry of periodic structures (space groups), factors determining bond lengths and coordination geometries, and the role of structure in determining physical properties. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only CHM 471 or 571 |
| CHM | 581 | Structure of Matter and its Properties | Models of matter and its properties. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CHM 581 or PHS 581 |
| CHM | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | RSC | Y | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| CHM | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | RSC | Y | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Molecular Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHS | 100 | Optimizing Your Health and Performance | Explores concepts, attitudes, research and practices associated with the optimization of health and performance. Students gain practical and foundational knowledge regarding evidence-based practice, nutrition, physical activity, executive function, strategies and cognition. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | SB | Prerequisite(s): College of Health Solutions undergraduate student OR Visiting University Student |
| CHS | 101 | The ASU Experience for Health Solutions Students | Required, one-hour course designed to introduce all new first-time ASU students to the unique elements, culture, challenges and opportunities of their university. Covers several core topics. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): College of Health Solutions student |
| CHS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| CHS | 201 | International Indigenous Health | This course aims to develop student's understanding of core concepts in the health and well-being of Indigenous peoples worldwide, with particular focus on the Aboriginal and Torres Strait Islander peoples in Australia and Indigenous peoples in United States (or the Americas more broadly). The course highlights the differences in distribution of disease and health disparities between Indigenous and non-Indigenous peoples and develops an understanding of underlying interrelated physical, psycho-social, cultural and other determinants of Indigenous peoples' health. Students will be provided with examples of evidence-based research and health practice to learn about the ways in which Indigenous health and well-being can be supported. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): Bachelor of International Public Health major |
| CHS | 260 | Health Professions Terminology | Prepares students for a field in the health care field and covers medical terms related to all the major body systems including: muscular system, skeletal system, respiratory system, circulatory system, digestive system, reproductive system and urinary system. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only CHS 260 or KIN 294 (Health Professions Terminology) |
| CHS | 280 | Experiential Community Health and Research | Provides experiential learning in community health and/or research. Gives students the opportunity to develop professionally; enhance their health education; take ideas and concepts beyond the classroom; and gain experiences and real-world perspectives in research, clinical or community-based settings. Students interact with faculty, researchers and/or professionals in the field across a range of observations and activities. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): College of Health Solutions student or Edson College of Nursing and Health Innovation student OR Visiting University Student |
| CHS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| CHS | 300 | An Exploration of Well-Being | An engaging, multidisciplinary, scientific and practical exploration into factors influencing the well-being of individuals and society. Students experiment with mindsets, habits, strategies and skills to develop greater awareness and curiosity about lifelong well-being and success. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | SB | Prerequisite(s): minimum 30 hours OR Visiting University Student |
| CHS | 301 | Epidemiology for International Public Health | Epidemiology and its use in public health research and practice. This course introduces students to epidemiological principles and methods. It aims to enable students to apply an epidemiological approach to the study of disease and illness, to interpret and assess the quality of evidence of a range of study designs and report on epidemiological research. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): Bachelor of International Public Health major |

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| CHS | 303 | Health Promotion | Health Promotion is a fundamental component of any approach to public health and population health, whether it be research, policy or practice. The World Health Organization defines health promotion as the process of enabling people to increase control over, and to improve, their health. It moves beyond a focus on individual behavior towards a wide range of social and environmental interventions. (http://www.who.int/topics/health_promotion/en/). This course provides an overview of health promotion including examination of the social determinants of health, health literacy and foundations in health promotion. During the course students will explore the role of health promotion in addressing a range of current global health issues and their relevance to the field of public health. Students will examine contemporary perspectives on health and health promotion contributions to public health and population health responses. The course enables students to gain an understanding of how health can be defined from different perspectives, and develop core knowledge of health promotion including its foundation theories, principles and concepts. The course will equip students with the capacity to engage in public health and population health through the essential health promotion skills and understandings. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): Bachelor of International Public Health major |
| CHS | 304 | Communicable Disease | This course will introduce students to the burden of infectious or communicable disease worldwide. Students will learn about the theory of transmission modes, surveillance, outbreak investigation, current disease prevention, control and management strategies, and emerging and re-emerging infections. Key case studies covering different types of communicable diseases will be used to illustrate these important concepts. Current and future challenges in communicable disease control will be highlighted. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): Bachelor of International Public Health major |
| CHS | 305 | Principles of Prevention & Public Health Surveillance | Disease surveillance and population health monitoring represents one of the most important tools for public health, for early disease detection and prevention, and the monitoring and evaluation. Early detection of and rapid response to a public health threat has huge potential to save lives and costs from preventing hospitalizations and deaths. This course provides an overview of different types of surveillance systems and the sources of data that are used in such systems. Students learn to assess challenges and limitations associated with different types of public health surveillance systems and develop the skills to examine the tools and approaches that can be used to improve the effectiveness of public health surveillance systems. The course looks at principles of disease prevention more broadly. Public health prevention measures are discussed including immunization and screening, using case studies for both communicable and non-communicable diseases. The role of epidemiological and social factors is also considered. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): Bachelor of International Public Health major; Pre- or corequisite(s): CHS 301; CHS 304; HCD 300 |
| CHS | 306 | Public Health Policy & Programs | The overall aim of this course is to enable students to develop their understanding of both public health policy and programs as a part of public health practice. Students will learn about the concept and role of policy and the key concepts, models and approaches to designing and evaluating public health programs. Case studies from multiple countries and contexts will be used as teaching material. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): Bachelor of International Public Health major |
| CHS | 307 | Health Leadership | The course aims to develop students understanding of different approaches to leading and managing at different levels in health services in local and international contexts to improve individual, community and population level outcomes. Students will be introduced to the common and overlapping skills and features of effective health leadership within public health agency settings requiring coordinated system-wide action through to health care management in more clinically focused patient delivery settings. Topics include management and leadership theories and models; systems perspectives and strategic thinking; influence, power and leading change; managing interprofessional teams and motivating staff; conflict management and improving health worker performance. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): Bachelor of International Public Health major |

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| CHS | 308 | Comparative Health Systems | Principles and practice of health system analysis, the sources and utilization of information relating to health services, and frameworks for assessing health systems performance. Examines the constitutional, legal, economic, social and political environments within which health care systems operate. Compares different models of health system funding and operation. Reviews different health services organization and management, health service financing arrangements and the health workforce. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| CHS | 309 | Evaluating Chronic Disease Programs | This course aims to enhance students' understanding of the major non-communicable diseases-specifically so-called "lifestyle diseases" including cardiovascular disease, cancer, type II diabetes, chronic lung disease- and the interaction between their associated lifestyle behaviors such as unhealthy diet, physical inactivity, tobacco use and alcohol use. Students will examine the concept of the epidemiological transition to provide insights into trends in the burden of lifestyle diseases and injuries globally and in developing countries. This course will help students to evaluate prevention and control approaches to lifestyle diseases, and to critique the modern social environment and lifestyle behaviors with respect to global health. Topics include: the global burden of disease, the epidemiological transition, injury prevention, health systems, global tobacco control, obesity, and global action plan on non-communicable diseases. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): Bachelor of International Public Health major |
| CHS | 340 | Health Theory | Health theories help to frame health and health outcomes in our society. Applies health theories to medical problems in order to explore the different levels of influence on behavior: individual, social network, community, health system and policies. Helps students take a deeper look at the intersections between people and their environment as well as understand how influence on our health is constructed all around us. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 30 hours; Credit is allowed for only CHS 340 (EXW 340) or EXW 342 or HSC 340 OR Visiting University Student |
| CHS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | College of Health Solutions | College of Health Solutions | 1-4 | | |
| CHS | 400 | Adaptive Exercise Program Practical Experience | One-on-one adaptive exercise programming for individuals with developmental, neuromuscular, physical, or chronic conditions. | N | LEC | Y | GNA | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CHS 400 or CHS 494 (Adaptive Exercise Program Practical Experience) OR Visiting University Student |
| CHS | 401 | Ethics in Public Health | This course provides an overview of ethical considerations and issues pertinent to public health and health care. Students will examine ethical theories and principles, and key legal concepts, and their application to health care and public health contexts. The course enables students to identify and analyse the ethical challenges of balancing the interests of individuals and communities within a health care context which is costly, complex and increasingly globalized. While the focus is on public health ethics which includes health policy and promotion, clinical and research ethics will also be examined as integral components of contemporary, cutting-edge health care service and delivery. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): Bachelor of International Public Health major |
| CHS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): minimum 45 hours; minimum 2.00 GPA |
| CHS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): Barrett Honors student |
| CHS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| CHS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| CHS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-7 | | Prerequisite(s): minimum 45 hours |
| CHS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): minimum 45 hours |
| CHS | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| CHS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHS | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHS | 791 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CIS | 105 | Computer Applications and Information Technology | Introduces business information systems from a business intelligence perspective and the uses of application software with emphasis on database and spreadsheet packages for efficient and effective problem solving. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Information Systems | 3 | CS | |
| CIS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Information Systems | 1-4 | | |
| CIS | 235 | Introduction to Information Systems | Survey course introducing the competitive and strategic uses of information systems, how information systems are transforming organizations and their management, and the issues, difficulties, and opportunities facing the technology professional and business manager today. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): CIS 105 with C or better; MAT 210, 211, 270, or 271 with C or better OR Data Science BS major; CSE 205 with C or better; Credit is allowed for only CIS 235 or CIS 236 OR Visiting University Student |
| CIS | 236 | Honors Introduction to Information Systems | Introduces strategic leveraging of IS solutions and surveys different facets of IS in order to gain an understanding of how business problems are addressed and opportunities realized. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Information Systems | 3 | CS | Prerequisite(s): Barrett Honors student |
| CIS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Information Systems | 1-4 | | Prerequisite(s): Business Data Analytics BS or Computer Information Systems BS major |
| CIS | 300 | Web Design and Development | Focuses on Web site development, including target audience, image presentation, page/content topic organization, site navigational functionality, implementation needs, and future needs. Web site design and development practice using business software products. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): minimum 2.00 GPA; minimum 56 hours, OR post-baccalaureate undergraduate student, OR non-degree student; minimum 2.00 GPA, OR graduate student OR Visiting University Student |
| CIS | 308 | Advanced Excel in Business | Covers advanced Excel skills using an applied focus on different types of decisions one may analyze using spreadsheet capabilities; graphs and charts to communicate complex analytics; pivot tables to slice and dice data for reporting. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): CIS 105 or 236 with C or better OR Visiting University Student |
| CIS | 309 | Business Process Management | Flow charting, swimlane diagramming, process simulation using modern tool suites. Teaches the types of process evaluation decision analytics most commonly used and covers applied process analysis in a variety of contexts. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): CIS 105 or 236 with C or better OR Visiting University Student |
| CIS | 310 | Business Data Visualization | The design of insightful business data visualizations and dashboards to improve business decision making. Applies advanced data visualization techniques to make sense of temporal, geospatial, topical and network business data while also making it easier to digest and utilize for business users. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): CIS 105 or 236 with C or better OR Visiting University Student |
| CIS | 311 | Business Agile Project Management | Overview of project management emphasizing the fundamentals, analytics and value that support project decision making. Covers how and why projects are selected within organizations, the purpose of projects, and the way that they should be properly managed using industry best practices and frameworks. Includes classical (Waterfall), modern (Agile), and hybrid project management techniques. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): CIS 105 or 236 with C or better OR Visiting University Student |
| CIS | 312 | Business Mobile Commerce and Monetization | Teaches students the entire mobile commerce process starting with recognizing what it is, what it does, how to build it and the business value of it. Familiarizes students with software development platforms and ecosystems, strategies for development and deployment, and monetization strategies. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): CIS 105 or 236 with C or better; Credit is allowed for only CIS 312 or CIS 294 (Business Mobile App Development and Monetization) OR Visiting University Student |
| CIS | 315 | Introduction to Business Data Analytics | Overview of analytics in the business context; concepts of strategic and operational analytics; overview of concepts like dimensional modeling, the Model Lifecycle, data mining, big data, KPIs and metrics, ERP and analytics, in-database/memory analytics; real-time analytics and data stream analysis. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): Business Data Analytics BS major; CIS 235 or 236 with C or better; ECN 221 or 231 with C or better; MAT 211, 266, or 271 with C or better OR Visiting University Student |

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| CIS | 325 | Fundamental Techniques for Business Data Analytics | Manipulating, processing, cleaning and crunching data with a focus on utilizing scripting and programming tools toward business applications. Also a practical, modern introduction to extraction, transformation and loading of enterprise data for business applications. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): Business Data Analytics BS, Computer Information Systems BS, or Business (Information Security) BA major; CIS 235 or 236 with C or better; ECN 221 or 231 with C or better OR Visiting University Student |
| CIS | 340 | Business Information System Development I | Systems Development Life Cycle (SDLC) tools, techniques, and methodologies used to plan and analyze the needs of modern business information system development. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W. P. Carey Computer Information Systems BS major; ACC 241, 242 or 271 with C or better; CIS 235 or 236 with C or better; ECN 221 with C or better; MAT 211, 266 or 271 with C or better OR Visiting University Student |
| CIS | 345 | Business Information System Development II | Provides a clear understanding of the Systems Development Life Cycle (SDLC) tools, techniques, and methodologies used to design, implement, and support modern business information systems development. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): Computer Information Systems BS major; CIS 340 with C or better OR Visiting University Student |
| CIS | 355 | Business Data Warehouses and Dimensional Modeling | SQL, stored procedures and data warehouse architectures; data warehouse requirements definition, design and analysis; overview of the steps in building information-enabled business models; role of data warehousing in data mining and analytics. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): Business Data Analytics BS or Data Science BS major; CIS 365 with C or better OR Visiting University Student |
| CIS | 360 | Business Database Concepts | Database theory, design, and application, including the entity-relationship model; the relational, hierarchical, and network database models; and query languages. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W. P. Carey Accountancy BS or Business (Information Security) BA major; ACC 231, 232 or 261 with C or better; ACC 241, 242 or 271 with C or better; CIS 105 or 236 with C or better OR Visiting University Student |
| CIS | 365 | Business Database Systems Development | Focuses on business database and data warehousing systems, development and management. Topics include capturing business requirements using data modeling, SQL, data security, operational and analytical data stores and data integrity. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): Business Data Analytics BS, Computer Information Systems BS, or Data Science BS major; CIS 235 or 236 with C or better OR Visiting University Student |
| CIS | 375 | Business Data Mining | Building predictive analytics (e.g., SEMMA, KDD); exposure to logistic regression, machine learning and decision tree methods; Understanding lift factors, ROC curves; hands-on use of mining software; business case studies. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): Business Data Analytics BS major; CIS 315 with C or better; WPC 300 with C or better OR Data Science BS major; CIS 235 with C or better; DAT 300 with C or better OR Visiting University Student |
| CIS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Information Systems | 1-4 | | Prerequisite(s): minimum 2.00 GPA; minimum 56 hours OR nondegree-seeking student; minimum 2.00 GPA OR degree- or nondegree-seeking graduate student OR Visiting University Student |
| CIS | 401 | Managing Cyber Risks in Enterprise Business Processes | Covers the activities, decisions, risks and controls associated with enterprise business processes. Specific focus on the activities in the sales-to-cash (revenue cycle) and purchase-to-pay (expenditure cycle) processes. Students understand how IT enables performing those processes more efficiently and effectively. In addition to identifying internal controls necessary for accurate, complete performance of processes, also covers the fundamentals of cybersecurity. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): ACO 320 or CIS 235 or CIS 236 or CSE 310 or IEE 305 with C or better; Credit is allowed for only ACO 401 or CIS 401 OR Visiting University Student |
| CIS | 402 | Privacy, Ethics and Compliance Issues | Covers the activities, mechanisms and challenges associated with implementing the principles of privacy into corporate structures. Also provides an overview of the privacy regulatory landscapes as well as emerging challenges with privacy. Specific focus areas include the Generally Accepted Privacy Principles framework and the implementation of privacy controls via the use of process and technology. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): ACO 401, CIS 401, or CSE 465 with C or better; Credit is allowed for only ACO 402 or CIS 402 OR Visiting University Student |
| CIS | 405 | Business Intelligence | Business intelligence (BI) is a term describing a broad category of applications, technologies, architectures and processes for gathering, storing, accessing and analyzing data to provide business users with timely information to enable better insights into project and process management and evidence-based decision making. BI is based on techniques for data decision capture, cleansing, validation, warehousing and analytics to help decision makers improve decision outcomes. Provides a capstone understanding of the concepts of managing data resources and the development of business intelligence capabilities using data visualization, data warehousing, data mining, online analytical processing decision support systems and other advanced BI topics. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s) CIS 105 or 236 with C or better OR Visiting University Student |

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| CIS | 415 | Big Data Analytics in Business | Applications of machine learning, data and text mining for big data, Hadoop, cloud-based solutions, fundamentals of big data programming, social media and big data, NoSQL, GIS, business case studies. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): Business Data Analytics BS major; CIS 315 with C or better; CIS 325 with C or better OR Data Science BS major; CIS 235 with C or better; DAT 301 with C or better OR Visiting University Student |
| CIS | 425 | Web Technologies for the Enterprise | Modern Web application technologies for the enterprise. Covers development of Web applications for handling business transactions and strategies including the use of cloud-based applications. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W.P. Carey Computer Information Systems BS major; CIS 340 with C or better; CIS 360 or 365 with C or better OR Visiting University Student |
| CIS | 430 | Mobile Platforms for Business | Mobile application development for the enterprise to address mobile transactions and consumer engagement. Covers business frameworks, app development; and management of devices, applications and services in today's multi-platform environment. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W.P. Carey Computer Information Systems BS major; CIS 345 with C or better; CIS 425 with C or better OR Visiting University Student |
| CIS | 440 | Capstone in Information Systems | Offers a capstone experience integrating concepts from the business as well as the technology curricula. Students analyze, propose and develop a full technology solution for a business enterprise. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | L | Prerequisite(s): W.P. Carey Computer Information Systems BS major; CIS 401 with C or better; CIS 425 with C or better; ENG 101, 105, or 107 with C or better |
| CIS | 450 | Enterprise Analytics | Model lifecycle analysis, analytics governance, aligning governance, aligning firm and analytics strategy, big data security issues, enterprise search, applied projects. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): Business Data Analytics BS major; CIS 355 with C or better, CIS 375 with C or better, CIS 415 with C or better OR Visiting University Student |
| CIS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | W. P. Carey School of Business | Department of Information Systems | 1-12 | | Pre-requisite: W.P. Carey CIS BS student |
| CIS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | W. P. Carey School of Business | Department of Information Systems | 1-6 | | Prerequisite(s): Barrett Honors student |
| CIS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | W. P. Carey School of Business | Department of Information Systems | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| CIS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | W. P. Carey School of Business | Department of Information Systems | 1-4 | | Prerequisite(s): Business Data Analytics BS or Computer Information Systems BS major |
| CIS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Information Systems | 1-3 | | Prerequisite(s): Business Data Analytics BS or Computer Information Systems BS major |
| CIS | 502 | Information Systems: Digital Innovations and Transformation | Organizational, strategic, and technical issues of the management of information. Evaluation, design, and use information systems as competitive advantage. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 1-4 | | Prerequisite(s): W.P. Carey MBA degree program student |
| CIS | 503 | Decision Making with Data Analytics | Presents frameworks and approaches to equip students to recognize patterns in data and models, recommend actions and implement organizational changes. Students learn multiple concepts to improve decision making in organizations including the curation of data repositories for cross-functional analytics, recognition of decision biases, recommendation and communication of business process changes, and the establishment of iterative processes for decision analytics. Readings address decision-making dilemmas and challenges facing managers in analytics-rich business environments. Students get an immersive experience in analyzing the individual biases inherent in decision making, the informational requirements and the data analytics governance requirements to ensure effective deployment and continuous renewal of analytics culture at the enterprise level. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 2.5-3 | | Prerequisite(s): W. P. Carey MBA student; WPC 501 with C or better |
| CIS | 505 | Introduction to Enterprise Analytics | Ensuring the foundational understanding of contextualized analytics within the business enterprise continuum by covering how data flows and is managed across the landscape of enterprise business processes. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W.P. Carey graduate student |
| CIS | 506 | Information Management | Addresses central issues in managing information to achieve competitive advantage and support innovation. Specific topics covered include data quality, data modeling using both entity relationship models and star schemas, data governance, document management, document search, enterprise performance management and visualization techniques. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 1-4 | | Prerequisite(s): graduate W. P. Carey major |
| CIS | 508 | Data Mining I | Charting a roadmap for data-driven decision making and getting a practical understanding of how IT tools and techniques can allow managers to extract predictive analytics and patterns from primarily numeric data. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W.P. Carey graduate student |

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| CIS | 509 | Data Mining II | Uses tools and techniques to analyze unstructured data that are applied to business problems to support informed decision making and the extraction of predictive analytics and patterns from primarily nonnumeric data. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Pre-requisite: W.P. Carey graduate major |
| CIS | 510 | Business Process and Workflow Analysis | Builds foundations for process analysis by focusing on information, documents, people, roles and business rules. Provides an introduction to various techniques and tools of process analysis, including an understanding of organizational issues in rolling out change initiatives. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W.P. Carey graduate major. Credit is allowed for only CIS 510 or CIS 591 (Business Process Workflow Analysis) |
| CIS | 512 | Business Intelligence | Understanding how organizations make use of Business Intelligence (BI) to gain a sustainable competitive advantage. Builds the foundations for evidence-based managerial decision making. Covers technologies for data warehousing and data mining from a managerial perspective. Covers contemporary topics such as real-time BI, business analytics, and business performance management with the help of case studies, audio-video content, guest speakers, online forums to generate creative thinking and discussion. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 1-4 | | Prerequisite(s): W.P. Carey graduate major |
| CIS | 515 | Deep Learning Applications in Business | Deep learning applications have become an integral part of our lives over the last decade. Alexa, Amazon Go, Waymo, Apple Face ID, and Facebook's face recognition applications are all powered by deep learning networks. Applications based on deep learning models cover a wide spectrum of industries including retail, automotive, manufacturing, health care, banking, insurance, agriculture, security and surveillance. Hands-on look at the latest models, trends and challenges of deep learning applications in business. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W.P. Carey graduate student |
| CIS | 525 | Strategic Value of Information Technology | Instills balanced and disciplined view of IT and business with their interplay. Assigns cases and assignments involving the symbiotic relationship of IT and business to provide real-world exposure for critical thinking and engaging discussion. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W.P. Carey graduate major; Credit is allowed for only CIS 525 or CIS 591 (Strategic Value of Information Technology) |
| CIS | 540 | Enterprise Information Security and Controls | Provides a broad survey of information security and controls, utilizing the COBIT framework to illustrate how information security and controls contribute to effective IT governance. Develops an understanding of the issues associated with information security and effective IT governance, with particular emphasis on how management contributes to the effectiveness of an organization's information security program. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W.P. Carey graduate major. Credit is allowed for only CIS 540 or CIS 591 (Information Security & Controls) |
| CIS | 541 | Business Data Visualization | The design of insightful business data visualizations and dashboards to improve business decision making. Applies advanced data visualization techniques to make sense of large data sets including temporal, geospatial, topical and business data while also making it easier to digest, present and utilize for business needs and users. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W. P. Carey graduate student |
| CIS | 545 | Managing Enterprise Systems | Investigates major categories of enterprise systems, factors driving software adoption and keys for successful implementation. Pays special attention to evaluating the potential impact of emerging technologies on business environments. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W.P. Carey graduate major; Credit is allowed for only CIS 545 or CIS 591 (Enterprise Systems) |
| CIS | 560 | IT Services and Project Management | Provides an overview of the project management process groups and knowledge areas (defined by the PMBOK) and focuses on the application of key concepts, tools and techniques for delivering on-time, on-budget IT project and services that meet end-user needs. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W.P. Carey graduate major; Credit is allowed for only CIS 560 or CIS 591 (IT Services and Project Management) |
| CIS | 565 | Artificial Intelligence and Business | Explores modern artificial intelligence (AI) technology, applications, techniques and their implications for business. People, process and technology factors related to the innovation and adoption of AI in the commercial enterprise and how it shapes the competition and society in the future. Also covers implications for information systems professionals as it pertains to managing the AI infrastructure (robots, algorithms, platforms). | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W. P. Carey graduate student |
| CIS | 575 | Emerging Technologies | Explores decision models and frameworks applied to assess, evaluate and implement emerging technologies. Explains the principles of sustaining and disruptive technological innovation on the adoption and diffusion of emerging technologies. Discusses the technical, industrial and legal parameters that enable convergence and commoditization of technologies. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W.P. Carey graduate major; Credit is allowed for only CIS 575 or CIS 591 (Emerging Technologies in IT) |
| CIS | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Information Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CIS | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Information Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| CIS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Information Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CIS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Information Systems | 1-12 | | Pre-requisite: Specific W.P. Carey Graduate student |
| CIS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Information Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CIS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Information Systems | 1-12 | | Pre-requisite: Specific W.P. Carey Graduate student |
| CIS | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Information Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CIS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | W. P. Carey School of Business | Department of Information Systems | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CIS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Information Systems | 1-4 | | Pre-requisite: Specific W.P. Carey Graduate student |
| CIS | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | W. P. Carey School of Business | Department of Information Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CIS | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Information Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CIS | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Information Systems | 1-12 | | Prerequisite(s): W.P. Carey PhD student |
| CIS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Information Systems | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CIS | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | W. P. Carey School of Business | Department of Information Systems | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CIS | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | W. P. Carey School of Business | Department of Information Systems | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CMN | 502 | Theory and Practice in Communication and Persuasion | Theoretical exploration of communicative and persuasive practices as applied in various contexts. Surveys classical, modern, and contemporary theories of persuasion. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Communication Studies MA student |
| CMN | 505 | Methods in Applied Communication Research | Examines the intellectual, practical, and ethical dimensions of engaging in applied research. Emphasizes empirical and quantitative methods. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Communication Studies MA student |
| CMN | 506 | Humanistic Inquiry and Field Research in Communication | Examines interpretive, critical, and rhetorical approaches to communication and advocacy, including hermeneutics, ethnography, and cultural studies. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Pre-requisite: Communication Studies Master of Arts student |
| CMN | 515 | Ethical Issues in Communication Advocacy | Examines the ethical issues or concerns related to communication advocacy. Variable topics; examines research, theory, and/or practice. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Communication Studies MA student |
| CMN | 516 | Mediation and Dispute Resolution | Examines advocacy's role in fair negotiation and effective and successful dispute resolution. Examines research, theory, and/or practice. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Communication Studies MA student |
| CMN | 520 | Communication Campaigns | Explores public communication strategies aimed at advocating for general or specific audiences and/or for particular issues and causes. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Communication Studies MA student; CMN 502 or 522 with C or better |
| CMN | 522 | Argumentation and Advocacy | Introduces various models of argumentation and their applications to various spheres of advocacy. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Communication Studies MA student |

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| CMN | 531 | Communication and Social Change | Examines human communication and technologies of communication as agents of social change within groups, communities, organizations, and/or cultures. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Communication Studies MA student |
| CMN | 532 | Advocacy in Interpersonal Settings | Examines particular relational contexts in which advocacy plays a pronounced role (e.g., personal, family, and service provider relationships). | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Communication Studies MA student |
| CMN | 550 | Advocacy in Organizational Settings | Examines issues of upward influence, the expression of dissent, and grievance systems within organizational contexts. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Communication Studies MA student |
| CMN | 551 | Democracy and Power in Organizations | Examines structural, historical, relational, and symbolic dimensions of organizational communication and discourses that foster or impede communication advocacy. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Communication Studies MA student |
| CMN | 557 | Communication and Technology | Assesses technology's role in the social dynamics of human interaction. Emphasizes the impact of technology with regard to communication advocacy. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Communication Studies MA student |
| CMN | 565 | Globalization and Advocacy | Explores the forces leading to increased intergroup contact and their impact on social, economic, and political dynamics. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Communication Studies MA student |
| CMN | 570 | Communication and Advocacy in Social Context | Variable topics course exploring the intersection of communication and advocacy in specific contexts not addressed in other elective courses. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Communication Studies MA student |
| CMN | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): Communication Studies MA student |
| CMN | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): Communication Studies MA student |
| CMN | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): Communication Studies MA student |
| CMN | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): Communication Studies MA student |
| CMN | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): Communication Studies MA student |
| CMN | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): Communication Studies MA student |
| CMN | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | RSC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): Communication Studies MA student |
| CMN | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1 | | Prerequisite(s): Communication Studies MA student |
| CMN | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CMN | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): Communication Studies MA student |
| CNE | 210 | Engineering Mechanics I: Statics | Force systems, resultants, equilibrium, distributed forces, area moments, fluid statics, internal forces, friction, and stability. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | | Prerequisite(s): FSE 100 with C or better; MAT 266 or 271 with C or better; PHY 121 with C or better; PHY 122 with C or better; Corequisite(s): MAT 242; Credit is allowed for only CEE 210 or CNE 210 OR Visiting University Student |
| CNE | 212 | Engineering Mechanics II: Dynamics | Kinematics and kinetics of particles, translating and rotating coordinate systems, rigid body kinematics, dynamics of systems of particles and rigid bodies, and energy and momentum principles. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | | Prerequisite(s): CEE 210 or CNE 210 with C or better; MAT 242 with C or better; MAT 274 or 275 with C or better; Credit is allowed for only CEE 212 or CNE 212 OR Visiting University Student |

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| CNE | 213 | Introduction to Deformable Solids | Strain-displacement and stress-strain-temperature relations. Stresses and deformations due to axial, shear, torsional and bending moments. Buckling, stability. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | | Prerequisite(s): CEE 210, CNE 210, or EVE 214 with C or better; MAT 274 or 275 with C or better; Credit is allowed for only CEE 213 or CNE 213 OR Visiting University Student |
| CNE | 241 | Surveying | Theory and fieldwork in construction and land surveys. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | | Prerequisite(s): MAT 170 or higher with C or better; Credit is allowed for only CEE 281 or CNE 241 or CON 241 OR Visiting University Student |
| CNE | 243 | Heavy Construction Equipment, Methods and Materials | Emphasizes Horizontal construction. Fleet operations, maintenance programs, methods, and procedures to construct tunnels, roads, dams, and the excavation of buildings. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | | Credit is allowed for only CON 243 or CNE 243 |
| CNE | 271 | Construction Safety | Safety procedures and equipment. OSHA requirements for construction. Biological aspects of construction safety. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | | Prerequisite(s): Construction Management BS or Construction Engineering BSE major; Credit is allowed for only CNE 271 or CON 271 OR Visiting University Student |
| CNE | 296 | Summer Field Internship | Participation as interns on construction projects to observe and experience the daily activities. | N | PRA | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 1 | | Prerequisite(s): Construction Management BS or Construction Engineering BSE major; CON 271 or CNE 271; Credit is allowed for only CON 296 or CNE 296 |
| CNE | 321 | Structural Analysis and Design | Statically determinate and indeterminate structures (trusses, beams, and frames) by classical and matrix methods. Introduces structural design. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 4 | | Prerequisite(s): Civil Engineering BSE or Construction Engineering BSE major; CEE 212 or CNE 212; CEE 213 or CNE 213 with C or better; Credit is allowed for only CEE 321 or CNE 321 OR Visiting University Student |
| CNE | 351 | Geotechnical Engineering | Index properties and engineering characteristics of soils. Compaction, permeability and seepage, compressibility and settlement, and shear strength. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 4 | | Prerequisite(s): Civil Engr BSE, Construction Engr BSE, or Environmental Engr BSE major; CEE 212 or CNE 212 with C or better; CEE 213 or CNE 213 with C or better; Credit is allowed for only CEE 351 or CNE 351 OR Visiting University Student |
| CNE | 353 | Civil Engineering Materials | Structure and behavior of civil engineering materials, including steel, aggregate, concrete, masonry, asphalt, wood, composites. Atomic structure and engineering applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 4 | | Prerequisite(s): Civil Engr BSE, Construction Engr BSE, or Environmental Engr BSE major; CEE 213 or CNE 213 w/C or better; Credit is allowed for only CEE 353 or CNE 353 or EVE 354 or EVE 394 (Materials in the Environment) OR Visiting University Student |
| CNE | 383 | Construction Estimating | Analyzes construction drawings and specifications. Utilizes advanced technical and ethical practices in estimating process. Quantity surveying techniques for CSI divisions. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 4 | | Prerequisite(s): Cons Mngmt BS major; CON 252 OR Cons Engrng BSE major; CNE 243 or CON 243 OR Interdisc Studies BIS major or Cons Mngmr minor; CON 243 or 252; Credit is allowed for only CNE 383 or CON 383 OR Visiting University Student |
| CNE | 400 | Earth Systems Engineering and Management | Introduces earth systems engineering and management, and the technological, economic and cultural systems underlying the terraformed Earth. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | (L or HU) & H | Prerequisite(s): Civil Engr BSE major; CEE 300 with C or better; ENG 101, 105, or 107 with C or better OR non-CEE junior or senior; ENG 101, 105, or 107 with C or better; Credit is allowed for only CEE 400 or CNE 400 OR Visiting University Student |
| CNE | 421 | Concrete Structures | Behavior of concrete structures and the design of reinforced and prestressed concrete members, including footings. Partial design of concrete building system. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | | Prerequisite(s): Civil Engineering BSE major or Construction Engineering BSE major; CEE 321 or CNE 321 with C or better; CEE 353 or CNE 353 with C or better; Credit is allowed for only CEE 421 or CNE 421 OR Visiting University Student |
| CNE | 450 | Geotechnical Applications for Construction | Soil formation, engineering properties and use as building materials. Soil's influence on construction of built environment, including specifications and biological aspects. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | | Prerequisite(s): Construction Management BS major; CON 223 with C or better; CON 310; Credit is allowed for only CNE 450 or CON 450 OR Visiting University Student |

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| CNE | 452 | Foundations | Applies soil mechanics to foundation and retaining wall systems, including bearing capacity, settlement, and lateral earth pressure. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | | Prerequisite(s): Civil Engineering BSE or Construction Engineering major; CEE 351 or CNE 351 with C or better; Credit is allowed for only CEE 452 or CNE 452 OR Visiting University Student |
| CNE | 453 | Construction Technology | Building information modeling, including current computer programs and technology planning strategies for advanced project deliveries. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | | Prerequisite(s): Construction Mgmt major, Interdisc Studies major (Construction Mgmt concentration), or Construction Mgmt minor; CON 251 OR Construction Engrn major; senior standing; Credit is for only CNE 453 or CON 453 OR Visiting University Student |
| CNE | 455 | Construction Project Management II | Advanced topics in administrative procedures, planning processes, and coordination required to successfully complete construction projects on time and budget. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | | Prerequisite(s): Construction Engineering BSE or Construction Management and Technology BS major; Pre- or corequisite(s): CNE 495 or CON 495; Credit is allowed for only CNE 455 or CON 455 or CON 545 OR Visiting University Student |
| CNE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Construction Engineering | 1-12 | | Prerequisite(s): Construction Management BS major with CON 296 or CNE 296 OR Construction Engineering BSE major with CON 271 or CNE 271; Credit is allowed for only CON 484 or CNE 484 |
| CNE | 486 | Integrated Civil Engineering Design | Requires completion of a civil engineering design in a simulated practicing engineering environment. Limited to undergraduates in their final semester. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 4 | L | Prereq(s): ENG 101, 105, or 107 with C or better; Civil Engr; CEE 321; CEE 341; CEE 351; CEE 353; CEE 361; CEE 372 OR Constr Engr; CEE 321, CNE 321; CEE 351, CNE 351 OR Envir Engr; CEE 341; EVE 302; EVE 303; Credit is allowed for only CEE 486 or CNE 486 |
| CNE | 495 | Construction Planning and Scheduling | Various network methods of project scheduling, such as AOA, AON Pert, bar-charting, line-of-balance, and VPM techniques. Microcomputers used for scheduling, resource allocation, and time/cost analysis. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | CS | Prerequisite(s): Construction Mngmt BS major, Construction Engineering BSE major, BIS major with Construction Mngmt emphasis, or Construction Mngmt minor; CNE 383 or CON 383; Credit is allowed for only CNE 495 or CON 495 OR Visiting University Students |
| CNE | 496 | Construction Contract Administration | Surveys administrative procedures of general and subcontractors. Studies documentation, claims, arbitration, litigation, bonding, insurance, and indemnification. Discusses ethical practices. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | L | Prerequisite(s): Constr Mgmt BS major, Constr Engr BSE major, BIS major w/ Constr Mgmt emphasis, or Constr Mgmt minor; CNE 453 or CON 453; ENG 101, 105, or 107 w/ C or better; Credit is allowed for only CNE 496 or CON 496 OR Visiting University Student |
| COE | 501 | Introduction to Research and Evaluation in Education | Overview of educational inquiry from controlled, quantitative to qualitative, naturalistic. Emphasizes locating and critically interpreting published research. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only COE 501 or ECD 503 or PPE 501 or SPE 501 or TEL 501 |
| COE | 502 | Introduction to Data Analysis | Descriptive statistics, visual approaches, estimation, and inferential methods for univariate and bivariate educational research problems. Experience using statistical software. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate; Credit is allowed for only COE 502 or EDP 502 |
| COE | 503 | Introduction to Qualitative Research | Terminology, historical development, approaches (including ethnography, ethnomethodology, critical theory, grounded theory, and hermeneutics), and qualitative versus quantitative social sciences; methods of inquiry. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| COE | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate |
| COM | 100 | Introduction to Human Communication | Topics-oriented introduction to basic theories, dimensions, and concepts of human communicative interaction and behavior. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB | |
| COM | 110 | Elements of Interpersonal Communication | Demonstration and practice of communicative techniques in establishing and maintaining interpersonal relationships. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| COM | 124 | Media and Culture | Introduces contemporary intercultural issues as expressed through various media in American society. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | C | |
| COM | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-3 | | Pre-requisite: Maximum 24 earned hours |
| COM | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-4 | | |
| COM | 207 | Introduction to Communication Inquiry | Bases of inquiry into human communication, including introduction to notions of theory, philosophy, problems, and approaches to the study of communication. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): COM 100 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 222 | Argumentation | Philosophical and theoretical foundations of argumentation, including a comparison of models of advocacy and evidence. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | L | Prerequisite(s): ENG 101, 105 or 107 with C or better OR Visiting University Student |
| COM | 225 | Public Speaking | Verbal and nonverbal communication in platform speaking. Discussion and practice in vocal and physical delivery and in purposeful organization and development of public communication. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| COM | 230 | Small Group Communication | Principles and processes of small group communication, attitudes, and skills for effective participation and leadership in small groups, small group problem solving, and decision making. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB | |
| COM | 235 | Disability, Justice and Advocacy | Overarching history of the disability rights movement and how it is similar to and different from other civil and rights movements. Examines how policies and activism are interconnected within this movement, in addition to looking at other human categories related to disabilities such as gender, sexuality, race and socioeconomic status. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | C | Credit is allowed for only COM 235 or JUS 235 or SST 235 or WST 235 OR Visiting University Student |
| COM | 241 | Introduction to Oral Interpretation | Communication of literary materials through the mode of performance. Verbal and nonverbal behavior, interface of interpreter with literature and audience, and rhetorical and dramatic analysis of literary modes. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 250 | Communication and the Workplace | Introduces the study of communication in the workplace, including topics such as successful organizational communication strategies, supervisor and peer relationships, workplace conflict, new media and technology, professionalism, organizational morale, work-life well-being and employee socialization. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| COM | 259 | Communication in Business and the Professions | Interpersonal, group, and public communication in business and professional organizations. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): non-Communication student; minimum 25 hours OR Visiting University Student |
| COM | 263 | Elements of Intercultural Communication | Basic concepts, principles, and skills for improving communication among persons from different minority, racial, ethnic, and cultural backgrounds. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB & C & G | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| COM | 277 | Sport Communication | Explores, synthesizes and evaluates the connection between communication and sport by examining the role and place of sport in community building, identity formation and media representations. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Credit is allowed for COM 277 or COM 294 (Examination of communication in the sport context) or COM 294 (Sport Communication) |
| COM | 281 | Communication Activities | Participation in forensics or interpretation cocurricular activities. | N | PRA | Y | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-3 | | |
| COM | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-4 | | |
| COM | 298 | Honors Directed Study | Independent study or practicum under the supervision of a faculty member. | N | PRA | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-6 | | Prerequisite(s): Barrett Honors student |
| COM | 300 | Communication in Interdisciplinary Studies | Examines and analyzes communication in the context of other academic disciplines. Open to BIS majors only. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): BIS student; ; minimum sophomore standing; minimum 2.00 GPA; COM 100 with C or better; COM 225 with C or better OR COM 259 with C or better OR Visiting University Student |
| COM | 302 | Representations and Self-Representations of Veterans in the Media and the Arts | Surveys the cultural history of veterans' representations from the early mythical verses about the Trojan War produced by Homer in the Odyssey (800 BC) to contemporary self-representations in social media platforms such as YouTube. Examines the various motives societies have for promoting specific kinds of representations of veterans, the veteran culture and their experiences. This course does not presume to offer a singular vision of the veteran experience. Instead, it seeks to expose students to the diversity of ways in which veterans are represented and self-represented. Readings and assignments provide an intersectional understanding of the veteran community, and the veteran and military cultures. By looking at the axis of race, gender, sexuality and class, students examine why specific modes of representations persist over time and encourage them to use this course as a starting point for future studies in any number of disciplines. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | H & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only COM 302 or VTS 302 OR Visiting University Student |

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| COM | 308 | Advanced Research Methods in Communication | Advanced communication research methods, including quantitative, qualitative, and critical approaches. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | L | Prerequisite(s): COM 207 with C or better; ENG 101, 105, or 107 with C or better; MAT 117 or an MA general studies course with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 309 | Rhetorical, Interpretive, and Critical Methods in Communication | Examines humanistic and qualitative approaches to communication. Introduces textual, interactional and ethnographic methods. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): COM 207 with C or better; minimum 2.0 GPA OR Visiting University Student |
| COM | 310 | Relational Communication | Explores communication issues in the development of personal relationships. Current topics concerning communication in friendship, romantic, and work relationships. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB | Prerequisite(s): COM 100 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 312 | Communication, Conflict, and Negotiation | Theories and strategies of communication relevant to the management of conflicts and the conduct of negotiations. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): COM 100 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 314 | Inner-City Families: The Cycle of Poverty | Examines issues and concerns that confront inner-city families. Blends theory and application. From a theoretical perspective, examines issues that affect families who live in the inner city (e.g., race and poverty), as well as specific skills and programmatic elements that are needed to work with families in an urban setting. In terms of application, provides an intensive service-learning-based experience. Engages students in specific service to an embedded inner-city organization for a minimum of 3 hours per week. Students work with the professor to determine appropriate service placements. | N | PRA | Y | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| COM | 316 | Gender and Communication | Introduces gender-related communication. Examines verbal, nonverbal, and paralinguistic differences and similarities within social, psychological, and historic perspectives. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB & C | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| COM | 317 | Nonverbal Communication | Study of communication using space, time, movement, facial expression, touch, appearance, smell, environment, objects, voice, and gender/cultural variables. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB | Prerequisite(s): minimum 2.00 GPA; minimum 45 hours OR Visiting University Student |
| COM | 319 | Persuasion and Social Influence | Variables that influence and modify attitudes and behaviors of message senders and receivers, including analysis of theories, research, and current problems. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB | Prerequisite(s): COM 207 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 320 | Communication and Consumerism | Critical evaluation of messages designed for public consumption. Perceiving, evaluating, and responding to political, social, and commercial communication. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| COM | 321 | Rhetorical Theory and Research | Historical development of rhetorical theory and research in communication, from classical antiquity to the present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | (L or HU) & H | Prerequisite(s): COM 100 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 323 | Communication Approaches to Popular Culture | Critical analysis of popular culture within social and political contexts; emphasizes multicultural influences and representations in everyday life. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | C | Prerequisite(s): COM 100 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 324 | Rhetoric and Media Criticism | Critical examination of media arts, including cinema, television, and video. Applies rhetorical, textual, and interpretive methods of criticism. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Pre-requisite: Minimum 2.0 GPA |
| COM | 325 | Advanced Public Speaking and Presentations | Social and pragmatic aspects of public speaking as a communicative system; strategies of rhetorical theory and the presentation of forms of public communication. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | L | Prerequisite(s): COM 225 with C or better; ENG 101, 105, or 107 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 326 | Court Room Oratory | Increases knowledge and appreciation of the role of communication in the development of legal and public policies. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | |
| COM | 327 | Civil Communication | Offers a theoretical understanding of civil communication and methods for applying civil communication practices in a variety of contexts. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): minimum junior standing; minimum 2.00 GPA OR Visiting University Student |
| COM | 328 | Communicating Science | Applies the fundamentals of public speaking and communication theory to technical and scientific presentations. Prepares students to communicate science and technology subject matter through presentations to the general public. Students adapt complex messages for a variety of audiences through traditional and multimodal presentations. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only COM 328 or COM 394 (Communicating Science) or LSC 394 (Communicating Science) OR Visiting University Student |
| COM | 335 | Acting for the Camera | Designed for students who are interested in pursuing a career in front of the camera, and students who are more generally interested in the arts and desire a better understanding of the commercial and film acting industry. It is a practical study of essential television and theatrical film presentation, teaching the student actor essential performance techniques in front of the camera, developing creativity in this performance environment and enhancing performance levels. | N | LEL | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only COM 335 or IAP 335 OR Visiting University Student |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| COM | 339 | Creating Dramatic Works: Page to Stage to Screen | Practical study of writing, directing, acting and performance techniques essential for the creation of theatrical works for stage, television and theatrical film presentation. | N | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prereq(s): ENG 102, 105, or 108 w/C or better; Credit allowed for only COM 339 or COM 394(Crt Drm Wrk:Pg to Stg&Scrn) or ENG 339 or ENG 394(Crt Drm Wrk:Pg to Stg&Scrn) or IAP 339 or IAP 394(Crt Drm Wrk:Pg to Stg&Scrn) OR Visiting University Student |
| COM | 341 | Social Contexts for Performance | Adaptation and performance of literature for the community outside the university. Research into the practical uses of performed literature. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): minimum 2.00 GPA |
| COM | 342 | Oral History and Storytelling | Examines the formation of culture and history through research, presentations, the collection of oral history, and the telling of stories. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): ENG 101 or 102 with C or better OR Visiting University Student |
| COM | 353 | Professional Communication | Introduces both verbal and written professional communication styles and technologies in preparation for communication-related internships and careers. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| COM | 362 | Urban Communication: Reinventing the Latinx City | Explores and reflects on the impact of mediated representations of Latinx ethnic enclaves in the configuration of notions of community, citizenship and sense of belonging. Also looks at the role of media in identity formation as a way of engaging and challenging cultural, social and political ideologies and struggles in urban contexts. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only COM 362 or COM 394 (Urban Communication: Reinventing the Latinx City) or TCL 362 or TCL 394 (Urban Communication: Reinventing the Latinx City) OR Visiting University Student |
| COM | 363 | Latinxs and the Media | The rapid growth of Latinx-media within the U.S., and transnational/regional media in the Americas, is unprecedented. Local and global organizations serving Latinx communities are increasingly acknowledging the importance of preparing professionals and academics with an understanding not only of Latino communities, but also of media industries and communication issues that impact those communities. Examines the production, distribution, and consumption of Latinx Media and images in the United States (U.S.). Focuses on a wide range of mediated cultural production with an emphasis on visual media such as television, film, advertising and digital/social media. Pays special attention to the influence of the so-called Latinx market, the configuration of national, racial and ethnic identities, politics, cultural production and the ways it challenges and/or reproduces competing cultural ideologies. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | C | Prerequisite(s): minimum 45 hours; Credit is allowed for only COM 363 or COM 394 (Latinos and Media) or TCL 394 (Latinos and Media) OR Visiting University Student |
| COM | 364 | Cultural Communicology | Basic introduction to cultural communicology, focusing on its relationship to general systems theory and semiotics (the study of signs and sign systems). Focuses on lived-experience as a semiotic interrelation between culture and communication. General systems theory and semiotic theory are used to study culture as a living condition of communicative relations among humans and within their environment. Emphasizes practical applications to real-world problems. Examines communication as a confluence of intrapersonal, interpersonal, group and transcultural networks of codes and messages. Uses comparative cultural contexts as a basis for applied analysis. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): COM 100; Credit is allowed for only COM 364 or COM 394 (Cultural Communicology) OR Visiting University Student |
| COM | 371 | Language, Culture, and Communication | Cultural influences of language on communication, including social functions of language, bilingualism, biculturalism, and bidialectism. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB & C & G | Prerequisite(s): COM 263 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 377 | Communication, Terrorism, and National Security | Surveys strategic communication and its relationship to terrorism challenges facing the United States and the rest of the world. Begins with a look at language and definitions, how strategic communication functions are traditionally conceptualized, and the scope and extent of the terrorism problem. Focuses on the contemporary problems of terrorism, including its extent, tactics, and strategies and strategies that aim to combat it. Concludes with a look at new frontiers in the terrorism struggle, including new media and communication approaches. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): minimum junior standing; minimum 2.00 GPA |
| COM | 382 | Classroom Apprenticeship | Nongraded credit for students extending their experience with a content area by assisting with classroom supervision in other COM courses. | N | PRA | N | YGB | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-6 | | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| COM | 383 | Communication and Mentoring | Explores the role of communication in face-to-face and online mentoring relationships with an emphasis on message shaping, nonverbal communication, professionalism and audience analysis. Applies practice and theory from a variety of lower-division communication courses (public speaking, professional and business, small group, intercultural and interpersonal) to prepare students for mentoring roles in the Communication Assessment Learning Lab (CALL) on ASU's west campus. During the semester, students (individually and as a member of a group) are engaged in creating and delivering both online and in-person public speaking tutorials. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): COM 100 or 110 or 230 or 259 or 263 with B or better; COM 225 with B or better; Credit is allowed for only COM 383 or COM 498 (Call Lab Mentorship) OR Visiting University Student |
| COM | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-4 | | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| COM | 400 | Communication in Professions | Specialized study of communication processes in professional and organizational settings. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): Interdisciplinary Studies or Business Communication student; COM 259 or COM 100 and 225 with C or better; minimum 2.00 GPA; minimum sophomore standing OR Visiting University Student |
| COM | 404 | Research Apprenticeship | Direct research experience on faculty projects. Student/faculty match based on interests. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): COM 308 with C or better; minimum 2.00 GPA |
| COM | 407 | Advanced Critical Methods in Communication | Examines critical approaches relevant to communication, including textuality, social theory, cultural studies, and ethnography. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): COM 308 with C or better; minimum 2.00 GPA; Credit is allowed for only COM 407 or COM 507 OR Visiting University Student |
| COM | 408 | Quantitative Research Methods in Communication | Advanced designs, measurement techniques, and methods of data analysis of communication research. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): COM 308 with C or better; minimum 2.00 GPA; Credit is allowed for only COM 408 or COM 508 OR Visiting University Student |
| COM | 410 | Interpersonal Communication Theory and Research | Survey and analysis of major research topics, paradigms, and theories dealing with message exchanges between and among social peers. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB | Prerequisite(s): COM 308 with C or better; COM 110 or 310 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 411 | Communication in the Family | Broad overview of communication issues found in marriage and family life, focusing on current topics concerning communication in the family. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB | Prerequisite(s): COM 207 with C or better; minimum 2.00 GPA; Credit is allowed for only COM 411 or CMN 598 (Communication in the Family) OR Visiting University Student |
| COM | 413 | Resilient Relationships and Communities | Explores resilience in individuals, relationships and communities, placing specific emphasis on the psychological, social and cultural factors that determine how people cope, recover and even thrive after experiencing major adversity or disruption and how resilience is defined, enacted and sustained through communication. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): min junior standing; min 2.00 GPA; Credit is allowed for COM 413 or COM 494 (Resilient Comm & Relationships) or CMN 598 (Resilient Comm & Relationships) or PSY 598 (Resilient Comm & Relationships) OR Visiting University Student |
| COM | 414 | Crisis Communication | Role of communication in crisis development and intervention. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| COM | 415 | Risk Communication | Understanding how risk is constructed and assessed across social spheres, developing familiarity with dominant approaches to framing risk and the principles and professional practices of risk communication. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 2.50 GPA; minimum junior standing; Credit is allowed for only COM 415 or COM 494 (Risk Communication) OR Visiting University Student |
| COM | 416 | Gender and Race in the Media | Explores how the mass media constructs gender and race and perpetuates views of minorities and varied nationalities. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 2.00 GPA |
| COM | 417 | Communication and Aging | Critical study of changes in human communicative patterns through the later adult years, with attention on intergenerational relationships and self-concept functions. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 2.00 GPA |
| COM | 420 | Rhetoric and Community Advocacy | Critical rhetorical study of local communities and advocacy, including fieldwork guided by rhetorical theory; the intersection of media, rhetoric and advocacy; and reflexivity in rhetorical fieldwork. Examines rhetoric in the context of community advocacy and through participant observation within social controversies. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): COM 308 with C or better; ENG 101, 105, or 107 with C or better; Pre- or corequisite(s): junior or senior standing; Credit is allowed for only COM 420 or COM 494 (Rhetoric and Community Advocacy) |
| COM | 421 | Rhetoric of Social Issues | Critical rhetorical study of significant speakers and speeches on social issues of the past and present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | HU | Prerequisite(s): COM 308 or 309 with C or better; COM 321 or 323 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 422 | Advanced Argumentation | Advanced study of argumentation theories and research as applied to public forums including: political, business, and legal contexts. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | L | Prerequisite(s): ENG 101, 105, 107, or 111 with C or better; minimum junior standing; minimum 2.00 GPA OR Visiting University Student |

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| COM | 423 | Facilitating Collaboration and Dialogue | Explores processes of collaboration, dialogue, deliberation and participative decision making. Examination of both philosophical and scientific perspectives on to these processes as they relate to communication in various settings (community relations, dispute resolution, social work, policing and politics) and in personal relationships and family life. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 2.00 GPA; Credit is allowed for only CMN 598 (Facilitating Collaboration and Dialogue) or COM 423 or COM 494 (Facilitating Collaboration and Dialogue) OR Visiting University Student |
| COM | 424 | Television Studies and Criticism | Surveys critical and historical approaches to television as a medium; to television research; and to television's effects. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): COM 207 with C or better OR minimum junior standing; minimum 3.00 GPA |
| COM | 426 | Political Communication | Theories and criticism of political communication; including campaigns, mass persuasion, propaganda, and speeches. Emphasizes rhetorical approaches. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| COM | 427 | Crime and Media | Examines the relationships among crime and discourse, media representations of crime and criminals, and the structural deficiencies in society that perpetuate relations of domination and oppression based on class, race, gender and sexuality. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum junior standing; minimum 2.00 GPA; Credit is allowed for only COM 427 or CRJ 427 or COM 494 (Crime, Communication and Media) or CMN 598 (Crime, Communication and Media) OR Visiting University Student |
| COM | 428 | Graphic Novels and Popular Culture | Rhetorical analysis, with a focus on the graphic novel as both persuasive product and practice. Explores the communicative, persuasive and cultural effects of this medium and specifically offers vocabulary and tools for critically viewing its influence on popular culture. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only COM 428 or COM 494 (Graphic Novels and Popular Culture) OR Visiting University Student |
| COM | 429 | Semiotics and Visual Communication | Semiotic analysis of mediated forms of communication, including film, television, and photography. Includes the political and aesthetic dimensions of images. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): COM 207 with C or better OR minimum junior standing; minimum 3.0 GPA OR Visiting University Student |
| COM | 430 | Leadership in Group Communication | Theory and process of leadership in group communication, emphasizing philosophical foundations, contemporary research, and applications to group situations. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| COM | 432 | Forgiveness and Reconciliation | Examines various communication processes related to forgiveness and reconciliation with a focus on constructive, prosocial responses to interpersonal relationship hurt and disappointment. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 2.00 GPA; Credit is allowed for only COM 432 or COM 494 (Forgiveness and Reconciliation) or COM 494 (Forgiveness, Mindfulness, and the Healthy Self) or CMN 598 (Forgiveness and Reconciliation) OR Visiting University Student |
| COM | 441 | Performance Studies | Theory, practice, and criticism of texts in performance. Emphasizes the interaction among performer, text, audience, and context. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | HU | Prerequisite(s): COM 241 with C or better; COM 308 with C or better; minimum 2.00 GPA |
| COM | 442 | Identity, Performance, and Human Communication | Explores communication dimensions of self and others as performance. Examines topics that include gender, race, sexuality, age, and ethnicity through performance. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): COM 225 with C or better; COM 241 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 445 | Narrative Performance | Theory and practice of performing narrative texts (e.g., prose fiction, oral histories, diaries, essays, letters). Includes scripting, directing, and the rhetorical analysis of storytelling. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | HU | Prerequisite(s): COM 241 with C or better; minimum 2.00 GPA |
| COM | 446 | Performance of Literature Written by Women | Explores, through performance and critical writing, literature written by women. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | (L or HU) & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 450 | Organizational Communication | Offers advanced exploration of organizational communication principles through analyses of scholarship and contemporary case studies. Topics include workplace culture, networking, leadership, management, nonprofits, virtual organizing, work-life balance, organizational change, power, control and ethics. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB | Prerequisite(s): COM 250 with C or better; COM 308 or 309 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 451 | Communication and Work Relationships | Communication principles and practices associated with supervisory, peer, and client relationships. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): COM 100; minimum 2.50 GPA; minimum 45 hours OR Visiting University Student |
| COM | 452 | Communication and the Art of Happiness | Examines how communication behaviors relate to constructing happiness and wellbeing. Topics include gratitude, forgiveness, social support, appreciation, social networks and communicative contagion of mood intersecting with issues of dyadic, group and organizational communication. Auxiliary readings come from a variety of disciplines, including psychology, management, sociology, positive organizational scholarship and appreciative inquiry. Course activities include reading, field exercises, journal writing, exams, project presentation(s) and paper(s). | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): minimum 2.00 GPA; minimum junior standing OR Visiting University Student |
| COM | 453 | Communication Training and Development | Examines the procedures and types of communication training and development in business, industry, and government. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |

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| COM | 454 | Rhetorical and Critical Approaches to Public Relations | An historical and contemporary account of how public relations messages build corporate identities and persuade audiences by shaping public values. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): COM 207 with C or better OR minimum junior standing; minimum 3.0 GPA; Credit is allowed for only COM 454 or CMN 598 (Rhetorical&Critical Approaches to Public Relations) |
| COM | 455 | Surveillance and Popular Culture | Surveys representations of surveillance in popular culture. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CMN 598 (Surveillance, Film and Culture) or COM 455 or COM 494 (Surveillance, Film and Culture) or STC 598 (Surveillance, Film, and Culture) |
| COM | 456 | Political Communication Campaigns | Theory and research related to political campaign communication. The persuasive process of political campaigning, the role of the media, the candidate and image creation. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): minimum 2.00 GPA |
| COM | 457 | New Media | Explores how new communication and information technologies affect communication and culture. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): COM 207 with C or better OR minimum junior standing; minimum 3.0 GPA OR Visiting University Student |
| COM | 458 | Media and Everyday Life | Considers media in the routine, habitual and somewhat unconscious aspects of our lives, particularly mobile media transported in and out of public and private spaces. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum junior standing; minimum 2.00 GPA; Credit is allowed for only COM 458 or COM 494 (Media and Everyday Life) Visiting University Student |
| COM | 459 | Theory and Methods of Social Media Networks | A network-based perspective plays an increasingly important role in our understanding of contemporary communication process of which much has shifted from a hierarchical, densely bounded group basis to a personalized, lateral network. Especially, along with the popularity of social media, social networking has become a key term that characterizes our everyday life. Discusses the role of new media technologies in evolving networked society, and how online networks are intertwined with our offline life. Covers theories and computerized methods that help understand online network structure. Includes lectures and discussions on theoretical issues with hands-on exercises of analytic methods. | N | LEL | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum junior standing; minimum 2.50 GPA; MAT 142 or higher with C or better; Credit is allowed for only COM 459 or COM 494 (Social Networks) |
| COM | 463 | Intercultural Communication in a Global Context | Survey and analysis of major theories and research dealing with communication between people of different cultural backgrounds, primarily in international settings. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB & G | Prerequisite(s): COM 263 with C or better; COM 308 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 464 | Communicative Sexualities | Grounded in the discipline of communicology, provides an introduction to the qualitative research practice of semiotic phenomenology. Examines sexuality as a personal, social, historical, and cultural phenomenon, wherein communication is studied as the mediating force through which meanings are ascribed to sexuality and sexual experience. Sexuality is studied as it manifests among a wide variety of people, practices, and contexts. U.S. American culture provides the primary cultural context. Addresses basic questions including: How do we understand sexuality? How have we come to know what we know about sexuality? How do we understand the relationship between sexuality as personal desire, and sexuality as social norm in specific cultural contexts. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; Pre- or corequisite(s): minimum junior standing; minimum 2.50 GPA OR Visiting University Student |
| COM | 465 | Intercultural Communication Workshop | Experientially based study of communication between members of different cultures designed to help students improve their intercultural communication skills. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-3 | | Prerequisite(s): minimum 2.00 GPA |
| COM | 467 | Digital Rhetoric | Critical rhetorical study of intersection of public advocacy, deliberation, argumentation and digital media. Examines a variety of digital media as they intersect with theories of rhetoric. Explores digital technology through a blending of criticism upon and creation of digital artifacts. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): COM 207 with C or better; ENG 101, 105, or 107 with C or better; Pre- or corequisite(s): junior or senior standing; Credit is allowed for only COM 467 or COM 494 (Digital Rhetoric) |
| COM | 471 | Global Media and Cultural Identity | Explores theory and practices of global media production, dissemination and consumption. Surveys the ways in which local, regional and global sociocultural and political forces interplay to shape cultural identities and media consumption. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | G | Prerequisite(s): minimum 2.50 GPA; junior standing OR Visiting University Student |
| COM | 477 | Sport, Culture, and Discourses | Introduces sport as a global economic and cultural force, and as a foundational discourse experienced largely through media. Facilitates the understanding of sport as a major cultural and socializing institution and, thus, as a key site for the construction of knowledge, understandings, ideologies, and identities. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 2.50 GPA |

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| COM | 482 | Communication, Instruction and Training | Explores instructional communication practices applied to professional training settings. Considers verbal, nonverbal and technological aspects of instructional communication with an emphasis on training professional and community audiences. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 2.50 GPA OR Visiting University Student |
| COM | 483 | Advanced Communication and Mentoring | Students serve as peer mentors in the Communication Assessment Learning Lab (CALL) with instructional emphasis on speaker apprehension, listening, the dynamics of group communication and leadership. Through experiential learning, mentors employ ethical peer tutoring practices by coaching undergraduates in managing public speaking apprehension, speech development and organization. Further, mentors provide on-the-spot feedback to undergraduates relating to delivery techniques, style, nonverbal communication, persuasive strategies and the use of presentational material. | N | LEL | Y | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): COM 383 with C or better OR Visiting University Student |
| COM | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | GNA | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-12 | | Prerequisite(s): COM 225 with C or better; COM 308 with C or better; minimum 56 hours; minimum 2.00 GPA or New College communication student with minimum 2.80 GPA |
| COM | 485 | Communication Portfolio | Intensive small-group, topically focused, variable-content course that integrates research and study for advanced students within the major. | N | SEM | Y | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-3 | | |
| COM | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | PRA | Y | Z1 | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-6 | | Prerequisite(s): Barrett Honors student |
| COM | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | PRA | N | Z1 | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| COM | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-4 | | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| COM | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-6 | | Prerequisite(s): Barrett Honors student |
| COM | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-7 | | |
| COM | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | PRA | Y | Z1 | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-3 | | Prerequisite(s): minimum 2.00 GPA |
| COM | 501 | Research Methods in Communication | Critical analysis of systems of inquiry in communication, focusing on the identification of variables and approaches to conducting research in communication. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): Communications graduate student |
| COM | 504 | Theories and Models in Communication | Theory construction, metatheoretical concerns, models, construct definition, and comparative analysis of current theories in communication. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): Communications graduate student |
| COM | 507 | Qualitative Research Methods in Communication | Qualitative research methods, including interviewing, field methods, and other nonquantitative techniques for analyzing communication. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): Communications Graduate student; Credit is allowed for only COM 407 or 507 |
| COM | 508 | Quantitative Research Methods in Communication | Empirical research designs, measurements, and statistical strategies and techniques in analyzing and evaluating experimental and descriptive research in communication. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Pre-requisites: Communications Graduate student. Credit is allowed for only COM 408 or COM 508 |
| COM | 510 | Transmedia Narratives | Explores the history, production, distribution and consumption of transmedia narratives as an emergent multiple-platform dynamic of storytelling. Focuses on digital storytelling, the dynamics of nonlinear narrative and immersive audience experience. | N | SEM | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| COM | 514 | Communication and Gender | Investigate the role that gender and identity plays in communication and the life of the organization. Provides a theoretical overview of the topics as well as opportunities for personal reflection and discussion. Students acquire the background and practical skills necessary to recognize the barriers to effective communication, and a variety of tools and strategies with which to manage interactions within organizations. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only COM 514 or COM 598 (Communication and Gender) |

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| COM | 515 | Communication in the Workplace | Provides an in-depth review of the core concepts and areas of organizational communication to advance students' understanding of the role of communication in workplace interactions and professional achievement. Throughout the coursework, students learn and discuss key scholarly perspectives, which enable them to (a) better articulate the changing nature of modern work, (b) analyze their own work experiences, and (c) improve their adaptability at work by applying their knowledge of communicative interactions. In addition to theoretical discussions, students investigate contemporary issues and case studies with respect to the nature of the modern workplace. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only COM 515 or COM 598 (Communication in the Workplace) |
| COM | 517 | Communication and Conflict Transformation | Focuses on the principles and perspectives of conflict, including discussions on the practices that push toward conflict transformation. Engages in application activities that allow students to apply such practices to theory, online simulated activities, and personal experiences. Course readings, which include both academic and research-based applied texts, address perspectives of conflict and the impact of power, relationship and context on conflict episodes, among other topics. Requires students to engage in online simulated activities and reflect on their experiences and the relevance of theory to those experiences. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only COM 517 or COM 598 (Communication and Conflict Transformation) |
| COM | 518 | Communication in Global Contexts | Globalization is a profound influence on contemporary societies, including facilitating greater opportunities for communication across regional and international borders. As mediated content and networks grow at unparalleled rates, new flows of information and knowledge connect families, communities and nations. Yet, at the same time, sociocultural differences and digital divides exist to widen gaps in our relationships and development processes. Develops a critical understanding of the relationships between culture and communication technologies in the changing infrastructures, networks and boundaries of our increasingly globalized world. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only COM 518 or COM 598 (Communication in Global Contexts) |
| COM | 519 | Social Influence and Persuasion | Studies social influence and persuasion in the discipline of communication from a social scientific perspective. Examines significant processes and factors whereby human communication can effectively impact the perspectives, attitudes and behaviors of others. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only COM 519 or COM 598 (Social Influence and Persuasion) |
| COM | 520 | Crisis Management and Communication | Explores the crucial role of strategic communication principles and practices throughout the stages of crises that impact organizations and their stakeholders. By mastering these principles and practices, equips students to constructively evaluate and engage in the consequential communication that accompanies each organizational crisis stage. Explains how communication can prevent, cause, exacerbate and remedy organizational crises. Summarizes the elements that constitute a crisis for organizations and organized communities. Differentiates the various stages that comprise the two primary organizational crisis models. Evaluates an organization's preparation for, response to, and recovery from an actual crisis event. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only COM 520 or COM 598 (Crisis Management and Communication) |
| COM | 521 | Negotiation Theory and Practice | Focuses on the theory and practice of negotiating as well as how theory and practice influence one another. Course readings, including both academic and research-based applied texts, address principles of effective negotiating and the impact of emotion, sex and culture on practice, among other topics. Students engage in a variety of applied negotiation activities and reflect on their experiences and the relevance of theory to their experiences (and vice versa) in written assignments and class discussion boards. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only COM 521 or COM 598 (Negotiation Theory and Practice) |
| COM | 530 | Training and Development | Provides an in-depth review of the core concepts relevant to training and development informed by adult learning theories and situated within contexts relevant to the human communication discipline. Purposefully designed to advance students' understanding of the role of communication and human interaction in training and development especially in workplace contexts. Throughout the coursework, students learn and discuss key scholarly perspectives, which enable them to (a) more deeply appreciate and understand the training and development cycle components, (b) reflect on and analyze their own experiences as participants in training and development sessions, and (c) create and implement learner-centered training and development plans grounded by theoretical frameworks. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): Communication MA student; COM 501 with B or better; COM 504 with B or better; Credit is allowed for only COM 530 or COM 598 (Training and Development) |

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| COM | 540 | Conducting Communication Research | Develops the skills necessary to conduct communication research in the workplace. Students develop a research proposal for a project that they could conduct at their current jobs or a job they would like to have. They may choose to develop a proposal for their capstone project or a project that they would like to conduct in the future. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): COM 530 with B or better; minimum 9 hours of 500-level COM courses; minimum 3.00 GPA |
| COM | 550 | Capstone | Culminating experience of the Master of Arts in Communication. The capstone course allows each student to develop a project that answers a question or solves a problem tailored to his or her interests, needs and goals. Develops final products individually based on consultation with faculty. Each student has a two-faculty member committee to support the capstone project. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): COM 540; minimum 3.00 GPA |
| COM | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| COM | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| COM | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | PRA | Y | Z1 | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| COM | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| COM | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| COM | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-12 | | Pre-requisite: Communications Graduate student |
| COM | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| COM | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| COM | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | PRA | Y | Z2 | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| COM | 604 | Theory Construction in Communication | Review and analysis of philosophical problems inherent in communicative research and of metatheories designed to deal with these problems. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): Communications PhD student |
| COM | 607 | Contemporary Rhetorical Methods | Analysis of issues in the practice of rhetorical communication research, including criticism and scholarship. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| COM | 608 | Multivariate Statistical Analysis of Data in Communication | Statistical analysis of communication research data. Multivariate procedures used in communication research and methods of causal analysis. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): Communications PhD student |
| COM | 609 | Advanced Qualitative Research Methods in Communication | Analysis of issues in the practice of qualitative communication research, including data gathering, fieldwork issues, analysis strategies, and reporting results. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): Communications PhD student |
| COM | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | PRA | Y | Z1 | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| COM | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-12 | | Prerequisite(s): Communications graduate student |
| COM | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| COM | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| COM | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| COM | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | PRA | Y | Z2 | The College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CON | 100 | Introduction to Construction | Introduces construction industry sectors and professionals. Additional content includes developing personal competencies required of construction professionals. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 2 | | |
| CON | 101 | Construction and Culture: a Built Environment | Analyzes the cultural context of construction, emphasizing its centrality in the evolution and expansion of built environments as expressions of ethical and historical value systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | HU & H | |
| CON | 106 | Introduction to Concrete Materials for the Built Environment | Effects of concrete-making materials (aggregates, cements, admixtures, etc.) on the properties of fresh and hardened concrete. Discusses concrete mixture proportioning along with the calculations and statistical analysis of strength testing. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 4 | SQ | |
| CON | 221 | Applied Statics | Vectors, forces and moments, force systems, equilibrium, analysis of basic structures and structural components, friction, centroids, and moments of inertia. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 2 | | Prerequisite(s): MAT 170 or higher with C or better; PHY 111 with C or better; PHY 113 with C or better OR Visiting University Student |
| CON | 223 | Strength of Materials | Analyzes strength and rigidity of structural members in resisting applied forces. Stress, strain, shear, moment, deflections, combined stresses, and connections. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 2 | | Prerequisite(s): CON 221 with C or better; CON 252 with C or better OR Visiting University Student |
| CON | 241 | Surveying | Theory and fieldwork in construction and land surveys. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): MAT 170 or higher with C or better; Credit is allowed for only CEE 281 or CNE 241 or CON 241 OR Visiting University Student |
| CON | 243 | Heavy Construction Equipment, Methods and Materials | Emphasizes Horizontal construction. Fleet operations, maintenance programs, methods, and procedures to construct tunnels, roads, dams, and the excavation of buildings. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Credit is allowed for only CNE 243 or CON 243 |
| CON | 244 | Working Drawing Analysis | Provides the ability to read and understand architectural plans; to understand drawing symbols, dimensions, abbreviations, and terms. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 2 | | |
| CON | 251 | Microcomputer Applications for Construction | Applies the microcomputer as a problem-solving tool for the constructor. Uses spreadsheets, information management, and multimedia software. | N | LAB | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): MAT 170 or higher with C or better OR Visiting University Student |
| CON | 252 | Building Construction Methods, Materials, and Equipment | Emphasizes Vertical construction. Methods, materials, codes, and equipment used in building construction corresponding to the division of the CSI Master Format. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | |
| CON | 271 | Construction Safety | Safety procedures and equipment. OSHA requirements for construction. Biological aspects of construction safety. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction Management BS or Construction Engineering BSE major; Credit is allowed for only CNE 271 or CON 271 OR Visiting University Student |
| CON | 273 | Electrical Construction Fundamentals and Project Management | Electrical construction, design, estimating, scheduling and project management. Electrical safety, blueprints and symbols, theory, sequence of installation. National Electrical Code (NEC). | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | |
| CON | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-4 | | |
| CON | 296 | Summer Field Internship | Participation as interns on construction projects to observe and experience the daily activities. | N | PRA | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1 | | Prerequisite(s): Construction Management BS or Construction Engineering BSE major; CON 271 or CNE 271; Credit is allowed for only CON 296 or CNE 296 |
| CON | 310 | Testing of Materials for Construction | Structural and behavioral characteristics, engineering properties, measurements, and application of construction materials. Not open to engineering students. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 4 | | Prerequisite(s): Construction Management BS major; CON 221 with C or better; Pre- or corequisite(s): CON 223 with C or better if completed OR Visiting University Student |
| CON | 343 | Advanced Heavy Equipment Operations | Reviews the principles of horizontal construction. Emphasizes fleet operations, maintenance programs, methods and procedures to construct tunnels, roads, dams and the excavation of buildings. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): CON 252; minimum junior standing; Credit is allowed for only CON 343 or CON 394 (Advanced Heavy Equipment Operations) OR Visiting University Student |

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| CON | 345 | Mechanical Systems | Design parameters and equipment related to heating and cooling systems for mechanical construction. Biorelated aspects of mechanical systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction Management BS major; CON 221 with C or better; CON 252 with C or better; PHY 111 or 121 with C or better; PHY 113 or 122 with C or better OR Visiting University Student |
| CON | 383 | Construction Estimating | Analyzes construction drawings and specifications. Utilizes advanced technical and ethical practices in estimating process. Quantity surveying techniques for CSI divisions. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 4 | | Prerequisite(s): Cons Mngmt BS major; CON 252 OR Cons Engrng BSE major; CNE 243 or CON 243 OR Interdisc Studies BIS major or Cons Mngmr minor; CON 243 or 252; Credit is allowed for only CNE 383 or CON 383 OR Visiting University Student |
| CON | 384 | Environmental Aspects of Heavy Construction | Methods, measures and analysis related to control of erosion, dust generation and storm water discharge during projects. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): BS Construction Management major. Pre- or corequisite(s): CON 243. Credit is allowed for only CON 384 or CON 394 (Environmental Aspects of Heavy Construction) |
| CON | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-4 | | Pre-requisite: Engineering BS or BSE student |
| CON | 424 | Structural Design | Economic use of concrete, steel, and wood in building and engineered structures. Design of beams, columns, concrete formwork, and connections. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction Management BS major; CON 223 with C or better; Pre- or corequisite(s): CON 310 OR Visiting University Student |
| CON | 441 | Public Works Capital Construction | Practices and policies employed in delivering capital construction projects by government agencies at various levels. The full lifecycle of the typical public works capital construction project from planning, through design and construction, to operations and maintenance. Additional lecture topics include sustainability, strategic planning, risk management and safety. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prereq(s): Con Engrn BS or Con Mngmt BSE major; min junior standing; Credit is for only CON 441 or CON 541 or CEE 494(Pub Wrks Cap Con) or CON 494(Pub Wrks Cap Con) or CEE 598(Pub Wrks Cap Con) or CON 598(Pub Wrks Cap Con) OR Visiting University Student |
| CON | 446 | Marketing for Construction | Provides key marketing practices to include strategic planning, marketing collateral, networking, business development, and interview preparation for project pursuits. Covers all aspects of service-based marketing topics and practices. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): COM 225; CON 221 with C or better OR Visiting University Student |
| CON | 448 | Sustainable Construction | Studies the principles associated with sustainable construction: problem definition, definition of sustainability, measures of sustainability, examination of current industry practices, financial and resource impacts of sustainable construction, independent student investigation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction Mgmt BS or Civil Engr (Sustainable Engr) BSE major; senior standing; Credit allowed for only CON 448 or CON 548 or CON 598 (Sustainable Construction) or CON 598 (Sustainability in Construction) OR Visiting University Student |
| CON | 450 | Geotechnical Applications for Construction | Soil formation, engineering properties and use as building materials. Soil's influence on construction of built environment, including specifications and biological aspects. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction Management BS major; CON 223 with C or better; CON 310; Credit is allowed for only CNE 450 or CON 450 OR Visiting University Student |
| CON | 451 | Innovative Project Delivery | Studies design and construction interaction; the RFP (request for proposal) and RFQ (request for quote) process; risk allocation issues; developing successful project proposals, procurement and selection. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction Management, Construction Engineering, Civil Engineering, or Architectural Studies major; senior standing; Credit is allowed for only CON 451 or CON 494 (Alt Project Delivery Mthds) or CON 551 |
| CON | 453 | Construction Technology | Building information modeling, including current computer programs and technology planning strategies for advanced project deliveries. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction Mgmt major, Interdisc Studies major (Construction Mgmt concentration), or Construction Mgmt minor; CON 251 OR Construction Engrn major; senior standing; Credit is for only CNE 453 or CON 453 OR Visiting University Student |
| CON | 454 | Trenchless Construction Methods | Theory and practice of trenchless construction methods. Types of equipment, roles of site personnel, engineering design, contractual issues and safety. Lecture, class projects, and site visits. Knowledge of heavy construction equipment, methods and materials required to be successful in this course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction Management BS or Construction Engineering BSE major; Pre- or corequisite(s): CNE 243 or CON 243; Credit is allowed for only CON 454 or CON 554 OR Visiting University Student |

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| CON | 455 | Construction Project Management II | Advanced topics in administrative procedures, planning processes, and coordination required to successfully complete construction projects on time and budget. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction Engineering BSE or Construction Management and Technology BS major; Pre- or corequisite(s): CNE 495 or CON 495; Credit is allowed for only CNE 455 or CON 455 or CON 545 OR Visiting University Student |
| CON | 457 | Principles of Leadership for Project Managers | Individual, organizational and process/structure leadership in project setting. Four-step leadership transformational model for project leaders. Project leadership tools and applications to motivation, conflict management, team building and delegation of risk. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction Management BS or Construction Engineering BSE major; Pre- or corequisite(s): CON 243; Credit is allowed for only CON 457 or CON 557 OR Visiting University Student |
| CON | 465 | Deductive Logic, Leadership and Industry Structure | Simple, logical explanations of construction and other industries. State-of-the-art supply chain, profit maximizing and efficient practices. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): junior or senior standing; Credit is allowed for only CON 465 or CON 565 |
| CON | 467 | Advanced Procurement Systems | Development of multicriteria decision procurement model for selecting the performing contractor. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): junior or senior standing; Credit is allowed for only CON 467 or CON 567 or CON 494 (Advanced Procurement Systems) |
| CON | 483 | Advanced Building Estimating | Concepts of pricing and markup, development of historic costs, life cycle costing, change order and conceptual estimating. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction BS major; CON 383 with C or better OR Visiting University Student |
| CON | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-12 | | Prerequisite(s): Construction Management BS major with CON 296 or CNE 296 OR Construction Engineering BSE major with CON 271 or CNE 271; Credit is allowed for only CON 484 or CNE 484 |
| CON | 486 | Heavy Construction Estimating | Methods analysis and cost estimation for construction of highways, bridges, tunnels, dams, and other engineering works. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction BS major; CON 383 with C or better OR Construction Engineering BSE major OR Visiting University Student |
| CON | 487 | Project Controls | Project staff roles and responsibilities, project documentation process and control, project control processes to manage quality, schedule and budget, quantity tracking and earned value management, and financial management of a construction project. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Pre- or corequisite(s): CON 495 OR Visiting University Student |
| CON | 488 | Heavy Construction Earthworks | Geotechnical issues with respect to foundation grading, forming and location for various types of infrastructure and transportation projects. Also includes streets, highway and embankment developments, retaining wall system, mechanically stabilized earth walls, and required quality control methods for these activities. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction Management BS or Construction Engineering BSE major; Pre- or corequisite(s): CON 243; Credit is allowed for only CON 488 or CON 494 (Heavy Construction Earthworks) |
| CON | 491 | Construction Project Capstone | Develops understanding and knowledge of topics and concepts required to be a construction manager. A construction project is the basis for applying cost estimating, scheduling, safety, communications and other construction management skills. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): CON 383; CON 495; Pre- or corequisite(s): CON 455; Credit is allowed for only CON 491 or CON 494 (Construction Project Capstone) |
| CON | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-6 | | Prerequisite(s): Barrett Honors student |
| CON | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| CON | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-4 | | |
| CON | 495 | Construction Planning and Scheduling | Various network methods of project scheduling, such as AOA, AON Pert, bar-charting, line-of-balance, and VPM techniques. Microcomputers used for scheduling, resource allocation, and time/cost analysis. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | CS | Prerequisite(s): Construction Mngmt BS major, Construction Engineering BSE major, BIS major with Construction Mngmt emphasis, or Construction Mngmt minor; CNE 383 or CON 383; Credit is allowed for only CNE 495 or CON 495 OR Visiting University Students |
| CON | 496 | Construction Contract Administration | Surveys administrative procedures of general and subcontractors. Studies documentation, claims, arbitration, litigation, bonding, insurance, and indemnification. Discusses ethical practices. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | L | Prerequisite(s): Constr Mgmt BS major, Constr Engr BSE major, BIS major w/ Constr Mgmt emphasis, or Constr Mgmt minor; CNE 453 or CON 453; ENG 101, 105, or 107 w/ C or better; Credit is allowed for only CNE 496 or CON 496 OR Visiting University Student |

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| CON | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-3 | | |
| CON | 501 | Construction Research Methods | Data collection methodologies, applied parametric and nonparametric statistics, data analysis techniques, technical writing, and data presentation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Pre-requisite: Construction Graduate student |
| CON | 502 | Front-End Planning | Principles and applications for effective early planning of capital facilities, including: finance, economics decision making, risk management, team alignment and front-end planning processes and tools. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): graduate Civil Engineering or Construction or Construction Engineering student; Credit is allowed for only CEE 502 or CON 502 or CON 598 (Front End Planning) or CEE 598 (Front End Planning) |
| CON | 507 | Safety Management for Construction Managers | Executives and managers make better decisions while managing the safety needs for a company in the construction industry using different safety management approaches. | N | LEC | N | OP3 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction Engineering or Construction Management graduate student; Credit is allowed for only CON 507 or CON 598 (Introduction to Safety Management) |
| CON | 508 | Engineering and Construction Failures | Engineering, construction and ethics failures. Focuses on failures in the built environment. Students tailor the assignments and projects to their specific engineering or construction discipline. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prereq(s): degree- or nondegree-seeking graduate student; Credit allowed for only CON 508 or FSE 508 or CEE 598 (Engineering and Construction Failures) or CON 494 (Engineering and Construction Failures) or CON 598 (Engineering and Construction Failures) |
| CON | 509 | Advanced Concrete Materials | Properties of Portland cement concrete materials at an advanced level by examining the influence of constituent materials (cements, aggregates and admixtures) on the properties and behavior of fresh and hardened concrete under various types of loading and environmental conditions. | N | LEC | N | OP3 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CON 509 or CON 494 (Advanced Concrete Materials) or CON 598 (Advanced Concrete Materials) |
| CON | 510 | Sustainable Bio-Based Construction | State of the art on sustainable bio-based construction for buildings and infrastructure. Helps students gain knowledge on the following topics related to construction: various types of emerging bio-materials, novel technologies and processes in bio-material development, emerging technologies for characterization and diagnosis. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Civil, Enviro or Sustainable Engr MS, MSE, or PhD student or Construction Engineering MSE, Construction Mgmt PhD, or Construction Mgmt & Tech MS student; Credit is allowed for only CON 510 or CON 598 (Sustain Bio-based Construction) |
| CON | 511 | Hazard Mitigation Planning | Examines policies, methodologies and guidance for state and local hazard mitigation planning. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CON 511 or CPP 511 |
| CON | 530 | Facilities Operations and Maintenance | Operations, maintenance and energy management requirements of various types of facilities and built environments. Ethical practices | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking); Credit is allowed for only CON 430, 494 (Facilities Management/Operations & Maintenance), 530 or 598 (Facilities Management/Operations & Maintenance) |
| CON | 531 | Facility Management: Building Energy Management | Understand and learn energy management techniques in facilities management. Identifying and performing efficiency evaluations on various types of heating, ventilation and air conditioning systems in typical buildings. Concepts and methods of managing, adjusting and balancing equipment and systems for maximum facility performance. Facilities organizations best practices to maximize energy savings and performance, such as insulation usage, lighting optimization, energy management systems and commissioning procedures. Identification of ancillary benefits to energy-efficient building systems such as indoor air quality, sustainability and energy audits. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only CON 531 or CON 598 (Facility Management Building) |
| CON | 532 | Facilities Project Management | Understand and learn project management techniques in facilities management. Stakeholder analysis, including roles, responsibilities and risk considerations. Asset owner and manager considerations within project components and deliverables. Development of project scope, requirements, schedules, budgets and communication plans from a facility manager's perspective. Best practices of facilities organizations for managing contract types, contract governance and performance management. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; Credit is allowed for only CON 532 or CON 598 (Facility Project Management) |

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| CON | 534 | Retrofit Construction | Focuses on energy efficiency retrofits in existing commercial buildings. Defines retrofit and why we retrofit. Examines current industry practices, impacts of retrofit construction on finances and the environment, and independent student investigation. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Ira A. Fulton graduate student; Credit is allowed only for CON 534 or CON 598 (Retrofit Construction) |
| CON | 540 | Construction Productivity | Productivity concepts. Data collection. Analysis of productivity data and factors affecting productivity. Means for improving production and study of productivity improvement programs. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction MS or Construction Engineering MSE major |
| CON | 541 | Public Works Capital Construction | Practices and policies employed in delivering capital construction projects by government agencies at various levels. The full lifecycle of the typical public works capital construction project from planning, through design and construction, to operations and maintenance. Additional lecture topics include sustainability, strategic planning, risk management and safety. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): graduate Construction Engineering or Construction Management student; Credit is allowed for only for CON 441 or CON 541 or CEE 494/CON 494 (Public Works Capital Construction) or CEE 598/CON 598 (Public Works Capital Construction) |
| CON | 545 | Construction Project Management | Theory and practice of construction project management. Roles of designer, owner, general contractor, and construction manager. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction or Construction Engineering graduate student; Credit is allowed for only CNE 455 or CON 455 or CON 545 |
| CON | 548 | Sustainable Construction | Studies the principles associated with sustainable construction: problem definition, definition of sustainability, measures of sustainability, examination of current industry practices, financial and resource impacts of sustainable construction, independent student investigation. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Civil, Environmental & Sustainable Engineering or Construction Engineering or Construction Management graduate student; Credit is allowed for only CON 448 or CON 548 or CON 598 (Sustainable Construction) or CON 598 (Sustain in Constrn) |
| CON | 551 | Alternative Project Delivery Methods | Design/construction interaction; conceptual estimation and scheduling; the RFQ/RFP process; legal, insurance, risk allocation issues; procurement and selection. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CON 451 or CON 494 (Alt Project Delivery Mthds) or CON 551 |
| CON | 554 | Trenchless Construction Methods | Theory and practice of trenchless construction methods. Types of equipment, roles of site personnel, engineering design, contractual issues, and safety. Lecture, class projects, and site visits. Knowledge of heavy construction equipment, methods, and materials required to be successful in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction Engineering OR Construction Management graduate student |
| CON | 557 | Principles of Leadership for Project Managers | Individual, organizational and process/structure leadership in project setting. Four-step leadership transformational model for project leaders. Project leadership tools and applications to motivation, conflict management, team building and delegation of risk. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CON 457 or CON 494 (Prin Lead & Management) or CON 557 or CON 598 (Prin Lead and Mgmt) |
| CON | 565 | Deductive Logic, Leadership and Industry Structure | Simple, logical explanations of construction and other industries. State-of-the-art supply chain, profit maximizing, and efficient practices. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): graduate student (degree seeking or nondegree seeking). Credit is allowed for only CON 465 or CON 565 |
| CON | 567 | Advanced Procurement Systems | Development of multicriteria decision procurement model for selecting the performing contractor. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only CON 467, 567 or 494 (Advanced Procurement Systems) |
| CON | 570 | Introduction to Advanced Technology Facilities | Introduces advanced technology facilities such as cleanrooms, data centers, research labs, and hospitals. The constructor's viewpoint, including: planning, structures, mechanical, and tool installation. Site visits. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CON | 571 | Construction of Advanced Technology Facilities | Construction issues for advanced technology facilities such as cleanrooms, data centers, research labs, and hospitals. Issues include scheduling, cost estimating, project management, mechanical, safety, commissioning and tool hookup. Site visits. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): CON 570 with C or better |
| CON | 575 | Information Technology in Construction | Uses virtual construction methodologies to improve the construction enterprise using communications, facility modeling, and decision making. Site visits. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CON | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CON | 589 | Construction Company Financial Control | Financial accounting and cost control at the company level in construction companies. Accounting systems. Construction project profit calculations. Financial analysis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Pre-requisite: Engineering MS, MSE or PHD student |
| CON | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| CON | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CON | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-12 | | Pre-requisite: Construction Masters student |
| CON | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CON | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | IND | Y | Z3 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CON | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-4 | | Prerequisite(s): Construction Engineering OR Construction Management graduate student |
| CON | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-12 | | Pre-requisite: Construction Masters student |
| CON | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | N | PRA | Y | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CON | 700 | Research Methods | Course on research methods in a specific discipline. | N | RSC | Y | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CON | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | N | IND | Y | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CON | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-15 | | Pre-requisite: Construction Doctoral student |
| CON | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CON | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-15 | | Pre-requisite: Construction Doctoral student |
| CPI | 101 | Introduction to Informatics | Concepts, tools, techniques, and applications of informatics. Includes overview of programming, data management, visualization, modeling, and social implications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | CS | |
| CPI | 111 | Game Development I | Introduces video game design, art theory, and concepts as they apply to video game development. Basic art principles used in game development. Covers the fundamental video game art principles of 2-D and 3-D composition, color theory, modeling, and lighting techniques. Demonstrates practical application of these art fundamentals in establishing style guides, concept art, storyboards, and in-game assets. Also includes game design, game production, asset production, and game programming. Hands-on experience by creating 2-D game prototypes belonging to different video game genres and evaluating the techniques. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | CS | |
| CPI | 200 | Mathematical Foundations of Informatics | Practical introduction to the mathematics necessary for studies in informatics. Topics include discrete math, analytic geometry, calculus and linear algebra. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | MA | Prerequisite(s): MAT 242, 342, or 343 with C or better; MAT 243 or 300 with C or better OR Visiting University Student |
| CPI | 211 | Game Development II | Introduces the basics of 3D game development by using a game engine. Focuses on the pipeline of 3D game development including environment and contents creation, scripting to control components, and graphics user interfaces development. Develops several 3D games for multi platforms. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | | Prerequisite(s): CPI 111 with C or better OR Visiting University Student |

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| CPI | 220 | Applied Data Structures and Algorithms | Thorough grounding in applied knowledge and skills related to algorithms and data structures used in the development of software designed to solve complex problems. Overview of computational and critical thinking skills that can be called upon to analyze and solve complex problems in multiple domains. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | | Prerequisite(s): CSE 205 with C or better OR Visiting University Student |
| CPI | 221 | Advanced Object-Oriented Principles Using Java | Advanced object-oriented programming using the Java language. Design concepts and problem solving. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | | Prerequisite(s): CPI 220, CSE 310 or TGM 410 with C or better OR Visiting University Student |
| CPI | 310 | Web-Based Information Management Systems | Relational database design, entity-relationship modeling, relational algebra, SQL, database access through Web, Web data management, introduction to XML, fundamentals of Web application development, Web server architectures, lecture, in-class lab activities. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | | Prerequisite(s): CSE 205 with C or better OR Visiting University Student |
| CPI | 311 | Game Engine Development | State-of-the-art techniques for computer game design and programming with an emphasis on 3-D graphics and interaction. Focuses on a practical, example-driven approach to learning the unique art of 3-D game development. Topics include graphics game engines, textures, shader programming, artificial intelligence, physics, modeling, sound effects, and techniques for user interfaces. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | | Prerequisite(s): CPI 211 with C or better; CSE 205 with C or better OR Visiting University Student |
| CPI | 321 | Fundamentals of Game Art | Introduces art theory and concepts as they apply to video game development. Covers 2-D and 3-D composition, color theory, modeling, and lighting techniques. Demonstrates practical application of these art fundamentals in establishing style guides, concept art, storyboards, and in-game assets. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | | Prerequisite(s): CPI 211 with C or better |
| CPI | 350 | Evaluation of Informatics Systems | Methods for evaluation of informatics systems, including design of computational and human experiments, ethnography, and analytic techniques. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | | Prerequisite(s): GIS 270, GIS 470, IEE 380, STP 226, STP 231, or STP 420 with C or better OR Visiting University Student |
| CPI | 360 | Decision Making and Problem Solving | Practical use of database systems, computer graphics, and modeling to inform decision making. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | | Prerequisite(s): CSE 205 with C or better OR Visiting University Student |
| CPI | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 1-4 | | |
| CPI | 411 | Graphics for Games | Examines real-time rendering of high-quality interactive graphics. Studies advances in graphics hardware and algorithms that make this possible. Examples of techniques and topics include nonphotorealistic rendering, occlusion culling, level of detail, terrain rendering, shadow generation, image-based rendering, and physical simulation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | | Prerequisite(s): CPI 211 with C or better |
| CPI | 421 | 3-D Modeling and Texturing | Provides working knowledge of 3-D modeling, texture mapping, and paint concepts for the creation of 3-D video games art assets. Students work on concepts such as 3-D lighting, high polygon mesh rendering, and various third-party software and how to integrate them into the asset production pipeline. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | | Prerequisite(s): CPI 211 with C or better OR Visiting University Student |
| CPI | 441 | Gaming Capstone | Industry-oriented course emphasizing the video game development process, technical skills, teamwork and communication among the students enrolled in the gaming certificate. Students partner with local industry involved in game development, visual art, and educational gaming and solve real-world problems by working in a team comprised of students from the three tracks available within the certificate. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | | Prerequisite(s): BS Informatics or BIS (Computer Gaming) or Computer Gaming certificate; senior standing |
| CPI | 460 | Intelligent Interactive Instructional Systems | Intelligent interactive instructional systems serve as tutors, as learning companions or both. Covers their design, the technology that powers them, the learning theories that motivate them and results from experimental evaluations. Emphasizes intelligent tutoring systems, as they are a more mature technology. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | | Prerequisite(s): CSE 205 with C or better; Credit is allowed for only CPI 460 or CSE 494 (Intelligent Instr Sys) |
| CPI | 462 | Design for Learning in Virtual Worlds | Focuses on issues of design for learning in virtual worlds by exploring: the history and evolution of virtual worlds, the theories behind the use of virtual worlds for learning, the design of curricula in virtual worlds, design guidelines for elements experienced in virtual worlds to support learning, design guidelines for learning quests and activities in virtual worlds. Also introduces virtual world building using Unity 3D. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | | Prerequisite(s): CPI 221, CSE 220, or CSE 240 with C or better; Credit is allowed for only CPI 494 (Design for Learning in Virtual Worlds) or CSE 494 (Design for Learning in Virtual Worlds) or CPI 462 |
| CPI | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 1-12 | | Prerequisite(s): Informatics BS major or Informatics certificate student; CPI 221 with C or better; CPI 310 with C or better; Pre- or corequisite(s): CPI 360 with C or better if completed |
| CPI | 485 | Informatics Capstone I | Team-based design of an informatics system; working with clients; development of requirements, use cases, class/object diagrams, and plans for quality assurance and other evaluations; technical communication; teamwork. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | L | Prerequisite(s): Informatics BS major; CPI 350 with C or better; CSE 463 with C or better; ENG 101, 105, or 107 with C or better |

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| CPI | 486 | Informatics Capstone II | Implementation of the informatics system designed during CPI 485; work processes; keeping designs consistent with implementations; conducting QA and other evaluations; technical communication; teamwork. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 4 | L | Prerequisite(s): Informatics BS major; CPI 485 with C or better; ENG 101, 105, or 107 with C or better |
| CPI | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 1-6 | | Prerequisite(s): Barrett Honors student |
| CPI | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| CPI | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 1-4 | | |
| CPI | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 1-3 | | |
| CPI | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPP | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1-4 | | |
| CPP | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1-4 | | |
| CPP | 350 | Community Works | In the first part of the course, students apply the five concepts of interpersonal empathy while completing a 30-hour service project. After completing the service project, students apply the two concepts of social empathy to a social issue in their community. At the conclusion of the course, students know how interpersonal and social empathy can be developed as a skill to help their community within their public service career. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CPP 350 or CPP 494 (Community Works) OR Visiting University Student |
| CPP | 353 | Community Impact Lab | Offers hands-on, service learning opportunities for upper-division students from the College of Public Service and Community Solutions. Using a problem-solving method called design thinking, student teams have the opportunity to work closely with a nonprofit organization, small business, government office or community organization to develop a solution to a critical issue within their organization. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CPP 353 or CPP 494 (Community Impact Lab) |
| CPP | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1-4 | | |
| CPP | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | LEC | N | Z1 | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1-12 | | |
| CPP | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1-4 | | |
| CPP | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| CPP | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | N | LEC | N | Z1 | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1-3 | | |
| CPP | 510 | Hazards Governance | Examines how hazards are managed by both community- and national-level policymaking and administrative systems, with a particular focus on understanding how policies and management practices are related to risk reduction and resilience capacity promotion. Explores what governance means in practice and presents existing research, including policy reports, cases studies and quantitative analyses of community-level and national-level hazards management programs and related public policies--and how their integration is relevant to hazards governance. Emphasizes understanding the nature of public goods production processes, including how inter-sector integration (i.e. between, public, private and nonprofit organizations) and extant community vulnerability profiles matter to the specific risk reduction efforts, and what those same efforts yield in terms of aggregate community resilience outcomes. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CPP 510 or CPP 591 (Hazards Governance) |
| CPP | 511 | Hazard Mitigation Planning | Examines policies, methodologies and guidance for state and local hazard mitigation planning. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CON 511 or CPP 511 |

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| CPP | 512 | Exercises and Planning for Emergency Management and Homeland Security | Comprehensively explains the processes of emergency planning exercises in the domains of natural and technological hazards and homeland security, as well as other related domains such as public health or emergency medical services. Explores processes of emergency exercises within the Homeland Security Exercise & Evaluation Program (HSEEP) context and its standard guidelines that shape appropriate exercise practices. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPP | 513 | Public Private Partnerships for Emergency Management and Homeland Security | Focuses on how public private partnerships (P3s) offer alternative mechanisms for supporting community emergency preparedness efforts, hazard and risk management practices, and community resilience promotion. The traditional form of a P3 model is typically a build-operate-maintain arrangement (with various permutations of those element combinations) around physical infrastructure. However, more complex public-private relationships related to emergency and disaster management issues, public health issues and other social welfare concerns have emerged over the past several decades. Investigating how these arrangements might affect emergency management, homeland security and the management of hazards and risk in general is critical to understanding how public sector operations are likely to function in the future in the United States. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPP | 514 | Interagency and Intersector Coordination for Emergencies and Disasters | Examines the nature of intersector and interagency coordination and collaboration efforts in the domain of emergency management and homeland security. Three core substantive area of focus: (1) covers the nature of inter-sector, inter-agency coordination and collaboration activities as a chief feature of the general emergency management function any community must address; (2) focuses on issues related to the required interaction between the local, county, state and federal government emergency management functions and the private sector; (3) focuses on the functional roles and the specific types of contributions made by public, private and nonprofit sector organizations in community preparedness for emergencies and disasters. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPP | 520 | Program Evaluation for Emergency Management and Homeland Security | Examines core concepts and techniques of program evaluation and policy analysis and applies them to specific challenges in the domains of emergency management and homeland security. Develops knowledge and expertise in the practice of evaluating public sector programs, policies and other agency actions related to hazards issues-both natural and human-made. Develops students' knowledge, skill and ability in identifying appropriate research designs for particular evaluation and policy analysis problems; in managing data and focusing reports based on project objectives; and in appropriately characterizing and presenting empirical those data gathered for program evaluation and policy research projects. Provides an opportunity to learn about conducting evaluation and policy research in a way that is relevant to solving policy and management challenges germane to emergency management and homeland security agencies. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 3 | | Prerequisite(s): CRJ 511; Credit is allowed for only CPP 520 or CPP 591 (Program Evaluation in EMHS) |
| CPP | 521 | Public Finance and Project Management for Emergency Management and Homeland Security | Focuses on the related topics of how state and local governments utilize use budgeting and financing techniques in the emergency services domain as well as how emergency/disaster services projects are managed. Specifically, the first part of the course covers budgeting and finance mechanisms and processes in the public sector generally and how those mechanisms and processes relate to emergency response, general hazards management and disaster recovery. The second part of the course covers core principles of project management and then applies those principles to process related to grant application and grant award management in the areas of preparedness, hazard mitigation and disaster recovery. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| CPP | 523 | Foundations of Program Evaluation I: Multiple Regression | Regression serves as the foundation for modern quantitative program evaluation techniques. Regression analysis is not a single thing--it is a powerful set of tools used to examine relationships in data and test hypotheses concerning the significance of these relationships. Regression can be used to analyze observational data, in which case it can be used to identify important correlations that help us predict when events will occur together. In the program evaluation context we are specifically interested in causal analysis, which allows us to determine whether a management practice, a nonprofit or government program, or a specific public policy has a positive impact. When certain conditions are met we can use regression analysis to estimate the impact of a policy or program. This course builds a foundational understanding of the mechanics of multiple regression, the proper interpretation of regression models, and the circumstances in which we can use regression results for causal reasoning. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPP | 524 | Foundations of Program Evaluation II: Research Design | Covers important concepts in research design and common quasi-experimental tools for causal analysis. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 3 | | Prerequisite(s): CPP 523 |
| CPP | 525 | Foundations of Program Evaluation III: Advanced Regression Tools | Extends previous course by translating each specific form of the counterfactual--pre-post with comparisons, reflexive design, and the post-test only design--into specific regression models that leverage each counterfactual. Helps expand program evaluation toolkit by demonstrating how to estimate several common regression models that leverage unique data and counterfactual specifications and teaches how to estimate program effects using a given research design. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 3 | | Prerequisite(s): CPP 524 |
| CPP | 526 | Foundations of Data Science I: Introduction to Data Programming in R | Data is an essential ingredient of any program evaluation or performance management system. Organizations that want to embrace an evidence-based approach to management need to develop processes for gathering data; linking multiple datasets; running analysis; and sharing results with stakeholders through reports, dashboards or Web applications. The ability to collect, organize and analyze data is a desirable skill set for professional knowledge workers, high-level management and evaluators. Introduces the R data programming language, an open source platform that has become an industry standard because of its flexibility and power. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPP | 527 | Foundations of Data Science II: Data Wrangling | The data preparation cycle: gather, clean, tidy and wrangle the data to produce a custom research database. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 3 | | Prerequisite(s): CPP 526 |
| CPP | 528 | Foundations of Data Science III: Project Management | The main tools and practices of managing large or complex data projects, typically involving teams. Students learn about project management tools used by open source software developers, useful tools for creating client reports, important considerations. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 3 | | Prerequisite(s): CPP 527 |
| CPP | 529 | Community Analytics | Applies knowledge and tools from previous courses in program evaluation and data analytics in order to get practice building and analyzing custom research databases. Students are given a collection of raw data that needs to be linked together in order to conduct analysis, and guidance on how to implement a specific research question. Students merge the data, wrangle it into the proper format for analysis, apply the prescribed regression techniques, interpret results, and create a report with key findings. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 3 | | Prerequisite(s): CPP 523; CPP 526 |
| CPP | 537 | Disasters as Opportunity for Sustainability | Explores how disasters can give rise to sustainability transitions and sustainability solutions. Disasters are revealing crisis. As hazards roll into disasters they lay bare the underlying conditions of socio-ecological vulnerability and inequities that affect almost all aspects of daily life. They also affect the infrastructures and institutions supporting daily life. This realization stimulates improvisation and ideas for just, green, inclusive and resilient futures. Investigates case studies to reconstruct how people, affected by and surviving a disaster, advanced sustainability transitions and reduced disaster risk. Uses an interdisciplinary perspective to analyze these transitions, drawing on theories of change from sustainability transitions and transformation as well as disaster management research. Moreover, students ground the literature in concrete experiences as shared through guest speakers, professional experiences, documentaries and an applied project. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CPP 537 or SOS 494 (Disasters as Opportunities for Change Towards Sust) or SOS 537 or SOS 598 (Disasters as Opportunities for Change Towards Sust) |

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| CPP | 570 | GIS for Hazards Analysis | Provides a basic level of familiarity with several aspects of geographic information science such as key geographic concepts and techniques related to the theory and application of geographic information systems (GIS). Covers topics such as data models, geographic coordinate system and map projections, data entry and editing, and various types of spatial analysis in both conceptual terms as well as practical application. Additionally, outlines a range of GIS-related activities in emergency management and homeland security. Exposes students to the current and potential roles of GIS in support of emergency management activities in each of the four stages of the emergency management cycle. Gives students a basic understanding of GIS and its possibilities along with the capabilities as they apply to emergency management and homeland security. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CPP 570 or CPP 591 (GIS for Hazards Analysis) |
| CPP | 575 | U.S. Cyber and Information Security Policy | Prepares students to understand and manage human and technical resources within the increasingly important cyber and information security domains. As high-profile data breaches and cyberattacks--that result in physical losses, disruptions and disasters--impose greater risks and costs on our public and private sector--as well as military and intelligence--networks, the policy and management aspects of these challenges have come to the fore. Compounding the technical and operational challenges arising from the protection of operating systems, networking and systems administration, managers and Chief Technology/Risk/Security/Data/Information Officers face a multidimensional set of political risks, including how to effectively manage data content and evaluation, information veracity and information sharing and distribution. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPP | 576 | Information Assurance Principles | The aim of this course is to provide insights into on modern cyber security threats and defensive controls and explore effective computer security and risk management strategies, Information Assurance (IA) practices and techniques. The course provides a graduate level foundation in IA for a diverse audience, from middle level managers to executives with non-technical and technical backgrounds and from variety of government, commercial and non-for-profit organisations. This course will explore concepts such as layered defense mechanisms, using different technologies and multiples thereof (true defense in depth), threat/risk identification and mitigation and incident response techniques. It will enable executive level managers to properly understand the real world challenges faced by their Cyber Security teams today. It will also assist in developing the frameworks, policies and the evidence-based decisions required to allow teams to protect their environments efficiently and to understand the resulting costs and benefits. | N | LEC | Y | NSW | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1-3 | | Prerequisite(s): Emergency Management and Homeland Security (Cybersecurity Policy and Management) MA student |
| CPP | 577 | Cybersecurity and Critical Infrastructure Protection | Critical Infrastructure (CI) refers to the diverse, complex, inter-dependent delivery and support systems as well as the distributed networks for all large-scale services that are essential to a nation. These services include emergency response, law enforcement databases, supervisory control and data acquisition (SCADA) systems, power control networks, military support services, financial applications and mobile communications. Some national services are provided directly by government, but most are provided by commercial organisations and groups such as Internet service providers, airlines and banks. Systems that operate in national critical infrastructure run everything from electricity power plants to gas pipelines, hospitals and highways. | N | LEC | Y | NSW | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1-3 | | Prerequisite(s): Emergency Management and Homeland Security (Cybersecurity Policy and Management) MA student |
| CPP | 578 | Cyber Defense | Designed to provide students with knowledge on how to defend organisations and their systems. It is designed to provide a deep understanding of cyber defense within organisations and the necessary skills to examine the operational aspects of cyberspace, information assurance and cybersecurity. The emphasis of this course is to provide a contextual link between the management and governance of an organisation and its rapidly evolving cybersecurity and cyber-defense requirements. This course also provides insight into cyber governance in the Defense context, focusing on the management and acquisition of mission-critical systems and ensuring that these systems are resilient to internal faults and external cyber disruptions. | N | LEC | Y | NSW | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1-3 | | Prerequisite(s): Emergency Management and Homeland Security (Cybersecurity Policy and Management) MA student |

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| CPP | 581 | Bioterrorism and Health Intelligence | This course is for professionals involved in any aspect of bioterrorism preparedness and response, who wish to be intellectually challenged, to think outside the square, to gain insight into quantum changes in science which pose a biosecurity risk, to understand the different perspectives of sectors involved in response, and to gain new critical skills which can be applied in their professional practice. | N | LEC | Y | NSW | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1-3 | | Prerequisite(s): Emergency Management and Homeland Security (Biosecurity and Threat Management) MA student |
| CPP | 582 | Infectious Disease Intelligence | This course aims to give you the skills to critically evaluate, analyse and interpret important information and issues in infectious diseases intelligence as it applies to human health. | N | LEC | Y | NSW | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1-3 | | Prerequisite(s): Emergency Management and Homeland Security (Biosecurity and Threat Management) MA student |
| CPP | 583 | Health Aspects of Crises, Emergencies, Disasters | The aim of the course is to build learners' capacity to operate as public health professionals and managers within the context of local or international crises, emergencies and disasters. It will develop their knowledge of the healthcare aspects of these events, prepare them to assess and respond to such events from the perspective of healthcare services and providers, and assist them to develop the skills required to work within disaster and complex emergency settings. | N | LEC | Y | NSW | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1-3 | | Prerequisite(s): Emergency Management and Homeland Security (Biosecurity and Threat Management) MA student |
| CPP | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | N | LEC | N | Z1 | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPP | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1-12 | | |
| CPP | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | N | LEC | N | Z1 | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1-12 | | |
| CPP | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPY | 568 | Group Intervention | Provides advanced MC or PhD students with supervisory experience serving as Group Leaders or Co-Leaders to students currently enrolled in the prerequisite course. Time dedicated to group leadership or supervision accumulates as "Direct Contact" or "Group Supervision" hours and fulfills the "maladaptive/intervention" requirements or may be applied as an elective for MC students and PhD students. Students are selected for enrollment in this course with required instructor or departmental approval. | N | SEM | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Counseling MC or Counseling Psychology PhD student; CED 567; Credit is allowed for only CPY 568 or CPY 691 (Group Intervention) |
| CPY | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPY | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPY | 622 | Child Counseling and Play Therapy | The use of play and expressive arts in counseling. Major areas of focus include: theoretical orientations to play therapy and child counseling, foundations of counseling, practice of play therapy and child counseling skills, and assessment/treatment planning. Integrates play media such as guided imagery, puppets and dolls, art, creative dramatics, music and movement, games, and sand play. Demonstrations and experiential activities are a primary method of teaching and learning the theory and practice of play counseling. Includes both directive and nondirective play counseling experiences. | N | SEM | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Counseling MC or Counseling Psychology PhD student; Credit is allowed for only CPY 622 or CPY 691 (Child Counseling and Play Therapy) |
| CPY | 623 | Counseling At-Risk Youth | Examines the behaviors that place adolescents at risk for not achieving career goals and interventions to address these behaviors. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPY | 635 | Professional Development | A series of presentations designed to expose beginning doctoral students to the multidimensional facets and competencies for being a counseling psychologist. | N | SEM | Y | YGB | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1 | | Prerequisite(s): Counseling Psychology PhD student; Credit is allowed for only CPY 635 or CPY 691 (Professional Development) |
| CPY | 644 | Psychology of Careers | Advanced career counseling, including theory, research, and practice. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate OR undergraduate postbaccalaureate student |
| CPY | 645 | Professional Issues and Ethics | Ethical, legal, and professional issues of concern to practitioners and researchers functioning in a variety of settings. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or postbaccalaureate student; Credit is allowed for only CED 645 or CPY 645 |

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| CPY | 650 | Counseling Latinos | Survey course addressing mental health concerns and perspectives for individuals and families of Latino, Spanish-speaking origin. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPY | 651 | Personality Assessment | Training in the use of major objective personality instruments to assess psychological symptoms; emphasizes MMPI-2 and MCMI-III. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Pre-requisite: CED 523 |
| CPY | 652 | Individual Intellect Assessment | Examines the nature of human intellectual/cognitive abilities, their standardized measurement, and related issues in interpretation and practice. Provides preliminary training and experience in the administration and interpretation of two of the most widely used tests in this area: the Wechsler Adult Intelligence Scale, 4th ed. & the Wechsler Intelligence Scale for Children, 5th ed. Introduces other instruments at a topical level. Emphasizes theoretical foundations, practice skills, cultural considerations and ethical issues in intellectual/cognitive assessment. Operates under the broad principles of a cooperative learning approach. By researching and presenting on key course concepts, students practice incorporating a scholarly and empirical basis into their clinical work to develop specialized expertise in clinical assessment. Class format includes instructor- and student-led didactics, discussion and practice labs. | N | SEM | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Master of Counseling or Counseling Psychology PhD student; Credit is allowed for only CPY 652 or CPY 691 (Individual Intellect Assessment) |
| CPY | 653 | Neuropsychology | Assumes students have knowledge of basic topics in physiological psychology and/or in brain and behavior-type courses. Concentrates on human neuropsychology; the main topics are related to functional brain organization and hemispheric specialization, with a particular emphasis on functional assessment. Includes several other topics related to late-breaking empirical developments in the field. Read and discuss articles and studies, employing a large variety of methodologies, ranging from the 1950s to the latest publications, with both normal and pathological subject populations. Much of the course is spent discussing brain assessment techniques to study cognitive function and dysfunction. Emphasizes commonly used approaches in the assessment and measurement of human behavior and how the human brain is responsible for cognition, language, memory, spatial processing, emotion and personality. | N | SEM | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Master of Counseling or Counseling Psychology PhD student; Credit is allowed for only CPY 653 or CPY 691 (Neuropsychology) |
| CPY | 654 | Biobases of Behavior | Fulfills the APA requirement for a three-semester-hour course devoted to the broad and general biological bases that underlie behavior, and surveys a variety of fundamental physiological principles. Designed for students enrolled in an APA-accredited professional psychology training program; it does not focus on application of physiological principles to psychological practice. Capitalizes on most students' prior familiarity with psychopathology to help enable acquisition of general information about important brain structures and functions. Includes information about basic nervous system-related biochemistry, cellular structure and physiology, and anatomy and physiology. Students participate in classroom problem solving activities during which an array of principles is covered based on reading assignments. Challenges students to consider the role of biological, evolutionary and genetic factors in the expression of an array of typical and atypical behavior. | N | SEM | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Master of Counseling or Counseling Psychology PhD student; Credit is allowed for only CPY 654 or CPY 691 (Biobases of Behavior) |
| CPY | 660 | Prevention and Consultation | Community focus with emphasis on outreach, prevention, psychoeducation, consulting, and advocacy from a systematic multicultural perspective. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Counseling MC or MED student OR Counseling Psychology PhD student; Credit is allowed for only CED 527 or CPY 660 |
| CPY | 668 | Grant Writing and Grant Makers: The Washington Context | Develops successful proposals for educational research projects. Students gain experience writing for federal agencies, reviewing, and being evaluated on grant proposals. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPY | 670 | Individual Differences | Focuses on definitions and assessment of ways humans vary on psychological constructs. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPY | 671 | Multicultural Counseling | Provides awareness of the influence of sociocultural variables on human development and explores implications for counseling minority populations. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate student; Credit is allowed for only CED 671 or CPY 671 |

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| CPY | 673 | Trauma in Counseling | Addresses the impact of crisis, disasters, sexual assault and other trauma-causing events on individuals and communities, as well as the treatment of trauma-related disorders. Examines trauma through the impact on the brain regions, impact on memory, variations of emotional regulation and somatic responses. Also addresses operations of emergency management systems within clinical mental health agencies and in the community. Also gives attention to vicarious trauma and caring for the caregiver. Demonstrations and experiential activities are a primary method of teaching and learning the theory and practice of working with trauma. Includes both directive and nondirective experiences. | N | SEM | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CPY 673 or CPY 691 (Working with Trauma in Counseling) |
| CPY | 674 | Counseling Women | Explores women's development and its implications for counseling. Sexism in mental health, sex differences in diagnosis and psychopathology, and women's particular treatment needs. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate |
| CPY | 675 | Health and Wellness Counseling | Theory, research, and practice in health and wellness counseling. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPY | 676 | Social Bases of Behavior | In-depth examination of contemporary research and theory in selected areas of social psychology. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPY | 677 | Advanced Counseling | Advanced topics in counseling theory, research, and practice. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CPY | 678 | Supervision Theory | Models of therapist development and clinical supervision. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPY | 679 | History and Systems of Psychology | Examines the development and differentiation of the discipline of psychology from its origins in philosophy to the present. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate |
| CPY | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate |
| CPY | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate |
| CPY | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate |
| CPY | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate |
| CPY | 694 | Substance Use, Disorders, Addiction and Therapy | Develops knowledge and skills for conducting psychotherapeutic and educational interventions to address substance use disorders and associated concerns. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPY | 701 | Science and Practice of Counseling Psychology | Directed experiences involving the integration of theory, research, and practice in counseling psychology. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate |
| CPY | 702 | Research Methods in Counseling Psychology | Applies experimental and/or quasi-experimental methods to theory construction and treatment evaluation in counseling psychology. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPY | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CPY | 783 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CPY | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate |
| CPY | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate |

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| CPY | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CPY | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-15 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate |
| CPY | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate |
| CPY | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-15 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate |
| CRD | 100 | Introduction to Community Development | Focuses on communities and draws on an interdisciplinary lens to orient students to the foundations of community development. Presents a holistic approach to communities as complex systems with the goal of addressing ecological, economic, social, cultural and political dimensions that play a vital role in decision making. Provides effective tools with which to engage various stakeholders (e.g., government, private, nonprofit, community). Framed within the theoretical context of social justice and community well-being. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | |
| CRD | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-3 | | Prerequisite(s): maximum 25 hours; Credit is allowed for only CRD 191, PRM 191 or TDM 191 |
| CRD | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |
| CRD | 200 | Foundations of Community Development | Focuses on development within the context of communities and draws on a holistic approach that encompasses social, economic and ecological dimensions of development. Orients students to municipal, state, national and international examples of development. Critical analyses of the application of development-related practices and policies implemented locally and internationally equip students with key assessment tools for complex systems. Presentations from key stakeholders grant students with first-hand information regarding issues, challenges and solutions that have been applied to various community development contexts. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 100 |
| CRD | 210 | Community Services and Professions | Allows students to develop an educational and career plan to use throughout their programs culminating in an ePortfolio. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Pre- or corequisite(s): CRD 200, NLM 160, or PRM 120 with C or better if completed OR Visiting University Student |
| CRD | 235 | Leadership and Ethics | Examines ethical questions faced by emerging leaders. Focuses on helping students develop emotional intelligence, current professional issues, and the refinement of a professional philosophy and comprehensive set of competences that enable transition from student to professional. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Credit is allowed for only CRD 235 or NLM 235 |
| CRD | 300 | Research Methods and Applied Skills | Orients students to the main methodological approaches utilized within the practice and study of community development. Discussion on research design and data collection complements the concepts employed in quantitative and qualitative approaches to development. Presents computer software applications. The goal is not mastery of research methods, but ability to critically consume research outputs as well as to design research-related documents. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 100; CRD 200 |
| CRD | 301 | Sustainable Communities | Analyzes community as concept and as an organizing system for promoting sustainability. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Pre- or corequisite(s): CRD 210, NLM 160, or PRM 120 with C or better if completed OR Visiting University Student |
| CRD | 302 | Inclusive Community Development | Examines the characteristics of diverse populations across the lifespan to effectively develop inclusive community programs and services. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | SB & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Pre- or corequisite(s): CRD 210 or PRM 210 with C or better if completed OR Visiting University Student |

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| CRD | 350 | Tourism, Recreation and Sports Marketing | Critical examination of marketing principles in leisure and related industries in diverse settings, including local, national, and international. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 210, CSM 201 or TDM 205; ENG 102, 105 or 108 with C or better; MAT 142 or higher with C or better; minimum 45 hours; Credit is allowed for only CRD 350 or CSM 350 or PRM 350 or TDM 350 OR Visiting University Student |
| CRD | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |
| CRD | 400 | Capstone: Leadership, Applied Skills and Community Development | Integrates and synthesizes knowledge disseminated throughout the entire community development degree program. Students purposefully revisit applications and principles of community development as well as community engagement skills and research tools necessary in collaborating with various groups of stakeholders. Introduces and applies concepts of conduct and ethics to discussions of careers in community development. Students apply acquired knowledge through culminating groups projects and group presentations. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 100; CRD 200; CRD 300 |
| CRD | 401 | Managing Leisure Enterprises | Analyzes administrative function, structure, and policies. Successful application in administrative situations. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 210 or PRM 210; TDM 372 or CSM 203 or PRM 203; minimum 2.50 GPA; Credit is allowed for only CRD 401 or CSM 401 or PRM 401 OR Visiting University Student |
| CRD | 402 | Assessment and Evaluation of Community Services | Introduces applied leisure research with emphasis on program evaluation, research design, data collection techniques, and data analysis. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 210 or PRM 210; Credit is allowed for only CRD 402 or CSM 402 or NLM 402 or PRM 402 or TDM 402 OR Visiting University Student |
| CRD | 403 | Leadership and Professional Development | Examines leadership theory and strategies, current professional issues, and refinement of professional philosophy and competencies that enable transition from student to professional. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s) with C or better: CRD 210, NLM 210, PRM 210, or TDM 210; CRD 301, CRD 302, NLM 301, PRM 301, or TDM 301; senior standing; min 2.50 GPA; Credit is allowed for only CRD 403 or NLM 403 or PRM 403 or TDM 403 OR Visiting University Student |
| CRD | 435 | Service Learning for Community Development | Applies community development and service-based learning applications. Students develop a professional relationship with an agency/organization management-level representative. Through this professional relationship, a service-learning plan is developed in a partnership with an agency/organization related to the student's degree program. | N | LEL | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CRD 435 or NLM 435 OR Visiting University Student |
| CRD | 463 | Senior Internship | Supervised guided experience in selected agencies. | N | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3-12 | | Prerequisite(s): CRD 403 or PRM 413 with C or better; Credit is allowed for only CRD 463 or CSM 463 or NLM 463 or PRM 463 or TDM 463 |
| CRD | 471 | Interprofessional Education and Community Health | Community-engaged service learning exposes students to community health and interprofessional education through the delivery of team-based services with vulnerable populations. Students build on their professional practice skills as they develop interprofessional competencies. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prereq(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only CRD 471 or HCR 471 or CRD/HCR/PRM 494 (Interprofessional Education & Community Health) or CRD 598 (Interprofessional Education & Community Health) OR Visiting University Student |

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| CRD | 472 | Interprofessional Education and Complex Health | Complex health community-based experiential learning with immersive "real-world" learning opportunities. Students dedicate hours at pre-approved placement sites serving a community; apply new (and advance prior) complex health knowledge and skills; benefit from an expanded scope of supervised practice experience while providing targeted complex health interventions that address health and health care disparity needs, improve care quality, and reduce care costs for individuals, families, communities, and/or populations with complex health needs. Students practice values and ethics, communication, roles and responsibilities, teams and teamwork, and leadership competencies essential for interprofessional collaborative practice and team-based care. Online and in-person collaborative learning includes: seminars, course readings, discussions, and reflection assignments to facilitate critical thinking and a deeper understanding of the delivery of complex health interprofessional team-based care in the community. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prereqs with C or better: CRD 471, HCR 471, or CRD/HCR 494 (Interprof Ed & Comm Hlth) OR Hlth Care Coord major; HCR 210; HCR 220; HCR 230; Credit for only CRD 472 or HCR 472 or CRD/HCR 494/598 (Interprof Ed & Complex Hlth) OR Visiting University Student |
| CRD | 473 | Interprofessional Education and Comprehensive Systems Health | Community-engaged experiential learning integrates students into comprehensive systems health and interprofessional education through the creation of team-based community impact projects with vulnerable populations. Students refine their professional practice and leadership skills as they integrate interprofessional competencies. | N | LEC | Y | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-3 | | Prereqs w/min C: CRD 471, CRD 472, HCR 471, HCR 472 or CRD/HCR494 (Interprf Ed&Comm Hlth or Interprf Ed&Cmplx Hlth) OR Hlth Care Coord, Comm Hlth or Integrative Hlth BS; HCR210; HCR220; HCR230; Credit for CRD 473 or HCR 473 OR Visiting University Student |
| CRD | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | Prerequisite(s): minimum 45 hours |
| CRD | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-6 | | Prerequisite(s): Barrett Honors student |
| CRD | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-6 | | Prerequisite(s): Barrett Honors student |
| CRD | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |
| CRD | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-3 | | |
| CRD | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | |
| CRD | 502 | Statistical and Data Analysis | Introduces descriptive and inferential methods used in community development, with an emphasis on nonprofit, tourism, and recreation sciences. Students gain experience using statistical software. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | |
| CRD | 530 | Community Services Management | Examines and applies administrative/management analysis of public and nonprofit sector applications. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRD | 552 | Critical Issues | Examines critical research issues in the leisure, recreation and tourism fields. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRD | 555 | Theoretical Perspectives in Community Development | Reviews theoretical and empirical literature in community development with an emphasis on nonprofit, tourism, and recreation sciences. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | |
| CRD | 563 | Advocacy in Therapeutic Recreation | Explores trends and issues facing therapeutic recreation professionals and advocacy practices integral to therapeutic recreation service delivery. Investigates a variety of topics; community-engaged experiences facilitate the development of competencies needed to effectively lead therapeutic recreation programs. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CRD 563 or PRM 440 |
| CRD | 569 | Advanced Tourism and Recreation Studies | Advanced study of tourism with an emphasis on relevant practices, theories, and concepts. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRD | 570 | Foundations of Community Development | Compare and contrast leading theories of community development in the historical context of the United States. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRD | 571 | The Community Development Process | Develops an understanding of the overall process of pursuing intentional community change and builds education, mobilization, and facilitation skills for engaging in the community development process. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|---|
| CRD | 572 | Community and Social Innovations | Considers community innovation and development from the perspective of achieving balance among economic, environmental, social, physical and political realms as a framework of sustainability. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CRD 572 or NLM 572 |
| CRD | 573 | Local and Regional Development | Builds core knowledge and analytical skills for the methods and sustainable outcomes of local and regional environmental and economic development. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 570; CRD 571 |
| CRD | 574 | Applied Research Skills | Develops skills in common qualitative and quantitative data collection and analysis methods used by community development practitioners. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRD | 577 | Community Building Practice | Builds core knowledge and analytical skills for the ethics and practice of building equitable communities, focusing on the development of self-efficacy, agency and solidarity. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 570; CRD 571 |
| CRD | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | |
| CRD | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | |
| CRD | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | |
| CRD | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | IND | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | |
| CRD | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | IND | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | |
| CRD | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1 | | |
| CRD | 596 | Community Development Capstone Project | Capstone application of core values, knowledge and skills in an applied project. The final product is a deliverable to a community partner, and serves as a culminating experience for the Master of Professional Studies in Community Development Practice. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 570; CRD 571; CRD 572; CRD 573; CRD 574 |
| CRD | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |
| CRD | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | IND | Y | Z2 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | |
| CRD | 610 | Sustainable Communities | Systems thinking for promoting sustainability. Considers issues at different scales ranging from urban to rural, local to global, historical to contemporary. Critically examines the role of public, private and nonprofit institutions in promoting quality of life. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRD | 620 | Community Research Methods | Introduces community research methods, with emphasis on methodological questions and techniques relevant to contemporary community-based research. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRD | 640 | Research Seminar in Community Resources and Development I | A seminar designed to explore issues related to advancing a career as a researcher in the fields associated with community resources and development (i.e., non-profit, recreation and parks, tourism). Critical to this study is an understanding of the conduct of high quality research, an understanding of issues that arise in professional settings (e.g., expediency vs. effectiveness), and ethical principles and processes that undergird research. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Pre-requisite: Doctoral student in Community Resources and Development |
| CRD | 650 | Research Seminar II | Helps prepare doctoral students to become productive and successful social scientists in community resources and development. Covers a wide range of topics under the broader conceptual umbrella of research, teaching, and service. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Pre-requisite: Doctoral student in Community Resources and Development |
| CRD | 683 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| CRD | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRD | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRD | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | LEC | Y | Z3 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRD | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | IND | Y | Z2 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRJ | 100 | Introduction to Criminal Justice | History and current practice of the criminal justice system. Roles of law enforcement agencies, courts and correctional agencies. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | SB | |
| CRJ | 201 | Criminal Justice Crime Control Policies and Practices | Dimensions and causes of crime. Criminal justice system responses. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | |
| CRJ | 203 | Courts and Sentencing | Structure and operation of criminal court system. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | |
| CRJ | 204 | Juvenile Justice | History and development of the juvenile court and the juvenile justice system. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | |
| CRJ | 210 | Introduction to Criminal Investigations | Studies the basic principles of criminal investigation including the analysis of investigative techniques, criminal patterns and modus operandi, interviewing and interrogation strategies, collection and management of evidence, surveillance, and crime scene investigation. Covers theories, philosophies and concepts related to suppression of crime. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 100 with C or better OR Visiting University Student |
| CRJ | 211 | Documenting the Crime Scene | Practical approach to evidence identification; documentation of the location of evidence; crime scene sketching; and the collection and handling of evidence from the crime scene, to the crime laboratory, and to presentation in court. Includes lab exercises designed to reinforce important investigative skills. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 100 with C or better OR Visiting University Student |
| CRJ | 230 | Introduction to Policing | History of police. Contemporary police work. Problems in policing. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | |
| CRJ | 240 | Introduction to Corrections | Structure and operation of corrections system. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | |
| CRJ | 260 | Criminal Law I: Introduction to Substantive Criminal Law | In-depth study of the historical development, foundational principles and public policy implications of criminal law, focusing on theories of criminal liability and the elements of select crimes against the person. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | |
| CRJ | 270 | Community Justice | Collaborative and evidence-based approach to reducing crime, incorporating offenders, victims, the community and criminal justice agencies. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | SB | |
| CRJ | 284 | Professional Growth in Criminal Justice | Targeted field practice with criminal justice agencies. Prerequisite for internship. | N | LEC | N | YGB | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 100 with C or better |
| CRJ | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-4 | | |
| CRJ | 300 | Oral and Written Communication for Criminology and Criminal Justice | Develops critical oral and written communication skills with emphasis on locating, analyzing, properly citing, and persuasively using primary and secondary sources in criminology and criminal justice. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| CRJ | 302 | Research Methods | Validity and reliability of research designs and data collection. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | L | Prerequisite(s): CRJ 100 with C or better; CRJ 201 with C or better; ENG 101, 105, or 107 with C or better; MAT 117, 119, 142, 170, 210, or 270 with C or better OR Visiting University Student |

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| CRJ | 303 | Statistical Analysis | Fundamentals and application of descriptive and inferential statistics. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | CS | Prerequisite(s): CRJ 100 with C or better; CRJ 201 with C or better; MAT 117, 119, 142, 170, 210, or 270 with C or better OR Visiting University Student |
| CRJ | 304 | Inequality, Crime and Criminal Justice | Explores variability in the perpetration, apprehension, prosecution and punishment of crime, as well as criminal victimization by race, ethnicity, class and socio-economic status, religion, gender and gender identity, sexual orientation, and disability status. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 100 with C or better; CRJ 201 with C or better; junior or senior standing OR Visiting University Student |
| CRJ | 305 | Gender, Crime, and Criminal Justice | Women as offenders, victims and professionals in the criminal justice system. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | C | Prerequisite(s): CRJ 100 with C or better; CRJ 201 with C or better; junior or senior standing OR Visiting University Student |
| CRJ | 306 | Race, Ethnicity, Crime, and Criminal Justice | Minority issues in the criminal justice system. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | C | Prerequisite(s): CRJ 100 with C or better; CRJ 201 with C or better; junior or senior standing OR Visiting University Student |
| CRJ | 309 | Criminology | Theoretical explanations for criminal behavior. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | SB | Prereq(s) w/ C or better: Crim & Crim Just or Pub Serv & Pub Policy (Crim) major; CRJ 100; CRJ 201; min 56 hrs OR Psych (Forensic Psych) BA or BS major; Credit allowed for only CRJ 309 (or CRJ 225) or CRJ 414 (or CRJ 308) OR Visiting University Student |
| CRJ | 315 | Police Organization and Management | Structure, processes and behavior of police organizations. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 100, JUS 105, or JUS 305 with C or better; CRJ 230 with C or better |
| CRJ | 317 | Inside-Out Prison Exchange Program | Pairs university students and correctional students inside a prison to examine the criminal justice system through a combination of theoretical knowledge and practical experience, paying special attention to race, gender, socioeconomic status, age, and ethnicity. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CRJ 317 or CRJ 494 (Inside-Out Prison Exchange) |
| CRJ | 321 | Evidence: Imperatives of Proof | Problems and means of establishing identity and fact in relation to arrest, detention, adjudication, sentencing, and correctional case management. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 100 with C or better; CRJ 201 with C or better; junior or senior standing OR General Studies BA major OR Interdisciplinary Studies BIS major OR Visiting University Student |
| CRJ | 350 | Law and Social Control | Resolution of social issues through the application of law as an agent of social control. Nature, sanctions, and limits of law. Categories of law and schools of jurisprudence. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | SB | Prerequisite(s): CRJ 100 with C or better; CRJ 201 with C or better; junior or senior standing OR General Studies BA major OR Interdisciplinary Studies BIS major OR Visiting University Student |
| CRJ | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-4 | | |
| CRJ | 403 | Victims and the Criminal Justice System | Victimization theories. Nature and extent of victimization. Interactions among victims, the criminal justice system and society. Victim rights and services. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prereq(s) w/ C or better: Crimnlgy & Crim Just mjr; CRJ 302; CRJ 303 OR Law & Hmn Behav cert; CRJ 302; CRJ 303 or PSY 230; PSY 290 OR Pub Serv & Pub Pol (Crimnlgy or Emer Mgt & Hmlnd Sec or Law & Pol) mjr; PAF 301; PAF 302 OR Visiting University Student |
| CRJ | 404 | Juvenile Delinquency | Causes, correlations and strategies to reduce juvenile delinquency. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 302 with C or better; CRJ 303 with C or better OR Public Service & Public Policy (Criminology, Emer Mgt & Homeland Security, or Law & Policy) BS major; PAF 301 with C or better; PAF 302 with C or better OR Visiting University Student |
| CRJ | 405 | Neighborhoods and Crime | Variation in crime across neighborhoods from ecology of crime and urban sociology perspectives. Influence of social institutions on community crime patterns. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 302 with C or better; CRJ 303 with C or better OR Public Service and Public Policy (Criminology, Emergency Management and Homeland Security, or Law and Policy) BS major; PAF 301 with C or better; PAF 302 with C or better |

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| CRJ | 406 | Sex Crimes | Prevalence, nature and etiology of sex crimes. Response of criminal justice system to victims and perpetrators of sex crimes. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prereq(s) w/C or btr: Crim&Crim Just BS: CRJ 302; CRJ 303 OR Lw&Hmn Bhv crt: CRJ 302; CRJ 303 or PSY 230; PSY 290 OR Psy(ForPsy)BA/BS: PSY 230; PSY 290 OR PubSer&PubPol(Crim, Emer Mgt&Hm Sec, or Lw&Pol)BS: PAF 301; PAF 302 OR Visiting University Student |
| CRJ | 407 | Police Use of Force | Explores the use of force options available to police officers. After analyzing the legal foundations of use of force, examines the community context. Also studies future technology and examines current research on the topic. Uses case studies to demonstrate the historical and current issues in police use of force. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prereq(s): w/ C or better: Crim & Crim Just mjr; CRJ 302; CRJ 303 OR Pub Serv & Pub Pol (Crimnlgy, Emerg Mgmt & HmInd Sec, or Law & Pol) mjr; PAF 301; PAF 302; Credit for only CRJ 407 or CRJ 494 (Police Use of Force or Force in Law Enfrmnt) |
| CRJ | 408 | Drugs and Crime | Patterns of illegal drug use. Problems, practices and policies associated with drugs, crime and drug policy. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 302 with C or better; CRJ 303 with C or better OR Public Service & Public Policy (Criminology, Emer Mgt & Homeland Security, or Law & Policy) BS major; PAF 301 with C or better; PAF 302 with C or better OR Visiting University Student |
| CRJ | 409 | Police Accountability | Command and control systems. Managing police culture. Community policing and accountability to the community. Police training. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 302 with C or better; CRJ 303 with C or better OR Public Service & Public Policy (Criminology, Emer Mgt & Homeland Security, or Law & Policy) BS major; PAF 301 with C or better; PAF 302 with C or better OR Visiting University Student |
| CRJ | 410 | Criminal Procedure I: The Law of Investigations | In-depth exploration of U.S. Constitutional law governing criminal investigative procedures. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 100, 203, or 230 with C or better; minimum junior standing OR Visiting University Student |
| CRJ | 411 | Legal Issues in Corrections | Explores the constitutional and statutory law concerning prisoners in the United States. Places special emphasis on the First, Fourth, Fifth, Sixth, Eighth and Fourteenth Amendment rights of persons under the jurisdiction of correctional agencies, as well as their rights under relevant statutes and case law, including those affecting habeas corpus right. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prereq(s) with C or better: Criminology & Criminal Justice major; CRJ 302; CRJ 303 OR Correctional Studies cert; CRJ 100 OR Public Service & Public Policy (Criminology, Emergency Management & Homeland Security, or Law & Policy) major; PAF 301; PAF 302 |
| CRJ | 412 | International Terrorism | Structural, organizational, political and legal characteristics of international terrorism. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prereqs w/C or better: Crimnlgy & Crim Just major; CRJ 302; CRJ 303 OR Publ Serv & Publ Pol (Crimnlgy or Emer Mgt & Homeland Sec or Law & Pol) major; PAF 301; PAF 302; Credit allowed for CRJ 412 or CRJ 494 (Intl Terrorism) OR Visiting University Student |
| CRJ | 414 | Advanced Criminological Theory | Critical assessment of criminological thought using original readings. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminology & Crim Jus major; CRJ 302 w/ C or better; CRJ 303 with a C or better OR Law & Humn Behavr Cert Students: CRJ 100 with a C or better; min junior standing; Credit is allowed for only CRJ 309 (or CRJ 225) or CRJ 414 (or CRJ 308) |
| CRJ | 416 | Criminal Procedure II: Adjudication | In-depth study of the constitutional rights attendant to the processing and adjudication of criminal cases in court, from initial court appearances through appeals and collateral attacks. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 203; CRJ 410 OR Visiting University Student |
| CRJ | 417 | Cyber Terrorism | Terrorism perpetuated online. Terrorism and technology. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s) with C or better: Criminology & Criminal Justice major; CRJ 302; CRJ 303 OR Public Service & Public Policy (Criminology or Emergency Management & Homeland Security or Law & Policy) BS major; PAF 301; PAF 302 OR Visiting University Student |

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| CRJ | 419 | Domestic Terrorism | Evolution of domestic terrorism in the United States. History and future of domestic security. Public policy responses. Internal and external political implications. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s) with C or better: Criminology & Crim Justice BS major; CRJ 302; CRJ 303 OR App Sci (Emer Mgt) BAS or Publ Service & Publ Policy (Criminology, Emer Mgt & Homeland Sec, Law & Policy) BS major; PAF 301; PAF 302 OR Visiting University Student |
| CRJ | 422 | Violence in America | Theories, patterns, prevention and policy responses to violence in the United States. Varieties of violence including domestic, gang-related, hate crimes, school violence and sex crimes. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s) with C or better: Criminology & Criminal Justice major; CRJ 302; CRJ 303 OR Public Service & Public Policy (Criminology, Emergency Management & Homeland Security, or Law & Policy) BS major; PAF 301; PAF 302 OR Visiting University Student |
| CRJ | 423 | Sacred Crimes: Religion and Violence | Religion is capable of doing great good in the lives of humans, leading them to personal betterment and positive social contributions. Yet, throughout human history religion has also led some individuals to engage in acts of violence and other dangerous behaviors. This course explores the history of several religious traditions and texts and their complicated connections to violence and criminality. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | G & H | Prerequisite(s): ENG 102, 105, or 108 w/ C or better; Credit is allowed for only CRJ 423 or FOR 413 or REL 413 or FOR 494 (Sacred Crimes: Religion, Violence & Crim) or REL 494 (Sacred Crimes: Religion, Violence & Crim) OR Visiting University Student |
| CRJ | 425 | Life-Course Criminology | Theories, methods and controversies of the life-course perspective as it applies to crime. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prereq(s) w/ C or btr: Crim&Crim Just BS mjr; min jr standing; CRJ 302; CRJ 303 OR Juvenile Just or Law & Human Behavior cert stud; min jr standing; CRJ 100; Credit is allowed for only CRJ 425 or CRJ 494 (Life-Course Crim) OR Visiting University Student |
| CRJ | 427 | Crime and Media | Examines the relationships among crime and discourse, media representations of crime and criminals, and the structural deficiencies in society that perpetuate relations of domination and oppression based on class, race, gender and sexuality. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): minimum junior standing; minimum 2.00 GPA; Credit is allowed for only COM 427 or CRJ 427 or COM 494 (Crime, Communication and Media) or CMN 598 (Crime, Communication and Media) OR Visiting University Student |
| CRJ | 433 | Death Investigations: Principles of Forensic Medicine | Medico-legal investigation of death via postmortem examinations. Identification, thanatology, thanato-etiology of unexpected natural deaths, accidental deaths, suicides and homicides. Forensic examination of living people following sexual assault, traffic offenses, child abuse and drug crimes. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s) with C or better: Criminology and Criminal Justice BS major; CRJ 302; CRJ 303 OR Public Service and Public Policy (Criminology, Emergency Management and Homeland Security, or Law and Policy) BS major; PAF 301; PAF 302 |
| CRJ | 434 | Drugs of Abuse | Pharmacological and toxicological characteristics of commonly abused drugs such as alcohol, barbiturates, amphetamines, narcotics, stimulants and hallucinogens. Forensic toxicology. Acute and long-term effects of drug abuse. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prereq(s): w/ min C: Crimnlg & Crim Just mjr: CRJ 302; CRJ 303 OR Lw & Hman Bhvior crt: CRJ 302; CRJ 303 or PSY 230; PSY 290 OR Pblic Serv & Pblic Pol (Crimnlg or Emerg Mgt & Hmlnd Sec or Lw & Pol) mjr: PAF 301; PAF 302 OR Visiting University Student |
| CRJ | 435 | Crime and Forensic Mental Health | Clinical assessment of people under court jurisdiction. Topics include psychological paradigms, nomenclature of mental disorders, forensic clinical assessment, mental disorders and crime, legal standards governing mentally disordered criminal offenders. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | SB | Prereq(s) w/C or better: Crimnlg&Crim Just BS: CRJ 302; CRJ 303 OR Law&Hmn Behv cert: CRJ 302; CRJ 303 or PSY 230; PSY 290 OR Psych (Forens Psych) BA/BS: PSY 230; PSY 290 OR Pub Serv&Pub Pol (Crimnlg, Emer Mgt&Hmlnd Sec, or Law&Pol) BS: PAF 301; PAF 302 |
| CRJ | 443 | Community Corrections | Probation and parole. Types of community corrections programs. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s) w/ C or better: Criminology & Criminal Justice major; CRJ 302; CRJ 303 OR Public Service & Public Policy (Criminology or Emergency Management & Homeland Security or Law and Policy) major; PAF 301; PAF 302 OR Visiting University Student |

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| CRJ | 444 | Institutional Corrections | Provides an overview of secure correctional facilities in the U.S. with a focus on prisons and jails. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s) with C or better: Criminology and Criminal Justice BS major; CRJ 302; CRJ 303 OR Public Service and Public Policy (Criminology or Emergency Management and Homeland Security or Law and Policy) BS major; PAF 301; PAF 302 |
| CRJ | 445 | Tools for Engaging Correctional Populations | Provides an overview to risk and needs assessment with correctional populations, with a particular focus on introducing tools to engage with and rehabilitate individuals. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prereq(s) w/ C or better: Criminology & Criminal Justice BS major; CRJ 302; CRJ 303 OR Public Service & Public Policy (Criminology or Emergency Management & Homeland Security, or Law & Policy) BS major; PAF 301; PAF 302 OR Visiting University Student |
| CRJ | 450 | Crime Analysis | Tactical, strategic and administrative aspects of crime analysis and crime mapping as practiced in everyday policing. Environmental criminology. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prereq(s) w /C or better: Criminology & Criminal Justice BS major; CRJ 302; CRJ 303 OR Public Service & Public Policy (Criminology or Emergency Management & Homeland Security or Law & Policy) BS major; PAF 301; PAF 302 OR Visiting University Student |
| CRJ | 455 | Police and International Terrorism | Suicide bomber interdiction, jihadism, and anti-terrorism intelligence gathering. History of prior attacks and policy responses. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 201 with C or better; minimum junior standing; Credit is allowed for only CRJ 455 or CRJ 555 or CRJ 494 (Police and Int'l Terrorism-Israel) |
| CRJ | 456 | Etiology of Martyrdom | Development of a jihadist mindset. Social support for beliefs that lionize martyrdom. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 201 with C or better; minimum junior standing; Credit is allowed for only CRJ 456 or CRJ 556 or CRJ 494 (Etiology of Martyrdom) |
| CRJ | 460 | Criminal Law II: Advanced Substantive Criminal Law | In-depth study of the historical development, foundational principles, and public policy implications of criminal law focusing on parties to crime, inchoate liability, select crimes against the person; crimes against property, public order and the state; and defenses to crime. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 260 OR Visiting University Student |
| CRJ | 461 | Intimate-Partner Violence | Examines the prevalence, causes and consequences surrounding physical, psychological, sexual and financial abuse of family and intimate partners. Pays special attention to underserved populations (e.g., people of color, Indigenous persons, and LGBTQ+ people) who are particularly impacted by systemic racism and hetero-normative worldviews that play important roles in intimate-partner violence. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s) with C or better: Criminology & Criminal Justice major; CRJ 302; CRJ 303 OR Public Service & Public Policy (Criminology, Emergency Management & Homeland Security, or Law & Policy) BS major; PAF 301; PAF 302 OR Visiting University Student |
| CRJ | 462 | Gangs | History and development of gangs. Criminal justice system responses. Nature of gangs and gang members. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s) with C or better: Criminology & Criminal Justice major; CRJ 302; CRJ 303 OR Public Service & Public Policy (Criminology, Emergency Management & Homeland Security, or Law & Policy) major; PAF 301; PAF 302 OR Visiting University Student |
| CRJ | 463 | White Collar Crime | Business, professional and official lawbreaking including consumer fraud, securities violations, unethical behavior and political corruption. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s) w/ C or better: Criminology & Criminal Justice BS major; CRJ 302; CRJ 303 OR Public Service & Public Policy (Criminology, Emergency Management & Homeland Security, or Law & Policy) BS major; PAF 301; PAF 302 OR Visiting University Student |
| CRJ | 464 | Organized Crime | Nature and history of organized crime. Theories of containment. Criminal justice agency responses. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s) w/ C or better: Criminology & Criminal Justice BS major; CRJ 302; CRJ 303 OR Public Service & Public Policy (Criminology, Emergency Management & Homeland Security, or Law & Policy) BS major; PAF 301; PAF 302 OR Visiting University Student |

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| CRJ | 470 | Discretionary Justice | Use and abuse of discretion in the criminal justice system. Theoretical and empirical links between discretion and discrimination based on race, ethnicity and gender. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | L or SB | Prerequisite(s) w/ C or better: Criminology & Crim Just major; CRJ 302; CRJ 303; ENG 101, 105, 107 OR Public Serv & Pub Policy (Criminology, Emerg Mgmt & Homeland Sec or Law & Pol) major; ENG 101, 105, 107; PAF 301; PAF 302 OR Visiting University Student |
| CRJ | 474 | Correctional Psychology | Covers the basic principles of correctional psychology, including psychologists' roles in prisons and jails, the unique challenges of working in these settings, establishing successful relationships with correctional staff and inmates, and the various career opportunities in correctional psychology. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): PSY 366; Credit is allowed for only CRJ 474 or PSY 474 OR Visiting University Student |
| CRJ | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-12 | | Prerequisite(s): minimum 56 hours; minimum 2.75 GPA; complete three from CRJ 100, 302, 303, 304, 305, 306, or 309 with C or better |
| CRJ | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-6 | | Prerequisite(s) with C or better: Barrett Honors stdnt; Criminology & Criminal Justice BS major; CRJ 302; CRJ 303 OR Barrett Honors stdnt; Public Serv & Public Policy (Criminology, Emergncy Mgt & Homeland Sec, or Law & Policy) BS major; PAF 301; PAF 302 |
| CRJ | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-6 | L | Prereq(s) w/ C or btr: Barrett Hons stdnt; Crimlgy&Crim Just BS mjr; ENG 101, 105, or 107; CRJ 302; CRJ 303 OR Barrett Hons stdnt; Pub Serv&Pub Policy (Criminlgy, Emergncy Mgt&Homeland Sec, or Law & Policy) BS mjr; ENG 101, 105, or 107; PAF 301; PAF 302 |
| CRJ | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-4 | | Prerqs w/ C or better: Crim & Crim Just BS mjr; CRJ 302; CRJ 303 OR Law & Hmn Behav cert; CRJ 302; CRJ 303 or PSY 230; PSY 290 OR Pub Srv & Pub Pol (Crimlgy, Emergncy Mgt & Homelnd Sec, or Law & Pol) BS mjr; PAF 301; PAF 302 OR Visiting University Student |
| CRJ | 496 | Directed Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to contribute to a specific project such as a report or publication. Tasks may include data collection and coding, data analysis, literature reviews and producing research reports. Neither a substitute for a catalog course nor a means of taking a catalog course on an individual basis. Requires application well in advance of regular registration with the student's advisor, the advisor's signature, and approval by both the faculty member with whom the student will work and the director of the school offering the course. | N | RSC | Y | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-3 | | Prerequisite(s) with C or better: Criminology & Criminal Justice BS major; CRJ 302; minimum junior standing OR Public Service & Public Policy (Criminology, Emergency Mgmt & Homeland Security, or Law & Policy) BS major; PAF 302; minimum junior standing |
| CRJ | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-3 | | Prerequisite(s): minimum 45 hours |
| CRJ | 501 | Seminar in Criminal Justice | Overview of the American criminal justice system, with emphasis on policy issues in police, courts, sentencing, corrections. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Forensic Psychology MS student OR Law and Psychology PhD student |
| CRJ | 502 | Seminar in Criminology | Theory and research on the nature, causes, and prediction of criminal careers and events. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA major OR Criminology and Criminal Justice MS or PhD major OR Forensic Psychology MS OR Law and Psychology PhD major |
| CRJ | 503 | Research Methods | Introduces data analysis; overview of research methods used in social science research, including experimental design, survey research, field research, and evaluation research. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 504 | Statistical Tools for Criminology and Criminal Justice | Focuses on essential statistical analysis that can be used in criminal justice and related agencies. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |

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| CRJ | 505 | Theory and Practice in Criminal Justice | Capstone course for School of Criminology and Criminal Justice master's students. Students complete a project that requires the application of knowledge from program coursework. | N | RSC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student; CRJ 501; CRJ 502; CRJ 510; CRJ 511 |
| CRJ | 506 | Seminar in Crime Analysis | Examines theory and practice of crime analysis in the field of criminal justice. Focuses on data collection, management and dissemination methods; related technology and software; and analytical techniques to examine crime trends, the spatial distribution of crime, and temporal trends in crime for the purpose of understanding and responding to crime. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Crime Analysis graduate certificate, Crime Analysis MS, Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, Forensic Psychology MS, or Law and Psychology PhD student |
| CRJ | 507 | Social Network Analysis | Examines the theory and practice of social network analysis in the field of criminal justice. Focuses on the major theoretical assumptions of social network analysis, how to collect social network data, how to use social network analysis software, and how to analyze and interpret social network data for the purpose of understanding and responding to crime. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Crime Analysis graduate certificate, Crime Analysis MS, Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, Forensic Psychology MS, or Law and Psychology PhD student |
| CRJ | 508 | Advanced Seminar in Crime Analysis | Examines advanced topics in the practice of crime analysis in the field of criminal justice. Students learn the terminology, principles and techniques crime analysts use in everyday practice. Provides an exploration of the various approaches to analyzing and reducing crime as well as the theories that inform those approaches. Examines situational analysis and its approach to managing the occurrence of crime; also explores crime prevention through community-based approaches to crime prevention. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 506 |
| CRJ | 509 | Data Management | Core concepts and practices used for the organization and management of data. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Crime Analysis graduate certificate, Crime Analysis MS, Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, Forensic Psychology MS, or Law and Psychology PhD student; CRJ 511 |
| CRJ | 510 | Criminal Justice Planning and Program Evaluation | Examines the application of alternative models of strategic planning to the criminal justice system. Covers methods of evaluating criminal justice policies and practices. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Crime Analysis MS, Crime Analysis graduate certificate, Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, or Law and Psychology PhD student |
| CRJ | 511 | Applied Data Analysis in Criminal Justice | Examines a variety of tools used in the analysis of criminal justice data, including GIS mapping. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prereq(s): Crime Analysis MS, Crime Analysis grad certificate, Criminal Justice MA, Criminology & Criminal Justice MS, Criminology & Criminal Justice PhD, Emergency Management & Homeland Security MA (all concentrations), or Law & Psychology PhD student |
| CRJ | 512 | Seminar in Policing | Graduate-level review of policing and police organizations. Seminar examines research on police strategies and practices designed to address crime. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Crime Analysis MS, Crime Analysis graduate certificate, Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, Forensic Psychology MS, or Law and Psychology PhD student |
| CRJ | 513 | Seminar in Courts and Sentencing | Overview of the nature, proposed principles, and theoretical doctrine of the courts and sentencing policies in criminal justice. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Forensic Psychology MS student OR Law and Psychology PhD student |
| CRJ | 514 | Seminar in Corrections | Theory, research, and policy issues regarding community-based and institutional correction programs. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Forensic Psychology MS student OR Law and Psychology PhD student |
| CRJ | 515 | Seminar in Women and Crime | Introduces students to issues regarding women and the criminal justice system, focusing on their roles as offenders, victims and professionals. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 516 | Seminar in Criminal Justice Organization and Management | How external and internal variables shape criminal justice systems' organizational behaviors. Emphasizes strategic hiring, professional socialization, effective leadership, progressive discipline, interagency collaboration and organizational change. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |

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| CRJ | 517 | Seminar on Juvenile Delinquency and Juvenile Justice | Examines patterns and correlates of delinquency within the context of theories of delinquency. Reviews the response of the juvenile justice system. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, Forensic Psychology MS, or Law and Psychology PhD student |
| CRJ | 518 | Seminar on Race/Ethnicity, Crime, and Justice | Theoretical perspectives and research on the overrepresentation of racial minorities as victims, offenders, and defendants in the criminal justice system. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 519 | Seminar on Victimization | Examines theory and research concerning victimization and consequences for victims, society, and the justice system. Also examines effective responses to victims' post-crime needs. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, Forensic Psychology MS, or Law and Psychology PhD student |
| CRJ | 520 | Seminar on Violent Crime | Examines patterns and correlates of violent crime, as well as prevention strategies and policy implications. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, Forensic Psychology MS, or Law and Psychology PhD student |
| CRJ | 521 | Topics in Psychological Criminology | Topical courses relating to the intersection of various specializations in psychology with criminology and criminal justice. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, Forensic Psychology MS, or Law and Psychology PhD student |
| CRJ | 522 | Seminar on Gangs and Crime | Theoretical perspectives and research on gangs and crime, and on the role of the community and the criminal justice system in causes and control. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, Forensic Psychology MS, or Law and Psychology PhD student |
| CRJ | 523 | Seminar in Network Criminology | Explores the theoretical foundations for applying the concepts and methods of network science to problems in criminology and criminal justice. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA, Criminology and Criminal Justice MS or PhD, Forensic Psychology MS or Law and Psychology PhD student |
| CRJ | 524 | Theories of Punishment | Examines the fundamental philosophical principles of justice and punishment. Includes a comparative and historical perspective. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 525 | Seminar on Life-Course Criminology | Provides an intensive examination of life-course explanations of crime, the life-course perspective and a theoretical orientation, and research methods used in life-course research. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 527 | Police Accountability | Examines the great authority of police, the various and most common ways that police abuse that authority, the consequences of those abuses, and accountability mechanisms that can prevent those abuses from occurring. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 529 | Community Corrections | Provides a review of theory, research and policy focusing primarily on correctional strategies and programs that take place within the community setting, as well as the function of community corrections within the larger correctional system. Gives particular attention to the purpose and goals of community-based corrections; the historical development of probation and parole practices; and contemporary community corrections programs and strategies such as evidence-based practices, risk assessment, offender reentry, sex offender management, diversion, restitution, community service programs and other emerging alternatives to traditional incarceration. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, Forensic Psychology MS, or Law and Psychology PhD student |
| CRJ | 530 | Seminar in Forensics | Explores recent and sometimes controversial developments in forensic science. Includes topics such as quality assurance, the CSI effect and the National Academy of Sciences' report entitled "Strengthening Forensic Science in the United States: A Path Forward." | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 531 | Crime Mapping | Examines the applied research methodology and conceptual framework used to conduct spatial analysis within the crime analysis profession. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Crime Analysis MS, Crime Analysis graduate certificate, Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, or Law and Psychology PhD student |
| CRJ | 532 | Sex Crimes | Not only discusses the distinctions among types of offenders, but also applies theory, analyzes public policy, examines the effect of sex offenses on victims, and discusses how we've legislated sexual behavior over human history. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, Forensic Psychology MS, or Law and Psychology PhD student |

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| CRJ | 533 | Seminar in White Collar Crime | Provides a general overview of white collar crimes including forms, contexts and response by the criminal justice system toward offenders and victims. Also addresses theoretical perspectives. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student; Credit is allowed for only CRJ 533 or CRJ 598 (Seminar in White-Collar Crime) |
| CRJ | 535 | Seminar in Crime and Forensic Mental Health | This interdisciplinary course, which draws from the fields of criminology, psychology, sociology and law, focuses on the clinical assessment of people under the jurisdiction of a court of law. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, Forensic Psychology MS, or Law and Psychology PhD student; Credit is allowed for only CRJ 535 or CRJ 598 (Crime and Forensic Mental Health) |
| CRJ | 537 | Criminal Procedure of Investigations for Social and Forensic Scientists | Explores the criminal procedures mandated by the U.S. Constitution as applied to criminal investigations with emphases on pretrial rights under the Fourth, Fifth and Sixth Amendments. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Forensic Science PSM student OR Law and Psychology PhD student |
| CRJ | 538 | Criminal Law and Social Control | Examines practical, legal and constitutional limitations of criminal laws and procedures as means of securing social order. Focuses on the formal social control of justice system actors and the limits placed on government when seeking to control crime. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Forensic Psychology MS student OR Law and Psychology PhD student |
| CRJ | 539 | Topics in Law, Crime and Justice | Topical courses relating to the intersection of law with criminology, criminal justice, public policy and the social sciences. | N | LEC | Y | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminology and Criminal Justice MS or PhD, Forensic Psychology MS, or Law and Psychology PhD student |
| CRJ | 540 | Qualitative Methods | Provides students with an examination of the design, execution, and write-up of qualitative research. Discusses methods of data collection, including participant-observation, ethnography, and interviewing. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 553 | Terrorism and Weapons of Mass Destruction | Historical evolution of terrorism and weapons of mass destruction. Analyzes current theories and mitigation, preparedness, and response tactics. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Emergency Management and Homeland Security MA student (all concentrations) OR Law and Psychology PhD student |
| CRJ | 554 | Homeland Security | Presents skills necessary to develop policies, strategies, programs, and organizational structure of an all hazards/all risk homeland security program. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology & Criminal Justice MS or PhD student OR Emergency Management & Homeland Security MA student (all concentrations) OR Law & Psychology PhD student; Credit is allowed for only CRJ 554 or PAF 461 |
| CRJ | 555 | Police and International Terrorism | Suicide bomber interdiction, jihadism and anti-terrorism intelligence gathering. History of prior attacks and policy responses. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA or Criminology and Criminal Justice MS or Criminology and Criminal Justice PhD student; Credit is allowed for only CRJ 445 or CRJ 555 or CRJ 598 (Police and Int'l Terrorism-Israel) |
| CRJ | 556 | Etiology of Martyrdom | Development of a jihadist mindset. Social support for beliefs that lionize martyrdom. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology & Criminal Justice MS or PhD student OR Emergency Management & Homeland Security MA student OR Law & Psychology PhD student |
| CRJ | 557 | Seminar in Domestic Terrorism | Develops a foundation of theoretical approaches to understanding domestic terrorism in the United States of America. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology & Criminal Justice MS or PhD student OR Emergency Management & Homeland Security MA student OR Law & Psychology PhD student; Credit is allowed for only CRJ 557 or CRJ 598 (Seminar in Domestic Terrorism) |

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| CRJ | 558 | Seminar in International Terrorism | Reviews the various definitions of terrorism and how to apply these to terrorism issues and instances globally. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA stdnt OR Criminology & Criminal Justice MS or PhD stdnt OR Emergency Management & Homeland Security MA stdnt OR Law and Psychology PhD stdnt; Credit is allowed for only CRJ 558 or CRJ 598 (International Terrorism) |
| CRJ | 559 | Seminar in Cyber Terrorism | Explores the rapidly changing face of cyber warfare and cyber terrorism. Identifies and characterizes the fundamental aspects of cyber terrorism and the role of computers and the Internet in terrorist acts on information systems and critical infrastructure components. Analyzes cyber warfare techniques such as Denial of Service (DoS) attacks on critical infrastructure, man-in-the-middle attacks, sabotage and espionage. Evaluates the various cybercrimes that finance terrorism and cyber-criminal activities that associate with terrorism. Offers intensive study in specific areas of homeland security and cybersecurity with regard to nation-state cyberwarfare and terrorism. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA, Criminology & Crim Justice MS, Criminology & Crim Justice PhD, Emergency Mgmt & Homeland Security MA, or Homeland Security grad cert student; Credit is allowed for only CRJ 559 or CRJ 598 (Seminar in Cyber Terrorism) |
| CRJ | 560 | Topics in Research Methods | In-depth exploration of either a specific social scientific research method or a narrow range of related methods relevant to criminological and criminal justice research. | Y | LEC | Y | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA, Criminology and Criminal Justice MS or PhD, Forensic Psychology MS, Forensic Science PSM, or Law and Psychology PhD student |
| CRJ | 570 | Leadership and Innovation in Public Fire Services | Provides current and future fire service leaders with an understanding and the skills necessary to manage creativity and foster a culture of innovation in public fire and emergency services. The approach is to treat the fire officer as an entrepreneur who identifies ideas and opportunities, then builds a business case for innovation. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRJ | 571 | Foundations of Emergency Medical Services | Examines the operational structure of emergency medical services in the United States, including the current organization, delivery and financing of these systems. Discusses strengths, weaknesses and future challenges of EMS with consideration for creating systems better integrated with the overall health care delivery system. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRJ | 572 | Community Paramedicine: Mobile Integrated Health Care | Explores mobile integrated health care and community paramedic programs and how health care professionals and community partners can work together to identify community health needs, foster partnerships and overcome hurdles in MIH/CP program development. Discusses examples of successful MIH/CP programs. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRJ | 573 | Emergency Services: Operations Analysis and Planning | Applies common data analysis tools and techniques appropriate to risk assessment, deployment analysis and performance measurement to evaluate an organization's abilities to respond to community risk. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRJ | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRJ | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-12 | | Prerequisite(s): Criminal Justice MA, Criminology and Criminal Justice MS, or Criminology and Criminal Justice PhD student; CRJ 501 |
| CRJ | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-12 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-12 | | Prerequisite(s): Crime Analysis MS, Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, or Law and Psychology PhD student |
| CRJ | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |

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| CRJ | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | SEM | Y | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-4 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | N | RSC | Y | Z2 | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-12 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 601 | Seminar on Criminological Theory | Examines historical and contemporary criminological theories. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 602 | Seminar on Criminal Justice Policies and Practices | Analyzes responses to crime and the operation of criminal justice system, with emphasis on theory and research on effectiveness of policies and practices of the system. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 604 | Regression Models | Use and application of advanced statistical techniques and multivariate analysis of data. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminology and Criminal Justice MS or PhD student or Law and Society PhD student |
| CRJ | 605 | Topics in Quantitative Methods | Explores advanced techniques of statistical analysis within the field of criminal justice. | N | SEM | Y | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 606 | Advanced Topics in Theoretical Criminology | Focuses on criminological theory construction, historical and contemporary theoretical debates within criminology, theory testing, empirical support for theories, and theoretical integration. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 614 | Professional Development Workshop I: Professionalization | A structured series of four workshop sessions to help doctoral students adjust to graduate school and begin to chart a path toward success as a scholar and colleague. | N | LEC | N | YGB | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 0 | | Prerequisite(s): Criminology and Criminal Justice MS or PhD, Forensic Psychology MS, or Law and Psychology PhD student |
| CRJ | 615 | Professional Development Workshop II: Preparing to Teach Effectively | A structured series of four workshop sessions to help doctoral students develop teaching skills. | N | LEC | N | YGB | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 0 | | Prerequisite(s): Criminology and Criminal Justice MS or PhD, Forensic Psychology MS, or Law and Psychology PhD student |
| CRJ | 616 | Professional Development Workshop III: Navigating the Academic Job Market in CCJ | A structured series of four workshop sessions to help doctoral students navigate the academic job market. | N | LEC | N | YGB | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 0 | | Prerequisite(s): Criminology and Criminal Justice MS or PhD, Forensic Psychology MS, or Law and Psychology PhD student |
| CRJ | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRJ | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-15 | | Prerequisite(s): Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1 | | Prerequisite(s): Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-15 | | Prerequisite(s): Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CSE | 100 | Principles of Programming with C++ | Principles of problem solving using C++, algorithm design, structured programming, fundamental algorithms and techniques, and computer systems concepts. Social and ethical responsibility. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | CS | |
| CSE | 110 | Principles of Programming | Concepts of problem solving using an object-oriented programming language, algorithm design, structured programming, fundamental algorithms and techniques. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | CS | |
| CSE | 120 | Digital Design Fundamentals | Number systems, conversion methods, binary and complement arithmetic, Boolean algebra, circuit minimization, ROMs, PLAs, flipflops, synchronous sequential circuits. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): degree-seeking student; minimum 12 hours; Credit is allowed for only CSE 120 or EEE 120 OR Visiting University Student |
| CSE | 180 | Computer Literacy | Students gain fluency in integrating technology to efficiently and effectively solve problems using computational thinking. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | CS | |
| CSE | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-4 | | |

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| CSE | 205 | Object-Oriented Programming and Data Structures | Problem solving by programming with an object-oriented programming language. Introduces data structures. Overview of computer science topics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | CS | Prerequisite(s): CSE 100 or 110 with C or better OR Data Science, Analytics and Engineering PhD, Industrial Engineering MS, or Industrial Engineering PhD student; Credit is allowed for only ACO 102 or CSE 205 OR Visiting University Student |
| CSE | 220 | Programming for Computer Engineering | Introduction to C/C++, systems programming, and concurrency. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): CSE 205 with C or better OR Visiting University Student |
| CSE | 230 | Computer Organization and Assembly Language Programming | Register-level computer organization. Instruction set architecture. Assembly language. Processor organization and design. Memory organization. IO programming. Exception/interrupt handling. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prereqs: degree-seeking stdnt w/min C: CSE 100/110; CSE 120/EEE 120 OR Sftwr Engr or Engr Mgt maj w/min C; CSE 110; SER 232 OR Elec Engr maj; CSE 100/110; CSE 120/EEE 120 OR Cmp Sci & Engr grad; Credit for CSE 230/EEE 230 OR Visiting University Student |
| CSE | 240 | Introduction to Programming Languages | Introduces the procedural, object-oriented, functional and declarative languages. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): ACO 102 with C or better OR CSE 205 with C or better OR GIS major with GIS 222 with C or better OR Software Engineering graduate student; Credit is allowed for only ACO 240 or CSE 240 OR Visiting University Student |
| CSE | 259 | Logic in Computer Science | Logic has been called the calculus of computer science. The argument is that logic plays a fundamental role in computer science, similar to that played by calculus in physical sciences and other engineering disciplines. Indeed, logic plays an important role in computer architecture (Boolean logic, digital gates, hardware verification); software engineering (specification, verification); programming languages (semantics, type theory, logic programming); databases (relational algebra, database query language); artificial intelligence (automated theorem proving, knowledge representation); algorithms and theory of computation (complexity, computability, expressiveness). This course is a mathematically solid introduction to propositional logic, first order logic, logic programming, and their applications in computer science. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): CSE 205 with C or better; Credit is allowed for only CSE 259 or CSE 294 (Logic in Computer Science) OR Visiting University Student |
| CSE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-4 | | |
| CSE | 301 | Computing Ethics | Ethics for computing majors: history of computing, intellectual property, privacy, ethical frameworks, professional ethical responsibilities, and risks of computer-based systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1 | | Prerequisite(s): Computer Science BS or Computer Systems Engineering BSE major; CSE 205 with C or better; FSE 100 with C or better OR Informatics BS major; CPI 101 with C or better; CSE 205 with C or better OR Visiting University Student |
| CSE | 310 | Data Structures and Algorithms | Advanced data structures and algorithms, including stacks, queues, trees (B, B+, AVL), and graphs. Searching for graphs, hashing, external sorting. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prereqs w/min C: Comp Math Sci, Comp Sci, Comp Sys Egr, Data Sci, Dig Cult(Media Proc), Egr Mgt, Geo Info Sci or Informatics major; CSE 220 or 240; MAT 243 or 300 OR BMI/CEN/CS/Gbl Mgt Data Sci grad; Credit for CSE 310 or TGM 410 OR Visiting University Student |
| CSE | 320 | Design and Synthesis of Digital Hardware | Design and synthesis of digital hardware with hardware description language, computer-aided design tools, and programmable devices. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science BS or Computer Systems Engineering BSE major; CSE 220 or 240 with C or better; CSE 230 or EEE 230 with C or better OR Visiting University Student |
| CSE | 325 | Embedded Microprocessor Systems | System-level programming and analysis of embedded microprocessors systems. Fundamental concepts of digital system design for embedded system applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science BS or Computer Systems Engineering BSE major; CSE 220 or CSE 240 with C or better; CSE 230 or EEE 230 with C or better OR Visiting University Student |

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| CSE | 330 | Operating Systems | Operating system structure and services, processor scheduling, concurrent processes, synchronization techniques, memory management, virtual memory, input/output, storage management, and file systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science BS or Computer Systems Engineering BSE major; CSE 230 or EEE 230 with C or better; CSE 310 with C or better OR CSE graduate student; Credit is allowed for only ACO 350 or CSE 330 OR Visiting University Student |
| CSE | 335 | Principles of Mobile Application Development | Covers topics pertaining to fundamental concepts of mobile application development principles including design patterns; data persistence; interfacing with services and devices; location and incorporation of existing frameworks; user interface and experience; context awareness; utilization of built-in tools for software profiling, testing, and version control; and security/privacy issues. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science BS or Informatics BS or Computer Systems Engineering BSE major; CSE 220 or 240 with C or better; Credit is allowed for only BMI 310 or CSE 335 OR Visiting University Student |
| CSE | 340 | Principles of Programming Languages | Formal syntactic and semantic descriptions, compilation and implementation issues, and theoretical foundations for several programming paradigms. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Systems Engineer BSE or Computer Science BS major; CSE 310 with C or better; CSE 230 or EEE 230 with C or better OR CSE graduate student OR Visiting University Student |
| CSE | 355 | Introduction to Theoretical Computer Science | Introduces formal language theory and automata, Turing machines, decidability/undecidability, recursive function theory, and complexity theory. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Systems Engineering BSE or Computer Science BS major; CSE 310 with C or better OR CSE graduate student OR Visiting University Student |
| CSE | 360 | Introduction to Software Engineering | Software life cycle models; project management, team development environments and methodologies; software architectures; quality assurance and standards; legal, ethical issues. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Biomed Informat BS or Comp Sci BS or Dig Cult (Media Process) BA/BS or Geog Informat Sci BS or Comp Systems BSE or Engr Mgmt BSE major; CSE 220 or 240 w/ C or better OR Comp Sci or Software Engr grad stdnt OR Visiting University Student |
| CSE | 365 | Information Assurance | Concepts of information assurance (IA); basic IA techniques, policies, risk management, administration, legal and ethics issues. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): ACO 240, CIS 235, CIS 236, CSE 220, or CSE 240 with C or better OR Visiting University Student |
| CSE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-4 | | |
| CSE | 408 | Multimedia Information Systems | Design, use, and applications of multimedia systems. Introduces acquisition, compression, storage, retrieval, and presentation of data from different media such as images, text, voice, and alphanumeric. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science BS or Computer Systems Engineering BSE major; CSE 310 with C or better OR Software Engineering BS major; SER 222 with a C or better OR Computer Science and Engineering or Software Engineering graduate student |
| CSE | 412 | Database Management | Introduces DBMS concepts. Data models and languages. Relational database theory. Database security/integrity and concurrency. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prereq(s): Biomed Informs BS, Comp Sci BS, or Comp Syst Engr BSE mjr; CSE 310 w/ C or better OR Comp Sci & Engr or Software Engr grad stdnt; Credit is for only ACO 220 or ACO 320 or CSE 412 or IFT 300(or IFT 433) or SER 322 OR Visiting University Student |
| CSE | 414 | Advanced Database Concepts | Object-oriented data modeling, advanced relational features, JDBC and Web access to databases, XML and databases, object-oriented databases, and object-relational databases. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Systems Engineering BSE or Computer Science BS major; CSE 412 with C or better OR Computer Science and Engineering or Software Engineering graduate student |
| CSE | 420 | Computer Architecture I | Computer architecture. Performance versus cost tradeoffs. Instruction set design. Basic processor implementation and pipelining. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science BS or Computer Systems Engineering BSE major; CSE 230 or EEE 230 with C or better; CSE 310 with C or better; Credit is allowed for only CSE 420 or CSE 520 OR Visiting University Student |
| CSE | 423 | Systems Capstone Project I | Development process: specification, design, implementation, evaluation and testing with economic, social and safety considerations. Technical communication and team skills enrichment. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | L | Prerequisite(s) with C or better: Computer Systems Engineering BSE major; CSE 301; CSE 320; CSE 325; CSE 330; CSE 360; ENG 101, 105, or 107; Credit is allowed for only CSE 423 or CSE 485 |

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| CSE | 424 | Systems Capstone Project II | Continuation of capstone project started in CSE 423. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | L | Prerequisite(s): Computer Systems Engineering BSE major; CSE 423 with C or better; ENG 101, 105, or 107 with C or better; senior standing or postbaccalaureate student; Credit is allowed for only CSE 424 or CSE 486 |
| CSE | 434 | Computer Networks | Network architecture and protocols, principles of network applications, socket programming, flow and congestion control, switching and routing, link-layer technologies, traffic capture and analysis, security. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Comp Sci BS or Comp Syst Engr BSE major; CSE 230 or EEE 230 w/ C or better; CSE 310 w/ C or better OR Computer Science & Engr or Software Engr graduate student; Credit is allowed for only ACO 330 or CSE 434 OR Visiting University Student |
| CSE | 438 | Embedded Systems Programming | Development of embedded system software, I/O handlers, and multiple threaded programs. Scheduling algorithms. Embedded software structures. Real-time operating system. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | L | Prerequisite(s): Computer Science BS or Computer Systems Engineering BSE major; ENG 101, 105, or 107 with C or better; CSE 325 with C or better OR Computer Science and Engineering or Software Engineering graduate student |
| CSE | 440 | Compiler Construction I | Introduces programming language implementation. Implementation strategies such as compilation, interpretation, and translation. Major compilation phases such as lexical analysis, semantic analysis, optimization, and code generation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Systems Engineering BSE or Computer Science BS major; CSE 310 with C or better OR Computer Science and Engineering or Software Engineering graduate student |
| CSE | 445 | Distributed Software Development | Distributed system architectures and design, service-oriented computing, and frameworks for development of distributed applications and software components. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science BS or Computer Systems Engineering BSE major; CSE 360 with C or better OR Computer Science and Engineering or Software Engineering graduate student OR Visiting University Student |
| CSE | 446 | Software Integration and Engineering | Software development using architecture design, composition, workflow, services, data resources, data representations, data management, and development tools. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Pre- or corequisite(s): Computer Science BS or Computer Systems Engr BSE major; CSE 445 with C or better if completed OR Computer Science and Engr or Software Engr grad student; Credit allowed for only CSE 446 or 598 (Software Integration & Engineering) |
| CSE | 450 | Design and Analysis of Algorithms | Design and analysis of computer algorithms using analytical and empirical methods; complexity measures, design methodologies, and survey of important algorithms. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science BS, Computer Systems Engineering BSE, or Data Science BS major; CSE 310 with C or better OR Computer Engineering graduate student; Credit is allowed for only CSE 450 or CSE 551 OR Visiting University Student |
| CSE | 460 | Software Analysis and Design | Object-oriented and structured analysis and design; software architecture and design patterns; component-based development; software safety and reliability. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prereqs w/min C:Comp Sci, Geo Info Sci or Comp Sys Eng maj; CSE 360 OR SftwrEng maj; CSE 310, SER 222, or TGM 410; SER 315 or 316 OR CompSci&Eng, SftwrEng or online CS nondegree grad stdt; Credit allowed for CSE 460/SER 460 OR Visiting University Student |
| CSE | 463 | Introduction to Human Computer Interaction | Design, evaluate, and implement interactive software intended for human use. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prereqs w/C or btr: Cmp Sci BS or Cmp Sys Eng BSE or GIS BS; CSE 310 OR Dig Cltr (Mda Prcs) BA/BS or Inf BS; CPI 310 OR Sftwr Eng BS; SER 315 or 316; SER 222 OR Cmp Sci & Eng or Sftwr Eng grd st; Crdt only CSE 463 or SER 463 OR Visiting University Student |
| CSE | 464 | Software Quality Assurance and Testing | Software quality assurance (SQA), software quality metrics, software configuration management, software verification and validation, reviews, inspections, understanding software testing process, functional testing, structural testing, model-based testing, integration, system, and regression testing techniques, software life cycle models and software testing, testing distributed software, bug management, and use of testing tools. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prereqs w/min C:Comp Sci or Comp Sys Eng mjr; CSE 360 OR SftwrEng mjr; CSE 310, SER 222, or TGM 410; SER 315 or 316 OR CompSci&Engr or SftwrEng grad stdt; Credit allowed for CSE 464 or CSE 598 (SftwrQualAsm&Tst) or SER 464 OR Visiting University Student |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| CSE | 466 | Computer Systems Security | Countermeasures to attacks to computer systems from miscreants (or hackers) and basic topics of cryptography and network security. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s)/w/ C or better: Computer Sci BS or Computer Sys Engr BSE major; CSE 310; CSE 365 with C or better OR Software Engr BS major; CSE 365; SER 222 OR Computer Sci & Engr or Software Engr graduate student OR Visiting University Student |
| CSE | 467 | Data and Information Security | Basic concepts of security and privacy, data and database security, access controls, trust models, watermarking, and private information retrieval. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science BS, Computer Systems Engineering BSE or Data Science BS major; CSE 310 with C or better; CSE 365 with C or better OR Computer Science & Engineering or Software Engineering graduate student OR Visiting University Student |
| CSE | 468 | Computer Network Security | Practical network security exposure and hands-on experience about basic security concepts, case studies and useful tools. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s) with C or better: Computer Science BS, Computer Systems Engineering BSE, or Software Engineering BS major; CSE 365 OR Computer Science, Computer Engineering, or Software Engineering graduate student OR Visiting University Student |
| CSE | 469 | Computer and Network Forensics | Identification, extraction, documentation, interpretation, and preservation of computer media for evidentiary purposes, file system forensics, and network forensics. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Sci BS or Computer Systems Engr BSE major; CSE 310 with C or better; CSE 365 with C or better OR Software Engr BS major; CSE 365 with C or better; SER 222 with C or better OR Computer Sci & Engr or Software Engr graduate student |
| CSE | 470 | Computer Graphics | Introduces basic concepts of interactive computer graphics, realistic rendering, and 3-D viewing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Digital Culture (Media Processing) BA/BS, Comp Sci BS, Geog Info Science BS, Comp Sys Engr BSE, or Software Engr BS major; CSE 310 or SER 222 with C or better; MAT 342 or 343 OR Comp Sci and Engr or Software Engr graduate student |
| CSE | 471 | Introduction to Artificial Intelligence | State space search, heuristic search, games, knowledge representation techniques, expert systems, and automated reasoning. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science BS, Computer Systems Engineering BSE, Data Science BS, or Geographic Information Science BS major; CSE 310 with C or better OR Computer Science & Engr or Software Engr graduate student OR Visiting University Student |
| CSE | 472 | Social Media Mining | Network measures, social network analysis, network models, random graphs, small-world model, power laws, data mining, influence and homophily, information diffusion, epidemics, behavioral analysis, recommendation in social media, community detection. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s) with a C or better: Comp Scie BS or Comp Syst Engr BSE major; CSE 310; IEE 380; MAT 343 OR Comp Scie & Engr or Software Engr grad student; Credit is allowed for only CSE 472 or CSE 494 (Social Media Mining) OR Visiting University Student |
| CSE | 474 | Mobile Robotics | Aims to make accessible to undergraduate students a principled and mathematically sound approach to the design of algorithms for robots. Students acquire the mathematical foundations that are required for the implementation and analysis of algorithms for robotic applications through homework problems and a final project. Among course goals is the development of the vocabulary and mathematical background so that the students can follow the current research and development trends in the robotics industry. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Sci BS or Computer Systm Engineering BSE major; CSE 310 with C or better; IEE 380 with C or better; MAT 343 with C or better; Credit is allowed for only CSE 474 or CSE 494 (Intro to Robotics) OR Visiting University Student |
| CSE | 475 | Foundations of Machine Learning | Machine learning techniques: supervised learning, unsupervised learning, and neural networks and deep learning. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prereqs w/min C: Comp Sci BS, Comp Sys Engr BSE, Data Sci BS, or Informatics BS maj; CSE 310; DAT 300 or IEE 380; MAT 342 or 343 OR Comp Sci or Software Engr grad stdt; Credit for only CSE 475 or 494 (Intro Machine Lrning) OR Visiting University Student |

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| CSE | 476 | Introduction to Natural Language Processing | Principles of computational linguistics, formal syntax, and semantics, as applied to the design of software with natural (human) language I/O. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science BS or Computer Systems Engineering BSE or Data Science BS major; CSE 310 with C or better OR Computer Science and Engineering or Software Engineering graduate student OR Visiting University Student |
| CSE | 477 | Introduction to Computer-Aided Geometric Design | Introduces basic concepts of 3-D computer geometry, including curves, surfaces, meshes. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science BS or Computer Systems Engineering BSE major; MAT 342 or 343 with C or better OR Computer Science and Engineering or Software Engineering graduate student OR Visiting University Student |
| CSE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | PRA | Y | YGB | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): Computer Science BS or Computer Systems Engineering BSE major; CSE 310 with C or better; Pre- or corequisite(s): CSE 360 with C or better if completed |
| CSE | 485 | Computer Science Capstone Project I | First course in capstone sequence for computer science and informatics majors emphasizing development process, technical skills, teamwork, and communication. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | L | Prerequisite(s) with C or better: Computer Science BS major; CSE 301; CSE 330; CSE 340; CSE 355; CSE 360; ENG 101, 105, or 107 OR Informatics BS major; CPI 350; CSE 463; ENG 101, 105, or 107; Credit is allowed for only CSE 423 or CSE 485 |
| CSE | 486 | Computer Science Capstone Project II | Second course in capstone sequence for computer science and informatics majors continuing the development process, technical skills, teamwork and communication. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | L | Prerequisite(s): Computer Science BS or Informatics BS major; CPI 485 or CSE 485 with C or better; ENG 101, 105, or 107 with C or better; senior standing or postbaccalaureate student; Credit is allowed for only CSE 424 or CSE 486 |
| CSE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-6 | | Prerequisite(s): Barrett Honors student |
| CSE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| CSE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-4 | | Prerequisite(s): CSE 310 with C or better OR Visiting University Student |
| CSE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-3 | | |
| CSE | 509 | Digital Video Processing | Concepts of digital video compression, video analysis, video indexing, browsing and retrieval, video transmission over networks, video processors, and relevant industry standards. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science or Computer Engineering graduate student OR Online Computer Science nondegree-seeking graduate student |
| CSE | 510 | Database Management System Implementation | Implementation of database systems. Data storage, indexing, querying, and retrieval. Query optimization and execution, concurrency control, and transaction management. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science graduate student or Data Science, Analytics and Engineering PhD or Global Management (Data Science) MGM student |
| CSE | 511 | Data Processing at Scale | Delves into new frameworks for generating, processing and managing large-scale data-sets. More specifically, covers the following topics: core database concepts, distributed and parallel data systems, deploying and operating data systems in the cloud, NoSQL database systems, and big data tools. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prereq(s): Computer Engr or Comp Sci grad stdt or Data Sci, Analytics & Engr PhD or Global Mgmt (Data Sci) MGM or Robo & AutoSys (AI) MS or Software Engr MS OR Online Computer Sci nondegree-seeking grad stdt; Credit is allowed for only CSE 511 or CSE 512 |
| CSE | 512 | Distributed Database Systems | Distributed database design, query processing, and transaction processing. Distributed database architectures and interoperability. Emerging technology. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science graduate student or Data Science, Analytics and Engineering PhD or Global Management (Data Science) MGM or Software Engineering MS student; Credit is allowed for only CSE 511 or CSE 512 |

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| CSE | 515 | Multimedia and Web Databases | Data models for multimedia and Web data; query processing and optimization for inexact retrieval; advanced indexing, clustering, and search techniques. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science graduate student or Data Science, Analytics and Engineering PhD or Global Management (Data Science) MGM student |
| CSE | 520 | Computer Architecture II | Computer architecture description languages, computer arithmetic, memory-hierarchy design, parallel, vector, multiprocessors, and input/output. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering, Computer Science, Electrical Engineering, or Robotics and Autonomous Systems (Artificial Intelligence) graduate student; Credit is allowed for only CSE 420 or CSE 520 |
| CSE | 522 | Real-Time Embedded Systems | Development of real-time embedded systems, scheduling algorithms, embedded software structures, real-time operating system. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science, Computer Engineering, Master of Engineering, Engineering Science (Software Engineering) or Robotics and Autonomous Systems (Artificial Intelligence) graduate student |
| CSE | 530 | Embedded Operating System Internals | Investigating Linux source including: memory management, kernel synchronization and driver design topics. Designing, coding, testing, and evaluating embedded operating system software in a Linux environment. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science or Computer Engineering graduate student OR Online Computer Science nondegree-seeking graduate student |
| CSE | 531 | Distributed and Multiprocessor Operating Systems | Distributed systems architecture, remote file access, message-based systems, object-based systems, client/server paradigms, distributed algorithms, replication and consistency, and multiprocessor operating systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science or Computer Engineering graduate student OR Online Computer Science nondegree-seeking graduate student |
| CSE | 534 | Advanced Computer Networks | Advanced network protocols and infrastructure, applications of high-performance networks to distributed systems, high-performance computing and multimedia domains, special features of networks. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science or Computer Engineering graduate student OR Online Computer Science nondegree-seeking graduate student |
| CSE | 535 | Mobile Computing | Mobile networking, mobile information access, adaptive applications, energy-aware systems, location-aware computing, mobile security and privacy. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering, Computer Science, Robotics and Autonomous Systems (Artificial Intelligence), or Software Engineering graduate student OR online Computer Science nondegree-seeking graduate student |
| CSE | 536 | Advanced Operating Systems | Protection and file systems. Communication, processes, synchronization, naming, fault tolerance, security, data replication, and coherence in distributed systems. Real-time systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science or Computer Engineering graduate student OR Online Computer Science nondegree-seeking graduate student |
| CSE | 539 | Applied Cryptography | Uses cryptography for secure protocols over networked systems, including signatures, certificates, timestamps, electrons, digital cash, and other multiparty coordination. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science graduate student OR Software Engineering MS student OR Online Computer Science nondegree-seeking graduate student |
| CSE | 543 | Information Assurance and Security | Comprehensive understanding of information assurance and security problems with the solutions as well as hands-on experiences about applying these solutions. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science graduate student or Data Science, Analytics and Engineering PhD student or Software Engineering MS student or online Computer Science nondegree-seeking graduate student |
| CSE | 545 | Software Security | Theories and tools for software security, including secure design, threat analysis and modeling, security testing and coding. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering, Computer Science, or Software Engineering graduate student OR Online Computer Science nondegree-seeking graduate student |
| CSE | 546 | Cloud Computing | Virtualization, cloud computing, programmable networking, performance evaluation, information assurance, distributed and parallel computing, and cloud computing-based applications. Students must have a solid background in computer architecture, operating system and computer networking to be successful in this course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science graduate student or Data Science, Analytics and Engineering PhD or Global Management (Data Science) MGM or Software Engineering MS student |
| CSE | 548 | Advanced Computer Network Security | Comprehensive understanding of network security and corresponding solutions, including cryptography, access control, secure Web transactions, e-mail security, and viruses. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science graduate student or Data Science, Analytics and Engineering PhD or Software Engineering MS OR Online Computer Science nondegree-seeking graduate student |

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| CSE | 550 | Combinatorial Algorithms and Intractability | Combinatorial algorithms, nondeterministic algorithms, classes P and NP, NP-hard and NP-complete problems, and intractability. Design techniques for fast combinatorial algorithms. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science graduate student or Data Science, Analytics and Engineering PhD student |
| CSE | 551 | Foundations of Algorithms | Advanced topics in formal algorithm design and analysis, including advanced shortest-paths algorithms, amortized analysis, network flows, NP-completeness and selected topics in computational geometry, distributed/parallel, randomized, and approximation algorithms. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engr, Computer Sci, or Industrial Engr grad student or Data Sci, Analytics & Engr PhD or Robotics & Autonomous Systems (AI) MS OR Online Computer Sci nondegree-seeking grad student; Credit is allowed for only CSE 450 or CSE 551 |
| CSE | 552 | Randomized and Approximation Algorithms | Introduces two important areas of algorithm design for graduate students. A randomized algorithm is allowed to rely on the outcome of a random experiment in deciding on its next step. In many applications, randomized algorithms are simpler than any deterministic algorithms known, but in several cases, they are in fact more powerful or more efficient than any deterministic algorithms. Covers basic paradigms for randomized algorithm design and analysis, as well as for derandomization. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science graduate student or Data Science, Analytics and Engineering PhD student; CSE 550 or 551 or 555 with B or better |
| CSE | 555 | Theory of Computation | Rigorous treatment of regular languages, context-free languages, Turing machines and decidability, reducibility, and other advanced topics in computability theory. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science graduate student or Data Science, Analytics and Engineering PhD student |
| CSE | 556 | Game Theory with Applications to Networks | Strategic conflict as matrix games, notions of equilibrium, definition and existence of Nash equilibrium, zero-sum games, extensive-form games, Bayes Nash equilibrium, potential games, routing games, algorithmic game theory, computation of Nash equilibrium, incentives and pricing in communication networks, application of game theory in wireless networks. Knowledge of calculus, discrete mathematics, probability theory and algorithms is necessary to be successful in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science graduate student or Data Science, Analytics and Engineering PhD student |
| CSE | 561 | Modeling and Simulation Theory and Application | Modeling theories, simulation protocols, object-oriented modeling, model design, simulation analysis, network-based systems, discrete-event modeling, continuous modeling, hybrid modeling. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science or Computer Engineering graduate student or Data Science, Analytics and Engineering PhD student or Online Computer Science nondegree-seeking graduate student |
| CSE | 563 | Software Requirements and Specification | Examines the definitional stage of software development; analysis of specification representations, formal methods, and techniques emphasizing important application issues. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): graduate Computer Engineering or Computer Science or Software Engineering student |
| CSE | 564 | Software Design | Examines software design issues and techniques. Includes a survey of design representations and a comparison of design methods. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): graduate Computer Engineering or Computer Science or Software Engineering student |
| CSE | 565 | Software Verification, Validation, and Testing | Test planning, requirements-based and code-based testing techniques, tools, reliability models, and statistical testing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science or Software Engineering graduate student or Online CS nondegree-seeking graduate student |
| CSE | 566 | Software Project, Process, and Quality Management | Project management, risk management, configuration management, quality management, and simulated project management experiences. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science or Software Engineering graduate student OR Online Computer Science nondegree-seeking graduate student |
| CSE | 569 | Fundamentals of Statistical Learning and Pattern Recognition | Concepts of statistical pattern recognition, Bayesian decision theory, parameter estimation, discriminant analysis, basics of artificial neural networks, basics of data clustering. Knowledge of college-level calculus, linear algebra, basic probability theory and proficiency in computer programming is necessary to be successful in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering, Computer Science, or Industrial Engineering graduate student or Data Science, Analytics and Engineering PhD student |
| CSE | 570 | Advanced Computer Graphics I | 3D shape analysis techniques: half-edge data structure, polygon mesh processing, fast marching method, iterative closest point algorithms, heat kernel and spectral analysis, isometric embedding. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science or Computer Engineering graduate student OR Online Computer Science nondegree-seeking graduate student |

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| CSE | 571 | Artificial Intelligence | Definitions of intelligence, computer problem solving, game playing, pattern recognition, theorem proving, and semantic information processing; evolutionary systems; heuristic programming. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science graduate student or Data Science, Analytics & Engineering PhD or Robotics & Autonomous Systems (AI) MS or Software Engineering MS OR Online Computer Science nondegree-seeking graduate student |
| CSE | 572 | Data Mining | Advanced data mining techniques: classification, clustering, association, preprocessing; performance evaluation; information assurance, Web mining, security and privacy issues, and other applications. Students must have a solid background in database management systems, search, learning, and statistics to be successful in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prereq(s): Computer Engr, Comp Sci or Industrial Engr grad stdt or Data Sci, Analytics & Engr PhD or Global Mgmt (Data Sci) MGM or Software Engr MS or Online Comp Sci nondegree-seeking grad stdt; Credit is allowed for only BMI 555 or CSE 572 or IEE 520 |
| CSE | 573 | Semantic Web Mining | Data mining techniques for structuring and organizing unstructured sources such as text and Web data into meaningful machine-processable information; computational aspects of information extraction and data linkage; discovery and prediction tasks where text serves as data such as detecting events, measuring public opinion and making recommendations. A background in databases, algorithms and theory of computation is necessary to be successful in this course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science graduate student or Data Science, Analytics and Engineering PhD or Global Management (Data Science) MGM student |
| CSE | 574 | Planning and Learning Methods in AI | Reasoning about time and action, plan synthesis and execution, sequential decision support and reinforcement learning. It is highly recommended that students complete a 400-level artificial intelligence course in order to be successful. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science graduate student or Data Science, Analytics & Engineering PhD or Robotics & Autonomous Systems (Artificial Intelligence) MS student |
| CSE | 575 | Statistical Machine Learning | Spectral clustering, regression, classification, semi-supervised learning, feature reduction, manifold learning, ranking, kernel learning and multitask learning. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science or Data Science, Analytics & Engineering or Robotics & Autonomous Systems (Artificial Intelligence) or Software Engineering grad student OR Online Computer Science nondegree-seeking grad student |
| CSE | 576 | Topics in Natural Language Processing | Comparative parsing strategies, scoping and reference problems, nonfirst-order logical semantic representations, and discourse structure. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science graduate student or Data Science, Analytics and Engineering PhD or Robotics and Autonomous Systems (Artificial Intelligence) MS or Software Engineering MS student |
| CSE | 577 | Advanced Geometric Modeling I | Advanced concepts of geometric modeling: rectangular and triangular surfaces, triangle meshes, Voronoi diagrams, discrete and continuous shape measures, volumes and volume visualization. Students must have a solid background in linear algebra, calculus, and basic 3D graphics to be successful in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science or Computer Engineering graduate student OR Online Computer Science nondegree-seeking graduate student |
| CSE | 578 | Data Visualization | Amidst the information flood in which we are currently immersed, visualizations can be a well-placed treetop. The rise of big data has the potential to inform decisions, and visual representations can play a crucial intermediate role in our daily information consumption. Covers techniques and algorithms for creating effective visualizations based on principles from graphic design, visual art, perceptual psychology and cognitive science to enhance the understanding of complex data. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Comp Engr or Comp Sci or Industrial Engr grad student or Data Sci, Analytics & Engr PhD or Global Mgmt (Data Sci) MGM or Robotics & Autonomous Systems (AI) MS or Software Engr MS OR Online Comp Sci nondegree-seeking graduate student |
| CSE | 579 | Knowledge Representation and Reasoning | Covers knowledge representation and reasoning algorithms in artificial intelligence, shows how they can be used in practice, and provides an overview of current research trends. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science graduate student or Data Science, Analytics & Engineering PhD or Software Engineering MS OR Online CS nondegree-seeking graduate student |
| CSE | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CSE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| CSE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | GNA | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CSE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): Computer Engineering or Computer Science graduate student or Data Science, Analytics & Engineering PhD or Robotics & Autonomous Systems (AI) MS or Software Engineering MS OR Online Computer Science nondegree-seeking graduate student |
| CSE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): Computer Science or Computer Engineering graduate student OR Online Computer Science nondegree-seeking graduate student |
| CSE | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CSE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CSE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-4 | | Prerequisite(s): Computer Engineering or Computer Science graduate student or Data Science, Analytics & Engineering PhD or Robotics & Autonomous Systems (AI) MS OR Online CS nondegree-seeking graduate student |
| CSE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CSE | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): Computer Engineering (Comp Systems) PhD, Computer Engineering (Electrical Engr) PhD, Computer Sci PhD, Computer Sci (AME) PhD, Computer Sci (Cybersecurity) PhD, Data Sci, Analytics & Engineering PhD, or Industrial Engineering PhD student |
| CSE | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CSE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CSE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CSE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CSM | 201 | Introduction to Parks, Recreation and Sport Management | Examines the role of parks, recreation and community sports at the local, national and international levels. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Credit is allowed for only CSM 201 or PRM 201 OR Visiting University Student |
| CSM | 203 | Program Planning | Overview of the conceptual foundations and professional competencies necessary to effectively assess, plan, implement and evaluate programs. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Credit is allowed for only CSM 203 or NLM 203 or PRM 203 OR Visiting University Student |
| CSM | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |

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| CSM | 305 | Sports Facility Operations and Management | Overview of the management and operations of sports facilities. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): MAT 142 or higher; minimum 2.50 GPA; minimum 45 hours OR Visiting University Student |
| CSM | 306 | Advanced Programming and Facilitation | Provides an experiential learning experience where students implement and reflect upon all aspects of an ongoing recreation program including program facilitation, budgeting, marketing, risk management, experience engineering and evaluation. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CSM 203 or PRM 203; Credit is allowed for only CSM 306 or PRM 306 OR Visiting University Student |
| CSM | 335 | Sports and Recreation for Youth Development | Provides an overview of definitions, statistics, theories and models, and types of programs surrounding youth development in relation to sports, recreation and leisure services. Addresses current trends related to youth development and collaborative partnerships in sports, recreation and leisure services at various levels within local, state, national and/or international systems. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Pre-requisite: minimum 45 hours. Credit is allowed for only CSM 335 or PRM 335 |
| CSM | 350 | Tourism, Recreation and Sports Marketing | Critical examination of marketing principles in leisure and related industries in diverse settings, including local, national, and international. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 210, CSM 201 or TDM 205; ENG 102, 105 or 108 with C or better; MAT 142 or higher with C or better; minimum 45 hours; Credit is allowed for only CRD 350 or CSM 350 or PRM 350 or TDM 350 OR Visiting University Student |
| CSM | 401 | Managing Leisure Enterprises | Analyzes administrative function, structure, and policies. Successful application in administrative situations. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 210 or PRM 210; TDM 372 or CSM 203 or PRM 203; minimum 2.50 GPA; Credit is allowed for only CRD 401 or CSM 401 or PRM 401 OR Visiting University Student |
| CSM | 402 | Assessment and Evaluation of Community Services | Introduces applied leisure research with emphasis on program evaluation, research design, data collection techniques, and data analysis. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 210 or PRM 210; Credit is allowed for only CRD 402 or CSM 402 or NLM 402 or PRM 402 or TDM 402 OR Visiting University Student |
| CSM | 407 | Ethics and Legal Issues in Sports | Comprehensive look at ethical decision making from many perspectives in the sports environment. Presents legal issues as they relate to history, present society and future trends. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CSM 201 OR Visiting University Student |
| CSM | 453 | Inclusive Community Sport | Examines historical and contemporary perspectives shaping the organization and delivery of competitive and cooperative sport and recreation at the local, regional, national and international levels. Emphasizes exploration of barriers to sport and recreation among diverse sociocultural groups (age, disability, gender, race, etc.) and strategies to facilitate access and participation through a continuum of program delivery options including adapted sport and therapeutic recreation. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CSM 453 or PRM 453 OR Visiting University Student |
| CSM | 463 | Senior Internship | Supervised guided experience in selected agencies. | N | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3-12 | | Prerequisite(s): CRD 403 or PRM 413 with C or better; Credit is allowed for only CRD 463 or CSM 463 or NLM 463 or PRM 463 or TDM 463 |
| CSM | 483 | Sports Tourism | Examines the relationship between sports and tourism, and the role of recreation and amateur sports as an economic and community development strategy. Also considers the motives, behaviors and experiences of sport tourists; the impacts of sport tourism; and trends in sports tourism. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CSM 483 or PRM 483 or TDM 483 OR Visiting University Student |
| CSM | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | |
| CSM | 485 | Sports Events | Expands the basic concepts of recreation, leisure or tourism program planning and leadership as they are specifically related to sport events management. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CSM 485 or PRM 485 |
| CSM | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |
| CTE | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 0.25-4 | | |
| CTE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 0.25-4 | | |
| CTE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 0.25-4 | | |
| CTE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | The College of Liberal Arts and Sciences | Department of English | 1-12 | | |
| CTE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | Department of English | 1-6 | | Prerequisite(s): Barrett Honors student |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--|---|--------|-----------------|--|
| CTE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | Department of English | 1-6 | | Prerequisite(s): Barrett Honors student |
| CTE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 0.25-4 | | |
| CTE | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-7 | | |
| CTE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | The College of Liberal Arts and Sciences | Department of English | 1-3 | | |
| DAT | 250 | Data Science and Society | Examines quantitative literacy from a data and evidence driven perspective. Looks at the literature behind vaccines, climate, and other contentious topics where there is a wealth of scientific literature and yet these areas are still hotly debated. Investigates ways in which data science is abused; how to mislead with statistics, and how these problems have created a lack of trust in science. Through class discussions, case studies and exercises, students learn the basics of ethical thinking in science, understand the history of ethical dilemmas in scientific work, and study the distinct challenges associated with ethics in modern data science. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 117, 119, 142, 170, 171, 265, or 270 with C or better OR Visiting University Student |
| DAT | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| DAT | 300 | Mathematical Tools for Data Science | Covers the core mathematical topics that underpin data science as well as the key algorithms used for modern data analysis and how to implement them in Python. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 266 or 271 with C or better; MAT 343 with C or better; Credit is allowed for only DAT 300 or STP 494 (Mathematical Tools for Data Science) OR Visiting University Student |
| DAT | 301 | Exploring Data in R and Python | Focuses on the exploration of the types of data typically encountered in modern data science, such as text data, spatial data, and time series data. Uses various statistical techniques to gain insight into the structure of the data, including graphical visualization, linear regression, trees and clustering. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 4 | | Prerequisite(s): MAT 266 or 271 with C or better; Credit is allowed for only ACT 370 or ACT 394 (R in Excel for Business) or DAT 301 or STP 494 (Exploring Data in R and Python) OR Visiting University Student |
| DAT | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| DAT | 401 | Statistical Modeling and Inference for Data Science | Covers the basic statistical concepts underlying data science as well as some of the major methods. Includes fundamental ideas such as the key idea in predictive modeling is the bias-variance tradeoff, and cross validation is the basic approach for dealing with the bias-variance tradeoff. Statistical inference underlies much of data science methodology. Includes Bayesian and frequentist approaches to inference and how they are used in some of key ideas and methods in data science such as causal inference with observational data. Covers some key methods such as K nearest neighbors, naive Bayes classification, A/B testing, linear models, Gaussian processes and data reduction. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): DAT 301 with C or better; Credit is allowed for DAT 401 or STP 494 (Statistical Modeling and Inference for Data Sci) OR Visiting University Student |
| DAT | 402 | Machine Learning for Data Science | Concerns the key modern approaches for uncovering high-dimensional complex structure in data. Topics include regularized regression, ensemble methods with trees, deep neural nets, clustering and dimension reduction and state space modeling. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): DAT 401 with C or better OR ACT 415 or STP 421 with C or better; STP 420 with C or better; Credit is allowed for only DAT 402 or STP 494/598 (Machine Learning / Statistical Learning) OR Visiting University Student |
| DAT | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | |
| DAT | 490 | Data Science Capstone | Capstone allows students to build a culminating experience that reflects the breadth and depth of their data science experience and allows each student to explore a research area, interest, theme or question within the realm of data science. Develops final written projects in small groups based on consultation either directly within data science or within their concentration. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 2-4 | L | Prerequisite(s): CSE 475 or DAT 402 with C or better; DAT 401 with C or better; ENG 101, 105, or 107 with C or better |
| DAT | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| DAT | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| DAT | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |

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| DAT | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-3 | | |
| DBA | 701 | Macroeconomic Policies in a Global Environment | Provides the framework for policy makers when facing macroeconomic situations, the tools in analyzing the costs and benefits of alternative policy options, and the knowledge necessary for making recommendations to policy makers and business leaders. Students learn knowledge and skills about global economy and risks that help facilitate dissertation research. | N | LEC | N | GNA | W. P. Carey School of Business | Dean, W. P. Carey School of Business | 2 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 702 | Global Financial Systems: Markets and Institutions | Examines the overall architecture of the global financial system, its major components, and their functions in the macro economy. | N | LEC | N | GNA | W. P. Carey School of Business | Dean, W. P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 703 | Global Financial Systems-Institutional Investing | A large fraction of investors around the world invest in securities markets indirectly, viz. through mutual funds or separate accounts established with investment managers, whether they be endowments, foundations, pension plans or sovereign funds. Exposes students to the global marketplace for such portfolios. | N | LEC | N | GNA | W. P. Carey School of Business | Dean, W. P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 704 | Design of Knowledge Base Organizations for Performance and Innovation | Covers various issues on executive compensation and management pay structure with a particular emphasis on aligning business strategy, organization design to the choice of performance standards and pay structure for managers. | N | LEC | N | GNA | W. P. Carey School of Business | Dean, W. P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 705 | Global Corporate Strategy | Demonstrates that decisions affecting the international expansion of a firm are neither obvious nor totally determined by the technological or economic forces generally associated with globalization. Addresses the most transcendental decisions that multinational firms face in the course of conducting business across borders. | N | LEC | N | GNA | W. P. Carey School of Business | Dean, W. P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 706 | Strategic Visioning, Leadership and Change Management | Addresses the interrelationship among organizational culture, leadership, and the management of change in order to promote continuous improvement of the organization's market position. Addresses the role of strategy, how strategy explicates vision, and how effective strategies are created. | N | LEC | N | GNA | W. P. Carey School of Business | Dean, W. P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 707 | Risk Management : An Enterprise Perspective | Provides an understanding of the broad set of risks an enterprise faces; their origin, characteristics and potential impact on business; and how they can be efficiently managed at the enterprise level. | N | LEC | N | GNA | W. P. Carey School of Business | Dean, W. P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 708 | Challenges of Corporate Finance and Governance | Helps students understand the link between finance and corporate strategies, as well as examine ways to establish and reform the practices of corporate governance in China. | N | LEC | N | GNA | W. P. Carey School of Business | Dean, W. P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 709 | Finance and Law | Helps students learn about the philosophy of law, various legal systems, the relationships among law and economics and finance, the practice of law in a global context. | N | LEC | N | GNA | W. P. Carey School of Business | Dean, W. P. Carey School of Business | 2 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 710 | Financial Decision Making | Provides a framework of conceptual knowledge and enables students to understand what the literature on financial theory is trying to do and how it all fits together. Also provides an in-depth experience with the subject of finance and equips students for their future development as a practicing executive. | N | LEC | N | GNA | W. P. Carey School of Business | Dean, W. P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 711 | Financial Innovations | Focuses on how financial innovations influence the evolution of finance. Discusses many of the major financial innovations in recent history, the forces driving these innovations, their impact on the financial system and the real economy and the risks they bring. | N | LEC | N | GNA | W. P. Carey School of Business | Dean, W. P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 712 | Advanced Topics in Global Economy and Finance: Domestic Module | Addresses many critical topics facing China today on its quest of globalization, the need for transforming its economic structure, capital markets and corporate control, and its monetary policies. | N | LEC | N | GNA | W. P. Carey School of Business | Dean, W. P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 713 | Advanced Topics in Strategy and Management: Domestic | Reexamines many popular best practices through panel discussion and speaker series on why some of those practices failed to work in China, and how firms have creatively modified their strategic undertakings to fit its environment. | N | LEL | N | GNA | W. P. Carey School of Business | Dean, W. P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 714 | Current Trends in Global Economy, Finance and Management: US Module | Provides first-hand experiences on the world class practices by the multinationals and interactions with the leading experts on the emerging topics of interest on globalization, financial regulations, and managerial innovations. | N | LEL | N | GNA | W. P. Carey School of Business | Dean, W. P. Carey School of Business | 4 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 715 | Current Trends in Global Economy, Finance and Management: Europe Module | Provides direct exposure to European markets, firms, and institutions, their history, current status, and future directions. | N | LEL | N | GNA | W. P. Carey School of Business | Dean, W. P. Carey School of Business | 4 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |

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| DBA | 721 | Research Seminar I- Research in Action | Provides needed skills for research and thesis work. 1. Focuses mainly on research design and fundamental statistical/survey and field study methods. The key objective is to provide students with the needed required skills and concepts of the scientific method, the philosophy of science, and research design with an emphasis to solve specific problems. This course is spread out during the first year of the program. | N | SEM | Y | GNA | W. P. Carey School of Business | Dean, W. P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 722 | Research Seminar II-Research in Action II | Focuses on the process of research "in actions" through faculty presentation and research workshops. Faculty with diverse research interest and methodologies present up-to-date research works. Through interaction, students gain first-hand experience on learning the process of how faculty, with diverse research interests, are able to identify specific research topic, choosing the right research methodology to address their research questions. The presentation and research workshop are scheduled at the beginning of the second year and throughout the entire year, allowing the program to leverage faculty availability during their course delivery while enabling students to seek out their faculty mentors for future dissertation engagement. | N | SEM | Y | GNA | W. P. Carey School of Business | Dean, W. P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 723 | Research Seminar III- Research in Action III | Provides students with opportunities to present their own research proposal/ thesis ideas while allowing the participating faculty and fellow students to offer constructive comments. | N | SEM | Y | GNA | W. P. Carey School of Business | Dean, W. P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | W. P. Carey School of Business | Dean, W. P. Carey School of Business | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DBA | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | W. P. Carey School of Business | Dean, W. P. Carey School of Business | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 100 | Introduction to Dance | Introduces 21st-century dance through a lens of creativity that acknowledges dance as a vital art where leadership, context, humanity and reflection provide centers of dynamic engagement for bodily movement where new meanings for dance are possible. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | |
| DCE | 110 | Argentine Tango I | Introduces basic movement elements, explores various contexts shaping Argentine Tango, and emphasizes social tango with exposure to vals and milonga timing. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 111 | Belly Dance I | Familiarizes students with the art and practice of belly dance. Covers posture, styling, basic body isolations, rhythm patterns, footwork, as well as the social significance and history of the dance. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 112 | Capoeira I | Introduces the Afro-Brazilian martial art and movement form capoeira. Molds elements of self-defense, dance, music, song, language, culture and philosophy into the course. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 113 | Dances of Africa I | Introduces basic elements of West and Central African dance styles, including the traditional rhythms and cultural context. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 114 | Dances of India I | Introduces Indian folk dances with an emphasis on the history and various movement elements of an ancient South Indian classical dance form, known as Bharata Natyam. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 115 | Yoga I | Introduces a basic physical and philosophical understanding of yoga. Designed by a certified Yoga instructor. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 116 | T'ai Chi Chuan I | Introduces an ancient Chinese internal martial art form. The structure includes the beginner level of Tai Chi Chuan theory and movement practice. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 117 | Feldenkrais I | The Feldenkrais method is an approach to enhance awareness of the body, improve functional actions, and expand one's repertoire of movements. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 118 | Yoga/Pilates | Provides a basic physical and philosophical understanding of yoga and Pilates mat practices. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 120 | Contemporary/Modern I | Beginning level of contemporary modern dance for nonmajor students. Emphasizes a range of movement styles, fusing contemporary and traditional forms. Places a special focus on somatic principles, body placement, strength and range of movement. Provides opportunities to explore the history of contemporary modern dance, as well as engage in creative activities. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 121 | Ballet I | Introduces basic concepts of ballet technique, including dynamic alignment, musicality and classical movement vocabulary. Instructors use a somatic approach to this traditional art form. Students also learn about the history and context of ballet. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 122 | Jazz I | Explores the basics of jazz dance techniques and various styles. Focuses on alignment, technique, jazz rhythms and performance skills. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |

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| DCE | 123 | Nonmajors Hip Hop I | Introduces various styles of dance within the hip hop genre. Covers the fundamentals of dance through embodied learning of hip hop styles based on instructor's area of expertise. No previous dance experience necessary. Expects students to engage in both weekly movement classes as well as at least one cultural event beyond the studio to better understand their dance practice within the cultural context of which they exist. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 124 | Latin/Swing/Ballroom I | Introduces major Latin and ballroom dances and focuses on a system of elements that are found in all partnership dances, including movement components, rhythmic patterns, dance positions, and unique characteristics used to better define each dance. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 125 | Afro-Latin Salsa I | Beginner-level Afro-Latin social dances. Designed and structured for students with no previous dance history with movement, historical context, culture and rhythms that are associated with Latin social dance. Students learn fundamental technique and partnering frameworks, while engaging in the structures of community and participatory engaged practices in social dance. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 126 | Country-Western | Initiates the student into the rhythm two-step, progressive two-step, night club two-step, country cha-cha, country waltz, triple swing and a multitude of line dances. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 130 | First-Year Movement Practices I | Introduces diverse somatic movement principles and practices through exploration of movement, context, theory, and personal reflection. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance major OR Visiting University Student |
| DCE | 131 | First-Year Movement Practices II | Modular structure enables a series of short intensive studies including movement, context, theory, and personal reflection. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance student; DCE 130 with C or better |
| DCE | 132 | First-Year Dance Techniques | In-depth study of the foundations of multiple techniques. By dancing, conditioning, diving deep, living in the forms and in experimentation, students engage in consistent applied practice. By exploring the breadth and depth of selected technical concepts through the lens of different techniques, helps dancers amplify and understand themselves as a versatile mover. Students learn to approach physical and performative movement and recognize techniques as an integrated study. Emphasizes physical practice, expects students to engage creatively, reflect on their learning and demonstrate critical thinking in all class sessions. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance BFA, Dance (Dance Education) BFA, or Performance and Movement BA major OR Visiting University Student |
| DCE | 133 | Hip Hop I | Focusing on a strong foundation, encourages students to engage in studio classes and community cultural events throughout the semester. Exposes students to several hip hop foundational dance forms under and related to breaking, popping and locking. Develops and connects culturally relevant content to inform students' movement in these styles and, more importantly, find their own identity within these forms. | N | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance BFA, Dance (Dance Education) BFA, or Performance and Movement BA major or Dance minor OR Visiting University Student |
| DCE | 134 | Postmodern Contemporary I | Studies contemporary modern dance rooted in postmodern traditions. Includes diverse movement styles that build foundational knowledge and integrates somatic principles with physically challenging material. Enhances the student's artistry as a performer and creator. Also introduces the history and theory of the postmodern contemporary dance form. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance BFA, Dance (Dance Education) BFA, Performance and Movement BA major, or Dance minor OR Visiting University Student |
| DCE | 135 | Contemporary Ballet I | Begins the study of ballet from a contemporary lens. Content includes classical ballet vocabulary, dynamic alignment, whole body integration and experiential anatomy. Enhances a student's foundational knowledge of the ballet vernacular; also considers the social and historical contexts of ballet artists and techniques. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance BFA, Dance (Dance Education) BFA, Performance and Movement BA major, or Dance minor OR Visiting University Student |
| DCE | 136 | Introduction to Somatic Movement | Survey course offers a practical and theoretical introduction to some of the major somatic practices evolving during the 20th century in the West; also offers exposure to some traditional Eastern disciplines and philosophies influencing those developments. Focuses upon self care, resilience, well-being of spirit, body and mind; explores movement and the integration of the whole person through a variety of somatic lenses. | N | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 137 | African and Diaspora Movement Practices I | The African Diaspora refers to the many communities of people of African descent dispersed throughout the world as a result of historic movements. This course explores various dances from the Diaspora. Students learn to execute polyrhythmic patterns and practice multiple types of call and response cues performed both verbally and physically. Different exercises focus on body isolation, the use of weight, and traveling in space. | N | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |

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| DCE | 139 | Afro-Latin Movement Practices I | Beginning-level course in Afro-Latin dance practices introduces the culture, movement rhythms and historical dialogue associated with various forms of Afro-Latin social dance practices, specifically salsa and mambo. Progressively teaches basic fundamentals in footwork and partner work, along with understanding timing and connection with Afro-Latin social music throughout the semester in class and in social events. By learning the movement fundamentals and applying them through social dancing, students not only succeed in the course, but also evolve in becoming a knowledgeable and participative social dancer within the ASU salsa community. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance BFA, Dance (Dance Education) BFA, or Performance and Movement BA major or Dance minor; Credit is allowed for only DCE 139 or DCE 194 (Salsa I) OR Visiting University Student |
| DCE | 160 | Creative Practices I | Focuses on cultivating one's creative process by investigating methods, strategies and dance-making approaches. Involves movement investigation and development, moving-making and designing, group discussions, readings, journal writing, instructor and peer-feedback, choreographic analysis, and reflective writing. Explores creative strategies that begin from a place of self and embodied history, one's archive, and ongoing repertoire. Expands toward processes that explore our interconnectivity with the body, multiple bodies, partners and constructing new methodologies of performing movement for any audience or daily life. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance BFA or Dance (Dance Education) BFA or Performance and Movement BA major OR Visiting University Student |
| DCE | 161 | Creative Practices II | Explores creativity and creative processes with reference to some key historical practices and influential artists. Encourage and develops students' awareness of their own imagination and creative process through individual and group projects involving problem solving, creative tasks, and reflection. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance BFA or Dance (Dance Education) BFA or Performance and Movement BA major; DCE 160 with C or better OR Visiting University Student |
| DCE | 170 | First-Year Seminar I | Orientation to studying dance in college, the university learning environment, and the professional practice of dance | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance BFA or Performance and Movement BA major OR Visiting University Student |
| DCE | 171 | First-Year Seminar II | Continuation of First-Year Seminar I. Focuses on orientation to the larger field of contemporary dance practice with an emphasis on developing tools and processes for reflection, synthesis, and critical thinking. Requires participation in School of Dance "Dance Matters." | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance BFA or Performance and Movement BA major |
| DCE | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| DCE | 201 | Dance, Culture, and Global Contexts | Introduces the study of dance as culture in diverse global contexts. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | |
| DCE | 202 | Dance in U.S. Popular Culture | Investigates vital cultural heritages that have shaped dance in U.S. American popular culture from 20th century to the present. Emphasizes dance as a producer of social space and cultural identity as well as a reflection of diverse social realities and dynamics of power. Following required reading and videos, the course surveys time periods of dance from the late 1800s through the 20th century to the present day. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & C | Credit is allowed for only DCE 202 or 294 (Dance in US Popular Culture) |
| DCE | 203 | The Walking Body | Investigates walking as movement language with the focus on physical thinking. Micro-research engages the student with collecting data from peripatetic walks and focused weekly walkings to hone the skill sets of: perception to increase one's awareness to the spatio-temporal context and one's attentional flow during walking. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Pre- or corequisite(s): ENG 101, 105, or 107 with C or better if completed OR Visiting University Student |
| DCE | 204 | Dance, Health and Wellness | A class of dynamically interacting ideas. Dance promotes health and wellness. Wellness practices create a healthy dancer. A healthy dancer is one who has a wellness mindset and knows how to prevent injuries. Studying the interaction of these three ideas is intended to produce a movement literacy. This movement literacy, however, lives implicitly in a world where bodily communication of tensional relationships, tugs, and pulls is silent. Thus, a further intention is to transform the implicit understanding to explicit communication through applying academic communicative skills of writing and speaking. Circumnavigates the polycenters of healthy movement, injury prevention and wellness identifying strategies, models and practices that best optimize movement. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | L | Pre- or corequisite(s): ENG 101, 105, or 107 with C or better if completed OR Visiting University Student |

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| DCE | 205 | How Dance Matters: A Sociocultural Framing | Introduces observing, discussing and analyzing dance through a contemporary sociocultural lens. Introduces the contemporary contexts of the dance forms currently offered in the BFA dance programs, including contemporary ballet, postmodern contemporary, Afro-Latin movement practices and hip hop. By examining where and when the dance occurs, who participates and how, and why dance matters across each of these forms, students gain a deeper understanding of what makes each dance form unique. Investigates the elements of each form that overlap with others and how dance can both ignite and reflect cultural change. Additionally, students learn to write about dance in a way that recognizes and describes key values and attributes of each dance form and articulately uses description, interpretation and evaluation to create informed perspectives of dance. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | C | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| DCE | 210 | Argentine Tango II | Builds upon concepts, figures, and elements of the Argentine Tango introduced in level one. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisite: DCE 110 or DAN/DCE 194 (Argentine Tango I) |
| DCE | 211 | Belly Dance II | Focuses on refining beginning technique, advanced movements, layering and musical interpretation. Uses choreography and improvisation to encourage mind-body awareness. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): DCE 111 OR Visiting University Student |
| DCE | 216 | T'ai Chi Ch'uan II | Intermediate-level study of the ancient Chinese martial art of rounded, fluid, balanced movements. Teaches the sets of long form Yang style of Tai Chi Ch'uan in a slow and relaxed manner. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): DCE 116 or DAN 194 (T'ai Chi Ch'uan I) OR Visiting University Student |
| DCE | 220 | Contemporary/Modern II | Intermediate level of contemporary modern dance for nonmajor students. Emphasizes a range of movement styles, fusing contemporary and traditional forms. Special focus on somatic principles, body placement, strength and flexibility. Provides opportunities to explore the history and social significance of modern dance, as well as performance skills and choreography. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 221 | Ballet II | Open to all ASU students, focuses on contemporary and classic ballet practices and increasing students' understanding of the integration of both. Students also learn about the historical and cultural contexts of contemporary ballet. Continued practice on voicing the inner perspective of experiencing ballet and relating it to the aesthetics outer perspective. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 222 | Jazz II | Explores intermediate level of jazz dance techniques. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisite: DCE 122 or DAN 130 (Jazz I) |
| DCE | 223 | Nonmajors Hip Hop II | Designed for intermediate dancers to expand, explore and deepen their training in foundational hip hop dance forms. Focus aligns with instructor area of expertise. Students experience social and community aspects of hip hop culture by engaging with cultural artists and events throughout the term. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): DCE 123 OR Visiting University Student |
| DCE | 224 | Latin/Swing/Ballroom II | Continues development of level one Latin/Swing/Ballroom dances to prepare student to have command of the complex rhythmic patterns and figures used in major partnership dances. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): DCE 124 or DAN 194 (Latin/Swing/Ballroom I) OR Visiting University Student |
| DCE | 225 | Afro-Latin/Salsa II | Designed and structured to build upon content from previous coursework, for students who have completed Level I or have had previous dance history with movement, historical context, culture and rhythms that are associated with Latin social dance. Students continue to refine their technique and sensibility, while engaging in the structures of community and participatory engaged practices in social dance. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): DCE 125 OR Visiting University Student |
| DCE | 226 | Musical and Kinesthetic Communication in Dance | Brings basic principles of rhythmic awareness and theory to life through movement and breath. Develops listening skills to "hear" movement and to "see" sound, providing a foundation of skills and knowledge to perform and aurally recognize beat patterns, subdivisions, grooves, textural and qualitative subtleties in different styles. Practical application of concepts and abilities for teaching dance musically--connecting to students' personal movement practice, somatic and pedagogy classes as well as linking rhythmic theory concepts with aural and kinesthetic listening skills and life. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Corequisite(s): DCE 124, 133, 134, 135, 136, 139, 224, 233, 234, 235, 236, 239, 324, 333, 334, 335, 336, or 339 OR Visiting University Student |
| DCE | 230 | Second-Year Movement Practices I | Investigates selected movement forms in the second-year movement practices. New movement forms include but are not limited to contact improvisation, Alexander technique, Feldenkrais, Body Mind Centering (BMC), taekwando, aikido, wushu, LMA, yoga, or somatic bodywork. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance majors; DCE 131 with C or better OR Visiting University Student |

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| DCE | 231 | Second-Year Movement Practices II | This course is set up in two modules. In module one, students will investigate a movement form, include but are not limited to contact improvisation, Alexander technique, Feldenkrais, Body Mind Centering (BMC), taekwando, aikido, wushu, LMA, yoga, or somatic bodywork. Module two expands the practice of rhythmic awareness through exploration and investigation of the close relation between thought and act, the kinesthetic and the verbal, the text and the beat, as well as the breath and the word. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance student; DCE 230 with C or better |
| DCE | 233 | Hip Hop II | With a deeper understanding and training with a focus on music freestyle and cultural connections, students build upon foundational knowledge and approaches to at least two hip hop forms. Students take instructor-led dance classes while working with local practitioners in the studio and community such as DJs, beatmakers, beatboxers and music producers. | N | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): two completions of DCE 133 with C or better OR Visiting University Student |
| DCE | 234 | Postmodern Contemporary II | Furtheres the study of contemporary modern dance rooted in postmodern traditions at the intermediate level. Emphasizes somatic principles, performance quality and complex movement ideas. Enhances the student's artistry as a performer and creator; also furtheres student's study of the history and theory of the postmodern contemporary discipline through physical and written assignments. Faculty assess students' abilities within the first week of class to ensure this course is a good fit. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): two completions of DCE 134 with C or better OR Visiting University Student |
| DCE | 235 | Contemporary Ballet II | Furtheres the study of ballet with a contemporary lens, allowing the dancer to develop and hone the relationship between the somatic experience and the ballet tradition. Employs further investigation of concepts as students manipulate physical concepts to deepen their understanding of the theory and lineage of contemporary ballet. Faculty assess students' abilities within the first week of class to ensure this course is a good fit. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): two completions of DCE 135 with C or better OR Visiting University Student |
| DCE | 236 | Somatic Movement Applications: A Closer Look | Co-taught laboratory that explores foundations of somatic education, including principles of dance science, bodywork practices, Bartenieff Fundamentals, and Body-Mind Centering. Emphasizes developing a holistic perception of ourselves, our relation to one another, and to the environment. Nonmajors are welcome and encouraged to enroll as this course benefits anyone interested in dance, theater, music, social engagement, architecture and design, education, and health and wellness, among other areas. | N | LEL | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 238 | Hip Hop Ensemble | Comprises dancers and musicians exploring the connections between hip hop musical practices and hip hop movement forms in a live improvisatory setting. Places special emphasis on hybridization, or the blending of musical traits and physical movement from two or more genres. Throughout the semester, builds cooperative practices with one another and experiments in a cross-disciplinary manner. Catalyzes and fosters ability to imagine innovative musical and movement practices within the hip hop aesthetic. Course serves as an "experiment lab" for music and dance students. | N | LAB | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | |
| DCE | 239 | Afro-Latin Movement Practices II | Beginner/intermediate-level course designed and structured to build upon students who have completed Afro-Latin dance practices with the movement, historical context, culture and rhythms associated with Afro-Latin movement dance. Framework of movement involves reviewing beginner, then covers intermediate fundamentals in footwork and partner work that is learned in salsa technique progression modules. Along with progression modules, addresses through online readings and documentaries the history and social significance of Afro-Latin movement practices, such as salsa on2, cha cha and bachata. Through learning intermediate fundamentals and applying them through social dancing, students succeed and evolve in becoming knowledgeable and proficient social dancers within the salsa community. Expects students to not only have fun, but to integrate their learning within the ASU salsa community. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): two completions of DCE 139 with C or better OR Visiting University Student |
| DCE | 240 | Media for Dance | Computer applications for human movement modeling, digital video design and creation, sound composition, and the incorporation of multimedia design elements into online environments. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | CS | |

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| DCE | 260 | Creative Practices III | Explores concepts introduced in the first year of creative practice and further expands into the themes of analysis and investigation. Year two experience involves the investigation of learning to compose and construct choreographic material through individual, collaborative, improvisational, and group exploration. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): DCE 161 with C or better OR Visiting University Student |
| DCE | 261 | Creative Practices IV | Continues developing students' awareness of their own creative process through individual and group projects involving problem solving, creative tasks, and reflection. Emphasizes exposure and refinement of students' consideration of production elements (sound, light, and costume design) and concept development. Includes a lab experience that broadens students' hands-on understanding of production practices. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): DCE 260 with C or better OR Visiting University Student |
| DCE | 262 | Rhythmic Theory for Dance I | Elements of music, music structures, and their relationship to dance. Emphasis on rhythmic analysis and dance accompaniment. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisite: BA Performance and Movement or BFA Dance major |
| DCE | 270 | Second-Year Seminar I | Continues developing tools and processes for reflection and critical thinking by identifying individual goals and objectives related to the students' current and future academic and professional careers. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Dance major; DCE 171 OR Visiting University Student |
| DCE | 271 | Second-Year Seminar II | Provides basic understanding of costume design, sound production, and interactive performance for dance. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Dance major; DCE 270 with C or better |
| DCE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| DCE | 300 | Dancing Histories | Critical investigation, especially in relation to gender, sexuality, race and class, of the history and historiography of vernacular and concert dance forms informing dance in America today. Focuses on Afro-Latin social dancing, ballroom, jazz, hip hop, ballet and modern/postmodern dance forms. Students learn about various ways of conducting research into dance history, including interviewing, researching using primary resources and performing scholarship. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s): ENG 101, 105 or 107 with C or better |
| DCE | 301 | Dance Analysis and Theory | Reflective inquiry into the nature of dance through the lenses of dance analysis and critical theory. Covers philosophical and theoretical issues raised by the study of dance in relation to specific historical and global contexts. Students learn how to describe and analyze the components and form of dance events, and interpret and evaluate works by applying feminist, queer, postcolonial and critical race theories, among others. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| DCE | 302 | History of American Hip Hop Dance | The histories of hip hop dance are multilayered and multifaceted. There is not a singular history of hip hop dance, yet multiple entry points with multiple pathways of understanding to unpack the turbulent and linked histories of historically disenfranchised communities within the context of post-Civil Rights era United States. Designed as a seminar experience and operates from the assumption that hip hop dance is an extension of African diasporic traditions colliding with multiculturalism and youth culture. Serves as a portal to some of the histories, perspectives, individuals and stories that help shape the forms of hip hop dance expressed throughout this course. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & C | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| DCE | 303 | The Body Condition(ed) | Examines contemporary practices of conditioning the body from a triangulation of perspectives: physical, social, and experiential. Enhances the ability to obtain a holistic understanding of how the self/social dynamic operates within the context of body conditioning. Designed for Non-Majors. Not Eligible for Dance Major Requirements. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | SB | Pre- or Corequisite(s): ENG 102, 105, or 108 OR Visiting University Student |
| DCE | 306 | History of Salsa: Afro-Latin Social and Global Contexts | For students who are curious about salsa dancing and music, and who have interest in learning about its timeline and origins. Salsa is a migrational phenomenon, and the course traces the journey of multiple timelines that intersect with the global industry it has become today. Course theme revolves around the concept of salsa hybridity and the migrational dance that continues to evolve based on the interexchange of music and dance as it represents Afro-Latinness in the community. Content focuses on tracing the pathways of salsa and its origins from a dance and music perspective. Content also includes chronological investigative critique on performance from salsa congresses and festivals, and social dance videos from various video platforms. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & C | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |

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| DCE | 324 | Latin/Swing/Ballroom III | Refines dances learned in the intermediate level of Latin and ballroom dances, including foxtrot, waltz, salsa, cha cha, rumba, samba, west coast swing, bolero, tango, and swing. Prepares students to have a more advanced command of the complex rhythms and figures used in the major partnership dances. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): DCE 224 or DAN 294 (Latin/Swing/Ballroom II) OR Visiting University Student |
| DCE | 325 | Afro-Latin/Salsa III | Advanced movement course designed to bring an interdisciplinary approach towards performance, competitive, and social partner movement that incorporates multiple contextual and Latin dance style perspectives to inform and critique one's own dance understandings. Latin social movement forms include NY Mambo, cha cha, and bachata. Elements and concepts investigated with partner work include the following: working with the body, kinesthetic movement properties, connection, musicality, and rhythm. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): DCE 125, 139, 225, 239, or 339; Credit is allowed for only DCE 325 or DCE 394 (Latin/Salsa III) OR Visiting University Student |
| DCE | 330 | Third-Year Movement Practices I | Focuses on the application of diverse movement forms and somatic studies in a range of performance contexts. These contexts may include live and mediated performance, community-based projects, pedagogy, analysis of movement forms in relation to musical compositions or the creation of new movement languages. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance major; DCE 231 OR Visiting University Student |
| DCE | 331 | Third-Year Movement Practices II | Student will focus on the integration of diverse movement forms and somatic practices, as well as developing an in-depth understanding of a range of performance contexts practically and theoretically. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance student; DCE 330 with C or better |
| DCE | 333 | Hip Hop III | Underscores hip hop cultural practice as inherently interdisciplinary and as a culture expressed in various practices and forms. Students bring a solid foundation of different techniques, approaches and contexts of multiple hip hop dance styles to fluently and radically bridge their dance practice and movement as a tool to empower and transform. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): two completions of DCE 233 with C or better OR Visiting University Student |
| DCE | 334 | Postmodern Contemporary III | Advanced level of contemporary modern dance rooted in postmodern traditions. Prepares students for the professional field of dance while continuing to deepen their understanding of the history and social significance of the art form. Includes diverse movement styles that emphasize a nuanced approach to complex movement concepts and somatic principles. Faculty assess students' abilities within the first week of class to ensure this course is a good fit. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): two completions of DCE 234 with C or better OR Visiting University Student |
| DCE | 335 | Contemporary Ballet III | Advanced level for contemporary ballet furthers the study of ballet with a contemporary lens, allowing the dancer to develop and hone the relationship between the somatic experience and the ballet tradition. Employs further investigation of concepts as students continue to apply physical learning to deepen their understanding of the history and theory of contemporary ballet. Written work expands students' contextual understanding of ballet's most current choreographers and happenings. Faculty assess students' abilities within the first week of class to ensure this course is a good fit. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): two completions of DCE 235 with C or better OR Visiting University Student |
| DCE | 336 | Somatic Movement Development and Facilitation | Laboratory for somatic education that engages students in the theoretical and guided practical study of somatic movement practices. Facilitates students in exploring and addressing personal movement concerns and identifying areas for growth while expanding student understanding of the diversity of approaches to somatic studies. Focuses on body awareness, holding patterns, and movement re-education through various somatic practices drawn from Bartenieff Fundamentals, Body-Mind Centering, ideokinesis, Laban Movement Analysis, Dynamic Embodiment and other related somatic constructs. | N | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): DCE 136 or 236 with C or better OR Visiting University Student |
| DCE | 339 | Afro-Latin Movement Practices III | Advanced course brings an interdisciplinary approach toward performance, competitive and social partner movement that incorporates multiple contextual and Afro-Latin dance style perspectives to inform and critique one's own dance understandings. Provides a learning environment to investigate performance elements/theories and how they relate or contrast within the following dance styles: Afro-Latin Social which include NY Mambo, Cha Cha and Bachata. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): two completions of DCE 239 with C or better; Credit is allowed for only DCE 339 or DCE 394 (Afro-Latin Movement Practices III) or DCE 394 (Salsa III) OR Visiting University Student |

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| DCE | 350 | Dance in the Classroom: Learning Through Movement | Explores theories of learning, thought development, and knowledge construction through aesthetic movement experiences. Students look to theories from the fields of aesthetics, phenomenology (study of lived experiences), somatics (study of the soma or body/mind), sociology and epistemology (theory of knowledge) to understand how the intertwined relationship of human thought development and movement patterning can affect children's learning and development. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum junior standing OR Visiting University Student |
| DCE | 354 | Creative Approaches to Teaching Dance I | Explores creative strategies and methodologies for teaching dance to a variety of populations in diverse settings. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance BFA, Dance (Dance Education) BFA, or Performance and Movement BA major OR Visiting University Student |
| DCE | 356 | Creative Approaches to Teaching Dance II | Explores creative strategies and methodologies for teaching dance to a variety of populations in diverse settings. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance BFA, Dance (Dance Education) BFA, or Performance and Movement BA major OR Visiting University Student |
| DCE | 357 | Teaching Internship | Designed for dance education majors pursuing K-12 certification. Students complete a minimum of 25 internship hours in a secondary education classroom setting and are mentored by a high school dance teacher. The internship experience involves observing and assisting the mentor teacher in instructional activities, planning and teaching dance movement and creative practice lessons, choreographing a dance concert work at the internship site, and engaging in self-evaluation processes. Mentor teachers provide ongoing feedback to students in the course and complete two formal assessments. Creative work generated from the internship course is entered into a digital portfolio and shared with course peers and instructors at the end of the semester. | N | PRA | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): Dance BFA, Dance (Dance Education) BFA, or Performance and Movement BA major; DCE 354 with C or better |
| DCE | 360 | Creative Practices V | Conceived as a laboratory for practice-led research and choreography. Emphasizes compositional forms and structures in dance as well as the art of generation, organizing and framing movement. Focuses on developing tools and honing the student's creative voice. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): DCE 261 with C or better OR Visiting University Student |
| DCE | 361 | Creative Practices VI | Conceived as a means of application of creative tools garnered in the previous semester, students select from a survey of options that allow for full immersion in the creative process. Focuses on dance making in relationship with other creative practices and artistic work. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): DCE 360 with C or better OR Visiting University Student |
| DCE | 370 | Third-Year Seminar I | Provides an orientation to the field of community dance practice. Over two consecutive semesters, students investigate foundational theories pertaining to the development of community dance worldwide, are exposed to leaders in community dance practice, and have in-depth applied experiences interacting with different populations in a variety of community dance contexts. | N | SEM | N | YGB | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre-requisite: Dance major; DCE 271 with a Y |
| DCE | 371 | Third-Year Seminar II | Hones skills in collaborative approaches, teaching, leading, and facilitation through partnerships with community organizations in the Phoenix metropolitan area. Students study community dance practices covering a range of creative process and community building tools that can be used in diverse settings. Applies research methods, such as data collection, analysis, and reflection, to measure the efficacy of community arts practices. | N | SEM | N | YGB | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre-requisite: Dance major; DCE 370 with a Y. |
| DCE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| DCE | 402 | Ethnography of Dance Practices | Examines the field of ethnochoreology, ethnographic methods, and interpretive research practices. Develops critical writing, thinking, and viewing skills for comparative dance study. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |

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| DCE | 403 | Making. Living. Thriving Through the Arts | This specialized course looks at how creative practices and research revitalize one another and how artists continue to sustain themselves by bringing imaginative responses to 21st-century living. This course grew out of a wish to share the diversity of approaches in the current dance curriculum at ASU. In this open forum setting, we may develop a vibrant community moving toward visionary, yet realistic ideals in the arts, experiential learning and how we creatively contribute and support ourselves in the world. Emphasizes arts making practices and being self-supporting with one's creative work. Throughout the class, various artist/scholars share their creative research work and how they sustain a life in the arts. Among others, their perspectives may include a variety of intersections such as social issues in health/wellness, equity and justice, entrepreneurial thinking, technology and social engagement. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s): Herberger major or minor; minimum 60 hours |
| DCE | 404 | Dance and Ethics | Examines ethical issues as they relate to the field of dance, including the following: the ethical treatment of dancers within educational and professional institutions; the ethical creation of dances sensitive to copyright/appropriation concerns as well as issues of form and content; the ethical engagement of the arts by the state; the ethical use of dance in trauma recovery and community building. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | L | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum junior standing |
| DCE | 405 | Writing the Creating Body | Invites students into theorizing the lived experience of the creator during the creative act. This inner landscape of the creator's experience is one of change and split-second decisions. Why capture this landscape? As an artist, students can find their own patterns of creativity. If they wish only to appreciate creative artists, their understanding of the creative process deepens and magnifies. To capture this inner landscape, students learn new writing skills within a robust framework that can analyze the fluidity of the creative act. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only DCE 405 or DCE 505 OR Visiting University Student |
| DCE | 433 | Hip Hop IV | Focuses on application of various stylistic, technical and performance techniques expected at an advanced level in various forms of hip hop. Expects students to clearly articulate (in their words and bodies) hip hop as the embodiment of two or more dance styles rooted from the dance scenes of underground, street and/or club dance counterculture. Deepens understanding of the form through performance of the movement within cultural community context, "the studio," and within other community-oriented settings. It is through performing in these venues where students draw connections to help develop a nuanced mode of training within the studio. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): two completions of DCE 333 with C or better; two completions of DCE 338 with C or better OR Visiting University Student |
| DCE | 435 | Contemporary Ballet IV | Focuses on the students' individual application of contemporary ballet technique at an advanced level. Expects students to have an advanced, embodied understanding. Draws on a variety of traditional, codified and contemporary approaches to ballet as well as somatic techniques to enhance students' ballet proficiency through performing movement that is athletically challenging, nuanced and rhythmically complex. Emphasizes musicality and artistry throughout class. Engages students in critical thinking and reflection in relationship to their dancing and dance learning. Additionally, students engage with class concepts creatively through improvisation and composition. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): two completions of DCE 335 with C or better |
| DCE | 438 | Dance Theatre Performance/Production | Project-based class gives the opportunity to explore the collaborative approach of producing and creating work. Students conceive and construct the lighting, sound, costumes, media and movement designs for several projects. All levels are welcome. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance BFA, Film and Media Production BFA, Performance and Movement BA major, Dance minor, or BIS Dance concentration OR Visiting University Student |
| DCE | 439 | Afro-Latin Movement Practices IV | Focuses on the students' individual application of Afro-Latin salsa/mambo technique at an advanced level. Specific to undergraduate students who have completed previous coursework and are ready to focus on individual research, investigation and critique in Afro-Latin movement practices. With an expected advanced understanding of Afro-Latin rhythms and social partnerwork vocabulary, students synthesize past knowledge in previous courses and begin framing questions on areas of expertise to work in an Afro-Latin centric process that leads toward a finding, performance or finished/unfinished work. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): two completions of DCE 239 with C or better; two completions of DCE 339 with C or better OR Visiting University Student |
| DCE | 460 | Transitions I | Original choreography for group performance with analysis and critique of problems encountered in production. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance BFA or Performance and Movement BA major; DCE 361 with C or better OR Visiting University Student |

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| DCE | 461 | Transitions II | Effectively positions students as they ready themselves to enter the creative work force. Students fully execute and document their capstone project and develop materials for their portfolio that allow them to represent themselves well as artist professionals. Requires an internship. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): DCE 460 with C or better |
| DCE | 470 | Fourth-Year Seminar | Explores and investigates the larger world of dance as it pertains to transitioning out of the university environment into professional lives. Discussion revolves around career opportunities, options and finding potential work synergies that will parlay into meaningful and exciting lives. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre-requisites: BFA Dance major; DCE 371; Credit is allowed for only DCE 470 or 494 (4th-Yr Seminar) |
| DCE | 482 | The Alexander Technique | Mixed-level course open to students from across the Herberger Institute for Design and the Arts that covers the basic principles of the Alexander Technique (AT). The AT is a gentle reeducational process that promotes increased awareness and ease in movement. With a fundamental understanding and application of the AT principles, explores students' individual artistic practices and everyday patterns of movement through experiential research and application. | N | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Herberger major; min junior standing; Credit is allowed for only DCE 482 or DCE 394 (Alexander Technique:Application&Mvmnt Research) or DCE 582 or DCE 598 AlexanderTechnique:Applic&Mvmnt.Rsrc h for Grad St) OR Visiting University Student |
| DCE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | |
| DCE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | | Prerequisite(s): Barrett Honors student |
| DCE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| DCE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| DCE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | |
| DCE | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 501 | Philosophy of Dance | Analyzes traditional and contemporary theories of dance with regard to issues of expression, form, and meaning. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 502 | Cultural Concepts of Dance | Examines the close connections among culture, dance, and movement through writings in cultural theory, dance ethnology, and philosophy. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 504 | Dance and Ethics | Examination of ethical issues as they relate to the field of dance, including the following: the ethical treatment of dancers within educational and professional institutions; the ethical creation of dances sensitive to copyright/appropriation concerns as well as issues of form and content; the ethical engagement of the arts by the state; the ethical use of dance in trauma recovery and community building. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance MFA student |
| DCE | 505 | Writing the Creating Body | Dives deep into the nexus of the creative process to explore more about student's own understanding or that of another artist. Applies frameworks to investigate the dynamic relationships among artist, audience and creative project that occur during the flow of creating. Lens is the embodied perspective of the creative artist with writing techniques honed for how to capture the inner experience of creating. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Herberger Institute of Design and the Arts graduate student; Credit is allowed for only DCE 405 or DCE 505 |
| DCE | 530 | Somatic Movement Inquiry I | Explores somatic processes and frameworks as modalities for inquiry and research. Students engage in psychophysical investigations of specific somatic movement practices and frameworks, including Laban Movement Analysis, Body-Mind Centering and Dynamic Embodiment, as well as other phenomenological and epistemological frameworks for learning in and through the body. Approaches classroom experiences from theoretically grounded and contextualized perspectives that address through practice current somatic and epistemological thinking. Individual sessions with faculty support the deepening and exploration of personal movement inquiry and somatic research. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance MFA student |

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| DCE | 531 | Somatic Movement Inquiry II | Explores somatic processes and frameworks as modalities for inquiry and research. Students engage in psychophysical investigations of specific somatic movement practices and frameworks, including Body-Mind Centering, the Alexander Technique, Laban Movement Analysis and Dynamic Embodiment, as well as other phenomenological and epistemological frameworks for learning in and through the body. Approaches classroom experiences from theoretically grounded and contextualized perspectives that address through practice current somatic and epistemological thinking. Individual sessions with faculty support the deepening and exploration of personal movement inquiry and somatic research. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance MFA student |
| DCE | 534 | Postmodern Contemporary | First-year graduate level of contemporary modern dance rooted in postmodern traditions. Prepares students for the professional field of dance while continuing to deepen their knowledge of the history and theory of the practice. Includes diverse movement styles that emphasize a nuanced approach to complex movement concepts and somatic principles. Expects students to take a self-directed approach to course content. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance graduate student |
| DCE | 535 | Contemporary Ballet | Graduate-level theoretical study and movement practice of contemporary ballet for contemporary dancers. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisite: MFA Dance student |
| DCE | 536 | Somatic Practices | Laboratory for somatic education that explores the foundations of movement, voice, expression and spatial awareness. Open to nonmajors, the class welcomes and encourages the participation of students from a wide variety of disciplines. Taught through the principles of specific somatic lenses (e.g., the Alexander Technique, Bartenieff Fundamentals, and Body Mind Centering), the course highlights how embodied awareness affects artistic process and choice making, as well as enhancing physical capacities, kinesthetic intelligence, and the refinement of performance and technical skills. Emphasizes developing a holistic perception of ourselves, our relation to one another, and to the environment. Integrated lecture/lab. Prerequisite(s): degree- or nondegree-seeking graduate. | N | LEL | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 537 | African and Diaspora Movement Practices | Investigates and integrates historical and cultural contexts for West, Central, and South African and Post-African (diasporic) movement practices. Engages movement and physical articulation as tools to examine specific dance cultural knowledge and demonstrate/embody techniques representing that cultural knowledge. | N | LEL | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance MFA student |
| DCE | 538 | Dance Theatre | Performance in specially choreographed dance productions. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre-requisite: MFA Dance student |
| DCE | 540 | Issues in Media for Dance | Introduces desktop multimedia as it relates to dance creation, production, education, and research. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: MFA Dance student |
| DCE | 543 | Sound Design for Dance | Audio mixing for analog/digital recording and editing. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisite: Dance majors |
| DCE | 554 | Teaching Praxis I: Postsecondary Teaching Philosophies, Foundations and Practices | Addresses the theoretical basis and practical application of principles for teaching dance disciplines in a postsecondary setting. Includes discussion, co-teaching and individual teaching projects and sessions, practical application of course readings, and guest speakers. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance MFA student |
| DCE | 560 | Graduate Creative Practices I | Covers the philosophy and the breadth of process-oriented possibilities for art-making and provides opportunities to deepen and define personal artistic practices. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance MFA student |
| DCE | 561 | Graduate Creative Practices II | Continues as a laboratory for practice-led research offering further exposure to a range of practices in dance making and artistic inquiry, including sound design. Supports students' thinking about their evolving art making methodologies and contextualization of their artistic practice in the current field. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance graduate student; DCE 560 |
| DCE | 563 | Rhythmic Awareness | This course focuses on the kinesthetic aspects of weight, space, and time. It is opportunity for individual exploration as well as an ensemble experience, a chance to come together as a group through the communicative nature of sound, movement, and visual patterns. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance MFA student |
| DCE | 570 | Graduate First-Year Seminar I | Part of a four-semester sequence that offers a cohort experience to increase awareness of current global dance practices, present opportunities for dialoguing about topics significant to fulfilling degree requirements and that promote success in the dance program as well as to facilitate transition into the professional world. Seminar. | N | SEM | N | YGB | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Dance MFA student |

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| DCE | 571 | Graduate First-Yr Seminar II | Part of a four-semester sequence that offers a cohort experience to increase awareness of current global dance practices; present opportunities for dialoguing about topics significant to fulfilling degree requirements and that promote success in the dance program as well as to facilitate transition into the professional world. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Dance MFA student |
| DCE | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LAB | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 582 | The Alexander Technique | Mixed-level class open to students from across HIDA, covers the basic principles of the Alexander Technique (AT). The AT is a gentle reeducational process that promotes increased awareness and ease in movement. With a fundamental understanding and application of the AT principles, explores students' individual artistic practices and everyday patterns of movement through experiential research and application | N | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Herberger graduate student; Credit is allowed for only DCE 482 or DCE 394 (Alexander Technique:Application&Movement Research) or DCE 582 or DCE 598 (AlexanderTechnique:Applic&Mvmnt.Rsrch for Grad St) |
| DCE | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 634 | Postmodern Contemporary | Preparation in the performance and comprehension of professional-level modern dance for second-year graduate students. 6 hours weekly. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Dance Graduate student |
| DCE | 654 | Teaching Praxis II: Theories, Contexts, Populations, Psychomotor Development and Curriculum Design | Applies current learning theories and psychomotor development approaches to teaching practices and curriculum design for a variety of contexts and populations ranging from early childhood to late adulthood and community to institutional settings. Students develop and implement pedagogical praxis frameworks that stem from their developing teaching perspectives, values and objectives. Course experiences are designed to help students effectually integrate pedagogical theory and practice toward successful and meaningful ends. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): DCE 554; Credit is allowed for only DCE 654 or DCE 598 (Apprenticeship) |
| DCE | 656 | Teaching Praxis III: Secondary Practices and Teacher Preparation Course Development/Implementation | Prepares students to teach in secondary dance education settings; to develop and teach higher education dance pedagogy, curriculum development, and teacher prep courses that meet professional teaching standards, state and national learning standards and requirements and institutional benchmarks. Participants develop specific teaching strategies and frameworks, as well as gain practical experience, within the settings of secondary dance education and university teacher preparation courses. Utilizes Laban Movement Analysis and other social somatic frameworks as inroads into teaching, curricular design and student assessment. Students help instruct and mentor undergraduate dance majors in a secondary dance teaching methods course. Illuminates current sociocultural and educational issues that influence teaching and learning in secondary dance classrooms, and addresses strategies and requirements for pre-service teacher preparation courses. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 4 | | Prerequisite(s): DCE 554; Credit is allowed for only DCE 656 or DCE 680 (Secondary Teaching Praxis and Teacher Training Frameworks) |
| DCE | 657 | Pedagogical Research and Fieldwork | Provides a theoretical and practical foundation for students to engage in pedagogical research and fieldwork. Places primary emphasis on investigating and applying qualitative methods to processes of pedagogical inquiry and research. Students are mentored through processes of gathering information, focusing, designing, implementing and assessing an educational research project through fieldwork in a context of their choosing. The outcomes of students' fieldwork projects are documented and articulated in the forms of a scholarly research paper and live research presentation. | N | RSC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): DCE 554 |

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| DCE | 660 | Graduate Creative Practices III | Artistic research through the practices of choreographic choice making, exploration, and experimentation of integrated environments and interdisciplinary collaboration. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: MFA Dance student |
| DCE | 661 | Graduate Creative Practices IV | Culmination of a four-semester Creative Practices sequence, focusing on articulating individual creative practices and identifying the needs of each student relative to their Applied Projects. Students are also responsible for understanding the content and requirements for the selected modules of this course. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: MFA Dance student |
| DCE | 670 | Graduate Second-Year Seminar I | Part of a four semester sequence that offers a cohort experience to increase awareness of current global dance practices, presents opportunities for dialoguing about topics significant to fulfilling degree requirements and promotes success in the dance program as well as to facilitate transition into the professional world. Reflection is a key component of the School of Dance curriculum; develops ability and skills in analysis, but more importantly builds awareness of intuitive and habitual patterns of response to new stimuli. The Seminar is a key moment each week to develop a community of inquiry amongst peers. | N | SEM | N | YGB | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Dance MFA student |
| DCE | 671 | Graduate Second-Year Seminar II | The Second-Year Graduate Seminar is part of a four semester sequence that offers a cohort experience to increase awareness of current global dance practices, present opportunities for dialoguing about topics significant to fulfilling degree requirements and that promote success in the dance program as well as to facilitate transition into the professional world. | N | SEM | N | YGB | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Dance MFA student |
| DCE | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 683 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCI | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| DCI | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| DCI | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post Baccalaureate Undergraduate student |
| DCI | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post Baccalaureate Undergraduate student |
| DCI | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): COE 501 or DCI 510 with B or better |
| DCI | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post Baccalaureate Undergraduate student |
| DCI | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post Baccalaureate Undergraduate student |
| DCI | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| DCI | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post Baccalaureate Undergraduate student |
| DCI | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| DCI | 701 | Transdisciplinary Seminar I | Covers the "grand challenges" in education and other fields, and the centrality of interdisciplinary approaches in addressing these challenges. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR undergraduate postbaccalaureate student; Credit is allowed for only DCI 701 or DCI 791 (Transdisciplinary Seminar) |
| DCI | 702 | Transdisciplinary Seminar II | Guides PhD students to study, understand and solve multiple aspects of the problem area in a transdisciplinary fashion, approaching the problem from multiple theoretical perspectives, methodological practices and disciplines. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR undergraduate postbaccalaureate student; Credit is allowed for only DCI 702 or DCI 791 (Transdisciplinary Seminar II) |
| DCI | 706 | Academic Writing | Covers the practices of writing for academic purposes, specifically with an aim toward writing for publication. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR undergraduate postbaccalaureate student; Credit is allowed for only DCI 706 or DCI 791 (Academic Writing) |
| DCI | 707 | Scholarly Practices Seminar: Proposal Writing | Covers proposal writing for students seeking funding to support scholarly initiatives across research designs and methods. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): COE 503; Credit is allowed for only DCI 707 or DCI 791 (Proposal Writing - Seminar) or DCI 791 (SchlrlyPractices Smnr: Proposal Writing) |
| DCI | 752 | Quantitative Research Design | Focuses on the purpose, design and conduct of quantitative research that advances the field of education. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): COE 502; Credit is allowed for only DCI 752 or EPA 691 (Introduction to Quantitative Research Design) |
| DCI | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCI | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post Baccalaureate Undergraduate student |
| DCI | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post Baccalaureate Undergraduate student |
| DCI | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR undergraduate postbaccalaureate student |
| DCI | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post Baccalaureate Undergraduate student |
| DCI | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post Baccalaureate Undergraduate student |
| DCI | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post Baccalaureate Undergraduate student |
| DNP | 601 | Theoretical Foundations for Advance Practice Nursing | Examines philosophical foundations of advanced nursing practice by analyzing interrelationships among theory, philosophy, practice, and research. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Doctor of Nursing Practice or Nurse Practitioner graduate certificate student |
| DNP | 602 | Evaluating Research for Practice | Provides opportunities for graduate students to develop the knowledge and skills to critically analyze scientific literature and research for application to practice. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Edson College graduate student |

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| DNP | 603 | Health Equity and Social Justice | Focuses on the application of theories related to social justice and knowledge of social determinants of health to the role of the graduate prepared nurse for the purpose of advocating for health equity and creating innovative methods of addressing social injustices to improve health outcomes. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): admission to graduate Nursing program |
| DNP | 604 | Advanced Human Pathophysiology Across Lifespan | Core course focuses on human pathophysiology and concepts of genetics for advance practice nursing. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): Adv Nursing Practice DNP or Acute Care Ped NP cert, Adult Geron NP cert, Fam NP cert, Fam Psych Mntl Hlth NP cert, Ped NP cert, or Women's Hlth NP cert, or Nursing MS or Nursing (Entry to Nursing Practice) MS or Nursing (Nursing Ed) MS |
| DNP | 605 | Advanced Health Assessment Across Lifespan | Advanced health assessment skills, including history-taking strategies and physical, functional, developmental, and psychosocial assessment. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): DNP Adv Nurs Prac (AcuteCare or Adt-Geron) or Fam NP or Fam Psy Mntl Hlth or Pediatric NP or Wmn's Hlth NP stdnt or Acute Care Ped NP or Adt Geron NP or Fam NP or Famp Psychi Mntl Hlth NP or Pediatric NP or Wmn's Hlth NP Cert |
| DNP | 606 | Principles of Pediatric Acute Care I | Provides the theoretical basis for the assessment and management of infants, children, adolescents and young adults with select complex acute, critical and chronic health conditions in tertiary, emergency and specialty inpatient/outpatient health care settings. Emphasizes recognition of the dynamic and fluctuating health status of emergent pediatric health conditions by body system. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): graduate student enrolled in Advanced Nursing Practice (Acute Care Pediatric Nurse Practitioner) DNP program or Advanced Nursing Practice (Acute Care Pediatric Nurse Practitioner) certificate; Corequisite(s): DNP 607 |
| DNP | 607 | Advanced Pediatric Acute Care Practicum I | This clinical course focuses on the assessment, diagnosis and management of infants, children, adolescents and young adults with select complex acute, critical and chronic health conditions in tertiary, emergency and specialty inpatient/outpatient health care settings. | N | PRA | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-7 | | Prerequisite(s): graduate student enrolled in Advanced Nursing Practice (Acute Care Pediatric Nurse Practitioner) DNP program or Advanced Nursing Practice (Acute Care Pediatric Nurse Practitioner) certificate; Corequisite(s): DNP 606 |
| DNP | 608 | Advanced Pharmacotherapeutics Across Lifespan | For advanced practice nurses, expands theoretical and evidence-based knowledge and promotes synthesis of pharmacotherapeutic concepts and principles across the lifespan. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice DNP or Acute Care Ped NP cert, Adult Geron NP cert, Family NP cert, Fam Psych Mntl Hlth NP cert, or Women's Hlth NP cert, or Nursing MS or Nursing (Entry to Nursing Pract) MS or Nursing (Nursing Ed) MS student |
| DNP | 609 | Advanced Practice Nursing Role | Focuses on the examination and implementation of the advanced practice nursing (APN) role. Presents historical and contemporary social and political influences on the development and implementation of the APN role and the circumstances prompting the movement of education for advanced practice to the doctoral level. Emphasizes the analysis of the role the APN and the Doctor of Nursing Practice prepared provider within the greater health care system. Explores issues and challenges related to advanced practice. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Prerequisite(s): Doctor of Nursing Practice student |
| DNP | 610 | Principles of Advanced Emergency Nursing I | Students acquire knowledge that is relevant to the management of common medical emergencies and management of patients with unexpected illness in pre-hospital, urgent care, and emergency department settings. This knowledge is applied in the required clinical course. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): DNP 633; Corequisite(s): DNP 611 |
| DNP | 611 | ENP Practicum I: Advanced Emergency Nursing Practice | Demonstrates management strategies and applies selected practice models for the delivery of high-quality care to patients with unexpected illness in pre-hospital, urgent care, and emergency department settings. Focuses on the delivery of health care services to patients across the lifespan in pre-hospital, urgent care, and emergency department settings. | N | PRA | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Prerequisite(s): DNP 633; Corequisite(s): DNP 610 |
| DNP | 612 | Pediatric Palliative and End-of-Life Care: Research, Theory and Clinical Implications | Examines research, theory and principles for end of life and palliative care in infants, children, adolescents and young adults (birth to age 21 years). | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DNP | 613 | Women's Health Promotion I | Didactic course focuses on theories of health behavior, health promotion, disease prevention and patient education. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Women's Health DNP student; DNP 602 with B or better; Corequisite(s): DNP 614 |
| DNP | 614 | Women's Health Practicum I | Clinical assessment and education of women across the lifespan for the purposes of health promotion and disease prevention. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Pre-requisite: DNP Women's Health student; Co-requisite: DNP 613 |
| DNP | 615 | Management of Common Problems in Women's Health | Focuses on management of nursing care for high-risk perinatal women and women with common health problems. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre-requisite: DNP Women's Health student; Co-requisite: DNP 616 |
| DNP | 616 | Advanced Women's Health Practicum II | Clinical application of theories, concepts, and principles in area of concentration. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Pre-requisite: DNP Women's Health student; Co-requisite: DNP 615 |

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| DNP | 617 | Management of Complex and Chronic Disease in Women | Didactic course focused on using current evidence-based research as the context for the assessment and management of complex and chronic reproductive and gynecologic health status across the lifespan and patient education. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre-requisite: DNP Women's Health student; Co-requisite: DNP 618 |
| DNP | 618 | Advanced Women's Health Practicum III | Clinical course focused on using current evidence-based research as the context for the assessment and management of complex and chronic reproductive and gynecologic health status across the lifespan and patient education. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Pre-requisite: DNP Women's Health student; Co-requisite: DNP 617 |
| DNP | 619 | Principles of Pediatric Acute Care II | Continues to provide the theoretical basis for the assessment and management of infants, children, adolescents and young adults with select complex acute, critical and chronic health conditions in tertiary, emergency and specialty inpatient/outpatient health care settings. Emphasizes recognition of the dynamic and fluctuating health status of emergent pediatric health conditions by body system. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Doctor of Nursing Practice student; Corequisite(s): DNP 620 |
| DNP | 620 | Advanced Pediatric Acute Care Practicum II | This clinical course focuses on the assessment, diagnosis and management of infants, children, adolescents and young adults with select complex acute, critical and chronic health conditions in tertiary, emergency and specialty inpatient/outpatient health care settings. | N | PRA | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-7 | | Prerequisite(s): Doctor of Nursing Practice student; Corequisite(s): DNP 619 |
| DNP | 621 | Health Assessment Skills | Skill-based course focuses on advanced clinical skills including suturing, splinting, x-ray, ECG and advanced lab interpretation. | N | LEL | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Prerequisite(s): DNP 605 |
| DNP | 623 | Adult-Gerontology Health Promotion | Introduces adult-gerontology health promotion and disease prevention emphasizing principles of evidence-based practice in clinical and community settings. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Doctor of Nursing Practice student; Corequisite(s): DNP 624 |
| DNP | 624 | Adult-Gerontology Health Promotion Practicum | Clinical practicum designed to apply principles of evidence-based practice in health promotion and disease prevention in clinical and community settings. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Prerequisite(s): DNP Advanced Nursing Practice (Adult-Gerontology Nurse Practitioner) major. Corequisite(s): DNP 623 |
| DNP | 625 | Management of Common Health Problems in Adult-Gerontology: Theory | Focuses on the theory, research and application of evidence-based practice in the care of adolescents, adults and older adults with common health alterations. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Doctor of Nursing Practice student; Corequisite(s): DNP 626 |
| DNP | 626 | Management of Common Health Problems in Adult-Gerontology: Practicum | Clinical practicum applies principles of evidence-based practice in primary care management of adolescents, adults and older adults with common health alterations. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Prerequisite(s): Doctor of Nursing Practice student; Corequisite(s): DNP 625 |
| DNP | 627 | Management of Complex Health Problems in Adult-Gerontology: Theory | Focuses on theory, research and application of evidence-based practice in care of adolescents, adults and older adults with complex health alterations. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Doctor of Nursing Practice student; Corequisite(s): DNP 628 |
| DNP | 628 | Management of Complex Health Problems in Adult-Gerontology: Practicum | Clinical practicum applies principles of evidence-based practice in primary care management of adolescents, adults and older adults with complex health alterations. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Prerequisite(s): Doctor of Nursing Practice student; Corequisite(s): DNP 627 |
| DNP | 630 | Principles of Advanced Emergency Nursing II | Students acquire advanced knowledge that is relevant to common medical and traumatic emergencies. Focuses on preparing the student to implement the role of the advanced practice emergency nurse. This knowledge is applied in the required clinical course. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): DNP 610; Corequisite(s): DNP 631 |
| DNP | 631 | ENP Practicum II: Advanced Emergency Nursing Practice | Demonstrate advanced management strategies and applies advanced practice models for the delivery of high-quality care to patients with unexpected illness in pre-hospital, urgent care, and emergency department settings. Focuses on the delivery of health care services to patients across the lifespan in pre-hospital, urgent care, and emergency department settings. | N | PRA | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Prerequisite(s): DNP 610; Corequisite(s): DNP 630 |
| DNP | 633 | Family Health Promotion | Focuses on concepts and strategies to promote, manage, and maintain health of children, adults, and families. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Doctor of Nursing Practice student; Corequisite(s): DNP 634 |
| DNP | 634 | Family Health Promotion Practicum | Clinical application of theories, concepts, and principles in the care of children, | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Pre-requisite: Advanced Nursing Practice (Family Nurse Practitioner) major; Co-requisite: DNP 633 |
| DNP | 635 | Management of Common Health Problems in Children, Adults and Families | Didactic course that integrates research into clinical decision making as the context for the assessment and management of acute and common health problems in family practice across the life span. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre-requisite: DNP Advanced Nursing Practice (Family Nurse Practitioner); Co-requisite: DNP 636 |
| DNP | 636 | Management of Common Health Problems in Children, Adults, and Families Practicum | Clinical application of theories, concepts, and research related to the management of acute and common problems in family practice across the lifespan. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Pre-requisite: DNP Advanced Nursing Practice (Family Nurse Practitioner); Co-requisite: DNP 635 |
| DNP | 637 | Management of Complex and Chronic Health Problems in Children, Adults and Families | Didactic course that integrates research into clinical decision making as the context for the assessment and management of complex and chronic problems in family practice across the lifespan. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre-requisite: DNP Advanced Nursing Practice (Family Nurse Practitioner); Co-requisite: DNP 638 |
| DNP | 638 | Management of Complex and Chronic Health Problems in Children, Adults, and Families Practicum | Clinical application of theories, concepts, and research related to the management of complex and chronic problems in family practice across the life span for Family Nurse Practitioner role specialty. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Pre-requisite: DNP Advanced Nursing Practice (Family Nurse Practitioner); Co-requisite: DNP 637 |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| DNP | 640 | Advanced Human Pathophysiology Pediatrics | Didactic course for pediatric nurse practitioner students focuses on applying concepts of human pathophysiology and genetics in pediatric patients. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Pre-requisite: DNP Advanced Nursing Practice (Pediatric Nurse Practitioner) |
| DNP | 641 | Advanced Health Assessment Pediatrics | Skills-based advanced health assessment course that includes history-taking strategies and physical, functional, developmental, psychosocial health assessment of children (birth-21). | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (AcuteCare or Pediatric Nurse Practitioner) DNP student or Acute Care Pediatric Nurse Practitioner or Pediatric Nurse Practitioner certificate |
| DNP | 642 | Applied Pharmacotherapeutics for Pediatrics | Applies evidence-based pharmacotherapeutic principles to disease treatment and health promotion and maintenance for pediatric patients. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): DNP Advanced Nursing Practice (AcuteCare or Pediatric Nurse Practitioner) student or Acute Care Ped Nurs Prac or Pediatric Nurse Practitioner certificate |
| DNP | 643 | Developmentally Based Care of the Well Child | Offers information for theory-based developmental care of well children. Includes anticipatory guidance for parents and/or children/teens. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): DNP Advanced Nursing Practice (AcuteCare or Pediatric Nurse Practitioner) student or Acute Care Ped Nurs Prac or Pediatric Nurse Practitioner certificate; Corequisite(s): DNP 644 |
| DNP | 644 | Well Child Advanced Practicum | Clinical application of theories, concepts and principles as they relate to the developmentally based care of the well child. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Prerequisite(s): DNP Advanced Nursing Practice (AcuteCare or Pediatric Nurse Practitioner) student or Acute Care Pediatric Nurse Practitioner or Pediatric Nurse Practitioner graduate certificate student; Corequisite(s): DNP 643 |
| DNP | 645 | Management of Common Problems in Pediatric Primary Care | Provides health promotion and disease prevention strategies for the advanced nursing care of all children and families. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre-requisite: DNP Advanced Nursing Practice (Pediatric Nurse Practitioner); Co-requisite: DNP 646 |
| DNP | 646 | Management of Common Problems in Pediatric Primary Care Practicum | Facilitates development of advanced clinical skills in the assessment and management of child health, health surveillance and promotion. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Pre-requisite: DNP Advanced Nursing Practice (Pediatric Nurse Practitioner); Co-requisite: DNP 645 |
| DNP | 647 | Management of Complex and Chronic Health Problems in Pediatric Primary Care | Third pediatric didactic course focuses on assessment and management of childhood complex and chronic health problems and special health conditions. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre-requisite: DNP Advanced Nursing Practice (Pediatric Nurse Practitioner); Co-requisite: DNP 648 |
| DNP | 648 | Management of Complex & Chronic Problems Pediatric Primary Care Practicum | Clinical course assists students in developing advanced clinical skills in decision making with chronically ill or special needs pediatric patients. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Pre-requisite: DNP Advanced Nursing Practice (Pediatric Nurse Practitioner); Co-requisite: DNP 647 |
| DNP | 649 | Advanced Physiology | Focuses on integrating the structure and function, including the molecular and cellular levels, that are vital to the overall functioning of the human across the lifespan. It is highly encouraged that students taking this course have a basic understanding of physiological principles to be able to learn advanced concepts covered in this course. It serves as an important fundamental foundation required for advanced practice providers and helps support students in their progression into advanced pathophysiology and clinical specialty course work. Examines the complex interactions of multiple body systems in helping to maintain homeostasis and proper body functioning to promote a foundation for health. Uses clinical scenarios to promote innovative ways to integrate the complex physiological concepts. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Acute Care Pediatric Nurse Practitioner) DNP student or Acute Care Pediatric Nurse Practitioner certificate student or Emergency Nurse Practitioner certificate student |
| DNP | 650 | Advanced Human Pathophysiology Neonates | Didactic course for neonatal nurse practitioner students focuses on applying concepts of human pathophysiology and genetics in neonatal patients. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Pre-requisites: DNP Advanced Nursing Practice (Neonatal Nurse Practitioner) |
| DNP | 651 | Advanced Health Assessment of Neonates | Skill-based course focuses on advanced health assessment skills, including history-taking strategies and the physical, functional, genetic, developmental, and psychosocial/cultural health assessment of neonates. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Neonatal Nurse Practitioner) DNP |
| DNP | 652 | Applied Pharmacotherapeutics for Neonates | Focuses on the application of knowledge of pharmacological principles in the treatment of diseases and promotion of health for neonates and their families. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre-requisite: DNP Advanced Nursing Practice (Neonatal Nurse Practitioner) |
| DNP | 653 | Advanced Development and Family Health Promotion: Neonatal Theory I | Concepts, theories, interventions, and research related to the promotion, management, and maintenance of physical, behavioral, and developmental needs of at-risk newborns and infants and their families. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre-requisite: DNP Advanced Nursing Practice (Neonatal Nurse Practitioner); Co-requisite: DNP 654 |
| DNP | 654 | Neonatal Practicum I | Clinical application of theories, concepts, and principles in area of concentration. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Pre-requisite: DNP Advanced Nursing Practice (Neonatal Nurse Practitioner); Co-requisite: DNP 653 |
| DNP | 655 | Management of Common Neonatal Problems | Proactive neonatal theory course focusing on the concepts, theories, and research related to acute and chronic health deviations of neonates and infants. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre-requisite: DNP Advanced Nursing Practice (Neonatal Nurse Practitioner) Co-requisite: DNP 656 |

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| DNP | 656 | Neonatal Practicum II | Clinical application of theories, concepts, and principles in area of concentration. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Pre-requisite: DNP Advanced Nursing Practice (Neonatal Nurse Practitioner); Co-requisite: DNP 655 |
| DNP | 657 | Management of Complex Problems in Neonates | Examines the application of knowledge of complex, multi-system alterations in neonatal health from a theoretical and research perspective in preparation for clinical practice. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre-requisite: DNP Advanced Nursing Practice (Neonatal Nurse Practitioner) |
| DNP | 658 | Neonatal Practicum III: Management of Complex Problems in Neonates | Develops and applies advanced neonatal assessment, clinical decision making, and management skills to complex health alterations in at-risk neonates to include cultural, ethical, legal, and advocacy issues. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Pre-requisite: DNP Advanced Nursing Practice (Neonatal Nurse Practitioner); Co-requisite: DNP 657 |
| DNP | 659 | Embryology and Genetics | Provides an understanding of embryology, genetics and physiology concepts. Covers application of normal/abnormal human physical development, human reproduction, teratology and developmental genetics to clinical practice in preconception/prenatal and pediatric genetics. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): College of Health Solutions or Edson College of Nursing and Health Innovation graduate student; Credit is allowed for only DNP 659 or GCO 659 |
| DNP | 660 | Advanced Neuropsychopathology Lifespan | Manifestations of altered neurophysiology and psychopathology over the lifespan. Uses evidence-based support for theoretical views of psychiatric disorders to analyze the relationships of neuropsychopathology. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): Advanced Nursing Practice (Family Psychiatric and Mental Health Nurse Practitioner) DNP or Family Psychiatric and Mental Health Nurse Practitioner certificate student |
| DNP | 661 | Ethics and Advanced Nursing Practice | Focuses on the ethical implications in the role of the advanced practice nurse and provides information on ethics and how professional and personal values relate to advanced nursing practice. This course meets the Essentials of Doctoral Education as defined by the American Association of Colleges of Nursing (AACN). | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Doctor of Nursing Practice graduate student |
| DNP | 671 | Advanced Mental Health Assessment Across the Lifespan | Focuses on comprehensive mental health assessment of psychiatric disorders occurring in children, adolescents, and families. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Pre-requisite: DNP Adv Nurse Pract (Family Psych & Mental Health Nurse Practitioner) or (Adult Psych Mental Health Nurse Practitioner) or Family Psychiatric and Mental Health Nurse Practitioner |
| DNP | 672 | Psychopharmacology Across the Lifespan | Focuses on evidence-based use of medications for mental health disorders across the lifespan. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre-requisite: DNP Adv Nurse Pract (Family Psych & Mental Health Nurse Practitioner) or (Adult Psych Mental Health Nurse Practitioner) or Family Psychiatric and Mental Health Nurse Practitioner |
| DNP | 673 | Mental Health Promotion Across the Lifespan | Focuses on evidence-based interventions to promote mental health across the lifespan. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Family Psych & Mental Health Nurse Practitioner) DNP student; DNP 602 with B or better; Corequisite(s): DNP 674 |
| DNP | 674 | Mental Health Promotion Across the Lifespan Practicum | Clinical experiences to become skilled in assessment and evidence-based individual intervention of mental health disorders across the lifespan. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Pre-requisite: DNP Adv Nurse Pract (Family Psych & Mental Health Nurse Practitioner) or (Adult Psych Mental Health Nurse Practitioner) Family Psychiatric and Mental Health Nurse Practitioner; Co-requisite: DNP 673 |
| DNP | 675 | Management of Common Mental Health Disorders Across the Lifespan | Emphasizes the assessment and evidence-based management of common mental health disorders across the lifespan. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre-requisite: DNP Adv Nurse Pract (Family Psych & Mental Health Nurse Practitioner) or (Adult Psych Mental Health Nurse Practitioner) or Family Psychiatric and Mental Health Nurse Practitioner Co-requisite: DNP 676 |
| DNP | 676 | Management of Common Mental Health Disorders Across the Lifespan Practicum | Clinical experiences necessary to become skilled in the assessment and evidence-based management of the most common mental health disorders across the lifespan. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Pre-requisite: DNP Adv Nurse Pract (Family Psych & Mental Health Nurse Practitioner) or (Adult Psych Mental Health Nurse Practitioner) or Family Psychiatric and Mental Health Nurse Practitioner; Corequisite: DNP 673 |
| DNP | 677 | Management of Complex & Chronic Mental Health Disorders Across the Lifespan | Focuses on modalities of evidence-based treatment with children, adolescents, adults, and families with complex and/or chronic psychopathology. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre-requisite: DNP Adv Nurse Pract (Family Psych & Mental Health Nurse Practitioner) or (Adult Psych Mental Health Nurse Practitioner) or Family Psychiatric and Mental Health Nurse Practitioner; Co-requisite: DNP 678 |
| DNP | 678 | Management of Complex & Chronic MH Disorders Across the Lifespan Practicum | Clinical experiences in the assessment and evidence-based management of the most complex and chronic mental health disorders across the lifespan. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Pre-requisite: DNP Adv Nurse Pract (Family Psych & Mental Health Nurse Practitioner) or (Adult Psych Mental Health Nurse Practitioner) or Family Psychiatric and Mental Health Nurse Practitioner; Co-requisite: DNP 677 |

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| DNP | 679 | Biostatistics: Principles of Statistical Inference | Examines principles of statistical inference and their application to the analysis and interpretation of epidemiological, psychosocial, medical, nursing, and healthcare data. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Nursing graduate student |
| DNP | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DNP | 682 | Geriatric Health Promotion | Examines theoretical perspectives in aging and cultural and contextual approaches for health promotion in older adults. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DNP | 688 | Management of Complex Diseases and Syndromes in Geriatric Population | Focuses on diagnosis and management of complex diseases and syndromes in the geriatric population. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only DNP 688 or NUR 688 |
| DNP | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | N | IND | N | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | |
| DNP | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DNP | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DNP | 703 | Innovation in Communication-Scholarly and Professional Writing | Provides a review of principles of scholarly and professional writing, plagiarism and APA. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): Nursing graduate student |
| DNP | 704 | Principles of Evidenced-Based Care in Advanced Practice | Foundational course focuses on the evidence-based process and understanding of evidence-based practice principles assist advanced practice nurses and other healthcare professionals in clinical decision making in order to provide best care. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Pre-requisite: Doctor of Nursing Practice student |
| DNP | 705 | Health Care Outcomes Management | Outcomes management methodology supports implementation of evidence-based practice and measurement of both patient and health care system outcomes attributed to adoption of best practices. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Doctor of Nursing Practice student; DNP 704 |
| DNP | 707 | Disseminating Evidence to Advance Best Practice in Health Care and Health Policy | Focuses on methods for dissemination of evidence to advance best practice within local, regional, and/or national settings, as well as advancement of EBP in health policy and the media. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): DNP 705 |
| DNP | 708 | Systems Thinking in a Complex Health Care Environment | Studies basic and advanced systems principles as they relate innovation to the United States health care system. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Doctor of Nursing Practice student |
| DNP | 709 | Individual and Innovation Leadership in Healthcare Practice | Introduces the role of the innovator, including the essential behaviors of risk taking, managing workload, and addressing the challenges of innovation. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre-requisite: Doctor of Nursing Practice student |
| DNP | 710 | Clinical Perspectives on Biomedical Device Design | Examines clinical perspectives on principles of biomedical device design, including interprofessional engagement with engineering and regulatory professionals. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Doctor of Nursing Practice student |
| DNP | 711 | Healthcare Policy and Innovation | Introduces the political, organizational, and economic dimensions of healthcare policy with emphasis on strategies for innovative policy and practice. | N | SEM | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre-requisite: Doctor of Nursing Practice student |
| DNP | 712 | Clinical Residency and Management | Demonstrates DNP competencies through portfolio documentation of clinical learning experiences and implementation of the DNP Evidence-Based Clinical Applied Project. Doctoral students submit the DNP Portfolio in partial fulfillment of the degree. | N | PRA | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Pre-requisites: Doctor of Nursing Practice student |
| DNP | 713 | Analysis of Organizational Cultures in Health Care | Analyzes culture, organizational implications and relationships to change and innovation in health care. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Doctor of Nursing Practice (AcuteCare or Adult-Gerontology or Advanced NP or Family NP or Family Psychiatric Mental Health or Innovation Leadership or Pediatric NP or Women's Health NP) student |
| DNP | 714 | Professional Relationships in Healthcare | Analyzes professional relationships within healthcare organizations and evidence-based strategies to improve communication, coordination, and collaboration. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Adult-Gerontology NP, Family Psychiatric Mental Health NP, Family NP, Innovation Leadership, Pediatric NP, or Women's Health NP) DNP student |
| DNP | 715 | Dynamics and Principles of Information in Health Care | Analyzes and applies multiple sources of information for health care leaders across the continuum of evidence including research, evidence-based practice, translational research, improvement science and quality improvement. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice DNP student |

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| DNP | 716 | Leadership of Innovation in Health Care | Analyzes leadership theories in the creation of complex health care system innovation. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3-4 | | Prerequisite(s): Advanced Nursing Practice DNP student or Advanced Nursing Practice (Innovation Leadership) DNP student |
| DSC | 100 | ASU Design Experience | Covers ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | REC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): BS, BSD or BSLA Design School major. Credit is allowed for only DSC 100 or 194 (ASU Design Experience) OR Visiting University Student |
| DSC | 101 | Design Awareness | Surveys cultural, global, and historical context for the design professions. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU & G | |
| DSC | 102 | Introduction to Design | Introduces design, with an emphasis on understanding the process and principles by which design shapes our world. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| DSC | 236 | Introduction to Computer Modeling | Computers in design, including software concepts, specific packages, and problem solving, illustration, typography, modeling and animation. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | CS | Prerequisite(s): Industrial Design BSD major; DSC 101 with C or better; IND 120 with C or better; IND 121 with C or better; IND 122 with C or better; minimum 3.00 GPA OR Visiting University Student |
| DSC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| DSC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| DSC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | |
| DSC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| DSC | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-3 | | |
| DSC | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Pre-requisite: Master of Science in Design or PhD in Environmental Design & Planning student |
| DSC | 501 | Qualitative Research in Design | Theory and application of qualitative research. Emphasizes using ethnography to identify and specify innovative concepts and strategies. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Master of Industrial Design or Master of Science in Design major |
| DSC | 520 | Contemporary Design Issues | Issues influencing contemporary design such as sustainability, globalization, education, gender, collaboration and emotion. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DSC | 530 | Basic Modeling Techniques | Demonstrates how to create efficient repeatable and safe operations utilizing power tools. Instruction on basic principles of woodworking, material selection, re-saw, dimensioning, tool selection. Emphasizes cut lists, planning parts, basic tool knowledge, measuring and marking, and joinery. | N | LAB | N | GNA | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): Design School graduate student; Credit is allowed for only DSC 530 or DSC 494 (Basic Model Making Techniques) or DSC 598 (Basic Model Making Techniques) |
| DSC | 531 | Basic Mold Making and Casting | Explores basic knowledge on mold making and cold casting. Emphasizes material selection, planning, form-making and project planning. Requires students to execute two molds using appropriate techniques and methods. | N | LAB | N | GNA | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): Design School graduate student; Credit is only allowed for DSC 531 or DSC 598 (Cold Casting and Mold Making) |
| DSC | 540 | Biomimicry in Design | Explores and applies the biomimicry thinking framework in the field of design in order to arrive at sustainable design solutions that create conditions conducive to all life. Through hands-on activities, games, workshops, lectures, field trips, outdoor adventures, discussions, assignments and readings, introduces students to the biomimicry thinking methodology that helps find sustainable solutions to current problems found at various scales within any design disciplines. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only DSC 494 (Biomimicry in Design) or DSC 540 or DSC 598 (Biomimicry in Design) |
| DSC | 550 | Prototyping Futures | In this project-based course, students work in interdisciplinary teams to explore and envision the future of communities, industries, technologies and other elements of our society. In this process, students develop their understanding of the application of extended reality technologies, practices and methodologies for design, and tools for applying research to constructing prototypical scenarios for the future, in addition to gaining experience in effective collaboration. This course is about critical, methodological and narrative skills--the ability to move fluidly through domains, create low-fidelity prototypes, and devise creative solutions to complex problems by envisioning new realities. The development of deep technical skills in a chosen field follows in each program. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AME 550 or DSC 550 or HSD 550 |

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| DSC | 551 | Immersive Experience Design I | Focuses on the practices of design for immersive experiences using different media including but not limited to extended reality technologies. Students work on interdisciplinary projects using and developing their skills on composition/aesthetics of environmental design; programmatic/spatial requirements in both real and virtual universes; modeling/simulation of spaces/objects in 3D animated environments, motion graphics, 3D printing/rapid prototyping, storytelling and world building. Develops abilities to manage projects, work effectively in teams and transform research into creative/technological products. | N | LAB | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only DSC 551 or GIT 551 |
| DSC | 555 | Strategic Design Futures | Designers are increasingly addressing more strategic and long-term situations, while non-designers are increasingly interested in using design approaches to address diverse challenges. Strategic design is a practice that focuses on formulating strategies (problem setting) rather than only implementing strategies (problem solving). Strategic design is closely related to contemporary and emergent design practices such as user experience design, design thinking, service design, speculative design, behavioral design, and co-design, which are increasingly explored, adopted and adapted in projects and organizations. Students understand and practice a variety of strategic design methods and mindsets with the aim of changing and envisioning futures. With hands-on activities and real-world context, students use and develop core strategic design skills such as visualization, sensemaking, synthesis, speculation and facilitation. Some design tools that may be used include storyboards, user flows, journey mapping, participatory ideation, visioning, service blueprints, prototyping-testing. Includes seminar discussions and hands-on activities with a "live project." | N | PRO | N | Z1 | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only DSC 555 or DSC 598 (Strategic Design Futures) or HSD 555 |
| DSC | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Pre-requisite: Master of Science in Design student |
| DSC | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Pre-requisite: Design (Graphic Design) MSD, Design (Indus Design) MSD or Design (Inter Design) MSD student |
| DSC | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Pre-requisite: Design (Graphic Design) MSD, Design (Indus Design) MSD, or Design (Inter Design) MSD student |
| DSC | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | |
| DSC | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Pre-requisite: Design (Graphic Design) MSD, Design (Indus Design) MSD, or Design (Inter Design) MSD student |
| DSC | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Pre-requisite: Design (Graphic Design) MSD, Design (Indus Design) MSD, or Design (Inter Design) MSD student |
| DSC | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DSC | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): Master of Industrial Design, Master of Interior Architecture, Master of Science in Design, or Master of Visual Communication Design major |
| DSC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DSC | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Pre-requisite: Design (Graphic Design) MSD, Design (Indus Design) MSD, or Design (Inter Design) MSD student |

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| DSE | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DSE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DSE | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DSE | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | IND | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DSE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DSE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DSE | 799 | Dissertation | Supervised research focused on preparation of a dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DST | 101 | Introduction to Disability Studies | Provides an introduction to key concepts, methods, questions and themes in the field of disability studies, including an overview of the focused, unequal treatment experienced by people with disabilities. There are economic, political, social and cultural factors that should be considered by a society which normally addresses disabled bodies through medical frameworks. Debates ethical questions concerning genetic testing, selective abortion and disability therapies. Discusses how social inequalities of class, race, nationality, sexuality and gender relate to the experiences of the disabled. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | C | |
| DST | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-3 | | |
| DST | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| DST | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| DST | 322 | Social and Cultural Implications of the Many Forms of Disability | There are many types of disability, and oppression results from the socially constructed definition of disability. Provides a careful review of the many forms of disability, considering functional restrictions created within society and the impact of cultural limitations. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| DST | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| DST | 458 | Disability and Communication Advocacy | Disability advocacy historically and in the contemporary context. Historical and legal approaches to disability advocacy helps frame students' interrogation of contemporary disability advocacy issues and movements. Addresses disability advocacy issues including questions about the meaning of disability, the ends and forms of advocacy, and the politics of dis/ability. Emphasizes the communication practices that have constructed and debated the meanings, ethics and ends of disability advocacy. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| DST | 469 | Science and Literature | Historical and theoretical links between science and literature, from Francis Bacon to the present, examined in cultural context. May be repeated for credit when topics vary. | N | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours; Credit is allowed for only DST 469 or ENG 469 OR Visiting University Student |
| DST | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | |

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| DST | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| DST | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| DST | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| DST | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-3 | | |
| ECD | 211 | The Developing Child: Theory into Practice, Prenatal-Grade 3 | Examines process of physical, social, emotional, cognitive, language, and literacy development of young children; includes observation, practical application, fieldwork. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | SB | |
| ECD | 220 | Introduction to Nutrition, Health and Safety | Emphasizes providing proper nutrition, promoting a safe but challenging learning environment, and becoming knowledgeable of a child's health status. Also covers practical applications for assisting young children to develop good habits and attitudes and to assume lifelong responsibility for their own well-being. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2 | | |
| ECD | 302 | Foundations of Early Childhood Education | Foundational basis of the early childhood field, including historical roots, current practices, ethics, models of teaching, and application in early childhood settings. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| ECD | 310 | Applied Early Child Development | Conveys knowledge of how development is both unique and interconnected. Takes a highly applied approach to build participants' knowledge, recognition and use of evidence-based practices within preschool classrooms that support children's development, both within and across domains. In order to successfully complete assignments in this course, students need access (through volunteering or a work setting) to children ages birth through five at least 15 hours/month. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ECD | 312 | Social/Emotional Foundations of Learning | Foundations of early social development and evidence-based practices for promoting social-emotional development; young children's understanding, interactions, and relationships to the social world. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| ECD | 313 | Technology in Early Childhood Education | Evaluates technology and technological learning tools for early childhood classrooms; integrates technology and its tools into students' learning. Lecture, discussion, active participation. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| ECD | 315 | Classroom Organization and Guidance of Young Children | Theories and strategies to guide children's development toward becoming self governing; typical and atypical behaviors; implementing age-appropriate classroom management techniques that foster individual, social, and academic competence. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| ECD | 316 | Teacher Research: Studying Children in Context | Introduces designing, conducting, interpreting, and reporting teacher research; methods of research and fieldwork with children to improve teaching practices and child outcomes. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| ECD | 321 | Foundations in Language, Literacy and Culture in Early Childhood | Covers oral language and literacy development during the preschool years, with attention to supporting young children's developing cultural identity and awareness. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | L | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; ENG 101, 105, or 107 with C or better; minimum 30 hours |
| ECD | 322 | Cognition and General Knowledge: Science, Math, Logic and Reasoning | Increases students' knowledge of and ability to implement high-quality strategies that support the development of children's mathematical, scientific and logical reasoning in developmentally appropriate ways. In order to successfully complete assignments in this course, students need access (through volunteering or a work setting) to children ages birth through five at least 15 hours/month. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ECD | 323 | Building Home, School, and Community Partnerships | Knowledge and skills to facilitate positive and continuous family-school partnerships; family background, social context, family involvement, and current research on family-school interaction and academic success. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | SB | Prerequisite(s): admission to the Professional Program |
| ECD | 324 | Social Studies and Creative Arts Curriculum, Instruction and Assessment | Social studies and creative arts standards, curriculum, and instructional and assessment strategies in an integrated social studies and creative expression curriculum for children birth through grade 3. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |

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| ECD | 325 | Supporting Dual Language Learners | Increases students' knowledge of the language development of Dual Language Learners (DLLs), the role of home language in assessment and instruction, as well as knowledge and application of instructional practices to support DLLs' oral language and emergent literacy practices. Students design and implement activities for working with young children who are DLLs and their families. In order to successfully complete assignments in this course, students need access (through volunteering or a work setting) to children ages birth through five at least 15 hours/month. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): ECS 321 |
| ECD | 327 | Becoming a Teacher Leader | Explores the perspective that effective early childhood professionals are self-aware, culturally competent leaders who practice ongoing reflection and growth. In order to successfully complete assignments in this course, students need access (through volunteering or a work setting) to children ages birth through five at least 15 hours/month. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ECD | 341 | Administration/Evaluation of EC Programs | Administration and evaluation of early childhood programs. Emphasizes planning and evaluation; regulations; health, nutrition, and safety; operations, budgeting, and supervision of personnel. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| ECD | 396 | Student Teaching: Early Childhood (Ages Birth-5) | Student teaching in early childhood education classrooms ages birth to 5: synthesized experience in curriculum, instruction, assessment and classroom management. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | Prerequisite(s): admission to the Professional Program |
| ECD | 406 | Assessment: Birth-Grade 3 | Examines assessments appropriate to birth - grade 3 instruction to align curriculum with learner needs. Focuses on test design, interpretation, lesson design, and aspects related to multiple classroom and formal assessments. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| ECD | 416 | Social and Educational Policies Affecting Children and Families | Social policies at the national and state levels; values and assumptions of policies; political factors shaping policy and implementation; links between policy, educational practice, schools, and family functioning. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| ECD | 417 | Arts Integration for Young Children | Provides a foundation for understanding young children's creativity and research-based perspectives for incorporating arts-based components such as drama, movement, dance, music, play and visual arts in education for young children. Further provides developmentally appropriate instructional methods and strategies to promote interdisciplinary learning with creative arts curriculum and inquiry learning, as well as instructional and assessment strategies for preprimary and primary-level children. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum junior standing OR Visiting University Student |
| ECD | 418 | Instructional Methods for Young Children: Integrating Digital Media | Develops integrated experiences with children's literature for facilitating development in reading, writing, speaking, and listening. Further develops educational strategies for promoting growth in the social studies and creative arts curriculum, and instructional/assessment strategies for preprimary- and primary-level children; developmentally appropriate methods and strategies for effective instruction. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| ECD | 476 | Intentional Teaching | Guides teachers in becoming intentional practitioners through: observation, assessment, purposeful planning and reflective practice to adapt a variety of supports for children in order to maximize student potential and outcomes. In order to successfully complete assignments in this course, students need access (through volunteering or a work setting) to children ages birth through five at least 15 hours/month. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours |
| ECD | 477 | Student Teaching: Birth to Pre-K | Supervised practicum in a birth to pre-K program. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 4-6 | | Prerequisite(s): admission to the Professional Program |
| ECD | 478 | Student Teaching: Early Childhood (Grades K-3) | Student teaching in early childhood education classrooms grades K-3: synthesized experience in curriculum, instruction, assessment and classroom management. | Y | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3-9 | | Prerequisite(s): admission to the Professional Program |
| ECD | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-12 | | Prerequisite(s): admission to the Professional Program |
| ECD | 503 | Introduction to Research and Evaluation in Education | Overview of educational inquiry from controlled, quantitative to qualitative, naturalistic. Emphasizes locating and critically interpreting published research. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only COE 501 or ECD 503 or PPE 501 or SPE 501 or TEL 501 |
| ECD | 504 | Learning and Instruction | Introduces psychology of learning and instruction. Includes the foundations of learning theories and their application to educational practice. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ECD 504 or TEL 504 |
| ECD | 505 | Foundations of Early Childhood Education | Foundational basis of the early childhood field, including historical roots, current practices, ethics, models of teaching, and application in early childhood settings. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Pre-requisite: Graduate student |

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| ECD | 520 | Child Guidance and Management: Child, Family, Community, and Culture | Introductory exploration of a variety of techniques for developing a positive classroom environment. Includes overview of several classroom and school management programs and possible effects of implementation. Focuses on observations made during the students' classroom and field experiences. Provides the catalyst for introducing students to the program's professional portfolio requirement. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Pre-requisite: Graduate student |
| ECD | 525 | Foundations of Early Childhood Literacy: The Science of Reading | The first of two required literacy courses, examines current and classic research on oral language and early literacy development and effective strategies for teaching language and literacy from birth through grade 3. Focuses on the foundations of literacy development, including the unique learning needs of all students, with an emphasis on systematic phonics and examining the sequence of learning to read with an emphasis on the science of reading methods. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECD | 526 | Early Childhood Literacy Methods and Assessments | This second of two required literacy courses focuses on applying scientifically based teaching methods for delivering differentiated literacy instruction, assessment and intervention. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECD | 527 | Mathematics in Early Childhood Education | Explores methods of teaching and assessing mathematical skills and reasoning in children ages birth through third grade along with the broader impact of math literacy in young children. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECD | 541 | Assessment of Young Children | Assessment principles, techniques, and issues related to guiding learning for children birth through eight years. Test construction, interpretation and communication. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECD | 549 | Foundations of Diversity, Human Development, and the Young Child | Psychology of learning and instruction, including the foundations of learning theories and their application to educational practice with an emphasis on diversity, multidirectional human change and cultural embeddedness. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECD | 565 | Appropriate Instructional Methodologies for Young Children | Surveys appropriate teaching methodologies for young children across the curriculum. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Pre-requisite: Graduate student |
| ECD | 567 | Clinical Experience: Early Childhood Internship (Ages Birth-5) | Applies course content in early childhood education preschool classrooms birth to age five: emphasizes observation, classroom management, planning and delivery of instruction and assessment. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECD | 576 | Clinical Experience: Early Childhood Internship (Grades K-3) | Applies course content in early childhood education classrooms grades K-3; emphasizes observation, classroom management, planning and delivery of instruction, and assessment. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECD | 577 | Practicum: Early Childhood (Ages Birth-5) | Student teaching in early childhood education classrooms ages birth to 5: synthesized experience in curriculum, instruction, assessment and classroom management. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECD | 578 | Student Teaching: Early Childhood (Grades K-3) | Student teaching in early childhood education classrooms grades K-3: synthesized experience in curriculum, instruction, assessment and classroom management. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECD | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| ECD | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| ECD | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| ECN | 211 | Macroeconomic Principles | Introductory course in macroeconomics. Topics include the measurement and modeling of output, national income, inflation and unemployment; the determinants of cross-country differences in income; the functions of money and the banking system; the causes of and policy responses to recessions; the effect of monetary and fiscal policy on interest rates and national income. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB | Prerequisite(s): MAT 117, 119, 142, 170, 171, 210, 251, 265, or 270 with C or better OR Visiting University Student |
| ECN | 212 | Microeconomic Principles | Introductory course in microeconomics. Topics include marginal analysis; international trade; supply and demand analysis; market efficiency; basic welfare analysis of market interactions and government intervention; the theory of firm production and costs; profit maximization in different market structures; consumer choice. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB | Prerequisite(s): MAT 117, 119, 142, 170, 171, 210, 251, 265, or 270 with C or better OR Visiting University Student |
| ECN | 213 | Honors Macroeconomics | Introduces modern macroeconomic analysis. Theory of national income, unemployment, inflation, and economic growth and its application to economic policy. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB | Prerequisite(s): Barrett Honors student; MAT 210, 211, 270, or 271 with C or better; Credit is allowed for only ECN 213 or ECN 313 |

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| ECN | 214 | Honors Microeconomics | Introduces modern microeconomic analysis. Theories of consumer behavior, production and cost. Output and price determination in a variety of market settings. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB | Prerequisite(s): Barrett Honors student; Pre- or corequisite(s): MAT 211 or 271 with C or better if completed; Credit is allowed for only ECN 214 or ECN 312 |
| ECN | 221 | Business Statistics | Introduces methods of statistical description, inference, probability, sampling, hypothesis testing and regression analysis with focus on business application. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | CS | Prerequisite(s): MAT 210, 251, 265, or 270 with C or better OR MAT 117 or 170 with C or better; minimum 25 hours; Credit is allowed for only ECN 221 or ECN 231 OR Visiting University Student |
| ECN | 231 | Honors Business Statistics | Methods of statistical description, inference, probability, sampling, hypothesis testing and regression analysis with focus on business application. Introduces statistical analysis software. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | CS | Prerequisite(s): Barrett Honors student; MAT 210, 251, 265, or 270 with C or better; Credit is allowed for only ECN 221 or ECN 231 |
| ECN | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | W. P. Carey School of Business | Department of Economics | 1-4 | | Prerequisite(s): Barrett Honors student; Pre- or corequisite(s): MAT 210, 211, 270, 271, or 272 with C or better if completed |
| ECN | 304 | Classical to Modern Economic Thought | Provides an introduction to the schools of thought concerned with explaining and influencing economic activity. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 211 or 213 with C or better; ECN 212 or 214 with C or better; MAT 211 or 271 with C or better; Credit is allowed for only CEL 304 or ECN 304 or CEL/ECN 394 (Classical to Modern Economic Thought) OR Visiting University Student |
| ECN | 306 | Survey of International Economics | Surveys international trade issues, commercial policy, trade theory, customs unions, and international monetary topics. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB & G | Prerequisite(s): ECN 211 or 213 with C or better; ECN 212 or 214 with C or better; MAT 210, 251, 265, or 270 with C or better OR Visiting University Student |
| ECN | 312 | Intermediate Microeconomic Theory | Expands on models covered in principles. Models consumer and producer choice, market structure and welfare. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB | Prerequisite(s): ECN 211 or 213 with C or better; ECN 212 with C or better; MAT 211, 266, or 271 with C or better; Credit is allowed for only ECN 214 or ECN 312 OR Visiting University Student |
| ECN | 313 | Intermediate Macroeconomic Theory | Expands on topics covered in principles. Emphasizes models of growth, employment, economic fluctuations, monetary and fiscal policy. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB | Prerequisite(s): ECN 214 or 312 with C or better; Credit is allowed for only ECN 213 or ECN 313 OR Visiting University Student |
| ECN | 315 | Money & Banking | Functions of money. Monetary systems, credit functions, banking practices, and central banking policy. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 211 or 213, ECN 212 or 214, and MAT 211 or 271 with C or better OR Visiting University Student |
| ECN | 331 | Economics of the European Economic Union | Examines broad economic policies seeking to influence individuals' decisions, the history of European economic development and policies, as well as institutions and social systems. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB & G | Prerequisite(s): ECN 211 or 213 with C or better; ECN 212 or 214 with C or better; MAT 211, 266, or 271 with C or better OR Visiting University Student |
| ECN | 335 | South Asia and the World Economy | Develops and discusses alternative theories of trade, development, and growth in the context of south Asia and the world economy. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB & G | Prerequisite(s): ECN 211 or 213 with C or better; ECN 212 or 214 with C or better; MAT 211, 266, or 271 with C or better |
| ECN | 342 | Sports Economics | Applies microeconomic concepts of competitive and imperfectly competitive markets, collective bargaining, antitrust issues and public finance to the sports industry. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 211 or 213 with C or better; ECN 212 or 214 with C or better; MAT 211 or 271 with C or better; Credit is allowed for only ECN 342 or ECN 394 (Economics of Sport) OR Visiting University Student |
| ECN | 345 | Survey of Energy and Environmental Economic Issues | Economic principles and empirical methods applied to current private and public policy decisions concerning energy and environmental issues. Topics include gas prices, climate change, electric cars and renewable energy. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 211 or 213 with C or better; ECN 212 or 214 with C or better; MAT 211, 266, or 271 with C or better OR Visiting University Student |
| ECN | 355 | Economics of Healthcare | Uses economic tools and models to discuss and evaluate the American healthcare system. Applies standard concepts in microeconomics, macroeconomics, and public choice economics to the study of the evolution and the current state of the healthcare system and to the study of proposals for change. Focuses on the promise and problems of using economic tools in a historical, ethical, and cultural context to understand the current healthcare system. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 211 or 213 with C or better; ECN 212 or 214 with C or better; MAT 211 or 271 with C or better OR Visiting University Student |

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| ECN | 360 | Economic Development | Theories of economic growth and development. Role of capital formation, technological innovation, population and resource development in economic growth. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB & G | Prerequisite(s): ECN 211 or 213 with C or better; ECN 212 or 214 with C or better; MAT 211, 266, or 271 with C or better OR Visiting University Student |
| ECN | 365 | Economics of Russia and Eastern Europe | Origins and analysis of contemporary institutions. Comparative development and differentiation in the 20th century. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB & G | Prerequisite(s): ECN 211 or 213 with C or better; ECN 212 or 214 with C or better; MAT 211 or 271 with C or better |
| ECN | 382 | Managerial Economics | Applies economic analysis to managerial decision making. Market analysis in the context of the socio-legal environment. Does not satisfy Economics major requirements. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Pre-requisites: Not open to Economics or Business majors. Minimum 2.0 ASU cumulative GPA and minimum of 56 total earned hours OR Non-degree student with minimum 2.0 ASU cum GPA OR Graduate student. |
| ECN | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | W. P. Carey School of Business | Department of Economics | 1-4 | | Prerequisite(s): ECN 211 or 213 with C or better; ECN 212 or 214 with C or better; MAT 211 or 271 with C or better |
| ECN | 404 | History of Economic Thought | Development of economic doctrines, theories of mercantilism, physiocracy, classicism, neoclassicism, Marxism, and contemporary economics. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB | Prerequisite(s): ECN 214 or 312 with C or better; Pre- or corequisite(s): ECN 213 or 313 |
| ECN | 410 | Applied Regression Analysis and Forecasting | Applies regression techniques to forecasting in business and institutional environments. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 221, ECN 231, IEE 380, STP 226, or STP 420 with C or better; ECN 214 or 312 with C or better OR Visiting University Student |
| ECN | 411 | Current Analysis of the U.S. Economy | Studies the major data releases used by economists to track the U.S. economy. Emphasizes how these data are used and their connection to macroeconomic theory. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 214 or 312 with C or better; Pre- or corequisite(s): ECN 213 or 313; Credit is allowed for only ECN 411 or ECN 494 (Contemporary Topics in Macroeconomics) |
| ECN | 413 | Advanced Honors Macroeconomics | Develops and uses various macroeconomic models to evaluate important economic policies. Emphasizes honing students' policy evaluation skills. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): Barrett Honors student; ECN 213 or 313 with C or better; ECN 214 or 312 with C or better |
| ECN | 414 | Advanced Honors Microeconomics | Develops and uses various microeconomic models to evaluate important economic issues. Emphasizes the economics of uncertainty and information. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): Barrett Honors student; ECN 214 or 312 with C or better; Pre- or corequisite(s): ECN 213 or 313 with C or better if completed |
| ECN | 416 | Game Theory and Economic Behavior | Introduces game theory and its application to various economic situations under conditions of complete and incomplete information. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 214 or 312 with C or better; Pre- or corequisite(s): ECN 213 or 313 OR Visiting University Student |
| ECN | 421 | Labor Economics | Labor supply and demand, unemployment, determinants of wages, earnings inequality, labor unions and the structure of labor contracts. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB | Prerequisite(s): ECN 214 or 312 with C or better; Pre- or corequisite(s): ECN 213 or 313 with C or better if completed OR Visiting University Student |
| ECN | 423 | Economics of Education | Focuses on educational decisions, including individual choices, institutional strategies and government policies. Topics include measuring the costs and returns of education, the relationship between education and inequality, and the role of K-12 and postsecondary institutions in economic growth. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 214 or 312 with C or better; Pre- or corequisite(s): ECN 213 or 313; Credit is allowed for only ECN 423 or 494 (Economics of Education) |
| ECN | 425 | Introduction to Econometrics | Elements of regression analysis: estimation, hypothesis tests, prediction. Emphasizes use of econometric results in assessment of economic theories. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): DAT 401, ECN 221, ECN 231, IEE 380, STP 226, or STP 420 with C or better; ECN 214 or 312 with C or better OR Visiting University Student |
| ECN | 436 | International Trade Theory | Comparative-advantage doctrine, including practices under varying commercial policy approaches. Economic impact of international disequilibrium. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB & G | Prerequisite(s): ECN 214 or 312 with C or better; Pre- or corequisite(s): ECN 213 or 313 OR Visiting University Student |
| ECN | 438 | International Monetary Economics | History, theory, and policy of international monetary economics. Balance of payments and exchange rates. International financial markets, including Eurocurrency markets. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB & G | Prerequisite(s): ECN 214 or 312 with C or better; Pre- or corequisite(s): ECN 213 or 313 OR Visiting University Student |
| ECN | 441 | Public Economics | Public goods, externalities, voting models, public expenditures, taxation, and budget formation with emphasis on the federal government. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB | Prerequisite(s): ECN 214 or 312 with C or better; Pre- or corequisite(s): ECN 213 or 313 OR Visiting University Student |

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| ECN | 445 | Environmental Economics | Advanced topics in environmental economics with quantitative methods for developing information that is used for environmental policy making. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 214 or 312 with C or better; Pre- or corequisite(s): ECN 213 or 313 OR Visiting University Student |
| ECN | 453 | Industrial Organization and Competition Policy | Development of public policies toward business. Antitrust activity. Economic effects of government policies. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 214 or 312 with C or better OR Visiting University Student |
| ECN | 455 | Health Economics | Focuses on health care decisions, including individual and government policies. Topics include demand for and supply of health care, payment for health care, the impact of health care reform and the techniques economists use to evaluate health care interventions. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 214 or 312 with C or better; Pre- or corequisite(s): ECN 213 or 313 OR Visiting University Student |
| ECN | 470 | Mathematical Economics | Integrates economic analysis and mathematical methods into a comprehensive body of knowledge within contemporary economic theory. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 214 or 312 with C or better |
| ECN | 475 | Capstone in Economics | Capstone course integrating several fields of economics. Draws topics from multiple research areas of wide interest such as growth and development, environmental, health, industrial organization, international, labor and public economics. Focuses on discussion, evaluation and presentation of economic concepts in written and verbal form. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | L | Prerequisite(s): ECN 213 or 313 with C or better; ECN 214 or 312 with C or better; ENG 102, 105, or 108 with C or better; minimum senior standing |
| ECN | 479 | Experiments in Economics | Experiments on risk and time preferences, trust, collective action, social preferences and norms, gender, information, discrimination and market behavior. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 214 or 312 with C or better; ECN 425 with C or better; Credit is allowed for only ECN 479 or ECN 494 (Experiments in Economics) |
| ECN | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | W. P. Carey School of Business | Department of Economics | 1-12 | | Prerequisite(s): minimum 3.0 GPA; ECN 213 or 313 with C or better; ECN 214 or 312 with C or better |
| ECN | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | W. P. Carey School of Business | Department of Economics | 1-6 | | Prerequisite(s): Barrett Honors student; ECN 213 or 313 with C or better; ECN 214 or 312 with C or better |
| ECN | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | W. P. Carey School of Business | Department of Economics | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better; ECN 213 or 313 with C or better; ECN 214 or 312 with C or better |
| ECN | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | W. P. Carey School of Business | Department of Economics | 1-4 | | Prerequisite(s): ECN 214 or 312 with C or better; Pre- or corequisite(s): ECN 213 or 313 OR Visiting University Student |
| ECN | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | W. P. Carey School of Business | Department of Economics | 1-3 | | |
| ECN | 502 | Managerial Economics | Applies microeconomic analysis to managerial decision making in areas of demand, production, cost, and pricing. Evaluates competitive strategies. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 2-4 | | Prerequisite(s): W. P. Carey MBA student; Credit is allowed for only ECN 502 or FIN 535 |
| ECN | 503 | Global Business Environment | Macroeconomic analysis of issues related to economic growth, inflation, interest rates behavior, unemployment, exchange rate determination, and global competitiveness. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 1-4 | | Prerequisite(s): W. P. Carey MBA student |
| ECN | 504 | Fundamentals of Managerial Economics | Applies microeconomic analysis to managerial decision making in areas of demand, production, cost and pricing. Evaluates competitive strategies. Designed for students with limited business experience and without an undergraduate business degree. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): degree-seeking graduate student |
| ECN | 510 | Microeconomic Theory and Applications | Applies economic theory to production, consumer demand, exchange, and pricing in a market economy. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 2-4 | | Pre-requisites: W.P. Carey degree seeking graduate student |
| ECN | 525 | Applied Regression Models | Simple linear regression, multiple regression, indicator variables, and logistic regression. Emphasizes business and economic applications. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECN | 527 | Categorical Data Analysis | Discrete data analysis in business research. Multidimensional contingency tables and other discrete models. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Pre-requisites: ECN 525 |
| ECN | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Economics | 1-12 | | Pre-requisites: W.P. Carey degree seeking graduate student |
| ECN | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Economics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECN | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | W. P. Carey School of Business | Department of Economics | 1-12 | | Pre-requisites: W.P. Carey degree seeking graduate student |

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| ECN | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | W. P. Carey School of Business | Department of Economics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECN | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Economics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECN | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | Z2 | W. P. Carey School of Business | Department of Economics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECN | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | W. P. Carey School of Business | Department of Economics | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECN | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | W. P. Carey School of Business | Department of Economics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECN | 711 | Macroeconomic Analysis I | Current theories of output, employment, inflation, and asset prices as well as major aggregates. Introduces dynamic optimization techniques. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Pre-requisites: W.P. Carey degree seeking graduate student |
| ECN | 712 | Microeconomic Analysis I | Theory of production, consumer demand, resource use, and pricing in a market economy. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Pre-requisites: W.P. Carey degree seeking graduate student |
| ECN | 713 | Macroeconomic Analysis II | Focuses on growth theory, dynamic general equilibrium models, monetary theory, open-economy issues. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Pre-requisites: W.P. Carey degree seeking graduate student |
| ECN | 714 | Microeconomic Analysis II | General equilibrium, welfare economics, production, and capital theory. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Pre-requisites: W.P. Carey degree seeking graduate student |
| ECN | 715 | Advanced Macroeconomic Analysis | Focuses on current research areas in macroeconomics and monetary theory with emphasis on methods in economic dynamics and numerical techniques. | N | LEC | Y | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): W.P. Carey degree seeking graduate student; ECN 711 with C or better; ECN 713 with C+ or better |
| ECN | 716 | Advanced Economic Theory I | Economic behavior under uncertainty; markets and contracts under asymmetric information; the theory of games with incomplete information and applications. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): W.P. Carey degree seeking graduate student; ECN 714 with C or better; ECN 712 with C+ or better |
| ECN | 717 | International Macroeconomics | Intertemporal approach to the current account, international business cycles, international risksharing and home bias, models of exchange rate determination, balance of payment crises, sovereign debt and default. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECN | 721 | Labor Economics I | Develops basic theoretical models for analyzing labor market issues. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): W.P. Carey degree seeking graduate student; ECN 713 with C or better; ECN 714 with C or better |
| ECN | 722 | Labor Economics II | Extensions/criticisms of labor market theories. Applications to a variety of policy issues. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): W.P. Carey degree seeking graduate student; ECN 721 with C or better |
| ECN | 725 | Econometrics I | Problems in the formulation of econometric models. Emphasizes estimation, hypothesis testing, and forecast of general linear models. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Pre-requisites: W.P. Carey degree seeking graduate student |
| ECN | 726 | Econometrics II | Estimation and inference of qualitative and limited dependent variable models as well as general multiple equation models. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): W.P. Carey degree seeking graduate student; ECN 725 with C+ or better |
| ECN | 727 | Quantitative Methods in Economics | Generalized method of moment estimation, estimation with censored and truncated samples, nonlinear models, panel-data models, econometrics of nonstationarities. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): W.P. Carey degree seeking graduate student; ECN 713 with C or better; ECN 714 with C or better |
| ECN | 736 | International Trade Theory | Theories of comparative advantage and their empirical verification. Theory and political economy of commercial policy. Resource transfers and the role of the multinational corporation. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): W.P. Carey degree seeking graduate student; ECN 713 with C or better; ECN 714 with C or better |
| ECN | 741 | Public Economics | Economics of collective action, public spending, taxation, and politics. Impact of central governmental activity on resource allocation and income distribution. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): W.P. Carey degree-seeking graduate students; ECN 712 with B or better; Corequisite(s): ECN 714 |
| ECN | 753 | Industrial Organization | Analyzes structure, conduct, and performance in industrial markets; the economics of organizations. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): W.P. Carey degree seeking graduate student; ECN 713 with C or better; ECN 714 with C or better |

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| ECN | 760 | Economics of Growth and Development | Economic problems, issues, and policy decisions facing the developing nations of the world. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): W.P. Carey degree seeking graduate student; ECN 711 with C+ or better; ECN 712 with C+ or better; Corequisite(s): ECN 713; ECN 714 |
| ECN | 770 | Mathematics for Economists | Surveys mathematical ideas encountered in economics and econometrics. Topics include measure theory, probability theory, and mathematical statistics. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Pre-requisites: W.P. Carey degree seeking graduate student |
| ECN | 784 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Economics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECN | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Economics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECN | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | W. P. Carey School of Business | Department of Economics | 1-12 | | Prerequisite(s): W. P. Carey degree-seeking graduate student |
| ECN | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | W. P. Carey School of Business | Department of Economics | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECN | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | W. P. Carey School of Business | Department of Economics | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECN | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | W. P. Carey School of Business | Department of Economics | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECS | 310 | Foundations in Typical / Atypical Child Development | Examines the process of typical and atypical physical, social, emotional, cognitive, and language development of young children with or at risk for delay. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student; minimum 39 hours |
| ECS | 312 | Social and Emotional Development of the Young Child | Examines genetic, environmental and biological influences on typical and atypical social and emotional developmental processes through current research, current issues, as well as connections to practice. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | SB | Prerequisite(s): MLFTC major, minor, concentration, or certificate student, or Interdisciplinary Studies BA major; minimum 39 hours |
| ECS | 315 | Classroom Organization and Child Guidance | Develops and implements analysis, intervention, and consultation strategies for effective management of classroom behavior for students with and without disabilities. Age-appropriate techniques addressing individual, social, and academic competence. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum junior standing OR Visiting University Student |
| ECS | 316 | Assessment/Evidence-based Practice | Examines assessments appropriate to birth - grade 3 instruction to align curriculum with learner needs. Focuses on test design, interpretation, lesson design, and aspects related to multiple classroom and formal assessments. Introduces designing, conducting, interpreting, and reporting teacher research; methods of research and fieldwork with children to improve teaching practices and child outcomes. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum junior standing OR Visiting University Student |
| ECS | 321 | Communication, Language Development, and Emergent Literacy | Language and literacy development; language acquisition; methods of facilitating oral language in relation to emergent reading and writing; methods of facilitating early literacy development; clinical observation. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum junior standing |
| ECS | 340 | Creative Curriculum for Children Birth to 8 | Provides an overview of research and curricular strategies for preschool classrooms, including best practices for classroom design, management, scheduling and lesson development. A comprehensive, research-based curriculum that features exploration and discovery as a way of learning. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum junior standing |
| ECS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| ECS | 397 | Student Teaching: Inclusive Early Childhood (Ages Birth-5) | Student teaching in early childhood education inclusive classrooms ages birth to 5: synthesized experience in curriculum, instruction, assessment and classroom management. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | Prerequisite(s): admission to the Professional Program |
| ECS | 411 | Instructional Methodologies for Young Children: STEM | Explores, applies and integrates STEM (Science, Technology, Engineering and Math) content, project-enhanced instructional strategies and assessments. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |
| ECS | 412 | Mathematics Curriculum, Instruction and Assessment | Focuses on math content, methods, skills, and attitudes to be considered in teaching young children. Examines the theoretical foundation for young children's inquiry and learning. Methods focus on practical application of theory in classroom practice. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |

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| ECS | 413 | Literacy Curriculum, Instruction and Assessment | Extends ECD 321; language and literacy development in K-3 classrooms; language acquisition; methods of facilitating oral language in relation to emergent reading and writing; methods of facilitating early literacy development; clinical experience. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | L | Prerequisite(s): admission to the Professional Program; ENG 101, 105, or 107 with C or better |
| ECS | 420 | Evaluation and Intervention Strategies for Infants, Toddlers and Preschoolers with Disabilities | Students will learn to screen, assess and provide services to young children with special needs using norm-referenced, criterion-referenced, and formative assessments to determine special education eligibility, plan individualized family service programs, and monitor progress for eligible students. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum junior standing OR Visiting University Student |
| ECS | 427 | Highly Individualized Teaching and Learning | Covers evidence-based research and practices for fostering the social emotional, cognitive and motor development of young children with varying needs and abilities in inclusive settings. Students learn to individualize instructional strategies, design learning environments with appropriate accommodations and adaptations, and understand Individual Education Plans (IEPs) and/or Individual Family Service Plans (IFSPs). In order to successfully complete assignments in this course, students need access (through volunteering or a work setting) to children ages birth through five at least 15 hours/month. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours |
| ECS | 430 | Systems, Policy, and Advocacy in Early Childhood/Special Education | Social policies at the national and state levels; values and assumptions of policies; political factors shaping policy and implementation; links among policy, educational practice, schools, and family functioning that have a direct impact on both typical and special needs children in early childhood programs. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student, or Interdisciplinary Studies BA major; minimum 39 hours |
| ECS | 431 | Family, Community and Professional Support Systems | Covers methods and issues in cooperative teaching for special education students in general education classrooms, with an emphasis on collaborative communication skills for working with a variety of school professionals and families. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to Professional Teacher Preparation Program or enrolled in Educational Studies program or enrolled in Early Childhood minor |
| ECS | 478 | Student Teaching: Special Education (Grades K-3) | Student teaching in early childhood education inclusive classrooms grades K-3: synthesized experience in curriculum, instruction, assessment and classroom management. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-6 | | Prerequisite(s): admission to the Professional Program |
| EDA | 501 | Foundations of Educational Leadership | Nature of educational administration and the concept of competency as it applies to educational administration. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 505 | American Education System | Political, social, historical, and philosophical analyses of American education at all levels. Examines primary sources, legal findings, and case studies. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 511 | School Law | Interpreting state and federal law and policy in school settings. Includes statutory authority for administrators, liability, constitutional rights, law, and ethics. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 514 | Leadership in Curriculum and Assessment | Curriculum and assessment responsibilities of school administrators. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 526 | Instructional Supervision | Administering curriculum improvement, in-service education, evaluating, and improving teaching competence; administrative instructional responsibilities. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 548 | School, Family, and Community Connections | Administrative factors of primary importance in developing community involvement in public schools. Emphasizes theory and skill of school system and individual communication. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 572 | School Finance and Human Resources | Effective ethical models and strategies for organizing and administering the conduct of school site human resources administration and school financial affairs. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 578 | Critical Issues in Educational Leadership | Explores current critical issues in school leadership, including student support and relationships with governmental agencies and the community. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| EDA | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 611 | Educational Policy and the Law | Emphasizes policy analysis and application of federal and state law to policy evaluation and development in public schools. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 634 | Instructional Leadership | Theory, practice, and issues in school change and reform with a focus on leading change efforts at the school site. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 676 | The School Superintendency | Critical examination of the school superintendency and the primary functions of this educational position. Includes the duties, responsibilities, activities, and problems of the school superintendent. Examines the unique leadership role of the school superintendent. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 679 | Administration of Special Programs in Education | For personnel administering special education and federal programs; responsibilities of principals, supervisors, counselors, and directors for special education and federally funded programs. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 683 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 685 | Education in Global Contexts | Global perspectives on education in contemporary society with emphasis on social, political, and economic factors that affect access and equity. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3-6 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 701 | Quantitative Methods in Action Research | Quantitative methods of inquiry for action research: data collection, analysis, interpretation, complementarity analysis, evaluation and data-informed decision making. | N | LEL | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student; Credit is allowed for only EDA 701 or TEL 701 |
| EDA | 702 | Dynamic Contexts of Education | Explores current ethical issues influencing leadership decisions with a focus on real problems in the educational setting. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student; Credit is allowed for only EDA 702 or TEL 702 |
| EDA | 703 | Innovation in Teaching and Learning | Development and psychological processes of human cognition, motivation, and performance applied to cognitively diverse, English language learners, adult professional development. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student; Credit is allowed for only EDA 703 or TEL 703 |

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| EDA | 704 | Leadership for Organizational Change | Develops understanding of dynamic and systemic nature of organizations, with emphasis on leadership for building organizational capacity and learning. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student; Credit is allowed for only EDA 704 or TEL 704 |
| EDA | 772 | School District Human Resources and Business Management | Effective ethical models and strategies for organizing and administering the conduct of school site human resources administration and business affairs. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 773 | The Superintendency and School District Leadership Roles and Responsibilities | Examines management roles and responsibilities of public school district superintendents and other leaders in identifying and addressing critical issues. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 783 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDP | 310 | Educational Psychology for Non-Teachers | Human behavior in educational situations. Individual differences, factors affecting learning, behavioral and cognitive learning, motivation, testing, and assessment. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-6 | SB | |
| EDP | 311 | Educational Psychology for Future Teachers | Planning and conducting effective instruction based on learning theories and principles. | N | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-3 | SB | Prerequisite(s): Teachers College major, minor or certificate student OR Visiting University Student |
| EDP | 313 | Childhood and Adolescence | Principles underlying total development of pre- and early-adolescent children. Emphasizes physical, intellectual, social, and emotional development with practical implications for teachers. Meets ADE requirement for one course in early adolescent psychology for middle grade endorsement. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | SB | |
| EDP | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| EDP | 454 | Statistical Data Analysis in Education | Role of data analysis in research and decision making. Elements of exploratory data analysis, descriptive indexes, and statistical inference. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | CS | |
| EDP | 502 | Introduction to Data Analysis | Descriptive statistics, visual approaches, estimation, and inferential methods for univariate and bivariate educational research problems. Experience using statistical software. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate; Credit is allowed for only COE 502 or EDP 502 |
| EDP | 510 | Psychology in Education | Planning and conducting effective instruction based on learning theories and principles. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDP | 514 | Psychology of the Adolescent | Cognitive, physical, and social development of adolescents in contemporary society. Impact of family, school, and workplace on adolescent development. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 540 | Learning Theories and Instructional Strategies | Studies grounded instructional strategies rooted in established theories of learning to form the basis of building instruction. Explores how teaching, learning and performing can be designed via technological environments to support instruction. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate student; Credit is allowed for only EDP 540 or LSE 540 |
| EDP | 552 | Multiple Regression and Correlation Methods | Educational applications of regression techniques. Quantitative and qualitative predictors, curvilinear trends, and interactions. Emphasizes analyzing data and interpreting results. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |

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| EDP | 554 | Analysis-of-Variance Methods | Educational applications of ANOVA techniques. Between- and within-subjects designs, multiple comparisons. Emphasizes using statistical software and interpreting results. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 597 | Applied Research and Reflection | The dual purpose of the project is to synthesize learning from multiple areas of scholarship on teaching and learning, and to reflect on the content and process of the master's degree program. Culminating product includes a reflective paper with a corresponding project, such as a literature review, curricular model, technology product, or other project as agreed upon by the student and the student's advisor. | N | SEM | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDP | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 651 | Methods and Practices of Qualitative Research | Advanced course for students familiar with theory and extant work. Topics include data collection, analysis, reporting, and an extensive fieldwork project. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): COE 503 with C or better |
| EDP | 652 | Multivariate Procedures for Data Analysis | Educational applications of multivariate methods, including MANOVA, discriminant analysis, and exploratory factor analysis. Emphasizes analyzing data and reporting results. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 654 | Structural Equation Modeling in Educational Research | Educational applications of confirmatory factor analysis, path analysis, and full latent variable models. Experience in conducting analyses and reporting results. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 683 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |

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| EDP | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDS | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-3 | | Pre-requisites: Freshman standing, Maximum 25 hours |
| EDS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| EDS | 200 | Design Literacy and Communication | Builds the requisite skills for students to be able to express their ideas visually. Gives exercises to create an understanding of basic principles of design as well as design communication, principles of composition and aesthetic evaluation. Uses tools such as sketching, drawing, computer graphics and model making as a vehicle to develop an understanding of visual methods of expressing one's self. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Environmental Design or The Arts (Fashion Design) major |
| EDS | 201 | Fundamentals of Sustainability in Design | Explores sustainability as it relates to the key disciplines that comprise environmental design. Topics range from issues affecting the preservation of the urban fabric to the development of earth-friendly materials used by interior designers and product designers to the design of sustainable buildings by architects through the use of appropriate materials and requisite energy efficiencies. Surveys the literature of sustainability, identifying critical issues on the subject today. Explores the theoretical underpinnings of the sustainability movement as it affects environmental design and related disciplines. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| EDS | 223 | Design Thinking | Introduces the notion of design thinking, a concept that is gaining significant recognition in several disciplines including art, design, business, engineering and others. Design thinking can be described as a creative, multidisciplinary, human-centered approach to solving complex problems. Contemporary society faces numerous challenges, and the need for new tools and methods to tackle and solve these problems is more pressing than ever before. Offers several new techniques of design thinking and creative problem solving through engaging lectures and exciting projects. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| EDS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |

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| EDS | 301 | Sustainable Community Design and Practices | Covers concepts and practices of a sustainable built environment of community scale. Exposes theories and methods, best practices to the design of built environments as a vehicle to develop students' understanding of different aspects of planning, designing, building, managing and promoting social and economic development of communities to meet sustainable development objectives. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | HU | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| EDS | 302 | Design Inquiry and Undergraduate Research | Theories and methods of design inquiry within a research environment. Prepares students for the senior-year synthesis courses. Students take on design-related research and develop and write a proposal for an integrative experience/project for an environmental design intervention and make an implementation plan to realize this intervention. | N | RSC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisite: EDS 301 |
| EDS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| EDS | 401 | Environmental Design Synthesis I | First of a two-semester sequence of synthesis courses intended to be integrative, based on design research and inquiry. Serves as a culminating experience where, through the successful completion of an environmental design research project/application or experience, students demonstrate their understanding and synthesis of the knowledge and skills they have acquired in the program. Students identify a relevant research problem in environmental design and undertake the necessary literature search and reading regarding theories and methods related to the selected research question. Emphasizes the use of visual methods as a method of inquiry and research. | N | RSC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): GRA 440 with C or better OR Visiting University Student |
| EDS | 402 | Environmental Design Synthesis II | Second of a two-semester sequence of synthesis courses intended to be integrative, based on design research and inquiry. Serves as a culminating experience where, through the successful completion of an environmental design research project/application or experience, students demonstrate their understanding and synthesis of the knowledge and skills they have acquired in the program. Students implement the research study identified in the first semester of the two-semester sequence. Emphasizes the use of visual methods as a method of inquiry and research. | N | RSC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): EDS 401 |
| EDS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | |
| EDS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | | Prerequisite(s): Barrett Honors student |
| EDS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| EDS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| EDS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| EDS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-3 | | |
| EDT | 180 | Technology Literacy: Problem Solving using Digital Technology Applications | Introducing digital technologies and their place in society. Applies 21st-century skills to problem solving using digital technology applications including spreadsheets and databases. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | CS | Credit is allowed for only EDT 180 or EDT 321 OR Visiting University Student |
| EDT | 321 | Computer Literacy: Mobile Technologies and Your World | Uses mobile technologies across disciplines for communication, collaboration, creativity and problem solving. Employs digital tools including Microsoft Office's spreadsheets and databases, Google apps, mobile apps, and a variety of other Web-based tools in problem-based environments. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | CS | Pre-requisite: Minimum 45 hours; Credit is allowed for only EDT 180 or EDT 321 |
| EDT | 440 | Creating and Marketing Mobile Apps | Focuses on conceptualizing, creating and marketing of apps for mobile devices. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only EDT 440 or EDT 494 (Creating and Marketing Mobile Apps) or EDT 540 |
| EDT | 460 | Games, Technology and Society | Education, healthcare and social activism. Explores general theories about the relationship between technology and society using games as examples, as well as develops a better understanding of methods that take a systemic, contextualized approach to designing games for impact. Students play and analyze existing impact games as well as conduct a landscape analysis for an impact game on a topic of their own choosing. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Pre-requisite: Junior or Senior standing; Credit is allowed for only EDT 460 or 560 |

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| EDT | 461 | Understanding Games for Impact | Explores the nature of learning in and around games designed for entertainment as well as games designed intentionally for impact. Students gain familiarity with current research on course topics; develop a language for reflection on the cognitive, sociocultural and educational merits and drawbacks of game-centered learning environments; and gain new insights into the ways in which digital playspaces and pastimes shape how people think and learn. Develops the ability to analyze learning in games and game-related social contexts, using different theoretical perspectives and tools. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum junior standing |
| EDT | 463 | Games for Impact: The Full Life Cycle | Presents an impact game publishing methodology covering the full life cycle and key considerations for impact game design, development and publishing as well as the unique challenges in making games for impact. Applies methodology to examine an existing impact game currently in development. Students collaboratively workshop an original impact game concept and publishing plan that harnesses the power of games to address a key 21st-century challenge. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): junior or senior standing. Credit is allowed for only EDT 463 or EDT 563 |
| EDT | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| EDT | 524 | Principles and Issues in K-12 Online Learning | Examines current issues, policies, and trends pertaining to K-12 Web-based teaching and learning. Actively explores research related to online learning, with a focus on virtual schooling and emerging best practices for effective online instruction. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Pre-requisite: Practicing or licensed K-12 teacher |
| EDT | 530 | Technology Integration Methods across the Curriculum | Examines a constructivist approach to technology in education. Investigates technology as a catalyst for rethinking instructional goals and practices. | Y | LEL | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDT | 540 | Creating and Marketing Mobile Apps | Focuses on conceptualizing, creating and marketing of apps for mobile devices. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EDT 440 or EDT 494 (Creating and Marketing Mobile Apps) or EDT 540 |
| EDT | 545 | Using the Internet in Education | Explores the Internet as an educational tool for research, inquiry-based learning, and online learning communities. Incorporates constructivist theory. | N | LEL | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDT | 560 | Games, Technology and Society | The role and significance of digital games in society and the process of designing games for impact in areas such as education, healthcare and social activism. Explores general theories about the relationship between technology and society, using games as examples, as well as develops a better understanding of methods that take a systemic, contextualized approach to designing games for impact. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only EDT 460 or EDT 560 |
| EDT | 561 | Understanding Games for Impact | Explores the nature of learning in and around games designed for entertainment as well as games designed intentionally for impact. Students gain familiarity with current research on course topics; develop a language for reflection on the cognitive, sociocultural and educational merits and drawbacks of game-centered learning environments; and gain new insights into the ways in which digital playspaces and pastimes shape how people think and learn. Develops the ability to analyze learning in games and game-related social contexts, using different theoretical perspectives and tools. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only EDT 461 or EDT 561 |
| EDT | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): EDT 501, 502, and 503 with C or better |
| EDT | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: EDT 501, 502, and 503 with C or better |
| EDT | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDT | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDT | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | PRA | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisites: Accepted in either the MED in EDTCH, PHD in EDTECH, or the certificate in EDTECH programs |

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| EDT | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | N | IND | N | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDT | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): EDT 502 with C or better |
| EDT | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): EDT 501, 502, and 503 with C or better |
| EDT | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDT | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): EDT 701 with C or better |
| EDT | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDU | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | |
| EDU | 301 | Why Education? | Explores and understands diverse forms and roles of education across multiple settings and populations, and from those encounters, evaluates how those forms and embedded practices support different values that are commonly tied to education. This evaluation includes the analysis of fundamental questions about justice, equity, opportunity and fairness in education. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| EDU | 302 | Diversity in Learning Contexts | Examines the relationships among cultural values, social contexts and learners' experiences. Explores the role of prejudice, stereotypes, institutional racism and sexism, and cultural incompatibilities in learning environments. Students debate fundamental questions about justice, equity, opportunity and fairness in order to develop their personal values and beliefs about diversity in learning. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| EDU | 304 | The Bridge Between Coursework, Identity and Career | Connects critical concepts in coursework to field-based opportunities. Identifies social concerns that define an educational field as well as known supports and possible barriers. Given the specified discipline of a field, defines learning opportunities as well as opportunities for leadership, advocacy and innovation. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 2 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| EDU | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| EDU | 396 | Exploring Ideas and Planning for an Internship | Students learn about internship opportunities in nonprofit, government and for-profit organizations. Expands knowledge of educational opportunities in culturally and socially diverse educational spaces. Secures a placement for an upcoming two-semester internship. Students gain a foundation in human-centered design as a process for making changes in educational contexts. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours |
| EDU | 402 | Partnering to Advance Educational Initiatives | Examines global formal and informal partnerships to design innovative and sustainable educational initiatives that address social concerns and meet the needs of diverse populations. Shares solutions through professional communication using technology to collaborate with diverse groups. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| EDU | 403 | Planning for the Senior Capstone Project | Designs an education system or program to meet the needs of a diverse population within a specific community. Applies current research-based learning theories to the design. Uses professional communication skills to establish a partnership to advance an educational effort that promotes change within a community. Students use a deliberate design process to plan out an educational system or program that is aligned with their values and beliefs for learning. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1 | | Pre- or corequisite(s): EDU 396; EDU 484 |

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| EDU | 404 | Navigating Change in Educational Innovations | Advocates for educational solutions that change communities and lives by addressing social concerns. Applies professional ethics to navigate through formal systems to change educational environments that meet the needs of a diverse population within a specific community. Expands one's experience in education across different cultural and social settings. Students communicate and collaborate globally to share findings and solutions on the world stage. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours |
| EDU | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): EDU 396 |
| EDU | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-6 | | Prerequisite(s): Barrett Honors student |
| EDU | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | |
| EDU | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-7 | | Prerequisite(s): EDU 484 |
| EDU | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LAB | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-3 | | |
| EDU | 501 | Education Sciences I: Quantitative Research and Design Inquiry | First course in the MS in Education Sciences sequence with beginning-level topics in quantitative research design, measurement and statistics in practice. Covers fundamental concepts in education research design, measurement, statistics and data management. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 6 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDU | 502 | Education Sciences II: Intermediate Quantitative Inquiry and Measurement | Second course in the MS in Education Sciences sequence with intermediate-level topics in research design, measurement and statistics in practice. Covers intermediate topics essential to the design and implementation of quantitative education research and the analysis of data. Course topics expand upon research skills introduced in earlier coursework. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 6 | | Prerequisite(s): EDU 501 |
| EDU | 503 | Education Sciences III: Advanced Quantitative Analysis and Modeling | Third course in the MS in Education Sciences sequence with advanced-level topics in research design, measurement and statistics in practice. Covers advanced topics in quantitative education research essential to success in real-world projects and effective communication of results. Course topics integrate, expand upon and apply research skills introduced in blocks one and two to design, measurement and analysis. Emphasizes application of design, measurement and analysis topics to consume and produce educational research. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 6 | | Prerequisite(s): EDU 501; EDU 502 |
| EDU | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDU | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDU | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDU | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDU | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDU | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDU | 701 | Systems Leaders Lab I: Identifying "Wicked Problems" in Learning Systems | Aligned with students' professional settings and ongoing doctoral capstone projects, this lab course (Part I of the three-part LSL Lab Series) provides an overview of how leaders can identify and design solutions to "wicked problems" within learning systems. | N | LAB | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 2 | | Prerequisite(s): Learning Systems Leadership EdD student |

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| EDU | 702 | Systems Leaders Lab II: Measuring Learning Systems Performance | Aligned with students' professional settings and ongoing capstone projects, the main motivation behind this lab (Part II of the three-part Lab Series) ensures students are familiar with, also in terms of application, the key concepts and ideas associated with educational and psychological measurement. While theoretical by nature, heavily applies the measurement-based content included throughout this course, and also involves required interactions with students' mentors. | N | LAB | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 2 | | Prerequisite(s): Learning Systems Leadership EdD student; EDU 701 |
| EDU | 703 | Systems Leaders Lab III: Evaluating Learning Systems Change and Performance | Aligned with students' professional settings and ongoing doctoral capstone projects, this lab course (Part III of the three-part LSL Lab Series) provides an overview of how leaders can design and implement approaches to oversee monitoring, evaluation and assessment processes within learning systems. | N | LAB | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 2 | | Prerequisite(s): Learning Systems Leadership EdD student; EDU 701; EDU 702 |
| EED | 284 | Introduction to Integrated STEAM Learning Experiences | Examines theories and frameworks for guiding STEAM (Science, Technology, Engineering, Arts/Aesthetics, Mathematics) instruction in K-8 classrooms. Exposes prospective educators to strategies and tools for creating equitable and inclusive learning experiences. Addresses planning, enacting, and assessing effective disciplinary integrated approaches | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | |
| EED | 324 | Social Studies in Elementary Schools | Provides strategies for integrating social studies content knowledge with other curricular areas. Addresses a variety of issues related to social studies instruction in the elementary school, with an emphasis on valuing diverse cultures and experiences within historical and geographical perspectives. Emphasizes meeting the academic and linguistic needs of all learners including English language learners. Explores instructional materials, technology tools and social studies programs. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| EED | 396 | Clinical Experience I | Develops knowledge and skills for effective classroom management, establishing a positive classroom environment, and effective lesson delivery. Introduces use of the TAP instructional rubric, the college professionalism rubric, and strategies for co-teaching. Provides opportunities for students to engage as a teacher and learner in a K-8 classroom setting. Emphasizes focused observation; co-planning with a placement teacher; and co-teaching lessons to a whole group, small group and individual students. Successful completion of EED 396 fulfills two (2) of eight (8) required semester hours of practicum in grades K-8, as required by SBR R7-2-608 for an Elementary Education Teaching Certificate. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-2 | | Prerequisite(s): admission to the Professional Program |
| EED | 397 | Clinical Experience II | Develops knowledge and skills for effective classroom management, establishing a positive classroom environment, and effective lesson delivery. Continues use of the TAP instructional rubric, the college professionalism rubric, and strategies for co-teaching. Provides opportunities for students to engage as a teacher and learner in a classroom setting. Emphasizes focused observation; co-planning with a placement teacher; and co-teaching lessons to a whole group, small group and individual students. Successful completion of this course fulfills two (2) of eight (8) required semester hours of practicum as required by SBR R7-2-608 for an Elementary Education Teaching Certificate or two (2) of eight (8) required semester hours of practicum as required by SBR R7-2-602 for a Special Education Teaching Certificate. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-2 | | Prerequisite(s): admission to the Professional Program; Credit is allowed for only EED 397 or SPE 397 |
| EED | 411 | Science in Elementary Schools | Science education standards, curriculum, instructional and assessment strategies for all children. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program; Credit is allowed for only EED 411 or SCN 411 |
| EED | 412 | Mathematics in Elementary Schools | Methods of teaching mathematics to all students at the K-8 level, instructional planning and assessment. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours; Credit is allowed for only EED 412 or MTE 412 or SPE 410 |
| EED | 433 | Writing in the 21st Century | Theory on the social nature of oral and written language and congruent teaching, management and assessment practices. Emphasizes skills, strategies and dispositions for teaching 21st-century multimodal literacies to diverse learners including ELL with a focus on learners as creators of content, communicators, collaborators and global citizens. | N | LEL | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |
| EED | 478 | Student Teaching: Elementary School (Grades 1-8) | Student teaching in elementary education classrooms grades 1-8: synthesized experience in curriculum, instruction, assessment and classroom management. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3-15 | | Prerequisite(s): admission to the Professional Program |

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| EED | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| EED | 511 | Curriculum Theory and Instructional Planning | Contemporary curriculum theories. Curriculum as an interrelated entity. Process for instructional planning for student understanding and achievement. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EED | 521 | Instructional Planning for the Diverse Classroom | Planning and delivering instruction; making adaptations for English language learners and students with special needs. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EED | 524 | Social Studies Methods and Assessment | Provides strategies for integrating social studies content knowledge with other curricular areas. Addresses a variety of issues related to social studies instruction in the elementary school, with an emphasis on valuing diverse cultures and experiences within historical and geographical perspectives. Emphasizes meeting the academic and linguistic needs of all learners including English language learners. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EED | 529 | Science Teaching Methods for Elementary School | Focuses on inquiry-based processes, lesson design, teaching methods, and content overview to support science instruction in elementary grades. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EED | 531 | Teaching with Educational Technology | Focuses on using technology in K-12 classrooms. Addresses the integration of technology in all curricular areas for all students. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EED | 532 | Literacy Methods of Instruction and Assessment for Diverse Learners | Focuses on applying scientifically based teaching methods for delivering differentiated literacy instruction, assessment and intervention. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EED | 534 | Social Studies Methods and the Arts | Provides strategies for integrating social studies content knowledge with the arts. Addresses a variety of issues related to social studies instruction in elementary school, with an emphasis on valuing diverse cultures and experiences within historical and geographical perspectives. Emphasizes meeting the academic and linguistic needs of all learners including English Language Learners. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EED | 536 | Integrated Humanities (SS/ARTS/ELA) Methods and Assessment | Focuses on content, assessments and methods of integrated humanities (social studies, arts and English language arts) for the elementary teacher. Apprentice teachers critically analyze and discuss course materials, generate meaningful questions and seek answers concerning the purpose, content, methods and assessments of integrated humanities instruction, and actively participate in course activities. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): TEL 531 |
| EED | 537 | K-8 Mathematics Methods and Assessment | Mathematical knowledge for learning, teaching and assessment in grades K through 8. Focuses on developing conceptual understanding of mathematics through inductive, inquiry-based, problem-centered learning and teaching. Emphasizes representing and explaining mathematics using concrete, digital and real-world representations. Focuses on theories of mathematics learning, standards learning trajectories, and learning designs sequenced concrete-to-pictorial-to-abstract. Introduction to cognitively guided instruction and brain science messages of productive struggle and growth mindset for equitable mathematics learning. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate student |
| EED | 550 | Elementary Methods in Content Areas | Advanced level of development of knowledge and skills of instructional planning and methods of teaching and evaluating in elementary schools. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 550 or SPE 504 |
| EED | 557 | Internship I | Develops knowledge and skills for effective classroom management, establishing a positive classroom environment, and examining K-12 learner behavior. Provides opportunities for students to engage as a teacher and learner in a classroom setting. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-8 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 557 or SED 557 or SPE 556 |
| EED | 567 | Internship II | Develops knowledge and skills for effective classroom management, establishing a positive classroom environment and effective lesson delivery. Reinforces the application and evaluation of the NIET Aspiring Teacher Rubric. Provides opportunities for students to engage as a teacher and learner in a classroom setting. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-8 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 567 or SED 567 or SPE 570 |
| EED | 571 | Apprentice Teaching I | Semester one of apprentice teaching in an elementary (EED)/secondary (SED)/special education (SPE) setting for students who are currently working as the teacher of record. Introduces classroom management, curriculum, instruction and assessment supervised and reinforced by a clinical instructor. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 571 or SED 571 or SPE 571 |

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| EED | 574 | Apprentice Teaching II | Semester two of apprentice teaching in an elementary (EED)/secondary (SED)/special education (SPE) setting for students who are currently working as the teacher of record. Reinforced application of developing proficiency in classroom management, curriculum, instruction and assessment occurs through supervision and individualized support by a clinical instructor. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 574 or SED 574 or SPE 574 |
| EED | 576 | Internship III | Develops knowledge and skills for creating learning experiences for a range of learners, executing instructional cycles, using assessment methods, and reflecting on best teaching practices. Provides opportunities for pre-service educators to engage as a teacher and learner in a classroom. | Y | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-8 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 576 or SED 576 or SPE 576 |
| EED | 578 | Residency/Student Teaching in Elementary Education | Student teaching in elementary (EED) school classroom. Synthesized experience in curriculum, instruction and classroom management. Builds upon previous professional experiences to extend learning in a classroom setting and to obtain practice and feedback to continuously improve educator knowledge and skills. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EED | 579 | Apprentice Teaching III | Semester three of apprentice teaching in an elementary (EED)/secondary (SED)/special education (SPE) setting for students who are currently working as the teacher of record and enrolled in the masters plus certification program. Continued development toward proficiency in classroom management, curriculum, instruction and assessment. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 579 or SED 579 or SPE 579 |
| EED | 582 | Residency/Student Teaching in Elementary Education for Dual Certification | This 8-week capstone residency experience meets the EED requirement for dual certification in SPE and EED. Synthesized experience in curriculum, instruction and classroom management. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EED | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 593 or SED 593 or SPE 593 |
| EED | 596 | Residency/Student Teaching | Student teaching in elementary (EED), secondary (SED), or special education school classrooms. Synthesized experience in curriculum, instruction and classroom management. | Y | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-8 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 596 or SED 596 or SPE 596 |
| EED | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EEE | 120 | Digital Design Fundamentals | Number systems, conversion methods, binary and complement arithmetic, Boolean algebra, circuit minimization, ROMs, PLAs, flipflops, synchronous sequential circuits. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): degree-seeking student; minimum 12 hours; Credit is allowed for only CSE 120 or EEE 120 OR Visiting University Student |
| EEE | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-4 | | |
| EEE | 202 | Circuits I | Principles for analyzing linear and nonlinear circuits. Uses SPICE and MATLAB. Design and measurement of linear analog electrical systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): degree-seeking student; Pre- or corequisite(s): MAT 274 or 275 with C or better if completed; PHY 131 with C or better if completed OR Visiting University Student |
| EEE | 203 | Signals and Systems I | Introduces continuous and discrete time signal and system analysis, linear systems, Fourier, and z-transforms. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): degree-seeking student; EEE 202; MAT 242 with C or better or Pre- or corequisite(s): MAT 342 or 343 with C or better if completed OR Visiting University Student |
| EEE | 230 | Computer Organization and Assembly Language Programming | Register-level computer organization. Instruction set architecture. Assembly language. Processor organization and design. Memory organization. IO programming. Exception/interrupt handling. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prereq(s) w/min C: degree-skg stdnt: CSE 100 or 110; CSE or EEE 120 OR Sftwre Engr or Engr Mgt maj; CSE 110; SER 232 OR Elec Engr maj; CSE 100 or 110; CSE or EEE 120 OR Com Sci & Engr grad; Credit allowed for CSE or EEE 230 OR Visiting University Student |
| EEE | 241 | Fundamentals of Electromagnetics | Vector analysis, differential operators, fourier analysis, scalar, vector fields, electro/magneto statics, time-varying fields, boundary value problems, dielectric, magnetic materials, Maxwell's equations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): degree-seeking student; MAT 267 or 272 with C or better; MAT 274 or 275 with C or better; PHY 131 with C or better; Pre- or corequisite(s): EEE 202 OR Visiting University Student |
| EEE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-4 | | |

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| EEE | 304 | Signals and Systems II | Communication, signal processing, control systems, continuous, discrete transforms, sampling theorem, analog, digital modulation, filter design, signal processing applications, state space. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 203 OR Visiting University Student |
| EEE | 307 | Signal Processing for Digital Culture | Signal processing for non-majors. Digital filters, Fourier and z transform, DFT and FFT, digital signal processing computing, interdisciplinary DSP applications. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): non-ECEE major; MAT 210, MAT 265, or MAT 270; Credit is allowed for only EEE 307 or EEE 394 (Signal Analysis for the Digital Culture) |
| EEE | 333 | Hardware Design Languages and Programmable Logic | Develops digital logic with modern practices of hardware description languages. Emphasizes usage, synthesis of digital systems for programmable logic, VLSI. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 120 or CSE 120; EEE 202 OR Visiting University Student |
| EEE | 334 | Circuits II | Design of analog and digital circuits. Diodes/BJTs/Mosfets. Digital and analog circuit building blocks. Fundamentals of mixed signal circuits. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, BHSE undergraduate student or Computer Systems Engineering or Computer Systems Engineering (Information Assurance) student; EEE 202 OR Visiting University Student |
| EEE | 335 | Analog and Digital Circuits | Analog, digital microelectronic circuits and systems. Amplifiers, frequency response, gate sizing, timing analysis, sequential digital circuits. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student or Computer Systems Engineering or Computer Systems Engineering (Information Assurance) major; EEE 334 OR Visiting University Student |
| EEE | 341 | Engineering Electromagnetics | Time-varying electromagnetic fields, waves in homogeneous and stratified media, transmission lines, waveguides and cavity resonators, radiation and antennas. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 203; EEE 241 OR Visiting University Student |
| EEE | 350 | Random Signal Analysis | Probabilistic and statistical analysis as applied to electrical signals and systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; MAE 318 OR pre- or corequisite: EEE 203; OR Fulton Engineering graduate student OR Visiting University Student |
| EEE | 352 | Properties of Electronic Materials | Schrodinger's wave equation, potential barrier problems, bonds of crystals, the band theory of solids, semiconductors, superconductor dielectric, and magnetic properties. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; CHM 114, 115, 116 or 118; EEE 241; PHY 241 with a C or better OR Visiting University Student |
| EEE | 360 | Energy Systems and Power Electronics | Conventional and alternate energy sources for power systems, three-phase analysis, AC generators, transformers, induction, DC motors, power electronic speed control. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 202; Pre- or corequisite(s): EEE 241 OR Visiting University Student |
| EEE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-4 | | |
| EEE | 404 | Real-Time DSP Systems | Digital signal processors, translating signals and systems concepts into real-time multimedia and communications applications, real-time algorithms. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; CSE 230 or EEE 230; EEE 203 |
| EEE | 405 | Machine Learning Basics with Deployment to FPGAs | Machine learning has become an important element in many areas of engineering. Provides a good mathematical background and gives experience with using key packages and methods in Machine Learning (ML). FPGAs provide an efficient method to deploy machine learning models. Some programming language background, Java, C, C++, Python, or MatLab Verilog/System Verilog background is helpful but not required; that content will be provided. Students are not required to purchase an FPGA; units are available. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): EEE 203; MAT 342 or 343; PHY 131; Corequisite(s): EEE 350; Credit is allowed for only EEE 405 or EEE 498/591(Machine Learn Basics w/Deployment to FPGAs) or EEE 498/591(Machine Learn Basics w/ App to FPGAs) OR Visiting University Student |
| EEE | 407 | Digital Signal Processing | Time and frequency domain analysis, difference equations, z-transform, FIR and IIR digital filter design, discrete Fourier transform, FFT, and random sequences. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 203; MAT 342 or 343 with C or better OR Visiting University Student |
| EEE | 419 | Python for Rapid Engineering Solutions | Rapid engineering solutions using Python libraries and functions readily available on the internet. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): EEE 203; MAT 342 or 343; PHY 131; Corequisite(s): EEE 350; Credit is allowed for only EEE 419 or EEE 498 (Python for Rapid Engineering Solutions) or EEE 591 (Python for Rapid Engineering Solutions) OR Visiting University Student |

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| EEE | 425 | Digital Systems and Circuits | Digital logic gate analysis and design. Propagation delay times, fan out, power dissipation, noise margins. Design of MOS and bipolar logic families, including NMOS, CMOS, standard and advanced TTL, ECL, and BiCMOS. Inverter, combinational and sequential logic circuit design, MOS memories, VLSI circuits. Computer simulations using PSPICE. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 335 OR Visiting University Student |
| EEE | 433 | Analog Integrated Circuits | Analysis, design, and applications of modern analog circuits using integrated bipolar and field-effect transistor technologies. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 335 OR Visiting University Student |
| EEE | 434 | Quantum Mechanics for Engineers | Angular momentum, wave packets, Schroedinger wave equation, probability, problems in one dimension, principles of wave mechanics, scattering, tunneling, central forces, angular momentum, hydrogen atom, perturbation theory, variational techniques. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 352 OR Visiting University Student |
| EEE | 435 | Fundamentals of CMOS and MEMS | Introduces basic CMOS processing and fabrication tools. Covers the fundamentals of thermal oxidation, CVD, implantation, diffusion, and process integration. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 352 OR Visiting University Student |
| EEE | 436 | Fundamentals of Solid-State Devices | Semiconductor fundamentals, pn junctions, metal-semiconductor contacts, metal-oxide-semiconductor capacitors and field-effect transistors, bipolar junction transistors. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 352 OR Visiting University Student |
| EEE | 437 | Optoelectronics | Basic operating principles of various types of optoelectronic devices that play important roles in commercial and communication electronics; light-emitting diodes, injection lasers, and photodetectors. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 352 |
| EEE | 439 | Semiconductor Facilities and Cleanroom Practices | Microcontamination, controlled environments, cleanroom layout and systems, modeling, codes and legislation, ultrapure water, production materials, personnel and operations, hazard management, advanced concepts. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 352 OR Visiting University Student |
| EEE | 443 | Antennas for Wireless Communications | Fundamental parameters; radiation integrals; wireless systems; wire, loop, and microstrip antennas; antenna arrays; smart antennas; ground effects; multipath. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 341 |
| EEE | 445 | Microwaves | Waveguides; circuit theory for waveguiding systems; microwave devices, systems, and energy sources; striplines and microstrips; impedance matching transformers; measurements. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 341 (EEE 340) OR Visiting University Student |
| EEE | 448 | Fiber Optics | Principles of fiber-optic communications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 341 OR Visiting University Student |
| EEE | 455 | Communication Systems | Signal analysis techniques applied to the operation of electrical communication systems. Introduction to and overview of modern digital and analog communications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 350 OR Visiting University Student |
| EEE | 459 | Communication Networks | Fundamentals of communication networks. Study of Seven-Layer OSI model. Focus on functionality and performance of protocols used in communication networks. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 203; Corequisite(s): EEE 350 OR Visiting University Student |
| EEE | 460 | Nuclear Power Engineering | Radioactivity and decay. Radiation interactions and dose. Nuclear reaction, fission and fusion theory. Fission reactors, four factor formula, moderation. Nuclear power, TMI, Chernobyl. Nuclear fuel cycle. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; CHM 114 or 116; MAT 274 or 275 with C or better; PHY 241 or 361 with C or better |
| EEE | 463 | Electrical Power Plants | Generation of electric power using fossil, nuclear, and renewable, including solar, geothermal, wind, hydroelectric, biomass and ocean, energy sources. Power plant thermal cycle analysis. Cogeneration and combined cycles. Economics, operations, and design of electric power stations. Energy storage. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE or BHSE undergraduate student; CHM 114 or 116; MAE 241 or PHY 241 with C or better; MAT 274 or 275 with C or better OR Visiting University Student |
| EEE | 465 | Photovoltaic Energy Conversion | Photovoltaics for production of electricity from solar energy. The grand energy challenge. Solar radiation and utilization. Fundamentals of semiconductors for photovoltaics: crystal structures, band theory, doping, carrier statistics, optical absorption, and p-n junctions. Principles of solar cells including loss mechanisms and design principles. Current solar cell technologies. Manufacturing of silicon solar cells. Solar modules, arrays and systems. Economic analysis of solar photovoltaic systems. Terawatt-scale deployment of solar cells. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 352; Credit is allowed for only EEE 465 or 498: Solar Energy |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--------------------------------|-------|-----------------|---|
| EEE | 470 | Electric Power Devices | Analyzes devices used for short circuit protection, including circuit breakers, relays, and current and voltage transducers. Protection against switching and lightning over voltages. Insulation coordination. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 360 OR Visiting University Student |
| EEE | 471 | Power System Analysis | Review of transmission line parameter calculation. Zero sequence impedance, symmetrical components for fault analysis, short circuit calculation, review of power flow analysis, power system stability, and power system control concepts. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 360 |
| EEE | 472 | Power Electronics and Power Management | Principles of switch mode power conversion, analysis, design and control of dc-dc converters, PWM rectifiers and inverters, power management, power electronics applications in information technology, renewable energy systems, motion control and lighting. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 203 OR Visiting University Student |
| EEE | 473 | Electrical Machinery | Operating principles, modeling and speed control of DC, brushless DC, and AC machines; power converters for DC and AC motors drives. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 360 |
| EEE | 480 | Feedback Systems | Analysis and design of linear feedback systems. Frequency response and root locus techniques, series compensation, and state variable feedback. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 203 or MAE 318 OR Visiting University Student |
| EEE | 481 | Computer-Controlled Systems | Implements computer-based, embedded, control systems using MATLAB xPC Target toolbox. Small-scale, representative projects demonstrate theoretical issues and provide hands-on expertise. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 203 and EEE 230/CSE 230, or MAE 318 OR Visiting University Student |
| EEE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-12 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student |
| EEE | 488 | Senior Design Laboratory I | Design process: research, concept, feasibility, simulation, specifications, benchmarking, and proposal generation. Technical communications and team skills enrichment. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | L | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergrad student; ENG 102, 105 or 108, EEE 241; EEE 334; EEE 350; three courses from the following list: EEE 304, 333, 335, 341, 352 or 360 |
| EEE | 489 | Senior Design Laboratory II | Implement, evaluate, and document EEE 488 design. Social, economic, and safety considerations. Technical communications and team skills enrichment. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | L | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE senior or postbaccalaureate undergraduate student; EEE 488; ENG 102, 105, or 108 with C or better |
| EEE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-6 | | Prerequisite(s): Barrett Honors Electrical Engineering BSE senior |
| EEE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-6 | L | Prerequisite(s): Barrett Honors Electrical Engineering BSE senior; ENG 101, 105, or 107 with C or better |
| EEE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 433 |
| EEE | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-7 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student |
| EEE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-3 | | Prerequisite(s): Electrical Engineering BSE senior |
| EEE | 505 | Time-Frequency Signal Processing | Joint time-frequency analysis of time-varying signals and systems; linear and quadratic time-frequency representations; applications in current areas of signal processing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 506 | Digital Spectral Analysis | Principles and applications of digital spectral analysis, least squares, random sequences, parametric, and nonparametric methods for spectral estimation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 507 | Multidimensional Signal Processing | Processing and representation of multidimensional signals. Design of systems for processing multidimensional data. Introduces image and array processing issues. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |

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| EEE | 508 | Digital Image and Video Processing and Compression | Fundamentals of digital image perception, representation, processing, and compression. Emphasizes image coding techniques. Signals include still pictures and motion video. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 509 | DSP Algorithms and Software | Linear systems review, digital filter design, software aspects, DFT, FFT, random signals, programming aspects, applications projects, MATLAB and Java simulations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 510 | Multimedia Signal Processing | Speech/audio coding algorithms. LPC, CELP, MPEG, Cell phone, DTV, cinema, and surround sound standards. MPEG/JPEG introduction. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 511 | Artificial Neural Computation | Networks for computation, learning function representations from data, learning algorithms and analysis, function approximation and information representation by networks, applications in control systems and signal analysis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| EEE | 512 | System-Level Design for Heterogeneous Multiprocessor Architectures | In-depth introduction to multicore computing architectures ranging from low-power multiprocessor systems-on-chip (MpSoC) to high-performance chip-multiprocessors (CMP). Fundamental topics on modeling, analysis, and optimization of multicore systems; particular attention on low-power and communication-centric design of multicore systems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student; Credit is allowed for only EEE 512 or EEE 598 (System-Level Design for Multicore Architectures) |
| EEE | 515 | Machine Vision and Pattern Recognition | Covers the field of computer vision, whose broad goal is to create algorithms and systems for processing of visual signals (e.g., images, videos) for low-level, mid-level, and high-level perceptual tasks. Presents the broad principles and techniques for devising computer vision algorithms starting from understanding the imaging process for a pin-hole camera; understanding lenses, image-statistics such as gradients and edges, 3D structure estimation, motion estimation, illumination modeling to perceptual tasks such as shape recognition, texture modeling, face recognition, activity recognition, and scene recognition. The class is a mixture of in-class lectures and discussions, and individual and group projects. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student; Credit allowed for only AME 515 or EEE 515 or EEE 598 (Computational Image Understanding & Pattern Analysis) |
| EEE | 516 | Physics-Based Computer Vision | Covers topics in physics-based computer vision and graphics. Includes work on visual computing systems including computational cameras, illumination systems, 3D scanners, rendering/animation and displays. Starting with the basics of traditional photography and the imaging pipeline, proceeds to explore new ways to capture visual information by co-designing camera hardware and software algorithms. Topics covered include plenoptic or multi-modal imaging, coded and compressive sensing, light transport and rendering, programmable illumination, and computational displays. Focuses on understanding and evaluating new imaging technology for specific applications including autonomous vehicles, entertainment and graphics, computer vision and visual recognition, and robotics. Course content delivered via lectures along with written and programming assignments as well as a final project. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Herberger Arts, Media and Engineering grad student or Fulton Engineering grad student; Credit is allowed for only AME 516 or AME 598 (Comp Cam, Ltg & Disp) or EEE 516 or EEE 598 (Comp Cam, Ltg & Disp) or EEE 598 (Phys-based Comp Vision) |
| EEE | 517 | Sensors and Machine Learning | Integrated sensor devices and algorithms; microphone arrays, chemical sensing, mobile sensing; accelerometers and magnetometers, nanopore sensors, and flexible and patch sensors. Signal pre-processing for sensors; feature extraction; image sensing; voice processing; filters; frequency analysis; autocorrelation; principal components; k means algorithm; sensor fusion; neural nets; applications to health, security and mobile systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student; Credit is allowed for only EEE 517 or EEE 598 (Sensor & Machine Learning Apps) |
| EEE | 518 | Fundamentals of Microelectronics Packaging | Multidisciplinary foundation course in addressing electrical, thermal, materials, chemical, manufacturing, and reliability problems in packaging. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only CHE 518 or EEE 518 or MAE 518 or MSE 548 |
| EEE | 520 | VLSI Design for Reliability | Modeling and design solutions for very large-scale integration (VLSI) reliability. Statistical design under static and dynamic variability. Aging effects and resilient design techniques. Radiation effects in VLSI. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student; Credit is allowed for only EEE 520 or EEE 520 or EEE 598 (VLSI Design for Reliability) |

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| EEE | 521 | Low-Power Bioelectronics | Begins with fundamental theory and techniques for low-power analog circuit design especially subthreshold CMOS and BJT circuits (e.g., translinear circuits), then moves to biomedical applications and bio-inspired systems focused upon neuromorphic circuits. Also touches on concepts such as wireless challenges for implants, energy harvesting and electrochemistry. Students have the opportunity to have their final projects fabricated in a commercial CMOS process. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 522 | Radio Frequency Test | Covers current production test schemes for mixed-signal and RF circuits, the economics of production test, and recent research techniques in reducing the production test cost. Prior knowledge of Matlab is necessary to be successful in this class. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 523 | Advanced Analog Integrated Circuits | Analysis and design of analog integrated circuits: analog circuit blocks, reference circuits, operational-amplifier circuits, feedback, and nonlinear circuits. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| EEE | 524 | Communication Transceiver Circuits Design | Communication transceivers and radio frequency system design; fundamentals of transceivers circuits; RF, IF, mixers, filters, frequency synthesizers, receivers, CAD tools, and lab work on IC design stations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| EEE | 525 | VLSI Design | Analysis and design of Very Large Scale Integrated (VLSI) circuits. Physics of small devices, fabrication, regular structures, and system timing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| EEE | 526 | VLSI Architectures | High throughput and low-power VLSI architectures for signal processing. Array processor systems; data path design and optimization; memory design; high-level synthesis; low-power design at system level, algorithm level, and architecture level. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| EEE | 527 | Analog to Digital Converters | Detailed introduction to the design of Nyquist rate, CMOS analog to digital converters. Requires knowledge of analog integrated circuits (analog circuit blocks, reference circuits, operational-amplifier circuits, feedback, and nonlinear circuits) to be successful in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| EEE | 528 | Sensors for the Internet of Things and Wearable Devices | Fundamentals, concepts of system analysis and design, and principles that apply to phase-locked loops (PPLs) used in frequency synthesis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EEE | 529 | Semiconductor Memory Technologies and Systems | Design of semiconductor memory technologies and systems, from the device cell structures to the array and architecture design, with emphasis on the industry trends and cutting-edge technologies including SRAM, DRAM and FLASH technologies and emerging memory technologies such as STT-MRAM, PCRAM and RRAM. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton Electrical, Comp & Energy Engr (ECEE), POLY, SBHSE, SCAI, SEMTE, or SSEBE graduate student; Credit is allowed for only EEE 529 or EEE 598 (Semicondctr Memory Tech & Sys) or CEN/CSE 591 (Memory Sys: Device, Circuit & Architecture) |
| EEE | 530 | Advanced Silicon Processing | Thin films, CVD, oxidation, diffusion, ion-implantation for VLSI, metallization, silicides, advanced lithography, dry etching, rapid thermal processing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| EEE | 531 | Semiconductor Device Theory I | Transport and recombination theory, pn and Schottky barrier diodes, bipolar and junction field-effect transistors, and MOS capacitors and transistors. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| EEE | 532 | Semiconductor Device Theory II | Advanced MOSFETs, charge-coupled devices, solar cells, photodetectors, light-emitting diodes, microwave devices, and modulation-doped structures. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| EEE | 533 | Semiconductor Process/Device Simulation | Device simulation concepts: conventional and advanced MOS devices, bipolar transistors, heterostructures including HEMTs and solar cells. Process simulation concepts: oxidation, ion implantation, diffusion. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 534 | Semiconductor Transport | Carrier transport in semiconductors. Hall effect, high electric field, Boltzmann equation, correlation functions, and carrier-carrier interactions. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 535 | Electron Transport in Nanostructures | Nanostructure physics and applications. 2-D electron systems, quantum wires and dots, ballistic transport, quantum interference, and single-electron tunneling. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 536 | Semiconductor Characterization | Measurement techniques for semiconductor materials and devices. Electrical, optical, physical, and chemical characterization methods. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |

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| EEE | 537 | Semiconductor Optoelectronics | Electronic states in semiconductors, quantum theory of radiation, absorption processes, radiative processes, nonradiative processes, photoluminescence, and photonic devices. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 538 | Optoelectronic Devices | Provides graduate students with detailed theory and practical knowledge of semiconductors materials and optoelectronic devices such as light-emitting diodes, lasers, photodetectors and solar cells. Also discusses the applications of these devices. Offers not only classroom lectures but also demonstration of real-world experiments in research laboratories at ASU. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 539 | Intro Solid-State Electronics | Crystal lattices, reciprocal lattices, quantum statistics, lattice dynamics, equilibrium, and nonequilibrium processes in semiconductors. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 540 | Fast Computational Electromagnetics | Method of moments, finite difference time-domain, finite element methods implemented using fast algorithms (wavelets, FMM, Nystrom) to gain high efficiency. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 541 | Electromagnetic Fields and Guided Waves | Polarization and magnetization; dielectric, conducting, anisotropic, and semiconducting media; duality, uniqueness, and image theory; plane wave functions, waveguides, resonators, and surface guided waves. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 543 | Antenna Analysis and Design | Impedances, broadband antennas, frequency independent antennas, miniaturization, aperture antennas, horns, reflectors, lens antennas, and continuous sources design techniques. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 544 | High-Resolution Radar | Fundamentals; wideband coherent design, waveforms, and processing; stepped frequency; synthetic aperture radar (SAR); inverse synthetic aperture radar (ISAR); imaging. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 545 | Microwave Circuit Design | Analysis and design of microwave attenuators, in-phase and quadrature-phase power dividers, magic tees, directional couplers, phase shifters, DC blocks, and equalizers. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 546 | Advanced Fiber Optics | Theory of propagation in fibers, couplers and connectors, distribution networks, modulation, noise and detection, system design, and fiber sensors. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 547 | Microwave Solid-State Circuit Design I | Applies semiconductor characteristics to practical design of microwave mixers, detectors, limiters, switches, attenuators, multipliers, phase shifters, and amplifiers. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 548 | Coherent Optics | Diffraction, lenses, optical processing, holography, electro-optics, and lasers. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 549 | Statistical Machine Learning: From Theory to Practice | Explores the design, analysis and construction of algorithms that can learn from data and make inferences or predictions about future outcomes. Covers the theory and practice of machine learning (ML) focusing on a methodical approach that highlights the role of statistical and computational methods in analysis of data. Includes a near equal dose of theory and practice with the goal of providing a thorough grounding in the fundamental methodologies and algorithms in machine learning. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton ECEE, POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student; Credit is allowed for only EEE 549 or EEE 598 (Statistical Machine Learning: Theory to Practice) |
| EEE | 550 | Transform Theory and Applications | Introduces abstract integration, function spaces, and complex analysis in the context of integral transform theory. Applications to signal analysis, communication theory, and system theory. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |

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| EEE | 551 | Information Theory | Entropy and mutual information, source and channel coding theorems, applications for communication and signal processing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 552 | Digital and Wireless Communications | Complex signal theory, digital modulation, optimal coherent and incoherent receivers, channel codes, coded modulation, Viterbi algorithm. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 553 | Coding and Applications | Introduces algebra, block and convolutional codes, decoding algorithms, turbo codes, coded modulation, private and public key cryptography. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 554 | Probability and Random Processes | Applies statistical techniques to the representation and analysis of electrical signals and to communications systems analysis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 556 | Detection and Estimation Theory | Combines the classical techniques of statistical inference and the random process characterization of communication, radar, and other modern data processing systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 557 | Broadband Networks | Physics of wireless and optical communications. Broadband multiplexing and switching methods. Blocking and queuing analysis. Network optimization, routing, and economics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 558 | Recent Advances in Communications | Cellular systems, path loss, multipath fading channels, modulation and signaling for wireless, diversity, equalization coding, spread spectrum, TDMA/FDMA/CDMA. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 559 | Wireless Networks | Design principles of cellular networks. Multiple access control protocols for wireless systems. Wireless routing and TCP/IP. Mobile management. Call admission control and resource allocation (e.g., power control and rate control). Wireless security. Future-generation wireless networks. A previous course in random signal theory is required to be successful in this class. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton ECEE, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 560 | Mathematical Foundations of Machine Learning | Serves as a primer in statistical learning theory and as a platform for exploring emerging algorithms and theory in large-scale data analytics and learning. This study is at the intersection of information processing, statistical theory and computational sciences. Contains a healthy mix of topics from all of these disciplines. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student; Credit is allowed for only EEE 560 or EEE 598 (Statistical Machine Learning: From Theory to Algorithms) |
| EEE | 562 | Nuclear Reactor Theory and Design | Principles of neutron chain reacting systems. Neutron diffusion and moderation. One-, two-, and multigroup diffusion equation solution methods. Heterogeneous reactors. Nuclear fuel steady-state performance. Core thermal-hydraulics. Core thermal design. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 563 | Nuclear Reactor System Dynamics and Diagnostics | Time-dependent solution to neutron diffusion equation. Reactor kinetics and reactivity changes. Dynamics, stability, and control of reactor systems. Modeling neutronic and thermal processes. System characterization in time and frequency domains. Reactor surveillance and diagnostics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 564 | Interdisciplinary Nuclear Power Operations | Nuclear power plant systems. Studies interrelationship and propagation of effects that systems and design changes have on one another, especially in relation to nuclear power plant safety and operations. Case studies and design projects. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 565 | Solar Cells | Introduction to the generation and utilization of electricity from solar energy. Exploration of the science and engineering of direct conversion (photovoltaics), including the design, fabrication, and operation of solar cells, and the construction and performance of solar cell modules. Prior knowledge of properties of electronic materials is required to be successful in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |

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| EEE | 566 | Advanced Device Modeling and Simulation | Understanding semi-classical and quantum transport theory in conjunction with device simulations at the nanoscale. Prior knowledge of semiconductor device theory, quantum mechanics and classical semiconductor device simulation is necessary to be successful in this class. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student; Credit is allowed for only EEE 566 or EEE 598 (Advanced Device Modeling) |
| EEE | 571 | Power System Transients | Simple switching transients. Transient analysis by deduction. Damping of transients. Capacitor and reactor switching. Transient recovery voltage. Travelling waves on transmission lines. Lightning. Protection of equipment against transient overvoltages. Introduces computer analysis of transients. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 572 | Advanced Power Electronics | Analyzes device operation, including thyristors, gate-turn-off thyristors, and transistors. Design of rectifier and inverter circuits. Applications such as variable speed drives, HVDC, motor control, and uninterruptible power supplies. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 573 | Electric Power Quality | Sinusoidal waveshape maintenance; study of momentary events, power system harmonics, instrumentation, filters, power conditioners, and other power quality enhancement methods. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 574 | Computer Solution of Power Systems | Algorithms for digital computation for the Newton and fast-decoupled power flow problem, and fault analysis. Sparse matrix and vector programming methods, creation of elimination trees, network equivalencing, solution of the least squares problem, introduction to state estimation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 575 | Power System Stability | Dynamic performance of power systems with emphasis on stability. Modeling of system components and control equipment. Analysis of the dynamic behavior of the system in response to small and large disturbances. Knowledge of EEE470, 471 and 473 (or equivalents) is required to be successful in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 576 | Power System Dynamics | Dynamic performance of power systems with emphasis on control. Modeling of control equipment, FACTS devices, wind generators, and nonlinear loads. Design of power system stabilizers. Prior knowledge of electric power devices, power system analysis, and electrical machinery is required to be successful in this course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton ECEE, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 577 | Power Engineering Operations and Planning | Economic dispatch, unit commitment, dynamic programming, power system planning and operation, control, generation modeling, AGC, and power production. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 579 | Power Transmission and Distribution | High-voltage transmission line electric design; conductors, corona, RI and TV noise, insulators, clearances. DC characteristic, feeders voltage drop, and capacitors. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 581 | Filtering of Stochastic Processes | Modeling, estimation, and filtering of stochastic processes, with emphasis on the Kalman filter and its applications in signal processing and control. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 582 | Linear System Theory | Controllability, observability, and realization theory for multivariable continuous time systems. Stabilization and asymptotic state estimation. Disturbance decoupling, noninteracting control. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-12 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 585 | Security and Privacy in Networked Systems | Comprehensive understanding of critical cyber security and privacy threats as well as corresponding solutions in emerging wireless networks, mobile systems, social networks, Internet-of-Things, critical infrastructures, cloud computing, big data analytics, wearable and edge computing, and mobile health. Requires prior knowledge of communications systems or computer networking to be successful in this course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Elect, Comp and Energy Engr (ECEE) or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student; Credit is allowed for only EEE 585 or EEE 598 (Adv Topics in Wireless & Internet Security) or EEE 598 (Selected Topics in Network Security) |

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| EEE | 586 | Nonlinear Control Systems | Stability theory, including phase-plane, describing function, Liapunov's method, and frequency domain criteria for continuous and discrete, nonlinear, and time-varying systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 587 | Optimal Control | Optimal control of systems. Calculus of variations, dynamic programming, linear quadratic regulator, numerical methods, and Pontryagin's principle. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 588 | Design of Multivariable Control Systems | Practical tools for designing robust MIMO controllers. State feedback and estimation, model-based compensators, MIMO design methodologies, CAD, real-world applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 589 | Convex Optimization | Linear algebra and convex optimization. Vector spaces, matrix algebra, linear programming, Lagrange multipliers, Karush-Kuhn-Tucker (KKT) conditions, duality theory and algorithms for convex optimization. Newton's method, gradient and steepest descent methods. Algorithms for unconstrained, equality constrained and inequality constrained problems, which include interior point methods. Applications to approximation and data fitting and some geometric problems. Applications to signal processing, communications and control systems. Background in linear algebra necessary to be successful in this course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or SBHSE, SCAI, SEMTE or SSEBE graduate student; Credit is allowed for only CEE 533 or EEE 589 or MAE 521 |
| EEE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-12 | | Prerequisite(s): Electrical Engineering MS, MSE, or PHD students |
| EEE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-12 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-12 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-12 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-4 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-12 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 606 | Adaptive Signal Processing | Principles and applications of adaptive signal processing, adaptive linear combiner, Wiener least-squares solution, gradient search, performance surfaces, LMS/RLS algorithms, block time/frequency domain LMS. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 607 | Speech Compression and Recognition | Speech and audio coding algorithms for applications in wireless communications and multimedia computing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |

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| EEE | 625 | Advanced VLSI Design | Practical industrial techniques, circuits, and architectures appropriate to high-performance and low-power digital VLSI designs such as microprocessors. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 627 | Oversampling Sigma-Delta Data Converters | Introduces design and analysis of sigma delta oversampled data converters from an IC design perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 641 | Advanced Electromagnetic Field Theory | Cylindrical wave functions, waveguides, and resonators; spherical wave functions and resonators; scattering from planar, cylindrical, and spherical surfaces; Green's functions. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 643 | Advanced Topics in Electromagnetic Radiation | High-frequency asymptotic techniques, geometrical and physical theories of diffraction (GTD and PTD), moment method (MM), radar cross section (RCS) prediction, Fourier transforms in radiation, and synthesis methods. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-12 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-12 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 686 | Adaptive Control | Main topics covered: adaptive identification, convergence, parametric models, performance and robustness properties of adaptive controllers, persistence of excitation, and stability. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-12 | | Prerequisite(s): Electrical Engineering MS, MSE, or PHD student or Master of Engineering student |
| EEE | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-12 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 731 | Advanced MOS Devices | Threshold voltage, subthreshold current, scaling, small geometry effects, hot electrons, and alternative structures. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-12 | | Prerequisite(s): Electrical Engineering PhD students |
| EEE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-15 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-15 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EET | 406 | Control System Technology | Control system components, analysis of feedback control systems, stability, performance, and application. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3-4 | | Pre-requisites: EST 310; MAT 266; Credit for EET 506 or EET 406 |

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| EET | 408 | Digital Real-Time Control | Analysis, simulation, and design of discrete systems. Approach taken in this class begins with the analysis, simulation and design of a continuous system, which yields an s-based, transfer function compensator. Then, this compensator is transformed into a z-based transfer function, which can be realized with a difference equation in a microcontroller. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EET 406 OR Visiting University Student |
| EET | 430 | Instrumentation and Measurement Systems | Instrumentation and measurement techniques, sensors operating principles. Signal and error analysis. Signal conditioning and data acquisition. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: EST 310; Credit is allowed for only EET 430 or 530 |
| EET | 506 | System Dynamics and Control | Time, frequency, and transform domain analysis of physical systems. Transfer function analysis of feedback control systems performance and stability. Compensation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EET 406 or EET 506 |
| EET | 508 | Digital Real-Time Control | Sample data control techniques and applications to process control. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student OR Fulton Schools of Engineering senior student with minimum 3.00 ASU GPA |
| EET | 530 | Electronic Test Systems and Applications | Analysis, design, and application of electronic test equipment, test systems, specifications, and documentation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: Graduate (degree or non-degree) students; Credit is allowed for only EET 430 or EET 530 |
| EGR | 101 | Foundations of Engineering Design Project I | Introduces engineering as a profession, critical thinking in engineering design and modeling, team dynamics, engineering communication. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | |
| EGR | 102 | Foundations of Engineering Design Project II | Development and experimental verification of engineering models, engineering design, data acquisition, critical analysis of data, introduction to CADD, engineering communications. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 101; Pre- or corequisite(s): MAT 170 or higher OR Visiting University Student |
| EGR | 104 | Critical Inquiry in Engineering | Critical thinking. Systematic evaluation of information as input to well-informed decision making. Close reading and substantive writing in a technical setting. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | L | Pre- or corequisite(s): ENG 102, 105, or 108 with C or better if completed; Credit is allowed for only EGR 104 or TWC 104 OR Visiting University Student |
| EGR | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-4 | | |
| EGR | 201 | Use-Inspired Design Project I | Design, professionalism, and engineering practice developed in a multidisciplinary project setting. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 102; MAT 265 or 270 with C or better OR Visiting University Student |
| EGR | 202 | Use-Inspired Design Project II | Design, problem solving, and engineering practice developed in a multidisciplinary project setting. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 201 with C or better; Pre- or corequisite(s): EGR 104 or TWC 104 with C or better if completed OR Visiting University Student |
| EGR | 216 | Engineering Electrical Fundamentals | Introduces modeling of electrical systems using mathematical and scientific principles. Covers electrical circuit analysis techniques including Kirchhoff's and Ohm's laws, series and parallel circuit elements, equivalent elements and circuits, and nodal analysis. These techniques are developed for DC, AC, and transient conditions. Also introduces the basic structure of a modern electronic measurement system and relates this structure to measurement accuracy, precision and resolution. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): MAT 265 or 270 with C or better; Credit is allowed for only EGR 216 or EGR 294 (Engineering Fundamentals I) OR Visiting University Student |
| EGR | 217 | Engineering Mechanics Fundamentals | Provides a foundation in the theory and principles of statics and dynamics. Examines the effect of forces acting on particles and rigid bodies. Extensively uses vector mechanics. Statics addresses the topics of equilibrium in two and three dimensions, to include distributed loads, trusses, frames, friction and the moment of inertia. Dynamics addresses kinematics and kinetics of particles. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): PHY 121 with C or better OR Visiting University Student |
| EGR | 218 | Materials and Manufacturing Processes | Applies material properties and manufacturing processes to the design and fabrication of engineered artifacts. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): CHM 113 or 114 with C or better OR Visiting University Student |
| EGR | 219 | Computational Modeling of Engineering Systems | Introduces computing that develops software to find solutions to engineering problems. Students write and document code to solve problems in data acquisition, modeling of physical systems, and optimization. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): MAT 266 or 271 with C or better; Pre- or corequisite(s): MAT 274 or 275 OR Visiting University Student |
| EGR | 240 | CADD and Solid Modeling | Uses 3-D solid modeling software to model mechanical parts and produce valid engineering drawings, including use of geometric dimensioning and tolerancing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | |
| EGR | 280 | Engineering Statistics | Applications-oriented introduction to statistics with computer-based experience using statistical software for formulating and solving engineering problems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | CS | Prerequisite(s): MAT 265 or 270 with C or better OR Visiting University Student |
| EGR | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-4 | | |

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| EGR | 303 | Mechanical Systems Project I | Analyze, design, implement and characterize a mechanical system through an in-depth mechanical system design project. Project includes modeling, analysis and measurement of the dynamic behavior of the mechanical system. Develops professional and engineering skills in this project setting. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 202 with C or better; EGR 217 with C or better; EGR 219 with C or better OR Visiting University Student |
| EGR | 304 | Embedded Systems Design Project I | Design, implement and debug an embedded electromechanical system through an in-depth design project. Develops professional and engineering skills in this project setting. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 202 with C or better; EGR 216 with C or better; EGR 219 with C or better OR Visiting University Student |
| EGR | 305 | Robotics Systems Project I | Analyze, design, implement and debug a robotic electromechanical system through an in-depth robotic system design project. Develops professional and engineering skills in this project setting. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 202 with C or better; EGR 216 with C or better; EGR 219 with C or better |
| EGR | 306 | Automotive Systems Project I | Analyze, design, implement and verify an automotive system through an in-depth design project. Develops professional and engineering skills in this project setting. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 202 with C or better; EGR 217 with C or better; EGR 219 with C or better OR Visiting University Student |
| EGR | 307 | Humanitarian Engineering Project I | Provides students with the opportunity to work on a real-world project that is or will be taking place "in the field," in a part of the world with fewer material resources than most places in the United States. Builds the skill sets of students who are interested in pursuing development-related work after graduation. Course is team-based, project-focused and extremely hands-on. Emphasizes skills development on equal par as working with peers, mentors and in-field partners. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): minimum junior standing OR Visiting University Student |
| EGR | 313 | Mechanical Systems Project II | Applies design principles to conceptualize, implement and characterize a fluid and/or thermodynamic system in a project setting. Project emphasizes communication with project stakeholders; applying an appropriate design approach in the context of a fluid and/or thermodynamic system; critical thinking in developing system specifications and evaluating a prototype relative to these specifications; and increasing technical competence. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 303 with C or better; EGR 340 with C or better OR Visiting University Student |
| EGR | 314 | Embedded Systems Design Project II | Applies design principles to conceptualize, implement and characterize an embedded electromechanical system in a project setting. Project emphasizes communication with project stakeholders; applying a human-centered design approach in the context of an embedded system; critical thinking in developing system specifications and evaluating a prototype relative to these specifications; and increasing technical competence. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 304 with C or better |
| EGR | 315 | Robotic Systems Project II | Applies design principles to conceptualize, implement and characterize an electromechanical robotic system in a project setting. Project emphasizes communication with project stakeholders; applying a human-centered design approach in the context of a robotic system; critical thinking in developing system specifications and evaluating a prototype relative to these specifications; and increasing technical competence. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 305 with C or better; EGR 455 with C or better |
| EGR | 316 | Automotive Systems Project II | Applies design principles to conceptualize, implement and characterize an automotive system in a project setting. Project emphasizes communication with project stakeholders; applying a human-centered design approach in the context of an automotive system; critical thinking in developing system specifications and evaluating a prototype relative to these specifications; and increasing technical competence. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 306 with C or better |
| EGR | 317 | Humanitarian Engineering Project II | Applies design principles to conceptualize, implement and characterize an engineered system that addresses a humanitarian objective in a project setting. Project emphasizes communication with project stakeholders, applying an appropriate design approach, thinking critically in developing system specifications and evaluating a prototype relative to these specifications, and increasing technical competence. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): minimum junior standing |
| EGR | 321 | Water Resource Systems | Fundamentals of water supply and surface water hydrology in the context of the engineering, design and analysis of water resources systems. Places particular emphasis on those aspects of water systems that apply in the context of the developing world as well as in the context of environmentally sustainable systems. Course delivery is designed for engineering students with a broad understanding of engineering fundamentals but without specialist civil engineering knowledge. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 217 with C or better; EGR 219 with C or better |

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| EGR | 325 | Water and Wastewater Treatment | Essential elements of aquatic chemistry, water pollution and water and wastewater treatment technologies. Provides a fundamental basis for understanding sustainable water and wastewater treatment processes and their design considerations. Includes critical evaluation of contemporary issues concerning our water environment and the associated regulatory framework to strengthen and emphasize importance of adequate practices used in operation and design of engineered water and wastewater treatment systems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): CHM 113 with C or better; EGR 321 with C or better; Credit is allowed for only EGR 325 or ERM 302 OR Visiting University Student |
| EGR | 330 | Design of Electrical Systems | Overview of electrical system architectures and components used in design of smart electrical and electromechanical systems. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 216 with C or better; EGR 219 with C or better OR Visiting University Student |
| EGR | 334 | Analog-Digital Interface | Signal processing and operational tools that lie between sensors and digital data processors developed from a system perspective. Includes selection, deployment and analysis of sensors, analog signal processors and converters as well as their appropriate power supplies and the impact of all these components on system performance and cost. Uses experimental and simulation tools to demonstrate typical-use cases for medical, military, industrial and consumer applications. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 330 with C or better OR Visiting University Student |
| EGR | 338 | Microcontrollers in Smart Systems | Microcontroller implementation of smart systems. Microcontrollers applied to control dynamic systems, including the interface with sensors and actuators as well as developing simple open- and closed-loop control laws. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 330 with C or better |
| EGR | 340 | Engineering Thermo-Fluids I | First and second laws of thermodynamics, systems, processes, equations of state, property tables. Fluid statics, conservation of momentum, Bernoulli's equation, applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): PHY 121 with C or better; Pre- or corequisite(s): MAT 274 or 275 with C or better if completed OR Visiting University Student |
| EGR | 343 | Mechanics of Solid Materials | Studies strength and physical performance, such as deformations and load-carrying capacity, of natural and artificial solid structures. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 217 with C or better; EGR 218 with C or better OR Visiting University Student |
| EGR | 360 | Concepts in Automotive Engineering | Fundamental engineering principles as they apply to the design of ground vehicles used for the transportation of individuals or materials. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 202; Credit is allowed for only EGR 360 or EGR 394 (Intro to Concepts in Automotive Engineering) |
| EGR | 363 | Automotive Powertrains and Thermal Systems | Internal combustion engine (ICE) design in the context of automotive systems and heat management in vehicle systems, including thermal design of engine and transmission cooling systems. Operating characteristics and efficiencies of the ICE, terminology and abbreviations used in the automotive industry, contemporary fuels and the latest hybrid technology, CAFE standards and EPA vehicle emissions standards, lubrication systems and fluids appropriate for a given design, and current and future standards requirements. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre- or corequisite(s): EGR 340 with C or better if completed |
| EGR | 370 | Welding Survey | Theory and practical application of the most widely used industrial welding processes; introductory welding, fundamental welding metallurgy, weldment design and weld cost estimating; lab experiences using SMAW, GTAW, GMAW, FCAW, RSW, SW, OFC, OAW, PAC, and brazing. Aligns with the American Welding Society (AWS) SENSE standards. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Fulton Engineering undergraduate student OR Visiting University Student |
| EGR | 371 | Best Practices for Humanitarian Engineering | Technological and process-based best practices for engineering students to gain applied competence in low-cost and low-tech appropriate methods and technologies for small-scale technical problems in local and international humanitarian development contexts. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Fulton Schools of Engineering major; junior or senior standing |
| EGR | 380 | Advanced Computer Aided Design and Drafting (CADD) and Solid Modeling | Advanced techniques and practices of solid modeling and drafting, including motion, Finite Element Analysis (FEA), and sheet metal. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 240; Credit is allowed for only EGR 380 or EGR 394 (Advanced CADD & Solid Modeling) OR Visiting University Student |
| EGR | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-4 | | |
| EGR | 401 | Professional Design Project I | First half of a comprehensive project experience based on cumulative knowledge and skills gained in earlier course work. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; EGR 313, 314, 315 or 316 with C or better OR ENG 101, 105, or 107 with C or better; MFG 318 with C or better |
| EGR | 402 | Professional Design Project II | Second half of a comprehensive project experience based on cumulative knowledge and skills gained in earlier course work. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 401 with C or better taken within one previous term |

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| EGR | 425 | Unit Treatment Technologies and Systems | Addresses fundamental concepts of unit treatment technologies and the scientific and engineering principles that govern the proper design, operation and management of these systems. Course is divided into two overlapping major categories of unit treatment technologies: air-pollution controls and soils/groundwater remediation. Enhances understanding of the unit treatment technologies by reviews of dimensional analysis, mass transport mechanisms, mass balances, modeling, kinetics and reactors. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 325 with C or better; Credit is allowed for only EGR 425 or ERM 402 OR Visiting University Student |
| EGR | 426 | Integrated Solid Waste Systems | Addresses the fundamental concepts of solid waste, pathways and transformation processes following the from cradle-to-grave approach. Follows the life of the solid waste from point of generation, reclamation and treatment to point of disposal. Emphasizes describing the present solid waste systems as an integrative set of functional units. Considers physical, chemical and biological transformations of the solid waste, together with the existing technologies and practices for management, treatment and disposal of the solid waste. Includes a specific overview of sustainable solid waste practices such as waste minimization, pollution prevention, reuse and reclamation, together with current domestic and foreign regulations. Addresses planning and design of solid waste operations and facilities. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 325 with C or better; Credit is allowed for only EGR 426 or ERM 432 or ERM 532 OR Visiting University Student |
| EGR | 427 | Principles of Hazardous Waste and Materials | Trains future environmental engineers and professionals in fundamental hazardous waste and materials concepts. Addresses regulatory requirements; materials hazard communication; material safety concepts; types of hazardous waste/materials (chemical, radioactive, and infectious); risk assessment and routes of exposure; personal protective equipment; prudent practices; treatment; storage and disposal of hazardous waste/materials through the lens of the cradle-to-grave concept. Gains knowledge about the hazardous waste enforcement processes. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 325 with C or better; Credit is allowed for only EGR 427 or ERM 401 or ERM 501 OR Visiting University Student |
| EGR | 430 | Design, Fabrication, and Architecture of Electronic Devices | Comprehensive introduction to the design, operation, production and application of the most common semiconductor devices and categories of integrated circuit. Demonstrates the close interaction among materials, semiconductor physics and circuit performance, especially in terms of the applications and economics of digital systems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 330 with C or better OR Visiting University Student |
| EGR | 431 | Power Management | Devices and techniques to supply and manage power in electrical systems. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 330 with C or better |
| EGR | 432 | Engineering Thermo-Fluids II | Thermodynamic analysis of mixtures and power cycles. Design and analysis of fluid systems, conduction heat transfer, and introduction to convection and radiation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 340 with C or better; Credit is allowed for only EGR 432 or MET 432 OR Visiting University Student |
| EGR | 433 | Transforms and Systems Modeling | State-space and transform-domain modeling and analysis of electrical and electromechanical systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 216 with C or better; EGR 455 with C or better; MAT 274 or 275 with C or better; Pre- or corequisite(s): MAT 342 or 343 |
| EGR | 438 | RF Systems | Applies fundamental principles of electromagnetics to design and analyze engineered RF systems and applications. Introduces and describes transmission lines, Smith Charts, s-parameters, waves in free space, reflection and refraction and their use in engineering systems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): PHY 331; Credit is allowed for only EGR 438 or EGR 494 (Fundamentals of RF) |
| EGR | 444 | Engineering Design | Applies fundamentals of mechanics in analysis and synthesis of machine components and systems, with emphasis on stress and failure. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 343 with C or better OR Visiting University Student |
| EGR | 445 | Mechanical Engineering Systems | Design and modeling of multicomponent electromechanical systems. Applications of computers, controllers, electronics using system hardware and software development. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 219 with C or better; EGR 444 with C or better |
| EGR | 455 | Robotic Systems I | Analysis and design of robotic systems focusing on kinematics, dynamics, coordinate transformations and modeling. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 217 with C or better; EGR 219 with C or better; Credit is allowed for only EGR 455 or EGR 545 or EGR 598 (Robotic Systems I) OR Visiting University Student |
| EGR | 456 | Robotic Systems II | Design of robotic systems focusing on dynamics, modeling and controlling a robot. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 455 with C or better; Credit is allowed for only EGR 456 or EGR 546 or EGR 598 (Robotics Systems II) OR Visiting University Student |

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| EGR | 463 | Vehicle Electrical Systems and Hybrid Systems | Basic theory and operation of hybrid electric drive systems of motor vehicles. Covers fundamentals of next generation electrification including: batteries technology, charging, power electronic operation. Emphasizes the principals of HEV energy management strategies and HEV modeling fundamentals. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 216 with C or better; EGR 363 with C or better OR Visiting University Student |
| EGR | 465 | Ground Vehicle Dynamics | Basic understanding of vehicle dynamics principles and a sufficient knowledge to analyze vehicle dynamic performance and associated chassis system design concepts. Understanding of various dynamical equations of motion governing vehicle behavior as well as computer simulation. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 363 with C or better OR Visiting University Student |
| EGR | 475 | Alternative Energy | Covers basic principles, thermodynamics and economics of alternative energy conversion technologies including solar photovoltaics, concentrating solar, wind, biomass, nuclear, fuel cells and energy storage. Briefly discusses conventional heat and power systems as they pertain to alternative energy integration. Introduces operating characteristics of renewable energy technologies through simulation and then reinforces through hands-on demonstrations and experiments with renewable energy systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EEE 202, EGR 216, EGR 340, or PHY 151 with C or better; Credit is allowed for only EGR 475 or EGR 598 (Alternative Energy) OR Visiting University Student |
| EGR | 476 | Microgrid Design and Operation | Design, modeling, integration, operation and maintenance of microgrids. Simulation-based design is coupled with hands-on integration to provide a comprehensive approach to microgrid systems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EEE 202, EGR 216, EGR 340, or PHY 151 with C or better; Credit is allowed for only EGR 476 or EGR 598 (Microgrid Design and Operation) OR Visiting University Student |
| EGR | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-12 | | |
| EGR | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-6 | | Prerequisite(s): Barrett Honors student |
| EGR | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| EGR | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-4 | | |
| EGR | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-3 | | |
| EGR | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 520 | Engineering Analysis I | Analytical methods for evaluation of engineering systems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 521 | Engineering Analysis II | Mathematical techniques for developing solutions of engineering problems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 520; Credit is allowed for only EGR 521 or EGR 598 (Engineering Analysis II) |
| EGR | 522 | Statistics for Quality Control in Manufacturing | Seven QC tools and control charts for data analysis and interpretation; Process capability, 6-Sigma, Lean Manufacturing, Quality system, Case study. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only EGR 522 or EGR 598 (Statistics for Engineers) |
| EGR | 523 | Finite Element Modeling and Analysis | Analyzes machine elements, frames and aerospace structures employing finite element analysis and software. Includes sensitivity analysis and estimating accuracy. Introduces the fundamentals of finite element analysis as well as providing hands-on experience using finite element software to model, analyze and design structures. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only EGR 494 (Finite Element Modeling Analysis) or EGR 523 or EGR 598 (Finite Element Modeling & Analysis) |
| EGR | 525 | Lean Systems | Creates a framework and model of lean engineering and a methodology for applying lean practices to systems engineering as a basis for lean product development. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 530 | Principles of Systems Engineering | Engineering is increasingly about complex systems. Addresses scale, scope and complexity increase that engineers need to consider to bring together technical and social issues in a highly integrated way as they design flexible, adaptable, robust systems that can be easily modified and reconfigured to satisfy changing requirements and new technological opportunities. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 535 | Innovation and Design of Engineering Academic Settings (IDEAS) | Innovation plays an important role in the evolution of the field of engineering education. Explores innovation processes in a variety of contexts, including (but not limited to) engineering education research and methods, theory, dissemination, teaching and training within formal and informal academic settings. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| EGR | 545 | Robotic Systems I | Analysis and design of robotic systems focusing on kinematics, dynamics, coordinate transformations and modeling. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EGR 455 or EGR 545 or EGR 598 (Robotic Systems I) |
| EGR | 546 | Robotic Systems II | Design of robotic systems focusing on dynamics, modeling and controlling a robot. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EGR 456 or EGR 546 or EGR 598 (Robotics Systems II) |
| EGR | 550 | Mechatronic Systems | Presents a clear and comprehensive approach to the area of mechatronic systems, including the sensors, actuators, microcontrollers and applications which are found at the heart of everyday products and devices. Provides a systems-level approach to integrating these elements into a functioning device. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Fulton Engineering graduate student |
| EGR | 555 | Mechatronics Device Innovation | Project-based course on the design of mechatronic devices to address needs identified by hospital-based clinicians. Students work in teams with physicians to develop a novel mechatronic device while in parallel an entrepreneurial mindset is fostered. The design process includes: needs finding; problem identification; prior art searches; strategy and concept generation; estimation; sketching; sketch modeling; machine elements, ergonomics and prototyping. Emphasizes the development of creative designs that is motivated by analytical models. Also includes lectures on specific aspects pertinent to novel devices including intellectual property, marketing, licensing and startups and lean launchpad for startups, provided by Skysong Innovations. Significant communication component as students present ideas in class and at an industry forum. Students also write a publication quality final paper, which they are encouraged to submit to a conference or journal. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; Credit is allowed for only EGR 494 (Mechatronics Device Innovation) or EGR 555 or EGR 598 (Mechatronics Device Innovation) |
| EGR | 556 | System Control and Optimization | Topics include state-space models, Lyapunov stability, controllability and observability, optimization and optimal control, and nonlinear systems and control. Includes both theories and real-world engineering examples/demos, and students apply the advanced control system approaches to self-selected course projects. Prior knowledge in classical linear control theory is necessary to be successful in this course. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EGR 556 or EGR 598 (System Control & Optimization) or MAE 506 |
| EGR | 557 | Foldable Robotics | Organized around new types of robots being developed in research labs and industry across the country, foldable robots are designed and built using layered, flat sheets of a wide variety of materials and folded up to create both form and motion. Design of these devices begins with initial prototypes and proceeds through implementation and optimization, with a focus on application-specific projects that seek to solve problems of cost, parallelism, complexity and time using a relatively fast and easy prototyping method. Students delve deeper into the analytical problems associated with foldable mechanisms in topics such as design, kinematics, manufacturing, dynamics, simulation, optimization and stiffness analysis. Familiarity with programming fundamentals, scripted languages like Python or Matlab, linear algebra, differential equations, calculus, trigonometry and vector math is strongly suggested. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Ira A. Fulton graduate student; Credit is allowed for only EGR 557 or EGR 494 (Foldable Robotics) or EGR 598 (Foldable Robotics) |
| EGR | 560 | Vehicle Dynamics and Control | Covers modeling, estimation, control and optimization of a typical vehicle (sub)system dynamics. Recent advances in automotive technology, such as vehicle electrification and automated/connected driving, further complicate vehicle (sub)systems as nonlinear multi-input-multi-output systems with unmodeled dynamics, structure uncertainties and external disturbances. Thus, effective vehicle control design requires to sophisticatedly combine advanced control theory with knowledge of vehicle characteristics. To achieve this goal, the course introduces a variety of modeling, advanced control, estimation and optimization techniques for typical vehicle (sub)systems. Discusses applications of control theories to various vehicle (sub)system dynamics through examples inspired by pertinent research projects. Extensively utilizes co-simulation between Matlab/Simulink and CarSim® for vehicle dynamics analysis, vehicle control design and verification. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only EGR 560 or EGR 598 (Vehicle Dynamics and Control) |
| EGR | 565 | Qualitative Methods for Engineering Education Research | Provides a deep, empirical exposure to interpretive research methods in engineering education research. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Engineering PhD student |

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| EGR | 572 | Quantitative Methods for Engineering Education Research | Specific quantitative analysis techniques used in the field of engineering education, with special focus on instrument design, ANOVA and multiple regression. Prior coursework or experience with basic statistical techniques is necessary to be successful in this course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Engineering PhD student |
| EGR | 574 | Engineering Education Systems in Context | Provides a systems understanding of current trends in engineering education research to engage engineering education research graduate students with the latest developments in the field in which they will situate their research projects. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Engineering PhD student |
| EGR | 576 | From Then Until Now: Examining Inequities in STEM | Provides a novel opportunity for students to learn about inequities that have persisted in STEM and to challenge the way inclusion is cultivated. Challenges students to become aware of the past, give context to the present and think creatively about new ways forward. Additionally, takes an entrepreneurial approach toward being inclusive. As both teachers and students, in developing critical consciousness, it is imperative that we refute the banking approach to education and constantly work to critically consider our realities. Adopts an inclusive, student-centered pedagogy. Facilitates learning through activities that provide exposure to and experience with critical content. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or non-degree seeking graduate student; Credit is allowed for only EGR 576 or EGR 598 (From Then Until Now: Examining Inequities in STEM) |
| EGR | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 581 | Simulating Manufacturing Systems | Specific modeling and simulation tools used to understand and optimize manufacturing systems operations, with an emphasis on both model building and statistical interpretation of model output. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only EGR 581 or EGR 598 (Simulating Manufacturing Systems) or MFG 581 |
| EGR | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 602 | Principles of Independent Research | Practice of key components of independent research that include project planning, literature survey, interview, data collection and analysis, proposal development, technical writing and presentation. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Engineering PhD student |
| EGR | 608 | Advanced Simulation | Simulation has a central role in design, operation, optimization and evolution of complex systems. There are many tools but they have a common need for rigorous science/math, parameterized models and realistic validation. Uses and compares five common platforms. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Engineering PhD student |
| EGR | 611 | Complex Engineering Systems | Advanced concepts in design and evaluation of engineering systems: subsystems, systems architectures and seamless integration of subsystems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Engineering PhD student |

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| EGR | 671 | Applications of Qualitative Methods for Engineering Education Research | Provides a deep, situated exposure to making and handling data in qualitative engineering education research projects. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Engineering PhD student; EGR 565 |
| EGR | 673 | Applications of Quantitative Methods for Engineering Education Research | Applies quantitative analysis techniques to an engineering education research project. Specific focus on data collection, instrument development, and ANOVA/regression analysis techniques. Prior coursework or experience with basic statistical techniques is necessary to be successful in this course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Engineering PhD student; EGR 572 |
| EGR | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ELL | 504 | Instructional Design for Culturally and Linguistically Diverse Students | Provides a foundation in instructional design to meet the academic and linguistic needs of culturally and linguistically diverse students, with a focus on English language learners. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BLE 404 or ELL 504 or SPE 404 |
| ELL | 515 | Structured English Immersion (SEI) Methods | Addresses the role of language and culture in teaching, program types, and specific SEI strategies for teaching English Language Learners (ELLs). | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BLE 220 or BLE 408 or ELL 515 |
| ELL | 516 | Advanced SEI Methods for ELLs | More fully prepares teachers for linguistically diverse classrooms in which there are students learning through SEI methodology. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ELS | 501 | Environmental Life Sciences: Grand Challenge: Global Climate Change | Introduces first-year graduate students to a range of fields related to the Environmental Life Sciences graduate program. Co-instructed by an interdisciplinary faculty team, combines overview lectures and active discussion of current literature in the fields of inquiry. Culminates in synthetic collaborative research proposals on topics that foster transdisciplinary approaches to environmental life science questions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ELS | 535 | Sustainable Ecosystems | How human activities and management practices alter biodiversity, ecosystem functioning and the provisioning of ecosystem services; use of economic and other social-science perspectives to estimate the value of ecosystem services; evaluation of options for achieving the sustainable flow of services from ecosystems. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only ELS 535 or SOS 535 |
| ELS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | |
| ELS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ELS | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ELS | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ELS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ELS | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ELS | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| EMS | 501 | First Workshop and Orientation | Covers the four learning threads of the EMSL program: global context, strategic sustainability, communications and sustainability, and sustainability leadership. Students engage in meaningful group discussions, field trips and hands-on experiences directly tied to sustainability. Faculty, guest speakers and practitioners engage students in critical thought and apply sustainability theories into real-world scenarios. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): Executive Masters for Sustainability Leadership major |
| EMS | 502 | Global Context I | Examine global sustainability issues, determine materiality for their organization and practice communicating this information to critical stakeholders, i.e., translating the complex global context into compelling organizational realities. Applies tools to identify relevant risks and opportunities within their organizational context and investigates potential responses. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 2 | | Pre- or corequisite(s): EMS 501 or SOS 501 |
| EMS | 503 | Strategic Sustainability I | As a foundational course in strategic sustainability, focuses on sustainability as a strategic lens. Explores the interface among strategy, sustainability and ongoing success, developing a framework for strategic sustainability that underpins authentic and transparent strategic efforts. Identifies the different levels and implications of organizational maturity from a strategic sustainability perspective. Engages in systems mapping, planning and prioritizing methods, tools and techniques to identify and assess strategic opportunities. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 2 | | Pre- or corequisite(s): EMS 501 or SOS 501 |
| EMS | 504 | Communications and Sustainability I | This foundational course for professional communications aims to create chief sustainability storytellers. Helps students survey their internal communications environments, understand their target audiences and their unique customer centricities, and develop their voices through the use of proven story structures and techniques. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 2 | | Pre- or corequisite(s): EMS 501 or SOS 501 |
| EMS | 505 | Sustainability Leadership I | Focuses on emerging sustainability leadership. Students meld powerful and traditional leadership skills while challenging their prior knowledge with a multiple lens examination of leadership in a sustainability context. Provides a view of oneself to prepare students to better understand others. Students create the first phase of their personal plans for their unique needs and individual growth toward sustainability leadership. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 2 | | Pre- or corequisite(s): EMS 501 or SOS 501 |
| EMS | 506 | Global Context II | Building on the skills gained in previous course work, explores proactive response strategies to material global sustainability challenges and opportunities. Examine how organizations can evolve from risk avoidance and compliance to innovation and thought leadership and explores what role they can play as sustainability leaders. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): EMS 502 |
| EMS | 507 | Strategic Sustainability II | Uses reframing, re-visioning and backcasting via a sustainability lens as constructs for introducing strategic sustainability across all aspects of an organization both internally and externally. Students apply and integrate various science-based methods, used successfully by organizations large and small, for developing flexible action platforms for sustainable enterprises. Expects students to create a strategic vision and action plan for an organization. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): EMS 503 |
| EMS | 509 | Communications and Sustainability II | Focuses on audiences and looks at how and where students are telling their stories of sustainability. Students map internal, external and target audiences/markets, strategize channels to reach them with their sustainability stories, and create multi-channel communications plans that incorporate modes of engagement for all audiences. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): EMS 504 |
| EMS | 510 | Sustainability Leadership II | Challenges prior definitions of systems, responsibility and community from a sustainability and leadership perspective. Also provides a toolbox for leading with sustainability as a fundamental success platform. Provides information needed for students to better understand others, a necessary skill to be able to persuasively lead others to transform their organization into a sustainable enterprise. The focus shifts away from being centered around oneself and towards a focus on audience/stakeholders. Students continue to develop their personal leadership skills. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): EMS 505 |
| EMS | 511 | Global Context III | Expands student perspectives beyond the needs of their organizations and considers what could be gained from industry and cross-industry collaborations. Assesses the implications of changes in leadership perspectives to their organizational contexts. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): EMS 506 |

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| EMS | 512 | Strategic Sustainability III | Focuses on expanding efforts for strategic planning and sustainable success beyond the bounds of a given enterprise through strategic collaboration, partnering, innovation and resource development. Applies strategic sustainability as a tool for developing synergistic collaborations and driving innovation for more sustainable enterprises and enterprise systems. Also develops sustainability-informed collaborative approaches to identify and garner resources for strategic imperatives. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): EMS 507 |
| EMS | 513 | Communications and Sustainability III | Ignites the storyteller within as students learn to think like authors; craft their stories in scenes; and produce their presentations to entertain, educate and engage their audiences to move them to action. Reveals the students' transformation into courageous storytellers in presentations that combine their compelling narratives with captivating visual storytelling. Also creates social media editorial calendars to publish their stories to help express their thought leadership in sustainability online. By the end of this course, students learn how to own any room, from the boardroom and break room to the chat room and living room. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): EMS 509 |
| EMS | 514 | Sustainability Leadership III | Focuses on transformational leadership for global success, which requires students to identify and apply pathways to inspire, persuade and influence others to act toward a shared global vision. Some of the challenges that all future sustainability leaders face are future orientation; reframing organizations to be globally scalable yet locally focused; and redefining success and growth using sustainability as a success lens. These are just a few of the challenging tasks that sustainability leaders face. Importantly, sustainable leadership involves being an effective change leader, and this course provides the tools and learning needed to initiate and sustain change. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): EMS 510 |
| EMS | 515 | EMSL Capstone Course I | Guides students through developing their individualized capstone proposal and facilitates interaction with numerous executive-level sustainability leaders and strategists who work in diverse organizations. During spring break, students have the option to participate in a week-long immersive experience in a major U.S. metropolitan area where they directly interact with and provide feedback to other members of their student cohort. The final assignment is development of a sustainability leadership capstone project. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): Sustainability Leadership EMSL student; minimum 3.00 GPA |
| EMS | 516 | EMSL Capstone Course II | Final and culminating course in the EMSL sequence. As such, via initiation of a sustainability capstone project, students apply knowledge and skills learned in all preceding EMSL courses and, especially, what was learned as part of the preceding course during the "immersive" week taught in a major U.S. metropolitan area such as Washington, DC, or Los Angeles, CA. Builds on the capstone proposal previously developed to implement a sustainability leadership project in a specific organization. Thus, students actually initiate that project, track and report its progress, and reflect on the experience going from plan to implementation. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): EMS 508 or EMS 515 |
| EMS | 522 | Mastering the Global Sustainability Context | Leaders in any organizational context face an increasingly connected and transparent world where social and environmental issues must be weighed in everyday decisions, requiring increasingly more proactive response strategies to meet stakeholder expectations and adapt to market and policy dynamics. Explores iconic sustainability issues and trends and their impact on their organization, institutions, communities and stakeholders. Applies tools to identify the relevant risks and opportunities within their organizational context and evaluate and prioritize relevant solutions and management approaches. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): SOS 508 or 510 |

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| EMS | 523 | Strategic Sustainability and Leadership | As sustainability becomes a core strategic goal of any organization, it impacts all aspects of the organization from informing risk and reward to the definitions and dimensions of innovation and overall success. Explores the interface between strategy and sustainability, developing a framework for strategic sustainability that underpins authentic and transparent strategic efforts. Uses reframing, re-visioning and backcasting via a sustainability lens as constructs for introducing strategic sustainability across all aspects of an organization. Explores and applies multiple sustainability-informed approaches, methods and tools to identify, assess and recommend strategic opportunities and adaptable action-pathways. Upon completion, students should be able to use strategic-sustainability knowledge to integrate and apply emerging sustainability approaches and to create strategic visions and action plans for an organization. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): SOS 508 or 510 |
| EMS | 524 | Sustainability Storytelling and Communications | Fundamentals of applying storytelling to sustainability. Leads students through the power of storytelling and effective communications in modern business, nonprofit and government settings. Discovers the why of storytelling, and the neuroscience and anthropology behind its effectiveness. Students learn about communication styles within leadership, their own personal communication strengths and weaknesses, discern the barriers to persuasive communication and storytelling within sustainability, how to remedy common communication missteps, and how to better understand and engage audiences by making them the "hero of the story." Uses digital tools to create and deliver compelling sustainability communications and presentations to any audience, anywhere to enhance the efficacy of sustainability leadership within and outside of an organization. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): SOS 508 or 510 |
| EMS | 525 | Essentials for Transformative Leadership in Sustainability | Melds traditional leadership applications with powerful skills aimed to develop or reawaken innate desires to effect change. Challenges prior knowledge and assumptions with multiple lenses of leadership within a sustainability context while teaching how to lead others. Critically examines prior definitions of systems, responsibility and community from the perspective of sustainability and leadership and provides a toolbox for leading with sustainability as a fundamental success platform. Students create a personal leadership plan for their unique needs and personal growth toward sustainability leadership. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): SOS 508 or 510 |
| EMS | 586 | Introduction to MSL Capstone | Students select and prepare for their final capstone project in the MSL program. Students have an opportunity to present and discuss their concepts and plans with faculty and with other students in the cohort. Students also learn project management techniques for completing their capstone project. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): Sustainability Leadership MSL student; EMS 502; EMS 503; EMS 504; EMS 505; SOS 501 |
| EMS | 587 | MSL Capstone Preparation | Students take their culminating capstone project from proposal to hands-on implementation. Students connect, network, leverage, test, adapt and finally implement their capstone projects. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): EMS 586 |
| EMS | 588 | MSL Capstone | Students complete and fully implement their capstone projects. | N | RSC | N | GNA | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): EMS 587 |
| EMS | 589 | MSL Capstone Project Preparation | One challenge for sustainability leaders is the translation of an idea to an actionable project or program which can lead to sustainable outcomes. Guides students through the initiation and planning stages of a sustainability project, going from theory to hands-on implementation. The capstone is the student's idea in action, allowing him or her to learn to connect, network, leverage, test, adapt and finally implement sustainability solution. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): EMS 522; EMS 523; EMS 524; EMS 525; SOS 508; SOS 509 |
| EMS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Global Futures | School of Sustainability | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EMS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EMS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Global Futures | School of Sustainability | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EMS | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| EMS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EMS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 101 | First-Year Composition | Discovers, organizes and develops ideas in relation to the writer's purpose, subject and audience. Emphasizes modes of written discourse and effective use of rhetorical principles. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): All students; For students for whom English is not the native language, enroll in ENG 107 (or WAC 107). |
| ENG | 102 | First-Year Composition | Critical reading and writing; emphasizes strategies of academic discourse. Research paper required. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 101 or 107 with C or better OR Visiting University Student |
| ENG | 105 | Advanced First-Year Composition | Concentrated composition course for students with superior writing skills; intensive reading; research papers; logical and rhetorical effectiveness. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ACT English score of 26 or above, or SAT Verbal score of 660 or above (or SAT Verbal score of 620 or above if taken before 2016), or Accuplacer score of 8 or above; Credit is allowed for ENG 101 or ENG 105 OR Visiting University Student |
| ENG | 107 | First-Year Composition | For students for whom English is not the native language. Combines classroom and supplemental instruction to teach academic genres of writing, including definition, summary and analysis. Students for whom English is their first language should enroll in ENG 101. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | |
| ENG | 108 | First-Year Composition | For students for whom English is not the native language. Critical reading and writing; emphasizes strategies of academic discourse. Research writing required. Satisfies graduation requirement of ENG 102. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 101 or 107 with C or better OR Visiting University Student |
| ENG | 110 | Approaching Big Problems | Examines how language helps to shape important issues and big questions in the world today. By studying the process of meaning-making, students work toward understanding these issues better and answering these questions. | N | LEC | Y | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | |
| ENG | 130 | Prototyping Dreams | How do you build your dreams? Explores speculative design and inspirational prototyping as a way to imagine and organize worlds. These prototypes do not have to be functional or material, but they must be functional stories, effectively communicating the creator's vision with others. Surveys a number of creative paradigms for imagining alternative worlds that are more ethical and sustainable, and experiments with techniques for physical, digital, literary and artistic prototyping. | N | LEL | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only AME 130 or ENG 130 OR Visiting University Student |
| ENG | 131 | Poetry in America | Through the lens of American poetry, provides highly engaging learning experiences anchored in four central learning outcomes, or "pillars," which form a foundational approach to close reading poems and other texts: making observations, understanding structure and form, situating texts in history and enjoying language. Additionally, students practice critical and creative analysis and reflect on their goals and progress as readers and writers. | Y | LEC | Y | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Credit is allowed for only ENG 131 or ENG 194 (Poetry in America) |
| ENG | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-3 | | Prerequisite(s): freshman standing; maximum 25 hours |
| ENG | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-4 | | |
| ENG | 200 | Critical Reading and Writing About Literature | Introduces the terminology, methods, and objectives of the study of literature, with practice in interpretation and evaluation. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 201 | World Literature | Classical and medieval periods. Selections from the great literature of the world in translation and lectures on the cultural background. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | HU & H & G | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 202 | World Literature | Renaissance and modern periods. Selections from the great literature of the world in translation and lectures on the cultural background. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 203 | Introduction to Health Humanities | Introduces the field of health humanities. Through readings in cultural studies of literature and other media, history of medicine, bioethics, disability studies, cross-cultural and global health, and related scholarly areas, introduces some of the fundamental challenges and debates in this growing interdisciplinary field. Also addresses questions of medical professional ethics and teaches structural awareness of the sociocultural aspects of health and health care. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better |

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| ENG | 204 | Topics in Contemporary Literature | Topics in contemporary literature, which may include narrative and medicine. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 205 | Introduction to Writing, Rhetorics and Literacies | How do we understand the ways in which people in systems--both small and large--social, political, and economic, throughout the world use language and other symbolic resources to carry out work? Three fields of study take this kind of questioning especially seriously: studies in writing, studies in rhetoric, and studies in literacy. Inquiry--that persistent, deliberate commitment to question and to build methods sufficient to that questioning--is a generative force in each of these fields of study. Familiarizes students with such questioning traditions and to help them judge for themselves what each is good for. The goal is to strengthen your own repertoire and decision-making power for producing and circulating work (widely defined across material, print, and digital media) that matters in our risk-ridden world. Quite simply, then, this is a course in asking good questions and in evaluating responses to situations that spur questioning. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 206 | Introduction to Literary Studies | Introduces the terminology, methods and objectives for interpreting and writing about literary and cultural texts. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| ENG | 207 | Elements of English Language and Cultures I | English communication and cultural awareness for international users of English. Relies on the many contexts of English use around the world to teach aspects of grammar, reading, writing, listening and speaking. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 107; ENG 108 |
| ENG | 208 | Elements of English Language and Cultures II | English communication and cultural awareness for international users of English. Relies on the many contexts of English use around the world to teach aspects of grammar, reading, writing, listening and speaking. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 107 with C or better; ENG 108 with C or better |
| ENG | 210 | Introduction to Creative Writing | Beginning creative writing in genres other than poetry and fiction. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 211 | Introduction to English Studies | Introduces key terms and conventions for analyzing and interpreting diverse literary and cultural texts. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 213 | Introduction to the Study of Language | Language as code; phonetics, phonology, morphology, and syntax; the lexicon; language acquisition; sociolinguistics. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 214 | English Grammar and Usage | Fundamentals of English grammar (word and phrase structure), English usage (punctuation, grammatical correctness), and grammatical and usage theory. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 215 | Strategies of Academic Writing | Advanced course in techniques of analyzing and writing academic expository prose. Writing is research based. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 216 | Persuasive Writing on Public Issues | Advanced course in techniques of analyzing and writing persuasive arguments addressing topics of current public interest. Papers are research based. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 217 | Writing Reflective Essays | Critical examination of the influences discourse has on formation of identity; narrative analyses of self and culture. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 218 | Writing About Literature | Advanced writing course requiring analytical and expository essays about fiction, poetry, and drama. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 220 | Gender, Media and Culture | Introduction to gender and the media including magazines, films, advertising, new media, and other popular culture forms. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & C | Credit is allowed for only ENG 220 or WST 220 |
| ENG | 221 | Survey of English Literature | Medieval, Renaissance, and 18th-century literature. Emphasizes major writers and their works in their literary and historical contexts. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 222 | Survey of English Literature | Romantic, Victorian, and 20th-century literature. Emphasizes major writers and their works in their literary and historical contexts. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 228 | Introduction to Shakespeare | - | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105 or 108 with C or better; Credit is allowed for only ENG 228 or 294 (Shakespeare for Teachers) OR (Introduction to Shakespeare) |

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| ENG | 229 | Love and Lust in Medieval Literature | The medieval period, roughly 600-1500, cannot reasonably be called the "dark ages." Indeed, the Middle Ages provides us with a corpus of literature replete with complex characters struggling to live and love, dealing with sin and lust, unity and diversity, faith and reason within a tumultuous cultural milieu and religious rigor, all of which are feeling the winds of changes. Explores medieval literature, noting the astonishing differences from our own time, as well as surprising similarities. Western civilization, our own 21st century, for better or for worse, is indebted to the love and lust of the medievals. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105 or 108 with C or better; Credit is allowed for only ENG 229 or 294 (Love and Lust in Medieval Lit) |
| ENG | 230 | Introduction to Film Studies | Introduces the style and cultural significance of feature films. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 235 | Introduction to Contemporary Theory | Introduces key ideas and concepts in contemporary critical and cultural theory. In addition to the "posts"--postmodernism, poststructuralism, post-Marxism, postcolonial studies, post-feminism and posthumanism--explores new theoretical formations that have emerged in response to our contemporary social condition, such as queer theory, trauma theory, disability studies, cognitive studies, the new "object-oriented" philosophies and materialist theories. And then there's the "trans" domains--transnationalism, transgender studies and transhumanism--which, like so many contemporary theoretical formations opens up new perspectives on where and how we live, who we are and even what we are. The contemporary theories studied in this course provide the tools for understanding 21st-century life and the limits and enjoyments of our humanity. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 235 or ENG 294 (Literary Theory & Interdisciplinary Studies) or ENG 294 (Introduction to Contemporary Theory) |
| ENG | 241 | Literatures of the United States to 1860 | Surveys literary movements and genres from colonization to the Civil War. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 242 | Literatures of the United States, 1860 to Present | Surveys literary movements and genres from the Civil War to the present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 243 | Introduction to Writing Family History | Interdisciplinary writing course on theories, methodologies and issues in writing family history. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 244 | Introduction to Researching Family History | Introduces research methods in family history. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 245 | Popular Culture Issues | Selected topics in various forms of popular culture related to written texts. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 287 | Beginning Creative Writing Workshop in Poetry | Beginning writing of poetry. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 288 | Beginning Creative Writing Workshop in Fiction | Beginning writing of fiction. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-4 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 300 | Your Degree in the World | Inquiry-driven course where students examine the place of an English degree within a larger humanities context, and explore the kinds of work they can do in the world with their education. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 1 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 301 | Writing for the Professions | Advanced practice in writing and editing expository prose. Primarily for preprofessional majors. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 301 or ENG 302 OR Visiting University Student |
| ENG | 302 | Business Writing | Advanced interdisciplinary writing course designed to improve the workplace writing competence of W. P. Carey School of Business professional and preprofessional students. Lecture, discussion, case studies, cooperative learning, interactive, Internet, student presentations. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): W. P. Carey major; ENG 102, 105, or 108 with C or better; minimum 55 hours or junior standing; Credit is allowed for only ENG 301 or ENG 302 OR Visiting University Student |
| ENG | 303 | Classical Backgrounds of English Literature | Readings of Greek and Latin literature in translation as they relate to literature in English. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 304 | Critical Theories and Methods | Covers ideas and concepts in contemporary critical and cultural theory. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| ENG | 305 | Interpretive Theory | Develops interpretive practices necessary for English studies. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |

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| ENG | 307 | Writing Science Fiction | Writing science fiction, primarily the short story. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 308 | Form and History/Culture | Examines how literary and rhetorical forms are situated both historically and culturally. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 309 | Rhetoric for Writers | Students identify, analyze and employ key concepts and theories of rhetoric to understand and compose written texts. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 310 | Intermediate Creative Writing | Intermediate creative writing in genres other than poetry, fiction, or science fiction. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 210 with C or better OR Visiting University Student |
| ENG | 311 | Persuasive Writing | Advanced writing course that focuses on persuasive writing for diverse audiences. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 312 | English in its Social Setting | Introduces the sociolinguistic study of the English language. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | L or HU or SB | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 313 | Phonology and Morphology | The study of language sound-structure (phonology) and word-structure (morphology) in the framework of current linguistic theory. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; ENG 213 or SLC 201 with C or better OR Visiting University Student |
| ENG | 314 | Modern Grammar | Modern descriptive models of English grammar. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 315 | Medieval Literature in Translation | Medieval literature (insular and continental) in translation, from Beowulf to Malory (excluding Chaucer), emphasizing cultural and intellectual backgrounds. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 316 | Literary Readings of the Hebrew Bible | Literary analysis of two of the main genres of the Hebrew Bible: narrative art and poetry. Students learn the main literary conventions of biblical prose and poetry, and how these conventions are applied or subverted. Each class comprises the study of a literary aspect, close readings, and thematic discussions. Biblical texts are read only in translation. They are situated in the religious, literary and artistic traditions that have developed on their basis. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ENG 316, HEB 316, JST 316, REL 316 OR Visiting University Student |
| ENG | 317 | Cross-Cultural Writing | Cultural differences and their impact on writing and/or their role in miscommunication and misinterpretation. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 318 | The Life and Death of Languages | The history of language development, spread and contraction as well as thinking on where language may be going in the future. Discusses how languages differentiate and become new languages, how they mix with each other and how the development of writing can change this process. Maintains a focus on the ways speakers from different language communities have found to communicate through pidgin languages, bilingualism and languages of wider communication. Moreover, discusses the invention of new varieties and languages by people who feel their current choices do not fit their needs. Lastly, in considering what might be needed in the future, addresses issues such as machine translation, brain-to-brain communication, aspects of intergalactic communication posed in science fiction and interspecies communication. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 318 or ENG 394 (The Life and Death of Languages) OR Visiting University Student |
| ENG | 319 | Future of English | This transdisciplinary course investigates what varieties of English are currently used by whom and for what purposes, and attempts to predict the future of English and its significance at the individual, national and global levels. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | G | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 319 or ENG 394 (Future of English) OR Visiting University Student |
| ENG | 320 | Medievalism in Modern Culture | Studies the representation of Medieval narratives, characters, themes, myths, and images in modern culture. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 321 | Shakespeare | Readings in Shakespeare's major comedies, tragedies, histories, romances and/or poems. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 322 | Westerns: Film and Short Stories | A survey of classical short stories and recent films. Focuses on Wister, L'Amour, Grey and Leonard. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 322 or ENG 494 (Westerns: Films and Short Stories) or ENG 494 (Westerns: Movies and Short Novels) |
| ENG | 323 | Rhetoric and Grammar | Practical course taught in the computer lab. Emphasizes rhetorical strategies and grammar for writers. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 324 | Horror: Film and Short Stories | A survey of major writers since 1800, and of classic filmmakers. The historical development of horror in relation to Gothic and grotesque short stories and films. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| ENG | 325 | Restoration and the 18th Century | Writers and movements in nondramatic literature of the restoration and early 18th century. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 326 | English Drama 1660-1800 | English drama 1660-1800. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | HU | |
| ENG | 327 | English Studies Research | How to evaluate and conduct various research methods for different areas of English studies. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 328 | The Novel to Jane Austen | From origins of prose fiction through the 18th century. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 329 | 19th-Century British Fiction | Includes such authors as Austen, Dickens, Eliot and Conrad. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 330 | 19th-Century British Poetry | Romantic and Victorian poets studied in context. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 331 | American Drama | Major works in the development of American drama from its beginnings to the present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 332 | Studies in Race and Ethnicity in Literature and Culture | Investigates racial and ethnic dynamics through literature and culture. | Y | LEC | Y | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| ENG | 333 | American Ethnic Literature | Examines America's multiethnic identity through works of literature that depict American ethnic, gender, and class sensibilities. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 334 | The American Southwest in Literature and Film | Evaluates literary texts and films addressing the diverse literatures and cultures of the American Southwest. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AMS 336 or ENG 334 or ETH 334 OR Visiting University Student |
| ENG | 335 | American Poetry | Themes and developments in American poetry. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 336 | Women, Film and Culture | Critical examination of the way films can reflect, reinforce or challenge mainstream cultural ideas about women. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 336 or WST 330 OR Visiting University Student |
| ENG | 337 | Major American Novels | Major American novels studied in their ethnically diverse literary, historical, and cultural contexts. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 338 | Protest Literature | Examines traditions of social protest literature across a variety of historical periods and literary and rhetorical genres. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, ENG 105, or ENG 108 with C or better; minimum 24 earned hours; Credit is allowed for ENG 394 (Banned Literature), 338 or 440 (American Protest Novels) |
| ENG | 339 | Creating Dramatic Works: Page to Stage to Screen | Practical study of writing, directing, acting and performance techniques essential for the creation of theatrical works for stage, television and theatrical film presentation. | N | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prereq(s): ENG 102, 105, or 108 w/C or better; Credit allowed for only COM 339 or COM 394(Crt Drm Wrk:Pg to Stg&Scrn) or ENG 339 or ENG 394(Crt Drm Wrk:Pg to Stg&Scrn) or IAP 339 or IAP 394(Crt Drm Wrk:Pg to Stg&Scrn) OR Visiting University Student |
| ENG | 342 | 20th-Century British and Irish Literature | Major works in the development of literature since 1900, studied in their historical and cultural contexts. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 343 | Crime: Film and Short Stories | Examines crime in films and in classical and contemporary fiction with a focus on the short story. Explores a range of important topics including the relationship between the law, violence, gender and the legal, political and social impacts of fictional representations of crime and justice. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 344 | Intermediate Family History Research | How to locate records, analyze and interpret evidence, and write a family history narrative. | N | RSC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 345 | Selected Authors or Issues | Different topics may be offered. Film topics with lab may carry 4 credits. May be repeated for credit when topics vary. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3-4 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 347 | Modern Israeli Literature in Translation | Modern Hebrew, or Israeli Hebrew, started at the end of the 19th century in Europe and today it is the language of the State of Israel. During this short period modern Hebrew developed literature with its unique local characteristic, as well as universal ideas. Reads and examines four books against their social and historical background. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ENG 347 or HEB 347 or JST 347 or SLC 347 or ENG/HEB/JST/SLC 394 (Modern Hebrew Literature in Translation) |

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| ENG | 348 | The Borders of Language | In-depth focus on language use, multilingualism and social life in borderlands contexts, in and out of school. Explores the historical and contemporary dimensions of language use in the borderlands, including Indigenous languages, English and Spanish, and hybrid forms. Also introduces theories and methods in the field of linguistic anthropology. Students conduct research on everyday linguistic practice and connect it to broader sociopolitical realities. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only ASB 348 or ASB 394 (The Borders of Language) or ENG 348 or ENG 394 (The Borders of Language) or TCL 348 or TCL 394 (The Borders of Language) |
| ENG | 349 | Global Literary Studies | Studies multiple literatures and cultures across the globe, often deploying transnational and comparative methodologies. | Y | LEC | Y | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 350 | Studies in Literary Histories and Traditions | Studies of one or more literary traditions or historical movements | Y | LEC | Y | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 352 | Short Story | Development of the short story as a literary form; analysis of its technique from the work of representative authors. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 353 | African American Literature: Beginnings through the Harlem Renaissance | Focuses on the history of African American literature through the Harlem Renaissance, as exemplified in selected slave narratives, poems, and fiction. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AFR 353 (or AFH 353) or AMS 353 or ENG 353 or ETH 353 OR Visiting University Student |
| ENG | 354 | African American Literature: Harlem Renaissance to the Present | Examines the literary productions of African Americans from the Harlem Renaissance (about 1920) to the present focusing on fiction, poetry, drama, and essays. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AFR 354 (or AFH 354) or AMS 354 or ENG 354 or ETH 354 OR Visiting University Student |
| ENG | 355 | European Dramatic Traditions | Development of European drama since Aeschylus. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 356 | The Bible as Literature | Readings in the Jewish and Christian Scriptures in modern translation. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 359 | Indigenous American Literature | Selected oral traditions and contemporary works by Indigenous American authors. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 360 | Western American Literature | Critical examination of ideas and traditions of the literature of the western United States, including the novel. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 361 | Scriptwriting | The art of scriptwriting using 10-minute plays as the platform. Designed to help students learn craft techniques and to expose them to the various forms of the 10-minute script. Includes lectures, writing assignments, discussion, and criticism. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 362 | Film and Media Franchises | Students gain an appreciation for film and media franchises by studying their production, reception and cultural significance. | Y | LEC | Y | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, ENG 105, ENG 108, FMS 100, or FMS 200 with C or better, or minimum 45 hours; Credit is allowed for only ENG 362 or FMS 362 OR Visiting University Student |
| ENG | 363 | Transborder Mexican and Chicano/a Literature of Southwest North America | Development of Chicana and Chicano literature; study of genres and themes; attention to literary antecedents. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 363 or TCL 363 OR Visiting University Student |
| ENG | 364 | Women and Literature | Approaches to issues of gender and representation in literature by and about women. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 365 | History of Film | Development of motion pictures. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3-4 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 366 | Literature on Film | Studies literary texts and their adaptation to film. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 367 | Environmental Issues in Literature and Film | Evaluates literary texts and films that address interconnected cultural, historical, and environmental issues. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 368 | Art of the Personal Essay | Writing personal essays drawing on both research and personal experience. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 369 | Science Fiction Studies | Development of science fiction and fantasy literature. May be repeated for credit when topics vary. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 370 | Science, Values, and the Public | Examines science, communication, and a range of public opinion to understand science as a discourse of profound social power. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 35 hours; Credit is allowed for only BIO 315 or ENG 370 |
| ENG | 371 | Rhetoric of the Environmental Movement | Examines how language is used to conceptualize, clarify/obfuscate, and resolve problems among those who concern themselves with the disposition of natural resources. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |

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| ENG | 373 | Publishing in Literary Magazines | Analyzes the history, publishing preferences, editorial staff, and submission guidelines of literary magazines. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 374 | Technical Editing | Fundamentals of editing technical and professional materials. Role of editors in analyzing, revising, and polishing manuscripts. Successful writer-editor dialogues. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 375 | Titans of Business | Explores leading CEOs and corporations from a humanities perspective. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 376 | Writing a Personal History | Interdisciplinary writing course emphasizing theories, methodologies, and issues of composing personal histories. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 376 or VTS 376 OR Visiting University Student |
| ENG | 377 | Editing Family History for Public Audiences | Fundamentals of editing family writing. Role of editors in analyzing, revising, and polishing manuscripts for publication. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 378 | Environmental Creative Nonfiction | Lectures, discussion, and criticism concerning the literary history of nature writing and techniques of writing environmental creative nonfiction for publication. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 379 | Travel Writing | Studies the genesis of travel writing, what theories inform travel writing, and the various genres of travel writing today. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 384 | Studies in Gender and Sexuality in Literature and Culture | Approaches to issues of gender and sexuality in literary and cultural texts. May focus on historical period, literary movement, genre, single author, literary theory, theme or other field of study. | Y | LEC | Y | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 385 | Career Development for English Majors | Theoretical and practical aspects of career planning related to skills and interests developed in English studies. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 386 | American Gothic | The development of modern American Gothic as a literary form from Poe to Oates. Emphasizes the short story. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 387 | Intermediate Creative Writing Workshop in Poetry: Form, Theory, and Practice | Intermediate writing of poetry. Requires term paper or equivalent out-of-class written work. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 287 with C or better OR Visiting University Student |
| ENG | 388 | Intermediate Creative Writing Workshop in Fiction: Form, Theory, and Practice | Intermediate writing of fiction. Requires term paper or equivalent out-of-class written work. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 210 or 288 with C or better OR Visiting University Student |
| ENG | 390 | Methods of Inquiry | Studies in writing, rhetoric and literacy are multiple and diverse because these areas deal with complicated ways people create meaning, circulate meaning, and understand meaning in a variety of contexts and a variety of modal formats. Examines ways of developing research problems and questions, designing studies and conducting, reading and evaluating research in the areas of writing, rhetoric and literacy. Qualitative methods (e.g., case study, ethnographic methods, interviewing); historical methods (e.g., archival, document analysis and artifact interpretation); rhetorical analysis and discourse analysis; feminist approaches to research and analysis; and recent advances in research in the fields of rhetoric, writing and literacy studies. Investigates the many attitudes and assumptions about creativity and cultural work that make methods of inquiry as controversial as they are significant to contemporary public life. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 391 | Writing in Context | How do we understand the ways in which people use written language to carry out work in professional, academic, social and/or personal contexts? How does our understanding of the ways writing is produced for an audience shift between and among these different contexts? More importantly, how do writers adapt their writing practices in order to facilitate audience understanding as well as cultivate an audience's capacity for action? Familiarize students with rhetorical practices that position them to read, assess and respond to the rhetorical demands of a wide range of writing contexts. Strengthens students' existing rhetorical skill sets and problem-setting capacities for producing and circulating work (widely defined across material, print and digital media) that responds to a range of problems in an applied manner. Assesses the rhetorical demands of writing contexts and in developing and producing tailored, audience-specific texts that forward work in complex, interdisciplinary environments. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |

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| ENG | 392 | History of Rhetorical Theory | Begins in ancient Greece with the rise of the art of public oratory (known as rhetoric) and ends in the present, an era dominated by mass media. Engages in a great deal of reading--lots of very old writings as well as some newer ones. Covers a great many topics and ideas; focuses by continually returning to the subject of public discourse. Challenging readings designed to emphasize the connection between systems of philosophy (or "worldview") and systems of communication. By focusing on big ideas, students become a better thinker and communicator in any chosen career. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| ENG | 393 | Theories of Literacy | While theories of literacy have, for the most part, been determined by the primacy of reading and writing script, more recent scholarship in literacy theory and history has served to challenge such limitations. Many contemporary perspectives on literacy view scripted text as one component of complex acts and practices of written communication that occur in social contexts. Studies that examine such communicative acts in their local contexts reveal that literate practices and the texts that are produced are imbued with social and cultural values and traditions and the needs and desires of individuals. As the statements above illustrate, theories of literacy themselves are embedded within the values and assumptions of individuals, institutions, and academic specialization. Examines some of these theories, their influences on academic scholarship and pedagogy, the ideological assumptions that inform them, and how we might view these theories within broader social-cultural landscapes. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-4 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 395 | Combat in Film | Interdisciplinary approach to and qualitative method for analyzing war movies and military dramas as both historical and cinematic narratives that represent the experiences of infantry marines and soldiers in 20th- and 21st-century U.S. wars. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 394 (Combat in Film) or ENG 395 or FMP 395 or HST 306 (Combat in Film) or HST 395 or VTS 395 OR Visiting University Student |
| ENG | 400 | History of Literary Criticism | Major critics and critical traditions in the Western world. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; one ENG 200- or 300-level literature course with C or better OR ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| ENG | 401 | Topics in Critical Theory | Major critical schools of recent decades--postcolonialist, psychoanalytic, deconstructionist, feminist, new historicist. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours OR Visiting University Student |
| ENG | 403 | Semantics | Program and methods of contemporary formal semantics. Characterizes knowledge of meaning as knowledge of truth conditions. The goal of semantics is thus to uncover the rules that allow the speakers of a language to know under what conditions any sentence is true; or in other words, to construct a theory of truth for natural language. Simple fragments including: predication, quantification, definite descriptions, simple temporal and modal expressions, and attitude verbs. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; ENG 213 or SLC 201 with C or better; minimum 56 hours OR Visiting University Student |
| ENG | 404 | Studies in Second Language Acquisition | Specialized topics in second language teaching and learning, including theory, pedagogy, curriculum, and assessment. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; ENG 213 or SLC 201 with C or better; minimum 56 hours OR Visiting University Student |
| ENG | 408 | Gender, Sexualities and Literacies | Presents diverse perspectives on gender, sexualities and literacies from preschool to adulthood. Focuses on race, ethnicities, sexual orientation and gender identities to provide overviews of current research on gender, sexualities and ethnicities and examines how these subjectivities are expressed in multiple modes of communication. Explores representations and performances of gender and sexualities through literacy practices in sociocultural and educational contexts. Explores related issues through textbook readings, videos, websites, activities, online discussions and projects. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): min 45 hrs; Crdit is allwd for only ENG 408 or WST 408 or ENG 494 (Gndr, Sexualities, & Lit) or ENG 598 (Gndr, Sexualities, & Li) or MAS 598 (Gndr, Sexualities, & Li) or WST 494 (Gndr, Sexualities, & Lit) OR Visiting University Student |
| ENG | 409 | Analyzing Rhetoric | Provides students with the tools and methods by which the effectiveness, truthfulness, ethicality, and/or artistry of persuasive speech and language can be evaluated. Students take a systematic approach to analyzing rhetoric on a variety of selected topics. | Y | LEC | Y | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 409 or ENG 494 (Analyzing Rhetoric: Fake News & Alternative Facts) |

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| ENG | 410 | Writing for Publication | Lectures and conferences concerning techniques of writing for publication. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 200 and one 200-level literature course with C or better, OR New College undergraduate student with minimum 45 hours |
| ENG | 411 | Advanced Creative Writing | Advanced creative writing in genres other than poetry, fiction, creative nonfiction, or screenwriting. | N | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ENG 310 with C or better |
| ENG | 412 | Creative Nonfiction | Lectures, discussion, and criticism concerning techniques of writing creative nonfiction for publication. | N | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ENG 310, 388 or 411 with C or better |
| ENG | 413 | History of English Language | Development of English from the earliest times to the modern period. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 413 or LIN 517 OR Visiting University Student |
| ENG | 414 | Studies in Linguistics | Specialized topics in linguistics including phonology, syntax, semantics, pragmatics, discourse, language variation, and change. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; ENG 213 or SLC 201 with C or better; minimum 56 hours OR Visiting University Student |
| ENG | 415 | Studies in Medieval Literature and Culture | Medieval English and continental literature in translation, emphasizing cultural and intellectual backgrounds. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours OR Visiting University Student |
| ENG | 416 | Chaucer in Middle English | Yearly alternate between Chaucer's The Canterbury Tales and Troilus and Criseyde. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours OR Visiting University Student |
| ENG | 417 | Virtual Worlds for Global Communication | Explores the nature of virtual worlds and the multiple uses of these three-dimensional environments (also called metaverses) for new literate and global communications in the 21st century. Uses a combination of a textbook; Blackboard; popular virtual worlds, including Second Life (SL), and Internet resources (e.g., Web sites, e-discussion lists, YouTube videos) to explore the potential of virtual worlds. Explores the capabilities of several of the more than 70 virtual worlds for education, recreation, advancing social justice, global communication, socializing and networking. Participants critically examine the affordances of virtual worlds through readings, videos, online discussions, self-paced tutorials and brief reaction papers. Students receive demonstrations and guided tours by the professor and participate in individual and group explorations of virtual worlds | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 36 hours; Credit is allowed for CMN 598 (Virtual Worlds) or ENG 417 or ENG 494 (Virtual Worlds) or MAS 598 (Virtual Worlds) |
| ENG | 418 | Renaissance Literature | Prose, poetry, and drama of the Renaissance Era with an emphasis on cultural history. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| ENG | 419 | Writing for Podcasts | Focuses on digital communication skills, which are highly valued by companies and nonprofits. Increases awareness and understanding of how podcasts require specific attention to context, audience and meaning making. Emphasizes the theory and practical rhetorical conventions for social and digital media. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only ENG 419 or ENG 494 (Writing in Digital Communities) OR Visiting University Student |
| ENG | 420 | Multicultural Autobiographies | Examines the human experience via autobiographies and personal narratives. Multicultural, literary, and psychological perspectives on individual lives. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | (L or HU) & C | Prereq(s): ENG 101, 105, or 107 w/ C or btr; ENG 200 w/ C or btr; one 200-level lit course w/ C or btr OR New College ugrd std; ENG 101, 105, or 107 w/ C or btr; min 45 hours; Credit is allowed for only ENG 420 or IAS 420 OR Visiting University Student |
| ENG | 421 | Studies in Shakespeare | Close examination in selected dramatic and/or nondramatic works. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; ENG 110 or 200 with C or better; one ENG 200- or 300-level literature course with C or better OR ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |

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| ENG | 422 | Special Topics in Shakespeare | Close examination in selected dramatic and/or nondramatic works. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; ENG 110 or 200 with C or better; one ENG 200- or 300-level literature course with C or better OR ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| ENG | 423 | Renaissance Drama | Topics, authors, and themes in the drama of the Tudor and early Stuart periods. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| ENG | 424 | Milton | Selected prose and poetry, emphasizing Paradise Lost, Paradise Regained, and Samson Agonistes. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours |
| ENG | 425 | Studies in Romanticism | Romanticism in continental, British, and American literature and culture. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours OR Visiting University Student |
| ENG | 426 | British Culture and Empire | Examines British imperial culture in art and literature, 1870-1914, and postcolonial theory. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours |
| ENG | 427 | Studies in 18th-Century Literature and Culture | Literary, social, and cultural issues of the period studied in an interdisciplinary format. May be repeated for credit when topics vary. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours |
| ENG | 428 | The Pre-Raphaelites | Visual and literary works by Victorian Pre-Raphaelites as works in themselves and through relations between images and texts. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours; Credit is allowed for only ARS 435 or ARS 533 or ENG 428 |
| ENG | 429 | Studies in European Literature and Culture | Literary, cultural, and historical issues. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s) with C or better: ENG 101, 105, 107; ENG 200; one ENG 200- or 300-level literature course OR ENG 101, 105, 107; min 45 hours; Credit is allowed for only CEL 429 or ENG 429 or REL 429 or SLC 429 or THE 429 OR Visiting University Student |
| ENG | 430 | Studies in Victorian Literature and Culture | Literary, social, and cultural issues of the period studied in an interdisciplinary format. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| ENG | 431 | Whitman and Dickinson | Evaluates the 19th-century American Literary Renaissance through the specialized examination of its poetry and authors in their historical context. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 w/ C or better; ENG 200 w/ C or better and one 200-level literature course w/ C or better OR New College undergraduate student; ENG 101, 105, or 107 w/ C or better; minimum 45 hours OR Visiting University Student |
| ENG | 432 | The American Renaissance | Novels, poetry, short fiction, and criticism of the major literary figures of the early to mid-nineteenth century. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): ENG 200 with C or better; one 200-level literature course with C or better OR New College undergraduate student; minimum 45 hours OR Visiting University Student |
| ENG | 433 | Literary Magazine Publishing: Canyon Voices | Practical study of literary magazine production. Students learn every facet of curating and producing an issue of Canyon Voices literary magazine, from reading and reviewing submissions, to editing and designing the magazine, to soliciting submissions. In addition, students learn to organize a public literary reading that showcases the artists and writers featured in the magazine and fosters a literary presence in the community. | N | LEL | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |

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| ENG | 434 | Studies in the Literature and Culture of the Americas | Literature and culture of North America, South America, and the Caribbean. May be repeated for credit when topics vary. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours |
| ENG | 435 | Literatures and Cultures of Immigration and Diaspora | Specialized topics in literary and cultural representations of immigration and diaspora studied in an interdisciplinary context. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours |
| ENG | 436 | Studies in Anglophone Literature and Culture | Literary, social, and cultural issues of English-speaking former colonial territories. May be repeated for credit when topics vary. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours OR Visiting University Student |
| ENG | 437 | The American Novel, 1900 - 1960 | Developments in theory and practice of major novelists. | N | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 w/ C or better; ENG 200 w/ C or better and one 200-level literature course w/ C or better OR New College undergraduate student; ENG 101, 105, or 107 w/ C or better; minimum 45 hours OR Visiting University Student |
| ENG | 438 | American Novel Since 1960 | Major novelists of the period. Developments in theory and practice. | N | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 w/ C or better; ENG 200 w/ C or better and one 200-level literature course w/ C or better OR New College undergraduate student; ENG 101, 105, or 107 w/ C or better; minimum 45 hours OR Visiting University Student |
| ENG | 439 | Technoliteracies | Critically explores the nature of digital communications and expanded definitions of what counts as text and as literate expression in the 21st century. Emphasizes the 21st-century skills and abilities required for and fostered by digital communications (e.g., collaboration, multitasking, intertextual analyses) and examines the newest technologies that enable digital communications (e.g., digital storytelling, virtual worlds, social media, digital crafting, video gaming/modding). In doing so, focuses on the intersections of technologies and the arts as literate communications with implications for teaching and learning. Participants explore these topics through readings, videos and Web sites and by reflecting on their own experiences. Students respond to questions/prompts through online discussions, reflective thought papers, and media or virtual presentations. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 36 hours; Credit is allowed for only ENG 439 or ENG 494 (Technoliteracies) or MAS 598 (Technoliteracies) |
| ENG | 440 | Studies in American Literature and Culture | Various genres in their literary, political, theoretical, and historical contexts. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours OR Visiting University Student |
| ENG | 441 | Introduction to Participatory Media | The spread of participatory media, ranging from zines, e-zines, podcasting and video production tools to video games and virtual worlds has led to significant changes in how we communicate, learn, collaborate, network and create. Introduces theory and research on participatory media and the changing nature of "literacy" in a media age to "literacies." Addresses key concepts and issues, such as language, identity, access and community. Explores these topics through engaging in readings, videos and Web sites; by reflecting on their own experiences; and by responding to questions/prompts through online discussions, thought papers, social media or virtual presentations. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 36 hours; Credit is allowed for only CMN 598 (Intro to New Media) or ENG 441 or ENG 494 (Intro to New Media) or ENG 598 (Intro to New Media) or MAS 598 (Intro to New Media) OR Visiting University Student |
| ENG | 442 | Studies in 20th-Century British and Irish Literature and Culture | Major literary genres (novel, poetry, and drama) in their cultural and historical contexts. May be repeated for credit when topics vary. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| ENG | 443 | Gender, Culture and Literacy | Explores the interactions and influences of gender and culture on literacy development and practice. Literacy is defined broadly as including the new literacies (e.g., blogs, wikis, zines or self publications) and multiliteracies (e.g., communication through oral, lyrical, visual, digital or written texts) within a broad view of what counts as text. Addresses varying feminist theories and perspectives on masculinities and gender in relation to literacy in home, school, community and work place settings. Participants explore their own written, digital and oral language practices through readings, videos, Web sites, Blackboard discussions, self-reflections, thought papers and action research essays. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 36 hours; Credit for only ENG 443 or ENG 494 (Gender, Culture & Literacy) or MAS 598 (Gender, Culture & Literacy) or WST 415 or WST 494 (Gender, Culture & Literacy) OR Visiting University Student |
| ENG | 444 | Topics for Interdisciplinary Study of Literature and Culture | Uses methodologies from literary studies and other disciplines to understand a topic or problem. Interdisciplinary areas may include fields such as environmental humanities or American studies, as well as other areas of interdisciplinary study. | Y | LEC | Y | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 445 | Studies in American Realism | Writers and influences that shaped the development of literary realism. May be repeated for credit when topics vary. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| ENG | 446 | Visual Narratives | Students analyze and compose visual narratives (e.g., picture books, comics, graphic novels, film, animation, video games). | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 446 or ENG 520 OR Visiting University Student |
| ENG | 447 | Experimental Narrative | Examines texts that experiment with form, content and narrative perspective within print, film and digital media. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only ENG 447 or FMS 442 or SLC 450 OR Visiting University Student |
| ENG | 448 | Studies in Irish Literature and Culture | Themes and problems pertaining to Irish literature, film, and social and cultural history. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours OR Visiting University Student |
| ENG | 449 | Masculinities, Femininities and Literacies | Explores perspectives on and representations of masculinities and femininities in literacy development and practice. Addresses, beginning with adolescence, a time of identity exploration, feminist and gender perspectives in relation to oral language, reading, writing and electronic communications in home, school, community, education and work settings. Examines gender performance as a local/global issue. Explores the influence of gender on written, digital and oral language practices through textbook readings, videos, websites, self-reflections, thought papers and/or alternative format responses to weekly questions on the course materials, and Blackboard discussions. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 36 hours; Credit is allowed for only ENG 449 or ENG 494 (Masculinities, Femininities, and Literacies) or MAS 598 (Masculinities, Femininities, and Literacies) or WST 417 or WST 494 (Masculinities, Femininities, and Literacies) |
| ENG | 450 | The British Novel | Focuses on the British novel from the 18th century to the present. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Pre-requisites: ENG 200 with C or better and one 200-level literature course with C or better OR New College undergraduate student and minimum 45 credits |
| ENG | 452 | Studies in the Novel | May be repeated for credit when topics vary. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours OR Visiting University Student |
| ENG | 453 | Studies in the American Novel | Poetics and politics of the novel, 18th through 21st centuries. May be repeated for credit when topics vary. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours |
| ENG | 454 | Gender and Literature | Focuses on the representation of gender in literature. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ENG 454 or WST 454 OR Visiting University Student |
| ENG | 455 | Contemporary Women Writers | Critical examination of literature by contemporary women writers. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| ENG | 456 | Studies in Forensic Linguistics | Focuses on the three main aspects of that branch of applied linguistics, namely language and the law, court cases where language is the central dispute, and linguistic evidence. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 456 or FOR 456 or PAX 456 or SBS 456 |
| ENG | 457 | Studies in American Poetry | May be repeated for credit when topics vary. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours OR Visiting University Student |
| ENG | 458 | Latina/o Literature | Development of Latina/o literature. Study of genres and themes; attention to literary antecedents of the new U.S.-based Latina literature. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & C | Prerequisite(s) with C or better: ENG 101, 105, or 107; ENG 200; one ENG 200- or 300-level literature course OR ENG 101, 105, or 107; min 45 hours; Credit is allowed for only ENG 458 or FMS 464 or TCL 464 OR Visiting University Student |
| ENG | 459 | Studies in African American/Caribbean Literatures | Studies in African American or Caribbean literatures according to genre, period, theory, or selected authors. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & G | Prerequisite(s) with C or better: ENG 101, 105, or 107; ENG 200; one ENG 200- or 300-level literature course OR ENG 101, 105, or 107; minimum 45 hours; Credit is allowed for only AFR 459 or ENG 459 OR Visiting University Student |
| ENG | 460 | Ethnic Women Writers | Concentrates on selected women writers of the U.S. who are Native American, African American, Hispanic, and Asian American. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 200 with C or better; one 200-level literature course with C or better OR Integrative Sciences & Arts or New College undergraduate student; minimum 45 hours; Credit allowed for only ENG 460 or WST 467 OR Visiting University Student |
| ENG | 461 | Studies in Women and Literature | Advanced topics in literature by or about women. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours |
| ENG | 462 | Africana Literature | Focuses on the literature of the African Diaspora, including texts from the Caribbean, the Americas, and Africa. May be repeated for credit when topics vary. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & G | Prerequisite(s): ENG 200 with C or better and one 200-level literature course with C or better OR Integrative Sciences and Arts or New College undergraduate student with minimum 45 earned hours |
| ENG | 463 | African American Literature | Thematic and cultural study of African American literature. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 200 with C or better and one 200-level literature course with C or better OR Integrative Sciences and Arts or New College undergraduate student with minimum 45 earned hours |
| ENG | 464 | Great Directors | Studies the work of one or more influential directors. | N | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 465 | Studies in Film | Advanced topics in cinema. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3-4 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 466 | Studies in International Film | Studies non-American narrative film. | N | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 467 | American Film Musicals | A cultural history of American film musicals. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 468 | Environmental Literary Criticism | Evaluates the disparate critical practices that constitute what is the emerging literary project known as "ecocriticism" or "environmental literary criticism." | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 469 | Science and Literature | Historical and theoretical links between science and literature, from Francis Bacon to the present, examined in cultural context. May be repeated for credit when topics vary. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours; Credit is allowed for only DST 469 or ENG 469 OR Visiting University Student |
| ENG | 470 | Studies in Children's Literature | Various critical approaches and recurring themes studied in relation to classical and contemporary children's literature. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; one other ENG course with C or better OR Visiting University Student |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| ENG | 471 | Literature for Young Adults | Prose and poetry that meet the interests and capabilities of junior high and high school students. Stresses recent literature. A passing grade of at least "C" (2.00) required before students are permitted to student teach in English. | N | REC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; ENG 110 or 200 with C or better; one ENG 200- or 300-level literature course with C or better OR ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| ENG | 472 | Rhetorical Studies | Developments in theory and practice of major rhetorical inquiries. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| ENG | 473 | Critical Approaches to Children's Literature | Reads picture books, chapter books and fairy tales and analyzes these texts through multiple critical lenses (e.g., feminist, Marxist, historical, structuralism, formalist). | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 473 or ENG 394 (Reading Children's Literature) |
| ENG | 474 | Review Writing | Advanced writing course exploring rhetorical approaches to writing reviews. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Pre-requisites: Completed ENG 102, 105, or 108 with C or better; Minimum 56 hours |
| ENG | 475 | Popular Periodical Writing | Advanced writing course analyzing and imitating genres in popular periodical writing. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | L | Pre-requisite(s): Completed ENG 102, 105, or 108 with C or better. Minimum 56 hours |
| ENG | 476 | Studies in Folklore | Surveys the history, genres, and dynamics of folklore, with emphasis on oral traditions. May be repeated for credit when topics vary. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours OR Visiting University Student |
| ENG | 477 | World Literature | Readings in world literature, mostly outside the United States and England. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | (L or HU) & G | Prerequisite(s) w/ C or better: ENG 101, 105, or 107; ENG 200; one 200-level lit course OR Integrative Sciences & Arts or New College ugrad std; ENG 101, 105, or 107; min 45 hours; Credit allowed for only ENG 477 or IAS 477 OR Visiting University Student |
| ENG | 478 | Studies in Modernism | Cultural, historical, and literary issues in American and European modernism. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours |
| ENG | 479 | Studies in Postmodernism | Literary, social, and cultural topics in postmodernism. May be repeated for credit when topics vary. | N | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & G | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours |
| ENG | 480 | Methods of Teaching English: Composition | Methods of instruction, organization, and presentation of appropriate content in the teaching of composition and other writing skills. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; one other ENG course with C or better OR Visiting University Student |
| ENG | 482 | Methods of Teaching English: Language | Methods of instruction, organization, and presentation of appropriate content in language and usage for junior and senior high schools. | N | REC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours OR Visiting University Student |
| ENG | 483 | Methods of Teaching Secondary Literature and Language | Emphasizes educational methods of planning, teaching, and assessing appropriate content in the instruction of secondary literature, literacy, and language usage. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ENG 200 with C or better and one 200-level literature course with C or better OR New College or Integrative Sciences and Arts undergraduate and minimum junior academic level and one 200-level (or higher) English course with C or better |
| ENG | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| ENG | 485 | Digital Tools | Digital (online, electronic) tools as best utilized in language arts curriculum and instruction for junior and senior high schools. Addresses many practical classroom matters; broadens knowledge of Web 2.0 opportunities for teaching and learning. Creates a detailed inventory of the digital tools familiar to secondary students, and compares these to what a clever English teacher can access in a public school classroom. Imaginations, studies, and designs digital tools to enhance student achievement. Uses digital tools to increase student access to history and culture and opportunities for individuals to find and articulate their voices, as well as opens avenues for their creativity. Empowers the English language arts classroom with critical understandings of media, culture and public relations (digital information manipulation) and develops secondary students from passive consumers to literate participants in democracy. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): English (Secondary Education) BA major; ENG 102, 105, 108 and one other ENG course with C or better |
| ENG | 486 | Teaching Text | Approaches to texts (poetry, nonfiction and fiction) as best utilized in language arts curriculum and instruction for junior and senior high schools. Language arts teachers want all of their students to love literature and become immersed in the texts they assign (poems, short stories, plays, nonfiction and informative texts, and novels). Explores activities and philosophies for building a strong reading workshop in the secondary language arts classroom. Through identifying proficient readers, conducting thoughtful conversations about students and reading, and using a variety of ways to invite readers into books, designs and experiences reading workshops based on innovative and effective teaching strategies. Offers hands-on strategies for supporting struggling readers and for teaching reading from a critical lens. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): English (Secondary Education) BA major; ENG 102, 105 or 108 and one other ENG course with C or better; Credit is allowed for only ENG 486 or ENG 598 (Teaching Text) OR Visiting University Student |
| ENG | 487 | Advanced Creative Writing Workshop in Poetry | Advanced writing of poetry. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 310 or 387 with C or better; Credit is allowed for only ENG 411 or ENG 487 OR Visiting University Student |
| ENG | 488 | Advanced Creative Writing Workshop in Fiction | Advanced writing of fiction. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 388 with C or better; Credit is allowed for only ENG 411 or ENG 488 OR Visiting University Student |
| ENG | 489 | Scholarly Products | Students develop culminating projects that demonstrate comprehensive knowledge and command of skills within the field of English studies. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 87 hours OR Visiting University Student |
| ENG | 490 | Literary Forms: Theory and Practice in Poetry | Types, history, analysis of traditional forms, and contemporary adaptations. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 411 or 487 with C or better; Credit is allowed for only ENG 490 or ENG 495 |
| ENG | 491 | Topics for Advanced Research | Students define a conceptual question related to a specific topic in literary scholarship; conduct appropriate research; and craft a response or argument that assesses the question, the evidence and possible responses to it. | Y | LEC | Y | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | The College of Liberal Arts and Sciences | Department of English | 1-6 | | Prerequisite(s): Barrett Honors student |
| ENG | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | The College of Liberal Arts and Sciences | Department of English | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ENG | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-4 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-6 | | Prerequisite(s): Barrett Honors student |
| ENG | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-7 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | Department of English | 1-3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 501 | Approaches to Research | Theories, methods and/or methodologies as well as qualitative and/or quantitative approaches to the specific discipline. Familiarizes students with the areas of research. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only ENG 501 or LIN 501 |
| ENG | 502 | Contemporary Critical Theories | Studies the principles and techniques of contemporary theory and criticism. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| ENG | 503 | History of Narrative | Historical overview of narrative as a mode of discourse and communication. Begins with the study of influential traditional narrative forms from Biblical and classical sources and moves to study innovation in narrative, including flashbacks, interior monologue, nonlinear narrative and frustration of narrative expectations. | N | SEM | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 504 | Cross-Cultural Studies | Theoretical and analytical issues for comparative research across distinct cultural regions and traditions. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 505 | Narrative Research Methods | Addresses narrative and arts-based forms of qualitative research. Focuses on reporting study findings in narrative form. | N | SEM | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 506 | Methods and Issues in Teaching Language | Developing the language skills of native and non-native speakers through a process approach and advanced writing workshops in junior and senior high schools. | N | REC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 507 | Methods and Issues in Teaching Composition | Up-to-date theory, practice, and implementation of secondary writing instruction. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 509 | Studies in Narrative Writing | Writing course focusing on specific kinds of narrative writing (e.g., blogging, travel writing). Regardless of particular topic focus, this course covers basic structural issues in narrative writing and gives students practical and applied experience crafting their own narratives for multiple audiences. | Y | SEM | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 513 | Classic Texts in Leadership and Statesmanship | Encounters classic texts featuring analyses and discussions of important historical leaders and their actions. These texts both situate examples of leadership and statesmanship in their historical context, and highlight timeless principles of wise and effective leadership. Texts include Thucydides' History of the Peloponnesian War, Plutarch's Lives, Cicero's On Duties, Shakespeare's histories, and the writings and speeches of Abraham Lincoln. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CEL 513 or ENG 513 |
| ENG | 514 | Studies in Experimental Narrative | Critical analysis of experimental or unconventional narratives, including nonlinear narrative, surrealist narrative and metanarrative. Course materials include both text and visual narratives. | N | SEM | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 516 | Literary Publishing | Explores various aspects of literary publishing, including market profile of journals, techniques for preparing submissions, role of literary awards and contests. | N | SEM | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 517 | History of the English Language | Surveys the development of the English language, with an emphasis on major linguistic transformations. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ENG 413 or ENG 517 or LIN 517 |
| ENG | 518 | Scientific Narratives | Examines how fictional narratives have shaped popular constructions of science and how scientific works can be read as narrative. Coursework emphasizes critical thinking, discussion and argumentative writing. | N | SEM | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 519 | Superstition Review | Students collaborate to complete tasks that lead to the publication of one issue of the national online literary magazine Superstition Review. | N | PRA | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 520 | Visual Narratives | Students analyze and compose visual narratives (e.g., picture books, comics, graphic novels, film, animation, video games) and explore relevant theory and research. | N | SEM | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ENG 446 or ENG 520 |
| ENG | 521 | Writing the Southwest | Cultural representation in twentieth-century narratives of the Southwest United States. Focuses on canonical and noncanonical texts and addresses multiple representations of race, time periods and genres in the Southwest literature. | N | SEM | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 522 | Narratives of Conquest | Critical study of narratives relating/responding to the conquest of the Americas from the fifteenth century to the present. Addresses conquest narratives that reflect the Spanish colonization period (1510-1810) and the United States colonization period (1848-1965) in the Southwest. Chosen texts illuminate themes related to the nature of colonial relationships, notions of barbarie/civilization and empire building | N | SEM | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 525 | Teaching Second Language Writing | Provides a critical introduction to the field of second language writing as well as issues and strategies in the teaching of second language writing in a wide variety of contexts. After exploring various instructional contexts as well as the characteristics of different types of students and their texts, considers various instructional practices and strategies, focusing on course and assignment designs, reading-writing connection, teacher and peer feedback, grammar instruction, classroom assessment, plagiarism and text borrowing strategies, and negotiating language differences. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking)Credit is allowed for only LIN 525, 591 (Teaching 2nd Language Writing) or ENG 525 |
| ENG | 530 | Old English | Study of Old English grammar, syntax, and phonology, with selected readings. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| ENG | 531 | Old English Literature | Intensive literary, linguistic, and cultural study of Old English literature. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; ENG 530 |
| ENG | 532 | Middle English Dialects | Study of the principal dialects of Middle English, with selected readings. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 533 | Studies in Medieval Literature | Selected topics in English literature from the 11th through the 15th centuries. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 534 | Studies in Renaissance Literature | Selected topics and literary works studied in the contexts of English Renaissance culture. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 535 | Studies in 18th- and 19th-Century British Literature | Selected topics, issues, figures, and genres in British literature and culture of the 18th and 19th centuries. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 536 | Studies in American Literature before 1900 | Selected topics, issues, figures, and genres in 17th-, 18th-, and 19th-century American literature, including the literature of conquest and contact. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 537 | Studies in Modern and Contemporary British Literature | Selected topics, issues, figures, and genres in British literature and culture after 1900. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 538 | Studies in Modern and Contemporary American Literature | Selected topics, issues, figures, and genres in American literature and culture after 1900. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 539 | Studies in Modernist and Postmodernist Literature and Theory | Selected topics in Modernist and Postmodernist studies. May include literary and theoretical texts. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 540 | Teaching Young Adult Literature | Issues and new approaches in teaching contemporary literature in high school. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 541 | Teaching Texts in Secondary Classrooms | English language arts teachers want all of their students to love literature and become immersed in the texts they assign. Explores activities and philosophies for building a strong reading curriculum in the secondary language arts classroom. Through identifying proficient readers, conducting thoughtful conversations about students and reading, and using a variety of ways to invite readers into texts, designs and experiences reading workshops based on innovative and effective teaching strategies. Students learn to create and implement reading units, literature circles, books of choice, literary tea parties, reading portfolios and final projects. Students also learn hands-on strategies for supporting ethnically and linguistically diverse readers and for teaching reading from a critical lens. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ENG 541 or ENG 598 (Teaching the Novel Grades 6-12) |
| ENG | 542 | Studies in North American Ethnic Literatures | Selected works studied in their cultural contexts from authors representing ethnic experiences in the United States. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 544 | Studies in Colonial and Postcolonial Literature | Selected topics, periods, theories, and figures in works by authors representing colonial and postcolonial regions and/or experiences. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 550 | Translation | Surveys theories and practices of translation into English. Considers target, audience and market. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 551 | Rhetorical Traditions | Examines rhetorical traditions spanning ancient to contemporary rhetorics. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 552 | Composition Studies | Selected topics in the history and theories of composition. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 553 | Technologies of Writing | Critical study and cultural analysis of information technologies and their effects on various writing practices. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 554 | Rhetorics of Race, Class, and Gender | Study of interdependent relationships of race, class, and gender in rhetorical constructions of self and community. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 556 | Theories of Literacy | Examines various theories of literacy, their embedded values and assumptions, and their influences on academic scholarship and pedagogy. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 557 | Computer-Assisted Language Learning | Explores the field of computer-assisted language learning. Traces the development of computer-assisted language learning (CALL) over the last three decades. Focuses on research that explores how computer technology can help facilitate second language development; relies primarily on empirical data to do so. Examine established as well as new research methods in CALL. Participants participate in one research study and apply theoretical and practical aspects of CALL in these projects. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only APL 557 or ENG 557 or LIN 591 (Intro to Computer Assisted Language Learning) or SLC 557 |
| ENG | 560 | Genre Studies | Critical analysis and study of works from a single genre or comparative analysis and study of multiple genres. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 561 | Film Studies | Analysis and study of film genres, cinematic techniques, and problems of interpretation and representation. | N | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 562 | Forms of Poetry | Types, history, criticism, and schools of theory of metrical form. Analyzes lyric, narrative, and dramatic poetry. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 563 | Forms of Fiction | Types, history, criticism, and schools of theory in the forms of fiction. Analyzes narrative and dramatic structure. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| ENG | 567 | World War II in Film | Offers a comprehensive survey of how film has represented the Second World War. Using a transdisciplinary approach, studies how films from the time of the Second World War to the present have portrayed that conflict. Compares different perspectives on the causes and results of the war, as well as engage in analysis of how important issues such as international political and economic relationships, religion, gender, ethnicity, class, race, technology and the psychological effects of violence get shown in movies about World War II. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ENG 567 or FMS 567 or WWS 567 |
| ENG | 568 | World War II in Literature | Explores the topic of World War II across fiction, non-fiction, film and other film genres. Focus areas and topics of literature covered in the course may vary from semester to semester, depending upon instructor preference. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ENG 568 or WWS 568 |
| ENG | 571 | Foundations for Teaching English Learners | Provides teachers with foundational knowledge of English language learner education including: identification and knowledge of English language learners in school contexts, the role of culture in learning, principles of second language acquisition and teaching, historical and current perspectives and policies related to English learner education, and the role of parents and communities in the education of English learners. | N | LEC | Y | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 580 (1 hour); Credit is allowed for only ENG 571 or ENG 598 (Foundations for Teaching English Learners) |
| ENG | 572 | Strategies for Teaching English Learners | Supports teachers through a review of core knowledge of strategies and correlated assessments for the instruction of English learners. Teachers learn to assess EL language needs and apply appropriate teaching strategies for supporting learning English and content. Primary emphasis is in the integration of EL language and learning needs and implementation of lesson planning, strategies and appropriately leveled instruction. Teachers complete a semester-long inquiry on integrating course content into their teaching practices. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 571; Pre- or corequisite(s): ENG 580 (2 hours); Credit is allowed for only ENG 572 or ENG 598 (Strategy/Assessment/Core for Teaching Eng Learners) |
| ENG | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 581 | Methods of Teaching Secondary Writing | Emphasizes methods of planning, teaching, and assessing appropriate content in the instruction of composition and related skills in secondary classrooms. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| ENG | 582 | Pedagogy | Overview of diverse theories of English instruction, including composition/rhetoric, linguistics and literary, with emphasis upon development and implementation for high school- and community college-level instructors. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): admission to any graduate program |
| ENG | 583 | Methods of Teaching Secondary Literature and Language | Emphasizes educational methods of planning, teaching, and assessing appropriate content in the instruction of secondary literature, literacy, and language usage. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 0-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | Department of English | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 597 | Graduate Capstone Seminar | The capstone seminar is required for graduate students who must complete a culminating experience for a degree or certificate program. | N | RSC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ENG 597 or LIN 597 |

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| ENG | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 601 | Job Market Workshop: Designing Your Future | Focuses on the professional training of graduate students who pursue an academic or alt-ac (alternative academic) job. The material enables students to learn more about their professional opportunities and improve their chances on the job market. In a workshop format, some of the professionalization skills may include conference presentations, increasing professional digital presence, using job search tools, applying for internships and postdocs, writing job letters and grant proposals, managing stress, preparing for interviews, interviewing, presenting job talks and teaching demonstrations, and creating work/life balance. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ENG 601 or ENG 791 (Job Market Workshop) |
| ENG | 602 | Advanced Studies in Theory and/or Criticism | Seminar courses on the principles, strategies, and applications of critical, cultural, and/or literary theory and/or criticism. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 603 | Advanced Studies in Comparative Literature | Seminar courses on the problems, methods, and principles of comparative analysis. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 604 | Interdisciplinary Cultural Studies | Seminar courses on work from literature, anthropology, and/or other disciplines, with an emphasis on cultural influences and functions. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 606 | Advanced Studies in English Education | Current research, issues, and trends in English education. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 625 | Advanced Studies in Second Language Writing | Provides opportunities to explore advanced research topics as well as current issues and controversies in the field of second language writing--an interdisciplinary field of inquiry simultaneously situated in applied linguistics, rhetoric and composition, and teachers of English to Speakers of Other Languages. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only ENG or LIN 625 |
| ENG | 632 | Advanced Studies in Medieval and Renaissance Literature and Culture | Seminar in works of the Medieval or Renaissance periods, studied in their cultural contexts. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 635 | Advanced Studies in British Literature | Seminar courses on works produced in or about England, Scotland, and Wales, studied in their cultural contexts. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 636 | Advanced Studies in American Literature | Seminar courses on works produced in or about the United States, studied in their cultural contexts. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 639 | Advanced Studies in Modernism and Postmodernism | Seminar courses on topics in Modernist and Postmodernist studies. May include literary and theoretical texts. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 642 | Advanced Studies in Ethnic, Anglophone, or Post-Colonial Literatures | Seminar courses that consider the influence of cultural or geopolitical developments on the production and circulation of texts. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 651 | Advanced Studies in History and Theories of Rhetoric | Selected topics in the history and/or theory of rhetoric. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 652 | Advanced Composition Studies | Selected topics on particular composition theories, practices, pedagogies, and figures. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 654 | Advanced Studies in Rhetoric, Writing, Technology, and Culture | Advanced study of theoretical, methodological, and pedagogical issues concerning the interrelationships among rhetoric, culture, writing, and writing technologies. | N | SEM | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 655 | Disciplinary Discourses | Investigation of professional and disciplinary issues related to English. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 656 | Studies in Cross-Cultural Discourse | Theoretical and methodological issues in the comparative study of discourses between cultures and communities of practice. | N | SEM | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 662 | Poetic Genres | Creative writing courses in the long poem, the erotic image, death and transfiguration, reading and influence, and others. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 664 | Mixed Genres | Creative writing courses in the prose poem, magical realism, the literature of obsession. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 665 | Creative Methods | Creative writing courses in theory of the novel, poetics, story into film, and others. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 667 | Issues in the Writing Professions | Focuses on career preparation, resources, the role of writing in the community, creative writing, and the Internet. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| ENG | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | Department of English | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | Department of English | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | Department of English | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | The College of Liberal Arts and Sciences | Department of English | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENT | 290 | Entrepreneurship: Opportunity to Impact | How do you know if entrepreneurship is right for you? Don't have an idea today but want to work for a start-up? Focuses on developing an entrepreneurial mindset to prepare students for creating or participating in new ventures in the future, whether that is right now or after graduation. While this course does not contain the secret entrepreneurship code or the instruction manual for entrepreneurial success, it does provide a solid foundation of theory and practice that can set a budding entrepreneur on the right path. Students learn foundational entrepreneurship theories, participate in field activities where those theories are being put to the test, as well as learn to critically analyze their own ideas and other venture opportunities. Utilizes a mixture of teaching mediums including readings, videos, guest speakers, simulations, case studies and assignments completed as an individual and in teams. | N | LEL | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | |
| ENT | 305 | Principles of Entrepreneurship | Entrepreneurship, with an interdisciplinary basis, focusing principles that involve the startup of a new organization, as well as its management into a fully established firm. Specific discipline-based concepts range from marketing to finance and strategic management. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): minimum 2.50 GPA; minimum 30 hours OR Visiting University Student |
| ENT | 340 | Creativity and Innovation | Teaches key concepts and useful tools and techniques of creativity and innovation to students in order to encourage development of creative skills and habits that can propel them in their career or guide them down a path to start a new venture of their own. Coursework and activities involve complex problem solving activities and relevant trend and environmental analysis in order to explore alternative approaches to challenges. Coursework includes both individual and team activities. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 2.50 GPA; minimum 40 hours; Pre- or corequisite(s): ENT 305 with C or better if completed OR Visiting University Student |
| ENT | 360 | Entrepreneurship and Value Creation | In-depth application of entrepreneurial concepts including opportunity recognition, value creation and new business management. Identifies the needs of a market and problem solves to meet those needs through innovation. Covers common mistakes made in the new venture process and how to work to avoid these mistakes. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prereq(s): Business student; ACC 241, 242, 271 with C or better OR Engineering student; minimum junior standing OR Non-Business student; minimum junior standing; minimum 2.50 GPA; Credit allowed for only ENT 360 or FSE 301 OR Visiting University Student |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|---------------------------------------|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|--|
| ENT | 440 | Entrepreneurship | Prepares students for the challenges of assembling and growing high-potential innovative ventures through the use of analytical frameworks that encompass uncertainty inherent in entrepreneurship (or in entrepreneurial activity). In-depth discussion of cases provides a strong empirical foundation. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey BA or BS major; FIN 300, 302, or 303 with C or better; MGT 300, 303, or 310 with C or better |
| ENT | 441 | Entrepreneurial Management | Provides a framework for dealing with issues from an entrepreneur's perspective. Covers all areas of entrepreneurship from idea conception to prototype development, to testing, refining and harnessing resources. Covers readings and cases related to topics of business models, business plans, managing startups, business law, founder's issues, managing growth, broad business functions and overall strategic and financial positioning. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey Business Entrepreneurship BS major or Entrepreneurship & Innovation cert student or Small Business & Entrepreneurship cert student; ENT 305 with C or better; ENT 360 (or MGT 360) with C or better OR Visiting University Student |
| ENT | 445 | Business Model Development | Develops a complete strategic business model emphasizing the planning process undertaken by successful small business owners and entrepreneurs. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey BA or BS major; ENT 440 (or MGT 440) with C or better |
| ENT | 446 | Venture Capital Experience | Students learn the details of the startup funding process and available resources. Exposes the history of venture capital and other types of capital, current trends, and the trends that are anticipated in the future. Students learn due diligence process as performed by investors and applies these concepts to building and growing their own ventures. Coursework includes both individual and team activities and is open to students in any major of study with the required prerequisite. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey BA or BS major; ACC 240, 241, or 242 with C or better OR non-business student; minimum 2.50 GPA; minimum 56 hours; Credit is allowed for only ENT 446 (or MGT 446) or MGT 494 (Venture Capital Experience) |
| ENT | 447 | Lean Launch | Students learn lean and customer development methodologies to test assumptions made about a new business concept that they wish to explore or launch. Teaches how to effectively utilize business models and critically assess the assumptions made through the testing of hypotheses to create innovative and market-ready ventures. Includes weekly presentations of learning points and team activities outside of the classroom. Open to students in any major of study with the required prerequisite. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey BA or BS major; ACC 241, 242, or 271 w/ C or better OR non-Business student; minimum 2.50 GPA; minimum 56 hours; Credit allowed for only ENT 447 (or MGT 447) or HON 447 or MGT 494 (Lean Launch) OR Visiting University Student |
| ENT | 448 | Corporate Entrepreneurship | Covers five general areas of corporate entrepreneurship: entrepreneurial orientation and corporate venturing; franchising the refining of business models; social venturing; and the extension of partnerships (e.g., joint ventures, strategic alliances). | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey Business Entrepreneurship BS major; ENT 305 with C or better; ENT 360 (or MGT 360) with C or better OR Visiting University Student |
| ENT | 464 | Collaborative Design Development I | Team-based product development course featuring applied projects. Open to senior students from business, engineering, design, and other disciplines. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 5 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ENT 464 (or MGT 464) or GRA 464 or IND 464 or SOS 474 OR Visiting University Student |
| ENT | 465 | Collaborative Design Development II | Team-based product development course featuring applied projects. Open to senior students from business, engineering, design, and other disciplines. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 5 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ENT 465 (MGT 465) or GRA 465 or IND 465 or SOS 475 OR Visiting University Student |
| ENT | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-12 | | Prerequisite(s): minimum 45 hours |
| ENT | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-6 | | Prerequisite(s): Barrett Honors student |
| ENT | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ENT | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-4 | | |
| ENV | 103 | Introduction to Geology I: Laboratory | 3 hours lab, some field trips. Both GLG 101 and 103 or both GLG 101 and ENV 103 must be taken to secure SQ General Studies credit. | N | LAB | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | SQ | Credit is allowed for only ENV 103 or GLG 103 OR Visiting University Student |
| ENV | 130 | Introduction to Environmental Science | Introduces the interconnected nature of Earth's hydrosphere, lithosphere (soils and rocks), atmosphere, and biosphere. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | SQ | Credit is allowed for only ABS 130 or BIO 130 or ENV 130 OR Visiting University Student |
| ENV | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-3 | | |
| ENV | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | |

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| ENV | 201 | Fundamentals of Environmental Science | Examines the functioning of the earth system and how it has changed over long and short time scales. Emphasizes understanding global processes and how human activities can disrupt these processes, changing the ability of our global environment to support life. Also emphasizes important feedbacks between biological and physical processes and their effects on the biosphere. Discusses the response of natural and managed ecosystems to global change along with prospects for the future. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): BIO 181 and 182 with C or better or BIO 281 and 282 with C or better; CHM 116 with C or better OR Visiting University Student |
| ENV | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | |
| ENV | 300 | Plant Diversity and Evolution | An examination of the major groups of land plants, emphasizing evolutionary history, comparative data, and phylogenetic methods. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | L or SG | Prerequisite(s) with C or better: BIO 181; BIO 182; ENG 101, 105, or 107 OR BIO 281; BIO 282; ENG 101, 105, or 107; Credit allowed for only BIO 303 or ENV 300 or PLB 300 OR Visiting University Student |
| ENV | 302 | Plants and Civilization | Plants and plant products used by people throughout the world. Cultivation, processing, and uses in modern life (beverages, fibers, foods, medicinals, and perfumes). | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | L | Prerequisite(s) with C or better: BIO 181; BIO 182; ENG 101, 105, or 107 OR BIO 281; BIO 282; ENG 101, 105, or 107; Credit is allowed for only BIO 304 or ENV 302 or PLB 302 OR Visiting University Student |
| ENV | 345 | Spatial Analysis in the Environmental Sciences | Develops an understanding of the methods, tools and technologies used to collect, display, analyze and interpret spatial data in environmental science and natural resource management. Provides overview of geographic information system (GIS) applications in these fields. Basics of integrating the global position system (GPS) and remote sensing (RS) into GIS to solve problems in environmental science and natural resource management. | N | LEL | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ENV 201 with C or better |
| ENV | 386 | STEAM Service Learning | Guided process in which students deepen their understanding of their STEAM content area through knowledge-based problem solving that provides a service to others in the community. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ACO 386 or ENV 386 or FOR 386 or LSC 386 or PTX 386 or LSC 494 (Service Learning in the Life Sciences) |
| ENV | 388 | STEM Research Fundamentals | Teaches research skills in the natural sciences. Topics covered include the basic research techniques of the study organism and system, experimental design, literature searches, statistical analysis and preparation of scientific papers and posters. | N | LEL | Y | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 320, BIO 182, or MAT 272 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only ENV 388 or FOR 388 or LSC 388 or PLB 388 or PTX 388 OR Visiting University Student |
| ENV | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ENV | 410 | Soil Science | Fundamental principles of soil science, including physical, chemical, biological and ecological properties. Applies these principles to explain the importance of soil as both a natural resource and ecosystem. Discusses the role of soils as the heart of terrestrial ecosystems, both natural and managed, and the importance of this key natural resource to environmental health and biological productivity. Explores how human activity and global change are impacting this vital natural resource and ecosystem that is crucial to life on earth. The laboratory component also introduces applications and standard methodology for investigating these principles. | N | LEL | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | | Prerequisite(s): BIO 320 with C or better; CHM 116 with C or better; PHY 101 or higher with C or better OR Visiting University Student |
| ENV | 414 | Fundamentals of Forensic Entomology | Provides an introduction to the field of forensic entomology; the use of insects (and other arthropods) in legal investigations. Investigates how insects can be used in food contamination, neglect and abuse cases, with a focus on their use in death investigations. Identifies forensically important insects, in partnership with proper collection and rearing techniques. Along with understanding insect biology, students gain an understanding of how forensic entomology is utilized in law and in the courtroom. Students take an in-depth look at what questions insects can help answer and determine how to calculate a time of colonization (TOC) and how that can relate back to a time of death. Also focuses on scientific writing skills, assessed with the completion of a mock crime scene and production of a case report. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | | Prerequisite(s): FOR 286 with C or better; minimum 45 hours; Credit is allowed for only ENV 414 or FOR 414 or BIO 494/ENV 494/FOR 494 (Fundamentals of Forensic Entomology) OR Visiting University Student |
| ENV | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): minimum 45 hours |

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| ENV | 485 | Environmental Impact Assessment | An understanding of federal and state environmental laws, including the scientific processes that are incorporated into decision making, is critical for a variety of careers in the environmental sciences. Provides an overview of these laws and processes and develops the specific written and oral communications skills needed for many environmental, biophysical and natural science professions. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ENV 201 with C or better OR Visiting University Student |
| ENV | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-6 | | Prerequisite(s): Barrett Honors student; minimum 45 hours |
| ENV | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better; minimum 45 hours |
| ENV | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ENV | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-6 | | Prerequisite(s): Barrett Honors student; minimum 45 hours |
| ENV | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-7 | | Prerequisite(s): minimum 45 hours |
| ENV | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-3 | | Prerequisite(s): minimum 45 hours |
| EPA | 532 | Becoming an Informed Consumer of Educational Research | Development of critical analyses skills in the examination and synthesis of educational research. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPA | 555 | Translating Research for Educational Change | Teaches educators how to translate research to promote educational change in their schools and districts. Three concepts emerge to empower practitioners to translate research to their individual schools and communities: (1) a needs assessment to understand the context (student population, community, networks); (2) an emphasis on the generalizability of research to provide an understanding of which findings are most applicable to specific contexts at which times and under which conditions; and (3) explicit training on ways of knowing to encourage practitioners to develop their own theoretical perspectives and test them against the academic research. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPA | 556 | Data Analysis for Education Decision Makers | Prepares educators to use the sources of information (i.e., results, reports and interactive programs) at their disposal to make educational decisions. Dynamic content is adapted based on the real-world information sources brought forth by the course participants. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPA | 559 | Systematic Inquiry for Problem Solving | Trains participants to produce a policy analysis aimed at addressing a problem they identify within their own organizations. Participants identify a problem, gather, analyze data and evidence to draw conclusions, and clearly and succinctly report their findings and recommendations to policymakers. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPA | 565 | Critical Topics in Education Policy | Critical topics in contemporary educational policy debates in the USA. Explores the dominant ideological and theoretical perspectives about what should be the purposes of schooling. Students analyze the humanist, core-curriculum, vocational, pragmatic as well as the standards-based, market-driven, professionally led, and networked models of reform, theories of change, implementation challenges, and the critiques leveled against these approaches. Students analyze critical topics such as policy formation, leadership, teachers unions, academic performance and community involvement. Encourages students to learn critical "policy skills" and reach reflexive and research-based conclusions about what are the requirements to develop "good school systems" and what their their individual and collective contributions could be. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPA | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| EPA | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|---|
| EPA | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | REC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPA | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPA | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| EPA | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | |
| EPA | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| EPA | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPA | 701 | Proseminar in Educational Policy I | Small class emphasizing discussion, student presentations and written research papers on the fundamentals of education policy analysis. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EPA 691 (Pro-Sem in Educ Pol Study) or EPA 691 (Pro-Seminar in Ed Policy Analysis I) or EPA 701 |
| EPA | 702 | Proseminar in Educational Policy II | Small class emphasizing discussion, student presentations and written research papers on the fundamentals of education policy analysis. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): EPA 701; Credit is allowed for only EPA 691 (Pro-Seminar in Ed Policy Analysis II) or EPA 702 |
| EPA | 704 | Proseminar in Evaluation and Evaluation Research | Applied program evaluation emphasizing discussion, student collaborations and the development and implementation of an evaluation plan. | N | SEM | Y | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EPA 691 (Pro-Seminar in Program Evaluation I) or EPA 691 (Pro-Seminar in Program Evaluation II) or EPA 704 |
| EPA | 752 | Research Design | Focuses on learning the principles of researching design through discussion, presentations by students and written research papers. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EPA 691 (EPE Research Design) or EPA 691 (Introduction to Quantitative Research Design) or EPA 752 |
| EPA | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPA | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPA | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPA | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | N | RSC | Y | Z3 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPA | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPD | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| EPD | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPD | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPD | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPD | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPD | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPD | 700 | Research Methods | Course on research methods in a specific discipline. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-12 | | Prerequisite(s): EPD 710, 712, or 714 with C or better |
| EPD | 710 | Current Research in Design | Review and critical evaluation of contemporary literature and research in design, environment and the arts. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | Pre-requisite: Design, Environment and the Arts PhD OR Design, Environment and the Arts (Digital Culture in Design) PhD OR Environmental Design and Planning PhD OR Environmental Design and Planning (Healthcare and Healing Environments) PhD |
| EPD | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPD | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPD | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPD | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPD | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPD | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPD | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPD | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ERM | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-3 | | |
| ERM | 201 | Environmental Management | Develops an understanding of the fundamentals of environmental science, environmental issues and major environmental standards. Topics covered include basic ecology, population dynamics, environmental resources, environmental pollution and its prevention, the environmental management regulatory framework, sustainability, pollution prevention, waste minimization, and environmental management systems. Provides the foundational knowledge used by environmental professionals who manage environmental problem solving for industry, regulatory agencies, municipalities, consulting firms, military installations, academic institutions and nonprofit organizations specializing in environmental advocacy. Overview course covering elements that are developed in more depth in other ERM courses. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | |

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| ERM | 203 | Environmental Regulations | Explains and discusses federal environmental laws and regulations that apply to the field of environmental management. Addresses the most important Arizona state and county/local regulations that impact decision making in the environmental management practice area. Emphasizes the federal-level requirements, including laws that are most likely to be used by professionals who are not lawyers and working in positions having environmental management and engineering assignments. Uses case studies to help students learn how the laws are applied and implemented in practical situations. Develops an understanding of the fundamentals of environmental laws and regulations. Provides essential knowledge used by environmental and engineering professionals who manage regulatory issue problem solving for industry, government, consulting firms, military installations, academic institutions and nonprofit organizations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): any SG or SQ course |
| ERM | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-4 | | |
| ERM | 302 | Water and Wastewater Treatment Technology | Explores the development of treatment technologies for drinking water and wastewater. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): MAT 210 or higher with C or better; PHY 111 with C or better; Pre- or corequisite(s): CHM 116; Credit is allowed for only EGR 325 or ERM 302 OR Visiting University Student |
| ERM | 364 | Toxicology and Biohazards in Emergency Management | Introduces poisons. Dose response routes of exposure and toxicokinetics. Diseases associated with natural disasters. Clinical presentation of treatments. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | |
| ERM | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-4 | | |
| ERM | 401 | Hazardous Waste Management | Definition of hazardous waste, RCRA and CERCLA regulations, hazardous waste classification system. Overview of hazardous waste management. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): CHM 113 or higher with C or better; ERM 203 with C or better or Environmental Engineering BSE major; Credit is allowed for only EGR 427 or ERM 401 or ERM 501 OR Visiting University Student |
| ERM | 402 | Unit Treatment Technologies | Addresses various treatment technologies for contaminated air, water, and soil. Emphasizes design based upon medium, type of contamination, and concentration. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): ERM 302 with C or better or CEE 361; Credit is allowed for only EGR 425 or ERM 402 OR Visiting University Student |
| ERM | 406 | Environmental Chemistry | Applies basic chemical principles to understanding the reaction, fate and transport of chemicals in water, soil, air and living organisms. Considers major environmental issues in three areas: energy use and sustainable options to fossil fuels; atmospheric pollution including photochemical smog, ozone depleting substances, acid rain and climate change; and water pollution and water management options. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): CHM 116 with C or better; MAT 170 or higher with C or better; Credit is allowed for only ERM 406 or ERM 598 (Environmental Chemistry) OR Visiting University Student |
| ERM | 407 | Occupational Hygiene | Overview of occupational health hazards, including recognition, evaluation, and control. Includes regulatory status and health standards. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): CHM 113 or higher with C or better OR Visiting University Student |
| ERM | 426 | Environmental Issues | Explores the science and policy implications of contemporary problems that threaten the environment. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ERM 426 or ERM 520 OR Visiting University Student |
| ERM | 428 | International Environmental Management | Examines environmental management issues faced by countries outside of the United States and compares approaches to solving these problems from a technological, economic and political basis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | G | Prerequisite(s): minimum 45 hours; Credit is allowed for only ERM 428 or ERM 528 |
| ERM | 432 | Sustainable Solid Waste Management | Addresses engineering and management principles associated with integrated solid waste systems. Follows the life of the solid waste from point of generation, reclamation and treatment to point of disposal. Emphasizes the functional units of a solid waste system and the relationships among them. Addresses the physical, chemical and biological transformations of the solid waste, together with the existing technologies and engineering practices for collection, management, treatment and disposal of the solid waste. Emphasizes the sustainable practices such as waste minimization, pollution prevention, reuse and reclamation of the solid waste. Also discusses existing domestic and foreign regulations guiding the proper solid waste management techniques, as well as planning and design of solid waste system operations and facilities. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): MAT 170 or higher with C or better; minimum junior standing; Credit is allowed for only EGR 426 or ERM 432 or ERM 532 OR Visiting University Student |

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| ERM | 480 | Senior Project | Capstone project experience refining skills in communication, research and information retrieval, critical analysis and criticism, and demonstrating technical competence in each student's area of study. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): ERM 203 with C or better; ERM 302 with C or better; Pre- or corequisite(s): ERM 402 |
| ERM | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-12 | | |
| ERM | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-6 | | Prerequisite(s): Barrett Honors student |
| ERM | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ERM | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-4 | | |
| ERM | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-3 | | |
| ERM | 501 | Principles of Hazardous Materials and Waste Management | Foundation for courses in curriculum. Topics include definitions of toxic and hazardous substances and wastes, RCRA classification, and OSHA criteria. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EGR 427 or ERM 401 or ERM 501 |
| ERM | 502 | Regulatory Framework for Toxic and Hazardous Substances | Examines federal, state, and local regulations for hazardous materials and wastes. Includes history and trends in regulatory development. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ERM 502 or ERM 527 or ERM 494 (Regulatory Framework for Toxic & Hazardous Substances) |
| ERM | 503 | Principles of Toxicology | Interaction of chemicals with life and environment. Mechanisms of toxic action, dose-response relationships, toxicity testing models, predictive toxicology, and epidemiology. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ERM | 506 | Chemistry of Hazardous Materials | Chemistry and toxicology of hazardous chemicals. Topics include proper handling, storage, transportation, and disposal. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ERM 494 (Chemistry of Hazardous Materials) or ERM 506 |
| ERM | 507 | Industrial Hygiene | Emphasizes chemical hazards in industrial settings. Topics include recognizing and measuring hazards, control techniques, and regulatory standards. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ERM | 520 | Sustainability and Sustainable Development | Explores broad field of environmental sustainability with U.S. and international coverage of green living practices. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ERM 426 or ERM 520 |
| ERM | 522 | Air Pollution and Toxic Chemicals | Examines issues in the measurement analysis and control of toxic chemicals in air pollution. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ERM | 523 | Soils and Groundwater Contamination | Theoretical and practical hydrogeology as it applies to cleaning up contamination. Investigative techniques, monitoring, risk assumptions, and assessment methodology. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ERM | 527 | Environmental/Resources Regulations Concepts | Environmental regulations related to water, land use, endangered species, NEPA and other policy issues. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ERM 502 or ERM 527 or ERM 494 (Regulatory Framework for Toxic & Hazardous Substances) |
| ERM | 528 | International Environmental Management | Studies environmental issues and laws outside the U.S., impact of free trade, and multinational corporations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ERM 428 or ERM 528 |
| ERM | 532 | Sustainable Solid Waste Management | Addresses engineering and management principles associated with integrated solid waste systems. Follows the life of the solid waste from point of generation, reclamation and treatment to point of disposal. Emphasizes the functional units of a solid waste system and the relationships among them. Addresses the physical, chemical and biological transformations of the solid waste, together with the existing technologies and engineering practices for collection, management, treatment and disposal of the solid waste. Emphasizes the sustainable practices such as waste minimization, pollution prevention, reuse and reclamation of the solid waste. Also discusses existing domestic and foreign regulations guiding the proper solid waste management techniques, as well as planning and design of solid waste system operations and facilities. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): Fulton Schools of Engineering or School of Sustainability or Urban and Environmental Planning graduate student or enrolled in ERM 4+1 program; Credit is allowed for only EGR 426 or ERM 432 or ERM 532 |

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| ERM | 533 | Water and Wastewater Treatment Technologies | Covers the most essential elements of aquatic chemistry, water pollution and water and wastewater treatment technologies to graduates in environmental and resource management and other interested parties. Provides a fundamental basis for understanding sustainable water and wastewater treatment operations. Includes critical evaluation of contemporary issues concerning our water environment and the associated regulatory framework in the lectures to strengthen and emphasize the importance of adequate practices used in the management of engineered water and wastewater treatment systems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): graduate student in Ira A. Fulton Schools of Engineering, the School of Sustainability, or Urban Planning |
| ERM | 535 | Water Law and Policy | Regulatory framework that governs use of surface water and groundwater, including federal and state laws, interstate compacts and international treaties. Emphasizes the history and development of water resources in the arid American West. Explores the impact of climate change, population growth and competing interests of sectors such as agriculture, municipalities, tribes and hydropower in terms of policy implications for water use. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ERM | 540 | International Environmental Law and Policy | Studies international environmental agreements, enforcement mechanisms, and the role of NGOs and international organizations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ERM | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ERM | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ERM | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ERM | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ERM | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ERM | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ERM | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ESS | 501 | Social Theory and the Environment | Investigates key conceptual domains of environmental social science from interdisciplinary and comparative perspectives. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ESS | 502 | Political Ecology: Theory and Research | Investigates key theories and research of political ecology through the conceptual domains of environmental social science from interdisciplinary and comparative perspectives. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ESS | 513 | Institutions | Studies formal and informal institutional arrangements for the governance of natural resources using case studies, experiments, and formal models. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ESS | 577 | Interdisciplinary Writing Seminar | If you want your work to make a difference in the world, you need to be able to communicate your ideas to diverse audiences in a way that is interesting and accessible. Teaches students to write clearly, persuasively and ethically to people in their disciplines, in other disciplines, and outside academia. Approaches writing as a way to think critically and refine ideas, as well as to communicate them to others. | N | SEM | Y | GNA | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is only allowed for ESS 577 or SOS 577 or SOS 598 (Interdisciplinary Writing) or SOS 598 (Writing Seminar) |
| ESS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ESS | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| ESS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ESS | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EST | 210 | Circuit Analysis I | Parallel/Series circuits, ohm's law, network theorems, capacitors/inductors and transient analysis. Overview of electronic devices, BJT's, FETs, op-amps. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisites: MAT 266 (or 271); PHY 112 (or 131) |
| EST | 310 | Circuit Analysis II | Electronic device analysis and introduction to design. Power supplies, diode circuits, FETs, BJT's, op-amps. Emphasizes frequency response. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: EST 210 |
| EST | 315 | Digital Systems II | Digital electronics systems, HDL circuits and systems design techniques, and device applications. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisite: EST 115 and 210; Credit is allowed for only EST 315 or 394 (Digital Electronics II) |
| EST | 350 | Microcontroller Applications | Interfacing of microcontrollers to sensors, switches, indicators, and other human interfaces using the C programming language. Applications involve the integration of both hardware and software. Also addresses applications dealing with open- and closed-loop applications. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EST 315 OR Visiting University Student |
| EST | 370 | Sensors | Overview of sensor technology, including mechanical, magnetic, radiation, thermal, chemical, and biological applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: EST 200; EST 210; UET 331 |
| EST | 380 | Electronic Devices | Covers materials, structures, and technology for the design, production, and application of the major categories of electronic devices. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): UET 331 OR Visiting University Student |
| EST | 410 | Electronic System Design | Analysis and design of Op-amps, power amplifiers, and digital logic families. Feedback design using frequency response. Computer analysis and design. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EST 310 OR Visiting University Student |
| EST | 465 | Statistical Process Control | Introduces statistics, seven QC tools, and control charts for data analysis and interpretation; process capability, 6-sigma, lean manufacturing, and quality system. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Fulton Schools of Engineering undergraduate student; senior standing; Credit is allowed for only EST 465 or EST 565 OR Visiting University Student |
| EST | 470 | Capstone Design I | Small-group projects designing, building, evaluating, and analyzing components, assemblies, and systems. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: EST 345; EST 370; EST 372 |
| EST | 471 | Capstone Design II | Continuation of a small-group project encompassing designing, building, evaluating, and analyzing components, assemblies, and systems. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EST 470 |
| EST | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-3 | | |
| EST | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student OR Fulton Schools of Engineering senior student with minimum 3.00 ASU GPA |
| EST | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-12 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student OR Fulton Schools of Engineering senior student with minimum 3.00 ASU GPA |
| ETH | 100 | Ethnic and Indigenous Lives | Undertakes an introductory comparative analysis of ethnic groups to understand cultural diversity within the United States. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | |
| ETH | 300 | Principles of Ethnic Studies | Familiarizes students with a range of analytical and theoretical frameworks in the field of ethnic studies. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | C | |
| ETH | 310 | Critical Research Methods | Examines methodological approaches common to programs in such disciplines as American Studies, Ethnic Studies, and Women's Studies. Critical qualitative, historical, archival, and feminist methodological approaches to the study of diverse United States populations comprise the focus of this course. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB | Pre-requisite: Minimum 40 hours |
| ETH | 333 | Class in America | Explores social class and inequality in the U.S. including history, culture, work, politics, globalization and intersections of gender, race, ethnicity and place. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only AMS 334 or ETH 333 or WST 334 OR Visiting University Student |

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| ETH | 334 | The American Southwest in Literature and Film | Evaluates literary texts and films addressing the diverse literatures and cultures of the American Southwest. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AMS 336 or ENG 334 or ETH 334 OR Visiting University Student |
| ETH | 353 | African American Literature: Beginnings through the Harlem Renaissance | Focuses on the history of African American literature through the Harlem Renaissance, as exemplified in selected slave narratives, poems, and fiction. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AFR 353 (or AFH 353) or AMS 353 or ENG 353 or ETH 353 |
| ETH | 354 | African American Literature: Harlem Renaissance to the Present | Examines the literary productions of African Americans from the Harlem Renaissance (about 1920) to the present focusing on fiction, poetry, drama, and essays. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AFR 354 (or AFH 354) or AMS 354 or ENG 354 or ETH 354 OR Visiting University Student |
| ETH | 380 | Race, Gender, and Class | In-depth examination of how social inequalities are reproduced and perpetuated. Explores the intersections of race, class and gender in culture and society. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): WST 100 or WST 300 or minimum 30 hours; Credit is allowed for only AMS 380 or ETH 380 or WST 380 OR Visiting University Student |
| ETH | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| ETH | 428 | Peoples and Cultures of the American West, to 1848 | Provides an integrated understanding of change over time within and between the native, Mexican, Anglo, Asian and African American communities of the region by looking into the major formative historical forces affecting these populations individually and collectively. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only AMS 428 or ETH 428 or LAS 428 or MAS 598 (Chicano Cultures in Southwest) OR Visiting University Student |
| ETH | 430 | Gender on the Borderlands | Examines women's status in the U.S.-Mexico borderlands through key issues such as migration, labor, violence, education, and culture. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR WST 100 or 300 with C or better; Credit is allowed for only ETH 430 or LAS 430 or WST 430 or JHR 598 (Gender on the Borderlands) OR Visiting University Student |
| ETH | 433 | Race and Sexualities in Social Justice Movements | Investigates queer communities, social control and political resistance. Topics include collective responses to trauma/violence, heteronormativity, and variants of institutionalized racism and sexism. Gives special attention to race and sexuality intersections as well as the politics of coming out, LGBT activism, antiracist movements, the role of allies, and social movement strategies. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prereq(s): ETH 100, HRC 200, or WST 100 w/C or better OR ENG 102, 105, or 108 w/C or better; minimum 36 hours; Credit is allowed for only ETH 433 or JHR 433 or WST 433 or ETH/WST 494 (Race, Sexuality, & Soc Justice Mvmts) OR Visiting University Student |
| ETH | 449 | Hate Speech, Manifestos, and Radical Writings | Examines writings, speeches and texts that provoke radical or even revolutionary social change. At its core, this course asks: What is the radical and what does it do? How do radical writings function as texts, speech acts, inspirational documents, testimonies, accounts of madness, frightening moments, calls to arms, peacekeeping entities or speaking truth to power? Examines injurious speech and provocative writings that span a range of social movements and topics, including radical feminism, radical queer, Black power, indigenous rights, art and performance, anti-technology, animal rights, violence, madness and revolutionary resistance. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): minimum 35 hours; minimum 2.50 GPA; Credit is allowed for only AMS 449 or ETH 449 or WST 449 OR Visiting University Student |
| ETH | 450 | Latina/os, Schooling and Social Inequality | Advanced interdisciplinary understanding of the issues facing Chicano, Mexican American and Latino communities in relation to K-16 schooling in the southwestern United States. Examines various schools of thought that have shaped social discourse and policies, develops a critical perspective on the social and political issues affecting education, and identifies issues--both historical and contemporary--affecting Chicanos in public education. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | C | Prerequisite(s): minimum 45 hours; Credit is allowed for only AMS 450 or ETH 450 or LAS 450 or AMS 429 (Latino/a School & Social Inequity) |
| ETH | 469 | Abject Bodies and the Politics of Trash | Examines the possibilities inherent in "theorizing from the gutter"; looking at the world not from a lofty "Ivory Tower" but from the slime, the muck, the dumpster, the trash heap, the wasteland, the discarded and the downtrodden. Takes its theoretical framework from a radical 1960s manifesto called SCUM Manifesto by Valerie Solanas and from the French feminist philosophies of Julia Kristeva, who theorized the abject as a relationship with the grotesque that reveals the deep-seated fear of death. Uses these theoretical positions to examine trash, both abstractly and literally. Works through a variety of concepts ranging from actual trash, garbage, waste, toxic sludge, pollution and dirt, and tackles more abstract notions of trash such as the knowledge produced on the fringe in circuses, amusement parks, "trailer trash" zones, freak shows and the bodies of those marked as "Other" or different. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only AMS 469 or ETH 469 or JHR/MAS 598 (Abject Bodies and the Politics of Trash) or WST 469 OR Visiting University Student |

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| ETH | 473 | Indigenous and Latina/Chicana Representation | Examines from an interdisciplinary perspective contemporary issues experienced by Indigenous and Chicana/Latina women in the U.S. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only ETH 473 or LAS 473 or WST 473 |
| ETH | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | |
| ETH | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| ETH | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ETH | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| ETH | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | IND | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| ETH | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-3 | | |
| EVE | 214 | Environmental Engineering Mechanics | Concepts of engineering statics and dynamics in the context of environmental processes. Includes application of calculus-based physics, where differentiation and integration are applied to basic physical relationships; introduces hydrostatics; and material, force and energy balances. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 3 | | Prerequisite(s): MAT 266 or MAT 271; PHY 121; PHY 122 OR Visiting University Student |
| EVE | 261 | Introduction to Environmental Processes | Environmental laws and regulations; mass and energy balances; concepts of water and wastewater treatment, air quality and control, and solid and hazardous waste management. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 3 | | Prerequisite(s): CHM 116 OR Visiting University Student |
| EVE | 290 | Statistics and Probability for Environmental Data | Covers descriptive statistics and probability distributions, plotting data, hypothesis testing, analysis of variance, correlation, linear regression, experimental design and introduction to time series analysis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 3 | | Prerequisite(s): MAT 266 or 271; Credit is allowed for only EVE 290 or EVE 394 (Environmental Statistics and Probability) OR Visiting University Student |
| EVE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-4 | | |
| EVE | 302 | Environmental Engineering Fundamentals: Physical and Chemical Processes | Physical and chemical processes in the environment emphasizing environmental chemistry, and fate and transport of substances in and between water, air, soil, and sediment. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 3 | | Prerequisite(s): Environmental Engineering BSE major; EVE 261 with C or better OR Visiting University Student |
| EVE | 303 | Environmental Engineering Fundamentals: Microbiological Processes | Role of microbiology in the environment including detection and identification of organisms, bacterial growth, microbial metabolism, biogeochemical cycles, and applications to environmental engineering | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 3 | | Prerequisite(s): EVE 261 OR Visiting University Student |
| EVE | 304 | Environmental Engineering Processes Lab | Laboratory experiments, data analysis and interpretation of environmental processes in air, water, and other environmental engineering focus areas. | N | LAB | N | GNA | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 2 | | Prerequisite(s): EVE 302; EVE 303 OR Visiting University Student |
| EVE | 314 | Data Science for Environmental and Civil Engineers | Data collection, processing, analysis, visualization and sharing in the context of environmental and civil engineering applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 3 | | Prerequisite(s): EVE 290 or IEE 380; Credit is allowed for only EVE 314 or EVE 394 (Data Science for Environmental and Civil Engineers) OR Visiting University Student |
| EVE | 354 | Materials in the Environment | Covers the materials of interest and relevance for environmental engineering. Presents the properties of the materials found in buildings, products and structures of the built environment, as well as contaminants in the natural environment and materials used for environmental remediation, to explain why certain materials are used for specific applications. Then, analyzes material production and fate from a life-cycle perspective, considering material flow analysis, risk assessment and environmental impact. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 4 | | Prerequisite(s): EVE 261; Credit is allowed for only CEE 353 or CNE 353 or EVE 354 or EVE 394 (Materials in the Environment) OR Visiting University Student |
| EVE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-4 | | |

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| EVE | 411 | Sustainable Energy, Materials and Technology | Covers technology and environmental challenges associated with traditional energy sources as well as the opportunity to improve the environment through more sustainable approaches to energy production. Beyond this, also covers the role energy plays in modern society, the correlation between energy and economic development, and the technological and nontechnological barriers to advancing alternative, more sustainable approaches to energy generation. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): EVE 261; Credit is allowed for only EVE 411 or SOS 324 OR Visiting University Student |
| EVE | 452 | Environmental Investigation and Remediation Design | Engineering practice and design covering environmental laws and regulations, environmental sources of contamination, contaminated site investigation and characterization, risk assessment, and remediation technologies. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 3 | | Prerequisite(s): EVE 302; EVE 303 OR Visiting University Student |
| EVE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-12 | | Prerequisite(s): minimum 45 hours |
| EVE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | GNA | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-6 | | Prerequisite(s): Barrett Honors student |
| EVE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | RSC | Y | GNA | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| EVE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-4 | | |
| EVE | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-7 | | Prerequisite(s): minimum 45 hours |
| EVE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-3 | | Prerequisite(s): minimum 45 hours |
| EVE | 500 | Research Methods | Course on research methods in a specific discipline. | Y | RSC | Y | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVE | 568 | Environmental Risk Assessment | Risk assessment is an increasingly important set of tools used to inform environmental, engineering and public health regulatory decisions. Additionally, risk assessment can be used to navigate complex decisions and prioritize resource allocation when those resources are scarce. Framework for analyzing risks in engineering and environmental health applications including microbial, chemical and engineering failure risks. Probability and statistics concepts needed to complete a risk assessment including curve-fitting, Monte Carlo analysis, sensitivity analysis, and techniques for interpreting both sparse and large datasets. Additionally, summarizes the principles of toxicology and microbiology to inform case study projects. Explores risk perception, management and communication approaches for applications to multiple scenarios including water and wastewater treatment, indoor air quality and failure analysis. | N | IND | N | GNA | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 3 | | Prerequisite(s): Civil, Environmental and Sustainable Engineering MS or Civil, Environmental and Sustainable Engineering MSE or Environmental Engineering MS student |
| EVE | 571 | Water Quality Modeling | Identifies point and nonpoint source pollution in urban and agricultural watersheds, models the fate and transport of this pollution in watersheds, and evaluates strategies for their mitigation. Additionally, touches on water quality standards and the U.S. regulations governing the pollution sources and control strategies. Focuses on nutrient and sediment pollution of surface waters, but also introduces these concepts for other pollutants and groundwater systems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 3 | | Prerequisite(s): Civil, Environmental and Sustainable Engineering MS or Civil, Environmental and Sustainable Engineering MSE or Environmental Engineering MS student |
| EVE | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVE | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVE | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| EVE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | N | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVE | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVE | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVE | 599 | Thesis | Supervised research focused on preparation of a thesis, including literature review, research, data collection and analysis, and writing. | N | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVO | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-7 | | |
| EVO | 501 | Current Topics in Evolutionary Biology | Broadly conceived presentation of papers and current research in evolutionary biology in a journal-club style format. | N | LEC | N | OP2 | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVO | 539 | Computing for Research | Works mainly with command-line programs, focusing on sequence-based analysis. An interactive flipped course, with required hands-on aspects both in class debugging and troubleshooting and for out-of-class assignments where students work on problem solving and implementation. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 539 or EVO 539 or MCB 539 or BIO 498 (Comp for Research) or BIO 598 (Comp for Research) or EVO 598 (Comp for Research) or MCB 598 (Comp for Research) |
| EVO | 557 | Practical Applications in Computational Life Sciences | Working group to troubleshoot challenges in computational life sciences. | N | LEC | Y | OP2 | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 498 (Pract Apps in Comp. Life Sci) or BIO 557 or BIO 598 (Pract Apps in Comp. Life Sci) or EVO 557 or EVO 598 (Pract Apps in Comp. Life Sci) |
| EVO | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVO | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVO | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | Y | Z3 | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVO | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVO | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVO | 601 | Principles of Evolution | Introductory course for graduate students; covers the principles of evolutionary biology from theoretical, empirical, and historical perspectives. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 522 or EVO 601 |

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| EVO | 610 | Research Areas of Evolution | Broadly conceived description of the current research areas of evolutionary biology. Expected of all first-year evolution students. | N | SEM | Y | YGB | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVO | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVO | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVO | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | Y | Z3 | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVO | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 101 | Foundations of Health and Fitness Science | Student-centered instructional course designed to excite and propel the student into the development of a successful academic and professional career path in the fields of health coaching, fitness or wellness. Presents a general overview of the career opportunities for students in the health and fitness fields with group and individual assignments that enable participants to more thoroughly explore options related to their goals. Divided into 3 major sections: academic preparation, professional development and career exploration. Assists students to develop their own individual blueprint for accomplishing their professional goals and understand the skills they need to develop along the way to be successful. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only EXW 101 or EXW 290 or EXW 300 OR Visiting University Student |
| EXW | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| EXW | 214 | Flexibility Instructional Competency Laboratory | Science and methods of instruction related to flexibility exercises and activities. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): Exercise and Wellness major or enrolled in Personal Fitness Training certificate |
| EXW | 215 | Resistance Training and Recovery Techniques | Detailed instruction designed to teach students to safely and properly perform a variety of muscular strengthening exercises. Introduces and reviews fundamental principles of physiology and kinesiology underlying the ability to properly perform a wide variety of resistance training exercises and to properly instruct individuals of varying ages and physical abilities in safe and effective performance of those movements. Additionally, covers the purpose for the cool-down and recommendations for recovery techniques to allow participants to prepare for additional bouts of physical activity. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | |
| EXW | 216 | Muscular Strength Instructional Competency Laboratory | Science and methods of instruction related to resistance training and muscular strength activities. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): Exercise and Wellness major or enrolled in Personal Fitness Training certificate |
| EXW | 217 | Cardiorespiratory and Flexibility Training | Comprehensive foundational course designed to teach students how to safely and effectively instruct a wide variety of cardiorespiratory and flexibility exercises one-on-one, and to groups of individuals of varying ages and physical abilities. Provides a basic understanding of the effects of cardiorespiratory exercises on the body and the general scientific principles relative to improving cardiorespiratory fitness. Prepares students to assess joint range of motion and provide specific recommendations for flexibility routines designed to increase joint range of motion and improve the comfort of a client participating in physical activity programs. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | |
| EXW | 218 | Cardiovascular Instructional Competency Laboratory | Science and methods of instruction for cardiovascular exercise and fitness activities. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): Exercise and Wellness major or enrolled in Personal Fitness Training certificate |
| EXW | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| EXW | 302 | Fundamentals of Wellness | Overview of fundamental health, exercise and wellness concepts. Emphasizes personal wellness assessment and application. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |

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| EXW | 321 | Consumer Health | Provides preprofessional primary/secondary educators and community health education specialists with (1) a model for making informed consumer health-related decisions; (2) current information involving consumer related topics, emphasizing necessity of current information for making informed decisions; (3) mechanisms for continued consumer awareness. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only EXW 321 or HEP 361 (EXW 361) |
| EXW | 325 | Fitness for Life | Analyzes physical fitness and benefits of exercise with emphasis on application of strategies for fitness and wellness evaluation, behavior change, and lifelong program planning. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): ENG 101; minimum 30 hours OR Visiting University Student |
| EXW | 330 | Kinesiological Foundations of Movement | Study and consideration of human movement with emphasis on kinesiology principles and their application to movement and fitness. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): Recreational Therapy BS major; BIO 160 or 201 with C or better OR BIO 160 or 201 with C or better; Pre- or corequisite(s): EXW 101 or KIN 101 with C or better if completed OR Visiting University Student |
| EXW | 331 | Violence Prevention | Examines violence prevention strategies and violence prevention content. Examines the literature to understand principles for use in the development of violence prevention curriculum in school and community settings. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only EXW 331 or HEP 371 (EXW 371) |
| EXW | 335 | Physical Activity and Physiological Concepts | Helps health and fitness professionals/educators understand the basics of exercise physiology, bioenergetics, exercise science and human performance. Topics are designed to provide a base of knowledge so students can progress to design physical activity programs that increase physical function and improve overall health. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 215 with C or better; EXW 217 with C or better; minimum 45 hours OR EXW 214 with C or better; EXW 216 with C or better; EXW 218 with C or better; minimum 45 hours OR Visiting University Student |
| EXW | 342 | Health Behavior Change | Examines major theories of health behavioral change. Develops intervention strategies and techniques employed to facilitate health behavioral change. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): PSY 101; minimum 45 hours; Credit is allowed for only CHS 340 (EXW 340) or EXW 342 or HSC 340 or NTR 350 OR Visiting University Student |
| EXW | 344 | Impact of Physical Activity on Health and Disease | Examines the influence of physical activity, fitness and sedentary behavior on the risk of chronic disease and mortality. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): BIO 160 or 201 with C or better; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| EXW | 351 | Substance Abuse Prevention | Prepares preprofessional primary/secondary school and community health educators to prepare and deliver substance abuse prevention education and programming. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only EXW 251 (or EXW 312) or EXW 351 |
| EXW | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| EXW | 400 | Stress Management for Wellness | Examines the stress response and management from a behavioral perspective as it pertains to individuals or groups. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): PSY 101; minimum 60 hours OR Visiting University Student |
| EXW | 412 | Pediatric Obesity | Covers a variety of aspects related to pediatric obesity including the causes and consequences in terms of physiologic, genetic, psychosocial, environmental and economic. Also discusses potential interventions such as behavioral, pharmacologic, surgical and public health and policy. Evidenced-based course where research guides class lectures and discussions. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 315 or KIN 340; Credit is allowed for only EXW 412 or KIN 446 or EXW 494 (Pediatric Obesity) or KIN 494 (Pediatric Obesity) |
| EXW | 420 | Exercise Testing | Theoretical basis and practical application of pre-exercise screening, exercise testing, estimates of energy expenditure, and interpretation of results. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s) with C or better: EXW 214; EXW 216; EXW 218; EXW 330; SSP 315 (EXW 315); min 60 hours OR EXW 215; EXW 217; EXW 330; KIN 340; min 60 hours OR EXW 215; EXW 217; EXW 330; SSP 315 (EXW 315); min 60 hours OR Visiting University Student |
| EXW | 425 | Exercise Prescription for Health and Wellness | Comprehensive course allowing students to apply the principles of exercise prescription to improve the health and fitness of apparently healthy adults and adults with risk factors, stable chronic conditions, and/or comorbidities. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 335, KIN 340, or SSP 315 (EXW 315) with C or better OR Visiting University Student |
| EXW | 426 | Exercise for Neuromuscular Conditions | Covers the impact of various neurological and neuromuscular conditions on the physiological function, motor control, exercise capacity and health of the human body. Students research and apply evidence-based best practices for exercise prescription for persons with such conditions with the goal of maximizing functional abilities and capacity, independence and health-related physical fitness and preventing or treating secondary conditions. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | L | Prereq(s): ENG 101, 105, or 107 w/C or better; EXW 330, KIN 334 or PRM 364; KIN 340 or SSP 315 (EXW 315); Credit for EXW 426 or EXW 494/KIN 494/EXW 598 (Neuro-muscular Exer Prescrip) or EXW 598 (Exer for Neuromuscular Cond) OR Visiting University Student |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|-----------------------------|-----------------------------|-------|-----------------|--|
| EXW | 442 | Motivational Interviewing | Provides a structure for understanding, critiquing and application of core concepts associated with motivational interviewing. Assigns each student to formally interview a volunteer, review the audio/visual stream, and evaluate the efficacy via accepted software and hardware instruments. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): CHS 340 or EXW 342 with C or better; Credit is allowed for only EXW 442 or EXW 494 (Motivational Interviewing) |
| EXW | 446 | Worksite Wellness | Provides insights and tools to effectively promote the transformation of workplaces into communities that care for their employees while improving productivity and moderating increases in health care costs through sustainable wellness programming. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 101 with C or better; Pre- or corequisite(s): EXW 342 OR Visiting University Student |
| EXW | 450 | Social Determinants of Health and Health Behavior | Examines broad determinants of health that influence the well-being of individuals and communities (e.g., early life, education, employment, culture, policy, the built and food environments, stress and socioeconomic status). | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | (L or SB) & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 60 hours OR Visiting University Student |
| EXW | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): Exercise and Wellness major; EXW 420 with C or better; minimum 2.00 GPA OR Health Education and Health Promotion major; EXW 284 with C or better; EXW 476 (or EXW 436) with C or better |
| EXW | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): Barrett Honors student |
| EXW | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| EXW | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| EXW | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-3 | | |
| EXW | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 501 | Research Statistics | Statistical procedures; sampling techniques, hypothesis testing, and experimental designs as they relate to research publications. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 510 | Obesity Perspectives and Prescriptions | Examines the impact of obesity, body fatness and fat distribution on health from various physiological, psychological, social and cultural perspectives. Explores the importance of the obesogenic environment in the etiology of obesity as well as its role in the prevention and management of obesity. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EXW 510 or EXW 598 (Obesity Perspectives and Prescription) or HEP 410 (EXW 410) |
| EXW | 515 | Advanced Exercise Physiology | Comprehensive and in-depth investigation of human physiology to exercise circumstances. Provides content on the immediate and long-term adaptations to exercise with special reference to exercise metabolism, immune function, skeletal muscle, cardiovascular and pulmonary systems. Also includes critical analysis of the effect of exercise on human physiologic function with in-depth examination of current literature. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Clinical Exercise Physiology MS major or Exercise and Wellness MS major; Credit is allowed for only EXW 515 or KIN 494 (Advanced Exercise Physiology) or KIN 598 (Advanced Exercise Physiology) |
| EXW | 535 | Advanced Exercise Assessment and Prescription | Theory and practice of laboratory methods in applied exercise physiology. Procedures for assessment and prescription for individuals with chronic disease. | N | LEL | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 536 | Physiological Aspects of Physical Activity and Chronic Disease | Role of physiological mechanisms associated with acute and long-term physical activity and its influence on chronic disease and wellness. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 538 | Exercise, Diet and Weight Control | Examines effects of exercise and diet on body fat and energy balance, with special emphasis on obesity treatment and prevention. Topics include fad/popular diets, exercise and fat balance, weight-loss maintenance, body weight set-point, metabolic adaptations to calorie restriction, causes of weight gain and increasing obesity prevalence, health benefits of exercise and diet independent of weight loss. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 540 | Mindfulness, Stress and Health | Overview of the theory, measurement, research and efficacy of mindful awareness practices and programs on stress reduction, health outcomes and health behavior. Includes an experiential learning component focused on practices and content consistent with mindfulness-based stress reduction. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EXW 540 or EXW 598 (Mindfulness Stress and Health) |
| EXW | 542 | Health Promotion | Examines the major theories of behavior change and their application to improving health behaviors. Includes practical application through intervention development and critical evaluation of the literature. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 544 | Fitness/Wellness Management | Development of the fitness/wellness industry. Planning, organizing, promoting, and managing fitness/wellness programs. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| EXW | 554 | Planning and Implementation in Health Promotion | Covers selected topics in health promotion across a variety of domains of health. Program planning concepts include the application of planning frameworks, needs assessments, and theory in health promotion program planning and development. Also focuses on practical issues related to health promotion program implementation such as implementation planning, resource management and program marketing. Also covers process evaluation and quality improvement strategies. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EXW 554 or HEP 454 (EXW 454) |
| EXW | 556 | Program Evaluation in Health Promotion | Comprehensive and systematic introduction to the key concepts and methodologies of program evaluation, specifically related to health programs. Discusses approaches to program evaluation in relation to the program's stage of development, resources and informational needs for decision-making. Focus includes program evaluation literature related to physical activity and nutrition. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 554; Credit is allowed for only EXW 556 or HEP 456 (EXW 456) |
| EXW | 560 | Cardiopulmonary Rehabilitation | Exercise testing and prescription for cardiac and pulmonary patients as well as pharmacology, electrocardiography, pathophysiology of chronic diseases, and leadership of patients in cardiac rehabilitation and pulmonary rehabilitation programs. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 562 | Functional Assessment and Exercise Prescription for Older Adults | Assessment of functional capacity and prescription of exercise that is appropriate for older adults including healthy, frail, diseased and very old. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): MS Clinical Exercise Physiology or Exercise and Wellness major |
| EXW | 564 | Aging and Lifestyle Behaviors | Provides an overview of health behaviors in older adults. Centers on the perceptions and behaviors of older adults in reference to illness prevention, health promotion and reactions to acute and chronic illness and the context in which these behaviors occur. Specifically examines the psychological, familial, cultural and contextual factors which influence older adults' personal health practices and illness behaviors. Considers the older person as an individual in a complex system, engaged in decision making and his/her subsequent actions to maintain or improve health status. Solidifies concepts through the use of in-class case studies and discussions. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Pre-requisite: EXW 542 |
| EXW | 565 | Cardiovascular and Pulmonary Physiology | In-depth study of the physiology of exercise with special regard to cardiovascular and pulmonary responses in healthy and chronically diseased individuals. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Clinical Exercise Physiology MS students |
| EXW | 568 | Management and Treatment of Chronic Disease for the Clinical Exercise Physiologist | Studies the physiology, pathophysiology and pharmaceutical interventions of common chronic disease incorporating the current research for recommendations on appropriate exercise prescription for this population. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Clinical Exercise Physiology MS student |
| EXW | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 597 | Capstone Project | For non-thesis students in the MS degree program to provide a culminating field experience or non-research project for students to apply the coursework and healthy aging concepts. | N | RSC | N | YGB | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): EXW 500; EXW 501; EXW 536; EXW 542; EXW 591 |
| EXW | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| EXW | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 635 | Physical Activity and Aging | Examines and discusses the physiological effects of aging on the major systems of the body and the health related research on physical activity and aging. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 640 | Analysis of Variance for Exercise and Wellness | Analyzes variance methods with an emphasis on research measures of human performance. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 641 | Qualitative Research Methods | Introductory overview of qualitative research methods frequently used in education and health. Emphasizes analysis of research and practical application. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 642 | Exercise Epidemiology | Covers the historical and current perspectives of physical activity and exercise epidemiology as applied to population health. Examines public health surveillance information and evaluates and synthesizes strategies to increase physical activity across health care and community settings. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 643 | Correlation/Regression/Multivariate Statistics | Graduate-level statistics course for PhD/master's students who will be doing research in the area of exercise and wellness. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 645 | Advanced Applied Methods and Data Analysis | Heavily applied focus on implementing research methods and statistical modeling techniques in the health promotion sciences. Addresses practical issues in specifying, interpreting and presenting research findings using appropriate statistical techniques. Addresses reporting standards (e.g., CONSORT, STROBE, PRISMA) and practical issues related to manuscript submission. Covers analytical methods including multiple regression and logistic regression, ANOVA, mediation and moderation, exploratory factor analysis, multilevel models for hierarchical data and intensive longitudinal data, basic time-to-event analyses (i.e., survival), and meta-analysis; also remains flexible to address critical and emerging methodologies in the health promotion sciences. Covers statistical methods in a conceptual nature with a focus on the use of statistical software packages (primarily SPSS) and interpretation of outputs. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 640 |
| EXW | 655 | Physical Activity and Public Health | In-depth analysis of the role of physical inactivity as a public health problem and public health approaches to the study and practice of increasing physical activity. Includes analysis of public health strategies for increasing physical activity at the community, national and international levels. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EXW 655 or EXW 598 (Pa Pub Health) |
| EXW | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 701 | Advanced Research Methods | Provides doctoral students in Nutrition and Health Promotion with instruction in methods to enhance scientific writing skills in the health sciences and guidance through the process required to organize and submit a fundable research grant proposal. | N | SEM | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 700 |
| EXW | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | GNA | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): Exercise and Nutritional Sciences PhD student |
| EXW | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Health Solutions | College of Health Solutions | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 101 | Personal Growth and Relationships | Learn how to set and achieve personal growth goals in addition to learning the science behind attraction, dating, love and how to build and maintain healthy relationships. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | |
| FAS | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-3 | | Pre-requisites: Freshman Standing; Maximum 25 hours |

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| FAS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | |
| FAS | 201 | Careers in Family and Human Development | Introduces the program in family and human development and aids in career exploration and development for majors and nonmajors who may be interested in declaring this as a major. Students learn what careers and jobs family and human development students typically enter and what skills can be translated into practice for a career in different professions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1 | | Credit is allowed for only FAS 201 or SOC 201 |
| FAS | 264 | Sociology of Gender | Examines how society influences perceptions of difference and identity within institutions and interactions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & C | Prerequisite(s): ENG 101, 105, 107, or 111 with C or better; Credit is allowed for only FAS 264 or SOC 264 OR Visiting University Student |
| FAS | 290 | Introduction to Social Science Research | Students learn the fundamentals of how social research is conducted and use critical thinking skills to access, analyze, interpret and summarize research. Students gain an appreciation for the value of social research in our everyday lives. Explores both qualitative and quantitative methods. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): CDE 232, FAS 101, or SOC 101 with C or better; Credit is allowed for only FAS 290 or SOC 290 OR Visiting University Student |
| FAS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | |
| FAS | 301 | Introduction to Parenting | Integrated approach to understanding parenting and parent-child interactions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | |
| FAS | 324 | Sociology of Work and Organizations | Historical and comparative examination of changes in the structure and meaning of work and current shifts in people's work lives with a focus on race, ethnicity, gender, social class and social networks. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only FAS 324 or SOC 324 OR Visiting University Student |
| FAS | 331 | Modern Family Relationships | Family structures and processes. Explores the science on dating, cohabitation, marriage, parenting, divorce, finances (and more) in multiple family forms, including single-parents, multi-generational, LGBTQ+, childless and blended families. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): FAS 101, PSY 101 or SOC 101 OR Visiting University Student |
| FAS | 332 | Human Sexuality | Relationship of sexuality to family life and to major societal issues. Emphasizes developing healthy, positive, and responsive ways of integrating sexual and other aspects of human living. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | |
| FAS | 361 | Applied Research Methods | Learn how to apply methodological approaches to social research questions. Learn to evaluate, interpret, synthesize, produce and present research. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | L or SB | Prerequisite(s): CDE 232, FAS 101, or SOC 101 with C or better; ENG 101, 105, or 107 with C or better; PSY 230, SBS 304, SOC 390, or STP 226 with C or better; Credit is allowed for only FAS 361 or SOC 391 OR Visiting University Student |
| FAS | 370 | Family Ethnic and Cultural Diversity | Integrative approach to understanding historical and current issues related to the structure and internal dynamics of diverse American families. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & C | Credit is allowed for only AFR 370 or FAS 370 OR Visiting University Student |
| FAS | 390 | Supervised Research Experience | Practical, firsthand experience within current faculty research projects in family studies or child development or sociology. May be repeated for total of 6 hours. | Y | RSC | Y | GNA | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FAS 390 or SOC 399 OR Visiting University Student |
| FAS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | |
| FAS | 410 | Military Family Systems in a Democracy | In-depth overview of recent research, issues, trends relating to military families and the interactions within the military culture and societal cultures. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): FAS 101 or PSY 101 or SOC 101; minimum 30 hours OR Visiting University Student |
| FAS | 435 | Advanced Topics in Modern Family Relationships | Applies critical evaluation to research on relationships and families. Analyzes and discusses contemporary topics related to families, including LGBTQ+ rights, racial justice, immigration and healthcare decisions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; FAS 331 with C or better; minimum 45 hours; Credit is allowed for only FAS 435 or SOC 435 OR Visiting University Student |
| FAS | 436 | Sexuality in Mid-Life and Beyond | Analyzes physical changes, myths and stereotypes, gender issues, and relationship issues pertaining to sexuality in the middle and older adult years. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 60 hours; 6 hours of PSY and/or SOC courses |
| FAS | 440 | Fundamentals of Marriage and Family Therapy | Introduces the fundamental orientations of marriage and family therapy. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | |
| FAS | 460 | Leadership, Research, and Collaboration in Community Change | Advanced understanding of leadership and the development of proposals for innovative plans that enhance the well-being of children, youth and families. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): minimum 60 hours; Credit is allowed for only FAS 460 or FAS 498 (Leadership Research & Collaboration in Change) or SOC 460 |
| FAS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | |
| FAS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-6 | | Prerequisite(s): Barrett Honors student |
| FAS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| FAS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | |
| FAS | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-6 | | Prerequisite(s): Barrett Honors student |
| FAS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-7 | | |
| FAS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-3 | | |
| FAS | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEL | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 503 | Academic Professional Development | Becoming and working as a academic, including how to write a vita, choose a thesis topic, or find dissertation data. | N | REC | N | GNA | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 505 | Applied Regression Analysis | Multiple linear regression topics relevant to social science data analysis. Computer applications. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only FAS or SOC 505 |
| FAS | 507 | Categorical Data Analysis | Logistic regression and related topics relevant to categorical data analysis in social sciences. Computer applications. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only FAS or SOC 507 |
| FAS | 508 | Structural Equation Analysis for the Social Sciences | Theory and application of structural equation modeling. Path analysis and latent variable models such as CFA, multiple group analysis and models for longitudinal data. Projects involve conducting analyses and writing results. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only FAS or SOC 508 |
| FAS | 509 | Event History Analysis | Proportional hazards models and other methods for analyzing longitudinal data and establishing hazard rates of events for exploratory variables. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only FAS or SOC 509 |
| FAS | 510 | Bayesian Analyses in the Social Sciences | Discusses principles and practices of Bayesian approaches to statistical inference and modeling. Topics include: philosophical underpinnings of Bayesian inference; associated interpretations of probability; univariate and multivariate models prevalent in the social sciences; Markov chain Monte Carlo estimation; data-model fit; model comparisons procedures; missing data analyses. Course consists of lectures, demonstrations of software, reading assignments, homework assignments and a project. Exposes students to key concepts in Bayesian methods and gains technical foundations necessary to be consumers and contributors to applied and methodological research. Assumes previous knowledge of statistics through multiple regression, and recommends additional topics: multivariate statistics, latent variable modeling, probability theory. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CDE 591 (Bayesian Analyses in the Social Sciences) or CDE 591 (Introduction to Bayesian Analyses) or FAS 510 or SOC 510 |
| FAS | 512 | Secondary Data Analysis | Works with existing data to produce a publishable article. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only FAS or SOC 512 |
| FAS | 520 | Structural Equation Modeling with Longitudinal Data | Emphasizes practical applications of longitudinal data analyses from a structural equation modeling perspective. In addition to discussing concepts related to longitudinal methods and design, students learn how to prepare data, model longitudinal data using software (e.g., Mplus), interpret output and report results of analyses. Example topics include panel models with observed and latent variables, measurement and structural invariance testing across time and group, fixed-effects panel models and mediation. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): EDP 654, FAS 508, or PSY 533; Credit is allowed for only CDE 591 (Structural Equation Modeling - Longitudinal Data) or FAS 520 |
| FAS | 521 | Latent Growth and Longitudinal Mixture Models | Emphasizes practical applications of longitudinal data analyses from a structural equation modeling perspective as well as practical applications of growth mixture models. In addition to discussing concepts related to longitudinal methods and design, students learn how to model longitudinal data using software (e.g., Mplus), interpret output and report results of analyses. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): EDP 654, FAS 508, or PSY 533; Credit is allowed for only CDE 598 (Latent Growth & Mixture Models-Longitudinal Data) or FAS 521 |
| FAS | 531 | Theoretical Issues in Family Sciences | Historical and current approaches to theory development, evaluation, and application in family studies. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 539 | Research Issues in Family Interaction | Critical review of current and past research in the area of family dynamics. Emphasizes interactional processes within the family. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 570 | Introduction to Marriage and Family Therapy | Introduces major marriage and family therapy orientations. Reviews history, theory, application, and outcome research for each orientation. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-MFT student |
| FAS | 571 | Assessment in Marriage and Family Therapy | Assessment and outcome evaluation of couples and families involved in marital and family therapy. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-MFT student |

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| FAS | 572 | Advanced Techniques in Marriage and Family Therapy | In-depth review of assumptions and advanced techniques associated with contemporary marriage and family therapy approaches. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-MFT student |
| FAS | 573 | Dysfunctional Families | Critical review of current theory and empirical evidence connecting marital and family interaction patterns with aberrant behavior. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-MFT student |
| FAS | 574 | Family Theory for Marriage and Family Therapy | Examines the theoretical orientations within the family therapy field, including the evolution, premises, and assumptions of each. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-MFT student |
| FAS | 575 | Applied Issues in Couples - Therapy | Examines issues unique to therapeutic work with couples, including lifespan transition, multicultural issues, divorce, parenting, and remarriage. Seminar. Enroll requirements: Pre-requisites: Admission into MAS-MFT program. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-MFT student |
| FAS | 576 | Applied Issues in Human Development for MFT: Psychopathology | Recognition and diagnosis of maladaptive behavior according to DSM criteria across human development. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-MFT student |
| FAS | 577 | Applied Issues in Children and Adolescents in Marriage and Family Therapy | Examines developmental factors that lead to disorders in children and adolescents, with an emphasis on a systemic framework. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-MFT student |
| FAS | 578 | Applied Issues in Sexuality for Marriage and Family Therapy | Examines the major methods used to assess and treat sexual issues and the treatment of sexual disorders. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-MFT student |
| FAS | 579 | Applied Research in Marriage and Family Therapy | Critical examination of research concepts, quantitative and qualitative research designs, and applicability in clinical settings. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-MFT student |
| FAS | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 581 | Professional Issues and Ethics | Examines legal and ethical concerns of marriage and family therapists, emphasizing licensing standards and the Code of Ethics. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-MFT student |
| FAS | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 586 | Capstone I | Professional exploration and goal specification for non-thesis capstone project. | N | PRA | N | GNA | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree-seeking graduate student in the Sanford School of Social and Family Dynamics; Credit is allowed for only FAS 586 or SOC 586 |
| FAS | 587 | Capstone II | Develops professional expertise and area of focused interest. | N | RSC | N | GNA | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): FAS 586 or SOC 586. Credit is allowed for only FAS 587 or SOC 587 |
| FAS | 588 | Capstone III | Applies developed expertise and knowledge to professional goal. | N | PRA | N | GNA | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): CDE 501 or SOC 501; CDE 531 or SOC 585; FAS 500 or SOC 500; FAS 587 or SOC 587; 12 additional graduate-level hours in CDE, FAS, and/or SOC; Credit is allowed for only FAS 588 or SOC 588 |
| FAS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| FAS | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FIN | 123 | ASU Financial Literacy | A practical approach to financial challenges faced by ASU students. Emphasizes financial choices likely to be encountered while at ASU, as well as issues to be encountered immediately upon graduation. Topics include credit cards, student loans, credit scores, saving, investing, insurance, transportation, housing, taxes, goal setting and budgeting. | N | LEC | N | YGB | W. P. Carey School of Business | Department of Finance | 1 | | Credit is allowed for only FIN 123 or 191(ASU Financial Literacy) |
| FIN | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Finance | 1-4 | | |
| FIN | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Finance | 1-4 | | |
| FIN | 300 | Fundamentals of Finance | Theory and problems in financial management of business enterprises. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prereqs w/C or better:WPC maj or non-WPC maj w/min 2.5 GPA &min 56 hr; ACC 231,232 or 261; ECN 212; ECN 221,231,IEE 380 or STP 280; MAT 210,251,265 or 270; Pre/coreq:ACC 241,242 or 271; Credit allowed for FIN 300,302 or 303 OR Visiting University Student |
| FIN | 302 | Managerial Finance | Theories and techniques used for business decisions in working capital management, capital budgeting, financial control, and long-term financing. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prereqs w/C or better: WPC Finance major; ACC 231, 232, 261; ECN 211, 213; ECN 212, 214; ECN 221, 231; MAT 211, 266, 271; Pre/coreqs: ACC 241, 242, or 271 w/C or better if complete; Credit allowed for only FIN 302 or 303 OR Visiting University Student |
| FIN | 303 | Honors Finance | Covers basic principles of finance, practical tools for financial decision making, and evaluation methods employed by the firm. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s) with C or better: WPC Honors student; ACC 231, 232, or 261; ECN 211 or 213; ECN 212 or 214; ECN 221 or 231; MAT 211 or 271; Pre- or corequisite(s): ACC 241, 242 or 271 with C or better if completed; Credit allowed for only FIN 302 or 303 |
| FIN | 331 | Financial Markets and Institutions | Analyzes financial markets and intermediaries. Theory of financial intermediation, interest rate theory, money and capital market instruments, and government regulation. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prereqs w/C or better: W.P. Carey BS major or Business minor; ACC 231, 232, or 261; ECN 211 or 213; ECN 212 or 214; ECN 221 or 231; MAT 211, 266, or 271; Pre/coreqs: ACC 241, 242, or 271 with C or better if completed OR Visiting University Student |

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| FIN | 361 | Advanced Managerial Finance | Builds on FIN 302. Advanced material on capital budgeting, cost of capital, CAPM, asset valuation, capital structure, and financial policy. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): W.P.Carey Finance BS student; FIN 302 with C or better OR Visiting University Student |
| FIN | 380 | Personal Financial Management | Dynamic analysis of personal financial planning, including time value of money, stock and bond investment, and retirement and estate planning. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): minimum 2.00 GPA; minimum 56 hours, OR nondegree-seeking student; minimum 2.00 GPA, OR graduate student; Not for Finance major credit OR Visiting University Student |
| FIN | 385 | Personal Insurance Planning | Fundamentals of personal risk and insurance. Understanding and evaluating personal insurance coverage. Helpful for an insurance license. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): W. P. Carey major; FIN 300, 302, or 303 with C or better OR Visiting University Student |
| FIN | 386 | Estate Planning Strategies | Estate planning concepts, issues and strategies. Evaluates a personal estate plan and identifies needed components. Planning for client objectives and wealth. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): W. P. Carey major; FIN 300, 302, or 303 with C or better; FIN 380 with C or better; Pre- or corequisite(s): FIN 385 with C or better if completed OR Visiting University Student |
| FIN | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Finance | 1-4 | | Prerequisite(s): W.P. Carey BS non-Finance major; FIN 300, 302, or 303 with C or better OR Visiting University Student |
| FIN | 420 | Personal Portfolio Management | Managing a portfolio of securities through the investment process. Valuing stocks, bonds, managing risk, and considering tax and inflation consequences. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): Business (Financial Planning) BA major; FIN 300, 302, or 303 with C or better; FIN 380 with C or better OR Visiting University Student |
| FIN | 421 | Security Analysis and Portfolio Management | Security analysis theory and practice. Selection and management of financial asset portfolios. Securities markets and portfolio risk-return analysis. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): W. P. Carey Finance BS major; ACC 340 with C or better; FIN 303 or 361 with C or better OR Visiting University Student |
| FIN | 427 | Derivative Financial Securities | Study of stock options, index options, convertible securities, financial futures, warrants, subscription rights, and arbitrage pricing theory. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): W. P. Carey Finance BS major; ACC 340 with C or better; FIN 303 or 361 with C or better OR Visiting University Student |
| FIN | 431 | Management of Financial Institutions | Asset/liability and capital management in financial institutions. Influence of market factors and regulatory agencies. Emphasizes commercial banks. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): W. P. Carey Finance BS major; ACC 340 with C or better; FIN 303 or 361 with C or better OR Visiting University Student |
| FIN | 455 | Entrepreneurial Finance | Examines principles of entrepreneurial finance with a focus on the underlying economics and institutions involved. Provides insight into evaluating new ventures and practical financial tools for the entrepreneur. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): W. P. Carey Finance BS major; ACC 261 or 340 with C or better; FIN 303 or 361 with C or better; Credit is allowed for only FIN 455 or FIN 555 OR Visiting University Student |
| FIN | 456 | International Financial Management | Exchange rate determination, financial markets, managing multinational corporations, capital budgeting, and hedging currency risk exposure from an international perspective. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | G | Prerequisite(s): W. P. Carey Finance BS major; ACC 340 with C or better; FIN 303 or 361 with C or better OR Barrett Honors student; Finance BS major; FIN 303 with C or better OR Visiting University Student |
| FIN | 460 | Personal Finance Cases and Modeling | Capstone course. Case method training to simulate situations as a financial planner for self and for clients. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): Business (Financial Planning) BA major; ACC 435 with C or better; FIN 385 with C or better; FIN 386 with C or better; Pre- or corequisite(s): FIN 420 with C or better if completed |
| FIN | 461 | Financial Cases and Modeling | Case-oriented capstone course in managerial finance. Contemporary issues of liquidity management, capital budgeting, capital structure, and financial strategy. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | L | Prerequisite(s): Finance BS major; ACC 340 with C or better; ENG 101, 105, or 107 with C or better; FIN 303 or 361 with C or better; minimum 87 hours; Pre- or corequisite(s): FIN 421 with C or better if completed OR Visiting University Student |
| FIN | 471 | SIM Fund | Under faculty supervision, students manage over \$500,000 of the ASU Foundation's assets over the course of the year. Must take for a total of 3 hours. | N | LEC | Y | Z1 | W. P. Carey School of Business | Department of Finance | 1-3 | | Prerequisite(s): FIN 303 or 361 with C or better OR Visiting University Student |
| FIN | 472 | Investment Banking Industry Scholars | Provides conceptual basis for performing analysis, providing advice and making decisions in elite financial services firms. Must take for a total of 3 hours. | N | LEC | Y | GNA | W. P. Carey School of Business | Department of Finance | 1-3 | | Prerequisite(s): application and selection process; Credit is allowed for only FIN 472 or FIN 494 (Investment Banking Industry Scholars) |
| FIN | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | GNA | W. P. Carey School of Business | Department of Finance | 1-12 | | Prerequisite(s): W.P. Carey BS student; FIN 300, 302 or 303 with C or better |

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| FIN | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | IND | Y | Z1 | W. P. Carey School of Business | Department of Finance | 1-6 | | Prerequisite(s): Barrett Honors student |
| FIN | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | W. P. Carey School of Business | Department of Finance | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| FIN | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Finance | 1-4 | | Prerequisite(s): W. P. Carey Finance BS major; ACC 261 or 340 with C or better; FIN 303 or 361 with C or better OR Visiting University Student |
| FIN | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | W. P. Carey School of Business | Department of Finance | 1-3 | | Pre-requisites: W.P. Carey Finance students with professional status |
| FIN | 501 | Basics of Finance: The Art of Managing Resources to Create Value | Develops analytical techniques and financial theories used to make optimal decisions in a corporate setting. Designed for students with limited business experience and without an undergraduate business degree. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): degree-seeking graduate student |
| FIN | 502 | Managerial Finance | Develops analytical techniques and financial theories used to make optimal decisions in a corporate setting. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 2-4 | | Prerequisite(s): W. P. Carey MS Finance or MBA student; ACC 502 with C or better |
| FIN | 509 | Quantitative Methods in Finance I | Empirically investigates properties of financial data such as basic probability theory, matrix algebra, ordinary least squares, and maximum likelihood estimation. Explores these methods both through algebraic derivation and programmed implementation in PYTHON. Provides the basis for portfolio optimization by focusing on the estimation and testing of financial factor models. | N | SEM | N | GNA | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): Finance MS student |
| FIN | 520 | Valuation Techniques | Improves the understanding of valuation concepts and how to apply them. Shows how to value assets using free cash flow and economic value-added methods. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 1-4 | | Prerequisite(s): Degree-seeking graduate student; FIN 502 with C or better |
| FIN | 525 | Investment Strategies | Presents the fundamental principles of risk and return, portfolio diversification, asset allocation, efficient markets, active portfolio management, portfolio evaluation. Reviews selected alternative investment strategies such as hedge fund investments. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 1-4 | | Prerequisite(s): W. P. Carey Finance MS or MBA student; FIN 502 with C or better |
| FIN | 530 | Derivatives | Intermediate- to advanced-level course in derivative assets such as options, forward and futures contracts, swaps and financial engineering. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 1-4 | | Prerequisite(s): W. P. Carey Finance MS student; FIN 502 with C or better |
| FIN | 535 | Quantitative Methods in Finance II | Investigates financial data by using techniques such autoregressive and vector-autoregressive models, dimension-reduction techniques motivated by latent factor models and machine learning dimension-reducing techniques. Explores these methods using algebraic derivation and implementation in PYTHON. Builds on the statistical and programming skills developed in FIN 509 and emphasizes forecasting for the optimization of portfolios. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): Finance MS student; FIN 509; Credit is allowed for only ECN 502 or FIN 535 |
| FIN | 540 | Advanced Financial Management | Offers a comprehensive exploration of the revolutionary developments occurring in the world's financial markets. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 1-4 | | Prerequisite(s): Degree-seeking graduate student; FIN 502 with C or better |
| FIN | 545 | Advanced Corporate Finance | Studies major decision-making areas and selected topics in corporate finance. Attempts to develop decision-making ability in these areas using both lectures and cases. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 1-4 | | Pre-requisite: W. P. Carey degree-seeking graduate student; Credit is allowed for only FIN 545 or 591 (Advanced Corporate Finance) |
| FIN | 550 | Fixed Income | Intermediate- to advanced-level course in fixed income instruments and associated relative valuation of the securities. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 1-4 | | Prerequisite(s): Degree-seeking graduate student; FIN 502 with C or better |
| FIN | 555 | Entrepreneurial Finance | Provides an overview of the economics and institutions involved in entrepreneurial finance. Focuses on the financing of new ventures. Consists primarily of case analysis, supplemented with in-class exercises and lecture material. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 1-4 | | Prerequisite(s): W.P. Carey degree-seeking graduate student; Credit is allowed for only FIN 455 or FIN 494 (Entrepreneurial Finance) or FIN 555 |
| FIN | 560 | International Finance | Examines the financial issues of an international investment decision. Main topics include foreign exchange market, investment alternatives in the international capital markets, and the management of foreign exchange risk. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 1-4 | | Prerequisite(s): Degree-seeking graduate student; FIN 502 with C or better |
| FIN | 565 | Risk Management in Banks and Financial Institutions | Provides a risk management view of financial institutions (also known as financial intermediaries). Traditionally, banking courses have focused on an overview of the financial services industry, sector by sector, concentrating on balance sheet presentations and overlooking management decision making and risk management. In contrast, this course emphasizes a risk management approach. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 1-4 | | Pre-requisite: W. P. Carey degree-seeking graduate student |

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| FIN | 575 | Finance Capstone | Provides a culminating experience as a step in completing the degree. Applies finance principles related to the investment, risk management and financing policies of the firm to develop decision-making ability in these areas. Emphasizes analysis of finance problems through selected readings and case studies. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 1-4 | | Pre-requisite: W. P. Carey degree-seeking graduate student; Credit is allowed for only FIN 575 or 591 (Finance Capstone) |
| FIN | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Finance | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FIN | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | W. P. Carey School of Business | Department of Finance | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FIN | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | GNA | W. P. Carey School of Business | Department of Finance | 1-12 | | Prerequisite(s): W. P. Carey degree-seeking graduate student |
| FIN | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | GNA | W. P. Carey School of Business | Department of Finance | 1-12 | | Prerequisite(s): FIN 502 with C or better |
| FIN | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | W. P. Carey School of Business | Department of Finance | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FIN | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Finance | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FIN | 781 | Theory of Finance | Fundamental tools of financial economics; asset pricing, arbitrage, option pricing, capital structure, dividend policy, asymmetric information, and transaction-cost economics. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FIN | 782 | Theory of Finance II | Fundamentals of corporate finance, contract theory, agency problems, and game theory applications in Finance. | N | SEM | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): W. P. Carey graduate student |
| FIN | 783 | Empirical Asset Pricing | Asset pricing models in finance; efficient market hypothesis, empirical factor models, option pricing basics. | N | SEM | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): W. P. Carey graduate student |
| FIN | 785 | Financial Economics of Capital Markets | Asset pricing theory, equilibrium asset pricing models, and the equity premium puzzle; incomplete and imperfect markets. | N | SEM | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): W. P. Carey graduate student |
| FIN | 786 | Corporate Finance | Issues in corporate finance covering topics that impinge on corporate finance, financial contracting, intermediation; empirical corporate finance; microstructure. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 3 | | Pre-requisite: W. P. Carey degree-seeking graduate student |
| FIN | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | W. P. Carey School of Business | Department of Finance | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FIN | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | W. P. Carey School of Business | Department of Finance | 1-12 | | Pre-requisite: W.P. Carey degree-seeking Graduate student |
| FIN | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | W. P. Carey School of Business | Department of Finance | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FIN | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | IND | Y | Z3 | W. P. Carey School of Business | Department of Finance | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FIN | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | W. P. Carey School of Business | Department of Finance | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FIS | 101 | SFIS: The ASU Experience | Welcomes freshman students enrolled in the Innovation in Society major at ASU. Introduces the array of resources available to them as ASU students, stimulates them to reflect on their choice of major, and provides an opportunity to hear about the career trajectories and interests of faculty and alumni from the School for the Future of Innovation in Society. Capped at sections of 20 students to promote discussion and a sense of community. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 1 | | |
| FIS | 111 | Welcome to the Future | Explores the ways in which the future inspires, shapes and motivates the present. Illustrates how possible futures are used by people and institutions to advance agendas, shape conversations and sell products. Examines how science, technology and other forces are mobilized to create change. Empowers students to play a role in shaping our collective future. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | |
| FIS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-4 | | |

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| FIS | 201 | Innovation in Society | Examines the vast implications of innovation, why it is so powerful, and why it really matters. Introduces the theories and processes of innovation as they relate to socio-political change. Students gain knowledge about the history and future of innovation and explore how innovation is entangled with social, political and ethical issues. By identifying and applying analytical tools, students learn to account for the diverse workings and effects of innovation. This course strives to debunk the myth that innovation happens automatically. Rather, different actors rally to create innovations that shape our society, economy and cultures--and that those innovations are not inevitable and could be otherwise. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | H | |
| FIS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-4 | | |
| FIS | 305 | Ways of Knowing | Students research, beginning with the concept of research itself and its various purposes, highlighting knowledge and how it is created in different disciplinary approaches. Exposes historical and philosophical underpinnings of how research is conceptualized, presented and implemented, including what constitutes information, knowledge and evidence. Introduces material that is in a traditional research design and methodology course; however, the emphasis uniquely focuses on knowledge creation, innovation, the nature of disciplinary knowledge and its impact on society. Explores the epistemological differences in problem identification and approaches to inquiry in the disciplinary perspectives of engineering, the sciences and in the social sciences. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| FIS | 307 | Navigating Futures | Foresight methods and their potentials as entry-points into public discussions about near- and mid-range technoscientific developments. Four elements constitute the organizing axis of the course: (1) the history of foresight exercises in government agencies and business organizations; (2) the methods of four forms of foresight exercises (technology foresight, science and technology studies, anticipatory governance and scenario development); (3) a comparative assessment of these dominant forms; and (4) a group-based application exercise using one of the foresight methods. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| FIS | 308 | Politics, Markets and Innovation | Studies the roles that governments, markets and other factors play in promoting, disseminating and regulating science-based technological innovation. Includes examining the theoretical literature on factors that structure markets and shape diffusion, as well as case studies that illustrate the processes and mechanisms that govern innovations in society. In addition to studying the role of governments, firms and universities, also considers the role of publics as consumers who adopt innovations but also as citizens who may be skeptical of them. Includes case studies in agriculture, health care, biotechnology and digital rights. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| FIS | 331 | Technology and the Modern World | Explores how technological systems are developed and embedded in the modern world with an eye to playing a role in creating better futures. Examines how machines and techniques can shape institutions, relationships and values. Challenges students to envision futures that they want and work to develop strategies for moving us (and our systems) toward those futures. Analyzes technologies past, present and imagined, and describes the ways in which technologies shape our world and the ways in which we shape those technologies. Through repeated practice in class students play a productive role in and even facilitate conversations that tease out the relationships between values and technological systems. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): minimum 45 hours |
| FIS | 332 | Risk and the Future | Examines the evolving global risk landscape that is resulting from rapidly increasing global connectivity, tight coupling and massive complexity. Develops an understanding of how innovation in society is changing the risk landscape and considers how innovation in approaches to risk can help navigate this emerging landscape. Topics include technological risk, sociopolitical risk, catastrophic risk, existential risk, converging technologies, perception and uncertainty, anticipation, precaution, uncertainty and risk innovation. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |

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| FIS | 334 | Science, Technology and Inequality | Conceptual and theoretical frameworks; provides empirical case studies that contribute to understandings of science and technology as they are used in society. The applications of science and technology in society need to be understood as instrumental to the creation and maintenance of inequality within and between societies. Science and technology does not merely cause or alleviate inequality, but are more profoundly implicated in social relations regarding distribution and access to the benefits of different technologies as well as exposure to risks from science and technology projects in society. The more pervasive and obdurate sources of social distribution are enshrined and entrenched in these scientific and technological systems. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | C | Prerequisite(s): minimum 45 hours; Credit is allowed for only FIS 334 or JUS 334 |
| FIS | 335 | Designing Knowledge | Provides a foundational understanding of how social organizations make and use knowledge. From research laboratories to biotechnology companies to statistical agencies, many organizations are specifically designed to be knowledge enterprises, enterprises whose primary purpose is to produce knowledge. All organizations in modern societies also operate knowledge systems: systems whose purpose is to create, validate, circulate, communicate and apply knowledge in the making of decisions. Examines how these forms of organization work and contribute to modern societies. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| FIS | 336 | Science and Technology Policy | Science and technology are powerful forces in the modern world. They have been hailed as a way to address everything from world hunger to old age. This does not, however, happen automatically, nor does it always work out the way one presumes. Governments make numerous decisions that affect the direction and application of science and technology, and government policies are affected by a myriad of social, political, and cultural factors. This class will explore the variety of ways in which governments make these policies, how the policies shape the development of science and technology and their applications, and how policy may be shaped to create better futures. Governments around the world have coalesced around the idea that science and technology are necessary for the promotion of the good life. We will examine how they put this idea into action by looking at five interrelated topics: Food, Security/Military, Health, Economy, and Sustainability. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | |
| FIS | 337 | Innovation and Global Development | Persistent inequality and poverty continue to plague nations including the USA even in the 21st century. Global development is a complex idea that attempts to address interrelated paradigms of culture, economy, equity, governance, history, societal dynamics, as well as technological issues. Using the framework of the Sustainable Development Goals 2030 (SDGs) this course examines, analyzes and critiques indicators of SDGs as well as explores innovative measures of development that nations around the world are planning and implementing in order to improve the lives of their citizens now and for the future. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | G | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| FIS | 338 | The Moviegoer's Guide to the Future | Unique introduction to cutting-edge technologies and their socially responsible and ethical development and use. Whether you are majoring in science, engineering, the social sciences, the humanities, innovation and entrepreneurship, business, design, film, communication, or the arts, this class enables a better understanding of how particular skills, knowledge and interests can help ensure the socially responsible development and use of emerging science and technology. Uses science fiction movies to explore emerging trends in science and technology and their ethical, responsible and beneficial development. Instructs how to describe how responsible innovation is relevant to developing just and vibrant global futures; discusses a wide range of emerging technologies and their ethical and responsible development; and articulates the importance of taking a transdisciplinary approach to ethical and beneficial entrepreneurship. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FIS 338 or FIS 394 (The Moviegoer's Guide to the Future) OR Visiting University Student |
| FIS | 351 | Public Management and Administration | Examines the context and role of the public manager and the development of the field of public administration. | N | LEC | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FIS 351 or PAF 300 OR Visiting University Student |

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| FIS | 371 | Innovation for Impact: Impact Journey | Builds on the ideas, concepts and experiences engaged in earlier course work. Innovation allows for amazing possibilities, and within each one of us is the potential to create, apply, research and scale innovation to realize impact goals. Grounded in a use-inspired framework with a focus on transforming society, engages innovation for impact with a particular focus on what constitutes and how one achieves sustainable and scalable outcomes. | N | SEM | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 1 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| FIS | 372 | Innovation for Impact: Inquiry Journey | Builds on the ideas, concepts and experiences engaged in earlier course work. Grounded in a use-inspired framework with a focus on transforming society, engages innovation for impact with a particular focus on meaning making, grounded claims, and what it means to gather, analyze, construct and advance meaningful assertions and storied truths that advance productive claims about the potential of an innovation to realize impact goals. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 1 | | Prerequisite(s): minimum 45 hours |
| FIS | 373 | Innovation for Impact: Innovation Journey | Builds on the ideas, concepts and experiences engaged in earlier course work. Grounded in a use-inspired framework with a focus on transforming society, engages innovation for impact with a focus on imagining, designing, developing and optimizing a particular innovation such that it is likely to realize impact goals. Beyond product-centric perspectives that locate change within the innovation, this journey emphasizes an ecological perspective that positions innovation as a shared accomplishment distributed across the designed innovation, engaged participants, prepared facilitators and a responsive ecosystem. | N | SEM | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 1 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| FIS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-4 | | |
| FIS | 403 | Governing Emerging Technologies | Examines the variety of ways in which societies make collective decisions or govern science and technology. Focuses on a particular category of science and technology: the set of emerging technologies like nanotechnology, artificial intelligence and robotics, genetic modification and synthetic biology, cognitive science and neurotechnology, geoengineering, and others that pose particular problems of high stakes, high uncertainty and ambiguous novelty. Closely allied with the research agenda of numerous faculty in the School for the Future of Innovation in Society, especially those in the Center for Nanotechnology in Society, the Risk Innovation Lab, and others; exposes students to inquiry and skills directly from the research front. Students perform numerous research tasks. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| FIS | 431 | Technology, Security and Insecurity in Global Politics | Focuses on the international political aspects of technological change; examines the impact of technological innovation and political change on the international political system. The overall goal is to create an awareness of and ability to analyze and synthesize world events, the particular role of technology, and consider the myriad ways that globalization and technology as a main driver could be changing the international system of nation-states. Technological innovation often takes place within a political context, including international politics, as nation-states and other entities develop technologies within the context of competition and power. There are several issues that run throughout the course as major themes. One is the role of technology in political and social change, and the impact of the latter on the former. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): minimum 45 hours |
| FIS | 432 | Problem Solving Through Strategic Thinking | Students learn how to ask questions, brainstorm and communicate ideas, while dealing with uncertain outcomes and unpredictable risks caused by the ideas and solutions they propose. In understanding which ideas and solutions stick and which don't, students learn how different factors influence the birth, life and death of ideas and the socio-technical systems in which ideation exists. Does it matter who asks the questions and proposes the ideas, who is trying to participate, who was there first, if there is a profit or other conflicting motive and the context and the interests that result in certain solutions being picked over others? This course uses exploration learning approaches, where students follow a progression through what they discover, from understanding who they are as individuals, to how ideas are formed and hypothesis made about proposed solutions. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): minimum 45 hours |

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| FIS | 444 | Environment and Justice | Explores issues of environment and justice. Topics include justice and environmental racism, future generations, nonhuman life, global/non-Western societies. | N | LEC | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | L & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only FIS 444 or JUS 444 |
| FIS | 480 | Innovation in Society Studio | Facilitates experiential learning and allows students to work with clients in the field of technology, innovation and sustainability. Through team projects with identified stakeholders, students engage, plan, design, implement and assess projects while learning interpersonal skills and managing client relationships. Students gain real-world experience and develop skills in project management, including planning, implementing and evaluating a complete project cycle. Allows students to manage both client-based projects and team relationships to complete projects. Students carry out project-based research, conduct interviews and meetings, make site visits, develop work plans and scope of works, negotiate clear deliverables with clients, implement projects and give public presentations. Presentations are grounded in the idea of conducting effective science communication. | N | SEM | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): FIS 305 OR Visiting University Student |
| FIS | 481 | Innovation for Impact: Application Journey | As a culminating experience, course brings together the previous experiences and emerging expertise to investigate, innovate and cultivate an impact innovation to achieve impact goals. Starting with building a grounded appreciation for a particular impact outcome, participants then design an innovation to realize a better future state, grounding this work in lessons with respect to logic models, design fictions, agile startups, and rapid prototyping. Some participants simply test a component and produce a reflective analysis, while others expand credit requirements and iterate to achieve transformative outcomes. | N | SEM | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): FIS 371; FIS 372; FIS 373 |
| FIS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | |
| FIS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-6 | | Prerequisite(s): Barrett Honors student |
| FIS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| FIS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | College of Global Futures | School for the Future of Innovation in Society | 1-4 | | |
| FIS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | RSC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-7 | | |
| FIS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-3 | | |
| FMP | 180 | Principles of Production Technology | Introduces the basic terms, functions, theories and applications of film and media-making equipment and technology related to camera, sound and editing. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | |
| FMP | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-4 | | |
| FMP | 201 | Film: The Creative Process I | History, elements, and techniques of theatrical film: cinematography, directing, acting, scriptwriting, producing, and criticism. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | HU | |
| FMP | 210 | Principles of Filmmaking | Introduces majors to the world of professional film and media production. Examines all aspects of the process from a practical, real-world perspective. Students learn the importance of each phase of the creative process through the five stages of filmmaking: development, preproduction, production, postproduction, and marketing/distribution. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Film and Media Production BFA major; FMP 180 with C or better OR Visiting University Student |
| FMP | 211 | Film Spark Engagement: Campus Intensive | Dynamically dated courses and experiences designed to bring students in contact with working industry professionals via Film Spark. | Y | LEL | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-3 | | Credit is allowed for only FMP 211 or FMP 294 (Producing Independent Film and Media) or FMP 294 (Pro Casting Practices: Advice from Professionals) |
| FMP | 215 | Beginning Post-Production for Film & Television: Adobe Premier Pro | Introduces the basics of post-production for digital narrative media, including instruction on Adobe Premiere Pro. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Credit is allowed for only FMP 215 or FMP 394 (Non-Linear Editing for Film and Media) |

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| FMP | 220 | Film and Media Post-Production I | Required 45-hour lab designed to teach students how to use the Avid Media Composer editing program and supporting software with an emphasis on editing techniques and workflow. Part of the Avid Learning Partner program, taught by a Certified Avid Instructor. Satisfies the Media Composer 100-level certification as part of Avid's official curriculum. Upon completion of this course, students take an exam to become an Avid Certified User. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Film and Media Production student OR Visiting University Student |
| FMP | 222 | Education in Film | Critically examines how teachers, students, administrators and educational issues are dramatized and represented in popular media. Explores professional teacher preparation, socio-cultural contexts of education systems and learning, and the use of cinema as social critique. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | L | Prerequisite(s): ENG 101 (or ENG 102) with C or better. Credit is allowed for only FMP 222 or FMP 294 (Education in Film) |
| FMP | 225 | Introduction to Visual Effects | Introductory look into the theory and practice of creating visual effects for film, television and games. Focuses on principles of 2D visual effects as derived and modernized from traditional special effects practices as seen in pre-digital film making. Students view, discuss and critique effects from films in the 20th and 21st centuries and engage in the creation of visual effects shots in a variety of styles employing a number of standard techniques. Covers the use of Adobe Photoshop and After Effects; however, considers some use of 3D applications in the second half of the semester. At the heart of good visual effects is a critical eye and attention to detail that is gained through critique of professional and student works on a weekly basis. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Credit is allowed for only FMP 225 or FMP 394 (Introduction to Visual Effects) |
| FMP | 240 | Introduction to Animation for Film | Introduces history, theory, technique and practices of 2D and 3D animation. Covers types of animation and how to create projects for a broad variety of end uses (e.g., motion graphics, TV/film, Web, games). Students create short projects that serve as exercises to study animation techniques as well as more in-depth projects of student design. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Credit is allowed for only FMP 240 or FMP 294 (Introduction to Animation) |
| FMP | 250 | Sex and Violence in Film and TV: Ethics Survey | Sex and violence portrayals in media; examines societal evolution, technological development, market imperatives, production codes, and industry realities and practices. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | |
| FMP | 255 | Media Authorship | Surveys the manipulation, editing, compression, encoding and search engine optimization of digital sound and video media. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | CS | Credit is allowed for only FMP 255 or FMP 294 (Media Authorship) OR Visiting University Student |
| FMP | 261 | Principles of Screenwriting | Explores fundamental skills of script writing for entertainment industry screen media, including: standard script writing software, formatting and technical standards; exercises in character creation and dramatic conflict; and analysis and understanding of common narrative structures of feature-length, series and short-form content. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Pre- or corequisite(s): THF 160 OR Visiting University Student |
| FMP | 280 | Introduction to Film and Media Production | A hands-on production course where students learn first-hand how to make films in a structured, informative environment that works through all phases of production, focusing on collaboration and application of basic mediamaking skills and technology. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Pre- or corequisite(s): FMP 180 or 194 (Principles of Production Technology) OR Visiting University Student |
| FMP | 285 | Portfolio Preparation and Review I | Introduces the basics of Digication e-Portfolio platform, including preparation and presentation of sophomore portfolio milestone for faculty review and admission to upper-division. | N | PRA | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1 | | Prerequisite(s): Film and Media Production BFA major; minimum 32 hours OR Visiting University Student |
| FMP | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEL | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-4 | | |
| FMP | 300 | Short Film Production | Specialized study of conventional film techniques; emphasizes the creative process through project-based, hands-on learning. Group and individual exercises cover all phases of short film production from creative inspiration to online distribution. | Y | LEL | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Film (Film and Media Production) BA, Film (Filmmaking Practices) BA, or Film and Media Production BFA major; FMP 280 with C or better OR Visiting University Student |
| FMP | 315 | Sound Design for Film and Media I | Introduces creative and technical aspects of sound design for film and digital media production, including introduction to Avid Pro Tools software. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prereq(s): Film (Film & Med Prod) BA, Film (Filmmak Pract) BA, or Film and Media Production BFA major; Pre- or corequisite(s): FMP 280 or 300; Credit is allowed for only FMP 314 or FMP 294 (Sound Design: Film) OR Visiting University Student |
| FMP | 318 | Directing for Film and Media I | In-depth analysis of directing theory, textual analysis, visualization, shot composition and spatial connection, staging, rehearsal techniques, and camera movement. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Film (Film and Media Production) BA or Film and Media Production BFA major; FMP 300 with C or better OR Visiting University Student |

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| FMP | 320 | Film and Media Post-Production II | In-depth analysis of editing theory, storytelling, nonlinear editing techniques and equipment, basics of visual and audio effects and color grading using the Avid Media Composer editing program and supporting software with an emphasis on storytelling and aesthetics. Part of the Avid Learning Partner program, taught by a Certified Avid Instructor. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Film (Film and Media Production) BA or Film and Media Production BFA major; FMP 220 with C or better; Pre- or corequisite(s): FMP 300 OR Visiting University Student |
| FMP | 325 | Guerilla VFX | Offers the opportunity to work with a broad variety of projects with assets ranging from excellent quality to those that are more difficult to work with. In addition to work with pre-prepared assets, students also get the opportunity to create their own effects sequences from scratch (including capturing footage). Students learn best practices for capturing all needed elements on the day of the shoot as well as planning the sequence before recording. Covers work in both 2D and 3D visual effects including: matte painting (2D and 3D), set extensions and additions, blue/green screen compositing, and 3D animation for the addition of elements into a shot. The first section of the class consists of short individual assignments aimed at teaching basic core VFX skills, finishing with the production of a class-produced VFX short film. Class member assignments are based off of individual skill and interest. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): FMP 225 with C or better; Credit is allowed for only FMP 325 or FMP 294 (Guerilla VFX) OR Visiting University Student |
| FMP | 330 | Professional and Technical Writing for Film/TV Industry | Professional (noncreative) writing skills that prepare students for a career in the entertainment industry. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): FMP 261 with C or better; minimum 56 hours OR Visiting University Student |
| FMP | 335 | Careers in Film and Media Industry | Basics of starting a freelance career in the film and media industry; the necessary tools and skills needed to move that career forward through the creation of various business and professional tools; and the various techniques needed to succeed in a variety of production environments. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Digital Culture (Film) BA, Film BA, or Film and Media Production BFA major; FMP 201 or 285 with C or better OR Visiting University Student |
| FMP | 340 | Approaches to International Cinema | Offers a historical survey of major film movements from across the world's national cinemas from the silent era to this day. Explores key cinematic works, situating them in their aesthetic, cultural and political contexts, and tracing their impact on the global cinematic culture. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 w/C or better; Credit is allowed for only FMP 340 or FMP 394 (Approach to Int'l Cinema) or FMS 341 or FMS 394 (Approach to Int'l Cinema) or SLC 340 or SLC 394 (Approach to Int'l Cinema) OR Visiting University Student |
| FMP | 345 | Cinematography I | Cinematographer's role, photographic and visual theory, framing, shot composition, cameras and equipment, crew management, basic lighting for film and video. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): The Sidney Poitier New American Film School major; FMP 201 or 280 with C or better; Pre- or corequisite(s): FMP 300 OR Visiting University Student |
| FMP | 350 | Directing for Documentary Media | Introduces directing students to the various practices, approaches and techniques of professional documentary media making, including creation of short-form projects that highlight both individual and collaborative perspectives on real-life figures, events and communities. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): FMP 280 or 300 with C or better; Credit is allowed for only FMP 350 or FMP 394 (Documentary Production) OR Visiting University Student |
| FMP | 355 | Transborder Digital Media Making | Covers digital media-making with a focus on issues relating to the U.S.-Mexico border region, specifically within the Phoenix community. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FMP 355 or TCL 355 or FMP 394 (Intro to Transborder Digital Media Making) or TCL 394 (Intro to Transborder Digital Media Making) |
| FMP | 360 | The Filmmaker's Voice | Explores the various ways in which film artists demonstrate their unique perspective and ability, via extended analysis of noted works defined by strong artistic vision, discussion of cultural and historical values, and development of each student's creative voice. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Dance BFA, Digital Culture (Film) BA, Film BA, Film (Film and Media Production) BFA, or Theatre BA major or Film minor; minimum junior standing OR Visiting University Student |
| FMP | 361 | Intermediate Screenwriting | Explores the basic components of feature screenwriting: story creation, story structure, character development, conflict, pace, tone, dialogue. Each of these skills will be revisited in more detail, culminating in a series of writing exercises (10-20 pages each), verbal pitch exercises and other focused exercises designed to develop the student's unique writing voice. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): FMP 261 with C or better; Credit is allowed for only FMP 361 or FMP 394 (Intermediate Screenwriting) or FMS 394 (Intermediate Screenwriting) OR Visiting University Student |
| FMP | 365 | Developing a Series | Acquaints students with the development process for episodic series (network, cable, Web, on-demand). Also explores the many facets of the television industry (creative, financial, cultural, historical) and surveys the advances in television content along with an analysis of the cultural impact of television on society. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Digital Culture (Film) or Film major or Film & Media Production minor or Film & Media Production concentration; FMP 261 w/ B or better; Credit is allowed for only FMP 365 or FMP 394 (Developing a TV Series) OR Visiting University Student |

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| FMP | 370 | Producing for Film and Media | Provides the information and techniques to understand the process of being a producer in the film and media industries. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): FMP 300 with C or better; Credit is allowed for only FMP 370 or FMP 494 (Producing Film) OR Visiting University Student |
| FMP | 380 | Film Production Crew | Provides practical, on-set experience in the creation of film and digital media, for all students in the BA Film or BFA Film and Media Production programs, in support of projects required by upper-division coursework or otherwise approved and supervised by faculty. | N | PRA | Y | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-3 | | Prerequisite(s): Film (Filmmaking Practices) BA, Film (Film and Media Production) BA, or Film and Media Production BFA major; FMP 300 with C or better; minimum 2.50 cumulative GPA OR Visiting University Student |
| FMP | 385 | Portfolio Project Development | Provides the opportunity for all Film and Media Production majors to conceive, develop and complete the intellectual property that will form the basis of their senior portfolio projects. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 2 | | Prerequisite(s): Film (Film and Media Production) BA or Film and Media Production BFA major; FMP 285 with C or better; Credit is allowed for only FMP 385 or FMP 398 OR Visiting University Student |
| FMP | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEL | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-4 | | |
| FMP | 395 | Combat in Film | Interdisciplinary approach to and qualitative method for analyzing war movies and military dramas as both historical and cinematic narratives that represent the experiences of infantry marines and soldiers in 20th- and 21st-century U.S. wars. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 394 (Combat in Film) or ENG 395 or FMP 395 or HST 306 (Combat in Film) or HST 395 or VTS 395 OR Visiting University Student |
| FMP | 398 | Capstone Development | Provides the opportunity for all Film and Media Production majors to conceive, develop and complete the intellectual property that will form the basis of their required final capstone projects. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 2 | | Prerequisite(s): Film (Film and Media Production) BA or Film and Media Production BFA major; FMP 300 with C or better; minimum junior standing; Credit is allowed for only FMP 385 or FMP 398 OR Visiting University Student |
| FMP | 400 | Advanced Short Film Production | Advanced production course for students to make short films in support of senior portfolio. | N | LEL | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): FMP 300 with C or better OR Visiting University Student |
| FMP | 401 | Senior Practicum | Weekly advising and consulting with faculty and peers on senior portfolio projects, professional development and career planning. | N | PRA | Y | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1 | | Prerequisite(s): FMP 385 with C or better; senior standing |
| FMP | 403 | Independent Film | Considers the history of avant-garde, alternative and independent film making in American cinema, with an emphasis on shifting technology, industrial practices and cultural innovations. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| FMP | 404 | World Cinema | Films and filmmakers from Europe, Asia, Australia, the Far East, South America, and the Caribbean. Emphasizes cultural content and filmmaking philosophies. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | G | Prerequisite(s): ENG 102, 105 or 108 with C or better |
| FMP | 405 | Film and Television: Pioneers, Practices and Innovations | Examines major historical figures, generic conventions and institutional practices in the global film, television and media industries. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| FMP | 411 | Film Spark Engagement: Welcome to Hollywood | Students gain a sense of how the entertainment industry works by examining the product life cycle of filmed entertainment products including inception, development, casting, packaging, financing, production, marketing and distribution. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only FMP 411 or FMP 494 (Welcome to Hollywood) OR Visiting University Student |
| FMP | 415 | Sound Design for Film and Media II | Advanced sound design and delivery for film and media, including post-production sound, music, effects, ADR, and other elements; advanced use of Avid Pro Tools and other industry standard audio recording and producing hardware and software. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): FMP 315 with C or better; Credit is allowed for only FMP 415 or FMP 494 (Advanced Sound Design Film and Media) or FMP 598 (Advanced Sound Design Film and Media) OR Visiting University Student |
| FMP | 417 | Business and Legal Practices in Entertainment | Examines standard business and legal elements of the film and media entertainment industry, including historical, theoretical and ethical frameworks for understanding current practices. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| FMP | 418 | Directing for Film and Media II | Expands on effective techniques for working with actors and on the director's preparation for shooting scenes and films. Students learn while directing with professional set protocols in this hands-on, set-driven class. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Film (Film and Media Production) BA or Film and Media Production BFA major; FMP 318 with C or better OR Visiting University Student |
| FMP | 420 | Film and Media Post-Production III | In-depth analysis of editing theory, storytelling, nonlinear editing techniques and software, advanced sound design and color grading using the Avid Media Composer editing program and supporting software with an emphasis on storytelling and aesthetics. Students receive critiques of their work after each project to determine the development of their proficiency of craft and creativity. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Film (Film and Media Production) BA or Film and Media Production BFA major; FMP 320 with C or better OR Visiting University Student |

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| FMP | 445 | Cinematography II | Advanced cinematographic and motion picture photography techniques, including study of advanced lighting, integration of digital technologies, new hardware and software, and professional development for directors of photography, camera assistants, and grip/electric department personnel. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): FMP 345 with C or better; Credit is allowed for only FMP 445 or FMP 494 (Advanced Study: Cinematography) OR Visiting University Student |
| FMP | 461 | Advanced Screenwriters Workshop | For advanced screenwriting students to create screenplays for television, film and new media in support of senior projects and professional portfolios. | N | LEL | Y | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): FMP 385, FMP 398, or THF 397 with C or better; Pre- or corequisite(s): FMP 361; Credit is allowed for only FMP 461 or FMP 494 (Writing the Feature) or FMP 598 (Writing the Feature) OR Visiting University Student |
| FMP | 465 | Series Writers Workshop | Offers selected students the opportunity to develop and refine material for a proposed episodic series through collaborative workshops and writing sessions that are equivalent to the development processes utilized in various industry paradigms (network, cable, Internet/on-demand). | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): FMP 365 or 394 (Developing a TV Series) with C or better; Digital Culture (Film) or Film major or Film & Media Prod. minor or BIS (Film & Media Prod.); minimum junior standing. Credit for only FMP 465 or 494 (Television Writing Workshop) |
| FMP | 475 | Producing Series | Function and responsibilities of episodic series producers and production executives for television-based platforms (network, cable, internet/on-demand). Explores a close examination of the business of television, specifically budget, license fees, distribution, and union obligations. Other topics include the structure of studios and networks, producing and marketing series for traditional and new media platforms, and general entertainment business practices. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Film (Film & Media Production) BA, Film (Filmmaking Practices) BA, or Film and Media Production BFA major; minimum junior standing OR Visiting University Student |
| FMP | 480 | Film Lab I: Production | Production and principal photography for student-generated collaborative short film/media projects for senior portfolio. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Film (Film and Media Production) BA or Film and Media Production BFA major; FMP 385 or 398 with C or better OR Visiting University Student |
| FMP | 481 | Film Lab II: Post-Production | Completion of principal photography and all phases of editing/post-production on student-generated collaborative short film/media projects for senior portfolio, including final delivery and exhibition. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Film (Film and Media Production) BA or Film and Media Production BFA major; FMP 480 with C or better OR Visiting University Student |
| FMP | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-12 | | Prerequisite(s): minimum 45 hours |
| FMP | 485 | Portfolio Preparation and Review II | Helps students in the advanced development, design, preparation and presentation of senior portfolio milestone for faculty review, as well as mentors fellow students in early portfolio development. | N | PRA | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1 | | Prerequisite(s): Film and Media Production BFA major; senior standing OR Visiting University Student |
| FMP | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-6 | | Prerequisite(s): Barrett Honors student |
| FMP | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| FMP | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEL | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-4 | | Prerequisite(s): Film and Media Production student or Filmmaking Practices student or Film and Media Production minor OR Visiting University Student |
| FMP | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-7 | | |
| FMP | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-3 | | Pre-requisites: Film & Media Production or Filmmaking Practices student |
| FMP | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | SEM | Y | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FMP | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| FMP | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-4 | | Pre-requisite: Fine Arts Graduate student |
| FMS | 100 | Introduction to Film and Media Studies | Introduces the narrative structure, visual style and cultural elements of film and media. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | HU | |
| FMS | 110 | Introduction to New Media | Explores the cultural effects of new media technologies. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | HU | |
| FMS | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-3 | | |
| FMS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-4 | | |
| FMS | 200 | Film and Media History | Introduces the technological, aesthetic, social and economic aspects of media history. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & H | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| FMS | 209 | Screenwriting Fundamentals | Studies the creativity and the technique of screenwriting for the conventional narrative film and for TV; student writing exercises culminate in a script for micro cinema. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | |
| FMS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-4 | | |
| FMS | 300 | Television Studies | Examines approaches to studying the culture and history of American television. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| FMS | 302 | U.S. Media Industries | Examines the business of contemporary U.S. film, television, and new media and its relationship to artistic vision and production through research and analysis. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; FMS 100 OR Visiting University Student |
| FMS | 309 | Intermediate Screenwriting | Utilizing the elements of storytelling, students develop and write a treatment and the first act of a screenplay. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): Film and Media Studies student; ENG 102, 105 or 108 with C or better; FMS 100 with C or better; FMP 261, FMS 209 or THP 261 with C or better OR Visiting University Student |
| FMS | 340 | Contemporary American Film and Popular Culture | Analyzes American films, television programs, and music as popular cultural documents. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; FMS 100 with C or better OR Visiting University Student |
| FMS | 341 | Approaches to International Cinema | Offers a historical survey of major film movements from across the world's national cinemas from the silent era to this day. Explores key cinematic works, situating them in their aesthetic, cultural and political contexts, and tracing their impact on the global cinematic culture. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 w/C or better; Credit is allowed for only FMP 340 or FMP 394 (Approach to Int'l Cinema) or FMS 341 or FMS 394 (Approach to Int'l Cinema) or SLC 340 or SLC 394 (Approach to Int'l Cinema) OR Visiting University Student |
| FMS | 345 | Asian Pacific Americans and Film | In-depth examination of the representations of Asian Pacific Americans in narrative, popular, experimental, and documentary film. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | HU & C & H | Prerequisite(s): APA 200, APA 210, FMS 100, or minimum 24 hours; Credit is allowed for only APA 345 or FMS 345 OR Visiting University Student |
| FMS | 349 | Israeli Wars in Israeli Movies | From its first day, the State of Israel has been in a state of war with the Arab countries. Every few years, the fighting erupted into an open war. At the beginning of the country, there was a consensus that the wars were forced on the Israelis, and therefore, the heavy toll on human life was unavoidable. Since the Six Day War, 1967, and the political change in 1977, Israeli society is split in attitude toward war. The absolute belief in the political and military leaders was shaken, and new political agendas entered the political arena. To this divided society, the Intifadas occurred with the waves of terrorism. These events added fire to the heated debates in Israel. One means of expression is through the cinema. In this course, students watch, analyze, and discuss selected movies on the Israeli wars and terrorism in the streets of Israel. Through these movies, produced by Israelis, we'll try to understand the mood and attitude of the Israelis toward war, enemies, and political and military leaders. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only FMS 349 or HEB 349 or JST 346 or HEB 394 (Israeli Wars in Israeli Movies) OR Visiting University Student |
| FMS | 351 | Emerging Digital Media | Analyzes modern cultural and digital technologies. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| FMS | 352 | Chicana/o Film | Explores how Chicano and Chicana filmmakers have interpreted the Chicano experience through the medium of film. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | C | Credit is allowed for only FMS 352 or TCL 352 |
| FMS | 354 | Critical Studies in Animation | Provides critical and practical tools for analyzing mainstream, experimental, and hybrid animation aesthetics. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): FMS 100 OR Visiting University Student |

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| FMS | 360 | Media Genres | Studies in select media genres. | Y | LEC | Y | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR FMS 100 or 200 with C or better OR minimum 45 hours OR Visiting University Student; Credit is allowed for only FMS 360 or FMS 394 (Sci Fi Cinema: Technology, Genre & Culture) |
| FMS | 362 | Film and Media Franchises | Students gain an appreciation for film and media franchises by studying their production, reception and cultural significance. | Y | LEC | Y | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, ENG 105, ENG 108, FMS 100, or FMS 200 with C or better, or minimum 45 hours; Credit is allowed for only ENG 362 or FMS 362 OR Visiting University Student |
| FMS | 365 | Video Games and Narrative | Covers fundamental concepts of video game narrative design, with an emphasis on the role of story and narrative in game development and production. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only FMS 365 or FMS 394 (Screenwriting for Games) or FMS 394 (Video Games and Narrative) or FMS 394 (Writing for Video Games) OR Visiting University Student |
| FMS | 370 | Signs of Aliens: Semiotics of Film and Popular Culture | Introduces semiotics and cultural studies; looks at various meanings ascribed to the sign of the alien. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | HU | Credit is allowed for only FMS 370 or TCL 370 |
| FMS | 374 | Film and Media Visionaries | In-depth examination of the career and body of work of an innovator in media, whether a producer, director or screenwriter. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| FMS | 375 | LGBTV: Television, Sexuality and Gender | Some of TV's most popular shows now feature lesbian, gay, bisexual and transgender (LGBT) characters. This course looks at representations of LGBT characters and personalities, with a focus on the specificities of the television industry. Looks at LGBT representations on reality shows, sitcoms and dramas in relation to the economic and regulatory structures of the TV business to understand the complex functions of sexual identity in the television industry. Addresses particular texts and images as they relate to TV's industrial practices, paying attention to cultural, political and aesthetic issues of minority representations. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; FMS 100 with C or better; Credit is allowed for only FMS 375 or FMS 394 (LGBTV: Television and Sexuality) OR Visiting University Student |
| FMS | 377 | Baseball, Film, and American Dreams | Critical viewing and analysis of both narrative and documentary baseball film. Genre typically explores American values and national culture, and changes in our concepts of gender roles, race, aging, social class. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; FMS 100 OR Visiting University Student |
| FMS | 380 | Race and Gender in U.S. Media | Critical analysis of how media shapes perceptions of race and gender in U.S. society. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | HU & C | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| FMS | 385 | Ecomedia | Spanning from environmental animation to earth imaging to indigenous media, considers how films, television and other media depict environmental issues, landscapes and technologies. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only FMS 385 or FMS 394 (Media and the Environment) OR Visiting University Student |
| FMS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-4 | | |
| FMS | 409 | Advanced Screenwriting | Utilizing the elements of storytelling, students outline, develop, and write a feature-length screenplay. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; FMS 100 with C or better; FMS 209 with C or better OR Visiting University Student |
| FMS | 411 | Screenwriting Adaptation Studies | Explores the many issues related to narrative adaptation across movies and other media such as television, various Internet phenomena and gaming. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): Film and Media Studies major, minor or BIS Film and Media Studies concentration; ENG 102, 105, or 108 with C or better; FMP 261 or FMS 209 with C or better; Credit is allowed for only FMS 411 or FMS 494 (Screenwriting Adaptation Studies) |
| FMS | 412 | Story Analysis for Film and Television | Investigates Hollywood's creative development process from submission to shooting script. Critiques the scripts of award-winning films, and evaluates the necessary elements of a well-told story. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): Film and Media Studies major, minor, or Film and Media Studies BIS concentration; ENG 102, 105, or 108 with C or better; FMP 261 or FMS 209 with C or better; Credit is allowed for only FMS 412 or FMS 494 (Story Analysis for Film and TV) |

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| FMS | 423 | Italian Organized Crime in Films and History | Through an analysis of historical, anthropological, literary, political and cinematic texts, explores representations of the Italian organized crime in Italian and American films from the early 20th century to today. Discovers different "Mafias" originating in Italy, but whose reach extends much further, such as the Cosa Nostra in Sicily, the Camorra in Naples, and the 'Ndrangheta in Calabria. Examines the fiction, stereotypes, myths and legends surrounding the mafia through a scrupulous analysis of some of the most important American and Italian films portraying mafia culture. Italians have used the medium of film to address the issue of the mafia, raising awareness about the harsh reality of life in the mafia and the ways in which it reaches into every aspect of Italian politics and society. Explores how Italian mafia films subvert international fascination with the mafioso by disrupting the glamorized myths that are mainly perpetuated by American popular cinema. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better or min 45 hours; Credit for only FMS 423 or ITA 423 or SLC 423 or ITA 494/SLC 494 (Italian Organized Crime in Films & History) or FMS 494/ITA 494/SLC 494 (Mafia & Film) OR Visiting University Student |
| FMS | 426 | Films of India | Examines classic, Bollywood and diasporic films of India from 1950 to the present. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): any 200-level or higher course in APH, ARS, ENG, FMS, HST, or MHL with B or better; Credit is allowed for only ARS 444 or ARS 544 or FMS 426 or ARS 494 (Films of India) or ARS 494 (South Asian Cinema) |
| FMS | 427 | Identity and World Film | Examines how films around the world represent gender, race, ethnicity, and sexual orientation through the lens of genres and their variations and how genres reinforce or critique stereotypes. | N | PRA | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | C | Prerequisite(s): any 200-level or higher course in APH, ARS, ENG, FMS, HST, or MHL with B or better; Credit is allowed for only ARS 440 or ENG 465 or FMS 427 OR Visiting University Student |
| FMS | 430 | Artists in Film: Artists' Biopics | Examines artists' "biopics," biographical films about artists, chronologically from the subgenre's first appearance in 1936 to recent films. Explores relationships between film and history and between film and myths of creativity; major directors' attraction to artists' biopics; stereotypes of artists (e.g., genius, deviant); and how notions of creativity are inflected by gender, race and national identity. Assignments include weekly readings and film viewings and one short paper; optional documentaries and films are also available. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): any 200-level or higher course in APH, ARS, ENG, FMS, HST, or MHL with B or better; Credit is allowed for only ARS 443 or FMS 430 |
| FMS | 440 | Los Angeles: Movies and Culture | Explores film treatment of the historical culture of Los Angeles. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & C | Prerequisite(s): BA Film and Media Studies major or minor or BIS Film and Media Studies concentration; ENG 102, 105 or 108 with C or better; FMS 100 with C or better |
| FMS | 441 | Global Cinema | Examines how film represents three important dimensions of globalization: its relationship to national culture, terrorism, and immigration. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105 or 108 with C or better; FMS 100 with C or better |
| FMS | 442 | Experimental Narrative | Examines texts that experiment with form, content and narrative perspective within print, film and digital media. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only ENG 447 or FMS 442 or SLC 450 OR Visiting University Student |
| FMS | 445 | Holocaust, War and German Memory | Examines representations of the Holocaust from across different media (literature, film, architecture, memoir, photography) and from across multiple generations of German engagement with this period in history. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, ENG 105, ENG 108, FMS 100, FMS 200, JST 210, or JST 230 with C or better; Credit is allowed for only FMS 445 or GER 445 or JST 445 or SLC 445 OR Visiting University Student |
| FMS | 446 | Weimar-Era German Film | Examines early film production in Germany during the period of the Weimar Republic. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, ENG 105, ENG 108, FMS 100, or FMS 200 with C or better; Credit is allowed for only FMS 446 or GER 446 or SLC 446 OR Visiting University Student |
| FMS | 450 | Technology, Culture, and Media | Studies the socio-political relationships among technology, culture, and media. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105 or 108 with C or better; FMS 100 with C or better |
| FMS | 455 | Comedy as Social Discourse | Focuses upon the way that comedy can speak with particular clarity to the American condition from behind the microphone and, by extension on the big and small screens. By examining how comic conventions, personae and sensibilities in standup respond to change in social and political sensibilities at specific historical moments, we tease out why comedy, perhaps more than any other genre, can get people to engage (and to think about) a variety of human experiences--often in spite of themselves. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; FMS 100 with C or better; Credit is allowed for only FMS 455 or FMS 494 (Comedy as Social Discourse) |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|-----------------------|-------|-----------------|---|
| FMS | 460 | Masculinity and Film | Examines the representation of masculinity and the male body in film. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105 or 108 with C or better; FMS 100 with C or better |
| FMS | 461 | Film Theory and Criticism | Examines the major positions and issues in film theory from an historical perspective. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, ENG 105, ENG 108, or FMS 100 with C or better; Credit is allowed for only FMS 461 or SLC 440 OR Visiting University Student |
| FMS | 464 | Latina/o Literature | Development of Latina/o literature. Study of genres and themes; attention to literary antecedents of the new U.S.-based Latina literature. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & C | Prerequisite(s) with C or better: ENG 101, 105, or 107; ENG 200; one ENG 200- or 300-level literature course OR ENG 101, 105, or 107; min 45 hours; Credit is allowed for only ENG 458 or FMS 464 or TCL 464 OR Visiting University Student |
| FMS | 466 | Constructing the Border on Film | Explores the U.S.-Mexico border on film, examining how border images have been constructed and shaped over time. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | C | Credit is allowed for only FMS 466 or TCL 466 |
| FMS | 468 | Crime and Violence in American Film | Addresses three primary aspects of crime and violence in film: representation, societal attitudes, effects on audience. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): Film and Media Studies student; ENG 102, 105 or 108 with C or better; FMS 100 with C or better |
| FMS | 471 | Latinos In Hollywood | Studies representations of Latinos in film; stereotyping, politics of metaphor, allegory, star discourse, self-representation, resistance, and independent film. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | HU & C | Credit is allowed for only FMS 471 or TCL 471 |
| FMS | 474 | Women and Power in Media | Examines the relationship between power and gender for women and other feminized subjects in media. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, 108, FMS 100, or 200 with C or better; OR minimum 45 hours; Credit is allowed for only FMS 474 or FMS 494 (Fighting Femmes: Women and Power in PopularCulture) OR Visiting University Student |
| FMS | 475 | Latin American Film | Examines the role of film in contemporary Latin American culture; films viewed and analyzed as casebook examples. Focuses on the aesthetics and generic conventions of contemporary Latin American films. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, 108, FMS 100, or SLC 202 with C or better; Credit is allowed for only FMS 475 or SLC 475 or SPA 475 or THE 475 or FMS 494/SLC 494/SPA 494/THE 494 (Latin American Film) OR Visiting University Student |
| FMS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | Department of English | 1-12 | | |
| FMS | 490 | Capstone Seminar | Capstone seminar. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): BA Film and Media Studies major; minimum 56 hours; ENG 102, 105 or 108 with C or better; FMS 100 with C or better |
| FMS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | The College of Liberal Arts and Sciences | Department of English | 1-6 | | Prerequisite(s): Barrett Honors student |
| FMS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | The College of Liberal Arts and Sciences | Department of English | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| FMS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-4 | | |
| FMS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-7 | | |
| FMS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | Department of English | 1-3 | | |
| FMS | 502 | Hollywood Film Historiography | Explores historiographic and critical scholarship on Hollywood as an industrial, cultural, and aesthetic enterprise. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FMS | 503 | Media Industries | Examines the business of contemporary U.S. media practices including film, television, Web-based media, music, video games, mobile phones, and other interactive media. Explores the changing economic structures of these media industries and their relationship to artistic vision and production. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FMS | 504 | Film Analysis | Introduce formal and cultural issues important to understanding movies. | N | REC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only FMS 504 or MLS 504 |
| FMS | 507 | Crime and Violence in American Film (Online) | This course is available online only. Focuses on historiographic and critical scholarship on three aspects of crime and violence in American film: (1) regulation and censorship; (2) representation and society; and (3) theories about the effects on audiences of viewing crime and violence in films. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): Film and Media Studies MAS student |

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| FMS | 508 | Race, Gender and Sexuality in Media | Investigates the diverse ways in which race and gender are represented in American film history and culture. In a broader context, also analyzes how the meaning of race and gender, and their intersectionality, has shifted and changed across time and space, and how cinema has contributed to these shifts. Gives attention to the relationships among visual style, narrative structure, generic convention and identity. Students become more literate about the power of film to reflect and refract ideologies of race and gender, and to analyze how these identities impact the experiences of individuals and groups in our society. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FMS | 510 | Digital Media Studies | Digital media technologies have radically shifted U.S. society and culture. Almost all forms of media are now digital, even broadcast television and movie theatres now use digital technologies. To understand our new media landscape, we must understand technology and computation in addition to media theory. Provides the interdisciplinary tools necessary for analyzing digital media. Outlines foundational concepts with particular emphasis on analyzing hardware and interface design and understanding computational elements such as algorithms. Then examines these issues by exploring algorithm advertising and marketing as well as interactivity and collaboration in videogame spaces. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FMS | 511 | Fundamentals of Cinema & Television Narrative Online | Studies the creativity and the technique of screenwriting for the conventional narrative film and for television. Student writing exercises culminate in a script for micro-cinema. Seminar. Prerequisite: online student in MAS American Media and Popular Culture | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): Film and Media Studies MAS student |
| FMS | 512 | Intermediate Cinema and Television Narrative (online) | Focuses on the feature-length screenplay; students complete the first act and treatment of an original feature. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): Film and Media Studies MAS student |
| FMS | 520 | Cultural History of US Television: Theory & Method | Engages both the theory and methods of cultural studies as implemented in television studies and U.S. television history (from the 1940s to the present). | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) |
| FMS | 522 | Los Angeles: Movies and Culture | Focuses on historiographic and critical scholarship of industry, genre and representation in post-war, self-reflexive Hollywood cinema. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FMS | 523 | Authorship in Film and Media | Explores the notion of authorship in film, television, and digital media by engaging with a number of critical methodologies such as auteurism, structuralism, post-structuralism, feminism. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FMS | 527 | Identity and World Film | Examines how films around the world represent gender, race, ethnicity, and sexual orientation through the lens of genres and their variations and how genres reinforce or critiques stereotypes. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only ARS 540, FMS 527 or (ARS 494, ENG 465, FMS 494 or ARS 598 Identity and World Film) |
| FMS | 535 | Comedy as Social Discourse | Focuses upon the way that comedy can speak with particular clarity to the American condition from behind the microphone and, by extension, on the big and small screens. By examining how comic conventions, personae and sensibilities in stand-up respond to change in social and political sensibilities at specific historical moments, we tease out why comedy, perhaps more than any other genre, can get people to engage (and to think about) a variety of human experiences--often in spite of themselves. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only FMS 535 or FMS 598 (Comedy as Social Discourse) |
| FMS | 543 | Artists in Film: Artists' Biopics | Examines artists' "biopics," biographical films about artists, chronologically from the subgenre's first appearance in 1936 to recent films. Explores relationships between film and history and between film and myths of creativity; major directors' attraction to artists' biopics; stereotypes of artists (genius, deviant, etc.); and how notions of creativity are inflected by gender, race and national identity. Assignments include weekly readings and film viewings and one short paper; optional documentaries and films are also available. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ARS 443 or ARS 543 or FMS 430 or FMS 543 or ARS 598 (Artists in Film: Biopics) |
| FMS | 567 | World War II in Film | Offers a comprehensive survey of how film has represented the Second World War. Using a transdisciplinary approach, studies how films from the time of the Second World War to the present have portrayed that conflict. Compares different perspectives on the causes and results of the war, as well as engage in analysis of how important issues such as international political and economic relationships, religion, gender, ethnicity, class, race, technology and the psychological effects of violence get shown in movies about World War II. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ENG 567 or FMS 567 or WWS 567 |

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| FMS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FMS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRA | Y | Z1 | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FMS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 105 | Physical Evidence and the Crime Scene | First course in a two-semester series of laboratory and lecture courses focusing on introducing non-scientists to forensic science. Explores the investigative and laboratory technologies behind common forensic techniques utilized in crime scene documentation and reconstruction, the identification and value of physical evidence, documentation and collection of evidence, comparative analysis, and the latest technologies in mobile device forensics. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | SQ | |
| FOR | 106 | Biology Behind the Crime Scene | Second of two courses offering the non-scientist an introduction to the forensic sciences. Focuses on the biology and chemistry in analytical techniques used in the crime lab such as quantitative DNA analysis, toxicology and controlled substance analysis. Also covers topics related to death investigation, as well as plant and pollen identification as they relate to forensic science and criminal investigations. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | SQ | |
| FOR | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-3 | | |
| FOR | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | |
| FOR | 200 | Forensic Science Seminar | Introduces key concepts and skills needed to succeed in the program and the forensic science professional field. Students review the CSI effect, the forensic science program at ASU, and begin planning for their culminating experience. Additionally, introduces forensic science professional organizations, basic scientific writing skills, and hearing from experts in the field. | N | SEM | N | Z2 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Pre- or corequisite(s): FOR 286 with C or better if completed OR Visiting University Student |
| FOR | 210 | Sociology of Murder | Sociological perspectives on various forms of murder and types of murderers. Also considers forms of punishment for murder. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | SB | Credit is allowed for only FOR 210 or SOC 210 |
| FOR | 286 | Principles of Forensic Science | Introduces the ways in which science is applied within the legal system. In particular, students examine the diverse disciplines and techniques that comprise forensic science through detailed discussion of each of the major sections recognized by the American Academy of Forensic Sciences (AAFS): anthropology, criminalistics, digital & multimedia sciences, engineering & applied sciences, general, jurisprudence, odontology, pathology/biology, psychiatry & behavioral science, questioned documents and toxicology. Defines and discusses the roles of these disciplines along with ethics and best practices in their application. Students also participate in laboratory activities related to these disciplines and gain an understanding of how to write a case report and provide expert testimony. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better; CHM 113 with C or better; CHM 116 with C or better OR Visiting University Student |
| FOR | 290 | Historical Perspectives of Forensic Science | Explores the history and evolution of forensic science and its use in criminal investigations. Topics include: the "discovery" of DNA, the societal impact of forensic science, increased use of forensic science in criminal investigations, and a timeline of technological advances that has helped propel forensic science into popular culture. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Credit is allowed for only FOR 290 or FOR 294 (Historical Perspectives of Forensic Science) |
| FOR | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | |
| FOR | 298 | Honors Directed Study | Independent study or practicum under the supervision of a faculty member. | N | PRA | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| FOR | 350 | Computer Forensics | Concepts of computer forensics, forensic analysis techniques, computer forensic tools and software for forensic investigators, network forensics, data forensics, mobile device forensics, malware forensics, cyber crimes and fraud, computer security incident response. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 100 or higher with C or better OR CIS 105 with C or better |

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| FOR | 360 | Statistical Applications in Forensic Science | Statistical concepts and methods applicable to forensic science and the evaluation of forensic evidence. Emphasizes the practical application to forensic contexts and communication of results. Explores statistical concepts and methodologies including hypothesis testing, confidence intervals, correlation, probability and regression within forensic science contexts. Introduces through applied examples advanced topics related to forensic science such as likelihood ratios, classification, evidence evaluation, error limits and DNA population probabilities. | N | LEL | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): FOR 286 with C or better; STP 226 with C or better OR Visiting University Student |
| FOR | 370 | Fundamentals of Forensic Analysis | Builds on foundational material learned in previous coursework while focusing on the procedures and techniques used in forensic science laboratories. Applies lecture material to hands-on laboratory exercises based on current practices across forensic science subdisciplines including chemistry, biology and criminalistics. Covers quality assurance procedures specific to these areas of forensic science in the lecture and laboratory sections. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | | Prerequisite(s): BIO 182 with C or better; BIO 305 or FOR 286 with C or better; CHM 116 with C or better OR Visiting University Student |
| FOR | 377 | Forensic Analytical Chemistry Laboratory | Focuses on common analytical techniques currently used in forensic laboratories and provides further hands-on experience with methods and instrumentation utilized in a modern crime laboratory. Applies gained knowledge to lab exercises designed with crime laboratory evidence types and protocols in mind. | N | LAB | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 2 | | Prerequisite(s): FOR 375 or LSC 375 with C or better; FOR 376 or LSC 376 with C or better |
| FOR | 380 | Analysis of Nonhuman Forensic DNA Evidence | Nonhuman biological materials are so pervasive in the environment that they often contaminate victims, perpetrators and crime scenes by means of direct deposit or secondary transfer. As the reliability, sensitivity and specificity of animal, plant and microbial DNA assays improve with the advent of new technologies, the potential probative value of DNA information from nonhuman biomaterials also increases, especially for establishing or refuting alibis, determining the chronology of a criminal event and for crime scene reconstruction. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Pre- or corequisite(s): LSC 347 with C or better if completed; Credit is allowed for only FOR 380 or LSC 380 OR Visiting University Student |
| FOR | 386 | STEAM Service Learning | Guided process in which students deepen their understanding of their STEAM content area through knowledge-based problem solving that provides a service to others in the community. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ACO 386 or ENV 386 or FOR 386 or LSC 386 or PTX 386 or LSC 494 (Service Learning in the Life Sciences) |
| FOR | 388 | STEM Research Fundamentals | Teaches research skills in the natural sciences. Topics covered include the basic research techniques of the study organism and system, experimental design, literature searches, statistical analysis and preparation of scientific papers and posters. | N | LEL | Y | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 320, BIO 182, or MAT 272 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only ENV 388 or FOR 388 or LSC 388 or PLB 388 or PTX 388 OR Visiting University Student |
| FOR | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | |
| FOR | 400 | Comparative Forensics | Familiarizes students with the comparative methods used in the forensic analysis of fingerprint, questioned document and firearms evidence. Discusses the theory and principles of individualization as assessed in forensic casework. Exposes the operation and theory of the scientific instruments used when performing comparative analysis. Reinforces learning objectives through case studies, practical exercises, outside projects and guest lectures. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): BIO 182 with C or better; CHM 116 with C or better; Pre- or corequisite(s): BIO 305 or FOR 286 with C or better if completed OR Visiting University Student |
| FOR | 401 | Forensic Toxicology | Focuses on toxicology as it pertains to forensic science. Topics include: the history of toxicology; the pharmacodynamics and pharmacokinetics of drugs and alcohol in the human body; as well as the legal applications of toxicology. Also discusses ethics, quality control and quality assurance, and courtroom testimony (as they relate to forensic toxicology). May address other topics such as environmental toxicology, poisons, and current topics related to forensic toxicology. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Pre- or corequisite(s): BIO 305 or FOR 286 with C or better if completed OR BIO 353 with C or better if completed; LSC 347 with C or better if completed; Credit is allowed for only FOR 401 or PTX 401 OR Visiting University Student |
| FOR | 402 | Forensic Biology | Focuses on molecular genetics and biology pertaining to forensic science. Course subject matter includes: the history of forensic biology, serological techniques, DNA and DNA analyses, topics in molecular genetics, and forensic biology in the crime lab. Also discusses ethics, quality control and quality assurance, and courtroom testimony (as they relate to forensic biology). Addresses other topics such as current court cases and topics related to forensic biology. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Pre- or corequisite(s): BIO 305 or FOR 286 with C or better if completed; LSC 347 with C or better if completed; LSC 348 with C or better if completed OR Visiting University Student |

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| FOR | 403 | Comparative Forensics Laboratory | Largely focuses on the application of physical examination of various types of evidence including fingerprints, tape, footwear, handwriting, paper, cartridge casings and bullets. Provides hands-on experience in latent print, trace, questioned document and firearms analysis. These analyses include the utilization of stereozoom microscopes, comparative microscopes, compound microscopes, alternative light sources and other hand tools employed by forensic scientists. | N | LAB | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Pre- or corequisite(s): BIO 305 or FOR 286 with C or better if completed; FOR 400 with C or better if completed OR Visiting University Student |
| FOR | 404 | Forensic Toxicology Laboratory | Focuses on best practices and contemporary protocols and practices used by forensic toxicology labs. Offers topics and exercises dealing with drugs of abuse including alcohol, prescription medications, over the counter medications, and other substances which may be found in the body by the forensic toxicologist. | N | LAB | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Pre- or corequisite(s): BIO 305 or FOR 286 with C or better if completed; FOR 401 with C or better if completed; Credit is allowed for only FOR 404 or PTX 404 OR Visiting University Student |
| FOR | 405 | Techniques in Forensic Biology Laboratory | Covers the basic practical concepts of forensic biology and those used in a biological context at crime scenes. Laboratory exercises include blood pattern analysis, serology, presumptive tests, comparison of hair evidence and DNA analysis. | N | LAB | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Prerequisite(s): BIO 181; BIO 182; CHM 113; CHM 116; Pre- or corequisite(s) with C or better if completed: BIO 305 or FOR 286; FOR 402; LSC 347; LSC 348 OR Visiting University Student |
| FOR | 406 | Moral Dilemmas | Philosophical analysis of moral dilemmas arising in professional and public settings. Ethical decision making in business, educational, human service, and scientific communities. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only FOR 406 or IAS 406 or PHI 406 OR Visiting University Student |
| FOR | 410 | Testimony and Ethics in the Forensic Sciences | Focuses on the relationship between forensic science and the courtroom. Students learn the accepted standards and professional practices as they relate to forensic scientists and other forensic practitioners. Topics include ethical obligations of a forensic scientist, quality assurance practices and the accreditation process. Students also review the role the expert witness plays within the court system while obtaining an understanding of behavioral and ethical issues that can be encountered from crime scene investigation through to the courtroom. Includes mock trial scenarios. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; FOR 370 with C or better OR Visiting University Student |
| FOR | 413 | Sacred Crimes: Religion and Violence | Religion is capable of doing great good in the lives of humans, leading them to personal betterment and positive social contributions. Yet, throughout human history religion has also led some individuals to engage in acts of violence and other dangerous behaviors. This course explores the history of several religious traditions and texts and their complicated connections to violence and criminality. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | G & H | Prerequisite(s): ENG 102, 105, or 108 w/ C or better; Credit is allowed for only CRJ 423 or FOR 413 or REL 413 or FOR 494 (Sacred Crimes: Religion, Violence & Crim) or REL 494 (Sacred Crimes: Religion, Violence & Crim) OR Visiting University Student |
| FOR | 414 | Fundamentals of Forensic Entomology | Provides an introduction to the field of forensic entomology; the use of insects (and other arthropods) in legal investigations. Investigates how insects can be used in food contamination, neglect and abuse cases, with a focus on their use in death investigations. Identifies forensically important insects, in partnership with proper collection and rearing techniques. Along with understanding insect biology, students gain an understanding of how forensic entomology is utilized in law and in the courtroom. Students take an in-depth look at what questions insects can help answer and determine how to calculate a time of colonization (TOC) and how that can relate back to a time of death. Also focuses on scientific writing skills, assessed with the completion of a mock crime scene and production of a case report. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | | Prerequisite(s): FOR 286 with C or better; minimum 45 hours; Credit is allowed for only ENV 414 or FOR 414 or BIO 494/ENV 494/FOR 494 (Fundamentals of Forensic Entomology) OR Visiting University Student |
| FOR | 425 | Analytical Chemistry for Life Sciences | Presents an analysis of chemicals, including the theoretical and practical considerations regarding the separation, detection and quantitative determination of chemicals. Illustrates the application of different analytical procedures using some of the common chemicals of concern in the forensics and environmental fields. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): CHM 234 with C or better; CHM 238 with C or better; Credit is allowed for only FOR 425 or LSC 425 OR Visiting University Student |
| FOR | 426 | Analytical Chemistry for Life Sciences Lab | Students learn basic principles of analytical chemistry and explore a wide range of common techniques and methods with applications to forensic science and life sciences. Places specific focus on techniques common in modern analytical laboratories, including gas chromatography, mass spectrometry, FTIR and NMR spectroscopic techniques. Other topics include interpretation of analytical data and evaluation of error and uncertainty in measurements. | N | LAB | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 2 | | Prerequisite(s): CHM 234 with C or better; CHM 238 with C or better; Corequisite(s): FOR 425 or LSC 425; Credit is allowed for only FOR 426 or LSC 426 OR Visiting University Student |
| FOR | 447 | Molecular Genetics Laboratory | Investigative lab involving DNA isolation, PCR, gel electrophoresis, enzyme digestion and ligation, transformation, and hybridization analysis. | N | LAB | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FOR 447 or LSC 447 |

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| FOR | 449 | Latin American Cinema: The Dead and the Disappeared | Studies Latin American politics and culture through film with particular focus on recent periods of Latin American history in which there have been social upheavals, dictatorships and state repression, and dirty wars. Discusses film as an art form with specific aesthetic goals, a tool to effect change within society, a mode of cultural and social expression, and a vehicle for reconciling collective trauma and preserving memory. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | G & H | Prerequisite(s): ENG 102, 105, or 108 w/C or better; Credit allowed for only FOR 449, LAS 449, SPA 449, FOR 494 (Lat Am Cinema: Dead & Disap), LAS 494 (Lat Am Cinema: Dead & Disap), SPA 494 (Lat Am Cinema: Dead & Disap) OR Visiting University Student |
| FOR | 454 | History of Genocide | Examines the individuals and institutions responsible for the most infamous episodes of state-sanctioned violence in the 20th century. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | G & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only FOR 454 or HST 454 or REL 454 OR Visiting University Student |
| FOR | 456 | Studies in Forensic Linguistics | Focuses on the three main aspects of that branch of applied linguistics, namely language and the law, court cases where language is the central dispute, and linguistic evidence. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 456 or FOR 456 or PAX 456 or SBS 456 |
| FOR | 475 | Principles of Toxicology | Presents the fundamental principles of toxicology and its application to both human and environmental situations. Starts with the means of defining and quantifying toxic effects through dose response curves (e.g. LD50, EC50, LOEL, NOEL). Then focuses on absorption pathways for toxicants as well as the degradation metabolism pathways for toxicants. Finally focuses on the mechanism of toxic action for common poisons and environmental pollutants. Emphasizes toxicants that students are likely to encounter in forensics and environmental fields. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): BCH 361 or 371 with C or better; Credit is allowed for only FOR 475 or LSC 475 or PTX 475 |
| FOR | 480 | Advanced Topics in Human Forensic DNA Typing | Examines the science of current forensic DNA typing methods by focusing on the technology behind STR, Y-STR and mtDNA typing, real-time PCR, serology tests, capillary electrophoresis, expert systems and statistics. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): LSC 347 with C or better; Credit is allowed for only FOR 480 or LSC 480 OR Visiting University Student |
| FOR | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | YGB | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): minimum 45 hours |
| FOR | 485 | Forensic Science Capstone | Culmination course integrating all components of Forensic Science major courses demonstrating knowledge and competency in the field of forensic science. Includes Forensic Science Assessment Test (FSAT) preparation and FSAT completion. | N | LEL | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): FOR 410 with C or better; 6 additional hours of upper-division FOR coursework with C or better; senior standing |
| FOR | 486 | Peer Mentoring in the Forensic Sciences | Advanced students learn and apply mentoring skills in teaching labs. | N | SEM | Y | YGB | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| FOR | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| FOR | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| FOR | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | |
| FOR | 496 | Forensic Science Service Learning | Brings a multidisciplinary approach for connecting forensic science with the public. Students use what they have learned throughout their degree to bring this knowledge to the public through a variety of avenues. Consists of various service learning opportunities that may include working on cold cases, lesson plan and activity design with high school educators and educating the general public. | N | PRO | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): FOR 370 with C or better; minimum 45 hours |
| FOR | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| FOR | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| FOR | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-3 | | |
| FOR | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 501 | Forensic Toxicology | Includes the history of toxicology; the pharmacodynamics and pharmacokinetics of drugs and alcohol in the human body, as well as the legal applications of toxicology. Also discusses ethics, quality control and quality assurance, and courtroom testimony (as they relate to forensic toxicology). | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| FOR | 502 | Forensic Botany | Teaches students the historical and potential uses of plants and other organisms traditionally included with plants as evidence in forensic investigations. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 503 | Forensic Entomology | Presents current information on the role of arthropods in decomposition, the role of forensic entomology in criminal and civil investigations and the increasing importance of science on society. Provides an understanding of the importance and role that arthropods play in civil and criminal investigations. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 525 | Forensic Science and Governance | Focus on quality assurance and control within a crime laboratory and covered topics specific to laboratory directors and the management of all activities within the laboratory critical to meeting local, regional and national standards. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 532 | Principles of Pharmacology | Aspects of pharmacology using an integrated approach to familiarize students with natural and synthetic therapeutic agents used in medicine. | N | LEL | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 540 | Advanced Topics in Human Forensic DNA Typing | Examines the science of current forensic DNA typing methods by focusing on the technology behind STR, Y-STR and mtDNA typing, real-time PCR, serology tests, capillary electrophoresis, expert systems and statistics. | N | LEL | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 550 | Ethics in Forensic Science | Covers several professional codes of ethics and common ethical dilemmas that may confront criminalists and other forensic scientists. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 560 | Quantitative Methods in Forensic Science Research | Focuses on developing foundations for using statistical analyses as research tools in the forensic sciences, with special emphasis placed on the fundamentals. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 565 | Laboratory Leadership, Policy and Practice | Focuses on essential laboratory management functions, knowledge and skills required to successfully function as a laboratory manager and/or senior-level scientist in clinical, academic, research and applied science laboratories (e.g., forensic science laboratories). Topics include quality assurance and quality control; laboratory accreditation and audits; standards for specific accrediting bodies including but not limited to CLIA, CAP, ASCLD/LAB, OSHA; documentation and sample accessioning; laboratory safety and chemical hazard programs; validation studies and protocol development; certification of individual scientists; and overall laboratory management "best practices." | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only FOR 565 or LSC 565 or PTX 565 |
| FOR | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | RSC | Y | Z3 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|--------------------------------|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| FOR | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 599 | Thesis | Supervised research focused on preparation of a thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FRE | 101 | Elementary French I | Introduces the French language and culture through a variety of topics from everyday life. Focuses on the development on all four communicative: listening, speaking, reading and writing. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Students may not enroll in FRE 101 if credit with C or better earned in FRE 102, FRE 110, FRE 201, FRE 202 or FRE 210 OR Visiting University Student |
| FRE | 102 | Elementary French II | Introduces the French language and culture through a variety of topics from everyday life. Focuses on the development on all four communicative: listening, speaking, reading and writing. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): FRE 101 with C or better OR French Placement Test score of 281-340; Students may not enroll in FRE 102 if credit with C or better earned in FRE 110, 111, 201, 202, 210, 305, 311, 312, 321, 322, 411, or 412 OR Visiting University Student |
| FRE | 110 | Intensive French I | Proficiency-based course that provides an intensive introduction to the French language and culture. Introduces the language and culture through a variety of topics from everyday life. Focuses on the development on all four communicative skills. Class time is spent mainly on communicative activities based on active listening and speaking practice of everyday French as used in different social situations, with much use of various print, video and Web-based media. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 6-8 | G | Credit is allowed for only FRE 110, FRE 101 or FRE 102 with a C or better OR Visiting University Student |
| FRE | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| FRE | 201 | Intermediate French I | Grammar review, with emphasis on development of skills of speaking, reading, writing, and listening comprehension. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): FRE 102, 110, or 111 with C or better OR French Placement Test score of 341-394; Students may not enroll in FRE 201 if credit with C or better earned in FRE 210 OR Visiting University Student |
| FRE | 202 | Intermediate French II | Continuation of grammar review with emphasis on development of skills in speaking, reading, writing, and listening comprehension. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): FRE 201 with C or better OR French Placement Test score of 395-476; Students may not enroll in FRE 202 if credit with C or better earned in FRE 210 OR Visiting University Student |
| FRE | 210 | Intensive French II | Second semester of an intensive, proficiency-oriented language course designed to develop functional proficiency in French in a dynamic communicative environment. Class time is spent mainly on a variety of communicative activities based on active listening and speaking practice of everyday French as used in different social situations, with much use of various print, video and Web-based media. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 6-8 | G | Prerequisite(s): FRE 102 with B or better OR FRE 110 with C or better OR French Placement Test score of 395-476; Students may not enroll in FRE 210 if credit with C or better earned in FRE 201 or FRE 202 |
| FRE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| FRE | 305 | Readings in French Literature | Survey of francophone literature designed to teach reading with facility and comprehension. Vocabulary building, familiarity with literary terms, their meaning and use, and introduction to textual analysis of literary genres are major elements. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): FRE 202 or 210 with C or better; Students may not enroll in FRE 305 if credit earned in FRE 321 or FRE 322 OR Visiting University Student |
| FRE | 311 | Oral and Written Expression I | Practices interpersonal and interpretive writing and speaking, emphasizing current usage and promoting facility in the expression of ideas. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): FRE 202 or 210 with C or better OR French Placement Test Score of 477+ OR Visiting University Student |
| FRE | 312 | Oral and Written Expression II | Practices presentational writing and speaking, emphasizing current usage and promoting facility in the expression of ideas. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): FRE 202 or 210 with C or better OR Visiting University Student |
| FRE | 315 | French Phonetics | Practice and theory of French pronunciation. Emphasizes standard French, although an overview of regional varieties is offered. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Pre-requisites: FRE 311 |
| FRE | 319 | Business French | Introduces the structure, vocabulary, and practices of the French business world. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): FRE 311; FRE 312 |
| FRE | 321 | French Cultural Masterpieces I | Masterpieces of French literature of the Middle Ages through the 18th century, and related films. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & H | Prerequisite(s): ENG 101, 105, or 107 with C or better; FRE 305 with C or better; FRE 311 with C or better; Pre- or corequisite(s): FRE 312 OR Visiting University Student |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| FRE | 322 | French Cultural Masterpieces II | Masterpieces of French literature and film from the 19th to 21st century. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; FRE 305 with C or better; FRE 311 with C or better; Pre- or corequisite(s): FRE 312 OR Visiting University Student |
| FRE | 325 | French Language and Culture Through Film | Reviews French vocabulary and grammar through French films, with emphasis on listening comprehension and oral and written production. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): FRE 202 or 210 with C or better; Pre- or corequisite(s): FRE 311 or 312 OR Visiting University Student |
| FRE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| FRE | 411 | Advanced Spoken French | Improvement of spoken French. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): FRE 311; 6 hours of 300-level French OR Visiting University Student |
| FRE | 412 | Advanced Written French | Improvement of composition skills. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): FRE 312; 6 hours of 300-level French |
| FRE | 414 | French and Italian Popular Culture | Popular culture no longer holds the ancillary role traditionally reserved for whatever does not carry the definition of high culture. That popular culture is instead able to provide us with very relevant insights on the identity of a nation and a people is now widely accepted. As a consequence, this class aims at examining popular culture-related artifacts in Italy and France in order to shed a light on crucial issues such as the culture of food and its historical and social significance; the meaning of fashion and design within an urban context, with a special attention to gender roles; the importance of the comics, given in particular the exceptional success the bande dessinée genre is currently enjoying in France throughout the whole age range of the population; the show business with a particular attention to music; and the social function and role of sport with respect to the two dominant sports in both countries (soccer and cycling). | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better OR min 45 hours; Credit is allowed for only FRE 414 or FRE 494 (French & Italian Pop Culture) or ITA 414 or ITA 494 (French & Italian Pop Culture) or SLC 414 or SLC 494 (French & Italian Pop Culture) |
| FRE | 415 | French Civilization I | Political, intellectual, social, economic, and artistic development of France from its origins to the end of the 17th century. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Pre-requisites:6 hours of upper-division French |
| FRE | 416 | French Civilization II | Political, intellectual, social, economic, and artistic development of France from the 18th century to present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | pre-requisites:6 hours of upper-division French |
| FRE | 421 | Structure of French | Phonology, morphology, syntax, semantics, and varieties of French. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): FRE 311 or 312 OR Visiting University Student |
| FRE | 453 | Theater of the 19th Century | From Romantic drama to the Symbolist Theater. Representative plays of Hugo, Musset, Vigny, Dumas, Becque, Rostand, Feydeau, and Mirbeau. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Pre-requisites: FRE 322; 6 hours of 300-level French courses |
| FRE | 461 | Modern Narrative | Representative authors from Gide to the new Nouveau Roman. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Pre-requisites: FRE 322; 6 hours of 300-level French courses |
| FRE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| FRE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| FRE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| FRE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| FRE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| FRE | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FRE | 521 | History of the French Language | Principal phonological, morphological, and semantic developments of French from Latin to present, with emphasis on Old and Middle French. Some familiarity with Latin is recommended. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FRE | 550 | French for Reading Knowledge | Teaches non-speakers of foreign language, or those with only basic notions of the language, how to read in a foreign language at an advanced level. Consists of a concise overview of grammar as well as reading comprehension practice for students who plan to take the Graduate Foreign Language Exam or others who would merely like to learn to read in a foreign language. Focuses only on reading and not on listening, speaking or writing as in a traditional language course. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only FRE 494 (French for Reading Knowledge) or FRE 550 or FRE 598 (French for Reading Knowledge) |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|--------|-----------------|---|
| FRE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FRE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FRE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FRE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FRE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FRE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FRE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FSE | 100 | Introduction to Engineering | Introduces the engineering design process; working in engineering teams; the profession of engineering; engineering models, written and oral technical communication skills. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 2 | | |
| FSE | 104 | EPICS Gold Feasibility and Planning | First of a sequence of two one-credit service-learning courses in which EPICS GOLD groups are formed from students potentially representing all engineering, computer science and construction disciplines as well as other ASU majors, including sustainability, business, liberal arts, sciences and others. Groups of 4-5 students work together to assess the feasibility and sustainability of their proposed plans for long-term projects that solve problems and benefit clients and often, the larger community. Project work centers on the engineering, technology, computing, sustainability, business and other needs of a not-for-profit community partner; interdisciplinary group interaction is an integral element for the project success. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1 | | Prerequisite(s): Fulton Schools of Engineering student; Credit is allowed for only FSE 104 or FSE 194 (EPICS Gold I) OR Visiting University Student |
| FSE | 150 | Perspectives on Grand Challenges for Engineering | Explores social dimensions of developing engineering solutions to meet local and global challenges. Introduces National Academy of Engineering (NAE) Grand Challenges for engineering and Grand Challenge Scholars Program. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 3 | SB | Prerequisite(s): Admission to the Engineering Grand Challenge Scholars Program OR Visiting University Student |
| FSE | 181 | Technological, Social, and Sustainable Systems | Introduces the importance and role of technological, social, and sustainable systems in the modern world. Provides a framework for the theory and practice of sustainable engineering. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 3 | HU | Credit is allowed for only SOS 181, FSE 181, or CEE 181 |
| FSE | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 0.25-4 | | |
| FSE | 201 | Engineering Undergraduate Teaching Assistant | Theory and rationale of active learning and teaching strategies that stimulate intellectual development. Leadership, teaching, teamwork and communication skills needed to facilitate effective undergraduate learning in engineering. Implementation of these skills in a classroom setting. | N | PRA | Y | YGB | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1 | | Prerequisite(s): Ira a Fulton School of Engineering major; minimum sophomore standing OR Visiting University Student |
| FSE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 0.25-4 | | |
| FSE | 301 | Entrepreneurship and Value Creation | In-depth application of entrepreneurial concepts including opportunity recognition, value creation and new business management. Identifies the needs of a market and problem solves to meet those needs through innovation. Covers common mistakes made in the new venture process and how to work to avoid these mistakes. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 3 | | Prereqs: Business student; ACC 241, 242 or 271 with C or better OR Engineering student; minimum junior standing OR non-business student; minimum junior standing; minimum 2.50 GPA; Credit allowed for only ENT 360 or FSE 301 OR Visiting University Student |
| FSE | 310 | Transfer Success in Engineering | Introduces the unique elements, culture, challenges and opportunities at ASU and within the Ira A. Fulton Schools of Engineering. Helps students succeed as engineering students and ultimately as engineers. | N | SEM | N | GNA | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1 | | Prerequisite(s): Fulton Engineering undergraduate student; Credit is allowed for only FSE 310 or FSE 394 (Transfer Success in Engineering) OR Visiting University Student |

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| FSE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 0.25-4 | | Prerequisite(s): Fulton Engineering undergraduate student OR Visiting University Student |
| FSE | 399 | Cooperative Work Experience | Work periods with industrial firms or government agencies alternated with full-time course work. Not open to students from other colleges. | N | PRA | Y | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1-15 | | Prerequisite(s): Fulton Engineering undergraduate student OR Visiting University Student |
| FSE | 404 | EPICS Gold: EPICS in Action | Second of a sequence of two one-credit service-learning courses in which Engineering Projects in Community Service (EPICS) teams are formed from students potentially representing all engineering, computer science and construction disciplines as well as other ASU majors, including sustainability, business, liberal arts, sciences and others. Groups of 4-5 students in this class work together to develop design solutions for representatives of community partners. The students are expected to continue their prior work in designing engineering solutions that solve problems and benefit clients and often, the larger community. Interdisciplinary group interaction is an integral element for the project success. Students may be continuing a project from a previous FSE 104 or FSE 404 class, or they are invited to begin work on a new project. Encourages student participation for multiple consecutive semesters on a project. Groups are composed of freshmen through seniors. | Y | PRA | Y | GNA | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1-2 | | Prerequisite(s): Fulton Engineering student; minimum junior standing OR EGR 102 OR FSE 104 OR FSE 494 (EPICS Gold: EPICS in Action) OR Visiting University Student |
| FSE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1-12 | | |
| FSE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1-6 | | Prerequisite(s): Barrett Honors student |
| FSE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| FSE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 0.25-4 | | |
| FSE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1-3 | | |
| FSE | 501 | Technology Entrepreneurship | Fundamental principles and concepts of technology entrepreneurship. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) |
| FSE | 502 | Strategic Enterprise Innovation | Strategies, techniques, and practices of process, product, and management innovation across the enterprise. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 3 | | Prerequisite(s): Ira A. Fulton Engineering graduate student or Innovation and Venture Development MS student |
| FSE | 508 | Engineering and Construction Failures | Engineering, construction and ethics failures. Focuses on failures in the built environment. Students tailor the assignments and projects to their specific engineering or construction discipline. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 3 | | Prereq(s): degree- or nondegree-seeking graduate student; Credit allowed for only CON 508 or FSE 508 or CEE 598 (Engineering and Construction Failures) or CON 494 (Engineering and Construction Failures) or CON 598 (Engineering and Construction Failures) |
| FSE | 570 | Data Science Capstone | Brings together a highly diverse and interdisciplinary group of students to engage in client-driven group projects involving technical and nontechnical aspects of data science. Although one instructor coordinates the class, a number of faculty deliver guest lectures to provide a variety of perspectives on data science. Assembles students into interdisciplinary groups to address projects and generate a project written report and oral presentation. Taken during the final semester of study. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 3 | | Prerequisite(s): Data Science, Analytics and Engineering MS student |
| FSE | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FSE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FSE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| FSE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1-4 | | Prerequisite(s): Fulton Engineering graduate student |
| FSH | 108 | Digital Literacy for the Arts | Effective, efficient, practical and innovative computer-aided visual communication has become essential for business in the contemporary art market. Serves as an introduction to computing in art and design fields. Students use computers to create, design, analyze and problem solve through the exploration of visual design software, fundamental elements of computer-aided design, and peer feedback. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | CS | Credit is allowed for only ART 108 or ART 194 (Digital Literacy for the Arts) or FSH 108 or FSH 194 (Digital Literacy for the Arts) |
| FSH | 125 | Survey of the Fashion Industry | Prepares the student to know how the fashion industry operates and what to expect when working in it. From manufacturing to retail, it is important for all members of the fashion industry to understand how the processes interrelate. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Prerequisite(s): Fashion BA major; Credit is allowed for only FSH 125 or HDA 125 OR Visiting University Student |
| FSH | 175 | Merchandising Essentials | Introduces merchandising concepts that support assortment planning, pricing strategy, open-to-buy management and inventory management as a fashion merchandiser. Teaches technical retail math concepts and explains their conceptual functions in industry context. Utilizes a mix of lecture to introduce key topics and computer-lab workshop to practice application of merchandising concepts. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | |
| FSH | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| FSH | 201 | Textiles Survey | Offers a broad survey of textiles as they relate to art, fashion and their place in human culture. Topics explore material content, weaves and textile properties; the artistic and social history of textiles; modern textile manufacturing and consumption; and innovations in textile invention for science and industry. The goal is for students to more fully understand the underlying content and structure of textiles in order to better appreciate the overwhelming variety of textiles that have been created over time, place, gender, ethnicity, purpose and methodology. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | |
| FSH | 202 | Fashion Construction | Prepares students for a career in the apparel industry or for continued study in graduate school. Introduces core concepts of fashion materials and construction: cutting, sewing and finishing techniques for creating garment prototypes. Focuses on the fashion industry as well as apparel construction and production. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | |
| FSH | 203 | Fashion Illustration I | In this studio setting, students practice drawing the fashion figure from a live model, both in leotard and in clothing, facilitating understanding of drape, shape, shadow, silhouette and how it relates to fashion design. Demonstrates and practices fundamental skills of visual communication and problem solving, including fabric rendering and proportion and how it relates to the fashion designer's sketch. Brief lectures, demos and critiques are an integral component of each class. Materials used in class include, yet are not limited to, charcoal and gouache. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 110 or ART 111 OR Visiting University Student |
| FSH | 204 | Social Aspects of Fashion | Introduces ways of examining clothing and fashion in context. How do we read images and representations of clothing and how do they manipulate the meaning of the garment and its wearer? In what ways is this visual language used to select and produce fashion? What influences how we dress on a daily basis and over time? These are just some of the questions about appearance, clothing and culture that are used to embark on a participatory research project and as a point of departure for class discussions and related readings. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | L or HU or SB | Prerequisite(s): ENG 101, 102, 105, 107, or 108 with C or better OR Visiting University Student |
| FSH | 206 | Fashion Design I | Provides a foundation for the design process through drafting, flat pattern, construction and draping the professional way. In this hands-on setting, students apply principles of art to clothing design. Develops an understanding of the design concept based on the relationship of the two-dimensional pattern shape to the three-dimensional body. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): FSH 202 OR Visiting University Student |
| FSH | 208 | Fashion Technology I | Introduces the fundamental concepts, procedures and techniques used for manipulating images and documents in digital imaging software and data management software for fashion applications. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): FSH 108, FSH 194 (Digital Literacy for the Arts), or INT 121 OR Visiting University Student |

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| FSH | 275 | Merchandising Applications | Explores and practices the application of merchandising concepts in real-world settings. Exposes challenges facing the ever-changing fashion industry and specific challenges faced in fashion merchandising. Further develops students' creativity, critical thinking and retail math skills to address merchandising challenges. As a foundation to applying merchandising concepts, students study business models that are vertically integrated including mono-brand, multi-brand, and fashion resell models. Further examines channels of client engagement and distribution (e.g., omni-channel, e-commerce or private showroom). Interactive course engages students through vivid experiences, interaction with experienced professionals and application of retail math concepts that bring merchandising to life. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): FSH 175 OR Visiting University Student |
| FSH | 280 | Fashion Merchandising | Examines the business side of the fashion industry with a focus on fashion marketing and the fundamentals of merchandising and retailing. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only FSH 280 or MKT 280 |
| FSH | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| FSH | 300 | Global Fashion Industry | Considers the textile and apparel industries in a global context. Examines issues from several viewpoints providing the facts and data needed to consider the ramifications of events with unbiased perspectives. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | G | Prerequisite(s): Fashion BA major; FSH 208; minimum 54 hours OR Fashion minor; FSH 325; minimum 54 hours OR Supply Chain Management BS major; minimum 54 hours OR Visiting University Student |
| FSH | 303 | Fashion Illustration II | Studies fashion illustration as a means of communicating, documenting and promoting fashion. Focuses on refining the fashion figure, rendering fabrics and apparel, and exploring a variety of illustration media and techniques. Also explores the evolution of fashion illustration and illustrators. Emphasizes page design and layout for advertising and promotion. Builds upon previously learned skills and acquired concepts, expanding students' abilities to illustrate fashion figures and render garments and fabrics, and create two-dimensional collections. Enables students to clearly communicate design ideas, and effectively present their designs to critics in junior- and senior-level design courses. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): FSH 203; Credit is allowed for only FSH 303 or FSH 394 (Fashion Illustration II) OR Visiting University Student |
| FSH | 306 | Fashion Design II | Reviews the principles of flat pattern making and the use of a library of block patterns and pattern manipulations. Develops advanced pattern-making skills. Introduces the torso, jacket and pant blocks. Students develop a strong understanding of flat pattern principles by applying these techniques to create designs for apparel. Students focus on conceptual design through sketching, then apply that two-dimensional idea into patterns to continue the design process through to a garment. Students work in full scale and half scale and learn techniques to move easily between the two. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): FSH 202 with C or better; FSH 206 with C or better; Credit is allowed for only FSH 306 or FSH 394 (Fashion Design II) OR Visiting University Student |
| FSH | 308 | Fashion Technology II | Covers the C.A.D. system, Optitex. Students learn how to pattern-make, develop, grade and manipulate patterns in a digital scape through Optitex. Once the patterns are completed, students take those patterns to fit and develop within the 3D prototyping capabilities inside the software. This is an exciting new era that is emerging within the fashion/apparel industry! | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): FSH 206; FSH 208; Credit is allowed for only FSH 308 or FSH 394 (Fashion Technology II) OR Visiting University Student |
| FSH | 325 | Personal Style and Wardrobe | Methods of clothing selection, coordination, and evaluation for personal style and wardrobe strategies. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Prerequisite(s): non-Fashion BA major; Credit is allowed for only FSH 325 or FSH 394 (Personal Style and Wardrobe) OR Visiting University Student |
| FSH | 331 | 18th- and 19th-Century European Jewelry Design | The 18th century was defined by stylish sociability that included beautiful dress, sumptuous interiors and exquisite, fashionable jewelry. Who were the influencers for jewelry design during this period? How was society defined by these ornaments? What were the rules of engagement? Did these opulent ornaments affect social strategies? How did jewelry materials evolve into more modern and recognizable forms? All of these questions are answered in this course. The cultural history of jewelry design mirrors the historical and collective customs of society from the established aristocracy, to the rising middle classes, to the expansion of cultural awareness among every world citizen when travel became widely available. So much so, that upon the turn of the 19th century, jewelry design shifted from appearing as solely a status of power and wealth to an eloquent symbol of worldly knowledge and cultural awareness. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ARS 331 or FSH 331 or ARS 394 (18th & 19th Century European Jewelry Design) OR Visiting University Student |

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| FSH | 375 | Branding for Fashion Professionals | Students gain a clear understanding of branding, him or herself as a brand and their short- and long-term career goals. With this understanding of themselves, they will then be taught how to obtain the career path they desire. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FSH 375 or FSH 394 (Branding for Future Fashion Professionals) OR Visiting University Student |
| FSH | 385 | Fashion Visual Merchandising | Explores visual merchandising principles and techniques used to strengthen a fashion brand's image, engage an audience and optimize profitability. Examines the ideas and practices of business analysis, conceptualization and implementation of store merchandising and displays, and how visual presentations directly impact business. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FSH 385 or FSH 394 (Fashion Visual Merchandising) OR Visiting University Student |
| FSH | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| FSH | 397 | Fashion Capstone Development | Guides students in the development of a detailed capstone project proposal. Capstone projects are completed with faculty/staff guidance in subsequent fashion capstone course. Students arrive at a project to be completed in one or two semesters that represents the culmination of their education. | N | LEC | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 1 | | Prerequisite(s): minimum 60 hours |
| FSH | 406 | Fashion Design III | Fashion draping is a key essential part of fashion design and an art form that requires precision, concentration and imagination. Helps students develop their artistic and manual skills and learn many of the intermediate and upper-intermediate principles and methods of draping on the dress form, which is discussed and practiced via series of draping exercises and projects. Requires students during studio sessions to complete creative in-class exercises, including draping muslins/calico and transferring to paper patterns. Once their skills foundation has been developed, students put these techniques to practice by making a finished garment of their own design. All of this provides students with a proficiency in the draping process and understanding that all design processes rely heavily on the skills covered in this class. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): FSH 202; FSH 203; FSH 206; FSH 303; FSH 306; Credit is allowed for only FSH 406 or FSH 494 (Fashion Design III) OR Visiting University Student |
| FSH | 412 | Power Play | Students design and create an alter ego costume for a current or past patient at The Phoenix Children's Hospital. The process is filmed throughout to create a documentary; students are interviewed and filmed. Students participate in a required fashion show and reveal event, gaining intensive experience in the creation and design of adaptive clothing. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum sophomore standing; Credit is allowed for only FSH 412 or FSH 494 (Power Play Fashion Show) OR Visiting University Student |
| FSH | 435 | Contemporary Fashion | Identifies and analyzes contemporary fashion designers and brands in relation to fashion research and inspiration for design and branding. Provides a comprehensive understanding to their approach to silhouettes, construction innovation, textiles, garment details and accessories. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| FSH | 477 | Fashion Collection Development | Focuses on the process of designing a fashion collection. Collection development is a "holistic," studio-based practice that requires integration of all the technical skills acquired by students: different types of research, ideation, conceptualization, fabric sourcing, fabric manipulation, surface design, sketching, technical drawing, illustration, design and execution. Provides a step-by-step approach to designing a fashion collection and guides students through different stages of the process. Gives special attention to organization and line planning to create a cohesive fashion collection for a catwalk show or digital exhibition space. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): FSH 203; FSH 306; Credit is allowed for only FSH 477 or FSH 394 (Fashion Collection Development) OR Visiting University Student |
| FSH | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): minimum 45 hours |
| FSH | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-6 | | Prerequisite(s): Barrett Honors student |
| FSH | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| FSH | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 1-4 | | Prerequisite(s): minimum 45 hours |
| FSH | 495 | Fashion Capstone | Formally structures the relationship between students conducting independent capstone projects and faculty/staff mentors. A variable credit practicum course, students implement, document and evaluate their capstone project. Acceptance into this course depends on the successful completion and acceptance of a project proposal and formal instructor approval in prerequisite course. | N | PRA | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3-9 | | Prerequisite(s): FSH 397 or 477 |
| FSH | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours |

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| FSH | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-3 | | Prerequisite(s): minimum 45 hours |
| GAP | 10 | Academic Skills I for International Pathways | Non-credit course designed for international ASU-USA Pathways students from any discipline who want to develop both their general English language competence and the academic skills which they need in order to succeed in their for-credit studies. The curriculum has been organized around tasks that students need to master in order to perform and interact appropriately in an international English-medium higher education setting. | N | LEL | N | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 11 | Academic Skills II for International Pathways | Non-credit course designed for international ASU-USA Pathways students from any discipline who want to continue to develop both their general English language competence and the academic skills which they need in order to succeed in their for-credit studies. The curriculum has been organized around tasks that students need to master in order to perform and interact appropriately in an American higher education setting. | N | LEL | N | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 12 | Academic Skills III for International Pathways | Non-credit course designed for international ASU-USA Pathways students from any discipline who want to refine both their general English language competence and the academic skills which they need in order to succeed in their for-credit studies. The curriculum has been organized around tasks that students need to master in order to perform and interact appropriately in an American higher education setting. | N | LEL | N | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 20 | Academic Foundations for International Pathways I | Designed for international ASU-USA Pathways students, this non-credit course develops oral linguistic fluency and accuracy along with listening comprehension skills needed for academic success. In addition, this course creates cultural awareness in the American university setting. | N | LEL | N | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 21 | Academic Foundations for International Pathways II | Designed for international ASU-USA Pathways students, this non-credit course continues developing oral linguistic fluency and accuracy along with listening comprehension skills needed for academic success. In addition, this course creates cultural awareness in the American university setting. | N | LEL | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 22 | Academic Foundations for International Pathways III | Designed for international ASU-USA Pathways students, this non-credit course refines oral linguistic fluency and accuracy along with listening comprehension skills needed for academic success. In addition, this course creates cultural awareness in the American university setting. | N | LEL | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 30 | Communication Bridge for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills and cultural awareness needed to comprehend and practice theories of communication skills in public, small group and interpersonal settings. Also supports, linguistically and culturally, students' study of speech communication processes such as problem solving, decision making and information sharing. | N | LEL | N | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 31 | Math Bridge for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills needed to comprehend and apply math terminology in various math contexts through in-class problem-solving activities and presentations. | N | LEL | N | GNA | Office of the Provost | Global Launch | 1 | | |
| GAP | 32 | Computer Information Systems Bridge for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills needed to understand and apply concepts and terminology related to the role of computers in business and society and use of word processing, spreadsheets, database, presentation and application software. In addition, the course supports the students' linguistic ability to discuss computers in terms of ethics and social issues as well as technology and business. | N | LEL | N | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 33 | Global Management Bridge for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills, communication skills and cultural awareness needed to comprehend and apply basic concepts related to management in a global environment including global politics, legal systems and sociocultural environments. | N | LEL | N | GNA | Office of the Provost | Global Launch | 3 | | |

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| GAP | 34 | Information Technology Bridge I for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills needed to understand and apply concepts and terminology related to the role of information technology, programming and application software. In addition, the course supports the students' linguistic ability to discuss information technology in terms of ethics and social issues. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 35 | Information Technology Bridge II for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course is a continuation of support for student development of language skills needed to understand and apply concepts and terminology related to the role of information technology, programming and application software. In addition, the course supports the students' linguistic ability to discuss information technology in terms of ethics and social issues. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 36 | Computer Software Engineering Bridge I for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills needed to understand and apply concepts and terminology related to Java programming, particularly those that include multiple methods, control flow, array, basic sorting algorithms, static methods, variables and object-oriented programming approach. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 37 | Computer Software Engineering Bridge II for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course is a continuation of support for student development of language skills needed to understand and apply concepts and terminology related to Java programming, particularly those that include multiple methods, control flow, array, basic sorting algorithms, static methods, variables and object-oriented programming approach. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 41 | History Bridge for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills and cultural awareness needed to comprehend global history by exploring topics such as: changes in communication, communities, demography, economics, environment, politics, religion, technology, warfare and women around the world. | N | LEL | N | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 42 | Sociology Bridge for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills needed to understand and apply concepts and terminology related to the fundamentals of sociology. Also supports, linguistically and culturally, students' study of social organization, interaction and social change. | N | LEL | N | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 43 | Chemistry Bridge for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills and cultural awareness needed to comprehend and apply basic principles and concepts of chemistry, particularly for the needs of students in the physical, biological and earth sciences. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 44 | Biology Bridge for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills and cultural awareness needed to comprehend and apply basic principles and concepts of biology including the method of scientific inquiry and behavior of matter and energy in biological systems. | N | LEL | N | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 45 | Physics Bridge for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills and cultural awareness needed to comprehend and apply basic principles and concepts of physics, including kinematics, Newton's laws, the relationship of energy and momentum, as well as the dynamics of particles, solids and fluids. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 46 | Applied Academic English I | Designed for international ASU-USA Pathways students, this course supports student development of language skills and cultural awareness needed to comprehend, practice and apply language skills needed for success in specific and current academic-credit courses. | N | LEL | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 47 | Applied Academic English II | Designed for international ASU-USA Pathways students, this course continues supporting student development of language skills and cultural awareness needed to comprehend, practice and apply language skills needed for success in specific and current academic-credit courses. | N | LEL | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 80 | Math for Business Bridge for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills and cultural awareness needed to comprehend and practice topics in math for business analysis. | N | LEL | N | GNA | Office of the Provost | Global Launch | 3 | | |

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| GAP | 81 | Human Systems Engineering Bridge for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills and cultural awareness needed to comprehend and apply basic principles, methods and theories of psychology and applications to engineering problems relevant to human systems, with particular attention to the intersection of psychology and engineering. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 82 | Engineering Bridge I for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills and cultural awareness needed to comprehend and apply basic principles and concepts of engineering as a profession, including discussing critical thinking in engineering design, modeling, team dynamics and engineering communication. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 83 | Engineering Bridge II for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course is a continuation of support for student development of language skills and cultural awareness needed to comprehend and apply basic principles and concepts of engineering as a profession, including discussing critical thinking in engineering design, modeling, team dynamics and engineering communication. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 90 | Macroeconomics Bridge for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills, higher-level thinking skills and cultural awareness needed to comprehend and analyze the structure and functioning of the American economy as well as the basic economic institution and factors that determine national income and employment levels. | N | LEL | N | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 91 | Microeconomics Bridge for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills, higher-level thinking skills and cultural awareness needed to comprehend and analyze the structure and functioning of the American economy as well as the basic economic institution and factors that determine national income and employment levels. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 20 | Language Foundations | Entry-level course explores the grammatical, syntactic and cultural underpinnings of the English language for international students studying English as a foreign language. | N | LEC | N | GNA | Office of the Provost | Global Launch | 0 | | |
| GBL | 22 | Special Programs Training | - | N | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 24 | Special Programs Field-Based Learning | - | N | LEC | N | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 25 | Special Programs English for Specific Purposes | - | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 26 | Special Programs Project Work | - | N | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 27 | Special Programs Current Issues and Topics | - | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 28 | Academic Culture | Multidisciplinary approach to American academic culture. Designed for international students who will be matriculating into an American university and explores such themes as study skills, using academic resources and participating fully in academic life. | N | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 40 | Basic 1 Listening/Speaking | On completing the Basic 1 Listening/Speaking course, a student will be able to (1) follow directions and comprehend main ideas and supporting details of short, simple passages and conversations spoken slowly; and (2) speak informally to express basic needs, habits and descriptions in a comprehensible manner demonstrating level-appropriate fluency and control of pronunciation, grammar, and vocabulary. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GBL | 41 | Basic 1 Reading/Writing | On completing the Basic 1 Reading/Writing course, a student will be able to (1) recognize main ideas and find supporting details in selected reading passages of a few pages; and (2) produce a guided writing with a personal point of view, demonstrating level-appropriate control of grammar, word forms, and punctuation. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GBL | 42 | Basic 1 Structure | This course covers helping verbs, pronouns, adjectives, count/non-count nouns, and tenses (present, present progressive and simple past). | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 43 | Basic 1 Communication | International students studying English as a foreign language study the fundamentals of English communication. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |

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| GBL | 50 | Basic 2 Listening/Speaking | On completing the Basic 2 Listening/Speaking course, a student will be able to follow instructions, directions, and comprehend the main ideas and supporting details of 1-3 minute announcements and conversations with controlled speech and delivery; and (2) speak informally in basic social situations in a comprehensible manner demonstrating level-appropriate fluency and control of pronunciation, grammar, and vocabulary. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GBL | 51 | Basic 2 Reading/Writing | On completing the Basic 2 Reading/Writing course, a student will be able to (1) recognize main ideas, find supporting details, and recognize the organizational pattern in short and page-length reading passages; and (2) produce a composition, based on a model, with a personal point of view, demonstrating level-appropriate control of grammar, word form, and punctuation. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GBL | 52 | Basic 2 Structure | Learn grammar for everyday writing and speaking--present, progressive and future tenses, irregular verbs in the past tense, modal verbs, pronouns, order of adjectives, and comparisons. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 53 | Basic 2 Communication | Learn to communicate effectively at the basic level in a variety of everyday situations and develop communication skills necessary for success in today's world. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 60 | Intermediate 1 Listening/Speaking | On completing this course, a student will be able to (1) comprehend the main ideas and supporting details of 1-5 minute listening passages, conversations, instructions, and directions with controlled speech and delivery; and (2) speak informally in common social situations in a comprehensible manner demonstrating level-appropriate fluency and control of pronunciation, grammar, and vocabulary. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GBL | 61 | Intermediate 1 Reading/Writing | On completing this course, a student will be able to (1) recognize the main ideas and find supporting details in selected reading passages of a few pages; and (2) produce an organized composition, with a personal or an objective point of view, demonstrating level-appropriate control of mechanics and grammar. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GBL | 62 | Intermediate 1 Structure | Improve grammar for everyday writing and conversation, present perfect and present perfect continuous and future tenses, noun clauses and grammar to cover frequency, duration, possibility and necessity. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 63 | Intermediate 1 Communication | International students studying English as a foreign language continue to build on the fundamentals of English communication, including working on vocabulary expansion, pronunciation, idiom decoding, fluency and verbal accuracy. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 64 | Intermediate 1 Business: Introduction | International students studying English as a foreign language, learn the fundamental vocabulary, concepts and cultural customs of business in an American context. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 65 | Intermediate English for Social Sciences | In this communicative, content-driven course, international students studying English as a foreign language learn how to speak, write and critically analyze the vocabulary, concepts and context for American social sciences. Designed for students at an intermediate level of English proficiency. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 66 | Intermediate English for STEM | In this communicative, content-driven course, international students studying English as a foreign language learn how to speak, write and critically analyze the vocabulary, concepts and context for STEM studies. Designed for students at an intermediate level of English proficiency. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 70 | Intermediate 2 Listening/Speaking | On completing this course, a student will be able to (1) comprehend the main ideas and supporting details of 5-10 minute general topic listening passages with modified speech and delivery; and (2) speak formally and informally on a variety of general topics in a comprehensible manner demonstrating level-appropriate fluency and control of pronunciation, grammar, and vocabulary. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GBL | 71 | Intermediate 2 Reading/Writing | On completing this course, a student will be able to recognize the main ideas and supporting details and distinguish between fact and opinion in a reading passage of several pages; and (2) produce a composition, based on a writing task, with an objective point of view demonstrating level-appropriate control of mechanics and grammar. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GBL | 72 | Intermediate 2 Structure | Focus on an overview of all the tenses. This course also covers passive voice and sequence of tenses with adverbial clauses. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 73 | Intermediate 2 Communication | Learn to communicate effectively at the intermediate level in a variety of everyday situations and develop communication skills necessary for success in today's world. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |

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| GBL | 74 | Intermediate 2: Business Management | International students studying English as a foreign language discover key concepts and ideas related to business management. Students have the opportunity to speak, read and write about, as well as listen to, accessible levels of business management materials, including work and motivation, company structure and recruitment. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 75 | Intermediate American Culture Studies Special Topic | - | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 76 | Intermediate Bridge to ASU | - | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 80 | Advanced 1 Listening/Speaking | On completing the Advanced 1 Listening/Speaking course, a student will be able comprehend the main ideas and supporting details of brief academic lectures and instructions spoken naturally; and (2) speak formally and informally on academic topics in a comprehensible manner demonstrating level-appropriate fluency and control of pronunciation, grammar, and vocabulary. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GBL | 81 | Advanced 1 Reading/Writing | On completing the Advanced 1 Reading/Writing course, a student will be able to (1) recognize the main ideas and supporting details and determine logical inferences in selected general reading passages of several pages; and (2) produce a composition, based on an assigned writing task, with an objective point of view, demonstrating level-appropriate word choice and control of mechanics and grammar. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GBL | 82 | Advanced 1 Structure | This course covers complex sentence structure, participial phrases, reduced adjective clauses and appositives, infinitives and gerunds, hypothetical conditionals, and the subjunctive. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 85 | English for Humanities and Design Studies | In this communicative, content-driven course, international students studying English as a Foreign Language continue to build their learning of ways to speak, write and critically analyze the vocabulary, concepts and context for humanities and design studies. Designed for students at an advanced level of English proficiency. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 90 | Advanced 2 Core Listening/Speaking | On completing this course, a student will be able to (1) comprehend the main ideas and supporting details of complex but abbreviated academic lectures and instructions spoken naturally; and (2) speak formally and informally on academic topics in a comprehensible manner demonstrating level-appropriate fluency and control of pronunciation, grammar, and vocabulary. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GBL | 91 | Advanced 2 Core Reading/Writing | On completing this course, a student will be able to (1) recognize the main ideas and supporting details, and determine logical inferences in authentic and selected academic and general reading passages of several passages; and (2) produce a well-developed essay, based on an assigned writing task, with an objective point of view, demonstrating level-appropriate word choice and control of mechanics and grammar. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GBL | 92 | Advanced 2 Structure | This course covers complex sentence structure, participial phrases, reduced adjective clauses and appositives, infinitives and gerunds, hypothetical conditionals, and the subjunctive. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 93 | Advanced Communication Special Topic | Learn to communicate effectively at the advanced level in a variety of everyday situations and develop communication skills necessary for success in today's world. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 94 | Business English Special Topic | Learn to communicate effectively in a variety of business situations and develop English skills necessary for success in today's business world. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 95 | Advanced American Culture Studies | Learn about American culture and develop communication skills necessary for success in today's world. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 96 | Academic English Studies Special Topic | Learn the Academic English necessary for success at an American university or college. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 98 | Professional English Special Topic | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GCO | 510 | Fieldwork Preparatory | Prepares students for fieldwork experiences and equips them with the necessary skills and behaviors to successfully integrate into a variety of clinical settings, including codes of ethics and conduct, HIPAA privacy issues and professionalism. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): Genetic Counseling MS student |
| GCO | 530 | Genetic Counseling Fundamentals | Covers history and evolution of genetic counseling; genetic counseling specialties and the role of a genetic counselor; autonomy and informed consent; psychosocial dimensions of the genetic counseling process and various theoretical perspectives of genetic counseling; and the informed decision-making process. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Genetic Counseling MS student |

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| GCO | 540 | Foundations of Medical Genetics | Covers foundational principles, concepts and applications of medical genetics from the clinical perspective, including normal/abnormal DNA structure, function and replication; pathogenic and benign variants and consequences of abnormal processes on human disease and human variation; and cytogenetic mechanisms for chromosomal and genomic conditions. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCO | 560 | Practice of Genetic Counseling | Covers managing genetic counseling cases for different genetic specialties including: prenatal, pediatric/general genetics, adult genetics and genomic medicine. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Genetic Counseling MS student |
| GCO | 570 | Clinical Genetics | Examines major clinical features and natural history of a broad range of genetic diseases including common pediatric and adult syndromes and complex conditions. Covers the diagnostic process and treatment options, including gene therapy and gene editing. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Genetic Counseling MS student; GCO 540 with B- or better |
| GCO | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCO | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCO | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCO | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | |
| GCO | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCO | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCO | 599 | Thesis | Supervised research focused on preparation of a thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCO | 610 | Laboratory Fundamentals & Population Screening | Provides fundamental knowledge and understanding of the methodologies utilized for biochemical, cytogenetic and molecular genetic testing. Demonstrates the roles and responsibilities of a genetic counselor in a laboratory setting. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Genetic Counseling MS student |
| GCO | 620 | Genetic Counseling Techniques | Covers skills necessary to assist clients with successful psychological integration of genetic information. Reviews the psychosocial development of an individual throughout the lifespan and communication strategies for discussing a genetic diagnosis with children, adolescents and families. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Genetic Counseling MS student |
| GCO | 625 | Cultural, Ethical & Legal Aspects of Genetics | Develops cultural competency and skills for identifying and responding to cultural aspects of genetic counseling interactions. Explores ethical challenges including health disparities, direct-to-consumer genetic testing, improper informed consent, and genetic research study inequities and violations. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Genetic Counseling MS student |
| GCO | 630 | Advanced Genetic Counseling Techniques | Covers advanced genetic counseling skills and new genetic counseling techniques such as identifying and responding to client resistance, adherence and non-adherence, and successful promotion of client adaptation to a genetic disorder. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Genetic Counseling MS student |
| GCO | 650 | Cancer, Cardiac Genomics and Precision Medicine | Covers underlying etiology of cancer as a genetic disorder, natural history and management strategies for rare and common hereditary cancer syndromes, hereditary component to cardiac conditions, genetic contribution to psychiatric disorders, fundamental concepts related to pharmacogenomics, and application of precision medicine. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCO | 659 | Embryology and Genetics | Provides an understanding of embryology, genetics and physiology concepts. Covers application of normal/abnormal human physical development, human reproduction, teratology and developmental genetics to clinical practice in preconception/prenatal and pediatric genetics. | N | SEM | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): College of Health Solutions or Edson College of Nursing and Health Innovation graduate student; Credit is allowed for only DNP 659 or GCO 659 |

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| GCO | 660 | Professional Issues for Genetic Counselors | Prepares students for the American Board of Genetic Counseling (ABGC) certification exam. Covers techniques for mentoring and training others, effective transition into the workforce, and strategies for lifelong learning and self care. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Genetic Counseling MS student |
| GCO | 683 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCO | 691 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 102 | Introduction to Human Geography | Systematic study of human use of the Earth. Spatial organization of economic, social, political, and perceptual environments. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | |
| GCU | 113 | United States and Arizona Social Studies | Introduces American (including Arizona) institutions integrating geography, government, history and economic perspectives. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & H | Credit is allowed for only GCU 113 or HST 113 |
| GCU | 114 | World Social Studies | Introduction to the world from the integrated social science perspectives of history, geography, and government. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G & H | Credit is allowed for only HST or GCU 114 |
| GCU | 121 | World Geography | Description and analysis of areal variations in social, economic, and political phenomena in major world regions. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 4 | SB & G | |
| GCU | 171 | The Thread of Energy | Follows the thread of energy through every aspect of our lives. Discusses the technical, social, legal, and policy contexts of all energy resources, including present and unconventional fossil fuels, nuclear power, and renewable resources. Addresses energy use throughout history, the influence of energy on quality of life, the role it plays in political strategies and environmental quality, how it shapes our neighborhoods and cities, its contribution to our personal comfort and national security, and how its importance is reflected in the worlds of business and the humanities. Its dual role is as a stand-alone introduction to energy, and as a first step to more advanced studies of energy in the natural, technical, and social sciences. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | Credit is allowed for only GCU 171 or SOS 171 OR Visiting University Student |
| GCU | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| GCU | 240 | Introduction to Southeast Asia | Interdisciplinary introduction to the cultures, religions, political systems, geography, and history of Southeast Asia. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | (HU or SB) & G | Credit is allowed for only ASB 240 or GCU 240 or HST 240 or POS 240 or REL 240 or SGS 240 OR Visiting University Student |
| GCU | 241 | The Global Economy in Transition | Production, distribution, and consumption of various types of commodities of the world and relationships to the activities of humans. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | |
| GCU | 253 | Introduction to Cultural and Historical Geography | Cultural patterns, including such phenomena as language, religion, and various aspects of material culture. Origins and diffusion and division of the world into cultural areas. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | |
| GCU | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| GCU | 322 | Geography of U.S. and Canada | Spatial distribution of relevant physical, economic, and cultural phenomena in the United States and Canada. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & C | |
| GCU | 323 | Geography of Latin America | Spatial distribution of relevant physical, cultural, urban and economic phenomena in Mexico, Central America, South America and the Caribbean. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| GCU | 325 | Geography of Europe | Broad and systematic overview of Europe, emphasizing physical, economic, and cultural phenomena. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | |
| GCU | 326 | Geography of Asia | Spatial distribution of relevant physical, economic, and cultural phenomena in Asia, excluding the former Soviet Union. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | |
| GCU | 328 | Geography of Middle East and North Africa | Spatial distribution of relevant physical, economic, and cultural phenomena in the Middle East and North Africa. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | |
| GCU | 332 | Geography of Australia and Oceania | Spatial distribution of relevant physical, economic, and cultural phenomena in Australia, New Zealand, and Pacific Islands. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | |
| GCU | 344 | Geography of Hispanic Americans | Examines the homelands, migrations, settlements, landscapes, roles, and selected cultural traditions of Hispanic Americans. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & C | |
| GCU | 350 | The Geography of World Crises | Contemporary world crises viewed from a perspective of geographic concepts and techniques. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | |
| GCU | 351 | Population Geography | Demographic patterns; spatial, temporal, and structural investigation of the relationship of demographic variables to cultural, economic, and environmental factors. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | Prerequisite(s): minimum 45 hours OR Visiting University Student |

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| GCU | 356 | Central American Studies | Part of the summer ASU study abroad Costa Rica Program, which is a language and social sciences immersion program in the capital city, San Jose. A summer offering permits students to enroll in the program without conflicting with full course loads during the fall or spring semester. However, the course is proposed as a stand-alone course that can be offered in a regular semester as well. | N | REC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | Credit is allowed for only ASB 356 or GCU 356 or POS 354 or SBS 356 or SOC 356 |
| GCU | 357 | Social Geography | Environmental perception of individuals and groups. Stresses the spatial aspect of social and physical environments. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB | |
| GCU | 359 | Cities of the World I | Historical evolution of urban patterns and structures in the Middle East, India, Southeast Asia, China, Japan, and Europe. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G & H | |
| GCU | 361 | Urban Geography | External spatial relations of cities, internal city structure, and spatial aspects of urban problems in various parts of the world, particularly in the United States. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only GCU 361 or PUP 360 OR Visiting University Student |
| GCU | 362 | Journey Stories: People and Place in Motion | Explores journeys, storytelling and geographies--real and imagined. Draws on novels, novellas, short stories, film and video in illuminating stories and storytelling as transformative of self, place and culture in human and more-than-human worlds. Enjoins journey stories through the trilogy movement, place and identity; signature themes in cultural geography that resonate across the arts, humanities and social sciences. Students respond to artfully rendered journeys in personal ways via word, image and sound, creating their own journeys en route. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | HU | Prerequisite(s): minimum 45 hours; Credit is allowed for only GCU 362 or PUP 362 or PUP 394 (Journey Stories: People & Place in Motion) OR Visiting University Student |
| GCU | 364 | Energy in the Global Arena | Production, transportation, and consumption of energy, emphasizing the electric power industry and its environmental problems. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | |
| GCU | 373 | Introduction to Geographic Information Science | Introduces theoretical and computer-based aspects of Geographic Information Systems, involving data analysis and map generation. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 4 | SG | Pre-requisite: PSY 230 or SBS 304 |
| GCU | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| GCU | 414 | Teaching Geography Standards | Introduces Arizona Geography Standards for K-12 educators, emphasizing exciting curricula and illustrated with best practices by master teachers. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | |
| GCU | 421 | Geography of Arizona and Southwestern United States | Geography of the Southwest with an emphasis on Arizona. Divided into physical geography, history, people, and economy. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & C | |
| GCU | 424 | Geography of Mexico and Middle America | Central America and Mexico. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | |
| GCU | 425 | Geography of the Mexican American Borderland | Geography of a binational and bicultural region. Examines settlement, boundary issues, ethnic subregions, population change, industrial development, and urban growth. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | (L or SB) & G | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| GCU | 426 | Geography of Russia and Surroundings | Examines the geography of Russia and other post-Soviet states. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | |
| GCU | 432 | Geography of China | Examines the physical, economic, cultural, social, demographic, agricultural, political, historical, and environmental aspects of the geography of China. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | |
| GCU | 433 | Geography of Southeast Asia | Examines the biophysical and social features of Southeast Asian nations and peoples. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | |
| GCU | 441 | Economic Geography | Spatial distribution of primary, secondary, and tertiary economic and production activities. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB | |
| GCU | 442 | Geographical Analysis of Transportation | Networks, modes, economics, and flows at the urban, national, and international scales. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB | |
| GCU | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |
| GCU | 485 | International Field Studies | Organized field study, culture and language in specified international locations. | Y | RSC | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | G | Pre-requisite: Junior standing; Credit is allowed for only GCU 485 or GPH 485 or LAP 485 or POR 485 or PUP 485 or 585 |
| GCU | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-6 | | Prerequisite(s): Barrett Honors student |

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| GCU | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| GCU | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| GCU | 496 | Geographic Research Methods | Scientific techniques used in geographic research. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; GCU 102 with C or better; GIS 205 with C or better; GPH 111 with C or better OR Visiting University Student |
| GCU | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-3 | | |
| GCU | 510 | Solar Energy and Policy | Elucidates and amplifies the importance, role and mechanisms of solar energy policy. Underscores the significance of policy in the successful deployment of solar energy. Complements other courses in the curriculum of the Professional Science Masters (PSM) in Solar Energy, which is largely centered on engineering concepts and techniques. Content is guided by the principle that technical considerations alone are inadequate to stimulate future expansion of solar energy. Additionally, it is stressed that policy considerations are critical to any potential transition to a solar energy economy. Typically taken in conjunction with DC summer workshop "Science Outside the Lab," but may be taken by others as stand-alone course. Course consists of lectures and discussions of policy instruments at the national, state and local scales. Visiting experts from the energy industry provide their personal experience and real-world perspective. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GCU 510 or GCU 598 (Solar Energy & Public Policy) or SEC 510 or SEC 598 (Solar Energy & Public Policy) |
| GCU | 514 | Human Dimensions of Sustainability | Concepts and definitions of the human dimensions of sustainability; the role of attitudes and values in shaping sustainability goals, practices, and programs; the diversity of values and socio-cultural contexts relating to sustainability; bottom-up and top-down sustainable policy development, social data collection methodologies. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GCU 514 or SOS 514 |
| GCU | 515 | Human Migration | Economic, political, social, and geographic factors underlying population movements. Migration selectivity, streams and counter-streams, labor migration, and migration decision making. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 526 | Sustainability Science: Interactions Between Human and Environmental Systems | Addresses core ideas in sustainability science--an emerging field of research dealing with the interactions between human and environmental systems. The problem that motivates the course is the challenge of sustainability: improving the well-being of present and future generations in ways that conserve the planet's life support systems over the long term. Students critically discuss a set of presentations and papers covering the field in a systematic way, drawing on and integrating contemporary research from earth systems science, resource economics, institutional analysis, ecology, geography, development studies, health sciences, engineering, and other disciplines. Covers from the theory of sustainability to its multiple applications in the field and explores the impacts of different value systems on both theory and applications. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 526 or GCU 526 or SOS 526 or BIO 591 (Sust Sci: Int Btwn Hum &Env Sys) or GCU 591 (Sust Sci: Int Btwn Hum &Env Sys) or SOS 591 (Sust Sci: Int Btwn Hum &EnvSys) |
| GCU | 528 | Geographic Problems and Context | Investigates different forms of geographic problem solving and contemporary trends in geographic research. Emphasizes applied research and questions at the forefront of the field, and the range of techniques being applied by practitioners. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 529 | Contemporary Geographic Thought | Comparative evaluation of current philosophy concerning the nature and trends of geography. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 542 | Geographical Analysis of Transportation | Examines the geographical aspects of transportation systems. Looks at the geography of networks; transport costs and rates; different modes of transport, trade, economic development, and technology. Studies the movement of freight and passengers at the individual, urban, national, and international scales. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| GCU | 585 | Geographic Research Design and Proposal Writing | Prepares students to undertake creative geographic research culminating in the generation of new knowledge. Serves as a foundation for the student in achieving the objective of a productive and successful degree. To accomplish this, instruction stresses a research framework, ethical practice, and the generation of an original research proposal. Specific learning objectives are: to produce an area of specialization statement, literature review, problem statement, description of methods and final proposal; to develop the skills needed to conceive and plan a research project; to communicate ideas effectively in written and oral form; to develop and articulate informed opinions about research designs; to learn about academic publishing format and process; and to understand and engage in ethical research practices. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Pre-requisite: Graduate student |
| GCU | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | N | LEC | N | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |
| GCU | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | IND | Y | Z3 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 596 | Geographic Research Methods | Prepares students to conduct geographic research by teaching scientific techniques used to study problems in the field of geography. Provides a strong foundation in geographic research methodologies. Covers critical reading and analysis of peer-reviewed research, types of research methodologies, and elements of research design. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | IND | Y | Z2 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 671 | Introduction to Geographic Teaching | Intensive course in geographic education, scientific method in research on geographic education, research trends, resources for teaching, best practices. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 672 | Physical Geography for Teachers | Transfer of matter and energy exhibited in the Earth's climate, hydrology, soils, biogeography, and landforms; case studies; virtual field trips. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 673 | Human Geography for Teachers | Analyzes cultural, economic, urban, historical, transportation, population, political, and development geography; case studies; virtual field trips. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 674 | Geographic Techniques for Teachers | Introduces geographic techniques, including GPS, GIS, remote sensing, cartography, qualitative, and field methods. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 675 | World Geography for Teachers | Systematic overview of geographic knowledge about different world regions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 676 | North American Geography for Teachers | Systematic overview of geographic knowledge about different North American regions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 677 | Geography Across the Curriculum | Intensive course on intergrating reading, writing, and mathematics standards with geography content; selected case studies; best practices. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| GCU | 683 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | IND | Y | Z3 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | IND | Y | Z2 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GDE | 30 | Basic Foundations for English Language Learners | Introduces a foundation of basic English language to international learners. Focuses on the structures of English, sentence parts and sentence formation, for basic conversations and basic writing skills related to everyday English. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 10.5 | | |
| GDE | 35 | Basic Communication for English Language Learners | Builds on a foundation of basic English language for international learners. Further develops the structures of English needed in basic conversations and basic writing skills related to everyday English. Introduces learners to past forms. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 10.5 | | |
| GDE | 40 | Basic Language Skills for English Language Learners | Refines and expands basic English language skills for international learners. Builds on reading, written and verbal skills to develop learners' language abilities in everyday English. Learners carry out conversations on a variety of personal topics. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 10.5 | | |
| GDE | 45 | Basic Achievement for English Language Learners | Further refines and consolidates basic English language skills for international learners. Emphasizes language skills in reading, writing, listening and speaking to expand learners' knowledge and language use in a wide variety of topics in home, family, friends, work, school, free time and more related to everyday English. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 10.5 | | |
| GDE | 50 | Intermediate Foundations For English Language Learning | Introduces a foundation of intermediate English language to international learners. Builds on the basic structures of English to refine learners' language abilities for everyday and academic English language skills. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 10.5 | | |
| GDE | 55 | Intermediate Communication For English Language Learning | Builds on a foundation of intermediate English language for international learners. Emphasizes and refines communication skills to build learners' language abilities in academic English. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 10.5 | | |

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| GDE | 60 | Intermediate Language Skills for English Language Learners | Refines and expands intermediate English language skills for international learners. Emphasizes and refines reading, written and verbal skills to build learners' language abilities in academic English. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 10.5 | | |
| GDE | 65 | Intermediate Achievement for English Language Learners | Further refines intermediate English language skills for international learners. Emphasizes and refines academic English language skills in reading, writing, listening and speaking. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 10.5 | | |
| GDE | 70 | Academic Thinking for English Language Learners | For advanced learners of the English language. Learners apply critical thinking skills to complex texts and receive instruction in the characteristics of persuasion in academic writing and speaking, as well as instruction in advanced language skills commonly found in persuasive rhetoric. Upon successful completion of the course, learners understand the aspects of persuasion, and how best to organize summary and response compositions. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 10.5 | | |
| GDE | 75 | Academic Analysis for English Language Learners | Develops advanced language skills and refines the critical thinking skills necessary in academic coursework. Learners build on prior learning to further develop their reading, writing, listening and speaking skills to successfully analyze and respond to academic topics and texts. Learners acquire advanced academic skills and vocabulary in order to be able to form opinions and arguments. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 10.5 | | |
| GDE | 80 | Academic Persuasion for English Language Learners | For advanced learners of the English language. Learners apply critical thinking skills to complex texts and receive instruction in the characteristics of persuasion in academic writing and speaking, as well as instruction in advanced language skills commonly found in persuasive rhetoric. Upon successful completion of the course, learners understand the aspects of persuasion, and how best to organize summary and response compositions. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 10.5 | | |
| GDE | 86 | Undergraduate Academic Achievement for English Language Learners | Designed for undergraduate-bound international students. Consolidates the English language skills needed to be successful in a rigorous, academic undergraduate program. Refines advanced academic skills introduced in prior language courses through collaboration, communication, compositions and response to course concepts. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 10.5 | | |
| GDE | 88 | Graduate Academic Achievement for English Language Learners | Designed for graduate-bound international students. Consolidates the English language skills needed to be successful in a rigorous, academic graduate program. Learners draw from advanced, complex academic texts to review the literature and to compose evidenced-based writing and speaking assignments related to their fields of study. Expects learners to demonstrate an advanced command of the English language and advanced academic skills. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 10.5 | | |
| GDE | 96 | English for Undergraduate Admission and Achievement | Advanced English language learners refine, demonstrate and are assessed on academic English language skills. Successful completion of the course meets the ASU admissions requirement for proof of English proficiency for international students. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GDE | 98 | English for Graduate Admission and Achievement | Advanced English language learners refine, demonstrate and are assessed on academic English language skills. Successful completion of the course meets the ASU admissions requirement for proof of English proficiency for international students to graduate programs. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GER | 101 | Elementary German I | Reading, writing, speaking, and understanding of basic German, with emphasis on pronunciation and grammar. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Students may not enroll in GER 101 if credit with C or better earned in GER 102, GER 110, GER 201, GER 202 or GER 210 OR Visiting University Student |
| GER | 102 | Elementary German II | Reading, writing, speaking, and understanding of basic German, with emphasis on pronunciation and grammar. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): GER 101 with C or better OR German Placement score of 231-328; Credit is allowed for only GER 102 or GER 110 or GER 111 OR Visiting University Student |
| GER | 110 | Intensive German I | Students learn to read, listen, write and speak German. Develops ability to communicate in German using a variety of tools. Uses German to ask and answer questions; name and describe persons, things, places and events; deals with certain situations; narrates orally and in writing; writes letters and postcards; fills out forms; and comprehends some texts. Expands knowledge of the cultures of the German-speaking countries. Students contribute to the class discussions what they might already know. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 6-8 | G | Students may not enroll in GER 110 if credit with C or better earned in GER 101, GER 102, GER 201, GER 202 or GER 210 |

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| GER | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| GER | 201 | Intermediate German I | Intensive review of grammar, with emphasis on the development of the skills of speaking, listening comprehension, reading, and writing. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): GER 102, 110, or 111 with C or better OR German Placement Test score of 329-443 OR Visiting University Student |
| GER | 202 | Intermediate German II | Intensive review of grammar, with emphasis on the development of the skills of speaking, listening comprehension, reading, and writing. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): GER 201 with C or better OR German Placement Test score of 444-547; Credit is allowed for only GER 202 or GER 210 OR Visiting University Student |
| GER | 210 | Intensive German II | Helps develop reading, writing, listening and speaking skills and strategies with activities both inside and outside of class. Guides student further into learning about the cultures of the German-speaking countries. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 6-8 | G | Prerequisite(s): GER 102 or 111 with B or better OR GER 110 with C or better OR German Placement Test score of 408-469; Credit is allowed for only GER 201 or GER 202 or GER 210 |
| GER | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| GER | 310 | Making Sense of German Grammar | Contextualized German grammar in written and spoken German. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): GER 202 or 210 with C or better OR German Placement Test score of 548 and above OR Visiting University Student |
| GER | 311 | Express Yourself in German | Builds and refines conversational skills in German through a focus on important contemporary issues. Strengthens active vocabulary knowledge, trains listening and speaking skills, and develops strategies to understand and respond in everyday German situations. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): GER 202 or 210 with C or better OR German Placement Test score of 548 and above OR Visiting University Student |
| GER | 312 | Explore German Culture | Discovers how advancing reading proficiency in German can grant access to an array of ideas from the realms of literature, film, science, politics, history and sustainability. Each semester, students contribute to building a unique syllabus based on individual class interests. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): GER 202 or 210 with C or better OR German Placement Test score of 548 and above OR Visiting University Student |
| GER | 313 | Create in German: Writing, Speaking, Performing | Invites all students on a journey through a variety of writing and speaking adventures in German. From academic to creative writing, and from theater to presentational speaking, offers opportunities to bring all language skills to life. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): GER 202 or 210 with C or better OR German Placement Test score of 548 and above OR Visiting University Student |
| GER | 315 | Germanic Mythology | Religious and spiritual beliefs and practices of the ancient Germanic peoples as reflected in their culture, including the pantheon of their gods, as well as the reception of these beliefs through and including contemporary times. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| GER | 319 | Work with German | Navigates the German business world in real-life situations. Apply for a job, be a trainee and develop a business project in German. Communicate effectively and with cultural awareness in a professional context. Organize and present clear, effective business communications and vocabulary applicable to modern business usage. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): GER 202 or 210 with C or better or German Placement Test score of 548 or higher OR Visiting University Student |
| GER | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| GER | 416 | German Civilization | From 1600 through 1945. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H & G | Pre-requisite: A 300-level German course |
| GER | 420 | Discover - Discuss - Design: German Language and Culture | Covers current research approaches to the German-speaking world such as environmental, migration and memory studies to help students articulate a unique question about the German-speaking world based on their individual interests. Over the course of the semester, students explore their focal area by designing a project that can take a variety of forms, from the classic research paper to digital exhibitions, audio-visual media, or artworks. Develops research skills, discovers interdisciplinary approaches, and discusses outcomes with peers and the community. The majority of course materials and language of instruction are in German. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; GER 312 with C or better OR Visiting University Student |
| GER | 421 | German Literature Survey, 800-1800 | From the beginning to Classicism. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): GER 310 with C or better |
| GER | 422 | German Literature Survey, 1800-Today | From Romanticism to the present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; GER 310 with C or better OR Visiting University Student |

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| GER | 431 | German Humor | Popular and literary texts (collections of jokes, pranks and comedies) in the print and visual media provide a basis of comparison for students to reflect critically on the function of humor in German culture from the sixteenth century until the present. Exposes the different types and functions of German humor and understands both the historical and the contemporary theoretical debate on the study of (German) humor. Taught almost exclusively in German, with reading and writing assignments done in the target language. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): Two 300-level GER courses with C or better; Credit is allowed for only GER 431 or GER 494 (German Humor and Comedy) |
| GER | 441 | Fairy Tales | Foundational fairy tale texts collected by the Brothers Grimm and written by Hans Christian Andersen and their modern permutations reflect basic human desires, fears and aspirations as well as the values of the period in which they are written. These stories and their variants in popular culture across the globe permit students to reflect critically on the functions of fairy tales in both past and present civilizations. Students perceive the ways in which ancient tales can be utilized for various purposes and understand the contemporary theoretical debate on the study of fairy tales and their role in popular culture. Course taught in English. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; one other ENG or GER upper-division course with C or better; Credit is allowed for only GER 441 or GER 494 (Fairy Tales), or SLC 441 OR Visiting University Student |
| GER | 445 | Holocaust, War and German Memory | Examines representations of the Holocaust from across different media (literature, film, architecture, memoir, photography) and from across multiple generations of German engagement with this period in history. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 102, ENG 105, ENG 108, FMS 100, FMS 200, JST 210, or JST 230 with C or better; Credit is allowed for only FMS 445 or GER 445 or JST 445 or SLC 445 OR Visiting University Student |
| GER | 446 | Weimar-Era German Film | Examines early film production in Germany during the period of the Weimar Republic. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, ENG 105, ENG 108, FMS 100, or FMS 200 with C or better; Credit is allowed for only FMS 446 or GER 446 or SLC 446 OR Visiting University Student |
| GER | 447 | German Modernism | Examines examples of modernism in literature, art and film from German-speaking Europe. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GER 447 or SLC 447 |
| GER | 455 | Berlin: Migration, Arts and Activism | Deals with the culture and politics, arts and activism of migrants in Germany based on the example of Berlin, using historical and contemporary examples. Critically engages with such concepts as migration and identity, transnationalism, assimilation, multilingualism, artivism, activism, xenophobia and racism. Examines examples from various art forms, including film and the creative arts, literature, media and social media to help understand the impact of migration and immigrants on Germany and German society and compares it to experiences in other countries, especially the U.S. A focus on Berlin allows an in-depth and focused micro-observation of the differences and commonalities of various immigrant groups and responses of the local communities in a defined urban space. In order for students to reflect on the impact of migration in German society and the migrants themselves, also looks at migration through the lens of movements for social change and justice. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only GER 455 or SLC 455 |
| GER | 465 | Intercultural Communicative Competence | Focuses on the importance of culture(s) and the ways in which culture(s) effects and interrelates with communication. Communicating across cultures is very important in order for us to be able to function in a globalized, diverse world, e.g., workplace, city. Using our own experiences and discussions as well as the readings, course increases our sensitivity, understanding and awareness of our own culture(s) as well as other culture(s). Approaches the study of intercultural communicative competence in a theoretical and practical way. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only GER 465 or SLC 465 or GER 494 (Intercultural Communicative Competence) or SLC 494 (Intercultural Communicative Competence) |
| GER | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| GER | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| GER | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| GER | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| GER | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | N | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| GER | 550 | German for Reading Knowledge | Teaches non-speakers of foreign language, or those with only basic notions of the language, how to read in a foreign language at an advanced level. Consists of a concise overview of grammar as well as reading comprehension practice for students who plan to take the Graduate Foreign Language Exam or others who would merely like to learn to read in a foreign language. Focuses only on reading and not on listening, speaking, or writing as in a traditional language course. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GER | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GER | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GER | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GER | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GER | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GER | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 202 | Drones to Satellites: Observing Earth from Above | Seeing the Earth from above has a profound effect on how we view our planet. Introduces Earth observation using platforms like drones, airplanes and satellites. Covers how images and data of our Earth are acquired from above and how they can be processed and interpreted to understand our world. Students gain practical skills for generating information from images to better understand how human beings use and alter Earth's surface. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | CS | Credit is allowed for only GIS 202 or GIS 294 (Drones to Satellites: Observing Earth from Above) |
| GIS | 205 | Geographic Information Science I | Introduces spatial thinking, a cross-disciplinary foundation for geographic information science (the science of dealing with spatial/geographical data; their manipulation, interpretation and use in problem solving); geospatial technologies (the specific technologies underpinning geographic information science); and spatial analysis (the science of solving spatial problems). | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | CS | |
| GIS | 211 | Geographic Information Science II | History and basic aspects of GIS including map and data file structure, conversions, and synthesis with a computerized environment. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 4 | CS | Prerequisite(s): GIS 205 with C or better OR Visiting University Student |
| GIS | 220 | Mathematical Principles in GIS | Covers the basic math principles needed to excel in GIS and spatial analysis. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): MAT 117, 119, 142, 170, 210, 211, 251, 265, or 270 with C or better |
| GIS | 222 | Programming Principles in GIS I | Basic principles of programming for GIS in python covering data processing, analysis, and application development. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): MAT 170, 210, 270, 271, or 272 with C or better OR Visiting University Student |
| GIS | 270 | Statistics for Geography and Planning | Descriptive and inferential statistical methods for analysis of data in geographical sciences and urban planning. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): MAT 117, 119, 142, 170, 210, 211, 251, 265, or 270 with C or better OR Visiting University Student |
| GIS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| GIS | 311 | Geographic Information Science III | GIS as a basis for microcomputer spatial analysis and synthesis. Includes digitizing, database organization, spatial retrieval, and graphics. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 4 | CS | Prerequisite(s): GIS 211 with C or better OR Visiting University Student |
| GIS | 322 | Programming Principles in GIS II | Fundamental data structures and algorithms for the integration, management, processing and analysis of geographically referenced data. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): GIS 222 with C or better OR Data Science BS major; CSE 110, CSE 205, or GIS 222 with C or better OR Visiting University Student |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| GIS | 341 | Cartography and Georepresentation | Study and creation of maps. Fundamental mapping principles (projection, scale, generalization, symbolization) and computer-based cartographic production. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | CS | Prerequisite(s): GIS 205 with C or better OR Visiting University Student |
| GIS | 351 | Air Photo Interpretation | Subset, remote sensing, includes photography, films, aerial geometry, image components, stereoscopy, photogrammetry, ground truthing; interpret physical, cultural, economic, intelligence information. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): minimum 45 hours |
| GIS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| GIS | 412 | Spatial Decision Support Systems | Theoretical and technical requirements for implementing spatial decision support tools. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): GIS 222 with C or better; GIS 311 with C or better |
| GIS | 431 | Spatial Databases | Covers data modeling concepts, the relational data model for the storage and retrieval of spatial and nonspatial information. The data retrieval emphasizes the industry-standard query language SQL and Spatial Query Languages. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Pre-requisite: GIS 311; GIS 322 |
| GIS | 441 | Geographics: Interactive and Animated Cartography and Geovisualization | Advanced cartography, stressing influence and application of the computer on geographic representation. Emphasizes creation of maps for the Internet. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | CS | Prerequisite(s): GIS 222 with C or better |
| GIS | 451 | Geodesign and Urban Planning | Geodesign is a design and planning method which tightly couples the creation of design proposal with impact simulations informed by geographic contexts, systems thinking and digital technology. Covers the fundamental theory, concepts and frameworks of geodesign. Students become familiar with the geodesign process by reviewing case studies including specific case study applications from University of New South Wales and Arizona State University. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): GIS 205 or PUP 301 with C or better; Credit is allowed for GIS 451 or GIS 551 or PUP 451 or PUP 551 or GIS/PUP 494 (Geodesign and Urban Planning) or GIS/PUP 598 (Geodesign and Urban Planning) OR Visiting University Student |
| GIS | 461 | Fundamentals of Spatial Optimization | Covers the fundamentals of optimization for spatial analysis. Introduces math-based optimization methods, specifically linear programming, integer programming, and branch and bound. Provides the basics for use and application of GIScience and spatial analysis methods for suitability analysis and network analysis. Objectives include: reviewing basics of linear algebra; formulating and solving optimization problems using linear and integer programming; applying raster and vector GIS methods to site suitability analysis, shortest path, and service area problems; and integrating GIS into problem formulation and result visualization. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): GIS 205 or 211; MAT 170, 270, 271, or 272 with C or better; Credit is allowed for only GIS 461 or GIS 561 or PUP 481 or PUP 581 OR Visiting University Student |
| GIS | 462 | Location Analysis and Modeling | Provides an overview of mathematical models for location optimization in the context of GIScience. Applies linear and integer programming (a type of linear algebra), computer programming, and GIS to optimize systems of points, lines and polygons for emergency services, natural resource management, private and public facilities, and undesirable and desirable facilities. Objectives include: formulating, solving, and interpreting location problems; understanding differences among a variety of location analysis and modeling problems and methods; and linking GIS and optimization software for preparing inputs and visualizing results. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): GIS 211 with C or better; GIS 461 with C or better; Credit is allowed for only GIS 462 or GIS 562 or GCU 598 (Location Models) |
| GIS | 469 | Multivariate Statistics for Social Sciences | Provides instruction and hands-on experience with statistical methods for examining the effects of multiple variables. Focuses on multivariate techniques and how statistical techniques can lead to a better understanding of substantive issues. As this is an applied course, lectures and coursework focus more on the application and interpretation of multivariate techniques than on the mathematics behind the statistical techniques. Topics typically include data visualization, correlation, simple regression, multiple regression, logistic regression, multinomial regression, ordinal regression, and principal component analysis. Also teaches how to conduct these statistical techniques and undertake basic programming in the R computer program. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): DAT 300, ECN 221, GIS 270, PSY 230, SOC 390, or STP 226 with C or better; Credit is allowed for only CDE 469 or GIS 469 or SOC 469 or CDE 498/GIS 494 (Multivariate Statistics for Social Sciences) OR Visiting University Student |
| GIS | 470 | Advanced Statistics for Geography and Planning | Statistical techniques applied to the analysis of distributions and relationships. Introduces models and theory in geography. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | CS | Prerequisite(s): DAT 300 or GIS 270 with C or better OR Visiting University Student |
| GIS | 471 | Spatial Statistics for Geography and Planning | Basics of spatial data analysis. Topics include point pattern analysis, spatial autocorrelation, spatial regression, and kriging. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prereqs w/C or better: CDE 469, GIS 469, GIS 470, SOC 469, or CDE 498/GIS 494 (Multivar Stat Soc Sci); GIS 211 or 494 (GIS Methods NonMajors) OR Data Sci BS major; DAT 301 or GIS 470; GIS 211 or 494 (GIS Methods NonMajors) OR Visiting University Student |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| GIS | 472 | Spatial Regression Analysis | Students gain insight into the scope of spatial regression methods, apply them in an empirical setting, and properly interpret the results of spatial regression analysis. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Pre-requisite: GIS 471; Credit is allowed for only GIS 472 or GPH 598 (Spatial Regression) |
| GIS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |
| GIS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-6 | | Prerequisite(s): Barrett Honors student |
| GIS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-6 | | Prerequisite(s): Barrett Honors student |
| GIS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| GIS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-7 | | |
| GIS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-3 | | |
| GIS | 501 | GeoDesign in Practice | Covers the basic topics of GeoDesign in practice including data, analysis, geocoding, mapping and projected implementation. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): GIS 601 and 602 (or PUP 576) |
| GIS | 505 | GeoDesign Principles | Systematic exploration and evaluation of alternative complex human-environmental systems using spatially and temporally explicit theories, data and methods. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 2 | | Prerequisite(s): GIS 601 and 602, or PUP 576; Credit is allowed for only GIS 505 or PUP 505 |
| GIS | 512 | Spatial Decision Support | Designs and implements a spatial decision support system and analyzes and understands the theoretical underpinnings that form these systems. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): Degree- or Nondegree-seeking graduate; Credit is allowed for only GIS 412 or GIS 512 |
| GIS | 520 | GIScience Issues and Debates | Examines the underlying theories, current issues and debates surrounding the development and foundation of GIScience as a discipline. Discusses the history of the development of the field, the fundamentals and applications of spatial concepts to problem solving, and explores the trajectories of the field with respect to emerging geospatial technologies. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 521 | Geographic Information Science Programming | In-depth look at programming within GIS. Focuses on programming and methodology, utilizing specific software, and basic scientific computing. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 531 | Spatial Databases | Advanced data modeling concepts, the relational data model for the storage and retrieval of spatial and non-spatial information. Data retrieval emphasizes the industry-standard query language SQL and spatial query languages. Covers research topics for graduate students. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): Degree- or Nondegree-seeking graduate; Credit is allowed for only GIS 431 or GIS 531 |
| GIS | 551 | Geodesign and Urban Planning | Geodesign is a design and planning method which tightly couples the creation of design proposal with impact simulations informed by geographic contexts, systems thinking and digital technology. Covers the fundamental theory, concepts and frameworks of geodesign. Students become familiar with the geodesign process by reviewing case studies including specific case study applications from University of New South Wales and Arizona State University. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; Credit is allowed for GIS 451 or GIS 551 or PUP 451 or PUP 551 or GIS/PUP 494 (Geodesign and Urban Planning) or GIS/PUP 598 (Geodesign and Urban Planning) |
| GIS | 561 | Fundamentals of Spatial Optimization | Covers the fundamentals of optimization for spatial analysis. Introduces math-based optimization methods, specifically linear programming, integer programming, and branch and bound. Provides the basics for use and application of GIScience and spatial analysis methods for suitability analysis and network analysis. Objectives include: reviewing basics of linear algebra; formulating and solving optimization problems using linear and integer programming; applying raster and vector GIS methods to site suitability analysis, shortest path and service area problems; and integrating GIS into problem formulation and result visualization. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GIS 461 or GIS 561 or PUP 481 or PUP 581 |
| GIS | 562 | Location Analysis and Modeling | Provides an overview of mathematical models for location optimization in the context of GIScience. Applies linear and integer programming (a type of linear algebra), computer programming, and GIS to optimize systems of points, lines and polygons for emergency services, natural resource management, private and public facilities, and undesirable and desirable facilities. Objectives include: formulating, solving and interpreting location problems; understanding differences among a variety of location analysis and modeling problems and methods; and linking GIS and optimization software for preparing inputs and visualizing results. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): GIS 561; Credit is allowed for only GIS 462 or GIS 562 or GCU 598 (Location Models) |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| GIS | 563 | Local Statistical Modeling | Understands the processes that generate the data we observe in the real world. If these processes vary over space, we term this spatial non-stationarity and traditional global models are no longer applicable. A set of local spatial models has been developed to examine spatial non-stationarity and one of the most widely used of these is Geographically Weighted Regression (GWR) and its variants. Investigates GWR and the wider context of spatial non-stationarity. Topics include: setting the scene; introduction to GWR; discussion of context; further issues in GWR; software for GWR; workshop on GWR 4; model selection in GWR; inference in GWR; semi-parametric GWR and multiscale GWR (MGWR); software for multiscale GWR; inference for MGWR; multicollinearity and GWR; some myths about GWR; big models; an example of the 2016 U.S. presidential election. Examination is by project (60%) and two presentations (40%). | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GIS 563 or GIS 598 (Local Statistical Modeling) |
| GIS | 571 | Spatial Statistics for Geography and Planning | Instructs on a variety of descriptive and inferential spatial statistics. Covers the conceptual foundations of spatial statistics, computes spatial statistics using software, and applies spatial statistical testing to a variety of research problems. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed only for GIS 571 or GIS 591 (Spatial Statistics for Geography and Planning) |
| GIS | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |
| GIS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 601 | Introduction to Geographic Information Systems | Introduces GIS theory and practice for professionals. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 2 | | Prerequisite(s): Geographic Information Systems MAS student |
| GIS | 602 | Intermediate GIS | Introduces visualization, spatial analysis and open source tools. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 2 | | Prerequisite(s): Geographic Information Systems MAS student |
| GIS | 603 | Spatial Statistics and Modeling | Introduces spatial statistics and modeling. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 2 | | Prerequisite(s): Geographic Information Systems MAS student |
| GIS | 604 | Implementation in the Corporate and Public Sectors | GIS use in the corporate and public sectors including proposal development. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 2 | | Prerequisite(s): Geographic Information Systems MAS student |
| GIS | 605 | GIS Project Planning and Implementation | Moving from project proposal to implementation. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 2 | | Prerequisite(s): Geographic Information Systems MAS student |
| GIS | 606 | GIS Project Presentation | Development of technical reports and presentations. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 2 | | Prerequisite(s): Geographic Information Systems MAS student |
| GIS | 610 | Programming the GIS Environment | Programming fundamentals for desktop GIS and custom applications. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): Geographic Information Systems MAS student |
| GIS | 630 | GIS Technologies | Uses of GIS technology for data collection and management. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): Geographic Information Systems MAS student |
| GIS | 640 | GIS for Business | Uses of GIS in business practice including site suitability, demographic data and business analysis. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): Geographic Information Systems MAS student |
| GIS | 650 | GIS for the Internet | Programming GIS for the Internet and mobile applications. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): Geographic Information Systems MAS student |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| GIS | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |
| GIS | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | RSC | Y | Z3 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 799 | Dissertation | Supervised research focused on preparation of a dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIT | 135 | Graphic Communications | Processes involved in design, asset generation, transmission, production and evaluation of visual content. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | |
| GIT | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-4 | | |
| GIT | 210 | Creative Thinking and Design Visualization | Fundamental methods, concepts and techniques of creative thinking, ideation and problem solving, including communication and societal influences. Examines drawing and design visualization, from sketching to data graphics. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | |
| GIT | 211 | 3D Media Production | Introduces basic 3D workflows and techniques. Topics covered include visual storytelling and composition, project workflows, 3D modeling, virtual cameras, texturing, shading and rendering. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 230 with C or better OR Visiting University Student |
| GIT | 215 | Introduction to Web Authoring | Website planning and evaluation using industry-standard languages. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Credit is allowed for only GIT 215 or GIT 310 OR Visiting University Student |
| GIT | 230 | Digital Illustration in Publishing | Raster and vector illustration in publishing. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Pre- or corequisite(s): MAT 117 or higher with C or better if completed OR Visiting University Student |

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| GIT | 250 | Introduction to Commercial Print | Provides an overview of current print technology, a basic understanding of the print process and current workflows. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): Applied Science (Graphic Info Tech) BAS, Applied Science (Internet & Web Dev) BAS, Graphic Info Tech BS, Graphic Info Tech (Full-Stack Web Development) BS or Graphic Info Tech (User Experience) BS major OR Visiting University Student |
| GIT | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-4 | | |
| GIT | 295 | Introduction to Technical Imaging | Explores imaging technologies utilized in industry. Covers basic imaging concepts, chip technologies, optics, motion analysis, high-speed video, thermal imaging, and science relating to light and latent imaging. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | |
| GIT | 303 | Digital Publishing | Web and print publication design and production using industry-standard composition software, proofing, and output devices. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 230 with C or better or Applied Science (Internet and Web Development) BAS or Applied Science (Graphic Information Technology) BAS major OR Visiting University Student |
| GIT | 310 | Web Foundations | 7.5-week course covers fundamental methods, concepts and techniques of semantic and validated Web development as well as aesthetic Web design. Includes Photoshop, HTML5 and CSS technologies. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): Applied Science (Graphic Information Technology) BAS or Internet and Web Development) BAS major; minimum junior standing; Credit is allowed for only GIT 215 or GIT 310 or GIT 337 (or GIT 237) |
| GIT | 312 | Computer Animation and Motion Graphics | Covers basic 2D/3D animation and motion graphic techniques and principles. Topics covered include project workflows, key frames, path animation, motion principles, hierarchical structures, animated textures, lights, and cameras. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | CS | Prerequisite(s): GIT 211 OR Visiting University Student |
| GIT | 314 | Multimedia Design, Planning and Storyboards | The creative process of generating ideas, conceptualizing projects, planning, designing, story boarding, and presenting interactive multimedia products. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 230 with C or better; minimum junior standing OR Applied Science (Graphic Information Technology) BAS or Applied Science (Internet and Web Development) BAS major OR Visiting University Student |
| GIT | 315 | Digital Video Techniques | Covers video production, including planning, pre-production, production, post-production and online video technologies and how video is an integral part of the graphic information industry. Concentrates on commercial and client-driven video production. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): Applied Science (Graphic Information Technology) BAS major or Applied Science (Internet and Web Development) BAS major or GIT 230 with C or better OR Visiting University Student |
| GIT | 333 | Printing Technology | Theory and application of sheet and web press technology for offset-lithography, flexography, screen process, and digital printing. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 250 OR Visiting University Student |
| GIT | 334 | Image Editing and Manipulation | Theory and application of advanced image editing and raster techniques for reproduction and dissemination. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 230 with C or better or Applied Science (Graphic Information Technology) BAS or Applied Science (Internet and Web Development) BAS major OR Visiting University Student |
| GIT | 335 | Computer Systems Technology | Computer technology: hardware, software, storage, networking, Internet, telecommunications, and information systems. Requires independent research. Not for credit for BS Graphic Information Technology major. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): minimum junior standing; Not for credit for the Graphic Information Technology BS degree OR Visiting University Student |
| GIT | 337 | Web Content Design | User-centered design principles for visual content on the World Wide Web with emphasis on content strategy, user experience, coding and interactivity. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 215 with C or better; GIT 230 OR Applied Science (Graphic Information Technology) BAS or Applied Science (Internet and Web Development) BAS major; Credit is allowed for only GIT 310 or GIT 337 OR Visiting University Student |
| GIT | 340 | Information Design and Usability | Design and technology solutions for increasing Website usability and methods of organizing information to improve the user experience. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): minimum junior standing OR Visiting University Student |
| GIT | 350 | Cross-Media Design | Strengthens design elements and principles. Explores, creates and critiques cross-media design work for print and digital outputs. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 303; Credit is allowed for only GIT 350 or GIT 494 (Cross-Media Design Solutions) OR Visiting University Student |
| GIT | 384 | Commercial Photography | Digital image capture, and output in a commercial studio emphasizing publishing workflow. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 230 with C or better or Applied Science (Graphic Information Technology) BAS or Applied Science (Internet and Web Development) BAS major OR Visiting University Student |

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| GIT | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-4 | | |
| GIT | 402 | New Media Internet Technologies | Project-based exploration of new media Internet technologies from a graphic technology prospective. Emphasizes how, why, and when new media can be used to enhance a Web site and the user's experience. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only GIT 402 or GIT 502 |
| GIT | 411 | Visual Narrative in Motion Graphics | Students acquire project experience refining skills in communication, research, critical analysis and criticism, while exploring visual story construction, graphic workflows and process pipelines for motion-based applications. Topics include story conceptualizing and structures, project management, visual composition and motion graphic techniques. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 312 OR Visiting University Student |
| GIT | 413 | Professional Portfolio Design and Presentation | Digital media portfolio design and production to include planning, audience analysis, content selection, authoring tools and formats, production, copyright considerations, marketing and delivery. Should be taken in the last semester of the program. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): Applied Science (Internet and Web Development) BAS major or GIT 303; senior standing; Pre- or corequisite(s): GIT 480 OR Visiting University Student |
| GIT | 414 | Web Site Design and Internet/Web Technologies | Design, authoring, standards, protocols, tools and techniques for development for different Web-based technologies. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 310 or 337 OR Visiting University Student |
| GIT | 415 | Advanced Digital Video Techniques | Advanced video creation and editing techniques including motion graphics, green screen technology, audio sweetening, crew and commercial production. Course culminates with a completed video production that is commercial and professional in nature. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 315 |
| GIT | 417 | Advanced Web Markup and Scripting | Industry-standard programming languages and techniques to add user interactivity to graphic information Web sites and Web applications. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 310 or 337 OR Visiting University Student |
| GIT | 418 | Multimedia Authoring, Scripting and Production | Extended application of industry-standard scripting languages and techniques to add user interactivity to graphic information websites and web applications. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 417 with C or better OR Visiting University Student |
| GIT | 432 | Graphic Industry Business Practices | Business practices related to the graphics industry; business models, cost and rate analysis, marketing and management approaches. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): minimum senior standing; Credit is allowed for only GIT 432 or GIT 532 or GIT 598 (Graphic Industry Business Practices) OR Visiting University Student |
| GIT | 435 | Website and E-Commerce Strategies | E-Commerce site management, marketing analytics and e-commerce business models. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 414; Credit is allowed for only GIT 435 or GIT 535 or GIT 598 (Website & E-Commerce Strategy) OR Visiting University Student |
| GIT | 437 | Color Reproduction Systems | Scientific analysis for the engineering of color reproduction systems and color models used in the graphics industry. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 334; Credit is allowed for only GIT 437 or GIT 573 |
| GIT | 445 | 360 Production | Overview of 360 photo and video capture and editing, immersive storytelling, and 360/VR. Students explore immersive storytelling (spherical/360/180) by producing various forms of VR video and photos and examining their use in communication, entertainment and industrial applications. Emphasizes technical skills required to produce immersive content from capture to distribution using industry standard NLE and specialty software. In addition, students actively research and analyze the role of this emerging technology and communication medium. Requires prior knowledge of video editing. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 315; Credit is allowed for only GIT 445 or GIT 494 (360 Production) or GIT 545 or GIT 598 (360 Production) OR Visiting University Student |
| GIT | 450 | Digital Workflow in Graphic Industries | Digital production system analysis for content creation, automation output of graphic information to print and Web, including networking and job tracking. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prereq(s): Applied Sci (Graphic Info Tech) BAS maj; GIT 303 OR Applied Sci (Internet & Web Dev) BAS maj OR GIT 215 w/C or better; GIT 303; Credit is allowed for only GIT 450 or GIT 550 or GIT 598 (Dig Workflow Graph Indst) OR Visiting University Student |
| GIT | 480 | Senior Project | Capstone project experience refining skills in communication, research and information retrieval, critical analysis and criticism, and demonstrating technical competence in each student's area of study. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): minimum senior standing |
| GIT | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | PRA | Y | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-12 | | |
| GIT | 490 | Advanced Commercial Photography | Studio-based class focusing on set design, advanced photographic techniques, raw workflow, marketing, business, and digital rights management. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 384 |
| GIT | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-6 | | Prerequisite(s): Barrett Honors student |

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| GIT | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| GIT | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-4 | | |
| GIT | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-3 | | |
| GIT | 500 | Research Methods | Course on research methods in a specific discipline. | Y | RSC | Y | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIT | 502 | New Media Internet Technologies | Project-based exploration of new media Internet technologies from a graphic information technology prospective. Emphasizes how, why and when new media can be used to enhance a Web site and the user's experience while maintaining branding cohesively across all technologies. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GIT 402 or GIT 502 |
| GIT | 515 | Website Design and Technologies | Standards, tools and techniques for creating websites, with emphasis on designing for multiple devices and systems. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIT | 519 | Advanced Scripting for the Web | Uses industry-standard markup and scripting languages to develop interactive websites and applications. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIT | 532 | Graphic Industry Business Practices | Business practices related to the graphics industry; business models, cost analysis, marketing and management approaches. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GIT 432 or GIT 532 or GIT 598 (Graphic Industry Business Practices) |
| GIT | 535 | Website and E-Commerce Strategies | Covers researching, designing, marketing and managing an e-commerce website. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GIT 435 or GIT 535 or GIT 598 (Website & E-Commerce Strategy) |
| GIT | 537 | Current Issues in Cross Media Production | Directed group study of selected current issues relating to cross-media production for the graphic information industries. Requires graduate group leadership. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): Graphic Information Technology MS student or Technology (Graphic Information Technology) MSTech student |
| GIT | 538 | Personnel Development for the Graphics Industry | Employee training and development specific to production and management in the graphics industry. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): graduate student in Technology (Graphic Info Tech) |
| GIT | 540 | Cross-Media Design Solutions | Universal design theory, creative problem solving, and case study applications for print, Web, and new media products of the graphics industry. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): Graphic Information Technology MS or Technology (Graphic Information Technology) MSTech or User Experience MS student |
| GIT | 542 | Usability and User Experience | Design and technology solutions focusing on how information is organized graphically to communicate and how website usability is employed to improve human interaction with inline information. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): Graphic Information Technology MS or Technology (Graphic Information Technology) MSTech or User Experience MS student |
| GIT | 545 | 360 Production | Overview of 360 photo and video capture and editing, immersive storytelling, and 360/VR. Students explore immersive storytelling (spherical/360/180) by producing various forms of VR video and photos and examining their use in communication, entertainment and industrial applications. Emphasizes technical skills required to produce immersive content from capture to distribution using industry standard NLE and specialty software. In addition, students actively research and analyze the role of this emerging technology and communication medium. Requires prior knowledge of video editing required. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GIT 445 or GIT 494 (360 Production) or GIT 545 or GIT 598 (360 Production) |
| GIT | 550 | Digital Workflow in the Graphics Industry | Digital production system analysis for content creation, automation output of graphic information to print and Web, including networking and job tracking. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GIT 450 or GIT 550 or GIT 598 (Digital Workflow Graphic Industr) |
| GIT | 551 | Immersive Experience Design I | Focuses on the practices of design for immersive experiences using different media including but not limited to extended reality technologies. Students work on interdisciplinary projects using and developing their skills on composition/aesthetics of environmental design; programmatic/spatial requirements in both real and virtual universes; modeling/simulation of spaces/objects in 3D animated environments, motion graphics, 3D printing/rapid prototyping, storytelling and world building. Develops abilities to manage projects, work effectively in teams and transform research into creative/technological products. | N | LAB | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only DSC 551 or GIT 551 |
| GIT | 560 | Capstone | Hands-on project in user experience. Requires a report based on research or applied work as a culminating experience. | N | SEM | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): User Experience MS student; Credit is allowed for only GIT 560 or HSE 560 or TWC 560 |

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| GIT | 573 | Color Metrology | In-depth study and analysis of systems used to manage color reproduction in the graphic arts industry and information technology. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GIT 437 or GIT 573 |
| GIT | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIT | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIT | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIT | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIT | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIT | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIT | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLE | 501 | Global Thinking in Education | An online course introducing students to the analyses of worldwide factors that affect a range of issues in education including access, quality and sustainability across countries and education systems. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLE | 502 | Inquiry in Global Education | Students learn to locate; interpret and critically analyze global education research literature (including comparative, qualitative, and quantitative approaches); develop problem statements and conduct a literature review. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLE | 503 | Evaluating Global Education Policies and Programs | Examines principles, methods and practices of evaluating education programs and policies in international settings. Focuses on types of evaluation, evaluation design, data collection and monitoring, and utilization of findings. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLE | 504 | Exploring Global Issues in the Global Education Research Literature | Reviews, identifies and synthesizes the empirical research literature. Students write a conceptual literature review in an area of interest of global significance. review, identify and synthesize the empirical research literature and will write a conceptual literature review in an area of interest of global significance. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLE | 505 | Evidence in Global Education Inquiry | Covers the basic research methods associated with global education inquiry. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Global Education MEd student; GLE 501; GLE 502; GLE 503 |
| GLE | 506 | Applied Inquiry in Global Education: Developing Proposals for Field Research | Guides students in the development of a proposal for an applied inquiry study to explore and analyze an education problem in the student's interest in an area of global import. Such issues may include but are not limited to education access, quality and sustainability. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Global Education MEd student; GLE 501; GLE 502; GLE 503 |
| GLE | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): Global Education MEd student; GLE 501; GLE 502; GLE 503 |
| GLE | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLG | 101 | Introduction to Geology I (Physical) | Basic principles of geology, geochemistry, and geophysics. Rocks, minerals, weathering, earthquakes, mountain building, volcanoes, water, and glaciers. Students must complete both GLG 101 and GLG 103 to receive an SQ (general studies). | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | SQ | |

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| GLG | 102 | Introduction to Geology II (Historical) | Basic principles of applied geology and the use of these principles in the interpretation of geologic history. Both GLG 102 and 104 must be taken to secure SG General Studies credit. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | SG & H | |
| GLG | 103 | Introduction to Geology I: Laboratory | 3 hours lab, some field trips. Both GLG 101 and 103 or both GLG 101 and ENV 103 must be taken to secure SQ General Studies credit. | N | LAB | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1 | SQ | Credit is allowed for only ENV 103 or GLG 103 OR Visiting University Student |
| GLG | 104 | Introduction to Geology II-Laboratory | Lab techniques involving map interpretation, cross sections, and fossils. Both GLG 102 and 104 must be taken to secure SG general Studies credit. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1 | SG | Corequisite(s): GLG 102 OR Visiting University Student |
| GLG | 108 | Water Planet | Overview of the processes that control water supply to natural ecosystems and human civilizations. Part I introduces the basic science that helps us understand the water planet, including the hydrologic cycle, glaciers and ice; rivers, oceans, and natural hazards associated with water such as flooding, landsliding and tsunamis. Part II covers some of the management and resource allocation topics that face humanity today, including droughts, groundwater contamination, impacts on fisheries, conflicts over water, patterns of water use, and effects of global climate change on future water supplies. Uses water issues facing Arizona and California as examples. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 4 | SQ | Credit is allowed for only GLG 108 or SOS 182 OR Visiting University Student |
| GLG | 110 | Dangerous World | Geological studies as they apply to interactions between humans and Earth. Includes geological processes and hazards, resources, and global change. Both GLG 110 and 111 must be taken to secure SQ General Studies credit. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | SQ & G | |
| GLG | 111 | Dangerous World Laboratory | Basic geological processes and concepts. Emphasizes geology-related environmental problems concerning Arizona. Both GLG 110 and 111 must be taken to secure SQ General Studies credit. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1 | SQ | |
| GLG | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | |
| GLG | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | |
| GLG | 301 | Earth Science in Arizona and the Southwest | Place-based application of geology and allied Earth system sciences to explore and interpret the landscapes, rocks, geologic history, climate, resources, and natural hazards of Arizona and the Southwest. Integrates case studies of the interactions of Southwest cultures and societies (past and present) with Earth systems, and inquiry into the future sustainability of Southwestern communities and lifeways. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): ENG 101, 105 or 107 with C or better; GLG 101, 102, 110, GPH 111 or SES 121; MAT 117 or higher; Credit is allowed for only GLG 301 or GLG 394 (Earth Sci in AZ & SW) or SOS 372 OR Visiting University Student |
| GLG | 304 | Minerals, Energy, and Society | Studies the science and technology of the minerals and energy industries, how these industries interact with society, and how these interactions may change in the future. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): ENG 101, ENG 105 or ENG 107 with C or better; GLG 101, GLG 102, GLG 110, GPH 111, SES 121, or minimum junior standing; Credit is allowed for only GLG 304, GLG 394 (Minerals, Energy & Society) or SOS 373 |
| GLG | 305 | Dynamic Earth | Focuses on the 4.6-billion year physical and geochemical evolution of Earth, with emphasis on planetary interior and surface processes through time that have resulted in current concentrations of fundamental chemical elements necessary to sustain modern civilization. Specific topics include: (1) elemental abundances and differentiation of the early solar system and Earth; (2) formation of Earth's compositional and rheologic layers; (3) interactions among planetary spheres with focus on biogeochemical cycles; (4) multi-scale tectonics (plate tectonics, continental deformation, igneous and earthquake processes, and mountain building). Provides an essential scientific context for understanding Earth system processes fundamental to environmental science. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): CHM 101 or higher with C or better; both GLG 101 and 103 with C or better, or both GLG 110 and 111 with C or better, or both SES 121 and 123 with C or better; MAT 170, 210, 251, 265, or 270 with C or better OR Visiting University Student |
| GLG | 310 | Structural Geology | Geologic structures and the mechanical processes involved in their formation. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): GLG 101 or SES 121 with C or better; MAT 170, 171, 210, 251, 265, or 270 with C or better OR Visiting University Student |
| GLG | 321 | Mineralogy | Crystal chemistry, crystallography, mineral identification, origin and occurrence of minerals, systematic mineralogy. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3-4 | | Prerequisite(s): CHM 113 (or both CHM 111 and 117 or 114) with C or better; MAT 170, 210, 265 or 270 with C or better |

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| GLG | 325 | Oceanography | Introduces marine geology, chemistry, and physical and biological oceanography. Methods of oceanic exploration, environmental and social aspects of oceans. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s) w/ C or better: BIO 100, BIO 182, BIO 282, SES 220, SES 225, or both GLG 101 & 103, or both SES 121 & 123; CHM 101, 113, 114, 117, or both CHM 107 & 108; Credit allowed for only BIO 325 or CHM 385 or GLG 325 OR Visiting University Student |
| GLG | 327 | Earth's Critical Zone | The Earth's near surface environment (the "critical zone") supports most life and is the dynamic interface between the solid Earth and its fluid envelopes where much of the geologic record is produced. We now know that we face rapid climate change and the consequences of changes in land use, water resources, and ecosystems. Critical to planning a response to, or mitigation of, environmental change is understanding how the Earth surface works. Focuses on how changes to the environment manifest themselves in the critical zone-- in the form and function of the Earth's surface (landforms, water resources, soils, ecosystems). Offers a quantitative introduction to the form and function of the processes impacting the Earth's critical zone to build an understanding of the interactions of physical, chemical and biotic processes in shaping the surface and determining fluid, solute and sediment fluxes. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s) with C or better: CHM 101 or higher or PHY 101 or higher; both GLG 101 and 103, or both SES 121 and 123, or SES 225; MAT 170, 171, 210, 251, 265, or 270; Credit is allowed for only GLG 327 or SOS 374 OR Visiting University Student |
| GLG | 340 | Geologic Hazards of the Mediterranean | Covers geological studies as they apply to interactions between humans and Earth, focusing on geological hazards. Hazards present risks to life, property, global commerce and infrastructure. Such hazards are now more likely than ever to cause large death tolls and impact the global economy, due to increasing population density and the emergence of a global marketplace. Italy is a country that is exposed to a wide range of geologic hazards, such as volcanic eruptions, earthquakes and landslides. Because of its natural geologic setting and long history of scientific leadership, Italy has one of the world's most well-established scientific communities to study and mitigate geologic hazards. These issues are addressed and discussed from both a scientific and human perspective, with primary focus placed on Italian case studies and the role of Italian institutions in hazard science. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only GLG 340 or GLG 394 (Geologic Hazards of the Mediterranean) |
| GLG | 362 | Geomorphology | Land forms and processes that create and modify them. Lab and field study of physiographic features. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): GLG 101 or SES 121 with C or better; MAT 266 or 271 with C or better OR Visiting University Student |
| GLG | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | |
| GLG | 404 | Fundamentals of Planetary Geology | Surveys planetary topics, including impacts, tectonics, and volcanism on planetary objects, and use of spacecraft data, including geological mapping. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): GLG 101, GLG 102, SES 121, or SES 122 with C or better OR Visiting University Student |
| GLG | 406 | Geology of Mars | Geological evolution of Mars through analyses of spacecraft data, theoretical modeling, and study of terrestrial analogs; emphasizes current work. Possible field trips to examine Arizona geology. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | |
| GLG | 410 | Computers in Geology | Geological computer skills including data processing, visualization, presentation, numerical analysis, software and hardware applications. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | CS | Prerequisite(s): GLG 101 or SES 121 with C or better |
| GLG | 418 | Geophysics | Solid earth geophysics; geomagnetism, gravity, seismology, heat flow. Emphasizes crust and upper mantle. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): MAT 272 or 267 with C or better; PHY 131 with C or better; PHY 132 with C or better OR MAT 272 or 267 with C or better; PHY 151 with C or better OR Visiting University Student |
| GLG | 419 | Geodynamics | Emphasizes application of continuum principles to geological problems, including lithospheric stresses, heat transfer, fluid mechanics, and rock rheology. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Pre-requisite(s): MAT 267 or MAT 272 with C or better; PHY 131 and 132 (or PHY 151) with C or better |
| GLG | 420 | Volcanology | Distribution of past and present volcanism, types of volcanic activity, mechanism of eruption, form and structure of volcanoes, and geochemistry of volcanic activity. | N | PRA | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Pre-requisite: Engineering, Math or Science major; Minimum Junior standing |
| GLG | 422 | Planetary Volcanology | Studies the effects of planetary environments and magma compositions on styles of volcanism and the nature of volcanic products on the terrestrial planets and outer planet satellites. Overview of volcanism on specific planetary objects, analysis of spacecraft image data, basic mathematical volcanic modeling, and reviews of key papers. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): GLG 420 with C or better |
| GLG | 424 | Petrology | Origin of igneous and metamorphic rocks. Optical mineralogy, hand specimen identification, and thin-section analysis. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): GLG 321 with C or better OR Visiting University Student |

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| GLG | 430 | Paleontology | Introduces concepts and analytical techniques in biogeology, paleobiology, paleoecology, and paleoenvironmental reconstruction from the fossil record. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): GLG 102 or SES 12 with C or better; GLG 104 or SES 124 OR Visiting University Student |
| GLG | 435 | Sedimentology and Stratigraphy | Examines the fundamental principles and tools utilized in the study of sedimentology and stratigraphy. Focuses on the origin, transportation and deposition of sediment, and the processes that lead to the formation of sedimentary textures, structures and stratal packages. Emphasizes description, analysis and interpretation of lateral and vertical changes in sedimentary strata, both in the field and in laboratory exercises, as it pertains to spatial and temporal variability in depositional mechanisms and environments. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): GLG 102 or SES 122 with C or better; Pre- or corequisite(s): GLG 321 with C or better if completed OR Visiting University Student |
| GLG | 441 | Ore Deposits | Origin, occurrence, structure, and mineralogy of ore deposits. | N | PRA | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): GLG 101 or SES 121 with C or better; GLG 310 or 321 with C or better OR Visiting University Student |
| GLG | 451 | Field Geology I | Geological mapping techniques using topographic maps and aerial photos. Intensive field-based instruction. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; GLG 310 with C or better; Pre- or corequisite: GLG 321 OR Visiting University Student |
| GLG | 452 | Field Geology II | Geological mapping techniques using topographic maps and aerial photos. Intensive field-based instruction. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; GLG 310 with C or better; GLG 321 with C or better; GLG 451 with C or better OR Visiting University Student |
| GLG | 455 | Advanced Field Geology | Geologic mapping in igneous, sedimentary, and metamorphic terrains of the Basin and Range province of Arizona. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3-4 | | Prerequisite(s): GLG 310 with C or better; Pre- or corequisite(s): GLG 451 with C or better if completed OR Visiting University Student |
| GLG | 460 | Astrobiology | Origin, early evolution, distribution, and future of life on Earth and elsewhere in the cosmos. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): AST 112, BIO 182, BIO 282, GLG 102, SES 122, or SES 126 with C or better; one 300-level course in AST, BIO, CHM, GLG, MIC, PHY, or SES with C or better OR Visiting University Student |
| GLG | 461 | Geomicrobiology | Past and present interactions among microbial life, geological materials, and biogeochemical cycles involving carbon, sulfur, phosphate, nitrogen, and metals. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Credit is allowed for only GLG 461 or MIC 461 |
| GLG | 464 | Solving Environmental Problems | Capstone course intended primarily for seniors in the Earth and Environmental Studies degree program. Hybrid self-study design project workshop guided by faculty, in which student teams research and develop plans for a viable solution to a real environmental problem in the American Southwest. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): Earth and Environmental Studies BA major; GLG 305 with C or better; GLG 327 with C or better; senior standing |
| GLG | 470 | Hydrogeology | Geology of groundwater occurrence, aquifer and well hydraulics, water chemistry and quality, contaminant transport, remediation. Emphasizes quantitative methods. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | |
| GLG | 471 | Hydrology | Descriptive and quantitative hydrology; hydrologic cycle, models, and systems. Rain-runoff models. Hydrologic design. Concepts, properties, and basic equations of groundwater flow. Emphasizes quantitative methods. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): CEE 341 or MEE 340 or GLG 362 with C or better; Credit is allowed for only CEE 440 or CEE 545 or CEE 598 (Hydrology) or GLG 471 or GLG 490 (Hydrology) OR Visiting University Student |
| GLG | 476 | Earth's Past Climates: The Key to our Sustainable Future | Dynamic interactions among the oceans, earth surface and atmosphere that control Earth's climate in its present state, in the context of past climates and projections for future climates. Assesses the factors that affect the trajectory of future climate change, and the sources and measurement of the critical climate parameters that are essential for guiding decisions for a sustainable future. Also considers recent climate science-related controversies, as well as assessments of scientific statements related to these controversies. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only GLG 476 or GLG 576 or SOS 476 or SOS 576 or GLG 494 (Climate Sci Sustain) or GLG 598 (Climate Sci Sustain) or SOS 494 (Climate Sci Sustain) or SOS 598 (Climate Sci Sustain) |
| GLG | 481 | Geochemistry | Origin and distribution of the chemical elements. Geochemical cycles operating in the Earth's atmosphere, hydrosphere, and lithosphere. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): BCH 341, CHM 341, CHM 346, or GLG 321 with C or better; Credit is allowed for only CHM 481 or GLG 481 OR Visiting University Student |
| GLG | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | |
| GLG | 485 | Meteorites and Cosmochemistry | Chemistry of meteorites and their relationship to the origin of the Earth, solar system, and universe. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): CHM 341, CHM 346, or GLG 321 with C or better; Credit is allowed for only GLG 485 or CHM 485 |

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| GLG | 489 | Field Geochemistry | Explores basic field measurements and sampling techniques for environmental systems, with a focus on carbon cycling in the Colorado River. Surveys a variety of geochemical principles, including: equilibrium aqueous speciation, acid-base chemistry, solution-mineral equilibrium systems, oxidation-reduction reactions, organic and environmental geochemistry and biogeochemical cycles. Applies chemical principles and analytical techniques to answer questions about environmental systems and processes. | N | LEL | N | GNA | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | L | Prerequisite(s): CHM 302, GLG 321, or GLG 481 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only CHM 489 or GLG 489 OR Visiting University Student |
| GLG | 490 | Topics in Geology | Special topics in a range of fields in geology. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-3 | | |
| GLG | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-6 | | Prerequisite(s): Barrett Honors student |
| GLG | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| GLG | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | |
| GLG | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-3 | | |
| GLG | 546 | Advanced Watershed Hydrology | Watershed processes leading to runoff generation and the transformation of meteorological forcing through a hydrologic system. Emphasizes physical mechanisms and their treatment in numerical models. Quantification of uncertainty in hydrological modeling through probabilistic methods. Provides hands-on experience with data analysis and hydrologic models. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GLG 546 or GLG 598 (Advanced Watershed Hydrology) or CEE 546 |
| GLG | 549 | Ecohydrology of Semiarid Landscapes | Interactions between terrestrial plants and limiting resources in arid and semiarid environments. Temporal and spatial aspects of plant-water relations. Process-oriented discussion and examples using simple and complex numerical models. Provides experience with data analysis and instrumentation. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CEE 549 or CEE 598 (Ecohydrology of Semiarid Landscapes) or GLG 549 or GLG 598 (Ecohydrology of Semiarid Landscapes) |
| GLG | 576 | Earth's Past Climates: The Key to our Sustainable Future | Dynamic interactions among the oceans, earth surface and atmosphere that control Earth's climate in its present state, in the context of past climates and projections for future climates. Assesses the factors that affect the trajectory of future climate change, and the sources and measurement of the critical climate parameters that are essential for guiding decisions for a sustainable future. Considers recent climate science-related controversies and assessments of scientific statements related to these controversies. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GLG 476 or GLG 576 or GLG 494/598 (Climate Science for Sustainability) or SOS 476 or SOS 576 or SOS 494/598 (Climate Science for Sustainability) |
| GLG | 581 | Isotope Geochemistry | Geochemistry and cosmochemistry of stable and radioactive isotopes; geochronology; isotope equilibria. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLG | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLG | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLG | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLG | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLG | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLG | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| GLG | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLG | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLG | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLG | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLG | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPE | 10 | English Verbal Skills for International Scholars | Helps international graduate students (prospective ITAs) as well as other graduate students or visiting scholars at ASU improve their spoken English (pronunciation and fluency). Helps familiarize students with American classroom culture and helps them become effective classroom teachers. Each student receives an individual pronunciation assessment to help him or her focus on areas needing improvement. There is direct instruction and practice of pronunciation (e.g., sound, stress, rhythm, intonation). By participating in and leading class discussions, by working in small groups or pairs and by preparing for videotaped presentations, students improve English fluency. | N | LEC | Y | YGB | Office of the Provost | Global Launch | 3 | | |
| GPE | 11 | International Scholar Teacher Training | Familiarizes international graduate students (prospective ITAs) at ASU with American classroom culture and helps them become effective classroom teachers. Exposes various methods of teaching commonly used in the American university classroom. | N | LEL | N | YGB | Office of the Provost | Global Launch | 3 | | |
| GPE | 30 | Special Programs: Language Foundations | Designed for noncredit, special program international students. Helps students develop the skills needed to write, read and communicate effectively in the English language in professional settings. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 6 | | |
| GPE | 31 | Special Programs: Extended Project Work | Designed for special program international students. Helps students effectively apply the four language skills--reading, writing, speaking and listening--in real-world, professional settings. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 6 | | |
| GPE | 32 | Special Programs: Field-Specific English Language Skills | Designed for special program international students. Takes field-specific English language and develops the reading, writing and communication skills in order to successfully navigate professionally within a global context. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 6 | | |
| GPE | 88 | English for University Success: Writing, Reading and Research | Designed for international students who have attained an advanced level of English through Global Launch's intensive English program. Further refines and expands literacy and critical thinking skills needed to thrive in an American institution of higher learning. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GPE | 89 | English for University Success: Academic Thinking | Designed for international students who have attained an advanced level of English through Global Launch's intensive English program. Further refines and expands critical thinking skills and verbal and written expression needed to thrive in an American institution of higher learning. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GPE | 90 | Business Presentation Skills | Develops ability to verbally persuade, inform and motivate an audience. Covers integral key competencies such as: identifying audience, researching and organizing information, preparing and delivering effective visuals, and communicating concisely in English. Coupled with activities which include impromptu business-themed presentations, evaluations by the professor and feedback from peers. | Y | LEC | Y | YGB | Office of the Provost | Global Launch | 6 | | |
| GPE | 91 | Academic and Business Writing Skills | Develops the skills needed to write clearly and effectively, in both academic and business settings, through the exploration of efficient techniques and writing processes for targeting specific audiences with impactful content. | Y | LEC | Y | YGB | Office of the Provost | Global Launch | 6 | | |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| GPE | 92 | Critical Thinking Through Case Studies and Reading Strategies | Teaches international students reading and critical thinking strategies required for a master's-level program. Teaches how to read and understand dense textbooks, articles and magazines in a timely fashion and identify the important information. | Y | LEC | Y | YGB | Office of the Provost | Global Launch | 6 | | |
| GPE | 93 | American Business and Cross-Cultural Communication | Improves international students' ability to compare and contrast aspects of American business culture with other cultures in order to understand similarities and differences. | Y | LEC | Y | YGB | Office of the Provost | Global Launch | 6 | | |
| GPE | 94 | Business Listening and Conversation | Improves the student's ability to effectively communicate orally at a master's level. Covers speaking and listening strategies and skills necessary to participate in discussions related to business topics. Students learn to control the input they receive and produce coherent and appropriate responses. | Y | LEC | Y | YGB | Office of the Provost | Global Launch | 6 | | |
| GPE | 95 | Academic and Technical Writing | This non-credit course helps graduate-bound international students develop the English skills needed to write clearly and effectively, in both academic and technical settings, through the exploration of efficient techniques and writing processes for targeting specific audiences with relevant and thoughtful content. | N | LEL | Y | YGB | Office of the Provost | Global Launch | 6 | | |
| GPE | 96 | Graduate Presentation and Communication Skills | Designed for graduate-bound international students, this non-credit course helps students develop the skills needed to communicate in English effectively in a variety of graduate academic situations. | N | LEL | Y | YGB | Office of the Provost | Global Launch | 6 | | |
| GPE | 97 | Graduate Reading Skills | Utilizing topics from students' chosen field of study, this non-credit course is designed to give graduate-bound international students a thorough grounding in strategies and techniques for efficient and effective reading in English of complex, dense texts expected of graduate degrees. Graduate students build foundations for critically analyzing texts and applying them to relevant contexts, while amassing a graduate-level English lexis. | N | LEL | Y | YGB | Office of the Provost | Global Launch | 6 | | |
| GPH | 111 | Introduction to Physical Geography | Spatial and functional relationships among climates, landforms, soils, water, and plants. Both GPH 111 and GPH 112 must be taken to secure SQ General Studies credit. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SQ | |
| GPH | 112 | Introduction to Physical Geography Lab | Includes some local or virtual field trips. Both GPH 111 and GPH 112 must be taken to secure SQ General Studies credit. | N | LAB | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | SQ | Pre- or corequisite(s): GPH 111 OR Visiting University Student |
| GPH | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-3 | | Prerequisite(s): Freshman standing; maximum 25 hours OR Visiting University Student |
| GPH | 210 | Society and Environment | Examines the interaction among social processes, key environmental issues, and nature's role as a resource at global and regional scales. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | G | Credit is allowed for only GPH 210 or SOS 210 |
| GPH | 211 | Landform Processes | Laboratory science class on earth-surface processes, with exercises emphasizing how erosion, transportation, and deposition modifies landforms. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 4 | SQ | |
| GPH | 212 | Introduction to Meteorology | Fundamentals of weather and climate, including basic atmospheric processes and elements. Students whose curricula require a lab course must also register for GPH 214. Both GPH 212 and 214 must be taken to secure SQ General Studies credit | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SQ | |
| GPH | 213 | Climate and Weather | Fundamentals of meteorological/climatological analysis, including terminology and symbology. Recommended for meteorology/climatology program students. Both GPH 213 and GPH 215 must be taken to secure SG General Studies credit. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SG | |
| GPH | 214 | Introduction to Meteorology Laboratory | Introduces basic meteorological/climatological data and measurements. Suggested concurrent enrollment in GPH 212. Both GPH 212 and 214 must be taken to secure SQ General Studies credit. | N | LAB | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | SQ | |
| GPH | 215 | Climate and Weather Laboratory | Fundamentals of meteorological/climatological map analysis and interpretation. Recommended for meteorology/climatology program students. May be taken concurrently with GPH 213. Both GPH 213 and GPH 215 must be taken to secure SG General Studies credit. | N | LAB | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | SG | |
| GPH | 267 | Extreme Weather | Introductory survey of extreme weather and climate processes and the often disastrous consequences at the intersection of human operations. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| GPH | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| GPH | 314 | Global Change | Response of Earth's natural systems (atmosphere, hydrosphere, lithosphere, biosphere) to past environmental change, and effects of potential future changes. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | HU & G | Prerequisite(s): minimum 45 hours OR Visiting University Student |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| GPH | 381 | Geography of Natural Resources | Nature and distribution of natural resources and the problems and principles associated with their use. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | G | |
| GPH | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| GPH | 405 | Energy and Environment | Sources, regulatory and technical controls, distribution, and consequences of the supply and human use of energy. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only GPH 405 or GPH 505 |
| GPH | 409 | Synoptic Meteorology I | Diagnostic techniques and synoptic forecasting. Includes techniques of weather analysis, map interpretation, and satellite and radar analysis. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 4 | | Prerequisite(s): GPH 212 with C or better; GPH 214 with C or better; MAT 265 or 270 with C or better; Pre- or corequisite(s): PHY 121 or 150 OR Visiting University Student |
| GPH | 410 | Synoptic Meteorology II | Diagnostic techniques and synoptic forecasting. Includes techniques of weather analysis, map interpretation, and satellite and radar analysis. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 4 | | Prerequisite(s): GPH 409 with C or better |
| GPH | 412 | Physical Meteorology | Physical processes in the earth-atmosphere system on regional and global scales; concepts and analysis of energy, momentum, and mass balances. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): GPH 111; MAT 270; PHY 121/122 with C or better; Credit is allowed for only GPH 412 or GPH 591 (Physical Meteorology) |
| GPH | 413 | Meteorological Instruments and Measurement | Design and operation of ground-base and aerological weather measurement systems. Collection, reduction, storage, retrieval, and analysis of data. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): GPH 213 with C or better or Visiting University Student |
| GPH | 414 | Climate Change | Surveys three climate research areas: paleoclimatology, theories (e.g., greenhouse warming), numerical modeling. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | G | Prerequisite(s): GPH 111 or 213 or 314 with C or better |
| GPH | 418 | Landforms of the Western United States | Studies landforms and geomorphic processes in the western United States, including lecture, topographical maps, aerial photographs, satellite imagery, and field trips. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| GPH | 422 | Plant Geography | Plant communities of the world and their interpretation, emphasizing North American plant associations. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): BIO 181 or GPH 111 or PLB 200 with C or better; Credit is allowed for only BIO 430 or GPH 422 or PLB 422 |
| GPH | 433 | Alpine and Arctic Environments | Regional study of advantages and limitations of the natural environment upon present and future problems involving resource distribution, human activities, and regional and interregional adjustments. | N | PRA | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | G | Credit is allowed for only GPH 433 or 598 (Alpine & Arctic Environments) |
| GPH | 444 | Arizona Landscapes | How to interpret and analyze Arizona's amazing landscapes. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only GPH 444 or GPH 494 (Arizona Landscapes) OR Visiting University Student |
| GPH | 474 | Dynamic Meteorology I | Large-scale atmospheric motion, kinematics, Newton's laws, wind equation, baroclinics, vorticity, and the midlatitude depression. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s) with C or better: GPH 212; GPH 214; MAT 267 or 272; PHY 131; PHY 132 OR GPH 212; GPH 214; MAT 267 or 272; PHY 151 OR Visiting University Student |
| GPH | 475 | Dynamic Meteorology II | Topics in climate dynamics. General circulation, numerical modeling, teleconnection phenomena, and surface-atmosphere interaction. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): GPH 474 with C or better |
| GPH | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |
| GPH | 491 | Geographic Field Methods | Field techniques, including use of aerial photos, large-scale maps, and fractional code system of mapping; urban and rural field analysis to be done off campus. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | |
| GPH | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-6 | | Prerequisite(s): Barrett Honors student |
| GPH | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| GPH | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| GPH | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-3 | | |
| GPH | 511 | Fluvial Processes | Geographical aspects of processes of river erosion, transportation, sedimentation: emphasizing spatial characteristics of forces, resistance, landforms, sediment; includes computer applications. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| GPH | 513 | Meteorological Instruments and Measurement | Design and operation of ground-based and aerological weather measurement systems. Collection, reduction, storage, retrieval and analysis of data. Final project requires designing a field research measurement program for a hypothetical research question. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GPH 413 or GPH 513 or GPH 598 (Meteorological Instrmntn M) |
| GPH | 563 | Urban Climates | Explores the urban climate system and its relationship with the built infrastructure of cities, including the causes, consequences and mitigation options for urban heat islands. Topics include the urban energy balance; materials in the urban environment; waste heat from energy consumption in cities; scales of urban-influenced climate modification; and implications for human comfort/health, air quality and energy consumption. Intended for graduate students in geographical sciences, urban planning, design, engineering, and related disciplines interested in learning about the urban climate system. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GPH 563 or GPH 598 (Urban Climates) or GPH 598 (Urban Heat Island) |
| GPH | 569 | Digital Analysis of Remotely Sensed Data | Focuses on the digital image processing of remotely sensed data for earth resource analysis and applications. Provides the skills and knowledge to apply digital remote sensing techniques for biophysical and environmental planning and problems. Through laboratory work, students have opportunities to practice concepts and techniques learned in the lecture part. Requires a reasonable background in college algebra and basic statistics. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only GPH 394 (Digital Analysis of Remotely Sensed Data), 569 or 598 (Digital Analysis of Remotely Sensed Data) |
| GPH | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 596 | Advanced Spatial Statistics | Multivariate and advanced statistical techniques including Box-Jenkins modeling and spectral analysis. Requires project papers and presentations. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 597 | Geography Capstone | Allows students to create a culminating experience that reflects the breadth and depth of their MA experience. By doing so, students have the opportunity to articulate the value of the degree to potential employers. Students have several options to fulfill the capstone requirement; they may submit a research paper, a professional portfolio, or a creative component. | N | LEL | N | GNA | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): GCU 528; GCU 596 |
| GPH | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|----------------------------------|---|-------------------|-------------------|-----------------|---------------|---|--|-------|-----------------|--|
| GPH | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GRA | 101 | Designing Life | Helps students develop strategies to successfully navigate their education experience. Focuses on critical and reflective thinking. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| GRA | 111 | Graphic Design History I | Surveys development of visual communication from its origins to the 20th century. Investigates significant technological, industrial, and social influences. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU | |
| GRA | 112 | Graphic Design History II | Surveys contemporary and 20th-century graphic design. Investigates relationships among graphic design and related disciplines, technological, industrial, and social influences. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): GRA 111 with C or better |
| GRA | 121 | Principles for Graphic Design I | Graphic design as a language and process for creative thinking and realization. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Environmental Design or Graphic Design major; Corequisite(s): GRA 111 OR Visiting University Student |
| GRA | 122 | Principles for Graphic Design II | Continued exploration of graphic design as a language and process for creative thinking and realization. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): GRA 121 with C or better; Environmental Design or Graphic Design major. Corequisite(s): GRA 112 |
| GRA | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| GRA | 220 | Design Drawing I | Drawing as language to explore and communicate ideas. Development of drawing aptitude as language and process for graphic design thinking. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Graphic Design BSD major; GRA 101 with C or better; GRA 111 with C or better; GRA 112 with C or better; GRA 121 with C or better; GRA 122 with C or better; minimum 3.00 GPA OR Visiting University Student |
| GRA | 221 | Letterform | Drawing of letterforms with focus on proportion and structure. Introduces letterform nomenclature and classifications. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Graphic Design BSD major; GRA 101 with C or better; GRA 111 with C or better; GRA 112 with C or better; GRA 121 with C or better; GRA 122 with C or better; minimum 3.00 GPA OR Visiting University Student |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|---|-------------------|-------|-----------------|--|
| GRA | 222 | Visual Communication I | Theoretical and applied studies in shape, drawing, and color. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Graphic Design BSD major; GRA 101 with C or better; GRA 111 with C or better; GRA 112 with C or better; GRA 121 with C or better; GRA 122 with C or better; minimum 3.00 GPA OR Visiting University Student |
| GRA | 223 | Typography | Theoretical exercises in spatial and textural qualities of type. Problems in tension, activation, and balance. Exercises in simple typographical applications. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Graphic Design BSD or Pre-Graphic Design major; GRA 220 with C or better; GRA 221 with C or better OR Visiting University Student |
| GRA | 224 | Visual Communication II | Transition from theoretical to applied problems. Emphasizes refinement of visual skills. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Graphic Design BSD or Pre-Graphic Design major; GRA 220 with C or better; GRA 222 with C or better OR Visiting University Student |
| GRA | 225 | Communication/Interaction Design Theory | Theory related to the design of communication artifacts and interaction within various media environments. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| GRA | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| GRA | 321 | Technology for Design I | Explores the process of technology in design. Projects interface with GRA 361. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Graphic Design student; Corequisite(s): GRA 361 OR Visiting University Student |
| GRA | 322 | Technology for Design II | Emphasizes advanced technology in design problems. Projects interface with GRA 362. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): GRA 321 with C or better; Corequisite(s): GRA 362 |
| GRA | 345 | Design Rhetoric | Develops critical thinking and expression of ideas in concise and persuasive written and spoken form. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | L | Prerequisite(s): Archtctrl Stdies, Dsign Stdies, Dgtal Cltre (Dsign), Envir Dsign, Grphic Dsign, Indstrial Dsign, Interior Dsign, or Landscape Archtctre major, or Dsign Studies minor; ENG 102, 105, or 108 w/ C or better OR Visiting University Student |
| GRA | 361 | Visual Communication III | Explores methodologies of strategic communication, development of visual systems, and information design ideation processes leading to applied projects in print and digital media. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Graphic Design student; GRA 223 with C or better; GRA 224 with C or better; Corequisite(s): GRA 321 OR Visiting University Student |
| GRA | 362 | Visual Communication IV | Comprehensive studio projects with emphasis on production processes leading to multidisciplinary applied projects in print, 3-D space, and digital media. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Pre-requisites: Graphic Design student; GRA 361 with C or better; Co-requisite: GRA 322 |
| GRA | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| GRA | 401 | Creative Environment | Explores and investigates theories of the psychology of space, psychology of people in space, and the psychology of objects as it pertains to creativity and the creative environment. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| GRA | 421 | Exhibit Design | Familiarization with the processes associated with the design of exhibits, especially visual communication in 3-D. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Graphic Design BSD major; GRA 362 with C or better OR Visiting University Student |
| GRA | 422 | Motion Graphics and Interaction Design | Discusses and explores theory related to the design of motion graphics and interaction through lectures and studio projects. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Graphic Design BSD major; GRA 322 with C or better OR Visiting University Student |
| GRA | 423 | Advanced Interaction Design | Advanced discussion and exploration of theory related to the design of interaction. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisite: GRA 422 |
| GRA | 424 | Advanced Media | Advanced exploration of digital media for communication. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): GRA 422 with C or better |
| GRA | 440 | Finding Purpose | Career orientation in the creative professions, including value clarification, decision making, lifestyle planning, goal setting, and expression of individual talents. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| GRA | 461 | Visual Communication V | Comprehensive studio projects with emphasis on design processes, including research, writing, critical thinking, practice, presentation, and analysis. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Graphic Design BSD major; GRA 362 with C or better OR Visiting University Student |
| GRA | 462 | Visual Communication VI | Comprehensive studio projects pursued in cooperation with a public organization or private enterprise. All projects culminate in an exhibit. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Graphic Design BSD major; GRA 461 with C or better OR Visiting University Student |
| GRA | 464 | Collaborative Design Development I | Team-based product development course featuring applied projects. Open to senior students from business, engineering, design, and other disciplines. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ENT 464 (or MGT 464) or GRA 464 or IND 464 or SOS 474 OR Visiting University Student |

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| GRA | 465 | Collaborative Design Development II | Team-based product development course featuring applied projects. Open to senior students from business, engineering, design, and other disciplines. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ENT 465 (MGT 465) or GRA 465 or IND 465 or SOS 475 OR Visiting University Student |
| GRA | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | PRA | N | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): Graphic Design major; GRA 362 with C or better |
| GRA | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | | Prerequisite(s): Barrett Honors student |
| GRA | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| GRA | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| GRA | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-3 | | |
| GRA | 501 | Creative Environment and Collaborative Leadership | Explores and investigates creativity and group collaboration leadership as it applies to the creative process. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): graduate Herberger Institute for Design and the Arts major |
| GRA | 521 | Advanced Visual Communication Design Studio I | Students translate data, stories and references that they collect in their research into masterful visual narratives. This studio is an inquisitive environment for exploring ways to frame information and weave stories with graphic design. Students acquire new knowledge as individuals and as a group. Emphasizes studio-based research, conceptual development and articulation of process, voice and a high level of design execution. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Master of Visual Communication Design major. Credit is allowed for only GRA 521 or GRA 590 (Advanced Visual Communication Design Studio I) |
| GRA | 522 | Advanced Visual Communication Design Studio II | Encourages students to develop a framework for understanding the role of design systems, tools and objects as cultural artifacts and their reflection on social diversity. In particular, students focus on the cultural experience of collaborative consumption as it is fostered through visual communication design. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): GRA 521. Credit is allowed for only GRA 522 or GRA 590 (Advanced Visual Communication Design Studio II) |
| GRA | 526 | Visiting Designers | Series of workshops (three per semester) in which students work closely with professionals and scholars in design and related disciplines. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisites: Master of Science in Design or PhD in Environmental Design & Planning student |
| GRA | 561 | Methods in Visual Communication I | Introduces methodology in visual communication. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisites: Master of Science in Design or PhD in Environmental Design & Planning student |
| GRA | 562 | Methods in Visual Communication II | Advanced theories and methodologies in visual communication. Emphasizes visual search as the synthesis of theory and practice. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): GRA 561 with C or better |
| GRA | 563 | Thesis Document Design | Emphasizes the construction of the final thesis document as a visual communication object and/or medium. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisites: Master of Science in Design student |
| GRA | 581 | Internship in Teaching Design | Develop assignments, conduct critiques, structure dialogue, make presentations, and assist in the instruction of studio and lecture courses. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisites: Master of Science in Design student |
| GRA | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GRA | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GRA | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GRA | 621 | Advanced Visual Communication Design Studio III | Structured around the Design School traveling-studio model, this studio challenges students to work together to identify new design opportunities. For approximately one week during the semester, students travel to an off-campus location to examine a local condition there for which new design solutions are needed. Students return to ASU and continue working on the project for the semester. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): GRA 522 |

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| GRA | 622 | Advanced Visual Communication Design Studio IV | As a culmination of study at the master level, the student is responsible for the development of an individually determined, semester-long project in response to defined objectives, periodic commentary by committee, and formal review. Students meet regularly with a faculty member to discuss assignments. Final faculty review and project book containing a written as well as graphic theoretical component are the forms of final presentation for this contribution to the field of visual communication design. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): GRA 621 |
| GRD | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Graduate College | Graduate College | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GRD | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Graduate College | Graduate College | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GRD | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Graduate College | Graduate College | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GRD | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | GNA | Graduate College | Graduate College | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GRD | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Graduate College | Graduate College | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GRD | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | N | LEC | Y | Z1 | Graduate College | Graduate College | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GRD | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | GNA | Graduate College | Graduate College | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GRK | 101 | Elementary Ancient Greek | The beginnings of the ancient Greek language, the language of Homer, Sophocles, Plato and the New Testament. Grammar and vocabulary, with an emphasis on reading ability. For beginning students only. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | |
| GRK | 140 | Greek and Latin Roots in Bioscientific Terminology | Introduces students to the ancient Greek and Latin root words most commonly used in biological, medical, and other scientific terminology, and gives practice identifying them in context. The knowledge of these root words enables students to memorize with greater ease and increased retention the bioscientific terminology they encounter in other coursework as well as in their medical or scientific profession. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Credit is allowed for only BIO 140 or GRK 140 or LAT 140 or SLC 140 OR Visiting University Student |
| GRK | 142 | Ancient Greek Civilization | Ancient Greek civilization and culture. Studies (in roughly equal parts) the art, archaeology, literature, culture and history of ancient Greece from prehistoric times until after the conquests of Alexander the Great (the Hellenistic Age). | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Credit is allowed for only GRK 142, GRK 194 (Ancient Greek Civilization) or SLC 142 |
| GRK | 201 | Intermediate Ancient Greek | Ancient Greek syntax and grammar, equipping the student to read the foundational texts of Greco-Roman antiquity. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): GRK 101 with C or better |
| GRK | 223 | Introduction to Greek and Roman Mythology | Familiarizes students with the characters and events of ancient Greek and Roman myths through their literary manifestations, and moves beyond mere narrative to consider the possible interpretations and functions of these myths, thus revealing the central concerns of ancient society and giving insights into the working of our own society and its literary and artistic traditions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Credit is allowed for only GRK 223 or LAT 223 or SLC 223 or GRK 294 (Greek and Roman Mythology) OR Visiting University Student |
| GRK | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| GRK | 301 | Ancient Greek Literature I | Readings in ancient Greek prose; advanced grammar. May be repeated for credit. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): GRK 201 with C or better OR Visiting University Student |
| GRK | 302 | Ancient Greek Literature II | Readings in ancient Greek poetry. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): GRK 201 with C or better |
| GRK | 344 | Classics and Comics | Explores the connections between the classical tradition of Ancient Greek and Roman literature and the modern American superhero comic book tradition. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 101 or 105 or 107 with C or better; Credit is allowed for only GRK 344 or LAT 344 or SLC 344 or GRK/LAT/SLC 394 (Classics and Comics) or SLC 494 (Classics and Comics) |
| GRK | 346 | Ancient Greece II: Late Classical and Hellenistic Period | Traces the transformation of the Greek world between the end of the Peloponnesian War (404 B.C.) and the absorption of the last major Greek state by growing power of Rome (30 B.C.), with special attention to how Greeks in this period lived and thought and how the period's political and economic changes helped to create new forms of culture. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only GRK 346 or HST 346 or SLC 346 |

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| GRK | 347 | Ancient Greece I: Bronze Age through the Peloponnesian War | Traces Greek History from its prehistoric beginnings through the Peloponnesian War (431-404 B.C.), with a special focus on the Archaic (ca. 800-480 B.C.) and Early Classical periods. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only GRK 347 or HST 347 or SLC 345 OR Visiting University Student |
| GRK | 351 | Tales of Troy | Provides an in-depth exploration of the ancient Greek archaic primary source material, including literary, art historical and archaeological sources. Uses stories about the Trojan War as a theme for the course, but does not limit exploration of the literature, art, history and culture of archaic Greece. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GRK 351 or GRK 394 (Tales of Troy) or LAT 394 (Tales of Troy) or SLC 351 or SLC 394 (Tales of Troy) OR Visiting University Student |
| GRK | 352 | The Rise and Fall of Ancient Athens | Comprehensive coverage of the cultural and historical world of the ancient Greek civilization from the end of the Greco-Persian wars in 479 BCE through the rise and decline of Athens (including the Peloponnesian War with Sparta) to the final defeat of the Greek cities by Philip of Macedon in 338 BCE. This holistic study addresses not only the history of this period but also its literature, art and philosophy, with an emphasis on how these phenomena relate to one another. This period advanced to the state that was regarded by later civilizations as their peak, and which inspired Rome and Europe in the Renaissance. Athens, as the cultural center of Greece at this time, boasted the tragedies of Aeschylus, Sophocles, and Euripides, the comedies of Aristophanes, the history of Thucydides, the philosophy of Plato, and the artistic achievement of the Parthenon. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GRK 352 or GRK 394 (Glory that was Greece) or LAT 394 (Glory that was Greece) or SLC 352 or SLC 394 (Glory that was Greece) OR Visiting University Student |
| GRK | 353 | Alexander and His Empires | Comprehensive coverage of the cultural and historical world of the ancient Greek civilization from the ascent of Alexander the Great to the Macedonian throne in 338-336 BCE, through the existence of the kingdoms that followed his conquests, until their final subjugation by the Roman Empire in 31 BCE. This holistic study addresses not only the history of this period, but also its literature, art, religion, philosophy and science, with an emphasis on how these phenomena relate to one another. This was a period of massive economic and military expansion (including colonization), accompanied by social dislocation and cultural and scientific innovation. In these respects, this period has much to teach us today. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GRK 353 or GRK 394 (Alexander and His Empires) or SLC 353 or SLC 394 (Alexander and His Empires) OR Visiting University Student |
| GRK | 360 | Greece and Rome at War | Familiarizes students with the major battles, leaders and tactics of Classical Greece and Rome. Supplements lectures with student participation including study of original sources, group presentations, and gaming battle simulations. This multifaceted approach gives a greater sense of the evolution of the leaders, armies and tactical systems of the Greeks and Romans. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only GRK 360, HST 397, LAT 360, SLC 360 or SLC 394 (Greece and Rome at War) |
| GRK | 362 | Ancient Greek Religion | Surveys ancient Greek religion, including its gods, ritual practices and festivals. Analyzes the development of the religion over time, and how both ancient and modern figures interpreted its meaning. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 101 (or ENG 105 or 107) with C or better; Credit is allowed for only GRK 362, REL 360, SLC 362 or SLC 394 (Ancient Greek Religion) |
| GRK | 363 | Ancient Magic and Witchcraft | Examines magical spells, curses, amulets and other materials from ancient Greece and Rome. Students read anthropological discussions of magic worldwide to understand how ancient magic operated, what its function was within Greco-Roman society, and how it developed over the centuries. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GRK 363 or LAT 363 or SLC 363 or GRK 394/LAT 394/REL 394/SLC 394 (Magic and Witchcraft in Antiquity) OR Visiting University Student |
| GRK | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| GRK | 444 | Heroes, Ancient and Modern | Explores the heroic literature of the ancient Greeks and Romans, then traces the classical tradition and reception of the classical hero in medieval and modern texts. Incorporates history, art history and material culture from the relevant societies to supplement study of the texts involved. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only GRK 444, LAT 444, SLC 444 or SLC 494 (Heroes: Ancient and Modern) |
| GRK | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| GRK | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| GRK | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| GRK | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |

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| GSC | 501 | War, Conflict and Security | Explores the rapidly changing and highly complex geopolitical, technological and strategic context within which modern conflict and war occur. Introduces the profound social, political, economic and cultural implications of the changing nature of war and conflict. Provides an overview of the historical background of war and conflict, and some of the classic philosophical and military-strategic theories and conceptions of war. Introduces the institutional framework, the Westphalian state-based system of modern international law and relations, within which much of the theory and practice of modern conflict and war has developed. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GSC | 502 | Security Studies | Continues the exploration of the rapidly changing and highly complex geopolitical, technological and strategic context within which modern conflict and war occur; the profound social, political, economic and cultural implications of the changing nature of war and conflict. Provides an overview of several fundamental themes that run through the history of war and strategy, and discusses the increasing importance of nonmilitary "soft power" in managing conflict situations. Also introduces the importance of regional knowledge in conflict as a critical operational competence (using the Russian invasion of Crimea and Ukraine as a case study), as well as the broader challenges of civilizational conflict and the importance of identity and narrative in modern conflict. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GSC | 503 | Future of War | Provides an overview of key issues and ideas associated with the future of war. Each week presents a set of readings related to a particular theme including how the future of war has been visualized, new domains of conflict, new and emerging technologies; shifting power dynamics, and varied national views and doctrines. Readings and video elements also explore various case studies and scenarios as well as fictional treatments. Students gain an understanding of core theories, concepts and considerations, providing them with a foundation for engaging the complexity of war and its future. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GSC | 504 | Understanding Conflict and War | Provides a critical overview of different definitions and meanings of war and armed conflict. Engages key theories used to understand conflict including realism, neorealism, liberalism and constructivism. Considers core issues in the field, linking empirical studies with explanations for what drives, sustains and resolves conflict including reviewing the fact that democratic states tend not to go to war with each other (the democratic peace); the structure and logic of arms races; escalation and alliance; and core ideas regarding peace, conflict management and conflict resolution. Many of the issues and theories reviewed in this class are linked with case studies and concrete examples. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GSC | 505 | Law of War | Provides an overview of key elements of the law of war, also known as international humanitarian law (IHL) and the law of armed conflict (LOAC). Engages basic questions of international law, reviewing its history, sources and structure. Covers jus ad Bellum, the rules governing how states legally go to war as well as jus in bello, the established ideas regarding how to manage actions during armed conflict. Covers key principles within the law of war, including distinction, proportionality and necessity as well as reviewing the differences between international and noninternational armed conflicts and other key ideas. Reviews the systems through which the law of war is enforced and also considers basic theoretical and practical issues regarding compliance. In general, links the ideas, practices, rules and understandings of the law of war with specific cases and concrete examples. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GSC | 506 | U.S. Politics of Security | Builds a foundational understanding of the complex system of formal and informal actors and structural forces that shape U.S. security policy. Starts with both theoretical and case study examinations of the role domestic politics plays in the production of policy decisions. Analyzes critical institutional actors and relationships between actors, including: the President and Congress, the National Security Council and interagency, and the civilian-military relationship. Finally, investigates key structural forces placed on the policy-making process by the American society, and the relationship between policymakers and the public. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| GSC | 507 | Global Politics of Security | Offers several approaches to understanding the global politics of security, including: the structure of international and multinational security institutions and actors including nongovernmental organizations (NGOs), the United Nations' Security Council, peacekeeping missions, regional organizations (NATO, EU, Inter-American System, ASEAN) and others. Also considers the roles of private military and intelligence contractors and corporations working on issues of direct and indirect relation to security issues. Through specific case studies and examples, reviews the operation of these bodies and their complex relationships. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GSC | 508 | Comparative Studies of Conflict | Provides a critical overview of key theories on the causes, justifications and structures of political conflict and the use of violence. Begins by outlining core issues within the problem of social order, that is, how to think about managing governance and power. Reviews the idea of "collective action" and its link with force and violence, ideas that are contrasted with nonviolence as a political strategy. Then considers civil wars and interstate wars, comparing these forms of organized violence, as well as the current challenges of armed nonstate actors (within an international system premised on states) and an overview of the meaning of peace. Links the issues and theories reviewed in this class with case studies and concrete examples as a means of linking key ideas with their practical and policy implications. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GSC | 509 | Emerging Technologies and Global Security | Provides an introduction to the implications of accelerating changes in military and security technologies, fueled by rapid developments in five core technology systems: nanotechnology, biotechnology, information and communications technology (ICT), robotics and applied cognitive science. Also introduces the idea of revolutions in military affairs, a concept that has been used to frame discussions about the strategic implications of new technologies from drones to cyber. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GSC | 510 | Governance in Post-Conflict and Transitional Contexts | One of the most pressing current global security policy issues involves understanding and implementing strategies, mechanisms and processes to address post-conflict and transitional contexts. How do societies create and manage representational governance after the fall of authoritarian regimes? How can institutions be rebuilt and reconstituted? How can a social order address the justice demands of victims of brutal political violence whose suffering was often a key element of prior systems of rule? Provides a critical introduction to the field of post-conflict reconstruction and transitional justice. Reviews the tense and uncertain nature of post-conflict environments and their challenges, engages the security questions raised by peacekeeping and stability operations. Also considers the difficulties of governance and reconstruction in the aftermath of conflict. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GSC | 511 | Terrorism and Insurgency | Provides a critical overview of the use of terror by governments, insurgents and other nonstate actors. Engages the definition of terrorism and provides an overview of key practices and strategies. Reviews key theories as to the causes, meaning and impact of the deployment of terror as a strategy by distinct groups. This involves a consideration of state terror, insurgencies and global terror networks. Links many of the core ideas reviewed in this class with a set of case studies designed to ground the broader discussion of terror within specific situations and contexts. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GSC | 512 | Global Trends | Takes a broad look at emerging global patterns as they relate to governance, security and social order. Examines a number of interrelated topics, including: globalization and various forms of backlash; populist movements; socioeconomic inequality both within and between societies; the shifting of economic power from the global west to the global east; demographic changes and the resource strain that results; democratic backsliding, protests and social unrest; and the weakening of state-society relations. Situates these conflicting trends within a bigger question: What does it all mean for global stability? Do these new challenges signify the erosion of an aging order, and if so, what emerges from the upheaval? | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| GSC | 550 | Capstone | Serves as the culminating experience of the Masters in Global Security (MAGS). The capstone course allows each student to explore a research area, interest, theme or question. Final written products will be developed individually based on consultation with faculty. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; GSC 501 |
| GSC | 560 | Overview of Cybersecurity | Provides an overview of key issues and ideas associated with cybersecurity. Each week presents a set of readings related to particular themes including: the principles of cybersecurity and the special challenges posed by an interconnected world; key elements of internet architecture; outline of cyberattacks and cyberdefense; public and private internet governance and protection; espionage; and an overview of cyberwar. Provides a general overview of questions and core concepts regarding the cyber domain, the nature and structure of the internet and how to understand the special risks, benefits, offensive and defensive elements of an increasingly interconnected world. Reviews a set of core theories, concepts and considerations to provide students who may have little background in the area and do not need any technical proficiency with a foundation for engaging the complex nature of cybersecurity and its rising significance for global security. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GSC 560 or GSC 598 (Overview of Cybersecurity) |
| GSC | 561 | Cybersecurity Threats and Trends | Provides an overview of cybersecurity threats and trends. Each week presents a set of readings related to particular themes including: an overview of hacking and data breaches; special challenges and risks associated with protecting critical infrastructure on a state and federal level; and the complex, global threats posed by cybercrime. Also explores the risks associated with rapidly expanding social media and interconnectedness currently and into the future as well as providing an overview of key legal and ethical issues associated with cybersecurity policy. Provides a general overview of these issues in an effort to outline major issues regarding cybersecurity threats and how to best think about their impact on global security. Assists students in developing a strong conceptual foundation for engaging these issues and their broad policy implications. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GSC | 562 | Cybersecurity, Global Politics and Resiliency | Provides an overview of global cybersecurity preparation and resiliency. Because international cybersecurity threats change rapidly and because complete protection for most systems is impossible in an interconnected world, a significant amount of cyber policy focuses on improving mechanisms of preparation and enabling multiple forms of resiliency. The general idea is that attacks cannot be prevented or fully anticipated so creating more flexible, redundant and multi-faceted systems is a useful policy. Each week's readings are related to themes including: understanding core vulnerabilities, types of attackers and targets, modes of deterrence and encryption systems and tools. Engages the special challenges raised by attribution and outlines how to conceptualize and ensure system resiliency. Provides a critical overview of central ideas, concepts and terminology for better engaging of cybersecurity preparation and resiliency as a key element of global security. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GSC | 563 | Cybersecurity Planning and Strategy | Provides an overview of cybersecurity planning and strategy. Since cybersecurity is a constantly evolving field, many aspects of planning are in a state of continual evolution. Many believe that broad-based, flexible strategies are necessary to enable key actors and institutions to engage in adequate policies to ensure general cybersecurity preparedness. Class themes include: an overview of key institutions and actors, central concepts of threat analysis, public and private cyberpolicy, and elements of international regulation. Also engages issues of cybersecurity strategy, the special challenges of non-state actors and ways to conceptualize and engage the future of cybersecurity. Reviews essential ideas and concepts, gains familiarity with key actors and institutions, and engages the complex interplay of governmental, intergovernmental, commercial and non-state actors engaged in cyber threats and protective action. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): GSC 560 |
| GSC | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | IND | Y | Z1 | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| GSC | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GSC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GTD | 501 | Global Technology and Development | Major theories of economic, political, and social development, with particular emphasis on the impact of current technologies and globalization. | N | LEC | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GTD | 503 | Technology and the International Political System | Historical development of international political system, with emphasis on role of technology. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GTD | 504 | Technology and Development in Zones of Conflict | Examines the special context of technology and development in zones of conflict that face wars among other nations, civil strife and dramatic political change. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GTD | 505 | Social Science Inquiry for Global Development | Research design and processes in the social sciences including development of problem statements, effective literature reviews, diverse techniques of primary and secondary data collection and analysis, and design and development of research proposals. | N | LEC | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GTD | 506 | Applied Project Methods in Global Development | Surveys theoretical frameworks, research methods and knowledge mobilization techniques for research and creative applied projects in global development. | N | LEC | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GTD | 507 | Technology and Development in The Middle East | Examines historical and current patterns of political and socioeconomic development in the Middle East, including the role of technological development and current events. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GTD 507 or GTD 598 (Political Development in the Middle East) |
| GTD | 508 | Technology and Development in Latin America | Examines historical and current patterns of political and socioeconomic development in Latin America, including the role of technological development and current events. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GTD 508 or GTD 598 (Technology and Development in Latin America) |
| GTD | 509 | Technology and Development in North Africa | Examines historical and current patterns of political and socioeconomic development in North Africa, including the role of technological development and current events. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GTD 509 or GTD 598 (Technology and Development in North Africa) |
| GTD | 510 | Technology and Development in Sub-Saharan Africa | Examines historical and current patterns of political and socioeconomic development in Sub-Saharan Africa, including the role of technological development and current events. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GTD 510 or GTD 598 (Technology and Development in Sub-Saharan Africa) |
| GTD | 511 | Development Policy and Practices | Since the Bretton Woods Agreements in 1944, enormous energy has been devoted to generating the right tools for global development policy. Yet, little attention is given to the relationship between these tools, the practice of development and actual outcomes. At best, it is understood as a "gap" between the theory of development policy and practices. There is no reflection on what the good development policy looks like or what collective learning we have thus far. Informs students on the complexity of policy making and its relationship to development practices through time. Creates an intellectual space to discuss the practices of global development; uses case studies to enhance students' creativity and skill needed in managing and negotiating critical development challenges. Approaches development policy (models, strategies and project design) primarily as a tool to legitimize power relation rather than to orient practice for desired development outcomes. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| GTD | 512 | International Governance and Development of Nuclear Technologies | Examines the historical context, present development and possible futures of nuclear technologies around the world. Topics include the origins of the modern nuclear era (1945-present), the nuclear fuel cycle including waste management, nuclear energy for security and modernization, nuclear catastrophes, and new possibilities in nuclear technologies, as well as international policies, national imperatives and local concerns with nuclear development. Students gain a better understanding of the complex political, environmental, cultural and economic values that inform and shape the development and implementation of, as well as resistance to, nuclear technologies. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GTD 512 or GTD 598 (Technology and Development in Global Nuclear Energy) |
| GTD | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GTD | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GTD | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GTD | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | GNA | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GTD | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Global Futures | School for the Future of Innovation in Society | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GTD | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GTD | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 501 | Perspectives on Aging and the Life Course | Uses life course perspective to appreciate age over time and examine demographics, theories and changes of aging, and gerontological issues. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 502 | Research and Program Evaluation Issues in Aging | Focuses on critical thinking and empirical research in aging, along with program evaluation. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 503 | Diversity in Aging | Examines various assumptions and parameters of diversity, autonomy, interdependence, ethical standards and communication with older individuals | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 504 | Caregiving Issues for Families and Professionals | Focuses on family communication, common health problems, and family dynamics that affect the structure of the complex caregiving experience. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 505 | Interdisciplinary and Community Collaboration in Aging | Focuses on community collaboration with the family and older individuals to provide comprehensive care in aging. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 506 | Administrative Systems Management in Aging | Focuses on administration and management of long-term care providers in nursing facilities; subacute and post-acute care; assisted living; senior housing; and community-based care. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 507 | Care Coordination Across the Continuum of Care | Focuses on care coordination of older adults across the continuum of care. Content includes an examination of the components of care coordination and the skills needed to address the needs of older adults with complex health challenges. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 508 | Mental Health Assessment and Intervention | Focuses on the aging experience and examines principles of gerontological counseling theory and practice. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 509 | Interventions to Support Aging in Place | Focuses on creating supportive interventions to assist older adults in maintaining independence in their home environments. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 510 | Innovations in Program Development and Policy | Focuses on creating age-friendly communities using innovative interventions and programs to promote older adult independence and quality of life. Also explores the influence of policy on care of older adults. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| HCA | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 100 | Introduction to the Science of Health Care Delivery | Introduces the science of health care delivery in the United States. Presents basic concepts in health services, health care organizations, and the delivery of safe, accessible, high-quality health care. Solidifies concepts through the use of assignments, exams and discussions. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | |
| HCD | 101 | Introduction to Population Health | Introduces population health in the United States. Familiarizes students with the broad discipline of population health and how it influences community and individual health status. Discusses the role of various agencies in population health, methods of measurement and evaluation, major population health issues in the United States, and factors that contribute to individual and community health. Solidifies concepts through the use of in-class discussion, group work and individual analysis. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only HCD 101 or POP 100 (or PBH 100) OR Visiting University Student |
| HCD | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| HCD | 201 | Economics for Health Majors | Introduces economics and demonstrates the relevance of economic principles to the study of health care delivery systems and public health. Combines elements of a traditional introductory economics curriculum with broad coverage of microeconomics and specific application to current issues in health care delivery and public health policy. Prepares students for further study of health economics. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only HCD 201 or PBH 201 OR Visiting University Student |
| HCD | 300 | Biostatistics | Biostatistics and its use in health and health services research. Familiarizes students with statistical concepts and methods to analyze and interpret data and conceptually addresses statistical theory. Introduces Excel software to manage data and perform statistical tests. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | CS | Prerequisite(s): completion of General Studies MA requirement with C or better; minimum 30 hours; Credit is allowed for only HCD 300 or PBH 300 OR Visiting University Student |
| HCD | 302 | Health Care Management | Broad concepts and skills of management; application of these techniques to health care organizations, nonprofit and community-based organizations. Students appreciate the variability of management styles and personalities and begin to develop their own style. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 30 hours OR Visiting University Student |
| HCD | 303 | Global Health Care Systems | Examines health care delivery systems internationally and explores contemporary issues affecting the institutions that provide health care and the people who seek health services. Covers the historical development of international health care systems, the organization and financing of systems of care, and the policy process and priority setting. Also covers current efforts at health care reform. Provides students with the necessary professional skills to be effective participants in efforts to evaluate and improve the delivery of health care nationally and internationally. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | G | Prerequisite(s): minimum 30 hours OR Visiting University Student |
| HCD | 304 | Health Care Finance | Covers health care financing with an emphasis on the financial drivers of the U.S. health care system. Provides an overview of key accounting practices, financial statements and managing budgets. Covers cost containment strategies and the ethics of financial management. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| HCD | 330 | Health Care Systems in the U.S. | Presents and integrates the organization, financing, and delivery of health services in the United States from the professional, organizational, community, and systems perspectives. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 30 hours OR Visiting University Student |
| HCD | 332 | Population Health Policy and Legislation | Provides a historical and current overview of the federal/state/local law and policy-making processes that are relevant to population health, including how policies are implemented in society and the impact of those policies on health outcomes. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 30 hours OR Visiting University Student |
| HCD | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|-----------------------------|-----------------------------|-------|-----------------|---|
| HCD | 400 | Interpreting the Scientific Literature | Emphasizes clinical relevance and application of searching and interpreting the literature, using case studies as examples. Applies these skills through in-class activities and through written report at the conclusion of the course. These tools ultimately assist the student with critical thinking and application of concepts to clinical scenarios. Class is held in a computer lab to facilitate class engagement. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| HCD | 401 | Leadership and Professionalism | Leadership, leadership theory and inter-professionalism in practice. Applies didactic content to case studies and activities designed to promote critical thinking and effective teamwork. Solidifies concepts through the use of assignments, exams and discussions. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only HCD 401 or MED 450 OR Visiting University Student |
| HCD | 402 | Health Economics | Examines decisions made by patients, practitioners, health care administrators, and public policy makers using economic tools and models. Gives particular emphasis to using economic models to understand and predict decision making under scarcity and imperfect information, which provides insight into the successes and pitfalls of a health care system. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): ECN 211, ECN 212, HCD 201, or PBH 201; minimum 45 hours; Credit is allowed for only HCD 402 or PBH 402 |
| HCD | 403 | Process Engineering | Core concepts in process engineering, specifically related to systems improvement and patient safety. The Institute of Medicine (IOM) advocates for integrating process engineering within health care to optimize health care outcomes. The IOM addresses multiple dimensions of health, including efficiency, effectiveness, safety, equity, patient-centeredness and access. These domains provide the framework from which faculty approach course content. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| HCD | 404 | Advanced Concepts in the Science of Health Care Delivery | Applies the themes of science, systems and leadership across the continuum of health and health care. Application and discussion of core competencies to facilitate critical thinking. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| HCD | 405 | Health Technology | Develops essential skills in identifying, analyzing and evaluating information technology applications in health care. Examples include electronic health records, computerized prescriber order entry, and computerized clinical decision support. Discusses the use of health technology in a variety of care settings, including outpatient and inpatient, and facilitate access to health care in resource-poor communities through the use of efficient technology. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |
| HCD | 420 | Population Health Management | Presents an overview of population health and its management. Emphasizes a solutions-based perspective, consistent with the Quadruple Aim. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only HCD 420 or IBC 420 |
| HCD | 422 | Health Disparities and Access to Health | Racial and ethnic health disparities in the United States. Explores disparities in healthcare seen at the provider and system level and their effects on health in the community. Also considers the historical context of racial and ethnic health disparities and the demographic and conceptual issues surrounding health disparities research. Reflects on the effects of behavior, socioeconomic status and group-specific disparities on community health status. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only HCD 422 or PBH 422 OR Visiting University Student |
| HCD | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | YGB | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): Science of Health Care Delivery BS major; minimum junior standing; minimum 2.00 GPA |
| HCD | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): Barrett Honors student |
| HCD | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| HCD | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| HCD | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-7 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| HCD | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-3 | | |

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| HCD | 501 | Biostatistics and Data Management | Provides an understanding of the statistical tools and principles of research design and methods in health behavior research in health environments. Encompasses an overview of quantitative, qualitative and mixed designs and focuses on the interpretation and communication of health behavior research through published reports and presentations. Incorporates research approaches and methodologies utilized in an array of content areas. Helps students gain a strong conceptual understanding and application of the statistical tools and research methods used to answer research questions of interest to health and health behavior researchers; it does not focus on mathematical treatments of underlying assumptions and formulae and related statistical problems sets or exercises. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 502 | Health Care Systems and Design | Introduces direct health care delivery structures and processes within and across health care settings, and their impact on the patient, family and community experience of the health care system and services. Examines the interaction among people, resources, delivery systems and built environments using perspectives, tools and strategies from multiple disciplines to evaluate strengths, gaps and opportunities for system improvements. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 510 | High-Value Patient-Centered Care | Evidence-based strategies for clinicians and health care administrators to implement into their workplace setting to promote healthy lifestyle behaviors and ultimately promote high-value, patient-centered care. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 511 | Health Economics, Policy, and Payment Models | Economics provides a framework to understand and predict human decision making under scarcity, uncertainty and imperfect information. Examines concepts central to health care economics and their application to important decisions made by patients, families, practitioners, administrators and policy makers. Uses an individual family's scenario through a progressive case study to evaluate how incentives and information affect the health and health care of each family member. Each meeting integrates basic economic principles, existing facts and knowledge from economic research, and individual perspectives and experience regarding how these concepts apply to health care policy. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Degree- or Nondegree-seeking graduate; Credit is allowed for only BMD 511 or HCD 511 |
| HCD | 517 | Economic Evaluation in Health Care | This course will provide students with an introduction to economic evaluation in health care, including its use as a tool to assist with government decision making. The course will focus on the concepts and the methods involved in cost-effectiveness/utility analysis. It will facilitate the development of skills required to critically appraise economic evaluations and illustrate how to apply the concepts involved to assess health interventions. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): International Health Management MIHM student |
| HCD | 520 | Population Health | Presents population health within a framework of health care delivery, public health, health promotion and prevention, health policy, and community programs and resources. Emphasizes a solutions-based perspective consistent with the Triple Aim. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 521 | Law and Health Promotion | Analyzes case studies which illustrate the impact of policy and law on health promotion strategies and health outcomes. Includes discussions of the theoretical foundations supporting legal, ethical and economic decision making related to health promotion and real-world examples of the impact of current policies. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 527 | Health Care Economics and Financial Management | This course combines health economics and health care financial management. There is an introduction to double entry accounting to provide a working knowledge of cash and accrual accounting, plus an analysis of balance sheets, profit and loss statements and cash flow statements. How to construct a budget in a health care environment is a core skill in this course. The health economics component of the course introduces students to important economic concepts such as opportunity cost and supplier-induced demand and illustrates how these concepts can be applied to the health care industry. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): International Health Management MIHM student |

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| HCD | 532 | Health Care Management and Finance | Health care organizations are very complex institutions and require sophisticated understanding of modern management techniques. Provides a comprehensive overview of health care management concepts and principles with a focus on developing individual management skills. Centered on the management function and its unique purpose for an organization. Emphasizes planning, organizing, motivating and controlling, and how to acquire competency in these functions. Also addresses health care finance, which is an essential management competency. | N | LEC | Y | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 537 | Comparative Health Care Systems | The first part of this course focuses on the principles and practice of health system analysis, the sources and utilisation of information relating to the development, organisation and operation of health services, and frameworks for assessing the performance of different health systems. Then, drawing on material from the health systems of affluent and developing countries, we examine the constitutional, legal, economic, social, and political environments within which health care systems operate and the various patterns that emerge. We review patterns of health service organisation and management: health policy development and planning; characteristics of personal, community and environmental health services and their activities; health service financing arrangements, including health insurance systems; and, the health workforce. The impact of some recent attempts at health system reform in different countries is assessed and proposals for future re-structuring are critically reviewed. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): International Health Management MIHM student |
| HCD | 540 | Process Engineering for Health Care Quality and Safety | Provides an introduction to the science of health care delivery, an exciting field that focuses on how to achieve the quality care that providers want to deliver and patients expect to receive. Too often quality care is compromised by inadequately designed systems of care. Provides an overview of the health care delivery system and then introduces the major components of the field. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 547 | Health Leadership and Workforce Management | This course critically examines a range of theories, models and approaches to leading and managing at different levels in health service organisations. It provides tools to identify and respond to management problems in the context of major changes in priorities and services in health and its workforce. Whether you come from a clinical, public health or other disciplinary background we consider how you can draw upon that understanding and your current organisational setting to strengthen your health leadership capacity and workforce management skills. Topics include: the shifting role of managers in health services; management and leadership theories and models; influence, power and management ethics; managing in resource constrained environments; diversity in health service settings; managing teams and motivating staff; conflict management and improving health worker performance; workforce planning and capacity building. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): International Health Management MIHM student |
| HCD | 550 | Capstone | Discusses the results from student capstone projects, done in teams, and these projects related to broad topics explored during the prior coursework in the program. Capstone projects are identified early in the master's program in conjunction with and overseen by the degree leaders and the industry partners, and often a health care organization or health agency. These projects are worked on through the year with final written and verbal reports due in the last half of the semester. | N | RSC | N | GNA | College of Health Solutions | College of Health Solutions | 1-2 | | Prerequisite(s): HCD 502 with C or better |
| HCD | 557 | Clinical Governance and Risk Management | This course provides an overview of emerging health policy with particular attention to clinical governance. The course consists of three components. The first component targets the main constituents of clinical governance, including practice design, analysis and improvement, error reporting and investigation, public accountability and open disclosure, multi-disciplinary teamwork and clinical leadership. The second component introduces the tools of clinical process redesign. These tools can help managers make practical improvements to practices in their units. The third component targets risk management by providing an overview of the kinds of risks faced by health service managers, and by outlining different views of risk (adverse effect versus opportunity capital). The course is comprised of three case studies that engage students in addressing specific but generalisable manifestations of the three components that make up the course. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): International Health Management MIHM student |

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| HCD | 560 | Systems Metabolic Physiology | Studies vertebrate energy metabolism in the context of systems physiology. With a particular focus on mammals and especially humans, discusses macronutrient storage, mobilization and utilization at the whole organism level. Presents theory and practice of several methodologies used to measure metabolic turnover, including indirect calorimetry, mass balance, isotopic tracers and doubly labeled water. Topics include metabolic rate and fuel selection during rest, locomotion and environmental stress such as energy scarcity or oversupply. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 3.00 GPA; degree- or nondegree-seeking graduate student |
| HCD | 561 | Cellular Energetics and Metabolism | Focuses on the thermodynamics and kinetics of energetic processes at the cellular level. Discusses the metabolism of macronutrients by cells, principally skeletal muscle, cardiac muscle, adipose and liver. Presents membrane transport, energy storage and mobilization, non-oxidative/oxidative pathways of ATP synthesis and energy dissipation processes. Develops and uses concepts of metabolic control, energetic efficiency, metabolic scope and signaling to explore classic and current biomedical literature. Particularly emphasizes mitochondrial metabolism, including the chemiosmotic theory, proton leak, superoxide (free radical) production, interactions between the glycolytic and oxidative pathways, and the central role mitochondria play in health, disease and mortality. Describes the theory and practice of several methodologies central to the study of energy metabolism. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 3.00 GPA; degree- or nondegree-seeking graduate student |
| HCD | 563 | The Metabolic Syndrome | Provides a comprehensive understanding of the metabolic syndrome from an environmental, genetic and molecular perspective. Also discusses the treatment of this complex disease including lifestyle changes, pharmacological interventions and surgical procedures. Evidenced-based course where research guides class lectures and discussions. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 564 | Translational Biomedical Sciences Seminar and Data Club | Combined seminar and data club related to translational biomedical sciences. | N | SEM | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 3.00 GPA; degree- or nondegree-seeking graduate student |
| HCD | 567 | Infectious Diseases Challenges: Epidemiology and Control | Throughout history new pathogens such as HIV, SARS and pandemic influenza have emerged to challenge human populations. This course will introduce you to the challenges of controlling or managing infectious diseases through an appreciation of key factors such as differing modes of transmission, the impact of travel and behavior on transmission, the importance of surveillance in achieving disease prevention and control, key steps in outbreak investigation and current disease control and management strategies. Dengue fever, hepatitis A virus, HIV, influenza, measles, meningococcal meningitis, rota virus, SARS and TB will be used to learn about preparing for and containing diseases with potentially catastrophic impact to the health and economic stability. This course supports you achieving a range of capabilities that you will need if you are planning to have a career in epidemiology and infectious disease control. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): International Health Management MIHM student |
| HCD | 570 | Process Engineering | Provides an overview of process engineering and the specifics of Lean Six Sigma as it applies quality improvement/process improvement in health care. The current health care system cannot deliver the necessary quality to ensure safety or consistent outcomes in predictable and controllable ways. It is essential to understand the impact of process engineering to improve the performance of health care delivery, and to understand the steps to performing a Lean Six Sigma process improvement project. This course builds on the quality improvement techniques introduced in earlier course work. Also enables students to obtain their Green Belt Certification in Lean Six Sigma. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 575 | Leadership and Professionalism | Integrates principles of leadership theory, innovation leadership, change leadership and systems thinking through didactic and experiential learning. Identifies characteristics of successful leaders in health and health care, develops competence and confidence in creativity and innovation, and identifies ways to implement meaningful change in the dynamic health care environment. Applies theories to case studies in health and health systems to promote critical analysis, discussion and reflection on topics that provide the framework for future coursework. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| HCD | 577 | Infection Prevention Control in the Health Care Setting | Antimicrobial resistance is an urgent global health priority. In the near future common treatable infections may become untreatable. Currently 1 out of 20 hospitalised patients contracts a health care associated infection, of which around 50% are preventable. These infections add to the functional disability and emotional stress of the patient and in some cases, lead to disabling conditions that reduce their quality of life. In addition, they contribute to increased hospital stays and added expense to the health care system. Infection prevention and control in health care settings is now of national priority endorsed by the Australian Government, Ministries of Health, the Australian Commission of Quality and Safety in Health Care, health care facility accreditation organisations, as well as internationally by the World Health Organization. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): International Health Management MIHM student |
| HCD | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 587 | Outbreak Investigation and Intelligence | The course will provide a grounding in epidemiological pattern recognition (epidemic, endemic, sporadic) in infectious diseases for first-outbreak responders, surveillance officers, or policy makers from medicine, allied health, public health, emergency management, law enforcement, military or others from relevant backgrounds. Case studies in risk assessment, risk mitigation, response and prevention will be studied. These will cover Ebola virus disease, MERS-CoV, avian influenza and salmonellosis; distinguishing natural from unnatural epidemics, surveillance tools, rapid intelligence and analysis methods. Data quality in resource limited settings and implications for risk assessment will be examined. Understanding of modelling and forecasting of infectious diseases based on known transmission dynamics and patterns will also be explored. Preparation of first line responders to optimise usage of infectious diseases intelligence techniques will be covered, including prioritisation of data sourcing/mining, strengthening, mapping disease transmission patterns to modes of transmission, and ultimately epidemic control measures. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): International Health Management MIHM student |
| HCD | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 602 | Health Informatics for Future Health Care Professionals | Offers an overview of the field of health informatics, designed specifically for health science students, health services students, and current and future interdisciplinary clinicians. Combines perspectives from medicine, computer science, information science, organization science, Science and Technology Studies and human-centered computing for use of computers and information in health care and the health sciences. Covers applications and general methodology in health informatics using current topics in the field. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCI | 150 | Introduction to Health Innovation | Introduces health care innovation including diffusion of innovation, technology and current health care innovative ideas and practices. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | |

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| HCI | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-4 | | |
| HCI | 250 | Health Entrepreneurship and Value Creation | Change your mindset. Focuses on recognizing and questioning your assumptions, learning how to gather and accept feedback, and designing pivots to improve innovative and entrepreneurial outcomes. Seeks value creation opportunities in health and health care settings through opportunity recognition, value creation and business modeling. Students create an innovative change idea, demonstrate proficiency in lean startup methodologies, and "pitch or ditch" a ready-to-launch idea. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | |
| HCI | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-4 | | |
| HCI | 298 | Honors Directed Study | Independent study or practicum under the supervision of a faculty member. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-6 | | Prerequisite(s): Barrett Honors student |
| HCI | 311 | Health Innovation: Foundational Concepts | Provides foundational knowledge for leading health innovation. Organized around the Seven Pillars of Innovation: innovation process, leadership structure, outcomes, evidence-based practice, finance, policy, and technology and communication. Emphasizes principles of health innovation, in addition to characteristics, skills and knowledge required for the innovator. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): ENG 102,105, or 108 with C or better; minimum 45 hours OR Visiting University Student |
| HCI | 313 | Philosophy of Science in Health Care: Understanding Paradigms of Health and Healing | Philosophy of science and its application to health and healing paradigms. Employs selected schools of thought and individual philosophers within philosophy of science to closely examine health and healing paradigms. Discusses concepts such as "life" and "death". Explores questions: What is science? What is health? Examines the way in which philosophy of science informs perceptions and definitions of health and healing in individuals and populations. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours OR Visiting University Student |
| HCI | 344 | Management and Leadership in Health Organizations | Focuses on management, administration and leadership strategies in health institutions with an emphasis on organizational innovation and entrepreneurial thinking. Managing in health organizations includes unique challenges related to labor relations, practice codes of conduct, federal privacy considerations, and accreditation regulations. Includes a review of leadership methods, labor laws and practices for effective management in health- and health care-related organizations. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCI 311 with C or better OR Visiting University Student |
| HCI | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-4 | | Prerequisite(s): minimum 45 hours |
| HCI | 412 | Transforming Health Care: A Systems Perspective for Innovation | Investigates the essential elements of systems thinking as a framework for innovation in addressing current and future issues in health care. Demonstrates systems thinking to present and future problems in health care and utilizes the knowledge and understanding of behavioral and learning styles to facilitate innovation in diverse systems. Stresses the importance of collaboration to the systems perspective, in addition to the value of individual worldviews. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours OR Visiting University Student |
| HCI | 421 | Health Care Policy: The Innovator's View | Innovation perspective on policy decision making in the health care environment. This perspective views policy-making as a fluctuating, dynamic and evolving process as seen through a lens of innovation principles. Explores the relationship between politics and policy and discusses factors influencing policy development. Identifies methods to formulate and implement policy and presents models to evaluate, analyze and modify health care policy. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours OR Visiting University Student |
| HCI | 425 | Facilitating Innovation to Achieve Outcomes | Principles of facilitation that promote and enable the implementation of innovation to achieve outcomes. This approach identifies facilitation as requiring collaboration, continuous evaluation, and a focus on identifying and measuring health outcomes. Discusses characteristics of effective teams, innovation leadership behaviors that impact change, and involvement of end users. Compares and contrasts traditional project management processes with innovative facilitation techniques. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCI 311 with C or better OR Visiting University Student |
| HCI | 428 | Technology: A Tool to Advance Innovation in Health Care | Explores the role of technology in achieving the Triple Aim: improved quality, improved patient experience and decreased cost. Compares and contrasts tools of technology that hold the potential to advance innovation in health care. Examines the relationship among the users, their behaviors and technology and how this interaction advances communication, automation, organization and standardization. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours OR Visiting University Student |
| HCI | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): minimum 45 hours |

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| HCI | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-6 | | Prerequisite(s): Barrett Honors student |
| HCI | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| HCI | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-4 | | Prerequisite(s): minimum 45 hours |
| HCI | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-6 | | Prerequisite(s): Barrett Honors student |
| HCI | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-3 | | Prerequisite(s): minimum 45 hours |
| HCI | 538 | Innovation and the Individual | Role of the innovator, including the essential insight, leadership styles, vision, ethical wisdom, resiliency and the development of an attitude supportive of risk taking. Examines and correlates different situational challenges with types of intelligence, behaviors, learning styles. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCI | 540 | Understanding and Applying Principles of Evidence-Based Practice | Understanding how application of evidence-based practice principles assists health care professionals to provide the best care. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCI | 542 | Systems Thinking in a Complex Environment | Explores systems thinking theories and methodologies in the context of the complex and often chaotic environment of health care. Examines opportunities and challenges for innovation and innovative leadership in the health care system. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCI | 543 | Approaches to Health Care Innovation | Theory-based survey course introduces approaches to lead innovation in an organization. Many change initiatives are designed by those not completing the work, leaving workers isolated, restricted and powerless. Teaches health care leaders to value collaboration with and seeking input from those who will carry out the work. Analyzes approaches to planned change: positive deviance, appreciative inquiry and creation of a learning organization. Students construct a change plan using an appropriate approach to address a health care problem. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCI | 544 | Information Technology (IT) for Health Care Innovation | Transforming health care through the development of sound information technology strategies is critical to the success of most health care organizations today. Examines information technology trends and their strategic application in health care. Learners create a plan for engaging IT resources and capabilities, and for executing an IT-based strategy for solving a problem in health care. Topics covered include: strategic processes, digital transformation, IT assets, design thinking, value creation, IT governance and transition change management. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCI | 545 | Public Speaking for Innovation: Building Your Presence and Making the Case for Change | Builds presence as a speaker and a leader. Public speaking has evolved dramatically over the last few years. Now it is about creating a public presence; e.g., on YouTube, Facebook live, TED Talks. Public speaking for innovation is a combination of finding and building one's presence as a speaker--and translating that to an ability to explain and persuade, making the case for change. Students build their presence and gain the foundational knowledge necessary to successfully explain and persuade in various modalities of media, from speaking in person to video creations. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCI | 548 | Advanced Principles and Concepts of Innovation | Explores and analyzes the innovation in complex systems, focusing on developing specific skills for successful innovations. Specifically addresses strategies to overcome barriers and resistance to innovation in health care. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCI 538 with C or better |
| HCI | 550 | Health Care Policy and Innovation | Introduces the political, organizational, and economic dimensions of health care policy, emphasizing strategies for innovative policy and practice. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCI | 552 | Financing for Innovation | Provides an overview of healthcare economics; develops budgeting, planning, and management skills; and culminates in financial analysis skills necessary to facilitate management decision making or writing business plans or grant proposals. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCI | 554 | Outcomes Evaluation | Outcomes measurement, management, and evaluation for health care practitioners and/or leaders. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCI | 561 | Innovation Methods | Explores methods to generate innovation for use in a health care setting. Provides tools and practice in generating ideas, exploring utilizing appreciative inquiry, and demonstrating competencies related to the theories and processes of innovation. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| HCI | 563 | Capstone: Final Innovation Project | Applies the concepts learned in MHI core courses and presents evidence of knowledge in innovation principles, applications and strategies for implementation and evaluation. Develops an innovation project in the form of a presentation. Provides a comprehensive methodology for completing all aspects of an innovation opportunity. Student-directed demonstrations of the application of learned leadership skills and techniques for facilitating team and individual implementation. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 5 | | Prerequisite(s) with C or better: HCI 538; HCI 540; HCI 542; HCI 544; HCI 548; HCI 550; HCI 552; HCI 554; HCI 561 |
| HCI | 570 | Innovation Proposal: Culminating Experience for Health Care Innovation Certificate | Applies concepts learned and operationalizes skills acquired throughout the Health Care Innovation certificate. Students envision emerging paths toward an outcome by first presenting a problem they have identified within a health care organization, and creating collaborative relationships and developing strategies to initiate change in their chosen setting. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): HCI 538; HCI 542; HCI 554; HCI 561 |
| HCI | 571 | Health Care Innovation Leadership Portfolio: Culminating Experience | Examines and applies personal leadership potential. Focuses on the effective development and facilitation of human networks to advance innovation in the health care space. Challenges students to appraise and analyze personal leadership strengths, challenges and opportunities. Explores strategies to evaluate students' current networks; develops the students' emergent professional networks. Gives focus to building relationships necessary to advance innovation in the health care space. Students develop and implement an action plan to advance their personal leadership growth and network utilization. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCI 538; HCI 543; HCI 545; NLM 562 |
| HCI | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | N | PRA | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCI | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCI | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCI | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 210 | Ethics for the Health Care Professional | Health care ethics emphasizing analysis and ethical decision making at clinical and health policy levels for health care professionals. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | HU | |
| HCR | 220 | Introduction to Health Professions and the U.S. Health Care System | Introduces the historical, social, political, economic and interprofessional contexts in which health care professions and the United States health care system evolved. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | H | |
| HCR | 221 | Foundational Concepts for Health Care Coordination | Focuses on the foundational elements of health care coordination. Discusses the health care coordination process including assessment, implementation and evaluation. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| HCR | 230 | Culture and Health | Cultures of diverse groups and health/illness. Cross-cultural communication, awareness of own cultural influences, indigenous and alternative healing practices. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | C & G | |
| HCR | 231 | Fundamentals of Community Health | Provides a framework for understanding community health concepts. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| HCR | 240 | Human Pathophysiology | Chemical, biologic, biochemical, and psychological processes used in study of structural and functional alterations in health with selected therapeutics. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): BIO 201 with C or better; BIO 202 with C or better; CHM 101 or higher with C or better; MIC 205 with C or better; MIC 206 with C or better OR Visiting University Student |
| HCR | 241 | Foundations of Integrative Health | Discusses the similarities and differences of the biomedical and integrative health care systems providing an overview of integrative health. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| HCR | 245 | Sleep, Sleep Disorders and Behavior | Focuses on the nature, organization, function and biopsychosocial determinants of sleep and sleep disorders across the lifespan, emphasizing the social and behavioral processes that influence them. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | SB | Prerequisite(s): Credit is allowed for only HCR 245 or HCR 294 (Sleep, Sleep Disorders, and Behavior) or HCR 294 (The Science of Sleep Behavior) |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| HCR | 259 | Compliance and the Health Care Industry | Introduces health care compliance as an industry and a profession. Explores the complex federal and state laws that regulate the delivery and reimbursement practices of the U.S. health care system. Also explores federally legislated mandates for formal compliance programs, program elements, and the organizational steps for program implementation in specific health care settings. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Students may not enroll in HCR 259 if credit with C or better earned in both HCR 260 and HCR 261 OR Visiting University Student |
| HCR | 260 | Health Care Industry and Regulation | Overview of the complex system of regulations that frame the oversight and monitoring of the U.S. health care industry. Provides a foundational understanding of federal and state regulations as well as private health care regulatory agencies' requirements as they relate to physicians and other health care professionals, hospitals and other health care institutions, and insurance companies. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | |
| HCR | 261 | Health Care Compliance | Introduces health care compliance as an industry and a profession. Explores federally legislated mandates for formal compliance programs, program elements and organizational steps for program implementation in specific health care settings. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | |
| HCR | 262 | Health Care Licensure, Professional Development and Practice | Introduces interprofessional practice, professional licensure, education and training, certification and scope of practice within the health care industry. Explores compliance standards and accreditation as they relate to the authority and scope of licensure boards, which are designed to safeguard the public health. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | |
| HCR | 263 | Introduction to Medical Billing and Compliance | Introduces the complex process of medical coding and billing practices and related federal regulations and programs. Provides learners with a fundamental understanding of medical coding and billing processes including terminology, stakeholders and regulatory impact. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 259 or 260 with C or better OR Visiting University Student |
| HCR | 264 | Regulatory Essentials of Compliance Program Design I | Offers a comprehensive overview of the regulations that impact the health care delivery industry. These regulations include: protections against fraud and abuse, patient rights and privacy, protected health information (PHI) and electronic protected health information (ePHI), and occupational health and safety. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 259 or 261 with C or better OR Visiting University Student |
| HCR | 265 | Regulatory Essentials of Compliance Program Design II | Comprehensive study of the creation, management and evaluation of all aspects of a formal health care compliance program. Learners investigate and discuss roles of the compliance officer and compliance committee, risk analysis, recommendations for and implementation of corrective action. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 264 OR Visiting University Student |
| HCR | 280 | Team-Based Research Practicum | Small-group (e.g., team, project, lab, clinic, center-based) health, nursing, health care and health innovation-related study and research experiences, led by a faculty mentor. | Y | PRA | Y | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 15 hours OR Visiting University Student |
| HCR | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-4 | | |
| HCR | 298 | Honors Directed Study | Independent study or practicum under the supervision of a faculty member. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-6 | | Prerequisite(s): Barrett Honors student |
| HCR | 301 | Research Methods for the Health Care Professional | Explores basic concepts of qualitative and quantitative research design utilizing methods of assessment, planning, implementation and evaluation. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): PSY 230, SOC 390, STP 226, or SWU 321 with C or better if completed; TWC 347 or 362 with C or better if completed OR Visiting University Student |
| HCR | 302 | Social Determinants of Health | Addresses issues of social determinants and health disparities at the local, national and global levels. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): HCR 301 with C or better if completed; TWC 347 or 362 with C or better if completed OR Business (Health Care) BA major or Health Care Coordination BIS emphasis or Health Care Coordination minor OR Visiting University Student |
| HCR | 303 | Assessing Needs, Assets and Capacity for Health Education | Assesses needs, assets and capacity for health education at the individual, family and community levels. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 210 with C or better; HCR 230 with C or better; Pre- or corequisite(s): CDE 232 with C or better if completed OR Visiting University Student |
| HCR | 310 | Fundamentals of Human Trafficking | Covers the complex problem of human trafficking including types of human trafficking, terminology, victim identification, policy implications, and the role of health providers and governmental and community agencies. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only HCR 310 or HCR 394 (Fundamentals of Human Trafficking) OR Visiting University Student |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| HCR | 321 | Advanced Concepts for Health Care Coordination | Presents advanced concepts for health care coordination, including: interprofessional teamwork, medication reconciliation, patient/family engagement and other tools that facilitate best practices for health care coordination. Students also learn models for health care coordination, and concepts and practices to facilitate transitions of care. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Business (Health Care) BA major OR HCR 221 with C or better OR Visiting University Student |
| HCR | 331 | Communication within Communities | Focuses on the integral nature of communication in health care, including the role communication plays in shaping individual, social and cultural beliefs and expectations about health. Provides skills for effective communication when working with individuals, groups and the media. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| HCR | 335 | Program Development and Management for Community Health | Incorporates models, research and resource management to plan, strategize and evaluate community programs that promote healthy lifestyle choices in various, as well as specific, geographic communities. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): General Studies Literacy course; minimum 45 hours OR Visiting University Student |
| HCR | 336 | Environmental Community Health | Examines the interdependent relationship between the health of the environment and the health of communities. Includes a focus on specific communities, as well as agencies and laws involved in the health of communities. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 231 with C or better OR Visiting University Student |
| HCR | 341 | Biological, Manipulative, and Body-Based Therapies | Analyzes the principles and practices of select biological and body-based therapies and modalities and their use in the health care system. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): any BIO course or any CHM course OR Visiting University Student |
| HCR | 342 | Mind-Body and Energy Therapies and Modalities | Analyzes the principles and practices of select mind-body and energy therapies and modalities and explains and distinguishes their use in the health care system. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): any BIO course or any CHM course OR Visiting University Student |
| HCR | 343 | Historical and Cultural Foundations of Integrative Health Care | Distinguishes commonalities and differences between early healing traditions and investigates the utility for today's health care system. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Business (Health Care) BA major OR HCR 241 (or HCR 340) with C or better OR Visiting University Student |
| HCR | 350 | Introduction to Clinical Research | Provides an introduction to the biomedical and clinical research field and associated operational processes. Examines clinical trial development phases, regulatory protections for human subjects, clinical research team specializations, research organizations, good clinical practice, institutional review board functions, and research funding mechanisms. Explores specialized career positions for nursing and allied health professionals. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| HCR | 360 | Data Security and Privacy in Health Care Compliance | Focuses on administrative practices that ensure the security of computerized systems and the protection of health information. Topics include communication and reporting, as well as specific regulations and authorities such as the Health Insurance Portability and Accountability Act (HIPAA) Privacy and Breach rules, and HIPAA Security and Meaningful Use Attestation. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 259 with C or better OR Visiting University Student |
| HCR | 361 | Risk Management in Health Care Compliance | Risk management practices as they relate to the oversight of operations and processes within the health care industry. Utilizes various tools to predict, analyze and mitigate practices that may lead to industry noncompliance. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 259 with C or better OR Visiting University Student |
| HCR | 362 | Monitoring and Auditing for Health Care Compliance | Ongoing health care compliance evaluation process critical to a successful compliance program. Provides the knowledge to utilize monitoring and auditing systems to ensure health care operations conform to established standards or comply with federal, state or local rules and regulations. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 259 with C or better OR Visiting University Student |
| HCR | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-4 | | |
| HCR | 400 | Evidence-Based Practice for the Health Care Professional | Methods of clinical and scientific inquiry. Focuses on the application of an evidence-based practice approach. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 301; TWC 347 or 362, OR Applied Science (Health Innovation) BAS major OR Visiting University Student |
| HCR | 402 | Advocacy for Health and Health Education | Discusses and analyzes existing or proposed policies on health and strategies for influencing the policy-making process. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 303 with C or better |
| HCR | 406 | Health Literacy for Health Care Professionals | Prepares students to use best practices for health communication that promote consumer health literacy. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 210 or MED 320 (HCD 320); HCR 230 or HSC 210 (HCD 210) OR Applied Science (Health Innovation) BAS major; Pre- or coreq(s): HCR 301 w/C or better if completed or Applied Science (Health Innov) BAS major OR Visiting University Student |
| HCR | 410 | Fundamentals of Human Lactation | Focuses on the fundamental aspects of breastfeeding and lactation using research findings and evidence-based practices. The physiologic and psychosocial concepts surrounding breastfeeding focus on supporting families to achieve optimal health outcomes. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): BIO 160 or 201; Credit is allowed for only HCR 410 or HCR 494 (Human Lactation and Breastfeeding) OR Visiting University Student |

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| HCR | 420 | Professional Role Development: Health Care Coordination | Professional role development including role transition, leadership and project management for health care coordination. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Business (Health Care) BA major OR HCR 221 (or HCR 320) with C or better; HCR 321 with C or better OR Visiting University Student |
| HCR | 422 | Policy and Financial Principles in Health Care Coordination | In-depth look at the history of health care policy in the United States from World War II to the present focusing on how Medicare, Medicaid and the Affordable Care Act impact health care system and patient reimbursement. Also discusses elements of insurance, managed care and universal care. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Business (Health Care) BA major OR HCR 221 with C or better OR Visiting University Student |
| HCR | 426 | Health Care Coordination Capstone | Applies higher-level critical thinking, teamwork, effective communication, informatics and design process required to develop a "real-world" health care coordination solution that will be a catalyst for change by improving safe patient-centered transitions, lowering readmission rates, increasing patient safety, and/or decreasing the cost of care. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 321 with C or better; HCR 400 with C or better; HCR 422 with C or better |
| HCR | 430 | Foundation to Health Care Systems | Explores the impact of the current U.S. health care system on the health of individuals, families and communities. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 231 (HCR 330) or 259 or 260 with C or better OR Visiting University Student |
| HCR | 435 | Leaders in Community Health | Prepares students to assume a leadership role in health promotion in communities. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 231 with C or better; Pre- or corequisite(s): HCR 335 with C or better if completed OR Visiting University Student |
| HCR | 439 | Community Health Capstone | Provides the opportunity to explore the health status of communities and to develop strategies for community health improvement. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s) with C or better: HCR 231, 331, 335, 336. Pre- or corequisite(s): HCR 430, 435 with C or better if completed |
| HCR | 440 | Interprofessional Approaches to Integrative Health Care | Prepares learners to develop and lead interprofessional teams with a focus on roles and responsibilities of integrative health care providers and practitioners. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Business (Health Care) BA major OR HCR 241 (or HCR 340) with C or better OR Visiting University Student |
| HCR | 441 | Legal and Ethical Issues Impacting Integrative Health Care | Examines current laws, government regulations, ethical principles and case studies to understand issues and consumers' use of integrative modalities. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 241 with C or better OR Visiting University Student |
| HCR | 449 | Integrative Health Care Capstone | Provides the opportunity to design a healing environment project that reflects the philosophy, mission and values of a health care organization in relation to underlying philosophy and beliefs of integrative health care. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 241 and 341 and 342 and 343 and 400 and 440 all with C or better; Pre- or corequisite(s): HCR 441; TWC 443 |
| HCR | 460 | Investigations and Disclosures in Health Care Compliance | Types of disclosures required by and investigations conducted by regulatory and accrediting agencies overseeing health care entities. Introduces oversight activities, enforcement and potential penalties incurred by health care entities. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 362 OR Visiting University Student |
| HCR | 461 | Corrective and Preventive Action Plans | Use of corrective and preventive actions (CAPA) in meeting the challenges of a compliant health care services operation. Covers design and implementation of CAPA to respond to deviations or errors in the health care environment. Identifies problems, implements corrective actions, evaluates consequences and employs preventive measures. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): HCR 460 OR Visiting University Student |
| HCR | 463 | Capstone Project Health Care Compliance | Culminating course integrating all components of health care compliance core courses and demonstrating knowledge and competency in the field of health care compliance. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Pre- or corequisite(s): HCR 460; HCR 461 |
| HCR | 471 | Interprofessional Education and Community Health | Community-engaged service learning exposes students to community health and interprofessional education through the delivery of team-based services with vulnerable populations. Students build on their professional practice skills as they develop interprofessional competencies. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prereq(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only CRD 471 or HCR 471 or CRD/HCR/PRM 494 (Interprofessional Education & Community Health) or CRD 598 (Interprofessional Education & Community Health) OR Visiting University Student |

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| HCR | 472 | Interprofessional Education and Complex Health | Complex health community-based experiential learning with immersive "real-world" learning opportunities. Students dedicate hours at pre-approved placement sites serving a community; apply new (and advance prior) complex health knowledge and skills; benefit from an expanded scope of supervised practice experience while providing targeted complex health interventions that address health and health care disparity needs, improve care quality, and reduce care costs for individuals, families, communities, and/or populations with complex health needs. Students practice values and ethics, communication, roles and responsibilities, teams and teamwork, and leadership competencies essential for interprofessional collaborative practice and team-based care. Online and in-person collaborative learning includes: seminars, course readings, discussions, and reflection assignments to facilitate critical thinking and a deeper understanding of the delivery of complex health interprofessional team-based care in the community. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prereqs with C or better: CRD 471, HCR 471, or CRD/HCR 494 (Interprof Ed & Comm Hlth) OR Hlth Care Coord major; HCR 210; HCR 220; HCR 230; Credit for only CRD 472 or HCR 472 or CRD/HCR 494/598 (Interprof Ed & Complex Hlth) OR Visiting University Student |
| HCR | 473 | Interprofessional Education and Comprehensive Systems Health | Community-engaged experiential learning integrates students into comprehensive systems health and interprofessional education through the creation of team-based community impact projects with vulnerable populations. Students refine their professional practice and leadership skills as they integrate interprofessional competencies. | N | LEC | Y | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-3 | | Prereqs w/min C: CRD 471, CRD 472, HCR 471, HCR 472 or CRD/HCR494 (Interprf Ed&Comm Hlth or Interprf Ed&Cmplx Hlth) OR Hlth Care Coord, Comm Hlth or Integrative Hlth BS; HCR210; HCR220; HCR230; Credit for CRD 473 or HCR 473 OR Visiting University Student |
| HCR | 480 | Advanced Team-Based Research Practicum | Small-group (e.g., team, project, lab, clinic, center-based) health, nursing, health care and health innovation-related study and research experiences, led by a faculty mentor. Advanced research practices designed for upper-division undergraduate students. | Y | PRA | Y | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HCR | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | |
| HCR | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-6 | | Prerequisite(s): Barrett Honors student |
| HCR | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| HCR | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | PRA | Y | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-4 | | |
| HCR | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-6 | | Prerequisite(s): Barrett Honors student |
| HCR | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-7 | | |
| HCR | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-3 | | |
| HCR | 543 | Food Safety and Protection | Covers food safety from the point of view of retail food safety inspectors. Addresses careers in food safety and protection, food and waterborne pathogens, food safety laws and regulations, hazard analysis, food safety inspection steps, investigations, report writing and response to food emergencies. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 544 | Assessing Food Safety and Developing Policy Procedures and Training | Provides overview for the knowledge, skills and abilities required for assessing food safety and developing food safety policies, procedures and training. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 543 |
| HCR | 545 | Foundations of Biospecimen Repository Administration | Examines the biospecimen repository industry from a business perspective. Students learn the scientific basis, collaborative nature, required personnel, timelines and processes that underlie the business environment of biospecimen repositories and their administration. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 546 | Management of Biospecimen Repository Operations | Examines the biospecimen repository industry from an operational perspective. Students learn the process aspects of repository start-up through collection, maintenance and disbursement of specimens. Key elements include personnel training, planning, quality control, risk management, project management and safety implementation. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 545 |

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| HCR | 547 | Biospecimen Resource and Technology Management | Examines the biospecimen repository industry from a technology and resource perspective. Students learn the planning and selection of technology and resources for the support of the start-up and long-term maintenance of a biospecimen repository. Key elements include technology and resources assessment and choice, cost-benefit analysis, initial budget, long-term and short-term planning. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 545 |
| HCR | 548 | Regulation and Ethics in Biospecimen Repository Administration | Examines the biospecimen repository industry from an ethical and regulatory perspective. Students learn the ethical and consenting challenges of biospecimen collection, storage and disbursement. Examines relevant historical case histories to inform current policies and practices. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 549 | Scientific Innovation and Biospecimen Repository Administration | Explores the driving effects of scientific innovation on biospecimen administration management. Students learn how scientific advancements increase the demand of high-quality biospecimens and high-quality data, referred to as next-generation biorepository research. Examines tracking pre-analytical variables, adequate preservation and storage methods, controlled biospecimen and data custodianship, governance with ethical and scientific oversight of operations. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 545 |
| HCR | 550 | Quality Assurance and Safety in Food and Dietary Supplements | Covers current applicable regulations and the regulatory framework that ensure the safety and quality of dietary supplements for the consumer. Reviews FDA regulations including Good Manufacturing Practices (GMP), quality in the development and manufacture of dietary supplements, labeling requirements, advertising, product quality, premarket notification, marketing, and postmarketing of dietary supplements. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 551 | Clinical Research Monitoring | Introduces clinical trial monitoring processes and procedures. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): HCR 561 with C or better if completed |
| HCR | 552 | Medical Device Development and Regulation | Comprehensive examination of the regulatory framework for the design, development, approval/clearance and marketing of medical devices in the United States throughout the product lifecycle. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): HCR 561 with C or better if completed |
| HCR | 553 | Quality Assurance and Clinical Research | Explores basic quality assurance techniques, standards and applications in the clinical research arena. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): HCR 561 with C or better if completed |
| HCR | 555 | Pharmaceutical Safety and Risk Management | Comprehensive examination of regulatory, legal, and scientific factors in pharmacovigilance and risk management and risk mitigation. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): HCR 561 with C or better if completed |
| HCR | 557 | Clinical Research Design and Methods | Explores basic clinical trial biostatistical methods in concert with clinical trial design and methods. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): HCR 561 with C or better if completed |
| HCR | 558 | Technical Writing for the Regulatory Professional | Focuses on teaching and applying writing and presentation skills critical for regulatory professionals. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): HCR 561 with C or better if completed |
| HCR | 560 | Regulatory Science Capstone | Culmination course integrating all components of regulatory core courses demonstrating knowledge and competency in the field of regulatory science. | N | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-3 | | Pre-requisite: Regulatory Science and Health Safety Master of Science student |
| HCR | 561 | Responsible Conduct of Clinical Research | Introduces concepts and policies for the responsible conduct of research (RCOR), institutional review boards, and dissemination of findings. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 562 | Clinical Research Data Management and Technology Implementation | Orientation to database design and management, technology assessment methods, auditing procedures for continuous quality improvement (CQI), and cost-effectiveness analysis (CEA). | N | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): HCR 561 with C or better if completed |
| HCR | 563 | Fundamentals of Regulatory Affairs | Principles of clinical research management and regulatory affairs. Overview of national/international regulatory systems and agencies, and trends in conducting clinical research. | N | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): HCR 561 with C or better if completed |
| HCR | 564 | Global Regulatory Affairs Leadership | Links students to international networks; exposes students to regulators of therapeutic products in different jurisdictions and provides networking within a global industry to enhance the confidence of students to influence global regulatory policy development. Enables students to network with senior executives and experienced regulatory affairs professionals in the global therapeutics industry. Provides skills, knowledge and global connections to discuss and develop strategies to address principles and issues facing global pharmaceutical regulatory affairs and its role in the maintenance of public health. Students develop a deep understanding of therapeutic product regulation across the world and acquire the skills to lead change management in international regulatory issues. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HCR 564 or HCR 598 (Global Regulatory Affairs Leadership) |
| HCR | 565 | Clinical Research Operations | Development, implementation, and operations of FDA clinical research trials, including budgeting, contract negotiations, site evaluation, marketing, project management, and reporting. | N | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| HCR | 566 | Clinical Research Management Capstone | Culmination course integrating CRM degree coursework by demonstrating knowledge and competency in clinical research management planning, operations, and implementation processes. | N | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 551 with C or better; HCR 561 with C or better; HCR 563 with C or better; HCR 565 with C or better; HCR 574 with C or better; 15 additional hours of HCR graduate-level courses with C or better |
| HCR | 567 | Research Management and Contemporary Research Topics | Management and leadership principles integrated with contemporary research topics will be introduced. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): HCR 561 with C or better if completed |
| HCR | 568 | Health Care Project Management | Designed for graduate students and managers who desire to improve their effectiveness as project managers in the health care context. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 570 | Introduction to International Health Systems, Professions, and Research | Introduces systems of international healthcare delivery, professions that provide healthcare delivery, and international research principles and practices. | N | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 571 | Cultural Diversity and Healthcare Delivery | In-depth exploration of culturally diverse aspects of population health, including culture-bound syndromes, folk practices, assessment approaches, and interactions. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 572 | International Healthcare Delivery Capstone | Culminating course integrating all International Health requirements that produce culturally responsive implementation and evaluation plan for the student's clinical practice. A portion of the course will be held in Mexico. | N | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 574 | Scientific and Research Review Boards | The role and responsibilities of Scientific and Research Review Boards in the conduct of human research. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): HCR 561 with C or better if completed |
| HCR | 575 | Management and Negotiation of Clinical Trial Budgets and Contracts | Examines best practices in contracting, negotiating and budgeting for industry-sponsored clinical trials. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): HCR 561 with C or better if completed |
| HCR | 576 | Drug Discovery, Development and Regulations | Covers the drug discovery and development process from bench to market, including bench and animal research, FDA approval for human studies (Investigational New Drug submission), Phase I-IV clinical studies, New Drug Application, marketing and post approval surveillance. Reviews applicable regulations, laws, guidance documents, good clinical practices related to drug development in the U.S. and globally. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Regulatory Science and Health Safety MS student or Clinical Research Management student |
| HCR | 577 | Global Regulatory Affairs | Covers regulatory authorities, processes, procedures, International Conference on Harmonisation (ICH) guidelines and documentation for the marketing approval of new medical products in the U.S., European Union (EU), Asia and emerging countries. Reviews global regulatory submissions, focusing on the organization and requirements of the Common Technical Document (CTD) global sections. Also reviews global trends, ethical considerations, country-specific considerations and cultural considerations. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Regulatory Science and Health Safety MS student or Clinical Research Management student |
| HCR | 578 | Legal Aspects of Clinical Research | Reviews the legal implications related to conducting clinical research. Covers current topics and legal issues, standards, duty of care, informed consent, research contracts, malpractice, negligence, informed consent, liability, clinical trials and criminal law, disclosures of clinical information, and liability. Students review and discuss recent research cases and litigation on a wide range of legal issues. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Regulatory Science and Health Safety MS student or Clinical Research Management student |
| HCR | 579 | Translational Research in Drug Discovery and Development | Reviews the translation of new drug research from bench to FDA approval. Provides an overview and history of the translational process in the discovery of new drugs and biologics used in the treatment of medical conditions. Topics include: addressing the gaps in drug development, new approaches to speed the process from bench to FDA approval, and the provision evidence-based medicine for sustainable pharmaceutical products utilized in medical treatment. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Regulatory Science and Health Safety MS student or Clinical Research Management student |
| HCR | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| HCR | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | SEM | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 610 | Genomics and Population Health | Covers genetics and genomics, diverging into two tracks of subject matter interest. Emphasizes the effects of social determinants on population health and genetic expression, ethical, social and legal implications in the doctoral track; and emphasizes the planning and operational aspects of clinical trials and precision health care in the master's degree track. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 605; Credit is allowed for only HCR 610 or NUR 610 |
| HCS | 501 | Foundations in Health Care Simulation | Explores theoretical foundations of health care simulation education and delivery. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree-seeking graduate student |
| HCS | 502 | Health Care Simulation Educational Assessment and Debriefing Methods | Explores assessment and debriefing practices in health care simulation education. Provides opportunity to analyze and plan debriefing strategies that support reflective, student-centered learning. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCS 501 |
| HCS | 503 | Principles of Operations Management in Health Care | Engages students in the business practices and principles essential to health care simulation program operations. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCS 501 |
| HCS | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): HCS 501; HCS 502; HCS 503 |
| HCS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRO | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): HCS 501; HCS 502; HCS 503 |
| HDA | 101 | ASU and Herberger Institute Experience | Introduces all new first-time ASU students to the unique elements, culture, challenges and opportunities of their university and the Herberger Institute for Design and the Arts. Explains and defines success with integrity, ASU resources and involvement, the importance of arts to society and the community, personality and learning style, and success in college and beyond. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1 | | Prerequisite(s): Herberger Institute for Design and the Arts majors |
| HDA | 111 | Art and Society | Introduces the interplay between art and society, particularly how one influences the other. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | |
| HDA | 125 | Survey of the Fashion Industry | Prepares the student to know how the fashion industry operates and what to expect when working in it. From manufacturing to retail, it is important for all members of the fashion industry to understand how the processes interrelate. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | HU | Prerequisite(s): Fashion BA major; Credit is allowed for only FSH 125 or HDA 125 OR Visiting University Student |
| HDA | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-4 | | |
| HDA | 210 | Creativity and Innovation in Design and the Arts | Designed to get students thinking in a focused manner about creative practice and process. Many young designers and artists arrive at higher education in their discipline having taught themselves or having received a piecemeal education in the directed application of ideas. Aids students in knowing why and how they are creative. Covers types of creativity, how inspiration happens, how to take a project from idea to reality, how to work creatively in teams and how to fuse creative ideas with an understanding of environment to help realize work in socially useful ways. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | |
| HDA | 225 | Fashion Design | Expands upon fashion design fundamentals learned earlier to encompass additional aspects of the fashion industry, which includes fashion as business, and as a sociological and cultural phenomenon. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | Prerequisite(s): HDA 125 with C or better |
| HDA | 252 | Foundations Arts and Design Entrepreneurship | Develops entrepreneurial knowledge and skills supporting the self-actualization, self-efficacy and market acumen of artists and designers. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | Prerequisite(s): Herberger Institute for Design and the Arts student OR Visiting University Student |
| HDA | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-4 | | |
| HDA | 296 | Creative Futures: Studio | Develops skills in creating fully realized design ideas and creative ventures, while consciously developing skills in self-analysis, cultural competencies and communication. Through the coursework, readings and projects, students develop new methods and systems of thought for dealing with challenging, complex, collaborative projects. In sequence with the sequel course, these courses are designed as a critical "making" component of the BS in Technological Leadership. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | |

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| HDA | 310 | Socially Engaged Practice | Students gain a wide literacy in the community arts field through reading, discussion and technical practice. Examines theories and techniques of community-based project development. Pairs artists with communities to create art rooted in the needs, values, desires, triumphs and challenges of that community. Helps prepare the artist of the 21st century with skills to apply artistic practices in diverse contexts. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | Prerequisite(s): minimum 42 hours OR Visiting University Student |
| HDA | 311 | Work and Careers in the Cultural and Creative Industries | Introduces fundamental questions in the study of work and careers in the cultural and creative industries, including an overview of historical changes in the relationship between the individual and his or her work environment; comparisons between different types of work arrangements (part-time, freelance, internships); and practical implications for contemporary workers. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | Prerequisite(s): minimum 45 hours |
| HDA | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-4 | | |
| HDA | 397 | Capstone Development | Prepares students for a successful capstone project. Students develop a formal proposal and identify a mentor for the project. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1 | | Prerequisite(s): The Arts BA major; minimum 56 hours |
| HDA | 410 | Design and the Arts Corps Seminar | Explores specific strategies and approaches to socially engaged art practices through readings, visiting artist presentations and direct engagement with community-based projects. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | Prerequisite(s): HDA 310; Credit is allowed for only HDA 410 or HDA 510 |
| HDA | 420 | Design and the Arts Business Administration | Design and the arts business seminar course that covers core business principles for design or arts businesses such as human resources, legal issues, accounting and finance. Asks with each of these areas how these disciplines uniquely work within design or arts settings. Investigates global business topics and discusses why ethics is integral to every design or arts business enterprise. Provides a broad understanding of design or arts business activities and practices, allowing more effective participation in business discussions in the future. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| HDA | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-12 | | |
| HDA | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-6 | | Prerequisite(s): Barrett Honors student |
| HDA | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-6 | | Prerequisite(s): Barrett Honors student |
| HDA | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-4 | | |
| HDA | 496 | Creative Futures: Advanced Studio | Develops advanced skills in creating fully realized design ideas and leading creative ventures, while consciously developing skills in self-analysis, cultural competencies and communication. Through the coursework, readings and projects, students develop new methods and systems of thought for dealing with challenging, complex, collaborative projects. In sequence with a prerequisite course, these courses are designed as a critical "making" component of the BS in Technological Leadership. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3-6 | | Prerequisite(s): HDA 296 with C or better OR Visiting University Student |
| HDA | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| HDA | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-3 | | |
| HDA | 510 | Design and the Arts Corps Seminar | Explores specific strategies and approaches to socially engaged art practices through readings, visiting artist presentations and direct engagement with community-based projects. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HDA 410 or HDA 510 |
| HDA | 511 | Purpose, Collaboration and Accountability | Help students identify their personal purpose and how that connects to arts, culture, design and cross-sectoral work. Also builds capacity for arts and design-based modalities of collaboration that unite people across sectors, art forms, and institutional systems. Addresses hybrid business models, creative facilitation skills, deep listening, co-designing processes and projects, while analyzing the ethics of work aimed at public good outcomes. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HDA | 512 | Proposal Development | Students create a draft proposal for their culminating applied projects, research their chosen topic, make a case for how the project intersects with a gap in the field, and learn how to pitch ideas. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-2 | | Prerequisite(s): Creative Enterprise and Cultural Leadership MA student |

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| HDA | 513 | Applied Creative Research and Evaluation Methods | Working on a real-world project related to art and design in collaboration with a field partner, students learn to construct robust research questions and identify appropriate methods to pursue an area of inquiry. Introduces principles of equitable evaluation and research to prepare students to understand how their work in the broad art and design fields engages with and impacts communities. Explores various methods including qualitative interviews, focus groups, observation and design thinking approaches. Emphasizes understanding how art and design intersect with the converging contexts of place and community, field and discipline, economy and policy. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HDA | 514 | Creativity and Impact, Opportunities for Change | Art and design work, organizational structures, and collaboration opportunities are expanding. Disrupts frameworks of art and design work to introduce pressing questions and new ways of working aimed at more effective and sustainable engagement with other sectors. Organized around five core themes: context/equity, cross-sector work, changemaking and leadership, structures of work, evaluation and accountability. Discussion is tied to pressing current issues through regular engagements with local and national field leaders, ASU faculty and National Accelerator for Cultural Innovation fellows. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | Prerequisite(s): Creative Enterprise and Cultural Leadership MA student |
| HDA | 521 | Counting Arts and Culture: Reasoning with Empirical Evidence | Builds understanding of economic concepts as applied to the arts and culture sector, with specific attention to how art and culture enterprises work as businesses, how such enterprises function in our wider economic system, which are growing and which disappearing (and why), all toward the goal of building the student's capacity to lead arts and culture enterprise in a complex economic environment. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HDA | 522 | Media Literacy and Distribution | Addresses the impact that digital distribution has had on traditional media business models and the way media and our culture are changing because of it. Also looks at the way in which industries are adapting to this change in the media landscape. Three distinct sections: content literacy, production and distribution metrics, economic and cultural implications. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HDA | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HDA | 581 | Emerging Media Colloquium | Focuses on professional and community development outcomes for the graduate programs in emerging media. Students have significant contact with partners and guests from industry and community, are able to discuss and expand their interests and views with their faculty and peers, share and discuss progress on research and professional projects, create a personal professional development plan, and refine and present their portfolio of work for public review. In addition, this course serves as a point of connection between student cohorts and faculty for the purposes of social/community development and wellness. | N | SEM | Y | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1 | | Prerequisite(s): Design (Experience Design) MSD or Digital Culture (Extended Reality Technologies) MS student |
| HDA | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HDA | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HDA | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HDA | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HDA | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HDA | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| HDA | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HDA | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HEB | 101 | Elementary Modern Hebrew | Reading, writing, speaking, and understanding of basic modern Hebrew, with emphasis on pronunciation and grammar. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | |
| HEB | 102 | Elementary Modern Hebrew | Reading, writing, speaking, and understanding of basic modern Hebrew, with emphasis on pronunciation and grammar. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): HEB 101 with C or better OR Visiting University Student |
| HEB | 131 | Biblical Hebrew I | Offers an introduction to Biblical Hebrew, the language in which most of the books of the Hebrew Bible/Old Testament have been written. Provides the basic tools to understand and translate Biblical Hebrew texts. Covers the Hebrew alphabet, basic vocabulary, morphology and syntax. Students learn idiomatic expressions, basic literary techniques in narratives and poetry, as well as specificities of Semitic languages. Emphasizes a critical approach to the ancient text. Also introduces the evolution of the biblical text, from ancient manuscripts to contemporary editions and translations. Includes an introduction to the development of writing and to the evolution of Hebrew, from earliest inscriptions to its revival in modern Israel. The texts translated in class are situated in the history of Israel, but also in their Jewish and Christian cultural and religious contexts. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Credit is allowed for only HEB, JST, REL 131 or HEB 194 (Biblical Hebrew I) |
| HEB | 132 | Biblical Hebrew II | Completes the study of basic Biblical Hebrew grammar and vocabulary (Futato's Beginning Biblical Hebrew, chapters 21-40). Prepares students to translate narrative and legal texts from Hebrew Bible. Students learn to use dictionaries, grammars, paradigms and critical editions of the biblical text. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): HEB, JST, REL 131 or HEB 194 (Biblical Hebrew I) with C or better; Credit is allowed for only HEB, JST, REL 132 or HEB 194 (Biblical Hebrew II) |
| HEB | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| HEB | 201 | Intermediate Modern Hebrew | Intensive review of grammar, with emphasis on the development of the skills of speaking, listening comprehension, reading, and writing. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): HEB 102 with C or better OR Visiting University Student |
| HEB | 202 | Intermediate Modern Hebrew | Intensive review of grammar, with emphasis on the development of the skills of speaking, listening comprehension, reading, and writing. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): HEB 201 with C or better |
| HEB | 231 | Biblical Hebrew III | Advanced study of Biblical Hebrew. Deepens understanding of the grammar and composition of the Hebrew Bible. Translates texts of different literary genres (narrative, legal, poetic, prophetic) and different periods. Introduces the basic principles of textual criticism and different approaches to interpret the texts of the Hebrew Bible. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): HEB, JST, REL 132 or HEB 194 (Biblical Hebrew II) with C or better; Credit is allowed for only HEB, JST, REL 231 or HEB 294 (Biblical Hebrew III) |
| HEB | 232 | Biblical Hebrew IV | Addresses advanced topics in Biblical Hebrew grammar and interpretation. The first half of the semester is devoted to texts from the Hebrew Bible; the second half on extra-biblical texts written in ancient Hebrew (for example: Dead Sea Scrolls, Rabbinic texts, ancient Hebrew poetry). Topics and texts change annually. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): HEB, JST, REL 231 or HEB 294 (Biblical Hebrew III) with C or better; Credit is allowed for only HEB, JST, REL 232 or HEB 294 (Biblical Hebrew IV) |
| HEB | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| HEB | 313 | Advanced Modern Hebrew | Continues developing speaking, reading, and writing skills in modern Hebrew, with a focus on different aspects of the Israeli culture studied in literature, cinema, and music. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): HEB 202 with C or better OR Visiting University Student |
| HEB | 314 | Advanced Modern Hebrew | Continues developing speaking, reading, and writing skills in Modern Hebrew, with a focus on different aspects of the Israeli culture studied in literature, cinema, and music. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Pre-requisites: HEB 202 |
| HEB | 316 | Literary Readings of the Hebrew Bible | Literary analysis of two of the main genres of the Hebrew Bible: narrative art and poetry. Students learn the main literary conventions of biblical prose and poetry, and how these conventions are applied or subverted. Each class comprises the study of a literary aspect, close readings, and thematic discussions. Biblical texts are read only in translation. They are situated in the religious, literary and artistic traditions that have developed on their basis. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ENG 316, HEB 316, JST 316, REL 316 OR Visiting University Student |
| HEB | 347 | Modern Israeli Literature in Translation | Modern Hebrew, or Israeli Hebrew, started at the end of the 19th century in Europe and today it is the language of the State of Israel. During this short period modern Hebrew developed literature with its unique local characteristic, as well as universal ideas. Reads and examines four books against their social and historical background. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ENG 347 or HEB 347 or JST 347 or SLC 347 or ENG/HEB/JST/SLC 394 (Modern Hebrew Literature in Translation) |

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| HEB | 348 | Israeli Society and Culture | Different partitions of the Israeli society, based on ethnic origin, by religious affiliation or by political association. Depicts how Israel is an absorbing immigration state. Israel is a welfare state and the course covers aspects of a welfare state, such as health, retirement, public transportation, art, higher education and more. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only HEB 348 or HEB 394 (Israeli Culture and Society) or JST 348 or REL 311 or SLC 348 OR Visiting University Student |
| HEB | 349 | Israeli Wars in Israeli Movies | From its first day, the State of Israel has been in a state of war with the Arab countries. Every few years, the fighting erupted into an open war. At the beginning of the country, there was a consensus that the wars were forced on the Israelis, and therefore, the heavy toll on human life was unavoidable. Since the Six Day War, 1967, and the political change in 1977, Israeli society is split in attitude toward war. The absolute belief in the political and military leaders was shaken, and new political agendas entered the political arena. To this divided society, the Intifadas occurred with the waves of terrorism. These events added fire to the heated debates in Israel. One means of expression is through the cinema. In this course, students watch, analyze, and discuss selected movies on the Israeli wars and terrorism in the streets of Israel. Through these movies, produced by Israelis, we'll try to understand the mood and attitude of the Israelis toward war, enemies, and political and military leaders. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only FMS 349 or HEB 349 or JST 346 or HEB 394 (Israeli Wars in Israeli Movies) OR Visiting University Student |
| HEB | 375 | Contemporary Culture of Israel | Intense study of aspects of historical, social, political, and cultural modern life in Israel. Beginning of Zionism to present day. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | |
| HEB | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| HEB | 411 | Judaism and the Beginnings of Christianity | Studies the beginnings of Christianity in relation to Judaism: their common context, the process of their distinction and their mutual influence. Through a historical and thematic approach, explores the parallel construction of Jewish and Christian identities. Combines readings from primary sources (Hellenistic Judaism, Qumran, New Testament, Early Christianity, Rabbinic Judaism) and up-to-date scholarly literature. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Prerequisite(s): ENG 101,105,107,108 or HST 100,102 or REL 100 or SLC 142, 202 w/ C or better; Credit is allowed for only HEB/JST/REL 411 or HEB 394 (Judaism & the Origins of Christianity) or HEB 494 (Judeo-Hellenistic Lit) OR Visiting University Student |
| HEB | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| HEB | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| HEB | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | N | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| HED | 510 | Introduction to Higher Education | Overview of American higher education, including philosophical, political, and social aspects. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 527 | Seminar: Student Affairs Administration | Organizational models, administrative competencies and skills, and emerging challenges of student affairs administration. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 573 | Applied Inquiry in Higher Education | Provides an overview of research, evaluation and assessment practices in higher education and strategies for utilizing these practices as professionals in higher education. Focuses on learning about and demystifying the process of scientific inquiry, with the intent of translating that knowledge to regular practice in a higher education professional career. It is not a highly technical methods course--no advanced knowledge of statistics or qualitative techniques is assumed--but instead gives practitioners a foundation in educational research design as well as the tools to be literate, thoughtful, critical and frequent consumers of research. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): MEd Higher and PostSecondary Education major. Credit is allowed for only HED 573 or HED 591 (Applied Inquiry) |
| HED | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| HED | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 603 | Foundation of Data Analytics in Higher Education | How decisions are made in higher education and how data and analytics can support university leaders. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 604 | Analytics Process and Technology in Higher Education | Process and technology used to facilitate data-informed decision making in higher education. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student; HED 603 |
| HED | 605 | Data Management and Preparation for Higher Ed Analytics | Data preparation and management for data-informed decision making in higher education institutions. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; HED 603 |
| HED | 606 | Advanced Analytic Methods for Higher Education | Advanced analytic methods, including data mining, in support of data-informed decision making in higher education institutions. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; HED 603 |
| HED | 607 | Visualization and Presentation for Higher Education | Principles of effective presentation and visualization of data for exploratory, predictive and persuasive purposes. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 608 | Trends in Advanced Analytic Methods for Higher Education | Emerging advanced analytic method in use within higher education. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; HED 603 |
| HED | 620 | Diversity, Equity and Social Justice in Higher Education | Overview of the demographic of college students, faculty, and staff. Addresses issues of access, persistence and development. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 634 | The American Community College | Philosophy, history, curriculum, faculty, students, organization, financing, research, policy and current issues. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 644 | Higher Education Finance and Budgeting | Financial planning and budgeting in higher education institutions. Issues related to financing public and private colleges and universities. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 649 | Law and Policy in Higher Education | Analyzes legal issues related to higher education; examines key court decisions. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 679 | The American College Student | Overview of American college student from demographic, background characteristics, and values/attitudes/perspectives. Includes access, persistence, and degree completion. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 688 | Organizational Theory | Major views of organizations and their influence on role definition and participant behaviors in educational organization. | N | SEM | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 689 | Leadership in Higher Education | Theory and practice of leadership and administration in higher education institutions. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HEP | 100 | Introduction to Health and Wellness | Current concepts in health, exercise, and wellness. Emphasizes personal health, theories, attitudes, beliefs, and behaviors. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | SB | Credit is allowed for only HEP 100 (EXW 100) or KIN 100 OR Visiting University Student |
| HEP | 102 | Foundations of Health Education and Health Promotion | Foundational course for those who anticipate working in the health field. Learners gain a broad understanding of historical, cultural and philosophical underpinnings of health promotion. They refine necessary skills for working as health professionals, including effective researching, writing and critical thinking. Explores principles of a preventive approach to health and wellness. Introduces the importance of evidence-based practice. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | |

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| HEP | 241 | Health Education Methods for Injury Prevention and Preparedness | Unintentional injuries affect people throughout the lifespan. Examining factors that influence injury helps to determine effective education and prevention efforts. Explores strategies for preventing unintentional injuries for adults and children. Examines topics in injury prevention for the development of health promotion resources and practices in the following settings: home, sports, recreational and transportation. Also includes emergency preparedness education focused on helping people prevent and mitigate the effects of emergency/unforeseen incidents at the individual, family and community levels. Specifically, explores the CDC Crisis & Emergency Risk Communication (CERC) program as a tool for developing effective communication strategies regarding emergency situations. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | |
| HEP | 251 | Preventing HIV and Substance Abuse | Provides an introductory examination of Human Immunodeficiency Virus (HIV), substance abuse and addiction. Explores health education and promotion approaches to preventing both HIV and substance abuse and examines the biological, historical and societal implications of these diseases. Prepares learners to deliver HIV and substance abuse prevention education. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only EXW 351 or HEP 251 (or EXW 312) OR Visiting University Student |
| HEP | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| HEP | 303 | Human Sexuality for Health Education | Provides preprofessional primary/secondary teachers and health education specialists with knowledge of the physiological, psychological and social aspects of human sexuality for health education. Provides content knowledge and curriculum development strategies to support educators in creating human sexuality curriculum for school and community health settings. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| HEP | 348 | Methods of Health Education | Covers how to develop sound, effective, appropriate instruction and learner experiences utilizing backwards planning, formative and summative assessment methods, educational psychology, and appropriate instructional methods to facilitate the mastery of health-related knowledge, skills, attitudes and behaviors in health education and health promotion. Focuses on understanding best practice pedagogy and the diverse learner; structuring the learning environment; developing appropriate student learning objectives; selecting appropriate instructional methods; and developing a quality lesson, assessments, presentation and unit plan. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| HEP | 350 | Substance Abuse and Addictive Behavior | Examines substance use and abuse patterns throughout the U.S. Explores regional trends, historical influences and policy impacts. Presents effective prevention and intervention practices. Emphasizes the importance of reducing stigma associated with substance use. Learners engage in scientific inquiry and research. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BIO 160 or 201 with C or better OR Visiting University Student |
| HEP | 361 | Social Media and Marketing for Health | Research suggests that social media and social marketing strategies are effective tools for public health education and promotion. Learners explore social marketing practices, examine the impact of social media messaging on health, create health education messages and content, and develop a social media campaign for a specific health or wellness topic. Get ready to use social media technology to promote health and wellness. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only EXW 321 or HEP 361 (EXW 361) OR Visiting University Student |
| HEP | 371 | Conflict Management and Mediation and Violence Prevention | Explores conflict mediation and violence prevention interventions. Prepares students to address conflict, deal effectively with difficult people, and incorporate effective conflict management and mediation skills in various personal and professional settings. Examines and applies principles of the public health approach of violence prevention programming. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only EXW 331 or HEP 371 (EXW 371) |
| HEP | 380 | Body Image and Wellness | Explores body image in American culture from physical, psychological, historical, and societal perspectives. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 30 hours OR Visiting University Student |
| HEP | 384 | Preinternship for Health Education and Health Promotion | Professional development course designed to help students prepare for senior-year experiential learning courses: internships and applied projects. Facilitates strengthening of interpersonal competencies and professional self-marketing through resume development, communication and networking. Prepares students for either the Internship or the Applied Projects course through Internship Learning Agreement or Applied Project Proposal documentation, respectively. | N | LEC | N | YGB | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): College of Health Solutions major; minimum 75 hours |

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| HEP | 386 | Assessing Strengths and Needs for Health Education and Promotion | Experiential course in which students assess a health issue in their home communities. Students select a health topic on which they focus throughout the course. They conduct a needs and strengths assessment, collecting both primary and secondary data; volunteer for an organization working on the health issue they choose; create a plan to actualize an evidence-based intervention; and develop a mission statement, goals and SMART objectives. The result is a foundational health promotion program plan that may be further developed in a subsequent course. | N | PRA | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): HEP 102 with C or better; minimum 45 hours; Credit is allowed for only HEP 386 or HEP 394 (Health Education and Health Promotion Capstone 1) |
| HEP | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| HEP | 410 | Obesity Perspectives and Prescriptions | Examines the impact of obesity or body fatness on health from multiple perspectives. Provides a structure for understanding, critiquing and synthesizing the information and misinformation about obesity, weight loss and health. Challenges students to examine potential obesity solutions from a wellness perspective by considering obesity as a normal physiological response within a pathological environment and explores several applications for prevention and treatment of obesity. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BIO 160 or 202 with C or better; PSY 101 with C or better; Credit is allowed for only EXW 510 or EXW 598 (Obesity Perspectives and Prescription) or HEP 410 (EXW 410) OR Visiting University Student |
| HEP | 443 | Emotional Health and Interpersonal Relationships | Explores factors associated with the development of emotional health and well being. Emphasizes pre-professional primary/secondary teachers and health education specialists teaching and promoting emotional health within a school or community setting. Encourages pre-professional primary/secondary teachers and health education specialists to deepen their commitment to effective curriculum principles related to emotional health. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| HEP | 444 | Epidemiology | Introduces epidemiological concepts and prepares the student to read, comprehend, and report epidemiological research. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): any CS statistics course with C or better; Credit is allowed for only HEP 444 or POP 598 (Epidemiology) OR Visiting University Student |
| HEP | 448 | Foundations of School Health Education | Illustrates health education in K-12 and post-secondary educational settings. Explores various resources for health education specialists, including the CDC's Division of Adolescent and School Health, the School Health Index, the Health Education Curriculum Analysis Tool, and the Coordinated School Health Approach. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |
| HEP | 452 | Health Advocacy in Health Education | Learn how to make change happen to improve health for individuals and communities. Identifies and discusses features of coalitions and partnerships that support advocacy and policy change. Describes and applies methods and resources for advocating in health promotion, including photovoice, positive deviance and digital advocacy. Outlines and practices key strategies for communicating with diverse audiences. Introduces a strengths-based, community-led paradigm for generating systems change. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| HEP | 454 | Health Promotion Program Planning and Implementation | Applies theory-based concepts and methods of health promotion (HP). Covers selected topics in HP across a variety of domains of health. Program planning concepts include the use of planning frameworks, needs assessments, and the use of theory in health promotion program planning. Also covers practical issues related to health promotion program implementation such as resource management and program marketing. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): CHS 340 (EXW 340) with C or better; ENG 101, 105, or 107 with C or better; HEP 102 (EXW 102) with C or better; Credit is allowed for only EXW 554 or HEP 454 (EXW 454) OR Visiting University Student |
| HEP | 456 | Health Promotion Program Evaluation | Covers program evaluation concepts including how to plan an evaluation, how to analyze and interpret data, and how to report evaluation results. Students learn a basic framework for conducting a program evaluation, various research/evaluation designs, and data analysis and statistics. Topics are covered in enough detail so that the student may understand how inferences are made regarding program evaluation. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): HEP 454 (EXW 454) with C or better; Credit is allowed for only EXW 556 or HEP 456 (EXW 456) OR Visiting University Student |
| HEP | 466 | Health Promotion Program Management and Administration | Develops skills necessary to become an effective grant writer and health promotion manager. Identifies sources of funding, conducts needs assessment research, and tailors grant proposals for health promotion programs. Uses team and individual processes to build knowledge and skills for managing and administering health education/promotion programs. Aligned with specific competencies and objectives required for Certified Health Education Specialists (CHES) offered by the National Commission for Health Education Credentialing. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |

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| HEP | 476 | Community Health | Applies major concepts of community health with an emphasis on contextual tailoring. Defines and explores the community science paradigm. Defines and applies cultural competence. Presents features and current trends for health and health care in the U.S., including key policies, family health, minority health and environmental influences. Reinforces the commitment to evidence-based practice. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): HEP 454 (EXW 454) with C or better OR Visiting University Student |
| HEP | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | |
| HEP | 486 | Applied Projects in Health Education and Health Promotion | Provides an opportunity for self-directed, structured practice in health education and health promotion with faculty support and supervision. Students develop and/or implement a health education and health promotion project of their own design, based on self-identified interests and long-term career plans. Applies specific competencies of health education specialists, preparing students to enter the workforce as confident and practiced health professionals. Requires permission to enroll from the course instructor, based on approval of the applied project proposal prepared during the preinternship course. | Y | PRA | Y | GNA | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): HEP 384; HEP 452 (EXW 452); HEP 454 (EXW 454) OR Visiting University Student |
| HEP | 490 | CHES Exam Preparation | Prepares qualifying students for the Certified Health Education Specialist (CHES) examination offered by the National Commission for Health Education Credentialing. Provides a review of the Eight Areas of Responsibility for Certified Health Education Specialists. Increases knowledge of health education and health promotion concepts to prepare for the CHES examination. | N | LEC | N | YGB | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): Community Health BS major or HEP 456; minimum 45 hours OR Visiting University Student |
| HEP | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): Barrett Honors student |
| HEP | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): Barrett Honors student |
| HEP | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| HEP | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-3 | | |
| HHE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HHE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Herberger Institute of Design and the Arts Graduate student |
| HIN | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| HIN | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| HON | 171 | The Human Event | Landmarks in the social and intellectual development of the human race, with emphasis on critical thinking and argumentative writing. Enrollment restricted to Barrett students. | N | LEC | N | OPT | Barrett, The Honors College | Barrett, The Honors College | 3 | L or HU | Prerequisite(s): Barrett Honors student; maximum 75 hours |
| HON | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | Barrett, The Honors College | Barrett, The Honors College | 1-3 | | Prerequisite(s): Barrett Honors student |
| HON | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Barrett, The Honors College | Barrett, The Honors College | 1-4 | | Prerequisite(s): Barrett Honors student; maximum 60 hours |
| HON | 272 | The Human Event | Covers the Renaissance through the modern period. | N | LEC | N | OPT | Barrett, The Honors College | Barrett, The Honors College | 3 | (L or HU) & H | Prerequisite(s): HON 171 with C or better |
| HON | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Barrett, The Honors College | Barrett, The Honors College | 1-4 | | Prerequisite(s): Barrett Honors student |
| HON | 370 | History of Ideas | Advanced and intensive survey of key social and intellectual currents in the development of humanity as reflected in both philosophical and creative works with an emphasis on critical thinking and discussion, as well as argumentative writing. | N | SEM | N | GNA | Barrett, The Honors College | Barrett, The Honors College | 3 | L or HU | Prerequisite(s): Barrett Honors student; Credit is allowed for only HON 171 or HON 272 or HON 370 |
| HON | 378 | Culture and Society in England, Ireland, and Scotland | Chronologically explores texts, events, and sites for historical and cultural impact on development of England, Ireland, Scotland, and their countries' relationships with each other. | N | SEM | N | OPT | Barrett, The Honors College | Barrett, The Honors College | 3 | HU & H & G | Prerequisite(s): Barrett Honors student |
| HON | 379 | Romantics, Victorians, and Moderns | Examines the development and impact of various literatures, arts, and ideas in England, Ireland, and Scotland from the Romantic through the Modern period. | N | SEM | N | OPT | Barrett, The Honors College | Barrett, The Honors College | 3 | HU & G | Prerequisite(s): Barrett Honors student |

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| HON | 380 | Aesthetics and Society | Advanced, interdisciplinary seminar explores the unique roles of aesthetics in society through philosophy, cultural studies, art, music, literature, film, and/or other media forms, with themes such as the politics of beauty, art and emotion, or creative production and reception. | N | SEM | N | GNA | Barrett, The Honors College | Barrett, The Honors College | 3 | HU | Prerequisite(s): Barrett Honors student; HON 171, 272, or 370 |
| HON | 381 | Science and Social Worlds | Advanced multidisciplinary seminar examining the historical, cultural and political roles of science in society, including the politics of scientific knowledge production, the ethics of new technologies, and philosophical approaches to the study of health and medicine. | N | SEM | N | GNA | Barrett, The Honors College | Barrett, The Honors College | 3 | | Prerequisite(s): Barrett Honors student; HON 171 and 272 (or HON 370 or 394: History of Ideas; Credit is allowed for only HON 381 or 394: Science and the Self |
| HON | 386 | Writing about Self and Place | Cultural curiosity and literary expression align in intellectually provocative ways that deepen our understanding of the interplay between self and place. Examines the ways in which conceptions of individual and national identity and cultural environments inform each other. Students read and analyze modern travel writing to learn literary strategies that they then employ when reflecting upon and documenting their experiences as individuals studying the culture of a place. Learning activities include engaging with a variety of creative nonfiction writing and creating personal narratives. | N | SEM | N | GNA | Barrett, The Honors College | Barrett, The Honors College | 3 | | Prerequisite(s): Barrett Honors student; HON 370 OR both HON 171 and 172; Credit is allowed for only HON 386 or HON 394 (Identity and Place) or HON 394 (Writing about Self and Place) |
| HON | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Barrett, The Honors College | Barrett, The Honors College | 1-4 | | Prerequisite(s): Barrett Honors student; minimum 30 hours |
| HON | 447 | Lean Launch | Students learn lean and customer development methodologies to test assumptions made about a new business concept that they wish to explore or launch. Teaches how to effectively utilize business models and critically assess the assumptions made through the testing of hypotheses to create innovative and market-ready ventures. Includes weekly presentations of learning points and team activities outside of the classroom. Open to students in any major of study with the required prerequisite. | N | LEC | N | GNA | Barrett, The Honors College | Barrett, The Honors College | 3 | | Prerequisite(s): W.P. Carey BA or BS major; ACC 241, 242, or 271 with C or better OR non-Business student with minimum ASU 2.50 GPA; minimum 56 hours; Credit is allowed for only ENT 447 (or MGT 447) or HON 447 or MGT 494 (Lean Launch) |
| HON | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Barrett, The Honors College | Barrett, The Honors College | 0-12 | | Prerequisite(s): Barrett Honors student |
| HON | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Barrett, The Honors College | Barrett, The Honors College | 1-6 | | Prerequisite(s): Barrett Honors student |
| HON | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Barrett, The Honors College | Barrett, The Honors College | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better; minimum 75 hours |
| HON | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Barrett, The Honors College | Barrett, The Honors College | 1-4 | | Prerequisite(s): Barrett Honors student; minimum 45 hours |
| HON | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | Y | LEC | Y | OPT | Barrett, The Honors College | Barrett, The Honors College | 1-6 | | Prerequisite(s): Barrett Honors student |
| HON | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Barrett, The Honors College | Barrett, The Honors College | 1-7 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| HON | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Barrett, The Honors College | Barrett, The Honors College | 1-3 | | Prerequisite(s): Barrett Honors student |
| HPS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| HPS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| HPS | 311 | Origins, Evolution, and Creation | History of opposition to evolutionary thinking with special reference to American creationism. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Credit is only allowed for BIO 344 or HPS 311 |
| HPS | 313 | Probability, Evidence, and Decision | Philosophical topics in epistemology and practical reasoning; probability and its use in representing and reasoning about belief, evidence, and rational choice. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): MAT 117 or 142 or higher; minimum 30 hours; Credit is allowed for only HPS 313 or PHI 313 |
| HPS | 314 | Philosophy of Science | Structure and justification of scientific theories, explanation, and theory change. Roles of observation and laws, theoretical concepts and entities, reduction, probability, confirmation, space and time, and causation. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | HU | Credit is allowed for only HPS 314 or PHI 314 OR Visiting University Student |
| HPS | 322 | History of Science I | Development and application of scientific thinking from ancient times through the 17th century. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | HU & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only BIO 328 or HPS 322 OR Visiting University Student |
| HPS | 323 | History of Science II | Development and application of scientific thinking from the 18th century to the present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | HU & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only BIO 317 or HPS 323 OR Visiting University Student |
| HPS | 330 | History of Biology: Conflicts and Controversies | Focuses on 19th and 20th centuries, considering biology as a discipline. Evolution, problems of heredity, development, and cell theory. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | H | Credit is allowed for only BIO 316 or HPS 330 OR Visiting University Student |

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| HPS | 331 | History of Medicine | Scientific study of the human body, changing theories of disease, evolution of practical opinions on treatment, and the emerging institutionalization of medical practice. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | HU & H | Credit is allowed for only BIO 318 or HPS 331 OR Visiting University Student |
| HPS | 332 | The Darwinian Revolution | Origin, nature, and subsequent history of the ideas of Charles Darwin. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | |
| HPS | 336 | Exploration and Science | 500-year survey of exploration as a historical process and cultural activity of Western civilization, with emphasis on its links with modern science. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | SB & H | |
| HPS | 340 | Biology and Society | Explores interactions between biological sciences and society, e.g., biomedical, environmental, ethical, historical, legal, philosophical, political, and social issues. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better OR BIO 281 with C or better; BIO 282 with C or better; Credit is allowed for only BIO 311 or HPS 340 OR Visiting University Student |
| HPS | 349 | Nature, Sustainability and Religion | Explores how world religions have conceptualized the natural world, what they have contributed to the current environmental crisis and how they might also serve as inspiration to address the crisis. By focusing on Judaism, Christianity and Islam, the course introduces students to the field of religion and ecology and explores its relationship to other academic disciplines such as environmental philosophy and ethics, justice studies and gender studies. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only HPS 349 or JST 349 or REL 349 or SOS 349 or JST, REL, or SOS 394 (Religion and Ecology) or JST, REL, or SOS 394 (Religion and Environment) |
| HPS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| HPS | 410 | Biomedical Research Ethics | Considers issues related to values in science such as collaboration, finances, legal issues, media, mentoring, ownership of ideas, scientific integrity. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only BIO 416 or HPS 410 OR Visiting University Student |
| HPS | 452 | Philosophy of Biology and Medicine | Examines fundamental topics in the philosophy of biology and their implications for medicine. Examples include biological mechanisms and evidence-based medicine, species concepts and race, reductionism and the nature of individuality, and theories of function and health. Uses these topics throughout the semester to address two overarching questions about whether biology is fundamentally different from physics and whether medicine can be reduced to applications of biology. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): minimum 25 hours; Credit is allowed for only BIO 452 or HPS 452 or PHI 452 or BIO/HPS/PHI 394 (Philosophy of Biology and Medicine Introduction) or BIO/HPS/PHI 494 (Philosophy of Biology and Medicine) OR Visiting University Student |
| HPS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | |
| HPS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| HPS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| HPS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| HPS | 495 | Undergraduate Research | Supervised research in biology/microbiology/molecular biosciences and biotechnology/or plant biology. | Y | RSC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-3 | | Pre-requisite: Junior or senior standing |
| HPS | 496 | Undergraduate Thesis | Guided research culminating in the preparation of an undergraduate thesis based on supervised research done in this and previous semesters. | N | RSC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): junior or senior standing; Credit is allowed for only BIO 496 or HPS 496 or MBB 496 or MIC 496 OR Visiting University Student |
| HPS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-7 | | |
| HPS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-3 | | |
| HPS | 516 | History of Biology | Covers themes such as the voyages of discovery, systematics, and classification; morphology and embryology; Darwin and evolutionary biology; the rise of genetics; molecular and organismal approaches of post-WWII biology; recent history of biology. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 518 or HPS 516 |
| HPS | 520 | Masters of Nonfiction | Students read and critically discuss works by well-known nonfiction writers to improve their own writing skills. Consists of weekly writing exercises, reviewed with workshop-style discussions centered on individual authors, themes or genres such as history, journalism, personal essays, biography, character profiles, travelogues, book reviews and op/ed commentary. | N | LEC | Y | GNA | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HPS 520 or HSD 520 or HST 520 |

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| HPS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HPS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HPS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HPS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HPS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HPS | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HPS | 615 | Biology and Society Lab | This course brings together graduate students, postdocs, and faculty members in biology and society. Sessions include panel discussions of biology and society topics from multiple perspectives, student-led discussions of important literature, practice presentations of papers for national meetings, discussion of dissertation and thesis ideas, and other activities that help to forge an active intellectual lab group. | N | LAB | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 615 or HPS 615 |
| HPS | 620 | Research Prospectus Writing | Workshop-style course where students develop and peer review graduate-level project prospectuses, such as those for NSF grant proposals, journal articles, theses, and dissertations. Appropriate for graduate students in Biology and Society, History and Philosophy of Science, the life sciences, and related programs. | N | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HPS 620 or BIO 620 |
| HPS | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HPS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HPS | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | Y | Z3 | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HPS | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HRC | 200 | Introduction to Social and Cultural Analysis | Introduces social and cultural analysis. Focuses on key terms and analytical categories for interdisciplinary work in social and cultural analysis and related fields such as American studies, ethnic studies, women and gender studies and Latin American studies. Examines a range of forms of oppression and privilege from a social justice perspective. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | |
| HRC | 310 | Social and Cultural Analysis: Method and Theory | Covers how scholars in social and cultural studies think, argue, research and write. Traces the changing definition of fields such as American studies, ethnic studies, and women and gender studies. Studies these fields in relationship to 20th-century social movements and related theoretical categories including Marxism, cultural studies and class; feminism, gender and sexuality; and post-Colonialism, race and ethnicity. Covers basic archival and ethnographic research techniques underlying interdisciplinary research methods in these fields. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | C | Prerequisite(s): minimum 36 hours OR Visiting University Student |

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| HRC | 480 | Capstone: Practices and Approaches | Focuses on a wide variety of interdisciplinary theories, methodologies and epistemologies that focus on social identities, power, privilege and activism. Students complete a scholarly research paper or project in their area of interest and engage with cutting-edge texts in the field. Encourages students to apply knowledge acquired throughout their undergraduate course of study, including the intersectional analysis of race, class, gender and sexuality and transnational theories. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L | Prerequisite(s): AMS 201, ETH 100, HRC 200, or WST 100; ENG 101, 105, or 107 with C or better |
| HRC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| HRC | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| HRC | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-3 | | |
| HSC | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| HSC | 210 | Cultural Aspects of Health | Examines how culture influences health, health care practices, barriers to health care, interactions with health care professionals, and health disparities in the U.S. Addresses the need for cultural competence among health practitioners. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | C | |
| HSC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| HSC | 300 | Complementary Health Care | Evaluates the major components of complementary and alternative health care models and evidenced-based recommendations related to complementary health care. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 56 hours OR Visiting University Student |
| HSC | 310 | Health Communication | Focuses on communicating topics related to health through an examination of theoretical frameworks, communication techniques, and different technologies including ehealth and mhealth. Addresses communication through channels that promote the health of individuals and communities. Topics may include clinician to client communication, peer to peer communication, health literacy, health in the media, and effective public health communication. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| HSC | 340 | Changing Health Behaviors | Comprehensive review of the theoretical bases of health behavior change. Students gain the knowledge to identify behaviors associated with optimal health and wellness and to develop theory-based intervention strategies and techniques to effectively influence behavior change. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prereq(s): Comm Hlth or Exer & Wellness or Hlth Sci or Hlth Sci (Hlthy Lifestyles Coach) BS major or Hlth Wellness Coach cert stdnt; min 30 hrs; Credit allowed for only CHS 340 (EXW 340) or EXW 342 or HSC 340 or NTR 350 OR Visiting University Student |
| HSC | 355 | Eating for Lifelong Health | Examines dietary choices throughout the life span and how they impact personal health and wellness. Raises awareness of thoughts and behaviors related to food and physical activity. Recognizes potential behavioral and social factors that impact participation in wellness programs. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | SB | Prerequisite(s): NTR 100 or 241 OR Visiting University Student |
| HSC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| HSC | 400 | Practicum in Health Sciences | Supervised experience in area of student specialization. Students are placed with an agency, organization, business, and/or facility that meets their specific academic goals. | N | PRA | Y | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Health Sciences Senior student |
| HSC | 410 | Supporting the Health of Older Adults | Focuses on community and national policies and programs that affect the health of older adults, programs to improve access to health care as well as to improve overall health, issues related to family and professional caregiving, and future challenges related to caring for older adults. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |
| HSC | 412 | Health Issues in Later Life | Focuses on health issues that primarily affect adults ages 50 years and over as related to nutrition, physical activity, environmental toxins. Focuses on exploring those factors known to promote healthy aging. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |
| HSC | 420 | Evaluation of Health Sciences Research | Investigates methods of inquiry in health sciences and techniques for critiquing and interpreting research within the context of evidence-based practice. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): POS 401 (or PSY 230 or 231 or SOC 390 or STP 226 or 231 or 420) OR Medical Studies major with HCD 300 (or HSC 320) |
| HSC | 432 | Legal Issues in Health Care | Legal doctrines provide protection of consumers, health care providers, and health care institutions with regard to health care delivery including access and cost. Provides an overview of the legal obligation and rights of private and public stakeholders in the delivery and receipt of health care services. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |

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| HSC | 440 | Health Coaching Concepts and Skills | Health and wellness coaching skills and competencies for health professionals with emphasis on the practical application of behavioral health coaching theories, motivational interviewing and goal-attainment skills to empower clients and promote sustainable healthy lifestyle changes. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): CHS 340 (EXW 340), EXW 342, HSC 340, or NTR 350; Credit is allowed for only HSC 440 or NTR 530 or HSC 598 (Health Coaching Concepts and Skills) OR Visiting University Student |
| HSC | 441 | Applied Health Coaching Techniques | Complements previously learned coaching theory, skills and techniques related to guiding individuals and groups through meaningful lifestyle changes by emphasizing the use of evidence-based coaching approaches. Using a mentor, self-assessment and peer feedback model, students practice, compare and contrast diverse coaching methodologies emphasizing motivational interviewing techniques and cultivating their coaching voice. Students are assigned coaching clients, schedule coaching sessions, follow-up with clients, practice professional boundaries setting, become acquainted with ethical issues and referral processes, and validate their knowledge and skills when working with people with chronic disease who require lifestyle management strategies to improve their conditions. Program faculty provide mentorship and feedback regarding student's coaching performance. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): HSC 440; Pre- or corequisite(s): EXW 325 or 335; EXW 344; HSC 355 (or NTR 355); NTR 241 OR Visiting University Student |
| HSC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | YGB | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): minimum 2.00 GPA; minimum junior standing |
| HSC | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): Barrett Honors student |
| HSC | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| HSC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| HSC | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| HSC | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-3 | | |
| HSC | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-4 | | |
| HSD | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 501 | Science and Technology Policy | Covers the role and nature of science and technology in democratic societies, and how policy impacts their development, use and potential risks and benefits. Addresses the history of science and technology policy in the U.S. and how science-based research and innovation are integrated into the design and implementation of government decision making. Students study the history and actions leading to the formation of a science and technology-related policy of their choice. Drawing on multiple areas of expertise, the course emphasizes the need for novel yet informed approaches to science and technology policy in today's rapidly changing world. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 502 | Advanced Science and Technology Policy | Explores innovation systems; the relationship between science and technology policy, equity and equality; the theory and practice of policy implementation; the utility of public value mapping; and the nature of technological fixes. Begins to explore the policy challenges and opportunities presented by emerging and converging technologies, and a changing governance and geopolitical landscape. Students study the implementation of a specific previously selected science and technology policy. Brings a transdisciplinary approach to science and technology policy that is uniquely relevant to today's increasingly technologically complex world. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): HSD 501 with B or better |

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| HSD | 503 | Governing Emerging Technologies | Examines the governance of science and technology through a focus on emerging technologies whose potential consequences in society are apparent only in anticipation and whose manifestations are still being shaped by local, domestic, and international institutions. These emerging technologies include nanotechnologies, synthetic biology, and other technologies associated with genetic modification, and information and cognitive science and neuro-technologies. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 504 | Analysis of Large-Scale Socio-Technological Systems | Provide skills and methods to analyze the design and management of large-scale socio-technological systems and the societal impacts of large-scale technological systems change. Emphasizes assessing the intertwining of lives and livelihoods in large-scale technological systems and the risks and vulnerabilities associated with large-scale systems failures, including the effects of both technological failures and natural hazards. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 505 | Science and Technology Policy Workshop | Provides the capstone experience for the Professional Science Master's in Science and Technology Policy. Builds on theoretical and analytical work carried out in the program's required courses, providing an integrative experience that requires students to synthesize knowledge gained in prior coursework and apply it to real-world policy problems and settings. By blending exposure to national science and technology policy officials and nationally recognized academic experts, the workshop both advances student learning beyond that possible in the classroom while encouraging students to expand their abilities to connect theoretical and practical insights. At the same time, the workshop provides a natural transition from the student's formal classroom learning to their required applied policy internships, which commences upon the end of the workshop. | N | SEM | N | YGB | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 512 | Solar Energy Policy Workshop | Successful and rapid development of solar energy requires the training of a highly skilled technical workforce that is also well versed in the socioeconomic (e.g., social, economic, behavioral, policy) and commercial aspects of solar energy. Provides practical policy experience. Explores the relationships among science, policy and societal outcomes in a place where many important decisions about these things are made: Washington, D.C. During the one-week course, students meet and interact with the people who fund, regulate, shape, critique, publicize and study solar energy and science, including congressional staffers, funding agency officers, lobbyists, regulators, journalists, academics, museum curators, and others. | N | SEM | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 2 | | Prerequisite(s): Solar Energy Engineering and Commercialization PSM student; Credit is allowed for only HSD 512 or HSD 594 (Solar Energy Policy Workshop) |
| HSD | 515 | Science, Technology and Public Affairs | Explores the political, economic, cultural, and moral foundations of science and technology policy and governance in democratic society. | N | LEC | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 515 or GLG 547 or HSD 515 or PAF 547 or SOS 516 |
| HSD | 517 | Uncertainty and Decision Making | Knowledge is always incomplete, yet decisions must be made. Explores uncertainty and its relation to decision making, with a particular focus on the ways that science and science-derived information is applied with the intent of improving decisions. Explores the many meanings and origins of uncertainty, using theoretical and case-based approaches. A central theme is the relation among uncertainty, scientific prediction, and decision making, especially in politically charged issues, for example as related to management of the environment. Ultimately understands how effective decisions can be made in the face of inevitable uncertainties and contested knowledge. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASB 517 or BIO 517 or BIO 591 (Uncertainty & Decision Making) or HSD 517 or POS 527 or SOS 518 |
| HSD | 520 | Masters of Nonfiction | Students read and critically discuss works by well-known nonfiction writers to improve their own writing skills. Consists of weekly writing exercises, reviewed with workshop-style discussions centered on individual authors, themes or genres such as history, journalism, personal essays, biography, character profiles, travelogues, book reviews and op/ed commentary. | N | LEC | Y | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HPS 520 or HSD 520 or HST 520 |

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| HSD | 521 | Writing True Stories that Matter | Researchers, policy wonks, grant writers, program managers, aspiring politicians, decision makers and writers of all ages: Everyone needs to know how to find and write a strong, effective, true story. This course helps students and professionals transform research, experiences and ideas into compelling nonfiction narratives so that readers are both educated and entertained. In this semester-long workshop, the instructor proceeds, step-by-step, through the entire writing true stories process, from finding the story to recreating scenes and building a scene-by-scene structure that is informative and cogent. Participants learn how to read with a writer's eye and recognize and utilize structural patterns. Explains, illustrates and practices literary techniques like dialogue, flash descriptions, inner point of view, and the art of imbedding information in story. | N | SEM | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HSD 521 or COM 598 (Writing True Stories That Matter: Creative Nonfict) or HSD 598 (Writing True Stories That Matter: Creative Nonfict) |
| HSD | 540 | Responsible Innovation and Research | Responsible Innovation (RI) and Research is a vision of how values can best be incorporated into the practice of science, technology and innovation (STI). It touches on a host of other similar concepts like Public Interest Technology, Tech for Good, Just Tech and others. At their core, RI and its cognates understand that STI is not a value-free endeavor, and thus it is better to recognize those values and work with them to help assure that our investments in STI are attuned to the goals of science policy as well as to broader public values and the pursuit of a more just, democratic society. Emphasize bringing students to the forefront of the emerging scholarship around RI and related concepts, including perspectives grounded in justice, equity, diversity and inclusion; communicating with colleagues and publics about values and RI in the practice of STI; and performing a real-world project, inquiry or intervention around RI. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 550 | Prototyping Futures | In this project-based course, students work in interdisciplinary teams to explore and envision the future of communities, industries, technologies and other elements of our society. In this process, students develop their understanding of the application of extended reality technologies, practices and methodologies for design, and tools for applying research to constructing prototypical scenarios for the future, in addition to gaining experience in effective collaboration. This course is about critical, methodological and narrative skills--the ability to move fluidly through domains, create low-fidelity prototypes, and devise creative solutions to complex problems by envisioning new realities. The development of deep technical skills in a chosen field follows in each program. | N | LEL | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AME 550 or DSC 550 or HSD 550 |
| HSD | 551 | Future-Focused Research Methods | In times of discontinuous change, deep ambiguity and high levels of novelty, the future is characterized by radical uncertainty. Making decisions, choosing policies or organizing community action is complicated by the range of complex potential futures in play. As researchers and practitioners concerned with socio-technical change, what are the tools and methods to grapple with and make sense of uncertainty? This class surveys the field of foresight, drawing from a broad array of scholarly traditions, to catalogue the different methodological approaches to navigate change. Looks to scholars who approach the sociology of time, the dynamics of socio-technical systems, innovation studies, social psychology and futures studies to explore the concept of the future with an eye toward the implications for research methods. Utilizes different ways of thinking about the future to support and develop cognitive, social and organizational capacities to imagine and enact different futures. In doing so, the epistemology of the future is foregrounded, probing the nature and consequences of anticipatory knowledge production. | N | SEM | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| HSD | 552 | Worldbuilding and Imagination | To make a convincing future, you need to create a convincing world. Storytellers, artists, game designers, politicians and scientists all engage in the practice of building worlds in order to inspire, to question, and sometimes to terrify us. They create narratives, experiences and simulations of places, real and imagined, that combine scientific, cultural and aesthetic forms of knowledge. Why? This course explores the theory and practice of worldbuilding as a way to time travel to the future and the past, as well as to other configurations of the present. It also allows us to better understand the systems we live in and define plans of action to change them for the better. In this way, worldbuilding is a way to create collective visions for the future that inspire change today. Students study a variety of future worlds and build their own through collaborative projects that involve writing, making and public engagement. | N | SEM | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 555 | Strategic Design Futures | Designers are increasingly addressing more strategic and long-term situations, while non-designers are increasingly interested in using design approaches to address diverse challenges. Strategic design is a practice that focuses on formulating strategies (problem setting) rather than only implementing strategies (problem solving). Strategic design is closely related to contemporary and emergent design practices such as user experience design, design thinking, service design, speculative design, behavioral design, and co-design, which are increasingly explored, adopted and adapted in projects and organizations. Students understand and practice a variety of strategic design methods and mindsets with the aim of changing and envisioning futures. With hands-on activities and real-world context, students use and develop core strategic design skills such as visualization, sensemaking, synthesis, speculation and facilitation. Some design tools that may be used include storyboards, user flows, journey mapping, participatory ideation, visioning, service blueprints, prototyping-testing. Includes seminar discussions and hands-on activities with a "live project." | N | PRO | N | Z1 | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only DSC 555 or DSC 598 (Strategic Design Futures) or HSD 555 |
| HSD | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | |
| HSD | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | GNA | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRA | Y | GNA | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Global Futures | School for the Future of Innovation in Society | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 601 | HSD I: Human Dimensions of Science and Technology | Interdisciplinary synthesis, theoretical foundations, and methods for humanistic and social science research on science and technology. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| HSD | 602 | HSD II: Science, Power and Politics | Interdisciplinary synthesis, theoretical foundations, and methods for humanistic and social science research on science and technology. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 610 | Colloquium | Regular meeting for the entire HSDST community. Includes outside speakers, student and faculty member presentations, and community discussions. | N | SEM | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRA | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Global Futures | School for the Future of Innovation in Society | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Global Futures | School for the Future of Innovation in Society | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 101 | Introduction to Human Systems Engineering | Introduces basic principles, methods and theories of psychology and applications to engineering problems relevant to human systems. Gives particular attention to the intersection of psychology and engineering. Students learn brain anatomy and physiology, sensation and perception, cognition, social systems and research methods so that they are able to design systems consistent with human capabilities and limitations. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | SB | |
| HSE | 223 | Applied Biology of Human Behavior | Introduces the biological basis of human behavior and implications for human systems engineering. Structure and function of the nervous system as well as the behavioral effects of the physiological processes outside the brain (for example, hormones secreted by glands). Biological processes involved in many aspects of our behavior such as eating, sleeping, sexual behavior, emotional responses, sensory perception, learning and memory, language and cognitive functions, mental illness and drug abuses. Introduces a wide range of techniques and methods used to investigate the biological foundations of behavior. Prepares students for advanced courses in neuroscience, psychology or related fields. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | SB | Prerequisite(s): HSE 101 or PSY 101 with C or better OR Visiting University Student |
| HSE | 224 | Applied Social Science | Covers social behaviors, social cognition and emotion critical for engineered systems that interact with humans (artificial intelligence, robots). Students learn how human beings behave, think and feel in daily social situations and think about how that information can be used to create effective human systems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | SB | Prerequisite(s): HSE 101 or PSY 101 with C or better OR Visiting University Student |
| HSE | 225 | Human Systems Integration | Reviews human systems integration (HSI), which is basically systems engineering from a human-centered perspective. Research, theory and methodological approach as applied to a variety of systems ranging from transportation systems to medical and military systems. Discusses handbook chapters and specific examples of human systems integration. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): HSE 101 or PSY 101 with C or better; Credit is allowed for only HSE 225 or IEE 225 OR Visiting University Student |
| HSE | 230 | Statistics for Human Systems Research I | Basic methods of exploratory data analysis (including graphics) and statistical computing methods, including a detailed look at hypothesis testing, effect size and power analysis, as well as some methods for dealing with categorical and discrete data. Introduces both correlation/regression and analysis of variance (ANOVA), as well as common statistical software. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | CS | Prerequisite(s): HSE 101 or PSY 101 with C or better; MAT 117 or higher with C or better OR Visiting University Student |

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| HSE | 290 | Experimental Methods for Human Systems Research | Introduces the basics of research methodology as applied in human systems engineering. Quantitative and experimental design from an applied perspective. Guided study of the process of conducting research within human systems engineering. Project topics range from research question generation and literature review to reporting of results. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | L | Prerequisite(s): ECN 221, ECN 231, EGR 280, HSE 230, IEE 380, PSY 230, STP 226, STP 420, or STS 401 with C or better; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| HSE | 323 | Perceptual Systems | In-depth exploration of methods by which humans receive and interpret information from the world by vision, audition, taste, smell, touch and movement. Emphasizes the integration of behavioral and neural research with potential applications to engineering practice. Topics cover a wide range from the biological basis of sensory information processing to the behavioral aspects of perception, and to the applications of perceptual theories to disciplines like computer vision, display technologies, graphic design and sound processing. Solid foundation for further coursework and research in neuroscience or psychology; students also gain knowledge that could be useful in various professions. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | SB | Prerequisite(s): HSE 101 or PSY 101 with C or better; minimum junior standing |
| HSE | 324 | Applied Cognitive Science | Human cognition and how it bears on the design of technological and social systems. Although focuses on applications, requires student to delve into the basic literature that informs these applications and produce a literature review that draws on both applied and theoretical work. Many weeks involve a hands-on experience with a method or technique, and weekly quizzes emphasize critical thinking about these examples. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | SB | Prerequisite(s): HSE 101 or PSY 101 with C or better OR Visiting University Student |
| HSE | 325 | Human-Computer Interaction | Theories, methods, and findings concerning the usability of computer systems and the design of effective user interfaces. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): HSE 101 or PSY 101 with C or better OR Visiting University Student |
| HSE | 390 | Qualitative Research Methods | Reviews basics of qualitative research with applications to human systems engineering. Covers fundamental concepts of reliability and validity, and considers best practices in survey, questionnaire, interview and observation methods. Introduces and applies content analysis and grounded theory approaches for analyzing and interpreting qualitative data (e.g., interview transcripts and open-ended survey responses). All concepts are taught with an applied focus and real-world examples. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; HSE 290 or PSY 290 with C or better OR Visiting University Student |
| HSE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-4 | | Prerequisite(s): minimum 45 hours |
| HSE | 422 | Human Factors in Sport | Examines how psychological principles can be applied to enhance the performance of athletes and coaches. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): HSE 101 or PSY 101 with C or better; minimum junior standing OR Visiting University Student |
| HSE | 423 | Human Factors in Transportation | Examines human performance and human-machine design issues in aviation and ground transportation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): HSE 101 or PSY 101 with C or better; minimum junior standing OR Visiting University Student |
| HSE | 424 | Human Automation Interaction | Current perspectives and techniques for modeling human-automation interaction to improve system design and system integration. Topics discussed include basic principles in human-technology interaction, key concepts to consider when designing and assessing supervisory control automation, and promising approaches for integrating increasingly autonomous automation, such as adaptive algorithms and embodied agents, into human systems. | N | SEM | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): HSE 101 or PSY 101 with C or better; minimum junior standing; Credit is allowed for only HSE 424 or HSE 524 OR Visiting University Student |
| HSE | 425 | Human Factors in Medical Systems | Comprehensive introduction to human factors issues related to healthcare systems, medical training, and medical device design. Topics range from psychological and physiological aspects of human behavior like perceptual and cognitive functions, motor behavior, learning, motivation, physiology, and ergonomics to applied issues in the context of medicine and healthcare like human-computer interactions in medical information systems, the ergonomic design of medical devices, evaluation of medical device usability, team training in healthcare and the organization of medical environment. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): HSE 101 or PSY 101 with C or better; minimum junior standing; Credit is allowed for only HSE 425 or HSE 525 OR Visiting University Student |
| HSE | 426 | Training and Expertise | Reviews principles and features of expertise and the acquisition of skilled performance, such as knowledge, deliberate practice, self-regulation, feedback and training. Discusses and applies methods of evaluating expert performance (e.g., cognitive task analysis) and designing effective training systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): HSE 101 or PSY 101 with C or better; minimum junior standing OR Visiting University Student |

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| HSE | 427 | Designing for Learning | Reviews principles of learning with applications to human systems engineering. Covers fundamental cognitive, metacognitive and motivational aspects of learning, and their applications in instructional design frameworks. Applies concepts to the design of multimedia instruction, educational technologies and similar learning resources. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): HSE 101 or PSY 101 with C or better; minimum junior standing OR Visiting University Student |
| HSE | 428 | Judgment and Decision Making | Reviews basic principles of human judgment and decision making with applications to human systems engineering. Covers "intuitive" vs. "rational" ways of thinking, heuristics and common biases (e.g., correspondence bias, self-serving bias). Also covers examples of effective thinking such as intelligence, creativity, transfer and relational reasoning. All concepts are taught with an applied focus. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): HSE 101 or PSY 101 with C or better; minimum junior standing OR Visiting University Student |
| HSE | 429 | Product Design and Evaluation | Applies human systems engineering methods to product design and evaluation. Consumer behavior, consumer research methods, systems and design thinking, how to conduct interviews, observational research, contextual analysis, questionnaire design and analysis, opportunity identification, usability testing and creativity. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): HSE 101 or PSY 101 with C or better; minimum junior standing; Credit is allowed for only HSE 429 or HSE 529 OR Visiting University Student |
| HSE | 430 | Statistics for Human Systems Research II | Statistical methods commonly used in human systems engineering research. Emphasizes (1) connecting research designs and statistical analysis, (2) interpreting and breaking down significant effects, (3) addressing practical problems associated with doing research in applied contexts, (4) using statistical methods to understand the connection between variables in a complex system, and (5) the use of statistical software. Primarily focuses on analysis of variance (ANOVA) but introduces other techniques (including mediation analysis, structural equation modeling and cluster analysis). Recommended for preparation for both graduate study and careers in related industry. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | CS | Prerequisite(s): HSE 230 or PSY 230 or PSY 231; Credit is allowed for only HSE 430 or PSY 530 OR Visiting University Student |
| HSE | 477 | Human Systems Engineering Capstone Experience | Applied psychology from a systems perspective. Requires a report based on research and/or applied work as a culminating experience. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): Human Systems Engineering BS or Human Systems Engineering (User Experience) BS major; senior standing; Pre- or corequisite(s): HSE 290 or PSY 290; HSE 324 or PSY 324 |
| HSE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-12 | | |
| HSE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-6 | | Prerequisite(s): Barrett Honors student |
| HSE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| HSE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| HSE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-3 | | |
| HSE | 520 | Methods and Tools in Applied Cognitive Science | Provides a hands-on approach to understanding and using advanced methodologies commonly implemented in the field of cognitive science. | N | SEM | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 521 | Methods and Tools in Human Systems Engineering | Specific methods and tools used in the field of human systems engineering, with computer-based experience through both writing and using human factors tools and software. | N | SEM | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 524 | Human Automation Interaction | Covers different perspectives and techniques for improving automation design and system integration. Covers basic principles in human-technology interaction, key concepts in supervisory control automation, and promising approaches for increasingly autonomous automation such as adaptive algorithms and embodied agents (robots). Emphasizes literature review, concept synthesis and communication skills through writing, in-class presentations and in-class discussion. | N | SEM | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HSE 424 or HSE 524 |
| HSE | 525 | Health and Human Systems Engineering | Covers different perspectives and techniques in medical human factors and health systems engineering to improve system design and system integration in healthcare. Covers basic principles in human-technology interaction, macroergonomics, and job design in the context of healthcare, health organizations, and health technologies. Emphasizes synthesis of reading materials, problem scoping and communication skills through writing and discussion. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HSE 425 or HSE 525 |

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| HSE | 529 | Product Design and Evaluation | Covers User Experience (UX) design that includes usability, usefulness, emotional impact and meaningfulness in the context of product design. Topics include: understanding needs, designing solutions, prototyping candidates, and evaluating UX | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HSE 429 or HSE 529 |
| HSE | 530 | Intermediate Statistics for Human Systems Engineering | One-way and factorial designs, contrasts, post-hoc tests, probing of interactions, mixed designs, power, computer applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HSE 530 or HSE 598 (Statistics for Human Systems Research III) or PSY 530 |
| HSE | 531 | Data Analytics: Modeling Human Subjects Data | Principles and methods of analyzing human subjects data. Improves analytical and communication skills for scientific research; acquires and develops skills in using the open-source statistical computing platform R; and builds confidence in wrangling, analyzing and visualizing human subjects data. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HSE 531 or HSE 598 (Data Analytics) |
| HSE | 540 | Foundations of Applied Cognitive Science | Provides a critical background in the theory and organization of the field of cognitive science. | N | SEM | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 542 | Foundations of Human Systems Engineering | A wide variety of methodologies utilized by and applications of the broad field of human systems engineering. | N | SEM | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 560 | Capstone | Hands-on project in user experience. Requires a report based on research or applied work as a culminating experience. | N | SEM | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): User Experience MS student; Credit is allowed for only GIT 560 or HSE 560 or TWC 560 |
| HSE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | SEM | Y | Z1 | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | IND | Y | Z2 | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSM | 502 | The Health Service System and the Business of Health Care | Acquaints students with the various organizations and actors across the value chain of health care. Assesses provider, supplier, payor and IT multiple perspectives. Exposes the major concepts needed to understand the health sector globally (key business and clinical functions). Students emerge being able to be dropped down into a conversation about a health care company or problem and understand a large proportion of what is being discussed. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| HSM | 506 | Managing Health Care Organizations | Examines the dynamics within health care organizations. Provides a deep-dive into the best practices and key considerations for health care managers as they seek to operate within and modify their organizations. Employing concepts from organizational behavior and systems theory, provides students with a framework to define and resolve operational challenges associated with the management of a health care organization. Asks students to think as senior manager or consultants and propose solutions that are evidence based, feasible and demonstrate knowledge of the key contingencies associated with the context. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): W. P. Carey MBA student |
| HSM | 512 | Healthcare Economics | Economics of production and distribution of healthcare services, with special emphasis on the impact of regulation, competition, and economic incentives. | N | LEC | Y | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): HSM 502 with C or better |
| HSM | 550 | Health Care Marketing | Marketing is a set of processes, relationships and co-creations meant to create, communicate and deliver value to the customer. Takes a customer-centric approach to health care marketing. Examines the changing roles in health care, organizations' approaches to patient-centricity, patient empowerment, responsibilities and experience. In addition, considers patient metrics such as patient engagement, customer effort, net promotion and patient satisfaction measures used by the U.S. government's Centers for Medicare and Medicaid Services. Considers marketing from the patient/provider, organizational and network/system points of view, organizational buying and selling processes, and the development and navigation of health care networks/systems from a marketing organization, service provider's and customer experience perspectives. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): W. P. Carey MBA student |
| HSM | 552 | Health Care Supply Chain Management | Examines the variety of organizations that constitute the health sector value chain with an emphasis on suppliers, distributors, IT intermediaries, group purchasing organizations, regulatory bodies, and payers. Key considerations include the design of stakeholder relationships along the value chain and the extent to which business and clinical considerations drive decision making and influence outcomes. Topics include strategic sourcing and contracting, stakeholder incentives and risk across the value chain, physician/professional perspectives and the management of the value chain relationships necessary to achieve high quality, ethical behavior and safe patient care. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HSM 552 or HSM 598 (Healthcare Supply Chain Management) |
| HSM | 575 | Entrepreneurship, Innovation and Strategy in the Health Care Sector | Problems with health care quality, access and costs bedevil all countries. Focuses on the creation of global business innovations in health care that can better meet these needs. At its end, students should understand the opportunities for different kinds of health care innovations and how to create viable strategies and business models to meet them. Enables students to craft business models that attain alignment between an entrepreneurial health care venture and the Six Factors that shape this sector: financing, structure, public policy, consumers, technology and accountability. Covers these issues in every part of the sector, including insurance, services, IT, medical devices, biotechnology, diagnostics and pharmaceuticals. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): W. P. Carey MBA student |
| HSM | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Economics | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HST | 100 | Global History to 1500 | Surveys human origins; early civilizations in Africa and Eurasia; the ancient Mediterranean; the pre-Columbian Americas; the rise of Islam and Muslim empires; medieval Europe; the Indian sub-continent and imperial China, to 1500. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H & G | |
| HST | 101 | Global History Since 1500 | Surveys Africa, the Americas, and Eurasia; changes in communication, communities, demography, economics, environment, politics, religion, technology, warfare, and women. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H & G | Credit is allowed for only HST 101 or SGS 111 OR Visiting University Student |
| HST | 102 | Europe and the Mediterranean: Ancient and Medieval | Origins and development of European societies and institutions from the ancient world through the Middle Ages. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | |
| HST | 103 | Early Modern Europe: Renaissance to Enlightenment | The development of European societies and institutions from the Renaissance and Reformation through the Age of Enlightenment. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & H | |
| HST | 104 | Modern Europe: French Revolution to European Union | The development of European societies and institutions from the French Revolution to the present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & G & H | |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--|---|-------|--------------------|--|
| HST | 106 | Asian Civilizations | Civilizations of China, Japan, and India from antiquity to the 17th century. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & G & H | |
| HST | 108 | Introduction to Japan | Historical survey of the people, culture, politics, and economy of Japan, supplemented by audiovisual presentations. Intended for nonmajors. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | |
| HST | 109 | United States to 1865 | Growth of the Republic from colonial times through the Civil War period. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & H | |
| HST | 110 | United States Since 1865 | Growth of the Republic from the Civil War to the present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | |
| HST | 111 | Introduction to Asia | Offers a basic introduction to the geography, history, cultures, states, and societies of South and Southeast Asia as well as China, Japan, and Korea. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H & G | Credit is allowed for only HST or REL 111 |
| HST | 112 | Foundations of Democracy | Introduces an interdisciplinary study of democracy with special attention to its historical development as a form of government. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | Credit is allowed for only HST, POS 112 or HST 194 (Foundations of Democracy) |
| HST | 113 | United States and Arizona Social Studies | Introduces American (including Arizona) institutions integrating geography, government, history and economic perspectives. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Credit is allowed for only GCU 113 or HST 113 |
| HST | 114 | World Social Studies | Introduction to the world from the integrated social science perspectives of history, geography, and government. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Credit is allowed for only GCU or HST 114 |
| HST | 130 | The Historian's Craft | Introduces the ways historians ask questions and propose answers. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Credit is allowed for only HST 130 or HST 330 OR Visiting University Student |
| HST | 141 | Russian Civilization: From Tsars to Putin | For centuries, Russians have argued about who they are as a people and a nation by turning to their history, religion, literature, arts and language. With a foundation in Russian history and geography and using primary sources, we survey debates over Russian history and civilization to understand how Russians have imagined themselves and their nation and empires. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & G & H | Pre- or corequisite(s): ENG 101, 105, or 107 with C or better if completed; Credit is allowed for only HST 141 or RUS 141 or SLC 141 OR Visiting University Student |
| HST | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-3 | | Pre-requisites: Freshman standing; Maximum 25 hours |
| HST | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |
| HST | 203 | Historical Themes in Latin America | General introduction to selected themes in Latin American history. May be repeated for credit when topics vary. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | |
| HST | 204 | Historical Themes in the US | General introduction to selected themes in United States history. May be repeated for credit when topics vary. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | |
| HST | 210 | American Social History | American society from the colonial period to the present. Ethnicity, race, age, and sex as factors in historical experience. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or SB) & H | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| HST | 211 | Jews and Judaism in America | Chronological analysis of Jews and Judaism in American history and letters. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H & C | Credit is allowed for only HST 211 or JST 211 or REL 211 |
| HST | 214 | The World's Game: History and Culture of Soccer | Provides a survey of the cultural significance and global reach of soccer, both historically and in contemporary culture. Students study materials from around the world in several mediums; they view films that explore the cultural impact of the game; read literary works that focus on soccer; and engage with scholarly articles and contemporary news media dedicated to the game. Provides a comprehensive sense of the history, personalities, rivalries, fandom, and even the finances and scandals related to the world's game. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G | Prerequisite(s): Credit is allowed for only HST 214 or HST 294 (The Beautiful Game: History & Culture of Soccer) or SLC 214 or SLC 294 (The Beautiful Game: History & Culture of Soccer) |
| HST | 230 | Introduction to Jewish Civilization | Overview of Jewish civilization from antiquity to the present. Answers the following questions: Who are the Jews? What do Jews believe? How did Jews interact with non-Jews? What was the lasting contribution of Jews to the world? In the attempt to answer these questions, provides the skills of being a good college student. Presents Judaism as an evolving civilization with an overarching distinctive culture but with a variety of subcultures and ethnic diversity. Presents the Jewish civilization through literature, films, music, and internet resources, with an overview of its complexity and diversity. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H & G | Credit is allowed for only HST, JST or REL 230 |
| HST | 240 | Introduction to Southeast Asia | Interdisciplinary introduction to the cultures, religions, political systems, geography, and history of Southeast Asia. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & G | Credit is allowed for only ASB 240 or GCU 240 or HST 240 or POS 240 or REL240 or SGS 240 OR Visiting University Student |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| HST | 245 | Introduction to India and South Asia | Provides an introduction to the history and major contemporary political, economic, social, religious and cultural features of the South Asia region at large and of selected South Asian nations in particular. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H & G | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only HST 245, POS 245, REL 245, SGS 245 or SLC 245 |
| HST | 260 | Introduction to Islam | Examines Islamic beliefs, ceremonies, festivals, and institutions. Assumes no prior knowledge about Islam. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Credit is allowed for only HST 260 or REL 260 |
| HST | 272 | Heretics, Saints and Emperors: Christianity in the Ancient World | Origins, development and expansion of Christianity; major themes and tensions from the New Testament world to the beginning of the Middle Ages. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only HST 272 or REL 272 (REL 372) OR Visiting University Student |
| HST | 280 | History of Science, Technology and Innovation | Fast-paced introduction to the intertwined histories of science, technology and innovation as they shape the globe from the ancients to the present. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| HST | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |
| HST | 300 | Experience of America's Modern Wars | Surveys the history of America's wars, military and veterans from the American Revolution through today. Also exposes how American society has understood the role of the military and those who served, both during and after their service in American wars. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only HST 300 or VTS 301 or HST 394 (Veterans, Society and Service: Core I) OR Visiting University Student |
| HST | 301 | Global History of Health | Examines disease and health transitions in broadest context of human history, from primate ancestors to hunter-gatherers, to transcontinental contact, colonialism, industrialization, urbanization. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 301 or HST 301 or SSH 301 OR Visiting University Student |
| HST | 302 | Studies in History | Specialized topics in history. Explores countries, cultures, and issues in history, and their interpretation in historical scholarship. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 302 or JST 302 OR Visiting University Student |
| HST | 303 | Studies in Asian History | Specialized topics in Asian history. Explores countries, cultures, and issues in history, and their interpretation in historical scholarship. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 304 | Studies in European History | Specialized topics in European history. Explores countries, cultures, and issues in history, and their interpretation in historical scholarship. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 304 or JST 304 OR Visiting University Student |
| HST | 305 | Studies in Latin American History | Specialized topics in Latin American history. Explores countries, cultures, and issues in history, and their interpretation in historical scholarship. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 306 | Studies in United States History | Specialized topics in United States history. Explores regions, cultures, and issues in history, and their interpretation in historical scholarship. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 306 or JST 306 OR Visiting University Student |
| HST | 307 | Studies in African History | Specialized topics in African history. Explores countries, cultures, and issues in history, and their interpretation in historical scholarship. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 308 | History and Philosophy of Sustainability | Examines sustainability issues in a broadly interdisciplinary way, but with a special emphasis on humanities perspectives, focusing on human ideas, values and institutions as they have evolved over time. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102 or 105 or 108 with C or better; minimum 25 hours; Credit is allowed for only HST 308 or PHI 322 or SOS 309 or BIO/HST/PHI/SOS 394 (History & Philosophy of Sustainability) |
| HST | 309 | Exploration and Empire | Surveys European discovery, exploration, and imperialism in the early modern and modern periods. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 310 | Film as History | In-depth study of moving image media as recorder, object, and writer of history. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 312 | History of Women in Science and Medicine | In-depth inquiry into the history of gender issues in Western science and medicine from Greco-Roman antiquity through the beginning of the 21st century. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU or SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 314 | American Cultural History Since 1865 | Culture, including ideas, ideals, the arts, and social and economic standards, from the age of industrialism to modern U.S. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & H | Prerequisite(s): ENG 102, 105 or 108 with a C or better; minimum 30 hours; Credit is allowed for only AMS 321 or HST 314 OR Visiting University Student |
| HST | 315 | Political History of the U. S. | American political history since independence, focusing post-1865. Evaluates major trends in issues, presidential leadership, elections, and state politics. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--|---|-------|--------------------|---|
| HST | 316 | 20th-Century U.S. Foreign Relations | U.S. relations with foreign powers from the late 19th century to the present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 30 hours |
| HST | 317 | History of Postwar U.S. Conservatism | Traces the origins of U.S. conservatism as it developed in the work of U.S. and European thinkers, intellectuals and authors after WWII. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 317 or HST 294 (American Conservatism) or POS 317 OR Visiting University Student |
| HST | 318 | History of Engineering | The history of engineering from the earliest record to modern times, examining the social, cultural, and economic effects on society. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or SB) & G | Prerequisite(s): ENG 102, 105, 108, or 112 with C or better; minimum 45 hours OR Visiting University Student |
| HST | 319 | History of Aviation | The history of aviation, focusing on technical, political, economic, social and cultural aspects. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only HST 319 or HST 306 (Aviation History) OR Visiting University Student |
| HST | 320 | U.S. Urban History since 1850 | History of the city in American life from the mid-19th century to the present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 321 | Constitutional History/US to 1865 | Origin and development of the American constitutional system from colonial period through the Civil War. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 322 | Constitutional History of the United States Since 1865 | Development of the U.S. constitutional system from Reconstruction to the present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | H | |
| HST | 323 | Historical Studies in Race, Crime, and the Law | Studies the historical relationship between the criminal justice system in the United States and a segment of society that has traditionally faced official and unofficial discrimination: American racial minorities. Focuses on the experiences of Mexican Americans and Africans Americans with the criminal justice system. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 101 with C or better; ENG 102 with C or better; Credit is allowed for only AFR 335 or HST 323 or TCL 335 OR Visiting University Student |
| HST | 324 | Food in Latin America | Uses food as a critical lens for studying Latin American culture and history and looks at how the evolution of human development, and especially the food that we eat, is influenced by social, political and economic context. Studies the production and commodification of food in Latin America, and its globalization. Also covers how Latin American cuisine sheds light on the formation of cultural identity and perceptions of nationalism. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 305 (Food) or HST 324 or LAS 324 OR Visiting University Student |
| HST | 325 | Immigration and Ethnicity in the United States | Origins, historical development, and future of a multiethnic society, 1492 to 2050. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 326 | The Global History of the Trans-Atlantic Slave Trade | Reading- and writing-intensive course that employs critical thought to look at the origins, development, abolition, and impact of Atlantic slave trade as a global economic enterprise and great human tragedy; slavery experience. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): AFR 200 or HST 109 or minimum 45 hours; Credit is allowed for only AFR 305 (or AFH 305) or HST 326 OR Visiting University Student |
| HST | 327 | Women in U.S. History, 1600 to 1880 | Historical discussion of American women of diverse racial, religious, and ethnic groups and classes; focuses on changing definitions of women's roles. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & C & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 328 | Women in U.S. History, 1880-1980 | Historical discussion of American women of diverse racial, religious, and ethnic groups and classes; focuses on changing definitions of women's roles. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & C & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 329 | Women in 20th-Century U.S. West | Nuanced exploration of how women of various cultures have contended for and shaped the U.S. West, including the West of imagination. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | H & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 330 | Historical Thinking | Advanced examination of the ways historians ask questions and propose answers. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 130 or HST 330 OR Visiting University Student |
| HST | 331 | Mexican American History to 1900 | Mexican American history from pre-Hispanic origins to frontier journeys north through 19th-century life in the U.S. Southwest. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H & C | Prerequisite(s): ENG 102, 105 or 108 with a C or better; minimum 30 hours; Credit is allowed for only HST 331 or TCL 331 OR Visiting University Student |
| HST | 332 | Mexican American History Since 1900 | Traces the formation of Mexican American communities across the rural and urban U.S. and examines 20th-century immigration from Mexico. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H & C | Prerequisite(s): ENG 102, 105 or 108 with a C or better; minimum 30 hours; Credit is allowed for only HST 332 or TCL 332 OR Visiting University Student |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--|---|-------|---------------------|---|
| HST | 333 | African American History to 1865 | In-depth examination of African Americans' roles in American history, thought, and culture from slavery to 1865. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only AFR 363 or HST 333 OR Visiting University Student |
| HST | 334 | African American History Since 1865 | In-depth examination of African Americans' role in American history, thought, and culture from 1865 to present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & C & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only AFR 364 or HST 334 OR Visiting University Student |
| HST | 335 | History of Black Women in America | Advanced examination of the challenges that black women have faced historically in America and how they have responded to those challenges socially, politically, economically, and culturally. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): AFR 200, WST 100, WST 300, or minimum 45 hours; Credit is allowed for only AFR 302 or HST 335 or WST 302 OR Visiting University Student |
| HST | 336 | Islamic Civilization | Global historical survey of Islamic cultures and societies up to the modern period. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only HST 336 or REL 365 OR Visiting University Student |
| HST | 337 | American Indian History to 1900 | Cultural, economic, political, and social continuity and change of American Indian communities to 1900. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & C & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 338 | American Indian History since 1900 | Cultural, economic, political, and social continuity and change of American Indian communities from 1900 to the present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & C & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 339 | Islam in the Modern World | Examines the worldwide transformations of Islamic religion, cultures, and societies in the modern period. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only HST 339 or REL 366 OR Visiting University Student |
| HST | 340 | American Military History | Studies the role of the military in American life during war and peace from colonial times to the present day. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 341 | U.S. West 19th Century | Social, political, and economic development of the trans-Mississippi West, beginning with the Louisiana Purchase and ending in 1900. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105 or 108 with a C or better; minimum 30 hours; Credit is allowed for only HST 341 or HIS 320 |
| HST | 342 | U.S. West 20th Century | Role of the western states in U.S. history since 1890 emphasizing politics, the environment, industry and labor, and ethnic minorities. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 343 | American Southwest | Development of the region from 1848 to the present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or SB) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 344 | Arizona | Emergence of the state from early times to the present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 30 hours |
| HST | 345 | Environmental History | Examines the interaction between humans and the natural world in the United States from the late 19th century to the present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L | Prerequisite(s): ENG 102, 105, 108, or 112 with C or better OR Visiting University Student |
| HST | 346 | Ancient Greece II: Late Classical and Hellenistic Period | Traces the transformation of the Greek world between the end of the Peloponnesian War (404 B.C.) and the absorption of the last major Greek state by growing power of Rome (30 B.C.), with special attention to how Greeks in this period lived and thought and how the period's political and economic changes helped to create new forms of culture. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only GRK 346 or HST 346 or SLC 346 |
| HST | 347 | Ancient Greece I: Bronze Age through the Peloponnesian War | Traces Greek History from its prehistoric beginnings through the Peloponnesian War (431-404 B.C.), with a special focus on the Archaic (ca. 800-480 B.C.) and Early Classical periods. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only GRK 347 or HST 347 or SLC 345 OR Visiting University Student |
| HST | 348 | Rome | History and civilization of Rome from the beginning of the Republic to the end of the Empire. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 349 | Early Middle Ages | Political, socioeconomic, and cultural developments of Western Europe from the 5th through 10th centuries. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 350 | Later Middle Ages | Political, socioeconomic, and cultural developments of Western Europe from the 11th through 15th centuries. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 351 | Renaissance Europe | Culture of the Renaissance in Italy and Northern Europe from the 14th to the early 16th centuries. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU or SB) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |

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| HST | 352 | Europe's Reformations | Causes and implications of the major Protestant, Catholic, and Radical religious reformations in 16th- and 17th-century Europe. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU or SB) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 353 | Old Regime in Europe | Society and culture of Europe during the 17th and 18th centuries. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 354 | Revolutionary Europe | Political, social, economic, and intellectual currents in Europe from the French through the Russian Revolutions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 355 | Total War and the Crisis of Modernity | Forces of change and instability in early 20th-century Europe. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 356 | Europe since 1945 | Europe in its world setting since World War II, emphasizing major political and social issues from 1945 to the present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 357 | Historical Perspectives on Philosophy and Religion | Comprehensive, advanced study of central concepts in the philosophy of religion in the history of Western philosophy. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105 or ENG 108 with C or better; minimum 30 hours; Credit is allowed for only HST 357 or PHI 391 or REL 391 |
| HST | 358 | Jewish History from Antiquity to 1492 | Continuity and change in political, legal, economic and sociocultural history of the Jews from ancient through medieval times. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 359 | Jewish History from 1492 to 1948 | Jewish history from early modern through modern times, highlighting emancipation, enlightenment, and Jewish responses to modernity. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 360 | The Crusades: Religion & Conflict in the Middle Ages | Examines the origins, the development, and the outcomes of the movement that we call "crusades" by connecting the military aspect of the crusades to broader developments. Focuses primarily, but not exclusively, on the period 1095-1453. Geographically covers chiefly the Mediterranean, and, to a lesser extent, northeastern Europe. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105 or 108 with a C or better; minimum 30 hours; Credit is allowed for only HST 360 or HST 394 (Crusades in the Middle Ages) OR Visiting University Student |
| HST | 361 | Witchcraft and Heresy in Europe | Background, origins, and development of the Inquisition; persecution of women and marginal groups. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & H | Prerequisite(s): ENG 102, 105 or 108 with a C or better; minimum 30 hours; Credit is allowed for only HST 361 or REL 374 OR Visiting University Student |
| HST | 362 | Sex and Society in Classical and Medieval Europe | Family life, sex roles, and marriage, and their relationship to political, economic, and religious change in classical and medieval Europe. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 363 | Sex and Society in Early Modern Europe | Family life, sex roles, and marriage and their relationship to political, economic, and religious change in early modern Europe. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 364 | Sex and Society in Modern Europe | Family life, sex roles, and marriage, and their relationship to political, economic, and social changes in modern Europe. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or SB) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 365 | World Wars I and II: Europe's Eastern Front | In-depth study of the history of the Eastern Front in Europe in the two world wars. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, ENG 105 or ENG 108 with C or better; Minimum 30 hours; Credit is allowed for only HST 365 or HST 394 (WWI and WWII Eastern Front) |
| HST | 366 | England to 1689 | In-depth examination of the political, economic, and social development of the English people to the late 17th century. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 367 | Modern Britain | In-depth examination of the political, economic, and social development in Britain from 17th century to the present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 368 | Culture and Imagination in European History | Topics in European cultural and intellectual history. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 369 | History and Memory of the Holocaust | In-depth study of the history of the genocide of Jews, the rise of modern antisemitism within the context of Nazi Germany, and the memory and memorialization of the Holocaust post 1945. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 369 or JST 369 or REL 312 or HST 304 (Shoah: History, Memory, and Representation) or HST 394 (History of the Holocaust) |
| HST | 370 | Eastern Europe in Transition | Democratization, privatization, and identity transformations since the fall of communism in contemporary Eastern Europe and the former Soviet Union. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |

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| HST | 371 | Language Hegemony and Culture | Historical and cultural analysis of language and the ideological constructs imposed upon resident populations in the Southwest North American region since 1540. Analyzes the suppositions, ideologies, premises and mechanisms by which Spanish and English became imposed among Native peoples and later national populations of Mexicans during the 19th century and continuing with their descendants and migrating populations crossing the bifurcated border. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 371 or HST 371 or SLC 371 or SPA 371 or TCL 371 or ASB/HST/SLC/SPA/TCL 394 (Language Hegemony & Culture in SW North America) |
| HST | 372 | Modern Middle East | In-depth examination of the effect of the West and modernization on Middle Eastern governments, religion, and society in the 19th and 20th centuries. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): minimum 24 hours OR Visiting University Student |
| HST | 373 | Roman History I: Foundations and Republic | Traces the growth of Roman power from Rome's humble beginnings in the eighth century B.C. to its domination of the Mediterranean and the transformation of the Roman Republic into the Roman Empire after the Battle of Actium (31 B.C.). | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 373 or LAT 373 or SLC 373 |
| HST | 374 | Roman History II: The Roman Empire | The Roman Empire from the reign of the first emperor, Augustus (27 B.C.-A.D. 14), to that of Justinian (A.D. 527-565), focusing on the lives of the Roman emperors, the society and culture of the empire, and the profound changes that eventually contributed to the empire's collapse. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 374 or LAT 374 or SLC 374 |
| HST | 375 | Colonial Latin America | Ancient civilization, exploration and conquerors, and colonial institutions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 375 or LAS 375 |
| HST | 376 | Modern Latin America | In-depth examination of the development of independent Latin American republics since 1821. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 376 or LAS 376 OR Visiting University Student |
| HST | 377 | Sports in United States History | Focuses on major themes in American sports history, organized topically around fall sports. Themes encourage students to think critically about relationships among sport and society, identity, community, media, capitalism and education. Lectures, discussions, readings and films explore race, gender, class and sexuality as categories of analysis, and the role of sport in constructing ideas about the body along gender and racial lines. Also highlights social justice issues in sport as well as athlete activism throughout the twentieth century. Explores the ways in which the participation of Black, Latino/a and Native American athletes has both mirrored and diverged from Black, Latino/a and Native American citizens' participation in society throughout United States history. Also studies the process through which the equal opportunity to participate in school sports became defined as a civil right and, more recently, a human right. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 378 | Poverty, Inequality and Social Justice in Latin America | With persistently high levels of poverty and inequality, Latin America is often considered the most unequal region in the world. This course explores the economic, political, social and geographic origins of poverty and inequality in Latin American countries since independence. It also studies efforts to address the problem by governments, non-governmental organizations, the international community, religious groups and activists. Explores these themes in more detail through a case study of one Latin American country and a global intensive experience at the end of the course. By reflecting on the Latin American experience, students gain insights for wealthy countries like the United States where inequality is on the rise. | N | LEC | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only HST 378 or JHR 378 or JUS 378 or LAS 378 OR Visiting University Student |
| HST | 379 | History of College Sports | Student-controlled intercollegiate contests quickly transformed into big-time college sports by the early twentieth century, revolutionizing the sports industry in the United States as well as the landscape of higher education. The American college sports enterprise is unique; nowhere else in the world does a large, amateur, revenue-generating system of school sports exist. After an exploration of the origins of intercollegiate athletics and the creation of the modern National Collegiate Athletic Association, topics include integration, women's intercollegiate athletics, the big business of amateurism, and scandal. Video lectures, readings and films introduce students to these often controversial topics, grounding them in the historical record. Many of the current debates concerning college sports have been taking place for more than a century. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 379 or HST 306 (History of College Sports) |
| HST | 380 | Studies in the History of Science | Major themes in the history of science with varying topics. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |

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| HST | 381 | Studies in the History of Ideas | Major themes in the history of ideas with varying topics. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 382 | Studies in the History of Innovation and Technology | Studies the development and impact of innovation processes and technology on society, culture, and environment throughout history. Specific themes and topics vary. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 383 | China | Political, economic, social, and cultural history of the Chinese people from early times to the 17th century. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 30 hours; Credit is allowed for only CHI 333, HST 383 or SLC 333 |
| HST | 384 | Modern China: 1700 to the Present | Political, economic, social, and cultural history of the Chinese people from the 17th century to the present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 384 or SLC 334 OR Visiting University Student |
| HST | 386 | Interpreting China's Classics | Study of selected Confucian and/or Taoist classics and ways they have been read in both Asian and Western scholarship. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 30 hours; Credit is allowed for only CHI 336, HST 386 or SLC 336 |
| HST | 387 | Japan | Political, economic, social, and cultural history of the Japanese people from early times to the 17th century. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or SB) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 388 | Japan | Political, economic, social, and cultural history of the Japanese people from the 17th century to the present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 389 | Japan Society and Values/Premod | Effects of economic and social transitions on personal and social values as reflected in the dramatizations of contemporary events. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 390 | Jewish Philosophy | The history of Jewish philosophy from its origins in the Hebrew Scriptures to postmodern expressions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105 or 108 with a C or better; Minimum 30 hours; Credit is allowed for only HST 390, JST 314, PHI 390 or REL 314 |
| HST | 391 | Modern Southeast Asia | Vietnam, Laos, Cambodia, Thailand, Burma, Malaysia, Singapore, Brunei, Indonesia, and Philippines since 1750: imperialism, revolution, and independence. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Pre-requisite(s): ENG 102, 105 or 108 with a C or better; Minimum 30 hours; Credit is allowed for only HST 391 or SGS 381 |
| HST | 392 | Modern India | In-depth study of modern India and its neighboring countries from the 18th century to the present. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 392 or HST 303 (Modern South Asia) or HST 394 (Modern South Asia) |
| HST | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 395 | Combat in Film | Interdisciplinary approach to and qualitative method for analyzing war movies and military dramas as both historical and cinematic narratives that represent the experiences of infantry marines and soldiers in 20th- and 21st-century U.S. wars. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 394 (Combat in Film) or ENG 395 or FMP 395 or HST 306 (Combat in Film) or HST 395 or VTS 395 OR Visiting University Student |
| HST | 397 | Greece and Rome at War | Familiarizes students with the major battles, leaders and tactics of Classical Greece and Rome. Supplements lectures with student participation including study of original sources, group presentations, and gaming battle simulations. This multifaceted approach gives a greater sense of the evolution of the leaders, armies and tactical systems of the Greeks and Romans. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only GRK 360, HST 397, LAT 360, SLC 360 or SLC 394 (Greece and Rome at War) |
| HST | 404 | Conquest and Encounters in Colonial Latin America | How did Hernan Cortés and Francisco Pizarro defeat the Aztec and Inca Empires? Despite numeric inferiority, limited provisions, and little knowledge about the Americas, Cortés and Pizarro defeated advanced civilizations that had experienced warriors and millions of inhabitants. Possible explanations include the conquistador's valor, advanced weaponry, superior military strategy, Indian allies, and biological attacks. In their encounters with native peoples of the Americas, Europeans were not always conquerors. Álvaro Núñez Cabeza de Vaca and Lope de Aguirre failed both in their attempt to conquer a large Indian civilization and in their effort to find mineral wealth. A few Europeans such as Bartolomé de Las Casas spoke out against the abuses committed against the Indians during the conquest. Explores these issues from the perspective of both Europeans and native peoples and looks at the long-term impact for Latin America and its peoples. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours; Credit is allowed for only HST 404 or LAS 404 OR Visiting University Student |

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| HST | 405 | Colonial American History to 1763 | Political, economic, social, and cultural history of the colonial era. Concentrates on English colonies, with some consideration of Spanish, French, and other colonial regions in North America. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; Minimum 55 hours |
| HST | 406 | American Revolution/1763-1789 | Causes, course, and consequences of the American Revolution culminating in the ratification of the Constitution. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 407 | Early U.S. Republic/1789-1850 | Political, social, economic, and cultural development of the United States from the Revolution to 1850. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or SB) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours OR Visiting University Student |
| HST | 408 | Civil War and Reconstruction | Explores the causes, conduct, and consequences of the American Civil War, concentrating on the years 1848 to 1877. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or SB) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours OR Visiting University Student |
| HST | 409 | Emergence Modern U.S. 1877-1918 | Triumph of modern political, social, and economic structures and values, 1877-1918; role of region, religion, race, and ethnicity. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 412 | Contemporary U.S., 1973- Present | End of the Cold War, political crises, and cultural transformations in the U.S. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 413 | Contemporary America | The United States from 1945 to the present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or SB) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours OR Visiting University Student |
| HST | 414 | Political History and Leadership | Research seminar in political values and leadership. Combines lecture, readings and guest lectures by leaders in business, public affairs and the media. Culminates in a substantial written research effort. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours; Credit is allowed for only HST 414 or POS 414 |
| HST | 419 | 20th Century Chicano/a History | Historical development of the Chicano community in the 20th century. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only HST 419 or LAS 419 |
| HST | 423 | The Tudor Monarchy | Political, cultural, and social foundations of 16th-century England. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 424 | The Stuart Monarchy | Political, social, economic, and cultural developments in 17th-century England. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 426 | The British Empire | British imperialism and colonialism in Africa, the Americas, Asia, and the South Pacific. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 427 | French Revolution/Napoleonic Era | Conditions in Pre-Revolutionary and Revolutionary France; organization of France under Napoleon and impact of French changes upon Europe. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 429 | Modern Germany | Germany since 1871. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 430 | The Ottoman Empire in the Classical Period | Focuses on the largest and most powerful Islamic polity from the late Middle Ages until the early twentieth century: its formation, institutions, social and cultural life, and its multifaceted impact on Europe and the Near East. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102 or 105 or 108 with C or better; minimum 55 hours; Credit is allowed for only HST 430 or HST 495 (The Ottoman Empire in the Classical Period) or HST 498 (The Ottoman Empire in the Classical Period) |
| HST | 432 | Eastern Europe the Balkans, 20th Century | Politics and culture in Eastern Europe and the Balkans from World War I to the present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 435 | The Russian Empire | Development of Russian imperial institutions and civil society from the 17th to the early 20th centuries. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 436 | Rise & Fall of Soviet Communism | In-depth study of Communist revolutionaries' rule of Russia, focusing on utopian culture, Stalinist terror, heroism in war, and the breakup of the former Soviet Union. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours OR Visiting University Student |
| HST | 438 | Modern Spain | Cultural, economic, political, and social development of modern Spain. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |

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| HST | 439 | Athenian Democracy | Discussion-based seminar familiarizes participants with the origins, characteristic institutions and political ideology of the Athenian democracy of the 5th and 4th centuries BCE. Engages selected topics in the study of Athenian democracy and gives participants an idea of the substance of contemporary debates within scholarship. Topics will include: The origins of the Athenian democracy; women, slaves, and other subordinate social groups within the democracy; elite critique of democratic ideology and episodes of outright civil war; leaders and masses; the role of the court system within the democracy; democracy and the Athenian empire; and violence in Athenian society. The goal of the course, in addition to a greater familiarity with the Athenian democracy, will be a research paper with a well-chosen topic and a distinctive thesis. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | H | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| HST | 441 | Latin America and the World Economy | Globalization did not begin in the late twentieth century, but rather global trade has linked Latin America with the rest of the world for over five hundred years. The region has been an active and important participant in the world economy since Columbus's first voyage in 1492. This course explores the social, cultural, economic, and environmental impact of such participation on both Latin America and the rest of the world. It is organized both chronologically and thematically. We will study both colonial and post-colonial trade. The commodities studied include sugar, rubber, bananas, and cocaine. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L & G & H | Prerequisite(s): ENG 101, 105 or 107 with C or better; minimum 45 hours; Credit is allowed for only HST 441 or JHR 441 or LAS 441 OR Visiting University Student |
| HST | 443 | The United States and Latin America | Latin American struggle for diplomatic recognition, attempts at political union, participation in international organizations since 1810, and relations between the United States and Latin America. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 444 | Latin American Independence | History of independence movements throughout the Western hemisphere from the late 18th century until the mid-19th century. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, 108, or 112 with C or better; minimum 55 hours |
| HST | 445 | 20th-Century Cuba | History of Cuba from colonial era to formation of the early republic; political, economic, social development in late 20th century. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 447 | Modern Mexico | In-depth examination of political, economic, social, and cultural developments in Mexico from 1810 to the present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105 or 108 with a C or better; minimum 55 hours; Credit is allowed for only HIS 423 or HST 447 |
| HST | 448 | Mexican/U.S. Border | Analyzes the evolution of the Mexican/U.S. border region from the mid-19th century to the present. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 449 | Mexican Immigration to the U.S. | Assesses the evolution of immigration and emigration public policy since the mid-19th century. Seeks to contextualize the relationship between immigration and other elemental nation-state issues as the economy, education, identify, and civil rights. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | (L or SB) & H & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 451 | Chinese Cultural History I | China's classics in translation studied both for their intrinsic ideas and for the origins of Chinese thought. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 55 hours; Credit is allowed for only CHI 451, HST 451 or SLC 451 |
| HST | 452 | Chinese Cultural History II | Evolution of Confucian thought, its synthesis with Taoism and Buddhism, and modern reactions against, and uses of, Confucian traditions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 55 hours; Credit is allowed for only CHI 452 or HST 452 or SLC 452 |
| HST | 454 | History of Genocide | Examines the individuals and institutions responsible for the most infamous episodes of state-sanctioned violence in the 20th century. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only FOR 454 or HST 454 or REL 454 OR Visiting University Student |
| HST | 456 | The Vietnam War | Intersection of American and Asian histories in Vietnam, viewed from as many sides as possible. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours OR Visiting University Student |
| HST | 459 | Gandhi and the Politics of Nonviolence | In-depth study of Gandhi and the Ghandian political philosophy and practice of nonviolence. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102 (or ENG 105 or 108) with C or better; minimum 55 hours. Credit is allowed for only HST 459 or HST 498, Gandhi: Politics of Non-Violence |

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| HST | 460 | World War II | Explores the causes, conduct and consequences of World War II. When did World War II start? How was it fought, and what did that mean for soldiers, the homefront and millions of civilians in Japanese or German occupied regions? What did the world that emerged in its wake look like? The course explores these fundamental questions with an emphasis on multiple explanations of the causes of the war in Asia and Europe and the contingency of Allied victory. Explores the war as both a total and a global war in which perceptions of race, class and gender shaped the experience of combatants and noncombatants, many of whom died in indiscriminate bombing campaigns. Racial ideologies also led to the brutalization of soldiers, which in turn fueled the violence against civilians, as exemplified by the Holocaust and Japanese war crimes. Finally, the course turns to the global order emerging after the war and the different narratives that emerged from it. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only HST 460 or HST 494 (Introduction to World War II Studies) or HST 494 (World War II Studies) or JST 460 or WWS 460 OR Visiting University Student |
| HST | 465 | Women in Europe, 1750 to Present | European women's diverse religious, ethnic, national, and economic roles in society, culture, and politics, 1750 to the present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & H | Prerequisite(s): ENG 102, 105, 108 with C or better; minimum 55 hours |
| HST | 480 | Methods of Teaching History: Classroom Resources | Methods in instruction, organization, and presentation of the subject matter of history and closely allied fields. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): admission to Professional Teacher Preparation Program; ENG 102, 105, or 108 with C or better; minimum 55 hours; Credit is allowed for only HST 480 or HST 530 |
| HST | 481 | Methods of Teaching History: Community Resources | Identify community-based resources for teaching history, work with resources, and learn how to integrate them into the secondary classroom. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): HST 480 or SED 480 with C or better; admission to Professional Teacher Preparation Program |
| HST | 482 | Writing and the History of Science, Ideas and Technology | Writing-intensive course examines intersections between texts and major themes in the history of science and technology. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | |
| HST | 485 | History in the Wild | History outside of conventional academic texts and purposes. Students craft historical narratives in ways that engage an audience beyond the professor, present information in forms other than (but not excluding) writing, and identify and use sources found outside of archives. | Y | LEC | Y | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours OR Visiting University Student |
| HST | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| HST | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better; HST 300 or 495 with C or better |
| HST | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours OR Visiting University Student |
| HST | 495 | Methods of Historical Inquiry | Capstone course in history as an academic discipline, including formulation of research questions, use of primary and secondary sources to evaluate, form and support historical arguments. Students draft and revise a scholarly research paper. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L | Prerequisite(s): History or History of Science, Ideas and Innovation or Jewish Studies or Secondary Education (History) major; ENG 102, 105, or 108 with C or better; min 55 hrs; Credit for only HST 300 or HST 495 or JST 490 OR Visiting University Student |
| HST | 496 | South, Southeast, and East Asia in the Global Matrix | In this capstone seminar, majors in Asia Studies take up broad comparative themes, integrating knowledge from the major's three tracks (East, South, and Southeast Asia) and executing a research project culminating in a major paper. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Asia Studies major (East Asia, South Asia, or Southeast Asia) or History major with Asia concentration; minimum 55 hours |
| HST | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-3 | | |
| HST | 502 | Public History Methodology | Introduces historical research methodologies, techniques, and strategies used by public historians. Readings, short papers, and guest speakers. Required for students in the public history concentration. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): History MA or PHD student |

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| HST | 504 | Digital Humanities: Critical Theory and Methods | Digital technologies are now intricately woven into our lives--whether it's in terms of authoring a paper in a text editor, sending texts and emails, or doing data analysis. Popular narratives of the "big" and the "new" celebrate and sometimes bemoan the ways that these tools shape our communication, access to information, habits and even our physical bodies. Focuses on the histories of these technologies, their operations, popular conceptions about such tools, and their affordances and limits for humanities scholarship. Students learn how to leverage digital technologies, but also how to critically read them. Broad ranging; in addition to surveying the "big tent," students are encouraged to utilize their final projects to engage with specific disciplinary digital tools and methods relevant to their scholarly work. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CDH 501 or HST 504 or REL 504 |
| HST | 515 | Studies in Historiography | Methods and theories of writers of history. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Pre-requisite: History MA or PHD student |
| HST | 520 | Masters of Nonfiction | Students read and critically discuss works by well-known nonfiction writers to improve their own writing skills. Consists of weekly writing exercises, reviewed with workshop-style discussions centered on individual authors, themes or genres such as history, journalism, personal essays, biography, character profiles, travelogues, book reviews and op/ed commentary. | N | LEC | Y | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HPS 520 or HSD 520 or HST 520 |
| HST | 525 | Historical Resource Management | Identification, documentation, and interpretation of historic period buildings, sites, and districts. Emphasizes interdisciplinary efforts among historians, architects, and anthropologists. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Pre-requisite: History MA or PHD student |
| HST | 527 | Historical Administration | Preparation of historians in administration of archives and historical sites, museums, societies, and offices in government agencies. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Pre-requisite: History MA or PHD student |
| HST | 532 | Community History | Techniques and methods of community history emphasizing local resources. Required for community history option. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Pre-requisite: History MA or PHD student |
| HST | 573 | Museum Administration | Formal organization and management of museums, governance, personnel matters, fund raising and grantsmanship, legal and ethical issues. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASB 573 or HST 573 |
| HST | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HST | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Pre-requisite: History MA or PHD student |
| HST | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HST | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HST | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HST | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1 | | Pre-requisite: History MA or PHD student |
| HST | 597 | Capstone | Allows students to build a culminating experience that reflects the breadth and depth of their MA experience and to articulate the value of the degree to potential employers or admissions committee members. | N | LEL | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): HST 502, 641, 642, or 643; HST 591; HST 640; 24 graduate hours |
| HST | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HST | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Pre-requisite: History MA or PHD student |

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| HST | 640 | Historical Methods | Core readings course engages key historical monographs focused on historical methods. Provides core content knowledge and an understanding of debates and trends in the field. Provides a basic understanding of existing literature in the field. Develops ability to analyze historical methods and develop scholarly historical arguments. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): History MA or PhD student; Credit is allowed for only HST 640 or HST 500 (Historical Methodology) |
| HST | 641 | North American History | Core readings course engages key historical monographs focused on historical methods. Provides core content knowledge and an understanding of debates and trends in the field. Provides a basic understanding of existing literature in the field. Develops ability to analyze historical methods and develop scholarly historical arguments. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): History MA or PhD student; Credit is allowed for only HST 641 or HST 598 (US to 1877) |
| HST | 643 | Global History | Core readings course engages key historical monographs focused on global history. Provides core content knowledge and an understanding of debates and trends in the field. Provides a basic understanding of existing literature in the field. Develops ability to analyze historical methods and develop scholarly historical arguments. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): History MA or PhD student; Credit is allowed for only HST 643 or HST 598 (World and Global History) |
| HST | 644 | Area Studies in History | Core readings course engages key historical monographs focused on a geographic or thematic area of study. Topic varies by semester. Provides core content knowledge and an understanding of debates and trends in the field. Provides an understanding of existing literature in the field. Develops ability to analyze historical methods and develop scholarly historical arguments. | Y | LEC | Y | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): History MA or PhD student; Credit is allowed for only HST 644 or HST 598 (European Core I: Pre-Modern Europe) or HST 598 (Medieval and Early Modern Europe) or HST 598 (Pre-Modern Europe and the World) |
| HST | 682 | Advanced Research Skill | Designed for students who are demonstrating a non-linguistic skill such as: quantitative methods of analysis, geographic information system mapping, documentary editing, training in archival management, oral history interview techniques and historic preservation, or interdisciplinary training in fields relevant to the student's research interests such as geography, anthropology, sociology, political science or public administration, literature, ethnic studies, women's studies, ecology. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1 | | Prerequisite(s): History MA or PhD student; Credit is allowed for only HST 682 or HST 692 (Documentary Editing Advanced Research) |
| HST | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HST | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Pre-requisite: History MA or PHD student |
| HST | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Pre-requisite: History MA or PHD student |
| HST | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HST | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Pre-requisite: History MA or PHD student |
| HST | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-15 | | Pre-requisite: History MA or PHD student |
| HST | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1 | | Pre-requisite: History MA or PHD student |
| HST | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-15 | | Pre-requisite: History MA or PHD student |
| HUL | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 0.25-4 | | |

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| HUL | 250 | Introduction to Interdisciplinary Research | Introduces undergraduate students to transdisciplinary and interdisciplinary academic inquiry so that they may expand their understanding of and capacity to tackle the grand social challenges facing the world today. Equips students to engage in the interdisciplinary and intergenerational collaborative inquiry through the pedagogy of the Humanities Lab, which explores and seeks to address those grand social challenges. | N | LEL | N | GNA | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU or SB | |
| HUL | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| HUL | 300 | Humanities Lab: Engaged | Labs critically engage with grand social challenges using a collaborative, interdisciplinary and hands-on inquiry process. Student-faculty teams design and conduct original investigations and then develop a means to publicly share the proposed solutions based on their work. | N | LAB | Y | GNA | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| HUL | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| HUL | 400 | Humanities Lab: Immersive | Labs critically engage with grand social challenges using a collaborative, interdisciplinary and hands-on inquiry process. Undergraduate and graduate student, faculty and outside collaborators work together as an intergenerational team to design and conduct original investigations. The teams then synthesize their work, respond to review feedback, and develop a means to publicly share their proposed solution(s) based on their work. | N | LAB | Y | GNA | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| HUL | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| HUL | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| HUL | 549 | Humanities Lab: Transformative | Labs critically engage with grand social challenges using a collaborative, interdisciplinary and hands-on inquiry process. Undergraduate and graduate students, faculty and outside collaborators work together as an intergenerational team to design and conduct original investigations with graduate students closely mentoring undergraduate students. The teams synthesize their work, respond to review feedback, and develop a means to publicly share their proposed solution(s) based on their work. | N | LAB | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HUL | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | IND | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HUL | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| HUL | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| HUL | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | IND | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAL | 501 | Principles of Character-Driven Leadership | Provides the core concepts of character-driven leadership defined as the commitment to do the right thing, the right way for the right reasons. Focuses on values; individual, organizational and national, along with ethics; culminating with a clear understanding of leadership. Led by a former U.S. Army, Lieutenant General with leadership experience of over 36 years in the Army and 6 years in higher education. Explores the "leader in me" by examining the values that they embrace and the causes that they believe in, along with understanding "the environment I lead in" and the criticality of comprehending where they lead and who they lead. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| IAL | 502 | The Making of U.S. National Security Policy | Core requirement for the master's degree in International Affairs and Leadership. Takes students through the realistic process of developing and implementing U.S. national security policy. Presented by a former senior national security professional, outlines the origins and current structure of America's national security architecture. Using actual policy decisions, students exercise the process of analysis, decision making and translating into action, elements of the country's national security agenda. Also includes intensive analysis of the intent and outcome of such critical policy decisions and the leadership exercised by the participating decision makers. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAL | 503 | Applied International Leadership: Case Studies | Builds on the theoretical and practical foundation of leadership development conveyed in previous course work. During the semester, students engage with faculty and with each other in multiple in-depth applied leadership scenarios, examining various aspects of leadership in international settings. The semester culminates in individual student presentations analyzing a complex international leadership challenge. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; IAL 501 |
| IAL | 504 | U.S. Diplomacy in Action: The Embassy Country Team | Led by a former U.S. Ambassador, students constitute a U.S. Embassy Country Team for a specific country and manage a reality-based diplomatic agenda. Students are assigned the actual roles of Embassy team members, and together with their "Ambassador," Students practice how U.S. foreign policy is developed and executed in the field. Through readings, case studies and insights of outside foreign policy experts and U.S. Foreign Service Officers, students are challenged to understand current bilateral policies and relations between the United States and the country assigned for the course. Students also develop new, creative programs for the future that promote U.S. interests and also improve the understanding between the people of the country and the United States. Case studies and class simulation exercises of policy making and program management help students understand good and bad character-driven decisions and leadership. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAL | 505 | Key Issues in Today's Global Economy | Projects forward what the economic and business environment will offer to graduates of the IAL master's program as they enter the job market. "Character-driven leadership" course content prepares students for success in their chosen career field. Led by a former U.S. Ambassador with extensive experience in economic and commercial diplomacy as well and private sector international business for and over 30 years. Through readings, case studies and insights of economic and business leaders, challenges students to consider not only possible future trends that offer growth and opportunities, but also economic and business developments that threaten setbacks, insecurity and failures. Case studies and class simulation exercises of policy making inform students of good and bad character-driven decisions and leadership in the business and policy world. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAL | 508 | Transatlantic Relations: Does Europe Still Matter? | Presents IAL students with a brief review of the rich history of the development of the Atlantic Alliance since the end of World War II, the end of the Cold War, and cooperation since the tragedy of the attacks on 9/11. But most importantly, this course projects forward what direction the U.S. and Europe are moving in the future. Challenges students to analyze and consider "over the horizon" trends and opportunities, but also the risks of conflict and how to mitigate and solve challenges. Case studies present "character-driven leadership" by U.S. and European leaders as they manage issues of cooperation and competition. Through readings, case studies and insights of European leaders, U.S. and European academic experts, and practitioners in government, business and Non-Governmental Organizations (NGOs), students develop their own policy proposals. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAL | 509 | Western Hemisphere: Good Neighbors, Tough Challenges | Elective course toward the MA in International Affairs and Leadership. Explores the opportunities and challenges facing the United States in its relationships with its regional neighbors, including Canada, Mexico, Central America, the Caribbean and South America. The lectures and readings consider how the region's social, cultural and economic history shapes its relations with the U.S. and the rest of the world. In a series of papers, students analyze how U.S. interests in the region can be best articulated in light of these factors. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
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| IAL | 511 | Human Rights and Real Politik | Elective course for the master's degree in International Affairs and Leadership. With a heavily discussion-based format, explores the origins of the human rights movement, watershed moments, and contemplates what may be next. Based on the foundation that respecting human rights is not simply the right moral choice, but one that has economic and national security implications: that the world is more prosperous and more secure when freedom and rights are universally afforded. Also addresses contemporary human rights crises, particularly from a leadership standpoint. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAL | 512 | Setting the Global Counterterrorism Agenda | Elective for the master's degree in International Affairs and Leadership. Analyzes, discusses and proposes tactics and strategies for countering global terrorism, mainly, but not exclusively from the U.S. perspective. Presented by a former senior U.S. government counter-terrorism professional, focuses on U.S. counter-terrorism strategy against Middle East terrorism since 9/11. On hand of actual policy decisions, students exercise the process of decision making and translating into action, elements of the U.S. counter-terrorism agenda in partnership with allies and even adversaries. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAL | 514 | Transnational Challenges: Combatting Human Trafficking | Offers a practical, global, interdisciplinary examination of the many issues surrounding human trafficking and modern slavery. Includes an overview of the legal perspectives on human trafficking, as well as various perspectives and alternative approaches to addressing modern day slavery. Discusses the roles of government, investors and consumers in detail, providing students the opportunity to explore diverse methods in understanding the complexity of human trafficking and modern slavery. Through class discussions and writing assignments, challenges students to critically think about methods for combatting the multitude of factors that contribute to human trafficking and modern slavery. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAL | 560 | Capstone | Serves as the culminating experience for the MA in International Affairs and Leadership. Each student prepares a comprehensive presentation capturing the knowledge and insights gained during the degree program, focused on a specific international affairs leadership challenge. A 45-minute oral presentation must show analytical rigor and defend a tangible strategic plan for achieving impact and positive change. The oral presentation must be accompanied by written back-up material that fully substantiates and defends the student's policy analysis and proposal for action. The presentation is followed by a 45-minute Q&A session led by the course instructor joined by a panel of international experts, who engage the student and critique the presentation. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAL | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAL | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | Prerequisite(s): International Affairs and Leadership MA student |
| IAL | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | Prerequisite(s): International Affairs and Leadership MA student |
| IAL | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | RSC | Y | Z3 | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1 | | Prerequisite(s): International Affairs and Leadership MA student |
| IAL | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAP | 101 | Art, Artist, and Culture | Provides an approach to art, creativity, and culture in global, historical, and contemporary contexts. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | |
| IAP | 102 | Foundations I: Performance Techniques and Composition | Focuses on practice-based studies of contemporary presentational strategies and techniques. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |

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| IAP | 103 | Foundations I: Interdisciplinary Art Practice | Covers art and performance studies and applications of theory and praxis in contemporary interdisciplinary artworks. Shows students how the creative arts in inquiry and in action applied across disciplines can make a critical difference. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 104 | Foundations I: Fundamentals of Sound Art | Investigates late 20th- and 21st-century sound art and our relationship with it. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 105 | Foundations I: Fundamentals of Visual Art | Focuses on contemporary aesthetic concepts and language for interdisciplinary visual arts application. Introduces core concepts of visual design: the elements and principles of design and the creative process, the basics of drawing, color theory, typography and 2D design. Engages student in the fundamental aspects of design to build an adequate foundation and prepares for the next level of the study of interdisciplinary arts practice. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 201 | Introduction to Interdisciplinary Arts | Considers interdisciplinarity in practical terms in all art forms. Also considers antecedents and cross-cultural issues. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | |
| IAP | 202 | Perspectives on Interdisciplinary Arts and Performance | Social, cultural, and historical examination of interdisciplinary art and performance and a survey of current interdisciplinary work and approaches. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | |
| IAP | 220 | Introduction to Game Studies | Examines the history, evolution, culture, aesthetics, ontology, anatomy, business and fundamentals of studying and building video games and the ways in which they interface with multiple disciplines in the humanities. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only IAP 220 or IAP 294 (Introduction to Game Studies) OR Visiting University Student |
| IAP | 222 | Games and Ethics | Involves students in the process of ethical gameplay design. Analyzes in-game challenges and mechanics with the lenses of various ethical theories. Students not only think deeply about the relationship between ethics and in-game challenges in game design, but also about real-life challenges that they might not have before realized were connected. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Credit is allowed for only IAP 222 or IAP 294 (Games and Ethics) or IAP 294 (Game Over: Ethics and Games) |
| IAP | 264 | Music, Mind and Culture | This interdisciplinary course explores how music and the general subjects of sound, noise, silence, hearing/listening are approached interdisciplinarily through the arts, humanities and sciences. In contemporary scholarship, the study of music crosses different academic fields and disciplines, including: musicology and music history, sociology and anthropology, cultural studies, religion, psychology, biology, ecology, neuroscience, mathematics, physics, technology and engineering, business and economics, philosophy, and aesthetics. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Credit is only allowed for IAP 264 or IAP 294 (Music, Mind, and Culture) |
| IAP | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| IAP | 301 | Energetic Systems of Art: Collaboration in the Arts | Identifies and explores the energetic systems at work in the creation, performance, and perception of art. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | |
| IAP | 302 | Cross-Cultural Perspectives on the Arts | Social and cultural perspectives of art and performance through a survey of historical and contemporary attitudes. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| IAP | 304 | Traditions of the Avant-Garde and Experimental Art | Surveys 20th-century art movements and isms, including futurism, dada, surrealism, constructivism, realism, the Bauhaus, abstract expressionism, minimalism. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| IAP | 305 | 20th and 21st Century Art, Performance, and Media | Surveys artists, movements, and trends in the arts with an emphasis on interdisciplinary performance, media, and technology. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| IAP | 307 | Art and War | Global interdisciplinary survey of the range of work created by artists in response to war, through time. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & G | |
| IAP | 310 | Women in Art | Cultural, historical, and social issues relating to the seeming scarcity of women artists and changing social contexts for women artists. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Pre- or corequisite(s): ENG 101 or 105 with C or better; Credit is allowed for only IAP or IAS 310 |
| IAP | 321 | Music Composition I | Study and implementation of specific compositional theories and procedures. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 45 hours |
| IAP | 322 | Multitrack Digital Recording | Explores the fundamentals of digital multitrack recording. Areas of exploration include basic sound theory, acoustics, psychoacoustics, microphones techniques, audio recording, MIDI, editing, mixing and mastering for stereo or multi-channel projects. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 30 hours OR Visiting University Student |
| IAP | 324 | The Voice and Performance | Involves all aspects of the human voice, including research, creation, and performance. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |

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| IAP | 325 | Sound Performance: Exploring Alternative Performance Groups | Utilizes innovative sound ensembles to explore all aspects of sound and its place in various art forms. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Pre-requisite: BA Digital Culture major or BA Interdisciplinary Arts and Performance major; Pre/Co-requisite: IAP 201 or 202 |
| IAP | 331 | Performance, Acting, and the Individual | Explores the concepts of the self, the subject, and the author as each pertains to the solo artist. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| IAP | 332 | Technical Production for Interdisciplinary Arts | Develops basic technical knowledge and application of fundamental stagecraft techniques used in the creation and presentation of performance works. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 333 | Directing for Performance | Explores various strategies for performance. Emphasizes nontraditional staging and performance. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 334 | Conceptual Development in the Arts | Conceptual development processes in the arts from initial idea to formal project proposals, grants, and production plans. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): Digital Culture or Interdisciplinary Arts and Performance or Performance and Movement BA major; Corequisite(s): IAP 201 or 202 OR Visiting University Student |
| IAP | 335 | Acting for the Camera | Designed for students who are interested in pursuing a career in front of the camera, and students who are more generally interested in the arts and desire a better understanding of the commercial and film acting industry. It is a practical study of essential television and theatrical film presentation, teaching the student actor essential performance techniques in front of the camera, developing creativity in this performance environment and enhancing performance levels. | N | LEL | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only COM 335 or IAP 335 OR Visiting University Student |
| IAP | 339 | Creating Dramatic Works: Page to Stage to Screen | Practical study of writing, directing, acting and performance techniques essential for the creation of theatrical works for stage, television and theatrical film presentation. | N | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prereq(s): ENG 102, 105, or 108 w/C or better; Credit allowed for only COM 339 or COM 394(Crt Drm Wrk:Pg to Stg&Scrn) or ENG 339 or ENG 394(Crt Drm Wrk:Pg to Stg&Scrn) or IAP 339 or IAP 394(Crt Drm Wrk:Pg to Stg&Scrn) OR Visiting University Student |
| IAP | 341 | History of Anime | Japanese animation is at the nexus of an international multimedia industry worth over \$6.5 billion a year, linked to everything from manga to computer games, Pokemon and plushies. In this comprehensive course, students chronicle the production and reception history of the entire medium, from a handful of hobbyists in the 1910s to contemporary examples. Explores the past century's cultural and technological developments, addresses historiography issues with Japanese academic discourse, and covers previously neglected topics such as wartime instructional animation and work-for-hire for American clients. Founded on the testimonies of industry professionals and drawing on a myriad of Japanese-language documents, memoirs and books, the subjects of inquiry illuminate the anime business from the inside--investigating its innovators, unsung heroes and controversies. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only IAP 341 or IAP 394 (History of Anime) or IAS 341 or IAS 394 (History of Anime) OR Visiting University Student |
| IAP | 352 | Seeing and Drawing | Develops drawing and seeing skills that are important not only to visual arts but also to music, dance, and theatre. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 354 | Visual Representation | Explores materials, processes, and aesthetic concepts of art making through various media with readings on cultural perspectives and contemporary theory. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): Digital Culture BA major or Interdisciplinary Arts and Performance BA major; Pre- or corequisite(s): IAP 201 or 202 |
| IAP | 355 | Illusion and Vision | Inquiry into 2-D surfaces for visual representation and personal expression; includes readings on color theory, visual perception, and historical/cultural patterns. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 361 | Digital Editing and Media Literacy | Investigates the approaches used in digital editing with a focus on interactivity, graphics, audio, and desktop video. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | CS | Prerequisite(s): ENG 102, 105, or 108 with C or better |

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| IAP | 362 | Games and Narratology | Focuses on design techniques for the writing of nonlinear and interactive stories in the video game development process. Compares and contrasts game writing with other creative writing such as short story, song writing, oral history, poetry, fiction and film. Examines, deconstructs and questions the game design approach commonly referred to as narratology. Inspects key texts in media and cultural studies for attitudes, ideas and thoughts on games and narrative in games. Uses materials, processes, and aesthetic concepts of level design and visual skills needed to create a video game using a game engine. Knowledge of introductory computer science recommended. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| IAP | 363 | Sound, Image, and Media | Interdisciplinary arts projects for experimental approaches to relating sound and visual image, accompanied by survey of historical and contemporary material. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 364 | Documentaries | Media arts projects exploring new and experimental forms of visualization based upon an interdisciplinary survey of historical and contemporary examples. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 365 | Digital Interactivity | Combines graphics, video, and animation with digital authoring tools for creation of interactive multimedia Web sites. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Pre-requisites: Interdisciplinary Arts and Performance or Applied Computing or Digital Culture student |
| IAP | 366 | 3D Modeling and Media Literacy | Explores the fundamentals of producing 3D modeling with a strong focus given to techniques and praxis of 3D design. Students use skills developed over the semester combined with conceptual idea development, their own premise, 21st-century theory, practice and the aesthetic pipeline for digital 3D imagery to culminate in a portfolio that demonstrates the application of their new skills and self-awareness. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): IAP 103 with C or better; IAP 201 or 202 with C or better; Credit is allowed for only IAP 366 or IAP 394 (3D Modeling and Media Literacy) OR Visiting University Student |
| IAP | 367 | Motion Graphics and Animation | Explores the concepts, aesthetics and technical tools of 2D animation in interdisciplinary arts creation. Course structure includes lectures with examples, hands-on demonstrations, online tutorials (homework assignments), and presentations by guest artists working with 2D digital media. Students learn the basics of 2D animation and visualization techniques, working with multiple applications to accomplish interdisciplinary creative and aesthetically strong artworks. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): IAP 103 with C or better; IAP 201 or 202 with C or better; Credit is allowed for only IAP 367 or IAP 394 (Motion Graphics & Animation) OR Visiting University Student |
| IAP | 368 | Digital Graphic Technologies | Employs technology used in contemporary graphic designs to design concepts and techniques for modeling and representation applications. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Pre-requisites: Interdisciplinary Arts and Performance or Applied Computing or Digital Culture student |
| IAP | 371 | Verbal Art | Examines varieties of verbal art in everyday life, literature, oral and literate cultures. Considers diverse cultural forms and values. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 375 | Contemporary Performance: Theories and Practice | Performance course focusing on elements of contemporary and digital performance in relationship to stage, new technologies, video, installations, and public art. Through interdisciplinary strategies, students gain tools to deepen their knowledge and range of performance. Requires students to engage in research, conceptualization, and the creation of new original work, combining classroom workshops, various readings, fieldwork, and production to emphasize interdisciplinarity, collaboration, and personal vision. Once theories and concepts are explored, students work in a conceptually based and physically rigorous environment toward producing new work, culminating in a final performance project. | N | STO | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): Digital Culture BA or Interdisciplinary Arts and Performance BA or Performance and Movement BA major; Corequisite(s): IAP 201 or 202 OR Visiting University Student |
| IAP | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEL | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| IAP | 407 | Utopia/Dystopia: Science Fiction and Media | Five science fiction novels by female authors, along with many science fiction films, provide the lens through which students examine the socio-political, artistic and scientific contexts/concepts of utopian and dystopian novels and cinema. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only IAP 407 or WST 407 or IAP 394 (Utopia/Dystopia: Science Fiction and Media) |
| IAP | 420 | Theatre in America | Examines the major movements and pivotal moments in the history of American theatre from the 1700s to its current state, particularly its efforts to establish an identity that reflects the unique and changing citizenry of the United States. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): minimum 40 hours. Credit is allowed for only AMS 420 or IAP 420 or THE 420 |
| IAP | 421 | Composition: Process, Technique and Style | Advanced study of specific compositional theories and procedures; in-depth analysis of individual work. | N | LEL | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only IAP 421 or IAP 560 or MAS 560 or MAS 598 (Composition: Process, Technique, and Style II) OR Visiting University Student |

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| IAP | 431 | Perspectives on Performance and Acting | Focuses on the interaction of the performer with media, alternative stagings, and collaboration with other performers. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 433 | Directing Workshop | Applies experimental directorial techniques to presentations and deconstruction of classical works including European and cross-cultural traditions. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Credit is allowed for only IAP 433 or MAS 598 (Directing Workshop) |
| IAP | 434 | Production Laboratory | Develops original scripts into showcase productions. Students function as theatrical ensemble, participate in all phases of performance and production values. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 441 | Movement for Performance | Explores the relationship of movement as it relates to performance, both historically and cross-culturally. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 462 | Games and Play | Focuses on a study of play and game design. Discusses what play is and why humans need it as it pertains to game design. Considers and analyzes an examination of the dark side of play. Scrutinizes the concept of what critical play is and how games are working within social, political and cultural systems. Studies these concepts as the students design and execute a serious or artistic game demo using the materials, processes, aesthetic concepts of art making and scripting skills needed to create a video game using a 3D game engine. Knowledge of introductory computer science recommended. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 45 hours |
| IAP | 463 | Recording Studio Practicum | Supports advanced media students' work in the recording studio and media lab by refining skills producing recordings that enhance their academic and/or professional portfolios. | N | STO | Y | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1 | | Prerequisite(s): IAP 322 or 469; Credit is allowed for only IAP 463 or IAP 494 (Recording Studio Practicum) |
| IAP | 464 | Media and Diversity | Interdisciplinary art projects exploring identity, perception, and technologies from a basis of class, race, ethnicity, gender, sexuality, and ecology. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & G | |
| IAP | 465 | Media Technologies and the Arts | Practical explorations of media arts interrelated with cultures, society, and technology, addressed through readings, discussion, research, and student arts projects. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 466 | Digital Interactivity, Advanced | Advanced multimedia authoring skills for creation of interactive works in DVD, CD ROM, and other media formats. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Pre-requisites: Interdisciplinary Arts and Performance or Applied Computing students |
| IAP | 467 | Acoustic Ecology | Investigations into the relationship between audio art and ecology; covers field recording, oral histories, digital editing, and designing audio Web site and databases. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 468 | Digital Graphic Applications | Targeting, planning, design, authoring, development, and presentation of professional digital media graphics for Internet and print. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): Applied Computing BS or Interdisciplinary Arts and Performance BA major; Credit is allowed for only IAP 468 or IAP 569 or MAS 569 OR Visiting University Student |
| IAP | 469 | Advanced Audio Production | Engages advanced media students in the technical, logistical, and aesthetic concerns specific to audio in all forms of digital media. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 471 | Language, Culture, and Performance | In-depth examination of language in myth, poetry, social and aesthetic performance genres. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only IAP 471 or IAP 570 or MAS 570 or MAS 598 (Language, Culture, and Performance) OR Visiting University Student |
| IAP | 473 | Aesthetic Research | Investigates how artists, in all disciplines and from different historical periods, conduct or participate in research. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| IAP | 474 | Art and Film | Focuses on film as an art form in relation to the arts through aesthetics, cinematic theory, period study. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| IAP | 480 | Art as Praxis: From Conceptualization to Production | Capstone course. Students complete an exit project or internship as well as an arts portfolio under the guidance of an instructor and mentor. | N | LAB | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3-6 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| IAP | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | |
| IAP | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| IAP | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| IAP | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |

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| IAP | 496 | Playworks Portfolio | Students devise a career plan, establish a digital portfolio, prepare artist statement, and become familiar with contracts and legal documents associated with a career as a serious independent game developer or studio artist. | N | LEL | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): Arts and Humanities in Games certificate student OR Visiting University Student |
| IAP | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-3 | | |
| IAP | 560 | Composition: Process, Technique, and Style | Advanced study of specific compositional theories and procedures; in-depth analysis of individual work. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IAP 421 or IAP 560 or MAS 560 or MAS 598 (Composition: Process, Technique, and Style II) |
| IAP | 569 | Digital Graphic Applications | Targeting, planning, design, authoring, development, and presentation of professional digital media graphics for Internet and print. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IAP 468 or IAP 569 or MAS 569 |
| IAP | 570 | Language, Culture and Performance | In-depth examination of language in myth, poetry, social and aesthetic performance genres. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IAP 471 or IAP 570 or MAS 570 or MAS 598 (Language, Culture, and Performance) |
| IAP | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | PRA | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAP | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAP | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAP | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAP | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAS | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-3 | | |
| IAS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| IAS | 300 | Career Strategies and Personal Resilience | Analysis of sociological and economic factors of 21st-century work environments, integrated with a psychological understanding of resilience. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better OR New College Applied Science major OR Visiting University Student |
| IAS | 305 | Work and Identity | Explores the relationship between work and identity, as well as the search for meaning in work across generations. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB | |
| IAS | 340 | Bioethics | Critical examination of moral questions arising in biomedical contexts, particularly due to new technologies and scientific discoveries. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): minimum 45 hours; Credit is allowed for only BIO 312 or IAS 340 or PHI 320 OR Visiting University Student |

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| IAS | 341 | History of Anime | Japanese animation is at the nexus of an international multimedia industry worth over \$6.5 billion a year, linked to everything from manga to computer games, Pokemon and plushies. In this comprehensive course, students chronicle the production and reception history of the entire medium, from a handful of hobbyists in the 1910s to contemporary examples. Explores the past century's cultural and technological developments, addresses historiography issues with Japanese academic discourse, and covers previously neglected topics such as wartime instructional animation and work-for-hire for American clients. Founded on the testimonies of industry professionals and drawing on a myriad of Japanese-language documents, memoirs and books, the subjects of inquiry illuminate the anime business from the inside--investigating its innovators, unsung heroes and controversies. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only IAP 341 or IAP 394 (History of Anime) or IAS 341 or IAS 394 (History of Anime) OR Visiting University Student |
| IAS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| IAS | 406 | Moral Dilemmas | Philosophical analysis of moral dilemmas arising in professional and public settings. Ethical decision making in business, educational, human service, and scientific communities. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only FOR 406 or IAS 406 or PHI 406 OR Visiting University Student |
| IAS | 407 | Environmental Philosophy and Policy | Ethical concepts and theories applied to environmental issues: biotic community, biodiversity, degradation, ecofeminism, ecology, economics, population, property rights, and wilderness. Not open to students with credit in PHI 310. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101 or 105 with C or better; Credit is allowed for only IAS 407 or PHI 407 |
| IAS | 409 | Eco-Community Ethics | Traces human interaction with the Earth from hunters and gatherers to the present day, examining groups who have lived within ecological constraints and limits. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Credit is allowed for only IAS 409 or PHI 409 |
| IAS | 410 | Evolution of Ideas | Investigates ideas (paradigms) and revolutions (paradigm shifts). Examines several topics from perspectives of science, arts, humanities, social sciences. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| IAS | 415 | Life in the Universe | Examines the search for life in extreme environments on Earth and in remote locations beyond Earth. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAS | 416 | Black Holes and Beyond | Explores developments in understanding nature's most basic force-gravity-from Aristotelian concepts to modern theories of curved space-time. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAS | 417 | Philosophy of Censorship | Investigates philosophical concepts underlying instances of censorship, both in historical and in contemporary settings. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 30 hours; Credit is allowed for only IAS 417 or PHI 417 or PHI 494 (Censorship: Philoso/Relig/Soc Perspectives) or REL 494 (Censorship: Philoso/Relig/Soc Perspectives) |
| IAS | 420 | Multicultural Autobiographies | Examines the human experience via autobiographies and personal narratives. Multicultural, literary, and psychological perspectives on individual lives. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | (L or HU) & C | Prereq(s): ENG 101, 105, or 107 w/ C or btr; ENG 200 w/ C or btr; one 200-level lit course w/ C or btr OR New College ugrad std; ENG 101, 105, or 107 w/ C or btr; min 45 hours; Credit is allowed for only ENG 420 or IAS 420 OR Visiting University Student |
| IAS | 430 | Science and Religion | Examines evolving relationships between scientific thought and Western and Eastern religious thought. Explores cosmologies, worldviews, and epistemologies. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only IAS 430 or MAS 510 OR Visiting University Student |
| IAS | 450 | Philosophical and Spiritual Issues in Death and Dying | From Plato to Maimonides to Heidegger to Kubler-Ross, scholars, clinicians and spiritual writers have recognized that attitudes about death and dying contribute to understandings of human existence. Recalling the ancient Socratic, biblical and other spiritual traditions of the cura animarum (care for and cure of the soul) and joining contemporary post/secular conversations relevant to integration of body-mind-spirit, this course introduces basic concepts and practices of care ethics and spirituality. Focuses on relations among existential (ontological), therapeutic (psychosomatic), and spiritual (religious) dimensions of care. Theoretically, the course is inter-faith in approach, holistic in scope, and specialized in content. Practically, students examine real-life issues in care ethics and spirituality from multiple perspectives. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only IAS 450 or MAS 550 or PHI 450 or PHI 494 (Issues in Death & Dying) or REL 450 or REL 494 (Issues in Death & Dying) OR Visiting University Student |

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| IAS | 480 | Capstone: Practices and Approaches | Individualized projects developed by the student under the guidance of the capstone coordinator based upon the student's area of concentration. Provides an opportunity to apply the knowledge and skills developed in the course of their program to real-world situations. | N | RSC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | Prerequisite(s): Interdisciplinary Arts and Sciences BA or Philosophy, Religion, and Society BA or Applied Science BAS major |
| IAS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | |
| IAS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| IAS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| IAS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| IAS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | IND | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| IAS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-3 | | |
| IAS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 110 | Introduction to Integrated Behavioral Health | Introduces major clinical concepts and practice models related to team-based medical and behavioral health care integration. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | |
| IBC | 120 | Introduction to Integrated Health Care Systems | Provides an introduction and overview of the American health care system and its driving forces, with a focus on the move to integrated health care systems. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | |
| IBC | 415 | Behavioral Health Over the Lifespan | Common issues and concerns faced throughout the different life stages and the associated behavioral health needs. Presents evidence-based strategies for primary prevention and early intervention. Provides case examples to effectively illustrate the application of the key constructs addressed in the course. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |
| IBC | 420 | Population Health Management | Presents an overview of population health and its management. Emphasizes a solutions-based perspective, consistent with the Quadruple Aim. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only HCD 420 or IBC 420 |
| IBC | 425 | Cognitive and Behavioral Counseling | Frameworks for conceptualizing health behavior change. Reviews evidence-based approaches that address patient's behavioral health needs in primary care and other medical settings. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |
| IBC | 430 | Medical Pathophysiology, Terminology and Behavioral Health | Provides an overview of pathophysiology and medical treatment of common medical conditions in primary care (e.g., diabetes, coronary heart disease, hypertension, asthma, cancer). Emphasizes medical terminology, pathophysiology, common medical treatments and behavioral health issues associated with those conditions that students can expect to see in integrated medical settings, especially integrated primary care. Students learn appropriate medical terminology for symptoms, diseases, treatments and medical tests so they can communicate effectively with inter-professional medical teams. Discusses the role of the behavioral health provider as it relates to these conditions as well. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |
| IBC | 520 | Integrated Health: The Patient-Centered Medical Home (PCMH) | Covers the Patient-Centered Medical Home (PCMH), with an emphasis on alignment in primary care and other integrated health care systems. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 530 | Evidence-Based Integrated Health Care | Provides a health care manager's introduction to evidence-based guidelines for integrated health care design and delivery systems. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 540 | Integrated Health Care Process Improvement | Team-based quality improvement evaluation, measurement and health care system transformation. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 550 | Integrated Health Care Operations | Integrated health care operations, including an in-depth exploration of health care and integrated care systems, planning, program assessment, implementation and change management. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 560 | Integrated Health Care Data Analytics | Data analytic tools and techniques used to plan, implement and improve integrated health care transformation. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 570 | Integrated Health Care Financial Management | Integrated health care financial management. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| IBC | 585 | Team-Based Consultation and Leadership | Team-based leadership and consultation in integrated health care. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 586 | Behavioral Health Professional Writing Style | Focuses on improving overall professional writing skills, with an emphasis on how to write a literature review, use APA format, cite sources ethically and access available writing resources as necessary. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Behavioral Health (Clinical) or Behavioral Health (Management) DBH student; Credit is allowed for only IBC 586 or IBC 590 (Professional Writing Skills) |
| IBC | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | RSC | Y | Z3 | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 601 | Models of Integrated Primary Care | Provides an overview of the primary care environment as well as current models of integrated primary behavioral health care. Reviews and critiques models of health care based on their success in impacted patient health outcomes and improving physician satisfaction, along with fiscal and care delivery systems for each. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 602 | Healthcare Statistics | Provides an overview of contemporary issues in health statistics and develops student proficiency in completing hands-on statistical analyses using Microsoft Excel. Develops proficiency in using Excel to manage data analyses as an ongoing tool to collect and analyze clinical and cost-effectiveness data in primary care and related healthcare settings. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 603 | Brief Interventions in Primary Care | Provides an overview of evidence-based care for the integrated primary care environment. In particular, reviews and applies the most common approaches to addressing co-morbid behavioral and medical conditions, including but not limited to brief psychotherapy, adherence enhancement, lifestyle medicine, and others, using cognitive-behavioral, acceptance and commitment therapy, solution-focused, and motivational interviewing approaches. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IBC 603 or IBC 691 (Brief Interventions in Primary Care) or IBC 702 |
| IBC | 604 | Clinical Medicine/Pathophysiology | Overview of each of the main systems within the human body. Addresses the major diseases (symptoms, diagnosis, and medical treatments) within each system. Students learn appropriate medical terminology for symptoms, diseases, treatments, and medical tests so they can communicate effectively with medical practitioners (nurses and physicians). Content is equivalent to pathophysiology training in an RN program. Also addresses the role of behavioral care providers in medical settings; design and implementation of psychoeducational programs in primary care; stress management techniques for use in medical settings; chronic pain management; identification and treatment of somatization disorder; increasing compliance in noncompliant patients; alternative/complementary medicine; overview of nutrition; and the effects of exercise and nutrition on prevention and treatment of diseases. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| IBC | 608 | Psychopharmacology for the Behavioral Care Provider | Provides overview of psychopharmacology to equip the behavioral care provider with the understanding of psychotropic medications necessary to make prescription recommendations to primary care physicians and to participate in medication management for patients being prescribed psychotropics. Basic principles of pharmacology in general, including pharmacokinetics, pharmacodynamics, medication development and the FDA approval process, interaction effects, drug company marketing strategies, appropriate and inappropriate medication usage, over-medication, and off-label medication use. Reviews pharmacokinetics and pharmacodynamics in special populations (children, the elderly, and patients with co-morbid medical and psychological conditions). | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 609 | Clinical Neuropathophysiology | Presents overview of each of the basic neuroanatomy, neurophysiology, and a focus on the manifestations of neurophysiological dysfunction across the life span for Doctor of Behavioral Health (DBH) program behavioral clinicians. Covers the basic human brain anatomy, neurophysiological processes, development, and maturation. Using case studies, presents and discusses evidence-based support for theories of psychiatric disorders and neuropsychopathology. Incorporates evidence-based research findings on the role of genetics, neurophysiological adaptation, epidemiological and societal influences in order to develop understanding of disruptions in normal neurophysiological functioning. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 610 | Behavioral and Psychological Assessment in Primary Care | Presents a comprehensive model of behavioral and psychological assessment for behavioral health clinicians in primary care and related medical settings. Provides behavioral health consultants with the necessary knowledge base and skills to develop an appropriate assessment and treatment plan for a variety of commonly seen complaints in primary care. Places attention on the assessment of both psychiatric and behavioral complaints across the lifespan. Students become familiar with both structured interview and empirically support quantitative measures consistently utilized to enhance our understanding of the presenting complaint. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 611 | Population-Based Behavioral Health Management | Overview epidemiology for health care followed by population-based approaches to behavioral intervention. Epidemiology includes concept of populations; descriptions and definitions of health and disease; measurement of health (measures, morbidity, mortality and health); designs for studying the health of populations and standardization of population health measures. Population-based management includes definitions of medical management; planning health care for populations and population health outcomes; quality of care and economic analysis of population-based interventions; adjunctive treatments as a core component of population-based interventions. Also, advanced application of population-based behavioral interventions with a focus on design, measures, analysis, results and discussion of current approaches. Includes predictive modeling methods for defining populations; interventions focusing on stepped-care approaches; engagement strategies, interventions, measurement, and follow-up. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 612 | Introduction to Behavioral Interventions | Provides a foundational understanding of behavioral health interventions for primary care settings for those students intending to work in administrative, management or allied health positions. Provides a theoretical basis for various psychological schools of thought, as well as an overview of the empirical evidence for those approaches. Reviews models of therapy including: psychodynamic, brief strategic, cognitive-behavioral and solution-focused. Also reviews two intervention strategies typically used in integrated settings: Acceptance and Commitment Therapy (ACT) and Motivational Interviewing (MI). Explores the ways that these approaches serve as the theoretical framework of the Biodyne model. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only IBC 612 or IBC 780 (Introduction to Behavior Intervention) |

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| IBC | 614 | Quality and Performance Measurement, Improvement, and Incentives in Health Care | Overview of health care quality management, emerging models of health care performance measurement, and models of pay for performance incentives in health care designed to reward providers for attaining quality of care goals. Prepares behavioral clinicians to provide services that are consistent with best practices in quality management and performance measurement in health care and to provide care that is consistent with performance incentive programs that are present or on the horizon. A key characteristic of health care reform is increased focus on provider quality of care, accountability for quality via performance measurement, and aligning provider incentives to meet national and regional quality of care performance targets. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 615 | Innovative Technologies in Behavioral Health | Provides a quick overview and answers to basic questions related to both online therapy and telemental health. Gives a downloadable audio recording (MP3) and access to the accompanying video clips that augment a rich sampling of pages extracted from our other coursework. As a composite, this experience introduces our multi-modal learning environment and, more importantly, gives an idea of the issues involved with establishing an online or otherwise remote practice. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only IBC 616 or IBC 780 (Innovative Technologies in Behav. Health Intervention) |
| IBC | 620 | Psychosomatic Illness: Diagnosis & Treatment | Teaches how to successfully diagnose and treat physical illness caused by various forms of psychosocial stress (psychophysiological disorders, PPD). Because patients are often unaware of the nature or degree of stresses that are responsible for their illness, places emphasis on learning how to detect and use clues that patients provide to develop a more complete understanding of the struggles than they are able to perceive for themselves. Focuses on selecting, assessing and treating a patient known to the student who has medically unexplained physical symptoms. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 624 | Integrated Behavioral Health Care for Children and Adolescents | Integrates developmental psychology with pediatric psychology in order to prepare behavioral clinicians to provide screening, assessment, and intervention for children and adolescents in primary care and other medical settings. Presents an overview of developmental stages with an emphasis on critical tasks, while contrasting normal versus abnormal development. Develops societal, familial, and cultural influences. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 626 | Behavioral Health Management | Presents an introduction to the roles and responsibilities of supervisor/manager in a health care organization. Provides behavioral health professionals moving into management with the necessary knowledge base and skills to be an entry-level manager and focuses on the further knowledge acquisition needed to become an experienced, effective manager and leader. In addition, discusses the larger context in which healthcare businesses operate--health care reform, regulations and technological changes. Participants take time to look at personal characteristics, interpersonal styles and presentation that affect how one is perceived and responded to in an organization. Too often we have observed individuals with high-level clinical skills moving into management without the requisite skills and understanding of issues, restricting their ability to be successful. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IBC 626 (or IBC 724) or IBC 780 (Behavioral Health Management) |
| IBC | 630 | Financial Management of Health Care | Covers the fundamentals of health care finance with a concentration on health care system financing and the related operational management issues. Grounds clinical managers in finance principles and assists those students with understanding the financial issues currently faced by stakeholder organizations in the health care system. Focuses on the information and tools needed by managers to address financial issues and challenges as an organizational leader for integrated care. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IBC 630 or IBC 691 (Financial Management in Healthcare) |
| IBC | 633 | Motivational Interviewing for the Behavioral Care Provider | Introduces and develops the core skills of Motivational Interviewing as a method of communication and care delivery to strengthen and build relationships, collaboration and motivations towards positive behavior change. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree-seeking graduate student; Credit is allowed for only IBC 633 or IBC 598 (Motivational Interview for Behav. Care Prov) |
| IBC | 634 | Strategies and Techniques for Behavior Change in Primary Care | Examines and discusses the theoretical and applied health-related research changing nutrition, smoking and physical activity behaviors in clinical practice. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| IBC | 640 | Family and Couples in Primary Care | Explores the systemic dimensions of health care delivery that are relevant to working with families and couples in primary care. Students study models from family therapy and medical family therapy that address family dynamics associated with the management of health and illness, the progression of chronic diseases, and other medical conditions. Reviews strategies for adapting family systemic approaches to provide patient- and family-centered health care in a primary care setting. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 650 | Veterans Health | Provides an introduction to the military and veteran culture and the integrated health care needs and management concerns related to this unique population. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IBC 650 or IBC 691 (Veterans Health) |
| IBC | 660 | Healthcare Legal, Ethical, and Professional Issues | Examines current codes of ethics in behavioral health and medical care in addition to their differences, strengths and weaknesses. Identifies specialized issues relevant for practicing in integrated health care, and explores approaches for avoiding and/or resolving legal, ethical and professional problems commonly faced in clinical practice. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 670 | Integrated Behavioral Health Interventions for Substance Use Disorders | Focuses on the theoretical foundations, research and strategies for identifying, intervening and/or referring patients in primary care and other healthcare settings that present with substance use disorders or problem use. Provides detailed information about the clinical model of SBIRT (Screening, Brief Intervention, and Referral to Treatment), along with strategies for implementing sustainable business models for SBIRT in healthcare environments. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only IBC 670 or IBC 780 (Integrated Behavioral Health Interventions for Substance) |
| IBC | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s) with B or better: Behavioral Health (Clinical) DBH student; HCD 501; IBC 586 or 590; IBC 601; IBC 603; IBC 614 OR Behavioral Health (Management) DBH student; HCD 501; HCD 602; IBC 586 or 590; IBC 601; IBC 614; IBC 626 |
| IBC | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 716 | Health Care Information Management | Provides a comprehensive overview of health care information technology (HIT), including the effects of the external environment and government policies on its evolution; the expanded role of the CIO; the basics of hardware, software and communication systems; the types of operational, management and clinical applications; and the value HIT brings to the enterprise. Included concepts reflect a broad vision of HIT management as a combination of technology, information and manpower leadership. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IBC 716 or IBC 691 (Healthcare Information Management) |
| IBC | 718 | Healthcare Systems: Organization, Delivery and Economics | Provides an overview of the U.S. healthcare system with a focus on economics and policy. Primary goals of the course are to enable students to recognize the relevance of economics to healthcare and to apply economic principles to better understand health-related issues; understand the U.S. healthcare delivery system in the context of social, policy, and economic factors; evaluate the evolving nature of healthcare reform initiatives and their implications for clinical practice, financing, research and policy; analyze public healthcare policy from an economic perspective. Students also focus on behavioral healthcare economics and policy and the economics of behavioral health services in medical settings. Students also understand the medical cost offset effect, including economic benefits of behavioral interventions for co-morbid medical and behavioral conditions, measurement of medical cost-offset, and cost-offset for psychopharmacology and specific behavioral conditions. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| IBC | 720 | Behavioral Health Entrepreneurship | Provides an introduction to the essential entrepreneurship skills for the behavioral healthcare clinician. Focuses on entrepreneurial skills designed to prepare the behavioral clinician to start a new business venture or revitalize an existing organization or business, to meet the needs of the evolving healthcare system and marketplace. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 725 | Effective Consultation in Integrated Health Care | Prepares students to function as effective consultants in integrated care settings. Effective consultation includes the ability to engage, educate, inform, persuade and collaborate with diverse professionals both within the clinic or hospital setting but also in related systems of care. The hospital or clinic setting includes care providers such as PCPs, nurse, allied health administrative support staff, and managers and executives such as medical director, CEO and CFO. The hospital or clinic also includes related departments such as quality improvement, electronic health records/health information technology, billing, finance and actuary. Systems of care include the patient/family, community, health plans, disease prevention or management companies, specialty mental health and substance use disorder providers, community-based resources, large employer group and related EAP providers. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IBC 725 or IBC 691 (Effective Consultation in Behavioral Health) |
| IBC | 728 | Cultural Diversity, Health and Illness | Focuses on the relationship among cultural diversity, health and illness, and multicultural psychotherapy in primary care and other healthcare settings. Prepares behavioral clinicians to identify the relationship between cultural diversity and health and illness and to use effective psychotherapy informed by cultural diversity in primary care and related medical settings. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 732 | Leadership in Health Care | Leadership, management and organizational behavior in health care settings. Organizational behavior theories and concepts related to leadership. Uniqueness of structures, processes and interactions in integrated care programs and how to adapt these to medical settings. Communication skills, teamwork and collaboration. Current challenges to leadership in health care reform. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IBC 732 or IBC 691 (Leadership in Healthcare) |
| IBC | 740 | Integrated Behavioral Interventions, Cost Savings, Medical Cost Offset and Return on Investment | Design, implementation, and evaluation of integrated health care direct financial and cost savings return on investment. Enhances understanding of how evidenced-based care and best practice in management and leadership results in improved patient health outcomes and reduced health care costs. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRA | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IDN | 101 | Elementary Indonesian I | Basic communication, reading, and writing skills. Intensive oral/aural classroom drill supplemented by prose reading. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | | |
| IDN | 102 | Elementary Indonesian II | Basic communication, reading, and writing skills. Intensive oral/aural classroom drill supplemented by prose reading. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | | Prerequisite(s): IDN 101 with C or better OR Visiting University Student |
| IDN | 201 | Intermediate Indonesian I | Systematic review of grammar. Continued development of communication skills with increased emphasis on reading and writing. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): IDN 102 with C or better OR Visiting University Student |
| IDN | 202 | Intermediate Indonesian II | Systematic review of grammar. Continued development of communication skills with increased emphasis on reading and writing. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): IDN 201 with C or better OR Visiting University Student |
| IDN | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| IDN | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| IDS | 140 | The Nature of Knowledge Systems | Introduces students to the structure and divisions of knowledge systems in the university setting. After surveying the different types of disciplines, students learn processes for using knowledge and insights from different sources in an integrative manner. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | HU | |
| IDS | 150 | Introduction to Military Studies | Focuses on the way interdisciplinary scholars in national security at the interface of history and political science ask questions and propose answers. Introduces the basics of research, writing and criticism with an eye toward how solutions are constructed from diverse sources. Evaluates primary and secondary sources including identifying purpose, intended audience and biases. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | |
| IDS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |

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| IDS | 201 | Intellectual Fusion | Introduces students to the history of interdisciplinarity. Examines major theories and methods of interdisciplinarity, and students use these methods to begin to examine complex interdisciplinary problems. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | |
| IDS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| IDS | 298 | Honors Directed Study | Independent study or practicum under the supervision of a faculty member. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | | Prerequisite(s): Barrett Honors student |
| IDS | 300 | Theories and Applications of Organizational Studies | Critical analysis and application of organizational theory and conceptual perspectives to identify and solve problems, emphasizing personal and organizational application. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L or SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum sophomore standing OR Visiting University Student |
| IDS | 301 | Becoming Interdisciplinary | The history of interdisciplinarity and methods of integrating knowledge and insights from multiple perspectives. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Interdisciplinary Studies or Interdisciplinary Studies (Organizational Studies) major OR Visiting University Student |
| IDS | 302 | Integration Skills | Develops integrative skills to create new understandings, models, products and ideas. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Interdisciplinary Studies or Interdisciplinary Studies (Organizational Studies) major; IDS 201 or 301 with C or better OR Visiting University Student |
| IDS | 310 | Integration: Cultural Contexts | Explores how the practice of integrating knowledge, skills and perspectives from multiple sources can be used to better understand cultural diversity in contemporary U.S. society. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | C | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| IDS | 311 | Integration: Global Contexts | Explores how the practice of integrating knowledge, skills and perspectives from multiple sources can be used to better understand global issues. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours |
| IDS | 312 | Integrative Perspectives on Change | Applies integrative and interdisciplinary tools, methods, knowledge and skills to examine ideas, issues and institutions as they change over time. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| IDS | 313 | Integrative Perspectives on a Changing World | Applies integrative and interdisciplinary tools, methods, knowledge and skills to examine global ideas, issues and institutions as they change over time. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| IDS | 314 | Integrative Perspectives on Cultural Dynamics | Applies integrative and interdisciplinary tools, methods, knowledge and skills to examine the shifting dynamics of cultural diversity in the United States. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum 45 hours |
| IDS | 315 | Integration: Social Contexts | Explores how the practice of integrating knowledge, skills and perspectives from multiple sources can be used to better understand human behavior and interactions. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| IDS | 316 | Integration: Humanities Contexts | Explores how the practice of integrating knowledge, skills and perspectives from multiple sources can be used to better understand human thought and creativity. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| IDS | 321 | Interdisciplinary Issues | Focuses on an interdisciplinary topic from the perspective of multiple disciplines. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| IDS | 350 | Military Studies Interdisciplinary Capstone | Students complete an interdisciplinary research or applied project relevant to national security using methods from history and political science. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; IDS 150 |
| IDS | 355 | Peace Corps Seminar | The Peace Corps: its mission, history, concerns and application process. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | G | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| IDS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| IDS | 400 | Interdisciplinary Career Prep | Prepares students for the experiential learning capstone and for future careers in interdisciplinary studies. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1 | | Prerequisite(s): Interdisciplinary Studies BA or Interdisciplinary Studies (Organizational Studies) BA major; Credit is allowed for only IDS 400 or IDS 494 (Interdisciplinary Career Prep) OR Visiting University Student |
| IDS | 401 | Integration: Experiential Learning | Offers students the opportunity to apply their integrative skills in internships, directed projects or other experiential contexts. | Y | RSC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Interdisciplinary Studies or Interdisciplinary Studies (Organizational Studies) major; IDS 201 or 301 with C or better; IDS 302 with C or better; minimum 2.00 GPA OR Visiting University Student |
| IDS | 402 | Senior Seminar | Capstone course helps integrate classroom and experiential learning. Students choose among course topics that address their interests. | N | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): Interdisciplinary Studies student; ENG 101, 105 or 107 with C or better; IDS 302 with C or better; minimum 2.0 GPA |
| IDS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | |
| IDS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | OP4 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | | Prerequisite(s): Barrett Honors student |

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| IDS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| IDS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| IDS | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | | Prerequisite(s): Barrett Honors student |
| IDS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-7 | | |
| IDS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-3 | | |
| IED | 320 | Early Education and Development/Indigenous Children | Assists students in developing their knowledge of the development of Indigenous children and appropriate methods and strategies for effective instruction in preschool/kindergarten classrooms. Explores issues faced by Native American teachers to provide both an effective and meaningful educational experience for Native American and Alaska/Hawaiian Native children. | N | LEL | N | GNA | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only IED 320 or IED 394 (Early Education & Development of Indigenous Children) |
| IED | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| IED | 410 | History American Indian Education | Philosophical and historical review of the development of American Indian education policies in both traditional and contemporary society. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & H & C | Credit is allowed for only IED 410 or 510 |
| IED | 430 | Lang/Literacy-Indig Peoples | Examines issues, policies, theoretical foundations, and practices of indigenous peoples and other language minority communities from a sociolinguistics and language reclamation perspective. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | (HU or SB) & C | Credit is allowed for only IED 430 or 530 |
| IED | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-7 | | |
| IED | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-3 | | |
| IED | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 501 | Critical Indigenous Research Methodologies | Examines research, its methods and methodologies through an indigenous framework. Presents different methods, their connections to various research questions, and thoughts of ways to analyze extant educational data. Additionally, examines traditional methodologies, methodological clashes, and the insertion of critical indigenous research methodologies into the framing of the conversation. Offers an historical overview of research in indigenous communities. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR postbaccalaureate student; Credit is allowed for only IED 501 or JUS 691 (Decolonizing Indigenous Research Methods) |
| IED | 502 | Indigenous Knowledges in Education | Provides an overview of the literature on indigenous knowledge systems as they tie into education as broadly defined. Specifically focuses on indigenous knowledge systems and how it encapsulates relationships (between people and each other, humans and their environment, and humans and written and oral learning); responsibility; reciprocity; and respect. Covers both historical understandings of indigenous knowledge systems and the ways that these knowledge systems are currently being taken up by tribal peoples. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or postbaccalaureate student; Credit is allowed for only IED 502 or JUS 691 (Indigenous Knowledges in Education) |
| IED | 503 | Current Issues in Indigenous Education | Examines current issues facing indigenous student academic achievements and their path to higher education in the United States. Focuses on how structural and systematic dynamics influence indigenous education. Exposes students to literature and engages in discussions that allow them to analyze how policy, practice and lived-experiences shape indigenous education. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR postbaccalaureate student |
| IED | 510 | History of Indigenous Education | Philosophical and historical review of the development of indigenous education policies in both traditional and contemporary society. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR undergraduate postbaccalaureate student; Credit is allowed for only IED 410 or IED 510 |
| IED | 530 | Language/Literacy-Indig People | Examines issues, policies, theoretical foundations, and practices of indigenous peoples and other language minority communities from a sociolinguistics and language reclamation perspective. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student; Credit is allowed for only IED 430 or 530 |

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| IED | 535 | Community-Based Participatory Action Research | Examines the basic structures of what comprises the research paradigm called Community-Based Participatory Action Research (CBPR). CBPR is research that connects "research experts" with community members with an explicit focus on sharing power, knowledge and ownership of data and its concomitant resources and products. Offers a "how-to" for students in constructing research projects utilizing this lens/framework. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR postbaccalaureate student |
| IED | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 585 | Capstone | Allows students to build a culminating experience that reflects the breadth and depth of their MA experience and allows each student to explore a research area, interest, theme or question within Indigenous education. Develops final written products individually based on consultation with faculty. Each student has a two-faculty member committee to support the capstone project. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR postbaccalaureate student |
| IED | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | The College of Liberal Arts and Sciences | School of Social Transformation | 1 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IED | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |

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| IED | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IED | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-15 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IEE | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-4 | | |
| IEE | 210 | Introduction to Industrial Engineering | Comprehensive overview of what industrial engineers (IEs) do in the workforce for both IE and non-IE majors. Topics include quality management, process control charts, queueing analysis, time study, project management, forecasting methods and inventory management. Emphasis on the mathematics used in these listed topics is of paramount importance evaluated by explicit examination and applying the mathematics in an IE context. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): MAT 265 or 270 with C or better OR Visiting University Student |
| IEE | 220 | Business and Industrial Engineering | Introduces business for industrial engineers, including business/financial structures, fundamentals of cost and accounting, role of business/engineering in society. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; Introduction to Engineering course with C or better OR Engineering Management student; minimum 25 hours OR Visiting University Student |
| IEE | 225 | Human Systems Integration | Reviews human systems integration (HSI), which is basically systems engineering from a human-centered perspective. Research, theory and methodological approach as applied to a variety of systems ranging from transportation systems to medical and military systems. Discusses handbook chapters and specific examples of human systems integration. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): HSE 101 or PSY 101 with C or better; Credit is allowed for only HSE 225 or IEE 225 OR Visiting University Student |
| IEE | 300 | Economic Analysis for Engineers | Economic evaluation of alternatives for engineering decisions, emphasizing the time value of money. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergrad student: MAT 265 or 270 with C or better and Introduction to Engineering course with C or better OR Engineering Management Minor/Concentration: MAT 265 or 270 with C or better OR Visiting University Student |
| IEE | 305 | Information Systems Engineering | Overview of computer and information systems applications. Topics include client/server; distributed computing; networks; process modeling; e-commerce; enterprise applications; Internet. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | CS | Prerequisite(s): Fulton Engineering undergraduate student; CSE 205 OR Non-Fulton Engineering undergraduate student; CSE 205; minimum 3.00 GPA OR Visiting University Student |
| IEE | 320 | Extreme Excel | Today's workplace environment for engineers demands advanced skills in using worksheet applications such as Microsoft Excel. Course addresses this important gap in the curriculum to provide support for students who are in need of training on the various capabilities of the software. In particular, students become familiar with various functionalities that are critical for performing their jobs as engineers. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1 | | Prerequisite(s): minimum 45 hours or degree- or nondegree-seeking graduate student OR Visiting University Student |
| IEE | 321 | Professional Engineering Practice | Methods and tools for preparing students for work in industry including ethics, technical writing and communications; understanding how learned undergraduate skills are used in the workplace and in engineering problem solving. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1 | | Prerequisite(s): Engineering Management BSE or Industrial Engineering BSE major; IEE 300 with C or better; IEE 380 with C or better; Pre- or corequisite(s): IEE 369 with C or better if completed OR Visiting University Student |

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| IEE | 369 | Work Analysis and Design | Planning, analysis and design of methods of accomplishing work. Emphasizes human factors, work planning, methods analysis and design, and work measurement. Applications in diverse fields. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | L | Prerequisite(s): Fulton Engineering undergraduate student or Engineering Management minor/concentration; ENG 101, 105, or 107 with C or better; FIN 300 or IEE 300 with C or better OR Visiting University Student |
| IEE | 376 | Operations Research Deterministic Techniques/Applications | Industrial systems applications with deterministic operations research techniques. Resource allocation, product mix, production, transportation, task assignment, networks. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 4 | | Prerequisite(s) with C or better: Indust Engr major; CSE 205; IEE 210; MAT 242, 342, or 343 OR Engr Mngmnt student or Math Concepts of Engr certificate student; CSE 205; MAT 242, 342, or 343 OR Industrial Engr grad student OR Visiting University Student |
| IEE | 380 | Probability and Statistics for Engineering Problem Solving | Applications-oriented course with computer-based experience using statistical software for formulating and solving engineering problems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | CS | Prerequisite(s): Fulton Engineering undergrad stdnt, Engr Management minor, or Math Concepts of Engr cert stdnt; MAT 266 or 271 with C or better OR Industrial Engr grad stdnt or Data Science, Analytics & Engr PhD stdnt OR Visiting University Student |
| IEE | 381 | Lean Six Sigma Methodology | Define, measure, analyze, improve and control (DMAIC) steps of six sigma methodology for business and quality improvement. Reviews the necessary statistical tools and illustrates their integration into the problem-solving process. Overview of lean principles and design for six sigma. Unique features of applying six sigma and DMAIC in transactional and service organizations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): IEE 380 with C or better; Credit is allowed for only IEE 381 or IEE 498 (Six Sigma Methodology) or IEE 498 (Six Sigma Green Belt) OR Visiting University Student |
| IEE | 385 | Engineering Statistics: Probability | Conditional probability, common probability models, Goodness-of-fit tests and reliability models. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate or Mathematical Concepts of Engineering certificate student; IEE 380 with C or better OR Industrial Engineering graduate student OR Visiting University Student |
| IEE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-4 | | |
| IEE | 412 | Introduction to Financial Engineering | Intensive exploration course of three phases: (1) a preparation phase for the terminology and financial lingo to be used throughout the semester, (2) introduction of more advanced financial topics such as portfolio formation, assessment and traditional portfolio theory, (3) several financial engineering topics such as the application of stochastic models to stock and derivatives pricing and financial risk management. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): IEE 300 with C or better; IEE 380 with C or better OR Visiting University Student |
| IEE | 421 | Urban Operations Research | Covers a sample of operations research (OR) techniques that can be used to model urban problems. Studies two main areas: (1) deterministic decision making, including linear programming and network flow problems, facility location, travel salesman and vehicle routing problems, and scheduling; (2) stochastic decision making, including probabilistic modeling, discrete Markov chains, Poisson process, queuing theory, spatially distributed queues and optimization under uncertainty. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): IEE 376 with C or better; IEE 380 with C or better; IEE 385 with C or better; Credit is allowed for only IEE 421 or IEE 498 (Urban Operations Research) or IEE 521 or IEE 598 (Urban Operations Research) OR Visiting University Student |
| IEE | 426 | Operations Research in Healthcare | Quantitative methods for modeling and analysis of healthcare systems to address operational and tactical decision-making problems. Topics include forecasting, scheduling, decision making, facility location and layout, staffing, quality control and supply chain management in hospitals and healthcare delivery facilities. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisites: IEE 376 and 380 with C or better; Credit is allowed for only IEE 426, 498 (OR in Hospitals), 526 or 598 (OR in Hospitals) |
| IEE | 431 | Engineering Administration | Introduces quantitative and qualitative approaches to management functions, engineering administration, organizational analysis, decision making, and communication. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | L | Prerequisite(s): Fulton Engr undergrad stdt, Dig Cult (Media Processing) BA/BS major, or Engr Mgmt minor or concentration; ENG 101, 105, or 107 w/ C or better; min junior standing; Credit allowed for only IEE 431 or IEE 541 OR Visiting University Student |
| IEE | 437 | Human Factors Engineering | Studies the human psychological and physiological factors that underlie the design of equipment and the interaction between people and machines. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student or minimum 3.0 GPA; Credit is allowed for only IEE 437 or IEE 547 OR Visiting University Student |

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| IEE | 454 | Risk Management | Methods and tools for identifying, assessing, mitigating and controlling risk in business and engineering design activities. Decision tools include cost-benefit analysis, decision trees, value of information, Bayesian statistical decision making, fault trees, and failure modes and effects analysis (FMEA). | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Engineering major or Engineering Management Minor/Concentration; ECN 221 or IEE 380 with C or better; minimum junior standing OR Visiting University Student |
| IEE | 456 | Introduction to Systems Engineering | Foundation course addressing the concepts needed for successful system planning, design and build process. Topics include successfully bringing large-scale systems to completion on schedule and on budget, modeling and cost estimating techniques, risk and variability. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Fulton Engineering student; IEE 300 with C or better; junior or senior standing OR Engineering Management minor or concentration; IEE 300 with C or better; Credit is allowed for only IEE 456 or IEE 556 OR Visiting University Student |
| IEE | 458 | Project Management | Life-cycle processes for selecting and managing large-scale projects to ensure successful completion. Topics include project phases, defining milestones, work breakdown structure, group decision making and teamwork, organizational structure, human resource management, technological and economic feasibility, configuration management, budget control, and resource allocation and scheduling. Use of modern tools for planning and controlling project performance. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s) with C or better: Engineering major or Engineering Mgt minor or concentration; ECN 221 or IEE 380; min junior standing OR non-Engrn majors; EEE 350, HSE 230, MAE 301, MFG 480, or STP 420; min junior standing OR Visiting University Student |
| IEE | 461 | Production Control | Techniques for the planning, control, and evaluation of production systems. Forecasting, inventory control, scheduling, enterprise requirements planning, supply chain design, and coordination. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; IEE 376 with C or better; IEE 380 with C or better OR Visiting University Student |
| IEE | 470 | Stochastic Operations Research | Modeling and analysis with emphasis on stochastic operations research. Models for stochastic processes, including Markov chains, queueing and decision analysis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Comp Science BS, Engin Mgmt BSE, Indust Engin BSE, Informatics BS, or Mathematical Concepts of Engin cert student; IEE 376 w/ C or better; IEE 385 w/ C or better OR Industrial Engr graduate student OR Visiting University Student |
| IEE | 474 | Quality Control | Basic statistical process control techniques, capability analysis, design of experiments, and acceptance sampling plans. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): IEE 380 with C or better OR Visiting University Student |
| IEE | 475 | Simulating Stochastic Systems | Analyzes stochastic systems using basic queueing networks and discrete event simulation. Basic network modeling, shared resources, routing, assembly logic. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 4 | CS | Prerequisite(s): Fulton Engineering undergraduate student; CSE 205 with C or better; IEE 385 with C or better OR non-Engineering major; CSE 205 with C or better; IEE 385 with C or better; minimum 3.00 GPA OR Visiting University Student |
| IEE | 477 | System Dynamics and Thinking | Methods for the modeling and analysis of system dynamics; metrics to measure business performance; continuous simulation tools for evaluation of system performance over time. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): CSE 205 with C or better; IEE 380 with C or better; Credit is allowed for only IEE 477 or IEE 498 (System Dynamics Engineering) OR Visiting University Student |
| IEE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-12 | | |
| IEE | 485 | Systems Design Capstone I | Senior capstone project provides students with the skills required to effectively complete a capstone project in design and development. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | L | Prereq(s) with C or better: Engr Mgmt BSE major; ENG 101, 105, or 107 or postbacc; IEE 321; IEE 369; IEE 458 OR Industrial Engr BSE major; ENG 101, 105, or 107 or postbacc; IEE 321; IEE 369; IEE 376; Pre- or coreq(s): Industrial Engr BSE major; IEE 475 |
| IEE | 486 | Systems Design Capstone II | Project in design and development. Individual or team capstone project in creative design and synthesis. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | L | Prerequisite(s): Engineering Management BSE or Industrial Engineering BSE major; minimum senior standing or postbaccalaureate; ENG 101, 105, or 107 with C or better; IEE 485 with C or better |
| IEE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-6 | | Prerequisite(s): Barrett Honors student |
| IEE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |

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| IEE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-4 | | |
| IEE | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-7 | | |
| IEE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-3 | | |
| IEE | 505 | Information Systems Engr | Studies information systems application engineering. Topics include information technology, data modeling, data organization, process mapping, application and database engineering, and user interface development. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton graduate student; Credit is allowed for only IEE 505 or IEE 506 |
| IEE | 506 | Web-Enabled Decision Support Systems | Development and analysis of Web-enabled applications for decision support. Topics include: (1) Web application development using ASP.NET; (2) design for computing scalability, interface usability and cyber security; and (3) use of application development skills and design concepts to develop a decision support system consisting of database, analytical data processing, expert knowledge and reasoning, and user-friendly interface for enabling transitions from data to information, knowledge and decisions. Knowledge of database development is necessary to be successful in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton graduate student; Credit is allowed for only IEE 505 or IEE 506 |
| IEE | 511 | Analysis of Decision Processes | Methods of making decisions in complex environments and statistical decision theory; effects of risk, uncertainty, and strategy on engineering and managerial decisions. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisites: Engineering Graduate student; Credit is allowed for only IEE 498 (Analysis of Decision Processes) or 511 |
| IEE | 512 | Introduction to Financial Engineering | Introductory course on financial engineering covering traditional portfolio theory, forwards, futures, financial stochastic models, option pricing, and risk management. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 520 | Statistical Learning for Data Mining | Surveys data analysis methods for massive data sets and provides experience in analysis with computer software. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; BMI 515, IEE 572, or IEE 578; Credit is allowed for only BMI 555 or CSE 572 or IEE 520 |
| IEE | 521 | Urban Operations Research | Covers a sample of operations research (OR) techniques that can be used to model urban problems. Studies two main areas: (1) deterministic decision making, including linear programming and network flow problems, facility location, travel salesman and vehicle routing problems, and scheduling; (2) stochastic decision making, including probabilistic modeling, discrete Markov chains, Poisson process, queuing theory, spatially distributed queues and optimization under uncertainty. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only IEE 421 or IEE 521 |
| IEE | 526 | Operations Research in Healthcare | Quantitative methods for modeling and analysis of healthcare systems to address operational and tactical decision-making problems. Topics include forecasting, scheduling, decision making, facility location and layout, staffing, quality control and supply chain management in hospitals and healthcare delivery facilities. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisites: Graduate Engineering student; Credit is allowed for only IEE 426, 498 (OR in Hospitals), 526 or 598 (OR in Hospitals) |
| IEE | 530 | Enterprise Modeling | Focuses on social, economic, and technical models of the enterprise with emphasis on the management of technological resources. Includes organization, econometric, financial, and large-scale mathematical models. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: Engineering Graduate student |
| IEE | 533 | Scheduling | Provides the basic theory of scheduling and introduction to the applications domain. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: Engineering Graduate student |
| IEE | 534 | Supply Chain Modeling and Analysis | Techniques for modeling and analysis of supply chains. Inventory management, transportation/location models, value of information, channel alignment, risk pooling, contracts. Requires knowledge of basic statistics and probability and some optimization. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student |
| IEE | 535 | Intro Intl Logistics Systems | Exploratory project-oriented course that addresses domestic and international logistics practices from a high-level descriptive perspective and an analytical model-based perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 541 | Engineering Administration | Introduces quantitative and qualitative approaches to management functions, engineering administration, organizational analysis, decision making, and communication. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: Engineering Graduate student; Credit is allowed for only IEE 431 or 541 |
| IEE | 545 | Advanced Simulating Stochastic Systems | Analyzes stochastic systems using basic queuing networks and discrete event simulation. Basic network modeling, shared resources, routing, assembly logic. | N | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |

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| IEE | 547 | Human Factors Engineering | Study of people at work; designing for human performance effectiveness and productivity. Considerations of human physiological and psychological factors. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisites: Engineering Graduate student; Credit is allowed for only IEE 437 or 547 |
| IEE | 552 | Strategic Technological Planning | Studies concepts of strategy, strategy formulation process, and strategic planning methodologies with emphasis on engineering design and manufacturing strategy, complemented with case studies. Presents and uses an analytical executive planning decision support system throughout course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: Engineering Graduate student |
| IEE | 556 | Introduction to Systems Engineering | Foundation course addressing the concepts needed for successful system planning, design and build process. Topics include successfully bringing large-scale systems to completion on schedule and on budget, modeling and cost estimating techniques, risk and variability. Graduate students are expected to have a background in and understanding of large-scale systems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only IEE 456 or IEE 556 or IEE 598 (Intro to Systems Engineering) |
| IEE | 561 | Production Systems | Understanding how factories operate, how performance is measured, and how operational changes impact performance metrics. Operational philosophies, increasing production efficiency through quantitative methods. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: Engineering Graduate student |
| IEE | 570 | Advanced Quality Control | Process monitoring with control charts (Shewhart, cusum, EWMA), feedback adjustment and engineering process control, process capability, autocorrelation, selected topics from current literature. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: Engineering Graduate student |
| IEE | 571 | Quality Management | Total quality concepts, quality strategies, quality and competitive position, quality costs, vendor relations, the quality manual, and quality in the services. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: Engineering Graduate student |
| IEE | 572 | Design Engineering Experiments | Analysis of variance and experimental design. Topics include strategy of experimentation, factorials, blocking and confounding, fractional factorials, response surfaces, nested and split-plot designs. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: Engineering Graduate student |
| IEE | 573 | Reliability Engineering | Nature of reliability, time to failure densities, series/parallel/standby systems, complex system reliability, Bayesian reliability, and sequential reliability tests. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: Engineering Graduate student |
| IEE | 574 | Appl Deterministic Oper Rsch | Develops advanced techniques in operations research for the solution of complex industrial systems problems. Goal programming, integer programming, heuristic methods, dynamic and nonlinear programming. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: Industrial Engineering MS, MSE or PhD student |
| IEE | 575 | Appl Stochastic Oper Rsch Mdls | Formulate and solve industrial systems problems with stochastic components using analytical techniques. Convolution, continuous-time Markov chains, queues with batching, priorities, balking, open/closed queuing networks. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: Engineering Graduate student |
| IEE | 576 | Network Optimization and Algorithms | Algorithms to solve network flow problems with an objective to improve computational complexity by using appropriate data structures and computing procedures. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only IEE 576 or IEE 598 (Network Flows and Algorithms) or IEE 598 (Network Optimization and Algorithms) |
| IEE | 577 | Data Science for System Decision Analytics | Focuses on applied data science techniques for the system decision support in PYTHON. Also targets anyone who is interested in data analytics in general or plans to work with data in a future career (such as data scientist and data analytics). Highly encourages some prior knowledge about PYTHON. Focuses on the conceptual understanding of system modeling, statistical and machine learning, and optimization with some mathematical formulation. Also covers the main concept and some implementation of the latest development in data science, such as distributed computing, large-scale optimization, and deep learning. Furthermore, covers how to implement these models for different types of data, such as tabular data, images, text data. Finally, discusses how to interpret these models for decision support of complex systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student |
| IEE | 578 | Regression Analysis | Regression model building oriented toward engineers and physical scientists. Topics include linear regression, diagnostics, biased and robust fitting, nonlinear regression. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Engineering Graduate student |
| IEE | 579 | Time Series Analy/forecasting | Forecasting time series by regression-based, exponential smoothing, and ARIMA model techniques; uses digital computer programs to augment the theory. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: Engineering Graduate student |
| IEE | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| IEE | 581 | Six Sigma Methodology | The six sigma process improvement strategy of define, measure, analyze, improve, and control (DMAIC). Integrates and deploys statistical methods and other six sigma problem solving via the DMAIC framework. Requires background in undergraduate engineering statistics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Engineering Graduate student |
| IEE | 582 | Response Surfaces/Process Opt | Classical response surface analysis and designs including steepest ascent, canonical analysis, and multiple responses. Other topics include process robustness studies, robust design, and mixture experiments. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Engineering MS, MSE or PHD major; IEE 572 with C or better |
| IEE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 585 | Six Sigma Capstone | The DMAIC (define, measure, analyze, improve, control) improvement strategy is applied in the formulation and execution of a six sigma project. | N | PRA | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; IEE 530, 561, 572, 573, or 578; IEE 570; IEE 581 |
| IEE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-12 | | Pre-requisite: Industrial Engineering MS, MSE or PHD student |
| IEE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-4 | | Prerequisite(s): Engineering graduate student |
| IEE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 605 | Foundations of Information Systems Engineering | Introduces science and engineering technologies of information systems design and analysis with focus on industrial engineering applications. Topics include: design and analysis of computational algorithms; and data mining techniques for classification, clustering, feature extraction and data reduction problems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): graduate Industrial Engineering student |
| IEE | 620 | Optimization I | First course of the PhD-level deterministic course series. Covers foundations of optimization and linear programming. Prior working knowledge of linear algebra and knowledge of how to formulate linear programs is required for this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 622 | Optimization II | Introduces computational methods to solve optimization problems with integer variables and the mathematical theory behind them. Follows formulation of integer programming models with a survey of relaxation, decomposition and cutting-plane methods. Discusses various practical problems such as facility location, transportation and distribution problems. Assigns computational examples using the software IBM ILOG OPL. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: IEE 620; Credit is allowed for only IEE 622 or 598 (Optimization II) |
| IEE | 640 | Probability & Stochastic Processes | Presents fundamentals of probability and stochastic processes from a non-measure theoretic point-of-view to develop (a) basic model building and probabilistic reasoning skills, and (b) an understanding of important qualitative characteristics of some basic stochastic processes used to model dynamical systems with noise. Topics include a review of probability theory with particular attention to conditional probability and expectation; Markov chains; Renewal theory and the Poisson process. Considers applications in reliability, inventory theory, queueing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: IEE 470, Graduate Industrial Engineering major; Credit is allowed for only IEE 598 (Prob & Stoch Model) or 640 |

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| IEE | 670 | Mathematical Statistics | Introduction to the field of mathematical statistics at a level intended for first-year PhD students in Industrial Engineering. Builds a solid background in the principles, concepts, and techniques of mathematical statistics. Prepares students for advanced study and research in statistics, and is useful for understanding statistical data analysis techniques and developing statistical thinking. Completion of at least one course in probability and statistics is required prior to taking this class. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 672 | Adv Topics-Experimental Design | Multilevel and mixed-level factorials and fractions, design optimality, incomplete blocks, unbalanced designs, random effects and variance components, analysis of covariance. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Engineering MS, MSE or PHD major; IEE 572 with C or better |
| IEE | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-12 | | Pre-requisite: Industrial Engineering MS, MSE or PHD student |
| IEE | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IFT | 100 | Introduction to Information Technology | Project-based introduction to the key concepts, tools and devices underlying today's technologies. Introduces computer hardware, software and system architecture, the Internet, the World Wide Web and information technology ethics. Forms a foundation for future courses offered in the Information Technology major and the information technology discipline. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | |
| IFT | 101 | Information Technology Programming Logic | Introduces basic analysis and synthesis procedures for an understanding of information system logical structures. Topics include: identifying organizational domains for potential automation, informational descriptions (scenarios) of those domains, and program structure and logical designs for potential problem/opportunity resolution. Uses graphical and textual models to express the logic and uses Python to implement the logic. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Credit is allowed for only IFT 101 or IFT 194 (Information Technology Programming Logic) OR Visiting University Student |
| IFT | 103 | Operating System Architecture | Introduces Linux, Windows and Mac operating systems. Begins with an overview of the hardware of modern computer and operating systems. Also introduces user management, memory management, network and disc storage. Provides hands-on practices to introduce computer and operating system virtualization. Provides an isolated environment to practice and do labs on advanced topics in the field of memory management, different portable data file input/output. Students learn Command Line Interface (Bash/Power Shell) to interact with computers and transfer data files from one operating system to another operating system. Also introduces basic computer networking and hardware security. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | |
| IFT | 166 | Introduction to Internet Networking | Introduces the OSI model and the protocol layers associated with information communication technology. Describes the role and purpose of each layer. Covers various network topologies, communications protocols, transmission media, networking hardware and software, network management and troubleshooting. Students gain hands-on experience in basic network configuration. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | |

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| IFT | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 1-4 | | |
| IFT | 200 | Information Modeling, Storage and Retrieval | Covers the different types of data modeling with emphasis on the relational model. Develop solutions for data modeling problems, starting with identifying user and data requirements. Fundamentals of database design going through the conceptual, logical and physical data modeling steps. Create relational databases in order to store data. Utilize Structured Query Language (SQL) to represent, retrieve, and manage a database. Students learn how applications connect to databases, and interact with them. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 101 with C or better OR Visiting University Student |
| IFT | 202 | Foundations of Information and Computer System Security | Introduces information technology (IT) security aspects and how technology can be vulnerable to unwanted intrusions. Project-based introduction to privacy, ethics, legal, social and professional responsibilities for information technology. Principles of information security and assurance and their implications on access. Tools and methods to identify intrusion, best security practices. Securing communications and applications. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 101 with C or better; IFT 103 with C or better; IFT 166 with C or better OR Visiting University Student |
| IFT | 210 | Introduction to Java Technologies | Introduces Java as a platform for application development. Fundamental concepts of the Java language (classes, objects, conditions, loops, arrays), object-oriented programming and design (inheritance, polymorphism, interfaces), exceptions, and basics of the user interface programming. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 101 with C or better OR Visiting University Student |
| IFT | 220 | Managing Configurations and Active Directory | Introduces the concept of Directory Services by exploring Active Directory from design and implementation. Further explores the role Active Directory plays in managing computer policy and security, user's identity management and authentication, and configuration management of both client computers and servers. Introduces the use of PowerShell scripting. Students implement their own Active Directory domain and then use it to perform various configuration management tasks. Assumes no previous experience with Configuration Management concepts or Active Directory. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 103 with C or better; IFT 166 with C or better OR Visiting University Student |
| IFT | 250 | Introduction to UNIX Utilities | Technical overview (introduction) to Unix-style operating systems such as Linux. Covers a broad range of features of the operating system from core system technologies such as the Filesystem Hierarchy Standard (FHS), to using the shell and common Unix/Linux utilities to accomplish day-to-day computing tasks. Includes output redirection, file manipulation, basic system and environment configuration, and system monitoring. Assumes no prior experience with the Unix operating system. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 103 with C or better OR Visiting University Student |
| IFT | 266 | Network Information Communication Technology | Focuses on the physical layer, data-link layer and network layer of the OSI model. Introduces data communications, including signals and transmission impairments. Also introduces network topologies and local-area networks with particular attention on the network switch. Network layer protocols (IPv4 and IPv6) are included with focus on IPv6. Subnetting (classful and classless) are explored in more detail and Variable Length Subnet Mask) VLSM is introduced. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 166 with C or better OR Visiting University Student |
| IFT | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 1-4 | | |
| IFT | 300 | Intermediate Database Management Systems | Fundamental methods in managing data-oriented systems. Relational, object and hierarchical data architectures. Query languages including SQL. Semantics of transaction processing. Database system architectures including cloud-based, client-server and embedded databases. Security and privacy issues associated with SQL-structured databases. Modern trends in data management including unstructured data type management, data mining and business analytics. Describes NoSQL data management platforms. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 200 with C or better; Credit is allowed for only ACO 220 or ACO 320 or CSE 412 or IFT 300 (or IFT 433) or SER 322 OR Visiting University Student |
| IFT | 301 | Web Programming for Human Computer Interface | Human-computer interaction design for rich media systems. Design processes, tools and principles for applications that are highly interactive with their users and which include multiple input/output modalities and multimedia. Project-driven course. Key topics include wireframes and persona structures associated with HCI. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 200 with C or better OR Visiting University Student |
| IFT | 310 | Information Systems Project Development | Intense review of information technology organizational management; project development for IT infrastructure, management and security systems. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 200 with C or better; IFT 202 or 394 (Intro to Cyber Security) with C or better; IFT 266 or 394 (Networking Character & Protocols) with C or better OR Visiting University Student |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|------------------------|-------|-----------------|--|
| IFT | 320 | Managing the Cloud | Provides a hands-on comprehensive study of Cloud concepts and capabilities across the various Cloud service models including Infrastructure as a Service (IaaS), Platform as a Service (PaaS) and Software as a Service (SaaS). Studies the latest solutions for cloud computing developed by Google, Amazon and Microsoft. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 200 with C or better; IFT 202 or 394 (Intro to Cyber Security) with C or better; IFT 266 or 394 (Networking Charac & Protocols) with C or better OR Visiting University Student |
| IFT | 360 | Applications in Artificial Intelligence | Artificial Intelligence (AI) is one of the most exciting technologies, both shaping and challenging the future of our industries and workforce. AI is a multidisciplinary area comprising theoretical, experimental and applied investigations of intelligent systems. Converging technologies along with natural language processing, big data and the Internet of Things (IoT) are driving the growth of AI. An introductory course in AI is a good place to start as it gives students an overview of the components, brings students up to speed on the AI research and developments to date. Covers examples of AI in use today such as Web crawlers, how humans detect financial frauds, self-driving cars, facial recognition systems, and natural language processors. Provides hands-on experience with the AI programming of different intelligent agents. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 200 with C or better; IFT 210 with C or better OR Visiting University Student |
| IFT | 365 | Applied Programming Language for Information Technology | Object-oriented programming (OOP) with a focus on advanced techniques used in developing applications. Emphasizes problem solving using the software development life cycle. Supports application creation and testing through study of programming basics, data structures and OOP fundamentals resulting in a framework of collection classes students use to solve problems and create applications. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 210 with C or better OR Visiting University Student |
| IFT | 366 | TCP/IP and Routing | In-depth study of the TCP/IP protocol suite and router technology. Covers the underlying applications, components and sub-protocols that make up the TCP/IP suite. Emphasizes the fundamentals of routing, router configuration, understanding routing protocols and setting up access control lists. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 266 or 394 (Networking Charac & Protocols) with C or better OR Visiting University Student |
| IFT | 370 | Mobile Computing and Applications for Information Technology | Infrastructure and architecture of mobile computing, wireless protocols, design principles, patterns and practices for mobile app development Android and iPhone platforms. Presents the development processes for both types, focusing on Android development with Java in providing hands-on development of applications in support of an applied practice learning experience. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 210 with C or better; IFT 301 with C or better OR Visiting University Student |
| IFT | 372 | Wireless Fundamentals | Foundational course in wireless networking includes systems-level coverage of advanced information communication technology (ICT) focusing on digital wireless communications systems used in today's ICT networks. Introduces communication techniques that allow high-speed mobile connectivity. Includes topical areas in noise, modulation techniques, signal path loss, basic antenna theory and other similar topics required to understand how a wireless network architecture is developed. Also introduces the characteristics of both Wi-Fi based systems and smart phone-based systems. Specific topics include: binary communications, QPSK, PCM, TDM, QAM, OFDM, OFDMA and the wireless environment. Lays the foundation for fully understanding how to create and develop a wireless network. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 266 or 394 (Networking Character and Protocols) with C or better OR Visiting University Student |
| IFT | 380 | Advanced Systems Configuration Management | Explores in-depth advanced configuration management concepts and methods of deploying, configuring, monitoring and reporting on systems (both servers and workstations). Utilizes widely used CM tools to help illustrate and study patch management, application deployment, OS deployment, remote control, configuration baselines, drift remediation, inventory management and compliance reporting. Uses PowerShell as a scripting language. Assumes previous experience with directory services and PowerShell and introduces query languages without expecting prior experience. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 220 with C or better OR Visiting University Student |
| IFT | 381 | Information System Security | Fundamental course in information systems security that focuses on various security concepts. Students learn about intrusion systems and techniques to identify and help limit incursions. Familiarizes students with the different types of firewalls and their applications in the network. Details software security, hacking techniques and operating systems security. Moreover, emphasizes the initial security and privacy issues of some new technologies such as cloud computing, fog computing, Internet of Things (IoT), and blockchain. Finally, presents the fundamentals of AWS security testing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 202 or 394 (Intro to Cyber Security) with C or better OR Visiting University Student |

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| IFT | 383 | Shell and Script Programming with UNIX | UNIX operating system programming of shells, environment and 4th-generation languages and tools, such as sed, awk, perl, grep, make. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 250 with C or better OR Visiting University Student |
| IFT | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 1-4 | | |
| IFT | 401 | Information Technology Capstone Project I | First half of a comprehensive project experience based on cumulative knowledge and skills gained in earlier coursework. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s) with C or better: IFT 250; IFT 266 or 394 (Networking Characteristics & Protocols); IFT 300 (IFT 433); IFT 301; IFT 310; IFT 381; minimum senior standing |
| IFT | 402 | Information Technology Capstone Project II | Second half of a comprehensive project experience based on cumulative knowledge and skills gained in earlier coursework. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 401 with C or better |
| IFT | 410 | Big Data Tools and Practices | Architecture of Hadoop clusters at both the hardware and system software levels. Applies Hadoop and related Big Data technologies such as MapReduce, Pig, Hive and Impala in developing analytics and solving the types of problems faced by enterprises today. Expects programming experience in Java or Python and a general understanding of databases, networking and distributed systems. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 200 with C or better OR Visiting University Student |
| IFT | 420 | Cloud Architecture for Information Technology | Cloud technology has increased usability and reduced the cost of computing for global business environments. Leveraging the interoperability and rapid time to deployment allows for a high level of availability and scalability. Provides an overview of the methodologies and techniques that address cloud automation, design patterns, and optimization which are used to build a well-architected cloud computing environment. Students have the opportunity to learn how to deploy a fault-tolerant, efficient and scalable cloud infrastructure that considers important factors as security, reliability and high availability. Leverages the AWS Academy Cloud Architecting course, which supports students in preparing for AWS Certified Solutions Architect - Associate exam. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 266 with C or better; IFT 320 with C or better OR Visiting University Student |
| IFT | 421 | Data in the Cloud for Information Technology | Examines the architecture, frameworks and tools used to develop, analyze and communicate data using cloud services. Topics include the benefits, risks and opportunities represented by cloud technologies as well as the unique tools and infrastructure. Also covers cloud data solutions, data acquisition, migration, security, identity management and disaster recovery. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 320 with C or better; Pre- or corequisite(s): IFT 300 with C or better if completed OR Visiting University Student |
| IFT | 422 | Cloud Security and Operations for Information Technology | Cloud security solutions are required to address availability, authentication, integrity, confidentiality and auditing. It starts with a combination of operating system virtualization, processes automation and dynamic response to changing business conditions. Covers the way traditional models of security, governance, and operations have changed due to the fact that the cloud user and the cloud provider both hold responsibilities for the security measures. Provides an overview of the methodologies and techniques to create and maintain a secure well-operated cloud computing environment. Students have the opportunity to learn how to manage, secure and scale cloud infrastructures and their underlying functions for scaling, container computing, monitoring, database services and account security. Leverages the AWS Academy Cloud Operations course, which supports students in preparing for the AWS SysOps Administrator - Associate exam and (ISC)2 CCSP exam. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 320 with C or better; IFT 381 with C or better OR Visiting University Student |
| IFT | 443 | Analyzing Big Data | Data mining and statistical techniques that arise in data analytic applications. Students learn and practice working with big data using data analytic techniques presented in earlier coursework. Discusses one or more applications associated with data analytic techniques. Practices using advanced techniques that build on the knowledge provided in earlier coursework and knowledge gained from a statistical methods course. Familiarity with databases and statistics are essential. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 410 (IFT 333) with C or better OR Visiting University Student |
| IFT | 458 | Middleware Programming and Database Security | Covers the main concepts of middleware technologies. Includes the various methodologies used to integrate applications, databases and Web services. Students develop multilevel applications using programming/scripting languages (such as PHP, Java, Python, Perl) which access data stored in a database. Middleware programs typically control database access and protect database SQL programs from security breaches. Students access the data from applications and other Web technologies such as XML, as well as protecting the data from unauthorized access. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): Graphic Information Technology (Full-Stack Web Development) BS major; GIT 215 with C or better OR IFT 301 with C or better; IFT 383 with C or better; Credit is allowed for only ACO 321 or IFT 458 OR Visiting University Student |

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| IFT | 460 | Managing Intelligent Devices in an Enterprise Environment | Systems and devices with unique identifiers that are connected to the Internet. Hands-on study of enterprise-related intelligent applications including energy, logistics, industrial control, retail and agriculture, among multiple domains. Includes the development of working code for real-world Internet of Things (IoT) applications. Requires high-level programming skills. Incorporates a taxonomy of IoT systems with increasing levels of complexity. Programming aspects of IoT devices and rapid prototyping follows the foundational information. Covers IoT data analytics and tools used to manage these intelligent devices. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s) with C or better: IFT 200; IFT 202; IFT 250; Credit is allowed for only IFT 460 or IFT 494 (Managing Intelligent Devices in an Enterprise Env) or IFT 598 (Managing Intelligent Devices in an Enterprise Env) OR Visiting University Student |
| IFT | 466 | Advanced Computer Networks for Information Technology | Redundancy protocols, QoS and the implementation of wide area networks. Focuses on advanced concepts and implementation of EIGRP, OSPF, BGP and extended ACLs. Also covers in detail implementing routing from an IPv6 perspective. Additional topics include cloud computing and SDNs. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 366 with C or better OR Visiting University Student |
| IFT | 475 | Security Analysis | Processes used in cyber security analyses. Presents through exercises techniques to ensure confidentiality, integrity and availability. Includes vulnerability assessments based on faulty software design. Explores malicious code and computer crime, including operating system (OS) root kits. Students are instructed in how to conduct analyses in support of cyber security initiatives. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 381 with C or better OR Visiting University Student |
| IFT | 482 | Network Forensics | Use and creation of advanced network forensics tools: intrusion detection and prevention, honeynets, traffic routing and management, and data reduction and graphing tools. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 381 (IFT 481) with C or better; Credit is allowed for only ACO 331 or IFT 482 OR Visiting University Student |
| IFT | 483 | Developing Security Policy | Focuses on development of security policy, risk solutions and incident response facilities. Using the information security framework, identifies strategies and processes used in governance, risk management, asset management, human resources and physical security to create, evaluate and audit security policies. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 381 with C or better OR Visiting University Student |
| IFT | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Information Technology | 1-12 | | |
| IFT | 488 | Systems Administration of UNIX | UNIX administration of system and user services using command line and GUI tools. System security and forensics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 383 with C or better OR Visiting University Student |
| IFT | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Information Technology | 1-6 | | Prerequisite(s): Barrett Honors student |
| IFT | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | Information Technology | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| IFT | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 1-4 | | |
| IFT | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Information Technology | 1-3 | | |
| IFT | 510 | Principles of Computer and Information Technology Architecture | A comprehensive introduction to computer and information technology architectures. Provides a detailed understanding of computer architecture, system software and network architecture, including the relationships among these IT-related entities. Forms a technical foundation for understanding current IT-related technologies and how they work as an integrated system. Begins with the historical study of computing and networks and progresses through computer and networking architecture. Topics include principles of a computer's physical and operating system architecture and its relationship to a network's architecture, including hardware and software functionalities. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IFT | 511 | Analyzing Big Data | Covers how data science can be used as tools to analyze large amounts of data for the purpose of extracting business value. Covers multiple topics with real business examples. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IFT 511 or IFT 598 (Analyzing Big Data) |

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| IFT | 512 | Advanced Big Data Analytics/AI | Develops a workflow structure and implementation of an end-to-end Machine Learning (ML) environment, from a hands-on DevOps (Development - Operations) perspective. This workflow structure forms the substrate for the layers of algorithms and models that are intended to implement and deliver/monitor analytics and AI products. To that end, the student learns about modern data storage evolutions (e.g., LakeHouses/Delta Lake) and end-to-end management/governance of machine learning/AI models (MLFlow) and products. Also deepens knowledge of advanced data analysis and statistical techniques that arise in data analytic and monitoring applications as students see how the ML work integrates with their substrate development. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 511; Credit is allowed for only IFT 512 or IFT 598 (Advanced Analytics for Big Data/AI) or IFT 598 (Advanced Data Analytics) |
| IFT | 520 | Advanced Information Systems Security | Advanced methods that can be used to make the information secure in different environments. Provides details about modern cryptographic algorithms and their applications to make the IoT, Cloud and Big data information secure. Also provides comprehensive information about how to make wireless networks secure, different case studies and application in a real environment. Finally, covers the human aspect of information security for identifying issues and developing real solutions. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IFT | 530 | Advanced Database Management Systems | Teaches advanced concepts of database management systems, for example, further dependencies and higher normal forms, indexing, transaction and locking, concurrency control, database security, backup and recovery, accessing XML data, query optimization techniques, and databases for web applications. Students expand their SQL programming knowledge through focused database design practice with an increasingly complex problem and solution set using Microsoft SQL Server. Introduces NoSQL for SQL developers and about unstructured "big data" databases and hands-on experience with MongoDB. Project-driven course builds on the background presented in Software Development for Information Technology. Familiarity with information modeling and software development process is essential. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IFT | 540 | Information Systems Development | Proven techniques and methodologies for modeling information requirements and organizational data resources with a strong focus on gleaning information from data. Students learn how to discover, document and structure functional system requirements and user interface requirements at a level appropriate for advanced information technology practitioner, and develop conceptual data models. Covers the phases of a generic systems development life cycle (SDLC), object-oriented analysis and design (OOAD) with UML modeling, and Agile methodologies. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IFT | 545 | Advanced Security Analysis | Advanced inspection of concepts and exercises related to security analysis. Expands analysis techniques to include wireless protocols, interception techniques, man-in-the-middle attacks, forgeries, cloned and replay attacks, cyber warfare, data corruption, data leakage and peer-to-peer networks. Through a variety of exercises, students work with tools and technologies available on the commercial market. The teaching environment is designed to impart the skills required by a corporate security professional. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IFT | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 1-12 | | |
| IFT | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Information Technology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IFT | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Information Technology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IFT | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Information Technology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IFT | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Information Technology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| IFT | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IFT | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Information Technology | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IFT | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IGD | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | GNA | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IGD | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IGD | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IGD | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IGD | 601 | Re-Thinking Global Development | Traces and analyzes the origins of international or global development as theory, concept, policy and practice. Studies the key theories that have been influential in development conceptualization and policy, within the context of the history in which they arose; evaluates the results; and considers future trends and scenarios considering the critiques of such mainstream approaches. | N | SEM | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IGD | 602 | Innovation for Inclusive Development | Clear advances in economic, social and political development and wealth generation have been uneven, and have resulted, as well, in an increasing gap between wealth and poverty. Continuing in the same direction could exacerbate existing problems, and in this course, we imagine different future outcomes and how to make policy today for a better future. | N | SEM | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IGD | 603 | Methods for Research in Global Development | Provides a practical introduction to research methods and methodologies in global development. Through hands-on exercises, exposes students to issues around quantitative and qualitative data collection and management, analysis and interpretation of results, and research ethics and practice in development as well as application of research to policy development and its implications. | N | SEM | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IGD | 604 | Colloquium in Innovation in Global Development | This student-centered and faculty-mentored colloquium provides critical opportunities for leadership, organization, planning and implementation of events related to global development studies. Encourages students to propose and plan their own events, focused on issues and topics of importance to them, and utilizing the resources on the ASU campus and Phoenix area. | N | SEM | Y | GNA | College of Global Futures | School for the Future of Innovation in Society | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IGD | 784 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IGD | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IGD | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | RSC | Y | Z3 | College of Global Futures | School for the Future of Innovation in Society | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IGD | 799 | Dissertation | Supervised research focused on preparation of a dissertation, including literature review, research, data collection, analysis and writing. | Y | RSC | Y | Z2 | College of Global Futures | School for the Future of Innovation in Society | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IND | 120 | Drawing for Industrial Design | Drawing as language to explore and communicate ideas. Development of drawing aptitude as language and process for industrial design thinking. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Environmental Design BS or Industrial Design BSD major OR Visiting University Student |

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| IND | 121 | Principles for Industrial Design I | Industrial design as a language and process for creative thinking and realization. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Environmental Design or Industrial Design major. Corequisite(s): IND 122 |
| IND | 122 | Principles for Industrial Design II | Continued exploration of industrial design as a language and process for creative thinking and realization. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): IND 120 with C or better; Environmental Design or Industrial Design major. Corequisite(s): IND 121 |
| IND | 227 | Visual Methods for Problem Solving | Introduces conceptual design activity based on the mind-eye-media feedback loop. Graphic language used to represent conjecture, analysis, synthesis of objects, and their contexts. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Industrial Design BSD major; DSC 101 with C or better; IND 120 with C or better; IND 121 with C or better; IND 122 with C or better; minimum 3.00 GPA OR Visiting University Student |
| IND | 228 | Imaging and Visualization | Design activities stressing graphic language abstraction practiced for presentation. Discusses structure of criticism, including description, interpretation, and evaluation. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisites: Industrial Design student; IND 227 with C or better; Co-requisite: IND 261 |
| IND | 242 | Materials and Design | Materials application in design. Introduces characteristics and properties of metals and organic materials, including plastics, and inorganic materials. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| IND | 243 | Design for Ecology and Social Equity | Explores the role of design in the ecological crisis; materials, processes, strategies and methods to design more ecologically friendly and socially equitable products. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| IND | 260 | Industrial Design I | Introduces the method and process of the industrial designer. Determinants necessary in small product design. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Industrial Design BSD major; DSC 101 with C or better; IND 120 with C or better; IND 121 with C or better; IND 122 with C or better; minimum 3.00 GPA OR Visiting University Student |
| IND | 261 | Industrial Design II | Issues of physical form development related to product and design; form development properties of paper, fibers, wood, metal, and plastics. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisites: Industrial Design student; IND 260 with C or better; Co-requisite: IND 228 |
| IND | 316 | 20th-Century Design I | European and American design from 1850 to 2000 with thematic emphases on worldview, technology, transportation, economics and nature. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU & H | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| IND | 317 | 20th-Century Design II | European and American design from 1850 to 2000 with thematic emphases on communication, education, material culture, politics and society. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU & H | Prerequisite(s): minimum 45 hours |
| IND | 327 | Presentation Graphics | Studies methods for portfolio and professional product presentation using graphic media for information transfer. Stresses aesthetic judgment, organization, and craftsmanship . | N | SEM | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Industrial Design BSD major; Corequisite(s): IND 360 OR Visiting University Student |
| IND | 328 | Graphics for Industrial Design | Investigates and applies applications and planning to the development of an identity for a product line structured as a system. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisites: Industrial Design student; IND 327 with C or better; Co-requisite: IND 361 |
| IND | 344 | Human Factors in Design | Man-machine environment systems; human characteristics and behavior applied to design of products, systems, and their operating environment. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| IND | 354 | Principles of Product Design | Influences of physical and mechanical concepts in product design; mechanisms, kinematics, and fastening systems. Concepts of analysis for product design. Influences of concepts on aesthetics. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Digital Culture (Design) BA, Industrial Design BSD, or Pre-Industrial Design major; PHY 111 with C or better |
| IND | 360 | Industrial Design III | Methods of visual thinking, conceptualization, and ideation related to building skill levels in professional design presentation techniques. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Industrial Design BSD major; IND 261 with C or better; Corequisite(s): IND 327 OR Visiting University Student |
| IND | 361 | Industrial Design IV | Emphasizes developing ideas into a complete functional product, including survey and application of aesthetics, human factors, materials, and manufacturing. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Pre-requisites: Industrial Design student; IND 360 with C or better; Co-requisite: IND 328 |
| IND | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| IND | 424 | Packaging Design | Reviews how companies package and brand their products to attract consumers. Students examine the packaging design of their choice of product in the marketplace and create packaging design by considering user experience, sustainability aspect, materials and branding. Final-review format includes a full-scale 3D mockup of the packaging redesign, supplemented with graphical data and drawings. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Graphic Design, Industrial Design, or Interior Design major; minimum 60 hours; Credit is allowed for only IND 424 or IND 494 (Packaging Design) or IND 494 (Product Branding for Package Design) |
| IND | 460 | Design Project I | Complete analysis of the product unit as an element of mass production, featuring marketing, technology, human factors, and visual design. Emphasizes professional standards. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Industrial Design BSD major; IND 361 with C or better; Corequisite(s): IND 470 OR Visiting University Student |
| IND | 461 | Design Project II | Product design, with emphasis in systems interaction. Culmination of design process and technique. Encourages individual project direction. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Industrial Design BSD major; IND 460 with C or better |

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| IND | 464 | Collaborative Design Development I | Team-based product development course featuring applied projects. Open to senior students from business, engineering, design, and other disciplines. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ENT 464 (or MGT 464) or GRA 464 or IND 464 or SOS 474 OR Visiting University Student |
| IND | 465 | Collaborative Design Development II | Team-based product development course featuring applied projects. Open to senior students from business, engineering, design, and other disciplines. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ENT 465 (MGT 465) or GRA 465 or IND 465 or SOS 475 OR Visiting University Student |
| IND | 470 | Professional Practice for Industrial Design | Business procedures, management techniques, accounting systems, ethics, and legal responsibilities of the design professions. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | L | Prerequisite(s): Design Studies minor student; ENG 101, 105, or 107 with C or better OR Industrial Design BSD major; ENG 101, 105, or 107 with C or better; Corequisite(s): IND 460 OR Visiting University Student |
| IND | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): Industrial Design BSD major; IND 361 with C or better |
| IND | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | | Prerequisite(s): Barrett Honors student |
| IND | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| IND | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| IND | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-3 | | |
| IND | 504 | Contemporary Issues in Industrial Design | Survey of contemporary design issues in industrial design as defined by the faculty and students. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): Master of Industrial Design student; Corequisite(s): IND 521; Credit is allowed for only IND 504 or IND 598 (Industrial Design Seminar: Contemporary Issues) |
| IND | 510 | Foundation Industrial Design Studio | Fundamentals of industrial design, methodology, visualization and representation. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 6 | | Prerequisite(s): Master of Industrial Design student; Credit is allowed for only IND 510 or IND 590 (Foundation Industrial Design Studio) |
| IND | 511 | Core Industrial Design Studio I | Emphasizes developing ideas into a complete functional product, including survey and application of aesthetics, human factors, materials and manufacturing. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 6 | | Prerequisite(s): Master of Industrial Design student; IND 510 with C or better; Credit is allowed for only IND 511 or IND 590 (Core Industrial Design Studio I) |
| IND | 512 | Core Industrial Design Studio II | Industrial design projects with an emphasis on research and visualization techniques. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 6 | | Prerequisite(s): Master of Industrial Design student; IND 511 with C or better; Credit is allowed for only IND 512 or IND 590 (Core Industrial Design Studio II) |
| IND | 516 | The Culture of Objects | Examines the meanings of objects from the perspectives of design, material culture, philosophy and cultural studies. Covers such concepts as form language, planned obsolescence, object fetishism, product semantics, consumer value, production labor and user needs. Explains these ideas theoretically but also with case studies of historical and contemporary objects. Looks behind the scenes and beneath the surface at some of our most familiar and iconic objects. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Master of Industrial Design or Master of Science in Design (Industrial Design or Interior Design or Visual Communication Design) student; Credit is allowed for only IND 516 or DSC 598 (The Culture of Objects) |
| IND | 521 | Advanced Industrial Design Studio I | Design language, motivation and inspiration, form exploration sketching, rough form study mock-ups, form development, and presentation. Product redesign. Students create new design language proposals for an existing product and redesign the product based on one of these languages. Provides instruction and opportunities to understand product design language and how to redesign existing products with different design guidelines. Results include evidence of concept development (sketches, drawings, models); functional development; human factors and ergonomic considerations; materials and process specifications; sustainability recommendations; and appearance visual materials and models (virtual and physical). Project-based course includes readings, presentations, critical analysis, discussion and the public exhibition and presentation of design work. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Master of Industrial Design major. Credit is allowed for only IND 521 or IND 590 (Advanced Industrial Design Studio I) |

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| IND | 522 | Advanced Industrial Design Studio II | New product development with emphasis on design research, problem solving and functional/aesthetic development. Preliminary research about human behavior and health promotion. Based on the research findings, students conduct design research in teams and work on individual design projects. Student project results include evidence of concept development (sketches, drawings, models); functional development; human factors and ergonomic considerations; materials and process specifications; sustainability recommendations; and final appearance visual materials and models (virtual and physical). Project-based course includes readings, presentations, critical analysis, discussion, and the public exhibition and presentation of design work. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): IND 521. Corequisite(s): DSC 501. Credit is allowed for only IND 522 or IND 590 (Advanced Industrial Design Studio II) |
| IND | 532 | Solving Problems with Life Cycle Assessment | Teaches the method known as Life Cycle Assessment (LCA), which quantitatively estimates the environmental health and human health performance of materials, energy sources and processes. This science-based method informs design teams how to reduce or eliminate complex environmental problems caused by the production, use and disposal of physical products and related services. Teaches attributional LCA that conforms to ISO 14040-series LCA guidelines. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Master of Industrial Design student: IND 522 OR Master of Science in Design (Industrial Design) student; Credit is allowed for only IND 532 or IND 598 (Solving Problems with LCA) |
| IND | 544 | Human Factors Systems and Documentation | Advanced topics associated with theory and methods of human factors in design. Individual projects stressing problem organization, evaluation, and documentation. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Herberger Institute of Design and the Arts Graduate student |
| IND | 548 | Design for Sustainable Development | Research on designing systems that are economically viable, ecologically friendly, and socially equitable. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IND | 550 | Furniture Design | Explores furniture design and production methods for industrial design. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Master of Industrial Design student; Credit is allowed for only IND 550 or IND 598 (Furniture Design) |
| IND | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IND | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IND | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IND | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IND | 621 | Advanced Industrial Design Studio III | Structured around the Design School traveling-studio model, this studio challenges students to identify new design concepts that improve society and the natural environment while also delighting users and creating value for business. For approximately one week, students travel to an off-campus location to examine a local condition there for which new design solutions are needed. Students return to ASU and continue working on the project for the semester. Project-based course includes readings, presentations, critical analysis, discussion and the public exhibition and presentation of design work. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): IND 522 |
| IND | 622 | Advanced Industrial Design Studio IV | Challenges students to create new design concepts that improve society and the natural environment while also delighting users and creating value for business. Requires some independent direction by the student; however, instructor assigns deadlines and expectations for deliverables, and requires cooperation and collaboration among students. Project-based course includes readings, presentations, critical analysis, discussion and the public exhibition and presentation of design work. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): IND 621 |
| IND | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| INT | 111 | Interior Design Issues and Theories | Interiors issues, theories, and philosophies. Emphasizes unique social and cultural factors that shape 20th-century design concepts. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU | |
| INT | 120 | Design Fundamentals I | Development of visual literacy. Introduces drawing and graphic representation as methods of seeing and problem solving. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Architectural Studies, Environmental Design, Interior Design, or Landscape Architecture major; Credit is allowed for only ALA 121 or INT 120 OR Visiting University Student |
| INT | 121 | Introduction to Computer Modeling for Interior Design | Computers in interior design, including software concepts, specific packages, and problem solving, illustration, typography, modeling, and animation. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | CS | |
| INT | 122 | Principles of Design | Applied visual vocabulary: studio experience exploring applications, process and conceptual development of the principles of order and composition. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Environmental Design or Interior Design major; INT 120 with C or better; Corequisite(s): INT 124 |
| INT | 123 | Introduction to Computer-Aided Design and Building Information Modeling | Introduces AutoCAD computer-aided design and Revit building information modeling principles and strategies for designers of the built environment. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| INT | 124 | Design Fundamentals II Lecture | Theory and applications of basic design principles, history and theory of how architecture, interior design and landscape architecture design is impacted by basic design. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): Architectural Studies BSD or Environmental Design BS or Interior Design BSD or Landscape Architecture BSLA major; Corequisite(s): ALA 122 or INT 122; Credit is allowed for only ALA 124 or INT 124 |
| INT | 131 | Design and Human Behavior | Applies conceptual design to issues of programming and space planning, user needs, and behavior. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | SB | |
| INT | 223 | Drafting for Interior Design | Orthographic, paraline, axonometric, and perspective projection; shades and shadows; and basic descriptive geometry for interior designers. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s) with C or better: Interior Design BSD major; INT 111; INT 120; INT 121; INT 122; INT 123; INT 124; INT 131; minimum 3.00 GPA OR Visiting University Student |
| INT | 253 | Interior Materials, Finishes, and Specifications | Survey, evaluation, and specification of materials, finishes, and performance criteria for interiors. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Interior Design BSD major; INT 261 with C or better |
| INT | 261 | Interior Design Studio I | Studio problems in interior design related to behavioral response in personal and small-group spaces. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s) with C or better: Interior Design BSD major; INT 111; INT 120; INT 121; INT 122; INT 123; INT 124; INT 131; minimum 3.00 GPA OR Visiting University Student |
| INT | 262 | Interior Design Studio II | Focuses on environments that entertain or host the public, including but not limited to nightclubs, restaurants, theaters, hotels, city and country clubs, golf facilities, cruise ships and conference facilities. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Interior Design BSD major; INT 261 with C or better OR Visiting University Student |
| INT | 310 | History of Interior Design I | Evolution of interior design as an expression of cultural influences from the ancient periods to 1835. Analysis of interior architecture, planning and lighting of interior spaces, and furniture. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU & H | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| INT | 311 | History of Interior Design II | Evolution of interior design as an expression of cultural influences 1835 to present. Analysis of interior architecture, planning and lighting of interior spaces, and furniture. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU & H | Pre-requisite(s): INT 310 with C or better |
| INT | 341 | Interior Codes: Public Welfare and Safety | Codes and regulations as performance criteria for interior design. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 2 | | Pre-requisite: Interior Design student; Co-Requisites: INT 253; INT 262 |
| INT | 351 | Ambient Environment | Surveys environmental control systems, acoustics, and lighting issues. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Interior Design BSD major; MSE 208, PHS 208, or PHY 101 with C or better; Corequisite(s): INT 352; INT 362 OR Digital Culture (Design) BA major OR Visiting University Student |
| INT | 352 | Construction Methods in Interior Design | Design theory related to analysis, materials, and building techniques of horizontal and vertical construction in interior design. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Interior Design BSD major; Corequisite(s): INT 362 OR Visiting University Student |
| INT | 354 | Construction Documents | Elements of construction drawing sets, application of codes and specifications, and contract administration. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisite: Interior Design student; Co-requisite: INT 363 |
| INT | 362 | Interior Design Studio III | Investigates interior design issues in hospitality and retail environments. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Interior Design BSD major; Corequisite(s): INT 351; INT 352 OR Visiting University Student |
| INT | 363 | Interior Design Studio IV | Explores the poetics of materials and their assemblage in the design of public and private spaces. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Interior Design BSD major; INT 362 with C or better; Corequisite(s): INT 354 |
| INT | 381 | Preinternship Seminar | Preparation of internship materials that produce and enhance a successful internship experience. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite: INT 262 |
| INT | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |

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| INT | 412 | History of Decorative Arts in Interiors | Design of decorative arts as an expression of cultural influences and as an extension of interior spaces. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU | Prerequisite(s): INT 311 with C or better. Credit is allowed for only INT 412 or INT 515 |
| INT | 413 | History of Textiles in Interior Design | Cultural and historical expression of textiles as related to interiors. | N | PRA | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): INT 412 with C or better. Credit is allowed for only INT 413 or INT 516 |
| INT | 415 | Latin American Design | The impact of Latin American culture and civilization on design throughout the Americas. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only INT 415 or INT 494 (Design and Culture in Latin America) OR Visiting University Student |
| INT | 446 | Furniture Design and Production | Design, construction, cost estimating, and installation in interior furniture and millwork. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisite: Graphic Design BSD, Interior Architecture BSD or Industrial Design BSD student |
| INT | 464 | Interior Design Studio V | Studio problems in interior design-related issues in work environments. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Interior Design BSD major; INT 363 with C or better; Corequisite(s): INT 471 OR Visiting University Student |
| INT | 465 | Interior Design Studio VI | Advanced interior design problem solving related to institutional facilities. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Interior Design BSD major; INT 464 with C or better; Corequisite(s): INT 472 OR Visiting University Student |
| INT | 471 | Facilities Management | Facility management process in large-scale organizations. Planning, long-range forecasting, and productivity. Project management methodologies using micro-based software programs. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| INT | 472 | Professional Practice for Interior Design | Business procedures, project control, fee structures, and professional product liabilities. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 2 | | Pre-requisites: Interior Design student; Co-requisite: INT 465 |
| INT | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): Interior Design BSD major; INT 363 with C or better |
| INT | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | | Prerequisite(s): Barrett Honors student |
| INT | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| INT | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| INT | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-3 | | |
| INT | 510 | Foundation Interior Architecture Studio | Fundamentals of interior architectural design, methodology, visualization and representation. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 6 | | Prerequisite(s): Interior Architecture MIA student; Credit is allowed for only INT 510 or INT 590 (Foundation Interior Architecture Studio) |
| INT | 511 | Core Interior Architecture Studio I | Applies design fundamentals in interior architectural problems, including construction, materiality, technology, programmatic and environmental determinants. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 6 | | Prerequisite(s): Interior Architecture MIA student; INT 510 with C or better; Credit is allowed for only INT 511 or INT 590 (Core Interior Architecture Studio I) |
| INT | 512 | Core Interior Architecture Studio II | Applies interior architectural design fundamentals to increasingly complex problems, including specific sites and activities. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 6 | | Prerequisite(s): Interior Architecture MIA student; INT 511 with C or better; Credit is allowed for only INT 512 or INT 590 (Core Interior Architecture Studio II) |
| INT | 514 | Interior Architecture Issues | Explores the evolving nature of interior architecture by looking at the unique environmental, cultural and social factors that contributed to shape this new and expanding discipline of design. Emphasizes ideas and significant case studies from the period between the 1950s until the present. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only INT 494 (Seminar: Interior Architecture Issues) or INT 514 |
| INT | 519 | Designing with Materials | A comprehensive overview of technical specifications, materiality and interior construction; emphasizes the selection and specification of interior building materials. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Interior Architecture MIA student; Corequisite(s): INT 521; Credit is allowed for only INT 519 or INT 598 (Contemporary Issues in Interior Arch Seminar) |
| INT | 520 | Professional Practice for Interior Architecture | Business procedures, project control, fee structures and professional product liabilities. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 2 | | Prerequisite(s): INT 521; Credit is allowed for only INT 520 or INT 598 (Professional Practice for Interior Design) |
| INT | 521 | Advanced Interior Architecture Studio I | Studio problems in interior architecture related to the integration of building structure and systems with the behavioral response to personal spaces. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Master of Interior Architecture major. Credit is allowed for only INT 521 or INT 590 (Advanced Interior Architecture Studio I) |

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| INT | 522 | Advanced Interior Architecture Studio II | Investigates interior architecture issues, including construction, technology, programmatic and environmental determinants. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): INT 521; Corequisite(s): INT 527; Credit is allowed for only INT 522 or INT 590 (Advanced Interior Architecture Studio II) |
| INT | 527 | Contemporary Design Theory | Aesthetic, political, economic, and social theories that have shaped modern design; theory as the basis for design philosophies. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Herberger Institute of Design and the Arts Graduate student |
| INT | 529 | Design Criticism | Applies critical methods to design as material culture and human expression; evaluates achievement versus intention. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Herberger Institute of Design and the Arts Graduate student |
| INT | 541 | Codes and Building Regulations | Codes and regulations as performance criteria for interior design. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): INT 521; Credit is allowed for only INT 541 or INT 598 (Codes and Building Regulations) |
| INT | 547 | Sustainability in Interior Architecture | Attention to the concept of green buildings and a sustainable built environment has been rapidly growing due to environmental issues such as energy consumption, gas emission and exhaustion of natural resources. All these issues drive architects, designers and engineers to reassess conventional architectural design and construction processes. This course explores topics in sustainable design related to interior architecture, while exploring the concept of sustainability and its role in the interior design process. Presents techniques and skills for designing the built environment, including a focus on renewable energy and design solutions that promote building occupants' health, comfort, safety and well being. Also discusses building design rating systems such as LEED and WELL Building Standards. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only INT 547 or INT 598 (Sustainability in Interior Architecture) |
| INT | 550 | Environmental Systems of Interior Architecture | Surveys building environmental control systems, acoustics, materiality and lighting properties. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Herberger Institute for Design and the Arts graduate student; Credit is allowed for only INT 550 or INT 598 (Environmental Systems for Interior Architecture) |
| INT | 554 | Construction Documents for Interior Architecture | Elements of construction drawings sets, application of codes and specifications, and contract administration. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): INT 521; Credit is allowed for only INT 554 or INT 598 (Construction Documents in Interior Architecture) |
| INT | 558 | Lighting Design | Fundamentals of lighting, which includes daylighting and artificial lighting; understanding of lighting as a design element: lighting concepts, design strategies, techniques, documentation, case studies and analysis tools. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Herberger Institute of Design and the Arts graduate student |
| INT | 581 | Preinternship Seminar for Interior Architecture | Preparation of internship materials, which produce and enhance a successful internship experience. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): Master of Interior Architecture student; Corequisite(s): INT 521; Credit is allowed for only INT 581 or INT 598 (Preinternship Seminar for Master of Interior Arch) |
| INT | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): INT 522 with C or better |
| INT | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| INT | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| INT | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| INT | 602 | Quantitative Research Methods for Interior Architecture | Seminar course in research, with a particular emphasis on quantitative and empirical methods. Students develop an appreciation for and understanding of different conceptual frameworks of design, environment and the arts knowledge; develop a knowledge of a broad range of alternative approaches to interdisciplinary research with emphasis on quantitative methods; become aware of different research methods, tools and approaches; craft a research question and transform it to a plan of research; understand the components of the research process and research proposal; develop improved skill in scholarly writing; become aware of ethical and other critical issues related to research; critically assess the strengths and weaknesses of various research studies and techniques; analyze data using several statistical methods, using statistics software. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Herberger Institute for Design and the Arts graduate student |

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| INT | 621 | Advanced Interior Architecture Studio III | Structured around the Design School traveling-studio model, based on design problems emphasizing the global context of interior architecture as it influences interior space and architectural form. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): INT 522 |
| INT | 622 | Advanced Interior Architecture Studio IV | Individual, student-initiated capstone project reflecting a culminating synthesis of interior architecture ideas. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): INT 621 |
| INT | 650 | Diversity and Design | Seminar-based investigation of how different aspects of embodied identities impact how spaces are designed and how people experience spaces. Explores the history of identity politics in relation to the design professions, as well as critiques of design approaches based on a universal body. Students learn about the relationship between design and, among other aspects, gender, race, ethnicity, culture, disability, age, class, gender identity, or sexual orientation. Expects students to recognize and understand what biases impact their work as designers. Critically investigates methods to assess these biases and their impact on users, as well as solutions to avoid or mitigate them. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only INT 598 (Diversity and Design) or INT 598 (Identities and Design) or INT 650 |
| INT | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IPI | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Dean, The College of Liberal Arts and Sciences | 0.25-4 | | |
| IPI | 196 | Fundamentals of Inquiry | Introduces the fundamentals of using inquiry methods for knowledge creation and extension in the fields of science and technology. Students work together to reach understanding on a large goal question associated with human society and space exploration. As a class, uses a weekly inquiry cycle to step toward the goal: read some content, ask a 'Natural Next Question' (NNQ) that takes us one step further toward the goal, seek content to help answer that question, report on what was learned, and after a few times, summarize the new knowledge with a distillation exercise, and then repeat this inquiry cycle. Strongly focuses on teaching students how to guide their learning by asking productive questions to drive their research, how to find content to answer their questions, how to approach challenging primary content, how to work well in teams, and how to distill and share their learning. | N | LEL | N | GNA | The College of Liberal Arts and Sciences | Dean, The College of Liberal Arts and Sciences | 3 | | Prerequisite(s): Technological Leadership BS major OR Visiting University Student |
| IPI | 241 | Designing and Making for an Interplanetary Future | Humanity's future as an interplanetary species is only made possible through the continued development of new technologies able to provide solutions to difficult problems. Facilitates students developing proficiency in both "making" and "designing." While not an engineering course, seeks to support students in gaining basic technical "makerspace" abilities. More important than the hard skills, students grow in their capacity for technical design thinking--the process by which modern technologies are imagined and developed. Hands-on and project-based. Students learn tools and processes for solving global and interplanetary problems, with special consideration given to the ways that technologies impact society. Students gain basic proficiency in the mechanical, electrical, computer programming and design aspects of technology development in makerspaces, through supervised research and design of creative projects that relate to aerospace engineering, space exploration, and/or an inclusive, interplanetary future. As a part of this course, students gain basic knowledge of CAD modeling and 3D printing, circuits and soldering, Arduino programming, tinkering and debugging methods, creative problem solving, team-based project management, the relationship between technology and society, and basic technological design methods. | N | LEL | Y | GNA | The College of Liberal Arts and Sciences | Dean, The College of Liberal Arts and Sciences | 3 | | |
| IPI | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Dean, The College of Liberal Arts and Sciences | 1-4 | | |

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| IPI | 296 | Inquiry | To be most effective in work and life, we need to learn how to recognize and solve problems, and to work in teams. Students work together to reach understanding on a large goal associated with human society and space exploration. An example from a previous class is, "What will the Moon be like after human settlement?" As a class, uses a weekly inquiry cycle to step toward the goal: read some content, ask a "natural next question" that takes us one step further toward the goal, seek content to help answer that question, and repeat. Students learn how to understand a complex problem through multiple steps, to approach challenging primary content, to productively critique each other's work, and to think critically. Students meet for 2 hours per week but work extensively outside of class. | Y | LEL | Y | GNA | The College of Liberal Arts and Sciences | Dean, The College of Liberal Arts and Sciences | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| IPI | 341 | Designing and Making (3D Printing and Fabrication) | Humanity's future as an interplanetary species will only be made possible through the continued development of new technologies able to provide solutions to difficult problems. Seeks to facilitate students developing proficiency in both "making" and "designing." While not an engineering course, seeks to support students in gaining basic technical "makerspace" abilities. But more important than the hard skills, students grow in their capacity for technical design thinking--the process by which modern technologies are imagined and developed. Both hands on and project based, students learn tools and processes for solving global and interplanetary problems, with special consideration given to the ways that technologies impact society. Students gain basic proficiency in the mechanical and design aspects of technology development in makerspaces, through supervised research and design of creative projects that relate to aerospace engineering, space exploration and/or an inclusive, interplanetary future. Students gain basic knowledge of CAD modeling, 3D printing, machine design, tinkering and debugging methods, creative problem solving, team-based project management, the relationship between technology and society, and basic technological design methods. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Dean, The College of Liberal Arts and Sciences | 3 | | Prerequisite(s): Technological Leadership BS major or Technological Leadership minor or BIS Technological Leadership emphasis or IPI 241 with C or better or minimum 45 hours OR Visiting University Student |
| IPI | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Dean, The College of Liberal Arts and Sciences | 1-4 | | |
| IPI | 441 | Designing and Making: Advanced Projects | Humanity's future as an interplanetary species is only made possible through the continued development of new technologies able to provide solutions to difficult problems. Facilitates students developing proficiency in both "making" and "designing." Builds on both the basic technical "makerspace" abilities and also the technical design thinking aptitudes from prior coursework. Hands-on and project-based; however, expects students to pursue mastery of advanced topics and skills from the course module map. In addition, expects students to take on a leadership role within their group project. Students gain advanced proficiency in the mechanical, electrical, computer programming and design aspects of technology development through course modules, but students are pushed to pursue self-directed research on topics that apply to creative projects that relate to aerospace engineering, space exploration and/or an inclusive, interplanetary future. | N | LEL | Y | GNA | The College of Liberal Arts and Sciences | Dean, The College of Liberal Arts and Sciences | 3 | | Prerequisite(s): IPI 241 with C or better; IPI 341 with C or better OR Visiting University Student |
| IPI | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | Dean, The College of Liberal Arts and Sciences | 1-12 | | |
| IPI | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | Dean, The College of Liberal Arts and Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| IPI | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | Dean, The College of Liberal Arts and Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| IPI | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Dean, The College of Liberal Arts and Sciences | 1-4 | | |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| IPI | 496 | Advanced Inquiry | To be most effective in work and life, we need to learn how to recognize and solve problems, and to work in teams. Students work together to reach understanding on a large goal associated with human society and space exploration. An example from a previous class is, "What will the Moon be like after human settlement?" As a class, uses a weekly inquiry cycle to step toward our goal: read some content, ask a "natural next question" that takes us one step further toward the goal, seek content to help answer that question, and repeat. Each student runs an independent research project using the techniques taught throughout the course. The research project requires some knowledge creation--that is, development of ideas, supported hypotheses, observations and the like, that add to the mass of human knowledge rather than just restating it. | N | LEC | Y | GNA | The College of Liberal Arts and Sciences | Dean, The College of Liberal Arts and Sciences | 3 | | Prerequisite(s): HUL 250 with C or better; IPI 196 with C or better OR IPI 296 with C or better OR Visiting University Student |
| IPI | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Dean, The College of Liberal Arts and Sciences | 1-7 | | |
| IPI | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | The College of Liberal Arts and Sciences | Dean, The College of Liberal Arts and Sciences | 1-3 | | |
| IPI | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Dean, The College of Liberal Arts and Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 110 | Dimensions of Social Science | Introductory survey of the disciplinary components of social science, including sociology, political science, economics. Module includes sociology, economics, political science, philosophy. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Credit is allowed for only ISS 110 or ISS 302 |
| ISS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| ISS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| ISS | 301 | Integrated Social Science Research Methods | Overview of the methods of social science inquiry with a view to transcending disciplinary boundaries. Topics include data collection and data management techniques. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum 45 hours |
| ISS | 302 | Scope of Social Science | Surveys the disciplinary components of social science including sociology, political science, economics. Module includes sociology, economics, political science, philosophy. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only ISS 110 or ISS 302 OR Visiting University Student |
| ISS | 304 | Integrated Theories of Social Science | Broad survey of the major foundational theories in the disciplines of social science, including sociological theory, economic theory, political theory, anthropological theory and philosophy. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum 45 hours |
| ISS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | Prerequisite(s): minimum 45 hours |
| ISS | 401 | Statistics for Integrated Social Science | Statistical techniques for the social sciences, including the role and rationale of statistics, descriptive measures, associational measures and inferential statistics. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | CS | Prerequisite(s): MAT 142 or higher |
| ISS | 410 | Integrative Leadership Studies | Explores the concept and practice of leadership by examining general leadership theories and personal leadership skills with a view to transcending disciplinary boundaries. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum 45 hours |
| ISS | 415 | Knowledge Management | Overview of concepts in knowledge management, types of knowledge, processes of knowledge generation, codification and transfer. Role of technology and networks in knowledge management and effective leveraging of organizational intellectual capital. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum 45 hours |
| ISS | 428 | Religion and Global Violence | Examines the tensions and interplay of religious and secular accounts for violence globally; considers theoretical frameworks from the social sciences for understanding such violence. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB & G | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ISS | 437 | Integrative Ethics in Social Science | Investigates ethical issues across professional disciplines in the social sciences with a view to integrating the literature and innovations. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ISS 437 or ISS 512 OR Visiting University Student |
| ISS | 441 | Conflict and Conflict Resolution | Overview of peace theories and peace movements; peace and peacebuilding; the nature and sources of global conflicts; critical security studies (covering human, food and environmental security); mechanisms for peaceful resolution of conflicts; culture of peace; and the relationship between underdevelopment and conflicts, particularly in politically fragile societies. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB & G | Prerequisite(s): minimum 45 hours |
| ISS | 450 | Consumerism and Sustainable Development | Analyzes the impact of the quest for more and better consumer goods as it affects sustainable development and global ecology. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |

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| ISS | 456 | Culture, Conflict and War | Explores the complex relationship between culture and conflict through an analysis of past and present conflicts and the role of culture in those conflicts. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | (L or SB) & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| ISS | 482 | Globalization and International Political Economy | Surveys the political, economic and social forces that influence international political and economic relationships. Topics include international economic, technological and cultural competition; international trade and multicultural corporations; and economic relations between more developed and less developed countries. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ISS 482 or ISS 522 |
| ISS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | PRA | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): minimum 87 hours |
| ISS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | | Prerequisite(s): Barrett Honors student |
| ISS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | | Prerequisite(s): Barrett Honors student |
| ISS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ISS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | N | PRA | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-7 | | Prerequisite(s): minimum 87 hours |
| ISS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | N | SEM | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-3 | | Prerequisite(s): minimum 45 hours |
| ISS | 501 | Advanced Integrated Social Research Methods | Advanced review of methods of social science inquiry with a view to transcending disciplinary boundaries. Topics include the scientific method, theory building and hypotheses, measurement and scaling, reliability and validity, and the structure and development of research designs and applications. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 502 | Advanced Seminar in Integrated Social Science | Integrative survey of the disciplinary components of social science as disparate ways of making sense of human experience, including sociology, political science, philosophy and economics. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 504 | Advanced Integrated Theories of Social Science | Cross-disciplinary examination of major social science theories, such as: rational choice, environmentalism, institutionalism, functionalism, sociobiology, world systems approach, Marxism and democratic theory. Emphasizes bridging disciplinary boundaries. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 505 | Multivariate Methodologies of Social Science | Applies advanced statistics and statistical modeling in decision making in social research, with emphasis on regression modeling techniques. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 506 | Community Governance, Leadership and Civic Engagement | Explores theory and research on community governance with an emphasis on analyzing leadership in promoting civic engagement. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 508 | Knowledge, Innovation and Social Change | Surveys the sources of knowledge and knowledge generation, facilitating factors for innovations especially in the development of technologies that drive significant, universal and enduring social change. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 510 | Religion, Secularism and Social Dynamics | Analyzes the role of religion and secularism in the modern social sphere, and the social processes that govern religious belief and behavior. Emphasizes reading current research, applying relevant social theories, and deriving scientifically valid explanations for observations about religion. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 512 | Integrative Ethics in Social Science | Investigates ethical issues across professional disciplines in the social sciences through an overview of recent innovations, discoveries and developments. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ISS 437 or ISS 512 |
| ISS | 514 | Cultural Diversity and Gender Understanding | Reviews the epistemological, theoretical and legal premises on the concept of social justice and the cultural, racial, ethnic, gender and other bases for the agitation for social justice, including strategies in pursuit of social justice. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 516 | Conflict Resolution, Peace Studies and Social Movements | Evaluates the intersection of peace, conflict and social movements through a survey of social movements that promote war or peace throughout the contemporary world. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 518 | Science, Technology and Social Systems | Issues, definitions and literature involved in the study of science, technology and the evolution of social systems, emphasizing contemporary issues confronting modern societies and potential solutions to resolving these issues. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| ISS | 522 | Globalization and International Political Economy | Advanced treatment of the political, economic and social forces that influence international political and economic relationships. Topics include international economic, technological and cultural competition; international trade and multicultural corporations; and economic relations between more developed and less developed countries. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ISS 482 or ISS 522 |
| ISS | 562 | Politics of Development and Underdevelopment | Examines the various perspectives and premises associated with efforts to promote economic and political change in different parts of the world, particularly in poor countries. Topics include population growth; migration and management; food production; shelter; education; industrialization; comparative advantage; foreign aid; and corruption. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | N | PRA | N | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | N | RSC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | N | RSC | N | Z2 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | N | PRA | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | N | SEM | N | Z3 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand). | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | N | RSC | Y | Z2 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ITA | 101 | Elementary Italian I | Fundamentals of the language. Emphasizes listening, speaking, reading, writing, and cultural proficiency. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | |
| ITA | 102 | Elementary Italian II | Fundamentals of the language. Emphasizes listening, speaking, reading, writing, and cultural proficiency. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | |
| ITA | 110 | Intensive Italian I | Proficiency-oriented language course designed to achieve the maximum level of proficiency in an intensive and dynamic communicative environment. Class time is spent on a variety of fast-paced communicative activities focused especially on the development of speaking skills. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 6-8 | G | Credit is allowed for only ITA 101 or ITA 102 or ITA 110 or ITA 111 |
| ITA | 112 | Italian for Romance Language Speakers | 15-week hybrid course: 3 hours class meetings, 1 hour student self-study. Designed for students with an active competence in Spanish or another Romance language such as French, Portuguese and/or Romanian, who wish to learn the essential elements of the Italian grammar at an accelerated pace, as well as acquire listening, speaking, reading and writing skills. Based upon the theory of "intercomprehension" which implies the speaker's ability to understand the speech of another speaker who communicates in a dialect of the same language or a related language. Due to the linguistic similarities between Spanish, other Romance languages and Italian, students master the four language skills of listening, speaking, reading and writing of in Italian at a faster pace. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | Credit is allowed for only ITA 112 or ITA 194 (Italian for Spanish Speakers) or ITA 194 (Italian for Romance Language Speakers) |
| ITA | 114 | Gateway to Italy | Designed for students who have no previous knowledge of Italian, but wish to attend a study abroad program in Italy or acquire novice proficiency in the Italian language along with basic notions of Italian geography, society and culture. Develops basic vocabulary that enable students to engage in simple, everyday conversations in order to enhance and support their Italian experience, minimize stress and reduce the culture shock. Offers an insight into a wide array of cultural norms and practices of Italy, which are essential for an initial contact with the country and serves as a stepping stone for further study. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Credit is allowed only for ITA 114 or ITA 194 (Gateway to Italy) |

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| ITA | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| ITA | 201 | Intermediate Italian I | Emphasizes reading, writing, listening, and speaking proficiency at an intermediate level. Focuses on both spoken and written genres of Italian culture. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | |
| ITA | 202 | Intermediate Italian II | Emphasizes reading, writing, listening, and speaking proficiency at an intermediate level. Focuses on values of Italian culture. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | |
| ITA | 210 | Intensive Italian II | Proficiency-oriented language course designed to achieve the maximum level of proficiency in an intensive and dynamic communicative environment. Class time is spent on a variety of fast-paced communicative activities focused especially on the development of speaking skills. Class meets four times a week. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 6-8 | G | Prerequisite(s): ITA 102 with B or better or ITA 110 with C or better; Credit is allowed for only ITA 201 or ITA 202 or ITA 210 |
| ITA | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| ITA | 311 | Speak Italy: Language, People, Culture | Develops oral/aural proficiency through the study of diverse voices from Italian culture and the analysis of spoken multimedia genres and cultural products. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): ITA 202 or 210 with C or better OR Visiting University Student |
| ITA | 312 | Write Italy: Language, People, Culture | Develops reading/writing proficiency through the study of various texts in Italian and the analysis of written multimedia genres and cultural products. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; ITA 202 or 210 with C or better OR Visiting University Student |
| ITA | 315 | Italian Culture: The Good, The Bad and The Ugly | Studies the rich diversity and complexity of Italian culture through analysis of different media, discussion and writing in Italian. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ITA 202 or 210 with C or better OR Visiting University Student |
| ITA | 319 | Italian for Professions | Conversation and composition course in which students gain the linguistic skills necessary to work in Italy. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ITA 202 or 210 with C or better OR Visiting University Student |
| ITA | 321 | Italian Renaissance Culture: Politicians, Merchants, Artists and Courtesans | Studies the new voices of Renaissance culture through analysis of different media, discussion and writing in Italian. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | H | Prerequisite(s): ITA 202 or 210 with C or better OR Visiting University Student |
| ITA | 322 | Modern Italian Culture: Explorers, Scientists, Musicians and Revolutionaries | Studies the contributions of Italian thinkers to the development of modern western culture through analysis of different media, discussion and writing in Italian. | N | REC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ITA 202 or 210 with C or better |
| ITA | 350 | Food and Culture: The Mediterranean Lifestyle in Italy | Analyzes the Mediterranean lifestyle (food and eating practices) in Italy from a historical/cultural, scientific and sociological perspective. Students first examine the history and regional cultures of the Mediterranean diet in Italy as they analyze its rich biological diversity and history of cultural exchange. Students then gain an understanding of the critical nutrients of the Mediterranean diet and of the scientific evidence for its health benefits, especially how it can help prevent chronic diseases like obesity and type 2 diabetes, which affect more than half of all adults in the U.S. In addition, students keep a food log for one week, which they then analyze in terms of the critical nutrients of the Mediterranean diet. Finally, Italian food cannot be studied without preparing it! As UNESCO points out, the sharing of food is an important part of the Mediterranean lifestyle. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit allowed for only ITA 350 or ITA 394 (Food & Culture: Mediterranean Lifestyle in Italy) or SLC 350 or SLC 394 (Food & Culture: Mediterranean Lifestyle in Italy) OR Visiting University Student |
| ITA | 380 | Natural Disasters: Environmental and Cultural Resilience in Italy | The Italian peninsula is home to some of the most diverse physical and geological landscapes on earth. Over time, natural disasters such as earthquakes, volcanic eruptions and landslides have transformed Italian culture, creating a distinct, reciprocal and enduring relationship between nature and Italian society. Studies pivotal natural disasters that have occurred throughout Italian history, including the Mt. Vesuvius, Pompeii and Etna volcanic eruptions; the Messina, Belice Valley, Campania, Friuli and L'Aquila earthquakes; and the Vajont landslide. Identifies and measures the physical and geological features of Italy that make it susceptible to natural disasters. Incorporates a variety of sources designed to give students both a theoretical and practical understanding of Italian culture and natural disasters. Uses class discussions, collaborative projects, creative writing, academic texts, personal narratives, films, videos, guest lectures and current articles. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ITA 380 or SLC 380 or HON/ITA/SLC 394 (Natural Disasters: Environmental & Cultural Resilience) OR Visiting University Student |
| ITA | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| ITA | 413 | Advanced Italian | Development and assessment of advanced spoken and written Italian proficiency through activities using all four skills. | N | REC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): ITA 311 or 312 with C or better |

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| ITA | 414 | French and Italian Popular Culture | Popular culture no longer holds the ancillary role traditionally reserved for whatever does not carry the definition of high culture. That popular culture is instead able to provide us with very relevant insights on the identity of a nation and a people is now widely accepted. As a consequence, this class aims at examining popular culture-related artifacts in Italy and France in order to shed a light on crucial issues such as the culture of food and its historical and social significance; the meaning of fashion and design within an urban context, with a special attention to gender roles; the importance of the comics, given in particular the exceptional success the bande dessinée genre is currently enjoying in France throughout the whole age range of the population; the show business with a particular attention to music; and the social function and role of sport with respect to the two dominant sports in both countries (soccer and cycling). | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better OR min 45 hours; Credit is allowed for only FRE 414 or FRE 494 (French & Italian Pop Culture) or ITA 414 or ITA 494 (French & Italian Pop Culture) or SLC 414 or SLC 494 (French & Italian Pop Culture) |
| ITA | 420 | Italian Cinema | Major trends of Italian cinema from the post-war period to the present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L & G | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| ITA | 423 | Italian Organized Crime in Films and History | Through an analysis of historical, anthropological, literary, political and cinematic texts, explores representations of the Italian organized crime in Italian and American films from the early 20th century to today. Discovers different "Mafias" originating in Italy, but whose reach extends much further, such as the Cosa Nostra in Sicily, the Camorra in Naples, and the 'Ndrangheta in Calabria. Examines the fiction, stereotypes, myths and legends surrounding the mafia through a scrupulous analysis of some of the most important American and Italian films portraying mafia culture. Italians have used the medium of film to address the issue of the mafia, raising awareness about the harsh reality of life in the mafia and the ways in which it reaches into every aspect of Italian politics and society. Explores how Italian mafia films subvert international fascination with the mafioso by disrupting the glamorized myths that are mainly perpetuated by American popular cinema. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better or min 45 hours; Credit for only FMS 423 or ITA 423 or SLC 423 or ITA 494/SLC 494 (Italian Organized Crime in Films & History) or FMS 494/ITA 494/SLC 494 (Mafia & Film) OR Visiting University Student |
| ITA | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| ITA | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| ITA | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ITA | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| ITA | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| ITA | 550 | Italian for Reading Knowledge | Teaches non-speakers of foreign language, or those with only basic notions of the language, how to read in a foreign language at an advanced level. Consists of a concise overview of grammar as well as reading comprehension practice for students who plan to take the Graduate Foreign Language Exam or others who would merely like to learn to read in a foreign language. Focuses only on reading and not on listening, speaking or writing as in a traditional language course. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ITA 494 (Italian for Reading Knowledge) or ITA 550 |
| ITA | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ITA | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IVD | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| IVD | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |

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| IVD | 525 | Fundamentals of Entrepreneurial Leadership | "Experiential" course for students to practice "being" a leader at the personal, interpersonal and community levels. While typical leadership classes leave one knowing about leaders and leadership, this class leaves students being leaders as part of their natural self-expression. The program follows an ontological pedagogy, rather than epistemological one. Ontology is the study of the nature and function of being "as lived" in real time. Epistemology by contrast deals with the varieties, grounds, and validity of knowledge. Leadership skills include mastery of communication at each of the three levels, from personal relationships to large-scale messaging for media and branding; and looking beyond the personal and interpersonal sociological level of analysis to incorporate principles of social and environmental justice into their relationships and the enterprises they lead. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Innovation and Venture Development MS student; Corequisite(s): IVD 560 |
| IVD | 560 | Innovation Studio I: Discovery and Insight | A prerequisite for successful innovation and venture development is a deep understanding of the multidimensional context in which the innovation will be situated, and in which the venture will compete, whether a commercial enterprise or nonprofit. This course gives students the design, business and engineering research and evaluation tools and experience to investigate and immerse themselves in industry or sector customer needs, the competitive landscape and cultural context, as well as ways to predict and mitigate the unintended consequences of their innovation on society and the environment. Teaches students where to begin, how to inquire, how to evaluate information they uncover, and how to use critical thinking and analysis to develop the insights that become the foundation of their venture-development journey. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Innovation and Venture Development MS student |
| IVD | 561 | Innovation Studio II: Problem Reframing | Problem reframing is essential to the innovation process, and to properly diagnosing problems so they can be investigated from multiple perspectives. It entails pushing past conventional assumptions about barriers to success, to find root causes--sometimes different problems altogether--that inspire novel, diverse approaches. Problem reframing is a powerful tool that increases the options and resources available in addressing any challenge. Students learn the difference between root causes and symptoms, understand the systems affected by and affecting their challenge, and learn to see and act on problems as opportunities for breakthrough solutions. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Innovation and Venture Development MS student; IVD 560; Corequisite(s): IVD 525 |
| IVD | 562 | Innovation Studio III: Explore, Fail, Solve | In this iterative, creative "make-to-learn" phase of venture development, students explore prototyping and testing with audiences or end-users to develop feedback loops for real-time evaluation of their ideas, then synthesize learning from both successes and failures to progress toward a solution. Key components include mastery of ideation and creative development, framing strategic questions and success indicators for prototyping of services or products, evaluation of feedback and iteration of progressively more promising ideas, and evaluation of their innovations measured against the success indicators they developed. Students learn and practice prototyping service interactions as well as product innovations. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Innovation and Venture Development MS student; IVD 525; IVD 561. |
| IVD | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IVD | 630 | Scaling Entrepreneurial Leadership | The personal skills required to succeed in a small start-up environment are different from those required to run a successful enterprise or nonprofit. Many entrepreneurs do not have access to the learning that prepares them to both launch and successfully scale their venture. Complexities of board management, fostering a creative culture, codifying a communication system that becomes a source of energy and a north star for the organization, inculcating values of social and environmental justice into a culture and translating them into daily behavior are required capacities which cannot be learned in theory, only in practice. Students master the skills to lead an enterprise through the challenges of the 21st century. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Innovation and Venture Development MS student; Corequisite(s): IVD 562 |

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| IVD | 660 | Innovation Studio IV: Business Model | Faced with the challenge of business model generation and prototyping, students need to define the starting points of value proposition, supply chain and customer segments. Later in the process, a clear description of the revenue model, customer relationship, key resources, key activities, key partners and cost structure complement the original value proposition design. The refinement of the newly created business model is made through a process of iteration. Students have an overall comprehension of the strategic innovation process made of (a) strategy, (b) execution, (c) tools and (d) metrics before moving to the stages of scaling and growth of the business. In order to develop a viable business model, students need to understand the costs of development, manufacturing and getting their goods or services to customers. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Innovation and Venture Development MS student; IVD 525; IVD 560; IVD 561; IVD 562; Corequisite(s): IVD 630 |
| IVD | 661 | Innovation Studio V: Scale | SCALE is translated as proportional growth of production and profit aiming at a larger market position. Understanding the timing to scale a business model is crucial to its success and scaling can be discussed in terms of market, process and team. Faced with scaling issues of their business models, students need to build their own framework--or tools--in order to make decisions concerning the whens (time) and hows (market, process, tools) of scaling. Topics covered also include, but not limited to, venture funding strategies, budgeting capital needs, developing e-commerce, CRM analytics, supply chain and operations. At the end of this semester, students present a fully developed venture, with clearly articulated market need, viable innovation based on end-user feedback, business model and plan for scale. Where relevant, students register their intellectual property through ASU, using the university's published guidelines and procedures. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 6 | | Prerequisite(s): IVD 525; IVD 560; IVD 561; IVD 562; IVD 630; IVD 660 |
| IVD | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IVD | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JHR | 100 | Introduction to Social Justice and Human Rights | Interdisciplinary introduction to the study of social justice and human rights through examination of materialism, intersectionality and inequality, advocacy and social change, and critical trauma studies and humanitarianism in transnational and global perspective. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | |
| JHR | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-4 | | |
| JHR | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-4 | | |
| JHR | 305 | Theory and Practice of Social Justice and Human Rights | Interdisciplinary survey of theories and practices of social justice and human rights in transnational and global perspective. Explores various theories of social justice and human rights and examines in-depth case studies of social injustice and human rights challenges. Also explores the future of social justice and human rights in light of global climatic and environmental change. Social sciences theories and methods combine with humanistic philosophy to understand the foundations of social justice and human rights. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | Prerequisite(s): minimum 45 hours |
| JHR | 378 | Poverty, Inequality and Social Justice in Latin America | With persistently high levels of poverty and inequality, Latin America is often considered the most unequal region in the world. This course explores the economic, political, social and geographic origins of poverty and inequality in Latin American countries since independence. It also studies efforts to address the problem by governments, non-governmental organizations, the international community, religious groups and activists. Explores these themes in more detail through a case study of one Latin American country and a global intensive experience at the end of the course. By reflecting on the Latin American experience, students gain insights for wealthy countries like the United States where inequality is on the rise. | N | LEC | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only HST 378 or JHR 378 or JUS 378 or LAS 378 OR Visiting University Student |
| JHR | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |

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| JHR | 425 | The Politics of Immigration | Examines immigration and citizenship in the United States, with a focus on changes in policy, politics and incorporation trends. While a primary focus is on contemporary politics and policies, also spends much time on immigration and citizenship's legal history and on how scholars use history to reveal new, important insights for our understanding of debates today. Starts with a discussion of migration to the U.S. today and considers theories about international migration. Then moves to the history of immigration and citizenship policies and politics in the U.S. and continues up to present day political and national debates and initiatives. Contains a particular focus on the history, politics and debates around "undocumented"/"illegal"/unauthorized populations, on related citizenship and membership politics. With the continuing national debates, also spends additional time throughout the semester analyzing current reform politics and prospects, along with the different interests and constituencies battling for reform. Readings and assignments feature some of the different disciplinary approaches used in the study of immigration, drawing primarily from political science, history, sociology and anthropology. Aims to gain a better understanding of the different approaches and implications for using different types of methodologies. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only JHR 425 or JUS 426 OR Visiting University Student |
| JHR | 433 | Race and Sexualities in Social Justice Movements | Investigates queer communities, social control and political resistance. Topics include collective responses to trauma/violence, heteronormativity, and variants of institutionalized racism and sexism. Gives special attention to race and sexuality intersections as well as the politics of coming out, LGBT activism, antiracist movements, the role of allies, and social movement strategies. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prereq(s): ETH 100, HRC 200, or WST 100 w/C or better OR ENG 102, 105, or 108 w/C or better; minimum 36 hours; Credit is allowed for only ETH 433 or JHR 433 or WST 433 or ETH/WST 494 (Race, Sexuality, & Soc Justice Mvmnts) OR Visiting University Student |
| JHR | 441 | Latin America and the World Economy | Globalization did not begin in the late twentieth century, but rather global trade has linked Latin America with the rest of the world for over five hundred years. The region has been an active and important participant in the world economy since Columbus's first voyage in 1492. This course explores the social, cultural, economic, and environmental impact of such participation on both Latin America and the rest of the world. It is organized both chronologically and thematically. We will study both colonial and post-colonial trade. The commodities studied include sugar, rubber, bananas, and cocaine. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | L & G & H | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only HST 441 or JHR 441 or LAS 441 OR Visiting University Student |
| JHR | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): minimum 45 hours |
| JHR | 485 | Social Justice and Human Rights Capstone | Senior-level culminating course helps students consolidate their capstone assignments into an intellectual portfolio of written work. Although writing is a critical skillset for academic success, learning how to write is often treated as a secondary pursuit acquired "on the job." Assignments once submitted to fulfill course requirements are soon forgotten, and the labor spent on them is forever lost. This course offers a rare and invaluable opportunity to revisit the writing students have produced in their studies, thinking in highly focused ways about what ideas interest them and why. Students grapple with conventions of social scientific writing, understand how to formulate rigorous research questions and practice drafting structured arguments around key concepts. Additionally, students revise and refine existing papers, trace intersections between them and integrate them into a body of work. Students critically engage with others' work, offering constructive annotated feedback on others' papers while applying the same insights to their own writing. By the end of the course, students create a portfolio representing their best and most promising work. They are able to thoughtfully articulate the knowledge they have acquired over the years, as well as point toward possible trajectories for future research. This culminating experience not only equips students for graduate school, but enhances their skills for a range of professional fields--including law, journalism, policy-making, social work and beyond--where rigorous thinking and writing are essential. | N | PRO | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Social Justice and Human Rights BA major; JHR 305 with C or better; senior standing |
| JHR | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |

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| JHR | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| JHR | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| JHR | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-3 | | Prerequisite(s): minimum 45 hours |
| JHR | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): Social Justice and Human Rights MA student |
| JHR | 501 | Proseminar in Social Justice and Human Rights | Classical and contemporary theories of social justice and human rights in the context of current local, national, and international issues. Special reference made to the roles of both governmental and nongovernmental organizations in addressing social justice and human rights issues. | N | SEM | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Social Justice and Human Rights MA student |
| JHR | 503 | Gender Based Violence and Sex Trafficking | Following passage of the Palermo Protocol, the first modern global treaty on trafficking in the year 2000, sex trafficking has received enormous global attention. Focuses on the period following the passage of this treaty to understand both the causes and consequences of sex trafficking around the world. Are there patterns associated with victimization? Do traffickers use similar tactics for recruitment? What are countries doing to prosecute traffickers and protect victims? Students conduct guided research developing their expertise on trafficking in one country of their choosing, applying the tools and theories from class to evaluate their chosen case. Course adopts an interdisciplinary perspective drawing on work from political science, sociology, anthropology, counseling, psychology and law. Often draws on literature from feminist criminology studies to account for a more nuanced perspective. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Social Justice and Human Rights MA student; Credit is allowed for only JHR 503 or JHR 598 (Gender-based Violence and Sex Trafficking) |
| JHR | 504 | International Law and Organizations | Focuses on the fundamentals of international legal order, global governance structures and the influence of several key actors within this field, which include State actors as well as international organizations. Provides students with a good understanding and interesting insights about the nature, sources and scope of international law; types of international regulatory instruments such as treaties, conventions and other agreements, and their influence within the international arena. Students learn about the roles of international adjudicative bodies like the International Court of Justice (ICJ) and other judicial tribunals in managing global affairs. Focuses on international legal order and global institutional structures; also examines key global political and economic governance organizations and their relationship with States. Specifically, examines international inter-governmental organizations (IGOs) like the United Nations (UN), and its specialized agencies including International Monetary Fund (IMF), World Bank, World Health Organization (WHO), World Intellectual Property Organization (WIPO), and the UN Educational, Scientific and Cultural Organization (UNESCO). Also looks at the role of international nongovernmental organizations (INGOs) such as Amnesty International, Greenpeace, International Red Cross and Red Crescent Movement, and The Global Fund to Fight AIDS, Tuberculosis and Malaria (The Global Fund), and assess their importance as active actors in the area of global governance. Focuses on examining sets of carefully selected case illustrations (current and past) from around the world, along with practical learning activities regarding topical issues, helping students gain deeper and functional knowledge about the various topics discussed and issues examined. Cases and instances explored cut across areas like global peace and security, human rights and social justice, environment, public health and economic development. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Social Justice and Human Rights MA student; Credit is allowed for only JHR 504 or JHR 598 (International Law and Organizations) |

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| JHR | 505 | Migration, Asylum and Refugees | Interdisciplinary course that introduces students to social scientific debates on migration and displacement in the contemporary world. Over the past decade, recurring wars and natural disasters have driven millions to flee from their homes. According to the United Nations High Commissioner for Refugees (UNHCR), the global number of displaced people is over 70 million, the highest ever recorded since World War II. Now more than ever, it is important to critically examine the social, political and legal processes by which people are displaced and disenfranchised. Delves into social scientific perspectives on forced migration, drawing on essential concepts and theories in anthropology, political theory and international relations. Students question the taken-for-granted distinctions between refugees and "economic migrants," and investigate the historical contexts and institutional structures shaping global displacement that have brought us to our present moment. What does the figure of the refugee reveal about modern conceptualizations of citizenship and the nation-state? How do we think about the violence and precarity of displacement beyond metaphors of "exception," and is it possible to protect the rights of asylum-seekers in conjunction with those of vulnerable citizens? How is the suffering of distant others rendered legible to Western audiences, and how do the conditions of humanitarian work serve to further amplify inequalities between the givers and receivers of aid? The purpose is not to provide an exhaustive summary of various disciplinary approaches to migration, asylum and refugees, but rather, to develop some keen insights into the foundational forces shaping migrant lives and the power relations underpinning our endeavor to alleviate displacement. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Social Justice and Human Rights MA student; Credit is allowed for only JHR 505 or JHR 598 (Migration, Asylum, and Refugees) |
| JHR | 506 | Grant Writing for Social Justice and Human Rights | Seminar in grant writing and fund raising for social justice and human rights. Provide an introduction to the grassroots grant writing and fund raising process, with a particular focus on justice-oriented nonprofit and international nongovernmental organizations. | N | SEM | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JHR | 510 | Problem-Based Seminar in Social Justice and Human Rights | Interdisciplinary seminar examines current problems in social justice and human rights from several different theoretical and analytical viewpoints. May be repeated once for credit. | Y | SEM | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Social Justice and Human Rights MA student |
| JHR | 511 | Community-Embedded Seminar in Social Justice and Human Rights | Interdisciplinary seminar requiring students to be placed in community organizations dealing with the course issue during the semester. Emphasizes developing effective strategies for partnerships with relevant community organizations and evaluating institutional settings, policies, and procedures from the perspective of social justice and human rights. | Y | SEM | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Social Justice and Human Rights MA student |
| JHR | 525 | Action Research in Social Justice and Human Rights | Advanced practicum in engaged, community-embedded research and interpretive analysis. Gives students experience in the practice of engaged fieldwork as well as the writing it generates. | N | SEM | Y | OPT | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 3 | | Prerequisite(s): Social Justice and Human Rights MA student |

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| JHR | 540 | Critical Humanitarianism | Interdisciplinary lecture course introduces students to social scientific debates on humanitarianism, international aid and the ethics of alleviating suffering in the contemporary world. Since its birth in the 19th century, modern humanitarianism has emerged as a powerful actor in world affairs, not only assisting the vulnerable during moments of crisis but shaping politics and governance in its own right. Critically investigates the historical, cultural, institutional and technological contexts of humanitarian action. Rather than taking the morality of "saving lives" as self-evident, this course explores how moral judgements about life are formed, transformed, appropriated and sometimes ignored in the pursuit of humanitarian interests. How does one situate the emergence of humanitarianism in histories of capitalism and abolitionist movements? What definitions of the human are evoked in calls for humanitarian intervention, and how are these definitions sutured by notions of race? Why does the suffering of others evoke humanitarian sympathies and what are the ethical motivations that guide aid workers? How do we hold these ethical callings in tension with various forms of institutional violence perpetrated in humanitarian contexts? How does race shape the construction of both the subjects and objects of humanitarian aid, and what would it mean to decolonize the world of humanitarianism? The purpose is not to provide an exhaustive summary of all the theoretical approaches and empirical issues in humanitarian studies, but to develop some specific insights into what it means to "do good" and how goodness is invariably entangled in contemporary questions of power, politics, violence and history. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASB/JHR/POS/SBS/SOC 494 (Critical Humanitarianism) or JHR 540 or JHR 598 (Critical Humanitarianism) |
| JHR | 549 | Capstone in Social Justice and Human Rights | Culminating experience for students in the MA in Social Justice and Human Rights program. Analyzes and evaluates literature in the field and recommends practices of social justice and human rights through written and/or media projects. Includes practices of social justice and human rights within and across various organizations and local, global or transnational contexts. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Social Justice and Human Rights MA online student |
| JHR | 550 | Global Justice | Examines key issues of global justice including NSA global surveillance, state-sponsored mass atrocities, forced migration and asylum seeking, and the persistence of global poverty through the critical theoretical lens of non-dual / non-binary thinking. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only JHR 494 (Global Justice) or JHR 550 or JHR 598 (Global Justice) or POS 480 or SBS 480 |
| JHR | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JHR | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JHR | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JHR | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JHR | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JHR | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JHR | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JHR | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| JHR | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1 | | Prerequisite(s): Social Justice and Human Rights MA student |
| JHR | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JHR | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JMC | 101 | Grammar for Journalists | Grammar course specifically designed to help journalism majors master the essentials of grammar. All majors must achieve an 80 percent in the course, indicating a mastery of grammar, before they can move on to any other journalism course. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Prerequisite(s): Journalism and Mass Communication major or Sports Journalism major; Credit is allowed for only JMC 101 or JMC 194 (Grammar for Journalists) or MCO 101 or MCO 194 (Everyday Grammar) OR Visiting University Student |
| JMC | 102 | Coding for Journalists | Provides a basic understanding of how the Internet works, knowledge of how to create and upload Web pages, and a basic introduction to programming with JavaScript. Assumes no previous knowledge of any of the topics, although requires basic knowledge of how to use a Web browser and navigate the Web. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major; Credit is allowed for only JMC 102 or JMC 194 (Coding for Journalists) or MCO 102 or MCO 194 (Fundamentals of Coding) OR Visiting University Student |
| JMC | 110 | Principles and History of Journalism | Fundamental principles of journalism and the evolution of those principles through the history of the U.S. news media. By understanding the history of journalism, students learn about the most critical values of the profession. This is the first of four "values" courses Cronkite students take during the four-year curriculum. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | SB | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major; Credit is allowed for only JMC 110 or MCO 120 OR Visiting University Student |
| JMC | 115 | Diversity and Civility at Cronkite | Emphasizes the importance of diversity, inclusion, equity and civility to ensure all Cronkite students feel represented, valued and supported. Offers training and awareness on cultural sensitivities, civil discourse, bias awareness and diversity initiatives at the Cronkite School and ASU. Empowers students to approach reporting and communication projects with a multicultural perspective and inspire mutual respect among students from various backgrounds and beliefs within different Cronkite professional paths. | N | SEM | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Prerequisite(s): Journalism & Mass Communication BA or Sports Journalism BA major; Credit is allowed for only JMC 115 or JMC 194 (Diversity and Civility at Cronkite) OR Visiting University Student |
| JMC | 120 | Studio Production | Introduces the vocabulary of production. Develops familiarity with the studio equipment, its care and operation, and basic production procedures. Covers the ability to function as a member of a production team; sound attitudes toward assignments and constructive criticism; and an appreciation of production as a tool of the communication process. Discusses career opportunities in the diverse marketplace. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Prerequisite(s): Journalism and Mass Communication major; Credit is allowed for only JMC 120 or 194 (Studio Production) OR Visiting University Student |
| JMC | 121 | Sports Production | Introduces the vocabulary of production. Develops familiarity with the studio equipment, its care and operation, and basic production procedures. Covers the ability to function as a member of a production team; sound attitudes toward assignments and constructive criticism; and an appreciation of production as a tool of the communication process. Discusses career opportunities in the diverse marketplace. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Prerequisite(s): Sports Journalism major; Credit is allowed for only JMC 121 or JMC 194 (Sports Production) OR Visiting University Student |
| JMC | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-4 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major OR Visiting University Student |
| JMC | 201 | News Reporting and Writing | Introductory news writing course required for all Cronkite majors. Students learn the basic reporting and writing skills needed for further study in print, broadcasting, online or public relations. Students practice reporting and writing news stories with an emphasis on accuracy, newsworthiness, deadlines, objectivity and fairness. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | L | Prerequisite(s): Journalism and Mass Communication BA or Sports Journalism BA major; ENG 101, 105, or 107 with C or better; JMC 101 or MCO 101 with B- or better; JMC 110 or MCO 120 with C or better OR Visiting University Student |

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| JMC | 220 | Broadcast Voice and Delivery | Builds vocal skills both for everyday life, and for on-air performance. Focuses on breathing, voice control and pitch, articulation, stress and intonation, resonance, sounding conversational, anchoring, and on-camera body language. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism BA major; Credit is allowed for only JMC 220 or JMC 294 (Broadcast Performance Skills) or JMC 294 (Broadcast Voice and Delivery) OR Visiting University Student |
| JMC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-4 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major |
| JMC | 301 | Intermediate Reporting and Writing | Students produce a wide range of news and enterprise stories that take them into the community to report on police, courts, business and government, among other topics. Students hone their interviewing, reporting and writing skills and pitch their stories to professional and student media outlets. They gain a deeper and more sophisticated understanding of newsworthiness, journalism ethics and law. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | L | Prerequisite(s): Journalism and Mass Communication major; ENG 102, 105, or 108 with C or better; JMC 101 or JMC 194 (Grammar for Journalists); JMC 201 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 302 | Sports Reporting | Students learn how to cover a sports beat in this hands-on class. They develop story ideas and sources and report and write multiple stories on deadline. Expects students to pitch stories to professional outlets with the goal of publication. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Sports Journalism major; ENG 102, 105, or 108 with C or better; JMC 101 or JMC 194 (Grammar for Journalists); JMC 201 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 305 | Multimedia Journalism | Software and digital tools commonly used by multimedia journalists, including shooting and editing photos and video, social media, Web analytics, basic HTML, blogging, and design for the Web. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication BA major; ENG 101, 105, or 107 w/C or better; JMC 101 or MCO 101 w/B- or better; JMC 110 or MCO 120 w/C or better; Credit is allowed for only JMC 305 or JMC 306 or MCO 335 OR Visiting University Student |
| JMC | 306 | Sports Multimedia Journalism | Students learn and employ a range of software and digital tools commonly used by multimedia sports journalists. They shoot and edit photos and video, create social media, analyze and understand audience analytics, and learn basic design for the Web, with a focus on creating content for sports audiences. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Sports Journalism BA major; ENG 101, 105, or 107 with C or better; JMC 101 or MCO 101 with B- or better; JMC 110 or MCO 120 with C or better; Credit is allowed for only JMC 305 or JMC 306 or MCO 335 OR Visiting University Student |
| JMC | 310 | Principles of Strategic Communications | Introduces students interested in careers in public relations, strategic media and related areas to the practices and principles of public relations in corporate, nonprofit, agency, government and other settings. Covers the role of public relations professionals, how the field is changing and career opportunities. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism BA major; JMC 201 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 313 | Introduction to Editing | Hands-on training in editing copy, photos and graphics and writing headlines and other display text for print and digital platforms. Emphasizes editing for accuracy, clarity, brevity, grammar and tone. Students practice AP style, develop news judgment and consider the ethical implications of their work. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major; JMC 101 with B or better; JMC 201 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 315 | Intermediate Reporting and Writing (Broadcast) | Intermediate broadcast news reporting and writing techniques with emphasis on audio. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | L | Prerequisite(s): Journalism and Mass Communication major; ENG 102, 105, or 108 with C or better; JMC 101 or JMC 194 (Grammar for Journalists); JMC 201 with C or better; minimum 2.50 cumulative GPA |
| JMC | 320 | Newscast Producing | Principles of broadcast news producing, delivered via a combined lecture/lab experience and assignments based on editorial judgment, technical skills and industry awareness. Students emerge with strategies for total newsroom management, confidence in producing news content and newscasts under deadline pressure and prepared for a variety of producer-related roles in professional newsroom environments. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication BA or Sports Journalism BA major; JMC 301, 302 or 315 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 325 | Breaking News Multimedia Reporting | Students cover breaking news for azcentral.com, gaining practical experience in an online, multimedia environment. Students are selected by The Arizona Republic and work with professional editors in the Republic Media newsroom. Their work appears on azcentral.com and may appear in the print edition of the newspaper. Students must commit to two full days a week, and they earn pay in addition to class credit. | N | LEL | N | Z2 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication BA or Sports Journalism BA major; JMC 201 with C or better; JMC 305 or 306 with C or better; JMC 366, 367, or 402 with C or better; minimum 2.50 GPA OR Visiting University Student |

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| JMC | 330 | Television Reporting | Hands-on experience reporting and producing television news packages. Teaches visual storytelling skills including writing, reporting, videography and editing for broadcast and other platforms. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication BA major; JMC 301 or 315 with C or better; JMC 345 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 330 or JMC 331 or JMC 333 OR Visiting University Student |
| JMC | 331 | Television Sports Reporting | Hands-on experience reporting and producing television sports packages. Skills taught include sports writing, reporting and editing for broadcast. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Sports Journalism BA major; JMC 302 with C or better; JMC 346 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 330 or JMC 331 or JMC 333 OR Visiting University Student |
| JMC | 333 | Advanced Bilingual Broadcast Reporting | Students produce bilingual television packages on a wide range of issues of interest to Latino audiences. Students also report and produce an occasional Spanish-language newscast. Students develop advanced reporting, interviewing, visual storytelling and writing skills in English and Spanish, preparing them for entry-level positions in a small/medium market local television newsroom. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication major; JMC 301 or 315 with C or better; JMC 345 with C or better; Credit is allowed for only JMC 330 or JMC 331 or JMC 333 or JMC 494 (Advanced Bilingual Broadcast Reporting) |
| JMC | 345 | Videography | Students conceive, plan, shoot, write and edit television news packages in this hands-on class. Skills taught include sequencing, framing, lighting, sound, story structure, news judgment, storytelling and editing. Students may use school-supplied cameras and editing facilities but must provide a Flash Memory card and portable external FireWire Hard Drive. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication major; JMC 301 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 345 or JMC 346 OR Visiting University Student |
| JMC | 346 | Sports Videography | Develops an understanding of visual sports storytelling and craft compelling sports stories using video and sound. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Sports Journalism BA major; ENG 102, 105, or 108 with C or better; JMC 302 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 345 or JMC 346 OR Visiting University Student |
| JMC | 351 | Photojournalism I | Teaches basic skills required to compose, shoot and prepare still photos for publication. Hands-on, with students shooting a range of assignments from news events to environmental portraits, and producing a portfolio of their work. Students may share a school-supplied Canon camera or provide their own. The camera should be a digital SLR camera body with at least a kit zoom lens, and the camera body must have a manual setting and have the ability to turn off any built-in camera flash. Students need digital media cards of at least 2 GB and an external digital card reader. Students may not use point-and-shoot cameras or cameras with Flash (built-in or external) for this class. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication major; JMC 101 or JMC 194 (Grammar for Journalists); JMC 201 with C or better; minimum 2.50 cumulative GPA; Credit is allowed for only JMC 351 or JMC 352 OR Visiting University Student |
| JMC | 352 | Sports Photojournalism | Students learn photojournalism skills, including composition, shooting and preparing still photos for publication in a sports context. Hands-on, with students shooting a range of sports assignments and producing a portfolio of their work. Students may share a school-supplied Cannon camera or provide their own. The camera should be a digital SLR camera body with at least a kit zoom lens, and the camera body must have a manual setting and have the ability to turn off any built-in camera flash. Students need digital media cards of at least 2 GB and an external digital card reader. Students may not use point-and-shoot cameras or cameras with flash (built-in or external) for this class. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Sports Journalism BA major; JMC 101 or JMC 194 (Grammar for Journalists); JMC 201 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 351 or JMC 352 OR Visiting University Student |
| JMC | 366 | Journalism Ethics and Diversity | Explores contemporary news media ethical problems in a seminar setting. Uses journalism ethical perspectives to obtain keys to unlock contemporary dilemmas surrounding the news media. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prereq(s): Journ & Mass Comm major; JMC 101 or 194 (Gramr for Journ); JMC 110 or MCO 120 w/ C or better; min 2.50 GPA; min 25 hours; Credit allowed for only JMC 366 or JMC 367 or MCO 366 or MCO 494(Media Ethics & Diversity) OR Visiting University Student |
| JMC | 367 | Ethics and Diversity in Sports Journalism | Explores ethical problems related to sports media in a seminar setting. Discussion-based course applies journalistic values and principles to contemporary ethical dilemmas in sports media and helps prepare students for work in the profession. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prereq (s): Sports Journ BA major; JMC 101 or 194 (Gram for Journ); JMC 110 or MCO 120 w/ C or better; min 2.50 GPA; min 25 hours; Credit allowed for only JMC 366 or JMC 367 or MCO 366 or MCO 494(Media Ethics & Diversity) OR Visiting University Student |

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| JMC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-4 | | Prerequisite(s): Journalism and Mass Communication major or Sports Journalism major; minimum 2.50 GPA OR Visiting University Student |
| JMC | 402 | Mass Communication Law | Provides a grounding in the laws and regulations that govern various aspects of the media with a focus on First Amendment guarantees and privileges and the extent to which those have been limited by courts and lawmakers. Topics include freedom of expression, libel, privacy and obscenity. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prereq (s): Journ & Mass Com or Sport Journ major; ENG 102, 105, or 108 w C or better; JMC 101 or 194 (Gram Journ); JMC 201 w C or better; min 2.50 GPA; min 56 hours; Credit allowed for only JMC 402 or MCO 403 or MCO 503 OR Visiting University Student |
| JMC | 406 | Humphrey Seminar | Identifies, examines and exports role models of leadership in the field of global communications. Explores leadership issues in journalism, strategic communications and management under different cultural and political systems. | N | SEM | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major; minimum 2.50 GPA; Credit is allowed for only JMC 406 or JMC 494 (Humphrey Seminar) or MCO 512 or MCO 598 (Humphrey Seminar) |
| JMC | 410 | Turning Points in TV History | Uses historic television footage to talk about the evolution of news coverage and the ethical decisions journalists face. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism BA major; JMC 101 or MCO 101; minimum 2.50 GPA; Credit is allowed for only JMC 410 or JMC 494 (Turning Points in TV History) OR Visiting University Student |
| JMC | 412 | Opinion Writing | Traces the evolution of a new form of writing that blends the traditions of magazine features and classic newspaper opinion. Students pitch and write features in consultation with editors for Slate, the popular online magazine. Emphasizes curiosity-driven, smart and witty writing that advances an argument with strong voice and intellectual integrity. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication major; JMC 301 with C or better; minimum 2.50 cumulative GPA |
| JMC | 413 | Advanced Editing | Builds on skills learned earlier. Students master editing skills that include AP style, grammar, headline writing and page layout as well as editing graphics and other visuals, editing Web content and uses of social media. Students hone their news judgment and learn to work quickly and accurately on deadline. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major; JMC 313 with C or better; minimum 2.50 GPA |
| JMC | 414 | Digital Graphic Design | Theory, organization, and practice of layout, typography, and design in traditional and multimedia publishing. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major; JMC 305 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 415 | Writing for Public Relations | Develops the professional-level writing and strategic skills expected of public relations practitioners. Students learn how to design and produce strategic plans, news releases, media kits and executive communications. They are exposed to communications approaches required for different audiences and media and learn about public relations theory as well as audience research and analysis. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prereq(s) w/C or better: Journ & Mass Comm BA or Sports Journ BA major; JMC 301 or 302; JMC 310; min 2.50 GPA OR Mass Comm grad student; Credit allowed for only JMC 415 or MCO 537 or MCO 598 (Writing for Public Relations) OR Visiting University Student |
| JMC | 417 | Public Relations Campaigns | Students work with professional clients in an agency setting to research, plan and create comprehensive public relations campaign that address clients' needs. Concepts, theories and techniques relevant to public relations campaigns as well as strategic planning, campaign components and technology resources and tools. Analyzes, discusses and responds to current public relations issues and case studies. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication major; JMC 415 with C or better; JMC 436 with C or better; minimum 2.50 cumulative GPA OR graduate Mass Communication student |
| JMC | 419 | Strategic Communications Leadership and Ethics | Communications and the ability to tell an organization's story to a variety of audiences and stakeholders is a key part of corporate strategy. Provides a broad understanding of ethical communications practices in agency and corporate settings, and includes instruction in reputation management, corporate communications, brand management, and stakeholder engagement in a digital context. Especially useful for future communications professionals and those who will work with them such as journalists and business leaders. | N | SEM | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): JMC 301 or 302 with C or better; JMC 305 or 306 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 419 or MCO 519 OR Visiting University Student |

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| JMC | 421 | Advanced Digital Storytelling | Explores and practices the art of storytelling for digital audiences. Each student produces a digital project consisting of images, sound and text using various storytelling forms. Projects may consist of narrative multimedia features, news coverage, enterprise or investigative reporting. Emphasizes creating quality journalism, visual impact and creative use of multimedia tools and techniques. The best work is entered in national and regional contests. It is recommended that students have taken other classes or can demonstrate skills in visual journalism (photography, videography or graphics). | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major; JMC 301, 302 or 315 with C or better; JMC 305 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 421 or JMC 494 (Advanced Digital Storytelling) |
| JMC | 422 | Live Sports Event Production | Students receive a tremendous hands-on education in the art and science of live sports event production; they are responsible for producing ASU sports events for Pac-12 Plus live streams. Among the sports covered for Pac-12 Plus include soccer, volleyball, basketball, hockey, wrestling, swimming and others. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Sports Journalism BA major; JMC 121 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 422 or JMC 394 (Live Sports Event Production) OR Visiting University Student |
| JMC | 430 | Sports Marketing and Campaigns | Students create a real-world sports marketing campaign for a client (clients change each semester). Students strategize, plan, and clearly explain to the client how to execute their campaign. Executives from the client judge and ultimately select a winning campaign. | N | LEL | N | Z1 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Sports Journalism BA major; JMC 302 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 434 | Advanced Bilingual Reporting | In this project-based class, students work together to cover various angles of a topic related to Latinos in the U.S. Their digital and video stories, photographs and graphics often result in publication. Students need some ability to report in Spanish, although they do not have to be proficient. Prepares students for work in the Borderlands Bureau of Cronkite News or Cronkite Noticias, the school's Spanish-language news site. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prereq(s) w/ C or better: Journ & Mass Comm or Sprt Journ mjr; JMC 201; JMC 301, 302, or 315; JMC 305; min 2.50 GPA; Credit allowed for only JMC 434 or JMC 494 (Adv Biling Report) or MCO 534 or MCO 598 (Adv Biling Report) OR Visiting University Student |
| JMC | 435 | Latino and Transnational Issues | This fall-only seminar gives students a nuanced understanding of topics such as immigration, trade, health care, politics and cross-border conflict and cooperation, preparing them to report on some of today's most important issues. Students who complete the course are considered for a spring in-depth reporting course, which includes a reporting trip to another country. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication BA or Sports Journalism BA major; JMC 101 or MCO 101 with C or better; JMC 201 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 436 | Public Relations Research | Students learn about the importance of research in communications, conduct research using qualitative and quantitative methods, and analyze data to understand implications within a specific communications context. They also critically evaluate published academic and professional research and are exposed to types of research and their application in the field of public relations. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication BA major; JMC 301 with C or better; JMC 310 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 436 or JMC 494 (Public Relations Research) OR Visiting University Student |
| JMC | 437 | Documentary Production | Students learn the fundamentals of producing documentaries, including research, script writing, production and shooting and editing video. Students produce a long-form documentary. Students become familiar with television documentary history in order to identify trends and learn about legal and ethical issues relevant to video documentary production. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism BA major; JMC 345, 346, or 448 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 440 | Magazine Writing | Students report and write stories suitable for magazine outlets. They develop and pitch stories, learn new reporting techniques and employ literary techniques such as description and scene setting in their writing. See class notes for additional information. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication BA or Sports Journalism BA major; JMC 301 or 302 with C or better; minimum 2.50 GPA OR Sports Journalism MA student OR Master of Mass Communication MMC student OR Visiting University Student |
| JMC | 441 | Narrative Writing and Reporting. | Covers the elements of narrative journalism--structure and narrative arc, the use of character, description, dialogue and quotes, context and background, and pacing--and applies them to a long-form story students report and write during the semester. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prereq(s): Journalism&Mass Communication BA or Sports Journalism BA major; JMC 301 or 302 w/C or better; min 2.50 GPA; Credit allowed for only JMC 441 or JMC 494 (Narrative Writing) or MCO 541 or MCO 598 (Narrative Writing) OR Visiting University Student |
| JMC | 442 | Sports and Culture Commentary | Discusses various forms of commentary-based content creation. Students learn how to craft informed opinion in both news and sports across a variety of platforms, including written columns and video and audio commentaries. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism & Mass Communication BA or Sports Journalism BA major; JMC 301 or 302 with C or better; min 2.50 GPA; Credit allowed for only JMC 442 or MCO 542 or JMC 494/MCO 598 (Opinion in the Digital Age) OR Visiting University Student |

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| JMC | 444 | Accountability Journalism | Accountability journalism in the digital age -- its history, mission, values, techniques, ethics and future. Students research and analyze notable recent examples of accountability journalism and produce accountability story ideas. | N | SEM | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Prerequisite(s): Journalism & Mass Comm or Sports Journalism BA major; min 45 hours; min 2.50 GPA; Credit is allowed for only JMC 444 or JMC 494 (Accountability Journalism) or MCO 544 or MCO 598 (Accountability Journalism) OR Visiting University Student |
| JMC | 446 | News 21 | Prepares students for the Carnegie-Knight News21 investigative journalism summer fellowship. Immerses students in the selected topic for the annual investigation, conducting deep research, generating data and public records, interviewing experts, developing sources and producing initial reports and multimedia elements. Considers students who perform well in the seminar for paid summer fellowships during which they travel the country to complete their reporting and produce the annual project on an issue of national import. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major; JMC 201 with C or better; JMC 301, 302, or 315 with C or better; min 2.50 GPA; Credit is allowed for only JMC 446 or JMC 494 (News21) or MCO 546 or MCO 598 (News 21 Seminar) |
| JMC | 448 | Non-Narrative Video Storytelling | Teaches students how to create video pieces that effectively communicate a story, information or concept to an audience in non-narrative form that is engaging, interesting and intelligent. Focuses on the various forms of non-narrative storytelling to gain experience creating both longer and shorter pieces with DSLR cameras, advanced editing and graphics that are appropriate to the intended platform. Students learn how to shoot video and stills with a DSLR camera and when to use each in video creation, while advancing skills as a video editor and graphic designer. Students broaden their creativity and range as a video producer in the areas of journalism and mass communication. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication BA or Sports Journalism BA major; JMC 305 or 306 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 448 or MCO 548 OR Visiting University Student |
| JMC | 450 | Issues in Coverage of Business and the Economy | Basics of business and economic reporting, one of the fastest-growing areas of journalism. Students learn what skills are needed to cover business and economic stories as well as the basics of how private companies operate and the factors that drive the economy. Students learn about opportunities in the field and hear from leaders in business journalism. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication BA major or Sports Journalism BA major; JMC 101 or JMC 194 (Grammar for Journalists); JMC 201 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 451 | Photojournalism II | Develops photojournalism and visual storytelling skills through extensive hands-on practice shooting and editing for online and print media. Introduces shooting video with DSLR cameras and becoming proficient at image cropping, writing cutlines and editing using Adobe Photoshop. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism BA major; JMC 305 with C or better; JMC 351 or 352 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 452 | Visual Storytelling | Develops visual storytelling skills, working closely with a professional visual journalist to tell multimedia documentary stories that utilize video, still photos and text. In addition to the basics of storytelling, covers non-traditional techniques, including time-lapse, panos, HDR and star trails. Students should have basic skills in both still photography and videography and are expected to provide their own DSLR camera that can accommodate external mics and that have video capability. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication major; minimum 2.50 GPA; JMC 345 or JMC 351 with C or better |
| JMC | 453 | Reporting on Business and the Economy | Trains in the basics of reporting about business and the economy. Helps students tell the stories behind companies, people and money, while improving competence in using numbers in stories. Offers the opportunity to have stories appear in print, online or broadcast. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major; JMC 301, 302, or 315 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 453 or JMC 494 (Reporting on Business/Economy) |
| JMC | 455 | Digital Media Entrepreneurship | Students identify a marketable idea and transform it into a product and/or company. In the process, they learn about key concepts of entrepreneurship and practice skills that they can employ as entrepreneurs themselves. Students are exposed to a range of national and regional entrepreneurs and emerge with a deeper understanding of entrepreneurship's importance within the media and communications landscape. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major; minimum 2.50 GPA; JMC 305 with C or better; Credit is allowed for only JMC 455, JMC 494 (Digital Media Entrepreneurship), MCO 555, or MCO 598 (Digital Media Entrepreneurship) |
| JMC | 457 | Advanced Radio Reporting | Develops planning, writing, voicing and detailed editing skills in a variety of radio broadcast formats, including general news, business, as well as hard and soft news feature reporting. Emphasizes pre- and post-production planning, development and execution. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism & Mass Communication BA major; JMC 301, 302 or 315 with C or better; Credit is allowed for only JMC 457 or JMC 494 (Advanced Radio Reporting) or MCO 557 or MCO 598 (Advanced Radio Reporting) OR Visiting University Student |

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| JMC | 460 | Advanced Online Media | Builds on and expands basic multimedia knowledge. Students leave the course with heightened Web-language literacy and visual sophistication; fluency with multiple digital tools that create, publish and distribute content; and the requisite storytelling skills to produce work of a professional level on diverse online and mobile platforms. Draws on Adobe Creative Cloud software and other current tools. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism BA major; JMC 305 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 460 or MCO 515 OR Visiting University Student |
| JMC | 465 | Telling Stories with Data | Techniques and tools of reporting using data and public records as well as how to use the Internet and other online sources to find information and sources for stories. Students get experience with computer spreadsheets, database software and statistical techniques as they develop their advanced reporting skills. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism BA major; JMC 301, 302, or 315 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 470 | Depth Reporting | Students learn to conceptualize, report and write or produce long-form, in-depth stories for publication or broadcast. Students learn techniques of investigative reporting, including use of public records and data, as well as advanced interviewing techniques, and discover compelling ways to tell complex stories. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism BA major; JMC 301, 302, or 315 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 473 | The Business and Future of Journalism | Exposes advanced journalism students to broad media management problems; helps students understand how essential the bottom-line and quality journalism are to the entire journalistic enterprise; helps students think about how to balance those two concerns. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication BA major; JMC 101 or MCO 101 with B or better; JMC 201 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 473 or JMC 474 or MCO 470 or MCO 525 OR Visiting University Student |
| JMC | 474 | Advanced Issues in 21st-Century Sports and Media | Exposes challenges facing sports and media in the 21st century, including changing content models, revenue streams, and the evolving relationship between teams and media outlets. | N | SEM | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Sports Journalism BA major; JMC 101 or MCO 101 with B or better; JMC 201 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 473 or JMC 474 or MCO 470 or MCO 526 OR Visiting University Student |
| JMC | 475 | TV Production and Graphics Lab | Students learn main facets of TV production, including all elements of control room and studio work for a daily newscast, as well as building motion graphics for news packages, studio presentations, social media and digital platforms. The Lab works to serve clients as the in-house production team for the Cronkite School and Arizona PBS, while also exploring creative project opportunities in the Downtown Phoenix area. | N | LEL | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3-9 | | Prerequisite(s) with C or better: Journalism & Mass Comm BA or Sports Journalism BA major; JMC 305 or 306; JMC 345, 346, or 448; minimum 2.50 GPA; Credit is allowed for only JMC 475 or JMC 498 (TV Production & Graphics Lab) OR Visiting University Student |
| JMC | 476 | Public Relations Laboratory | Synthesizes and applies the theories, principles and techniques of public relations. This body of knowledge includes research, planning techniques, types of budgets, organizational systems, management styles, campaign components, types of campaigns, technology, ethics, diverse channels of communication and target audiences. Students: (1) analyze, discuss, then respond to public relations case studies; (2) develop an in-depth understanding of a client's needs; (3) conduct primary and secondary research; (4) work with a client in a team-based approach to prepare a comprehensive campaign proposal to address the client's problem or issue; (5) design and develop media products for client; (6) formally present the proposal to the client and the class. | N | LEL | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3-9 | | Prerequisite(s): Journalism and Mass Communication major; JMC 415 with C or better; JMC 436 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 477 | New Media Innovation and Entrepreneurship Lab | Research and development program designed to help media companies create new and exciting multimedia products and to help students create digital media startups. Brings together students from disciplines across campus, including journalism, business, computer engineering and design. Journalism students conduct research into developing new products and creating prototypes for those products. Students learn by doing, interacting with clients or investors, the director and the lead Web developer. Students schedule meeting times with the director to discuss projects. | N | LEL | Y | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3-9 | | Prerequisite(s): Journalism & Mass Comm or Sports Journalism BA major; JMC 301, 302, or 315 w/ C or better; JMC 305 w/C or better; min 2.50 GPA; Credit allowed for only JMC 477 or JMC 498 (Innov & Entrepreneurship Lab) OR Visiting University Student |
| JMC | 478 | Cronkite News: Phoenix Bureau | Applies and enhances reporting, writing and multimedia skills. | N | LEL | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3-9 | | Prerequisite(s): Journalism and Mass Communication BA or Sports Journalism BA major; JMC 301, 302, or 315 with C or better; minimum 2.50 GPA OR Visiting University Student |

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| JMC | 479 | Cronkite News: Washington Bureau | Students participate in a full-time regional reporting bureau that gives them the opportunity to work as a Washington correspondent. | N | LEL | Y | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3-9 | | Prerequisite(s): Journalism & Mass Communication BA or Sports Journalism BA major; JMC 301, 302, or 315 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 478 (Cronkite News - Washington Bureau) or JMC 479 OR Visiting University Student |
| JMC | 480 | Cronkite News: Phoenix Sports Bureau | Students gain valuable experience in sports reporting, shooting, editing and voicing packages for partnership outlets. | N | LEL | Y | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3-9 | | Prerequisite(s): Journalism and Mass Communication BA or Sports Journalism BA major; JMC 302 with C or better; JMC 306 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 481 | Cronkite News: Los Angeles Sports Bureau | Students gain valuable experience in sports journalism reporting, shooting, editing and voicing packages for partnership outlets. | N | LEL | Y | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3-9 | | Prerequisite(s): Journ & Mass Comm BA or Sports Journ BA major; JMC 330 or 331 w/ C or better; min 2.50 GPA; Credit is allowed for only JMC 481 or JMC 478 (Cronkite News - L.A. Sports) or JMC 478 (Sports Journ Santa Monica) OR Visiting University Student |
| JMC | 482 | Sports Knowledge Lab | The Sports Knowledge Lab is part of the Global Sport Institute, an international sports research and knowledge lab based at Arizona State that connects people to the power of sport by translating and amplifying complex sports research to broad, global audiences. Under the guidance of the executive editor of the Sports Knowledge Lab, students are responsible for the production and presentation of a variety of curated and original content from across the globe that examines the impact of sport on society and provides context for top sports headlines from around the world. Content includes long-form writing, documentaries, articles, newsletters, data visualization and podcasts. Global Sport Matters provides compelling angles that not only deepen people's understanding of issues that fit within the framework of the Global Sport Matters mission, but provides unique context, knowledge and tools that can lead to change. | N | LEL | Y | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3-9 | | Prerequisite(s): JMC 301, 302, or 315 with C or better; JMC 305 with C or better; Credit is allowed for only JMC 482 or JMC 498 (Sports Knowledge Lab) |
| JMC | 483 | Cronkite News: Digital Production | Students produce stories and multimedia across platforms for Cronkite News and professional news outlets. | N | LEL | Y | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3-9 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major; JMC 301 or 302 or 315 with C or better; JMC 305 with C or better; minimum 2.50 cumulative GPA; Credit is allowed for only JMC 483 or JMC 478 (Cronkite News Digital Production) |
| JMC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | LEC | N | Z1 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-12 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism BA major; JMC 301 or 302 with C or better; JMC 305 or 306 with C or better; minimum 2.50 GPA |
| JMC | 485 | Television Magazine | Produce a 13-week television magazine program for Arizona PBS focusing on science research at Arizona State University, using long form DSLR video storytelling skills. Opportunity to field produce, research, report, use videography, writing and graphic skills under the direction of instructors. | N | LEL | Y | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3-9 | | Prereq(s) C or better: Journ & Mass Comm or Sprts Journ BA mjr; JMC 301 or 315; JMC 345 or 494 (DSLR Vid Story); min 2.50 GPA; Credit allowed for only JMC 478 (TV Special Prj) or 485 or 494 (Pub Insight Net) or 498 (TV Mag) OR Visiting University Student |
| JMC | 486 | Digital Audiences Lab | Students participate in an immersive professional program experience to grow and engage digital audiences for real clients in an agency-like setting. Conduct audience and competitive research; analyze site and social content performance; create and measure paid and organic social media campaigns; execute SEM campaigns; create and optimize digital content; and make strategic recommendations to clients. | N | LEL | Y | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3-9 | | Prerequisite(s): JMC 301 or 315 with C or better; JMC 305 with C or better; MCO 307 with C or better; Credit is only allowed for JMC 486 or JMC 498 (Digital Audiences Lab) OR Visiting University Student |

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| JMC | 487 | Howard Center for Investigative Journalism | Develops the next generation of watchdog reporters through hands-on investigative journalism projects. Students produce in-depth digital and documentary-style journalism that illuminates problems or wrongdoing and holds public officials accountable. The Center partners with national and regional news organizations to disseminate and publish student work. Completion of one Advanced Skills course with C or better (from Journalism and Mass Communication major map) is recommended to succeed in this course. | N | LEL | Y | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3-9 | | Prerequisite(s): JMC 301 or 302 with C or better; JMC 305 or 306 with C or better; Credit is allowed for only JMC 487 or JMC 498 (Howard Center for Investigative Reporting) OR Visiting University Student |
| JMC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-4 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major; minimum 2.50 cumulative GPA OR graduate Mass Communication student OR Visiting University Student |
| JMC | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-7 | | Prerequisite(s): Journalism and Mass Communication BA major; minimum 2.25 GPA; successful completion of English proficiency exam OR Master of Mass Communication student |
| JMC | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-3 | | |
| JPN | 101 | First-Year Japanese I | Basic speaking, listening, reading, writing, computer skills with the Japanese language, as well as cultural knowledge. Hiragana, katakana, 80 kanji. For students without previous Japanese instruction. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Students may not enroll in JPN 101 if credit with C or better earned in JPN 110, 201, 202, 210, 301, 302, 309, 310, 311 or 401 |
| JPN | 102 | First-Year Japanese II | Continued development of JPN 101 skills. 110 additional kanji. Communication skills goal: ACTFL Guideline Novice-High. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): JPN 101 with C or better; Students may not enroll in JPN 102 if credit with C or better earned in JPN 110, 201, 202, 210, 301, 302, 309, 310, 311 or 401 OR Visiting University Student |
| JPN | 110 | Intensive Japanese I | First semester of the one-year intensive Japanese language sequence designed to train novice-level speakers to become competent intermediate speakers who can carry out conversation on familiar topics or handle straightforward situations. Emphasizes both oral and written communication through development of skills in listening, speaking, reading, writing and cultural awareness. Students manage a number of communicative tasks in social situations. Conversations are restricted to a few of the predictable topics necessary for survival; students express themselves in straightforward situations and on familiar topics. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 6-8 | | Students may not enroll in JPN 110 if credit with C or better earned in JPN 101, 102, 201, 202, 210, 301, 302, 309, 310, 311, or 401 |
| JPN | 115 | Japanese Popular Culture: Anime, Manga and Film | Examines different media of Japanese popular culture such as comics (manga), animation (anime) and film for evidence of how the Japanese express their self identity in Japanese society. By separating the media into themes such as technology and the future, war/apocalypse/disaster, violence in society, gender and sexuality, and human relations, understands the Japanese culture (and social consciousness) more intimately. Students view films, read scholarly articles on the subject matter, and actively participate in the course through written papers and discussion. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Credit is allowed for only JPN 115 or SLC 115 |
| JPN | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEL | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| JPN | 201 | Second-Year Japanese I | Continued development in speaking, listening, reading, writing, computer skills with the Japanese language, as well as cultural knowledge. 110 additional kanji. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): JPN 102 or 110 with C or better; Students may not enroll in JPN 201 if credit with C or better earned in JPN 202, 210, 301, 302, 309, 310, 311 or 401 OR Visiting University Student |
| JPN | 202 | Second-Year Japanese II | Continued development of JPN 201 skills. 110 additional kanji. Communication skills goal: ACTFL Guideline Intermediate-Low to Intermediate-Mid. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): JPN 201 with C or better; Students may not enroll in JPN 202 if credit with C or better earned in JPN 210, 301, 302, 309, 310, 311 or 401 OR Visiting University Student |
| JPN | 206 | Japanese Calligraphy | Introduces Japanese calligraphy using traditional implements, starting with basic brush strokes and stroke order for kanji and kana. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | |

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| JPN | 210 | Intensive Japanese II | Second semester of the one-year intensive Japanese language sequence designed to train novice-level speakers to become competent intermediate speakers who can carry out conversation on familiar topics or handle straightforward situations. Emphasizes both oral and written communication through development of skills in listening, speaking, reading, writing and cultural awareness. Students manage a number of communicative tasks in social situations. Conversations are restricted to a few of the predictable topics necessary for survival; students express themselves in straightforward situations and on familiar topics. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 6-8 | | Prerequisite(s): JPN 102 with B or better or JPN 110 with C or better; Students may not enroll in JPN 210 if credit with C or better earned in JPN 201, 202, 301, 302, 309, 310, 311 or 401 OR Visiting University Student |
| JPN | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| JPN | 301 | Third-Year Japanese I | Development of reading skills, using authentic materials to comprehend structure, grammar, idioms, and culture. Expansion of kanji and vocabulary. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): JPN 202 or 210 with C or better; Students may not enroll in JPN 301 if credit with C or better earned in JPN 302 or JPN 401 OR Visiting University Student |
| JPN | 302 | Third-Year Japanese II | Continued development of reading skills, as in JPN 301. Reading proficiency goal: ACTFL Guideline Intermediate-High. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): JPN 301 with C or better; Students may not enroll in JPN 302 if credit with C or better earned in JPN 401 OR Visiting University Student |
| JPN | 309 | Japanese Oral Communication I | Development of interpersonal, interpretive, and presentational oral/aural skills in familiar topics with sociolinguistic skills and understanding of Japanese culture. JPN 309 and 310 must be taken in sequence. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): JPN 202 or 210 with C or better OR Visiting University Student |
| JPN | 310 | Japanese Oral Communication II | Continued development of oral/aural skills, with increased emphasis on honorifics. Speaking proficiency outcome goal: ACTFL Guideline Intermediate-High. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): JPN 309 with C or better |
| JPN | 311 | Japanese Composition I | Learning structural guidelines for narrative writing, developing organization skills to support ideas. Writing proficiency outcome goal: ACTFL Guideline Intermediate-High. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): JPN 202 or 210 with C or better |
| JPN | 315 | The Language of Japanese Popular Culture I: Gender and Onomatopoeia/Mimesis | Develops reading and listening skills using Japanese popular culture materials of various genres, including narratives, comics, anime, film and music. Introduces linguistic elements that are not found in regular language textbooks. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): JPN 202 or JPN 210 with C or better; Credit is allowed for only JPN 315 or JPN 394 (The Language of Japanese Popular Culture I) |
| JPN | 316 | The Language of Japanese Popular Culture II: Honorifics and Dialects | Understands Japanese popular culture materials such as anime, music, movies, manga and narratives through their target language of Japanese. Emphasized language areas are honorifics, formal expressions, dialects and slang and vulgar expressions that are tolerable in the classroom environment. Introduces elements of the history, geography and culture of Japan to further students' understanding of the materials. Students improve their receptive skills, i.e., listening and reading, by engaging with these materials, and through the technique of shadowing, also improve their pronunciation, intonation and grammatical accuracy. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Pre- or corequisite(s): JPN 301 with C or better if completed; Credit is allowed for only JPN 316 or JPN 394 (The Language of Japanese Popular Culture II) |
| JPN | 333 | Japanese Civilization from the Ice Age to Last Thursday | Provides an overview of the entire sweep of Japanese history and culture from the earliest inhabitants of the Japanese archipelago, circa 30,000 BCE, to the earthquake and tsunami of March 2011 and beyond. Covers the main events, narratives, and individuals of Japanese history through documentary sources and literary works such as plays, novels, poetry and manga. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only JPN 333 or JPN 394 (Japanese Civilization) or SLC 394 (Japanese Civilization) |
| JPN | 354 | Zen and Japanese Culture | Students conduct historical, philosophical and sociological analyses of some of the fundamentals of Zen, mainly those of Japanese tradition. Examines the influence of Zen thoughts on value, culture and society in both pre-modern and modern Japan. Classes consist of lectures, documentary films and discussion sessions. Taught in English. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only JPN 354 or JPN 394 (Zen and Japanese Culture) or REL 353 or SLC 354 or SLC 394 (Zen and Japanese Culture) OR Visiting University Student |
| JPN | 355 | Religious Practice of People in Modern Japan | Examines the influence of Japanese religions on Japanese value, culture and society while surveying the major religious traditions of modern Japan focusing on Shinto, Buddhism and new religions. Also explores current religious practices in Japan and how religion interacts with the government, community groups and daily lives of people. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only JPN 355 or SLC 355 or JPN 394 (Religious Practice of People in Modern Japan) or SLC 394 (Religious Practice of People in Modern Japan) OR Visiting University Student |

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| JPN | 367 | Religion, Philosophy and Culture in Japan | Examines the influence of Japanese thoughts on value, culture and society while surveying the major religious and philosophical traditions in both pre-modern and modern Japan focusing on Shinto, Confucianism, Daoism, Buddhism and New Religions. Classes consist of lectures, documentary films and discussion sessions. Taught in English. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only JPN 367 or JPN 394 (Religion, Philosophy, and Culture in Japan) or REL 367 or SLC 367 OR Visiting University Student |
| JPN | 370 | Japanese Aesthetics: Art and Beauty in Japan | Surveys the history of Japanese art and beauty and investigates several issues of Japanese aesthetics from historical, philosophical and sociological perspectives. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only JPN 370 or JPN 394 (Japanese Aesthetics: Art & Beauty in Japan) or SLC 370 or SLC 394 (Japanese Aesthetics: Art & Beauty in Japan) OR Visiting University Student |
| JPN | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| JPN | 401 | Reading Modern Japanese Texts | Readings in modern literary and expository texts. Focus varies from year to year. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; JPN 302 with C or better OR Visiting University Student |
| JPN | 414 | Introduction to Classical Japanese | Readings from various genres of pre-20th-century literature, with analysis of the structure of the classical language. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): JPN 302 with C or better OR Visiting University Student |
| JPN | 415 | Advanced Classical Japanese | Close readings of selected premodern texts, with focus on grammatical and stylistic features. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): JPN 414 with C or better |
| JPN | 430 | Buddhist Meditation in East Asia | Surveys various types of Buddhist meditation in different schools, starting from those of India, and more from East Asia, particularly Japan. Investigates the pragmatic function of each meditative technique, how some of the fine/performing/martial arts were integrated with Buddhist ideas to become "meditation in action." | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only JPN 430 or SLC 430 or JPN 494 (Buddhist Meditation in Asia) or SLC 494 (Buddhist Meditation in Asia) OR Visiting University Student |
| JPN | 445 | Readings in Modern Japanese Letters and Culture | Advanced study of selected facets of modern Japanese letters and culture, including literature, material and visual culture, film, and other media. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): JPN 401 with C or better OR Visiting University Student |
| JPN | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| JPN | 485 | Japanese Literature and the Art of Translation | Examines the theory and practice of literary translation with two-fold aims: first, to analyze the ways in which translation has been theorized and practiced in a variety of historical contexts; second, to provide a space in which to discuss, experiment with, and polish original translations of Japanese-language texts in a wide range of written and visual forms. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): JPN 302 with C or better; Credit is allowed for only JPN 485 or JPN 585 OR Visiting University Student |
| JPN | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| JPN | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| JPN | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| JPN | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| JPN | 501 | Proseminar: East Asian Humanities | Provides MA and PhD students with a solid understanding of both the history of their academic discipline, as well as the various methodological approaches employed in the professional study of East Asian literature, history, language and culture. Centers on the close reading and discussion of a wide range of secondary sources, dealing with key issues in the development of East Asian humanities. Topics include premodern and modern discourses of language and literature; the trajectories of academic disciplines and approaches such as philology, sinology/Japanology, area studies and comparative literature; academic theories of space and temporality; translation studies; and book history. In addition to pursuing independent research, participants are expected to make regular presentations summarizing the main points in each week's readings. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CHI 501 or JPN 501 |
| JPN | 502 | Academic Writing | Trains graduate students in research methodology and conventions in academic writing. Centers on fine tuning students' command of the various components in English expository essays within the academic field of East Asian studies. Also addresses various contexts in academic writing, such conferences and proposals targeting audiences beyond the disciplinary boundaries of East Asian studies. | N | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CHI 502 or JPN 502 |
| JPN | 585 | Advanced Problems of Translation | Theories and practice of translation; strategies for handling a variety of Japanese texts. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Credit is allowed for only JPN 485 or 585 |

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| JPN | 586 | History of Japanology | Provides students at the MA level with a deep understanding of the history of Japanese studies in the United States, Japan and Europe; the key issues and debates that have characterized the study of Japan from the eighteenth century to the present; and the methodological approaches employed in the professional study of Japanese literature and culture. Centers on the close reading and discussion of a range of primary and secondary sources (in English and Japanese) dealing with central issues in the development of Japan studies. In addition to pursuing independent research, students are expected to make regular presentations summarizing the main points in each week's readings. The course presumes that participants have the equivalent of 3+ years of college-level Japanese language study and a B.A. (or equivalent) in Japanese literature, language and/or culture. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JPN | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JPN | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JPN | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JPN | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JPN | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JPN | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JPN | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JST | 131 | Biblical Hebrew I | Offers an introduction to Biblical Hebrew, the language in which most of the books of the Hebrew Bible/Old Testament have been written. Provides the basic tools to understand and translate Biblical Hebrew texts. Covers the Hebrew alphabet, basic vocabulary, morphology and syntax. Students learn idiomatic expressions, basic literary techniques in narratives and poetry, as well as specificities of Semitic languages. Emphasizes a critical approach to the ancient text. Also introduces the evolution of the biblical text, from ancient manuscripts to contemporary editions and translations. Includes an introduction to the development of writing and to the evolution of Hebrew, from earliest inscriptions to its revival in modern Israel. The texts translated in class are situated in the history of Israel, but also in their Jewish and Christian cultural and religious contexts. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G | Credit is allowed for only HEB, JST, REL 131 or HEB 194 (Biblical Hebrew I) |
| JST | 132 | Biblical Hebrew II | Completes the study of basic Biblical Hebrew grammar and vocabulary (Futato's Beginning Biblical Hebrew, chapters 21-40). Prepares students to translate narrative and legal texts from Hebrew Bible. Students learn to use dictionaries, grammars, paradigms and critical editions of the biblical text. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G | Prerequisite(s): HEB, JST, REL 131 or HEB 194 (Biblical Hebrew I) with C or better; Credit is allowed for only HEB, JST, REL 132 or HEB 194 (Biblical Hebrew II) |
| JST | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-3 | | |
| JST | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |
| JST | 210 | Introduction to Judaism | Beliefs, ceremonies, festivals, and institutions of Judaism emphasizing the contemporary era. Assumes no previous knowledge about Judaism. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | Prerequisite(s): ENG 101 or 105 or 107 with C or better; Credit is allowed for only JST 210 or REL 210 |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|--|
| JST | 211 | Jews and Judaism in America | Chronological analysis of Jews and Judaism in American history and letters. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H & C | Credit is allowed for only HST 211 or JST 211 or REL 211 |
| JST | 230 | Introduction to Jewish Civilization | Overview of Jewish civilization from antiquity to the present. Answers the following questions: Who are the Jews? What do Jews believe? How did Jews interact with non-Jews? What was the lasting contribution of Jews to the world? In the attempt to answer these questions, provides the skills of being a good college student. Presents Judaism as an evolving civilization with an overarching distinctive culture but with a variety of subcultures and ethnic diversity. Presents the Jewish civilization through literature, films, music, and internet resources, with an overview of its complexity and diversity. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H & G | Credit is allowed for only HST, JST or REL 230 |
| JST | 231 | Biblical Hebrew III | Advanced study of Biblical Hebrew. Deepens understanding of the grammar and composition of the Hebrew Bible. Translates texts of different literary genres (narrative, legal, poetic, prophetic) and different periods. Introduces the basic principles of textual criticism and different approaches to interpret the texts of the Hebrew Bible. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G | Prerequisite(s): HEB, JST, REL 132 or HEB 194 (Biblical Hebrew II) with C or better; Credit is allowed for only HEB, JST, REL 231 or HEB 294 (Biblical Hebrew III) |
| JST | 232 | Biblical Hebrew IV | Addresses advanced topics in Biblical Hebrew grammar and interpretation. The first half of the semester is devoted to texts from the Hebrew Bible; the second half on extra-biblical texts written in ancient Hebrew (for example: Dead Sea Scrolls, Rabbinic texts, ancient Hebrew poetry). Topics and texts change annually. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G | Prerequisite(s): HEB, JST, REL 231 or HEB 294 (Biblical Hebrew III) with C or better; Credit is allowed for only HEB, JST, REL 232 or HEB 294 (Biblical Hebrew IV) |
| JST | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |
| JST | 302 | Studies in History | Specialized topics in history. Explores countries, cultures, and issues in history, and their interpretation in historical scholarship. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 302 or JST 302 OR Visiting University Student |
| JST | 304 | Studies in European History | Specialized topics in European history. Explores countries, cultures, and issues in history, and their interpretation in historical scholarship. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 304 or JST 304 OR Visiting University Student |
| JST | 306 | Studies in United States History | Specialized topics in United States history. Explores regions, cultures, and issues in history, and their interpretation in historical scholarship. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 306 or JST 306 OR Visiting University Student |
| JST | 314 | Jewish Philosophy | The history of Jewish philosophy from its origins in the Hebrew Scriptures to postmodern expressions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105 or 108 with a C or better; Minimum 30 hours; Credit is allowed for only HST 390, JST 314, PHI 390 or REL 314 |
| JST | 315 | Hebrew Bible (Old Testament) | Nature, content, background, historical situation, and message of the books of the Hebrew Bible in English translation. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 24 hours; Credit is allowed for only JST or REL 315 OR Visiting University Student |
| JST | 316 | Literary Readings of the Hebrew Bible | Literary analysis of two of the main genres of the Hebrew Bible: narrative art and poetry. Students learn the main literary conventions of biblical prose and poetry, and how these conventions are applied or subverted. Each class comprises the study of a literary aspect, close readings, and thematic discussions. Biblical texts are read only in translation. They are situated in the religious, literary and artistic traditions that have developed on their basis. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ENG 316, HEB 316, JST 316, REL 316 OR Visiting University Student |
| JST | 318 | Contemporary American Jewish Identities | Analyzes the complexity and diversity of the contemporary American Jewish community in religious and secular affairs. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & C | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 24 hours; Credit is allowed for only JST 318, REL 318 or SOC 375 |

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| JST | 346 | Israeli Wars in Israeli Movies | From its first day, the State of Israel has been in a state of war with the Arab countries. Every few years, the fighting erupted into an open war. At the beginning of the country, there was a consensus that the wars were forced on the Israelis, and therefore, the heavy toll on human life was unavoidable. Since the Six Day War, 1967, and the political change in 1977, Israeli society is split in attitude toward war. The absolute belief in the political and military leaders was shaken, and new political agendas entered the political arena. To this divided society, the Intifadas occurred with the waves of terrorism. These events added fire to the heated debates in Israel. One means of expression is through the cinema. In this course, students watch, analyze, and discuss selected movies on the Israeli wars and terrorism in the streets of Israel. Through these movies, produced by Israelis, we'll try to understand the mood and attitude of the Israelis toward war, enemies, and political and military leaders. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only FMS 349 or HEB 349 or JST 346 or HEB 394 (Israeli Wars in Israeli Movies) OR Visiting University Student |
| JST | 347 | Modern Israeli Literature in Translation | Modern Hebrew, or Israeli Hebrew, started at the end of the 19th century in Europe and today it is the language of the State of Israel. During this short period modern Hebrew developed literature with its unique local characteristic, as well as universal ideas. Reads and examines four books against their social and historical background. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ENG 347 or HEB 347 or JST 347 or SLC 347 or ENG/HEB/JST/SLC 394 (Modern Hebrew Literature in Translation) |
| JST | 348 | Israeli Society and Culture | Different partitions of the Israeli society, based on ethnic origin, by religious affiliation or by political association. Depicts how Israel is an absorbing immigration state. Israel is a welfare state and the course covers aspects of a welfare state, such as health, retirement, public transportation, art, higher education and more. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only HEB 348 or HEB 394 (Israeli Culture and Society) or JST 348 or REL 311 or SLC 348 OR Visiting University Student |
| JST | 349 | Nature, Sustainability and Religion | Explores how world religions have conceptualized the natural world, what they have contributed to the current environmental crisis and how they might also serve as inspiration to address the crisis. By focusing on Judaism, Christianity and Islam, the course introduces students to the field of religion and ecology and explores its relationship to other academic disciplines such as environmental philosophy and ethics, justice studies and gender studies. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only HPS 349 or JST 349 or REL 349 or SOS 349 or JST, REL, or SOS 394 (Religion and Ecology) or JST, REL, or SOS 394 (Religion and Environment) |
| JST | 369 | History and Memory of the Holocaust | In-depth study of the history of the genocide of Jews, the rise of modern antisemitism within the context of Nazi Germany, and the memory and memorialization of the Holocaust post 1945. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 369 or JST 369 or REL 312 or HST 304 (Shoah: History, Memory, and Representation) or HST 394 (History of the Holocaust) |
| JST | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |
| JST | 411 | Judaism and the Beginnings of Christianity | Studies the beginnings of Christianity in relation to Judaism: their common context, the process of their distinction and their mutual influence. Through a historical and thematic approach, explores the parallel construction of Jewish and Christian identities. Combines readings from primary sources (Hellenistic Judaism, Qumran, New Testament, Early Christianity, Rabbinic Judaism) and up-to-date scholarly literature. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | ENG 101,105,107,108 or HST 100,102 or REL 100 or SLC 142, 202 w/ C or better; Credit is allowed for only HEB/JST/REL 411 or HEB 394 (Judaism & the Origins of Christianity) or HEB 494 (Judeo-Hellenistic Lit) OR Visiting University Student |
| JST | 445 | Holocaust, War and German Memory | Examines representations of the Holocaust from across different media (literature, film, architecture, memoir, photography) and from across multiple generations of German engagement with this period in history. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, ENG 105, ENG 108, FMS 100, FMS 200, JST 210, or JST 230 with C or better; Credit is allowed for only FMS 445 or GER 445 or JST 445 or SLC 445 OR Visiting University Student |

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| JST | 459 | Latin American Jewish Culture | Focuses on forms of cultural production in Latin America marked by or under the aegis of Jewish diasporic identity from the late nineteenth century to the present. While Jewish immigrants and Latin Americans of Jewish descent may be found in all Latin American societies, cultural production is found concentrated in countries like Argentina, Brazil, Mexico and Chile. Investigates essentially cultural versions of a sociohistorical consciousness, and ranges across a broad spectrum of Latin American Jewish texts in an investigation of what forms of production have emerged to represent this important immigrant component of Latin American national societies. Examines novels and other literary works, along with photography and films, and looks at theme, motifs, characters that can be identified with what might be called a Jewish consciousness or Jewish sensitivity. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only JST 459 or JST 494 (Jewish Latin American Culture) or SLC 459 or SLC 498 (Jewish Latin American Culture) or SPA 459 or SPA 498 (Jewish Latin American Culture) |
| JST | 460 | World War II | Explores the causes, conduct and consequences of World War II. When did World War II start? How was it fought, and what did that mean for soldiers, the homefront and millions of civilians in Japanese or German occupied regions? What did the world that emerged in its wake look like? The course explores these fundamental questions with an emphasis on multiple explanations of the causes of the war in Asia and Europe and the contingency of Allied victory. Explores the war as both a total and a global war in which perceptions of race, class and gender shaped the experience of combatants and noncombatants, many of whom died in indiscriminate bombing campaigns. Racial ideologies also led to the brutalization of soldiers, which in turn fueled the violence against civilians, as exemplified by the Holocaust and Japanese war crimes. Finally, the course turns to the global order emerging after the war and the different narratives that emerged from it. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only HST 460 or HST 494 (Introduction to World War II Studies) or HST 494 (World War II Studies) or JST 460 or WWS 460 OR Visiting University Student |
| JST | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | |
| JST | 490 | Methods of Historical Inquiry | Capstone course in history as an academic discipline, including formulation of research questions, use of primary and secondary sources to evaluate, form and support historical arguments. Students draft and revise a scholarly research paper. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L | Prerequisite(s): History or History of Science, Ideas and Innovation or Jewish Studies or Secondary Education (History) major; ENG 102, 105, or 108 with C or better; min 55 hrs; Credit for only HST 300 or HST 495 or JST 490 OR Visiting University Student |
| JST | 491 | History of Antisemitism | Antisemitism means hostility, negative perceptions and persecution of Jews. Examines the evolution of antisemitism in the West from antiquity to modern times. Explains the history of antisemitism by looking at the interplay of religious, economic, cultural and political factors. Gives special attention to the origins of Christianity, the place of Judaism in Christian self-understanding, the power struggle between popes and emperors during the Middle Ages, the involvement of Jews in money lending, the alliance between the Jews and the secular princes, the rise of modern nationalism, and the place of racism in the politics of modern nation states. With a better understanding of the history of antisemitism, ponders the differences and similarities between premodern anti-Judaism and modern antisemitism. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| JST | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| JST | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| JST | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |

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| JST | 495 | Judaism, Science and World Religions | Studies the correlation between science and religion as an interdisciplinary study from a historical perspective. Session topics fall into three distinct units. The first correlates the physical sciences with Western religious theology; the second explores the consequences of the life sciences on religious psychology; and the third examines the impact of the interconnection between sciences and religions in society. Each unit is studied through specific readings, film, lectures, and discussion. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105 or 108 with C or better; JST 210, 230 with C or better or REL 210 with C or better; Minimum 87 hours |
| JST | 496 | Biblical Narratives: Literary Approaches | Presents different trends in synchronic approaches applied to the Bible such as narrative criticism, semiotics, reader-response criticism, and situates them both in the postmodern cultural context and in the history of biblical exegesis. Explores various literary devices in biblical narratives, such as repetition, type-scenes, characterization, the change of points of view, the use of metaphors. Studies each technique on particular biblical texts, literally translated into English, with a special emphasis on how these techniques guide the interpretation and create meaning. Questions the significance of literary approaches for religious or ideological texts, such as the Hebrew Bible. Also considers criticisms raised against these approaches, assesses their limits, and envisions their future. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105 or 108 with C or better; JST 210, 230 with C or better or REL 210 with C or better; Minimum 87 hours |
| JST | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-7 | | |
| JST | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-3 | | |
| JUS | 105 | Introduction to Justice Studies | Introductory overview to the study of justice from a social science perspective. Primary topics include justice theories and justice research. Appropriate for freshmen and sophomores. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Credit is allowed for only JUS 105 or 305 OR Visiting University Student |
| JUS | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-3 | | Pre-requisites: Must have less than or equal to 25 earned hours |
| JUS | 200 | Topics in Concepts and Issues of Justice | Uses critical thinking skills to analyze and comprehend controversial social issues (e.g., abortion, affirmative action, capital punishment, the flat tax, and immigration). | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | |
| JUS | 207 | Homicide and Serial Killers | Explores the scholarship, research and rational analysis of the mass, spree and serial killer. It will examine some of the causes and underpinnings of these killers within the U.S. as well as the major theories and understandings of this phenomenon. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | |
| JUS | 210 | Introduction to Ethnic Studies in the U.S. | Covers diversity of experiences and relations among racial and ethnic groups in the United States. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | C | Credit is allowed for only AFR 212 or APA 210 or JUS 210 or TCL 210 OR Visiting University Student |
| JUS | 214 | The Pursuit of Justice in the 21st Century | Introduces a wide variety of institutions and organizations--locally, nationally and internationally--that seek justice. Provides an understanding of the many ways justice is institutionalized in modern societies. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | |
| JUS | 215 | Bob Marley and Reggae: Lyrics of Resistance | Studies political content, influence, and impact of Caribbean popular music, in particular the music of Bob Marley. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & G | Credit is allowed for only AFR 215 or AFR 394 (Bob Marley: Reggae and Resistance) or JUS 215 |
| JUS | 220 | Introduction to Social Transformation | Introduces key concepts in the study of social change, social innovation, and social transformation. Studies examples of social movements, social activism, community organizing, and coalition building and how such efforts have transformed society and culture. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Credit is allowed for only APA 220 or JUS 220 or SST 220 |
| JUS | 222 | Drugs and Justice | Provides an historical overview of the development and circulation of certain drugs; explores the more specific effects of drug use and abuse in everyday life; and examines the efforts by governments to both restrict/end and facilitate/expand the drug trade. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | |
| JUS | 235 | Disability, Justice and Advocacy | Overarching history of the disability rights movement and how it is similar to and different from other civil and rights movements. Examines how policies and activism are interconnected within this movement, in addition to looking at other human categories related to disabilities such as gender, sexuality, race and socioeconomic status. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | C | Credit is allowed for only COM 235 or JUS 235 or SST 235 or WST 235 OR Visiting University Student |
| JUS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| JUS | 300 | Race and Racism in Africa/African Diaspora | Advanced study of the concepts of race and racism and how they manifest themselves in the USA, the Caribbean, and Africa. Examines the construction of race, racism, and race relations in Africa and the African Diaspora as well as practices to challenge ethnicity, racism, and racial oppression. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours; Credit is allowed for only AFR 301 (or AFS 301) or JUS 300 |

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| JUS | 301 | Research in Justice Studies | Focuses on developing and evaluating research designs, data collection, and the relationship between validity and reliability. Stresses methods for conducting research. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| JUS | 302 | Statistical Analysis for Justice Studies | Concepts and application of descriptive and inferential statistics, including linear regression, for justice studies research.. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | CS | Prerequisite(s): ENG 102, 105, or 108 with C or better; MAT 117, 142, 170, or General Studies MA course with C or better; minimum 24 hours OR Visiting University Student |
| JUS | 303 | Justice Theory | Examines classic and contemporary philosophies and theories of justice, including legal, social, and criminal justice. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | L | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 24 hours OR Visiting University Student |
| JUS | 304 | Islands of Globalization: Caribbean Politics and Political Economy | In-depth study of the complexities of contemporary Caribbean politics and political economy. Examines the countries that constitute the Caribbean community and common market and the Caribbean Latin American countries such as Cuba and the Dominican Republic and analyzes the historical evolution of the region's political and economic systems and the impact of globalization. Traces the development of the region's political economy from the colonial period to the present; looks at the impact of globalization on contemporary politics, economics, and culture and the region's response. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G & H | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours; Credit is allowed for only AFR 304 (or AFS 304) or JUS 304 |
| JUS | 305 | Principles of Justice Studies | Introductory overview to the study of justice from a social science perspective. Primary topics include justice theories and justice research. Appropriate for juniors and seniors. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only JUS 105 or JUS 305 OR Visiting University Student |
| JUS | 308 | Courts and Society | History and development of courts. Relationship between dispute resolution mechanisms and cultural/social structure/processes in which they are embedded. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| JUS | 317 | Genes, Race and Society | An in-depth examination of the biological and social construction of race in western societies. Special emphasis is placed on examining these constructs from a historical perspective. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & H & C | Prerequisite(s): AFR 200 or minimum 30 hours; Credit is allowed for only AFR 317 or JUS 317 |
| JUS | 320 | Community and Social Justice | Discusses and analyzes definitions of community; impact of environment on behavior; promises of community organization for local empowerment. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours |
| JUS | 321 | Wealth Distribution and Poverty | Examines wealth and income distribution in the United States and analyzes ideological and political forces producing an increasingly unequal society. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours |
| JUS | 323 | Justice and the Development of the Welfare State | Provides a comprehensive overview of the development of social welfare and relevant issues pertaining to social justice. Introduces upper-division students to different ideas about the meaning of social welfare in the context of the development of the U.S. welfare state. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours |
| JUS | 325 | Globalization and Socio-Economic Justice | Addresses a trend producing increasing interconnectedness of economies and societies, as well as creating new conflicts and divisions. Provides greater understanding of global forces, as well as the effect of these forces on global economic justice. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; minimum 2.00 GPA; Credit is allowed for only JUS 325 or SGS 325 or SOC 325 OR Visiting University Student |
| JUS | 326 | Music as Political Discourse: Reggae, Calypso, and Hip Hop | This is a reading and writing intensive course that employs critical thought that explores African Diaspora popular music as a medium of social and political expression. It examines the political content of Reggae, Calypso and Hip Hop and their role in triggering and influencing popular discourse in the Caribbean and the USA. Course material will analyze the interrelationships among the musical forms and their role in fostering Black and Pan African Cultural Identity, Political Consciousness and World Peace. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & H & G | Prerequisite(s): AFR 200 (or AFS 200); minimum 45 hours; Credit is allowed for only AFR 325 (or AFS 325) or JUS 326 |
| JUS | 327 | Music and Justice: Revolutionary Measures | Examines music and its diverse role in society, including its impact on social and political control as well as its relationship to justice. Since the beginning of recorded history, music has played a significant role in the production of formal and informal social control. Societies use music as part of ritual and religious worship, entertainment, expression, communication and aesthetic pleasure as well as a means of political protest. However, music has also been effectively used by states, from liberal democracies to dictatorships, to compel obedience whether through propaganda or torture in inflicting and/or exacerbating pain and suffering. Indeed, current research reveals the powerful effects of music at a cellular level to mobilize people. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only JUS 327 or JUS 394 (Music, Social Conflict, and Justice) or JUS 494 (Music, Social Conflict, and Justice) OR Visiting University Student |

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| JUS | 329 | Domestic Violence | Critical inquiry into the legal, historical, theoretical, comparative, and treatment literatures on domestic violence; application of contemporary justice and social change theories to research how society defines and organizes against domestic violence. May include consideration of intimate partner abuse, child abuse and neglect, and gender violence. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 24 hours OR Visiting University Student |
| JUS | 330 | Survey of African American Politics | In-depth study of the dynamics of the African American political experience. Examines the historical development of African American politics from the anti-slavery era to the Civil Rights breakthrough of the 1960's through the present political climate. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & H | Prerequisite(s): AFR 200 or minimum 45 hours; Credit is allowed for only AFR 330 or JUS 330 OR Visiting University Student |
| JUS | 332 | Politics of Energy Policy and Justice | Examines the social and political dimensions that shape energy and environmental policy. Focuses primarily on the U.S. Introduces elements of regional or global policy where they influence or shape domestic politics and policies. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours |
| JUS | 334 | Science, Technology and Inequality | Conceptual and theoretical frameworks; provides empirical case studies that contribute to understandings of science and technology as they are used in society. The applications of science and technology in society need to be understood as instrumental to the creation and maintenance of inequality within and between societies. Science and technology does not merely cause or alleviate inequality, but are more profoundly implicated in social relations regarding distribution and access to the benefits of different technologies as well as exposure to risks from science and technology projects in society. The more pervasive and obdurate sources of social distribution are enshrined and entrenched in these scientific and technological systems. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | C | Prerequisite(s): minimum 45 hours; Credit is allowed for only FIS 334 or JUS 334 |
| JUS | 335 | Organized Crime | Critical inquiry into organized crime and its illegal activities; analysis and application of contemporary theories; analysis of strategies for reducing the prevalence and power of organized crime in the U.S. and other nations. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours |
| JUS | 343 | Culture and Society Transformation | Uses video documentaries and movies to explore the way in which cultural values, economic background and human interaction impact and transform societies. Societal changes in Central and Eastern Europe make a good case study for contrasting and comparing with other societies and understanding global trends and issues in today's world. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G | Prereq(s): ENG 101, 105, or 107 with C or better; Credit for only ASB 345 or ASB 394 (Cult & Soc Transform) or JUS 343 or JUS 394(Cult & Soc Transform) or ROM 343 or SLC 343 or SLC 394 (Cult & Soc Transform) or SOS 344 or SOS 394 (Cult & Soc Transform) |
| JUS | 345 | Peoples and Cultures of the Caribbean | Traces the socio-political history of the wider Caribbean from the 15th century to the present. Focuses on the following broad areas: the early years of European settlement and colonization; the construction of slavery and plantation society; and the transition from colonization to political independence. Critically examines the origins and building blocks of Caribbean society as well as analyzes the linkages between the region and the rest of the African diaspora. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G & H | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours; Credit is allowed for only AFR 345 (or AFS 345) or JUS 345 |
| JUS | 347 | Immigration, Education and the Family | Cultural processes related to immigration and their impact on the social construction of the immigrant family and the education of other children. Immigration theories, immigration debates and discourses, the immigration landscape of the 21st century, conceptualizations of the family, and the methodological challenges family researchers face. Topics include issues pertaining to education and the family and globalization. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only APA 347 or JUS 347 or APA 394 (Immigration, Education & Family) or JUS 394 (Immigration, Edu. & Family) OR Visiting University Student |
| JUS | 350 | Immigration and Justice | Examines immigration policy, history of immigration, refugee issues, labor force participation, gender, family, children, social networks, and transnationalism. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| JUS | 351 | Gender and Hip Hop | Interrogates the history and global proliferation of hip hop as a set of cultural and consumer practices including music, dance, art, fashion, language and entrepreneurialism. Uses an intersectional approach to unpack hip hop's contributions to larger social discourses around race, gender, gender expression, sexuality, sexual identity and sexual expression, and youth culture. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AFR 351 or AFR 394 (Gender and Hip Hop) or JUS 351 or JUS 394 (Gender and Hip Hop) or WST 351 or WST 394 (Gender and Hip Hop) OR Visiting University Student |
| JUS | 352 | The Global Politics of Human Rights | Examines political forces that have shaped gradual construction of an international human rights regime and a universal culture of rights, including civil and political rights, as well as economic, social, and cultural rights. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only JUS 352 or SOC 354 |

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| JUS | 353 | Borders, Prisons and Suburbs | Explores how the relationship between race and space has been important to the development of broad patterns of social inequality in the United States. Through a variety of readings, films and other material, examines how ideas of race and space have been important to the making and maintenance of national boundaries, citizenship, regional histories and spatial typologies such as border, ghetto, suburb and prison. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): minimum 24 hours; Credit is allowed for only AFR 352 (or AFS 352) or APA 352 or JUS 353 or TCL 353 |
| JUS | 355 | Human Rights Organizations and Institutions | Investigates the emergence and evolution of the organizations and institutions designed to promote and protect human rights at global, regional and national scales. Explores reasons why it is necessary to institutionalize human rights, the trial and error process that led to postwar international human rights regime, challenges and the future of human rights. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only JUS 355 or SOC 355 OR Visiting University Student |
| JUS | 360 | Law and Social Control | Resolution of social issues through the application of law as an agent of social control. Nature, sanctions, and limits of law. Categories of law and schools of jurisprudence. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours |
| JUS | 365 | Inequality and Diversity in Education | Advanced exploration of various dimensions of diversity in relation to educational systems and outcomes. Through sociological and psychological research, case studies and films, students examine how educational inequality is created and reproduced through individual actions and institutional constraints. Also considers the connection between schooling and human rights and ways in which educational inequality may be addressed. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | L & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; AFR 212, APA 200, APA 210, CDE 232, JUS 210, TCL 210, or minimum 24 hours; Credit is allowed for only AFR 350, APA 350, CDE 350, JUS 365, SOC 350, or TCL 360 OR Visiting University Student |
| JUS | 370 | Cultural Diversity and Justice | Analyzes how cultural diversity challenges and broadens conventional understanding of justice. Examines how cultural beliefs and practices come into conflicts with public law and policy. Assesses the U.S.'s performance on incorporating cultural diversity in its social institutions including education, media, and popular culture. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| JUS | 371 | Sexuality and Social Justice | Theoretical and case-study based examination of how people, either alone, in groups, as members of an organization or participants in a social movement, seek to change the meaning, representation and regulation of sexuality. Analysis and practice of skills, strategies and tactics associated with the pursuit of "sexuality justice" by advocates within social movements. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only JUS 371 or JUS 394 (Sexuality and Social Justice) |
| JUS | 374 | The Holocaust, Genocide, and Human Rights | Explores the psychological, social, historical, and political dimensions of the Holocaust and the phenomenon of genocide. Also examines the more recent international cases of genocide along with a discussion and analysis of the Universal Declaration of Human Rights. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| JUS | 375 | Justice and the Mass Media | Analysis of the impact of mass media and popular culture on social justice issues, including criminal justice. Critical inquiry into portrayals of gender, race, culture and class in mass media and other forms of popular culture. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours |
| JUS | 377 | Arizona, Immigration, Latinos and Politics | Contemporary immigration and its related issues have generated significant debates, reforms and responses by government officials, businesses and private citizens, to name but a few in this country. This course provides a much-needed framework for understanding some of the immigration issues in Arizona and the country generally. It also focuses on some of the political responses by Latinos and their significant mobilization at the local, state and federal levels. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only JUS 377 or POS 377 or SGS 377 or TCL 377 or JUS/HST/POS/SGS/TCL 394 (Arizona, Immigration, Latinos and Politics) OR Visiting University Student |
| JUS | 378 | Poverty, Inequality and Social Justice in Latin America | With persistently high levels of poverty and inequality, Latin America is often considered the most unequal region in the world. This course explores the economic, political, social and geographic origins of poverty and inequality in Latin American countries since independence. It also studies efforts to address the problem by governments, non-governmental organizations, the international community, religious groups and activists. Explores these themes in more detail through a case study of one Latin American country and a global intensive experience at the end of the course. By reflecting on the Latin American experience, students gain insights for wealthy countries like the United States where inequality is on the rise. | N | LEC | N | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only HST 378 or JHR 378 or JUS 378 or LAS 378 OR Visiting University Student |
| JUS | 382 | Justice and Pop Culture | Explores the connections between the production, reproduction, and consumption of popular culture and the resultant impact on issues of justice. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU or SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours |
| JUS | 385 | Justice and Everyday Life | Justice and injustice in everyday life and how small things can become legal issues. Role of language and interaction in social order. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |

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| JUS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| JUS | 405 | Inequality, Economy and Justice | Addresses economic issues and justice implications, including the interplay among economic conditions, race-ethnicity, class, and gender worldwide. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or SB) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours OR Visiting University Student |
| JUS | 408 | Comparative Development of the Welfare State | Embodies a multidisciplinary perspective on welfare issues and exposes students to different ideas about justice beyond the United States. Allows them to better understand how and why states organize and deliver justice in different ways. Exposes students to cross-national variation in how history, culture, politics, and economics have shaped the development and content of different types of welfare states. Engages theoretical perspectives from political sociology and political economy concerning the emergence and future fate of these welfare states. Analyzes comparative analysis of three distinctive types of welfare states; Liberal, Conservative, and Social Democratic Welfare States, with particular emphasis on their varying capacity to combine economic efficiency with social justice. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | L & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours |
| JUS | 410 | Punishment: Logic and Approach | Analyzes forms of punishment, how and why they have changed. Areas include philosophy, history, and social structure of punishment. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours |
| JUS | 420 | Women, Work, and Justice | Examines gender inequality in the workplace, including the nature of women's work, theoretical issues, and models for promoting gender justice at work. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or SB) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only JUS 420 or SOC 425 |
| JUS | 421 | Race Ethnicity and Politics in the African Diaspora | Reading and writing intensive course that employs critical thought to look at the competition for political power among different ethnic groups in Africa, the Caribbean and the USA and the implications for political stability, economic development, democratic governance, democratization, nationhood and the empowerment of African and African Diasporan populations. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G | Prerequisite(s): AFR 200 (or AFS 200) and minimum junior standing OR minimum 9 upper-division hours in any classes with the following prefix: AFH, AFS, AFR, APA, JUS, POS, SGS, SOC, WST; Credit is allowed for only AFR 420 or JUS 421 |
| JUS | 422 | Women, Law, and Social Control | Examines social, economic, and legal factors that are relevant to mechanisms of social control of women, including formal legal control and informal control through violence. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only JUS 422 or WST 422 |
| JUS | 424 | Ethics and Alternative Tourism | Cultural processes related to alternative tourism and their impact on both the tourist and local. Travel, tourism, globalization, development, human rights and the commodification of people and places. Topics include issues pertaining to Western tourism, commodification, race/class/gender and globalization. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): ENG 102 (or ENG 105 or 108) with C or better; minimum 36 hours. Credit is allowed for only JUS 424 or JUS 494 (Sex, Drugs and Death) |
| JUS | 425 | Race, Gender, and Justice | Critically examines major theories, research findings, policies, and controversies concerning race, ethnicity, gender, and crime. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or SB) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours |
| JUS | 426 | The Politics of Immigration | Examines immigration and citizenship in the United States, with a focus on changes in policy, politics and incorporation trends. While a primary focus is on contemporary politics and policies, also spends much time on immigration and citizenship's legal history and on how scholars use history to reveal new, important insights for our understanding of debates today. Starts with a discussion of migration to the U.S. today and considers theories about international migration. Then moves to the history of immigration and citizenship policies and politics in the U.S. and continues up to present day political and national debates and initiatives. Contains a particular focus on the history, politics and debates around "undocumented"/"illegal"/unauthorized populations, on related citizenship and membership politics. With the continuing national debates, also spends additional time throughout the semester analyzing current reform politics and prospects, along with the different interests and constituencies battling for reform. Readings and assignments feature some of the different disciplinary approaches used in the study of immigration, drawing primarily from political science, history, sociology and anthropology. Aims to gain a better understanding of the different approaches and implications for using different types of methodologies. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only JHR 425 or JUS 426 OR Visiting University Student |

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| JUS | 427 | Identity and Justice | Theory of symbolic interaction which provides a vocabulary, observational methodology (i.e., dramaturgy) and a set of grounding concepts that allow students to explore identity in its everyday practices. Explores the transformation and emergence of identities in public discursive spaces and the political impact of identity as it is deployed (invoked) and interpreted (imputed) among interactants in the social world. Establishes the position that identity operates as a central constitutive function in the construction of meaning and, subsequently, our ideas and attitudes about justice. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | L | Prerequisite(s): ENG 102, 105 or 108 with C or better; Minimum 36 hours; Credit is allowed for only JUS 427 or JUS 494 (Identity & Justice) |
| JUS | 428 | Critical Race Theory | In-depth analysis of the ways in which race has been historically utilized, constructed, and contested in American civil society. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only AFR 428, APA 428, JUS 428 or SST 428 OR Visiting University Student |
| JUS | 430 | Social Protest, Conflict, and Change | Analyzes historical and contemporary protest movements advocating equality based on race, gender, and sexual orientation. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or SB) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours OR Visiting University Student |
| JUS | 432 | Racial Justice | Racial inequality remains a dominant theme in understanding social, legal, and economic justice in the U.S. today. Explores controversial topics surrounding race and justice. Emphasizes current legal, economic, political, and social conceptual frameworks. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only JUS 432 or SOC 432 OR Visiting University Student |
| JUS | 435 | Cinema and Justice | Tracks the conceptualizations of justice that have been and are currently conveyed in film, including but not limited to the relationship between crime and various notions of justice. Other depictions include social issues such as gender, race, or economics. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours OR Visiting University Student |
| JUS | 437 | The Social Construction of Disability and Justice | Examines the construction of disability as a social, cultural and political phenomenon. Dominant understandings of disability typically use narrow medical and therapeutic explanations and thus disabled individuals often are defined as deviant, stigmatized, incompetent and marginal. Disability is a construct that finds its meaning and representation within a social and cultural context. Accordingly, this class examines the ideologies that such representations can conceal in order to crack the hegemonic façade, challenging the ways in which disability is perceived and treated by the dominant society. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only JUS 437 or JUS 494 (The Social Construction of Disability) |
| JUS | 438 | Human Differences: Dilemmas of Justice | General examination of democracy and human differences that expands into in-depth investigations of (1) racial difference and identity politics; (2) gender and sexual difference in democracy; and (3) cultural difference and the multiculturalism debate. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours |
| JUS | 440 | Prisons, Power and the Punishments of the Past | Examines the history and logics of a "U.S. Penal Democracy," tracing how prisons became the preferred and accepted choice for punishment. Traces how the practices, policies and rationalizations of punishment (physical, psychological and social) have been at the center of U.S. politics beginning in the 17th century. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102 (or ENG 105 or 108) with C or better; minimum 36 hours. Credit is allowed for only JUS 440 or JUS 494 (Prisons, Power and the Punishments of History) |
| JUS | 444 | Environment and Justice | Explores issues of environment and justice. Topics include justice and environmental racism, future generations, nonhuman life, global/non-Western societies. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | L & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only FIS 444 or JUS 444 |
| JUS | 445 | Surveillance and Society | Explore how surveillance technologies alter social life; the complex ways that they interact to produce security, fear, control, and/or vulnerability. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours |
| JUS | 456 | Human Rights and Sustainability | Addresses the connections between human rights and environmental sustainability. Legal and scholarly approaches linking these areas present new perspectives for addressing some of the greatest challenges of our time, given the important resource dimensions of economic and social rights and the human dimensions of sustainability. Yet human rights demands and environmental concerns are not always in harmony. Explores these tensions and opportunities by examining three substantive areas: urban ecology and human rights, the human right to food, and the human rights implications of extractive industries such as oil and mining. Following an introduction to the key concepts of human rights and sustainability, explores the substantive areas through theoretical and empirical readings on each; grassroots accounts of struggles over environment-related human rights; and selections from literature and film that illustrate the environmental justice issues at stake. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or SB) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only JUS 456 or JUS 497 (Seminar in Human Rights) or SOC 455 or SOS 456 |
| JUS | 460 | Feminism and Justice | Explores feminist thought and critiques traditional political theories. Examines issues of racism, sexuality, and the law. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours |

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| JUS | 463 | Discretionary Justice | Use/abuse, key issues/manifestations of discretion in legal system and other societal institutions. Theoretical/empirical linkages between discretion and discrimination, based on race, ethnicity, and gender. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours |
| JUS | 465 | Death Penalty in the United States | Focuses on capital punishment in the United States; explores negotiation of law, politics, morality, public policy, and culture. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours OR Visiting University Student |
| JUS | 467 | Terrorism, War, and Justice | Examines the relationship among terrorism, war, and justice. Analyzes terrorism within the larger study of deviance and social control, comparative politics, hegemony, and international law. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours OR Visiting University Student |
| JUS | 468 | Protest, Justice, Law and the Media | Examines research on protests, political deviance, trials/law and justice, and critiques some of the media representations of related ideas. Investigates global social movements, political protests and nascent political trials. Analyzes varied justifications for defining action as diversity, deviance or crime and the reasons for using criminal, civil or alternative (positive) sanctions (especially via indigenous peoples). Explores the encompassing meaning of a political trial. Many people throughout the world find everyday life to be a trial, especially those placed on the margins of globalization. Expands the research on media and trials that usually have been examined narrowly by legal institutions in North America and reinforced by hegemony. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only JUS 468 or JUS 494 (Protest, Justice and the Media) |
| JUS | 469 | Political Deviance and the Law | Examines the controversies created by political and deviant behavior, including a critical view of law as an agent of social control. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or SB) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours OR Visiting University Student |
| JUS | 470 | Alternative Dispute Resolution | Critical examination of the tenets of alternative dispute resolution movement; exposure to the programs of ADR, including community and court based. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | L & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours |
| JUS | 475 | Law, Societies and Justice in Latino-America | Reviews justice-related sociological and criminological theories in the target language. Introduces the application of social theories and human right principles to the issues affecting Latino communities both in Latin America and the United States. Students engage in critical inquiries and focused research to develop culturally sensitive and insightful solutions to criminal and justice-related topics that affect Latinos in their communities (physical or virtual). | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G | Prerequisite(s) with C or better: ENG 102, 105 or 108; SPA 202 or 204 OR Spanish Placement Test score of 421-520 OR Español Placement Test score of 370-520; Credit allowed for JUS 475, SPA 470 or JUS/SPA 494 (Law, Societies & Justice in Latino-America) |
| JUS | 477 | Youth and Justice | Critical examination of youth-related justice issues, including economic justice, violence against youth, delinquency, and the juvenile justice system. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | L or SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours OR Visiting University Student |
| JUS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| JUS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-6 | | Prerequisite(s): Barrett Honors student |
| JUS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| JUS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours OR Visiting University Student |
| JUS | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-6 | | Prerequisite(s): Barrett Honors student |
| JUS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-7 | | |
| JUS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-3 | | |
| JUS | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisites: Social and Cultural Pedagogy MA student, Justice Studies MS or PHD student |
| JUS | 501 | Justice Theory | Theories and philosophies of social, economic, political, and criminal justice. Applies theories to contemporary justice issues. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Pre-requisites: Justice Studies MS or PHD student |
| JUS | 509 | Statistical Problems in Justice Research | Methodological problems of research design and statistical methods specific to justice studies. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Pre-requisites: Justice Studies MS or PHD student |
| JUS | 521 | Qualitative Data Analysis and Evaluation | Analyzes qualitative data, e.g., field notes, in-depth interview transcripts, document analysis, coding, and retrieval with a microcomputer; qualitative evaluation. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Pre-requisites: Justice Studies MS or PHD student |

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| JUS | 530 | Social Policy, Critical Advocacy and Disability | Graduate seminar focuses on social policy and critical advocacy as it relates to disability culture and rights. Focuses on state, national and international discourses around disability-related policies, rights, social movements and advocacy/activism. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; Credit is allowed for only JUS 530 or JUS 598 (Policy, Advocacy and Disability) or JUS 598 (Social Policy and Critical Advocacy) |
| JUS | 542 | American Indian Justice | Provides a broad overview of American Indian and Alaskan Native issues of justice and injustice in contemporary society. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 550 | Gender, Race, and Economic Justice | Provides a critical social scientific perspective on economic issues particularly as they relate to gender, race, and class equality. Examines issues of economic inequalities as they are distributed along the lines of gender and race. Components converge to identify the social justice ramifications of economic policy and economic conditions. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 555 | Migration/Immigration and Justice | Explores the causes and consequences of immigration to the United States and the incorporation of immigrants into the American economy and society. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 560 | Women, Law, and Social Control | Gender issues in the exercise of formal and informal mechanisms of social control, including economic, social, legal factors, both violent and nonviolent. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 565 | Critical and Comparative Issues in Disability | Examines the construction of disability as a social, cultural and political phenomenon. Focuses on how disability is defined and represented in society as well as the implications/consequences of such definitions. Hegemonic understandings of disability typically have employed narrow medical and therapeutic explanations. From such deterministic perspectives, the disabled individual often has been defined as deviant, stigmatized, incompetent and marginal. This class rejects the perception of disability as a functional impairment that limits a person's activities. Instead, disability is a construct that finds its meaning and representation within a social and cultural context. Accordingly, examines the ideologies that such representations can conceal in order to crack the hegemonic façade, challenging the ways in which disability is perceived and treated by the dominant society. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only JUS 565 or JUS 598 (The Social Construction of Disability) |
| JUS | 575 | Race, Gender, and the Law | Explores the law and social sciences literature on race, ethnicity, gender, and the legal order. Critically assesses the major contemporary theoretical and policy debates and controversies in the field from a variety of disciplinary and interdisciplinary lenses, setting these debates in their historical contexts. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 588 | Justice and the Mass Media | Analyzes the nature and impact of mass media messages about justice concerns for social order. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | School of Social Transformation | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| JUS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 610 | Law and the Social Sciences | Analyzes the theoretical grounds underlying diverse studies of law and society; creation and administration of law; and jurisprudence and politics. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 620 | Justice Research Methodology | Covers the epistemology of knowledge and method in justice research, history, and philosophy of social science and critical inquiry, as well as perspectives that link these concerns to research strategies. Explores the strengths and weaknesses of introduced methodologies. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): Justice Studies MS or PHD student; JUS 500 with C or better |
| JUS | 630 | Data Analysis for Justice Research | Bivariate and multivariate techniques of data analysis and hypothesis testing for justice-related research and use of information and statistical programs. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): Justice Studies MS or PHD student; JUS 509 with C or better |
| JUS | 633 | Community Research | Focuses on epistemology, methodology, and the production of knowledge about community and seeks to link theory, methodology, specific research strategies, and social criticism about the conduct of community research. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 640 | Theoretical Perspectives on Justice | Analyzes philosophical perspectives of justice; linkages between social science theory and justice constructs; application of justice to social issues. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): Justice Studies MS or PHD student; JUS 501 with C or better |
| JUS | 650 | Advanced Qualitative Data Analysis | Advanced qualitative data collection and analysis techniques, including ethnography, in-depth interviews, field notes, coding, transcribing, content analysis, textual analysis. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Pre-requisites: Justice Studies MS or PHD student |
| JUS | 651 | Theorizing Sexuality and Social Justice | Examines the intellectual development of "sexuality" knowledge across disciplines; analyzes the regulation of sexuality through social policy and cultural norms; case studies of how social movements counter normative definitions of sexuality and work toward their vision of "sexuality justice." | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only JUS 591 (Sexuality and Social Justice) or JUS 651 or JUS 691 (Sexuality and Social Justice) |
| JUS | 656 | Human Rights and Sustainability | Addresses the connections between human rights and environmental sustainability. Legal and scholarly approaches linking these areas present new perspectives for addressing some of the greatest challenges of our time, given the important resource dimensions of economic and social rights and the human dimensions of sustainability. Yet human rights demands and environmental concerns are not always in harmony. Explores these tensions and opportunities by examining three substantive areas: urban ecology and human rights, the human right to food, and the human rights implications of extractive industries such as oil and mining. Following an introduction to the key concepts of human rights and sustainability, explores the substantive areas through theoretical and empirical readings on each; grassroots accounts of struggles over environment-related human rights; and selections from literature and film that illustrate the environmental justice issues at stake. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only JUS 656 or SOS 656 or JUS 691 (Human Rights & Sustainability) |
| JUS | 660 | Globalization and Economic Justice | Explores the political economy of globalization from a theoretical as well as practical standpoint. Sources used come from a variety of disciplines--sociology, political science, international relations, geography, and economics--all of which contribute unique theoretical and normative tools for analyzing the effect of global forces on economic justice. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Pre-requisites: Graduate student |
| JUS | 669 | Political Trials and Indigenous Justice | Focuses upon research on political trials, deviance, and conceptions of indigenous and contemporary justice. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| JUS | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | School of Social Transformation | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| KIN | 100 | Introduction to Health and Wellness | Current concepts in health, exercise, and wellness. Emphasizes personal health, theories, attitudes, beliefs, and behaviors. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | SB | Credit is allowed for only HEP 100 (EXW 100) or KIN 100 OR Visiting University Student |
| KIN | 101 | Introduction to Kinesiology | Introduces the disciplines and professions associated with kinesiology, sport and exercise science, with an emphasis on evidence-based practice, exercise physiology, sport and exercise psychology, motor behavior and biomechanics. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |
| KIN | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| KIN | 290 | Introduction to Evidence-Based Practice | Introduces best practices for gathering, interpreting, analyzing, synthesizing and evaluating research within the health and health care professions. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s) w/ C or better: College of Health Solutions major; ENG 101, 105, or 107; ECN 221, HCD 300, JUS 302, PBH 300, POS 401, PSY 230, SOC 390, STP 226, STP 231 or SWU 321; Credit allowed for only KIN 290 or NTR 290 OR Visiting University Student |
| KIN | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| KIN | 310 | Collegiate Sports | Participation in men's or women's intercollegiate competition. May be repeated for 4 hours 1 per year. Y/E grade. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1 | | |
| KIN | 334 | Functional Anatomy and Kinesiology | Promotes an understanding of the structure and function of the musculoskeletal system and how that system produces human movement. Covers origins, insertions, innervations and actions for most major skeletal muscles and applies that information to the fundamental analysis of movements. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BIO 201 with C or better; BIO 202 with C or better OR Visiting University Student |
| KIN | 335 | Biomechanics | Basic anatomical and mechanical principles applied to human movement. Emphasizes kinematic and kinetic concepts at the total body, local joint and tissue level. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prereq(s) w/min C: Kinesiology BS maj; BIO 201; BIO 202; KIN 101 w/B- or better; MAT 170, 210, 251, 270, 271, or 272; PHY 111 OR non-Kinesiology BS maj; BIO 201; BIO 202; KIN 101; MAT 170, 210, 251, 270, 271, or 272; PHY 111 OR Visiting University Student |
| KIN | 340 | Physiology of Exercise | Physiological mechanisms of acute responses and chronic adaptations to exercise. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s) with C or better: Kinesiology BS major; BIO 201; BIO 202; CHM 101, 113, 114, or 117; KIN 101 with B- or better OR non-Kinesiology BS major; BIO 201; BIO 202; CHM 101, 113, 114, or 117; KIN 101 OR Visiting University Student |
| KIN | 345 | Motor Behavior | Evaluates movement through the perspectives of neural control, development through the lifespan, and the most effective ways to teach and learn motor skills. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Kinesiology BS major; BIO 201 with C or better; KIN 101 with B- or better; PSY 101 with C or better OR non-Kinesiology BS major; BIO 201 with C or better; KIN 101 with C or better; PSY 101 with C or better OR Visiting University Student |
| KIN | 348 | Psychological Skills for Optimal Performance | Covers psychological theory and applied psychological techniques to improve performance and overall effectiveness in sport and related areas. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | SB | Prerequisite(s): KIN 101; PSY 101 OR Visiting University Student |
| KIN | 352 | Psychosocial Aspects of Physical Activity | Addresses interrelationships between physical activity and psychosocial variables, including correlates of and barriers to physical activity. Introduces research and reinforces concepts related to behavior change theory, motivational theory, exercise psychology and evidence-based interventions to promote physical activity. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | SB & C | Prerequisite(s): Kinesiology BS major; KIN 101 with B- or better; PSY 101 with C or better OR non-Kinesiology BS major; KIN 101 with C or better; PSY 101 with C or better OR Visiting University Student |
| KIN | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |

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| KIN | 400 | Topics in Neuroscience | Covers in-depth important and emerging developments in neuroscience, emphasizing lectures that include readings of recent reviews and contemporary publications in peer-reviewed journals. Includes a significant writing component; students learn skills for writing scientific publications and grant applications. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BIO 360 with C or better; Credit is allowed for only BIO 400 or KIN 400 or PSY 400 or SHS 400 |
| KIN | 412 | Biomechanics of the Skeletal System | Biomechanics of tissues, structures, and major joints of the musculoskeletal system. Discussion of injury mechanisms. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 335 with C or better; Credit is allowed for only KIN 412 or KIN 512 OR Visiting University Student |
| KIN | 413 | Qualitative Analysis in Sport Biomechanics | Develops systematic approach for detecting and correcting errors in human performance using anatomical and mechanical principles. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 335 (EPE 335) with C or better |
| KIN | 414 | Electromyographic Kinesiology | Muscular contributions to human movement, muscle mechanics, electrophysiological basis, and practical application of electromyography. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; KIN 335 with C or better; KIN 340 with C or better OR Visiting University Student |
| KIN | 415 | Theory of Corrective Exercise | Philosophic approach of assessing whole body movement and determining common injury mechanisms. Expands understanding of basic movement patterns that cause injury and how to approach potential solutions. Covers identification of imbalances and disfunctions for potential corrective exercise implementation. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 330 or KIN 334; Credit is allowed for only KIN 415 or KIN 515 OR Visiting University Student |
| KIN | 418 | Experimental Neuromechanics | Exploration of different quantitative techniques (electromyography, video, force plates) to analyze human movement from a motor control and biomechanical perspective. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; KIN 290; KIN 335 OR Visiting University Student |
| KIN | 421 | Human Motor Control | Focuses on understanding how the human central nervous system controls, regulates, and learns movements. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; KIN 345 with C or better OR Visiting University Student |
| KIN | 422 | Motor Control in Special Populations | Discusses principles of motor control theories and related practical applications for certain special developmental populations. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; KIN 345 with C or better OR Visiting University Student |
| KIN | 423 | Motor Control and Aging | Functional and behavioral changes to the motor control system as humans age, how specifically it impacts motor control and learning. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; KIN 345 with C or better OR Visiting University Student |
| KIN | 424 | Neural Aspects of Movement and Rehabilitation | An in-depth discussion of how the nervous system controls movement. Provides insight into how the enormous repertoire of human movements (e.g., gait, posture, voluntary hand movements) is controlled by a distributed motor system (e.g., spinal cord, basal ganglia, motor cortex); how pathology to the system alters movements; and an introduction to how rehabilitative approaches address these pathologies. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 345; Credit is allowed for only KIN 424 or KIN 494 (Neural Aspects of Movement and Rehabilitation) OR Visiting University Student |
| KIN | 437 | Comparative Biomechanics and Motor Control | Guides students to critically evaluate how the physical and mechanical properties of organisms and their environment affect biological tissues, structures, and motor control. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BIO 181 with C or better; MAT 170 with C or better; PHY 111 with C or better OR Visiting University Student |
| KIN | 440 | Exercise Biochemistry | Study of bioenergetics and metabolism of cellular (skeletal muscle, heart, and liver) organelles and proteins during exercise. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 340; Credit is allowed for only KIN 440 or 532 |
| KIN | 441 | Physiology of Women in Sport | Physiological aspects of women engaging in physical activity. Emphasizes factors affecting performance and health throughout life. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; KIN 340 with C or better; Credit is allowed for only KIN 441 or KIN 531 OR Visiting University Student |
| KIN | 442 | Fuel Metabolism | Discusses current research concerning the metabolism of carbohydrate, fat, and protein during exercise. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 340 with C or better OR Exercise and Wellness major; EXW 315 with B or better; Credit is allowed for only KIN 442 or KIN 536 OR Visiting University Student |
| KIN | 443 | Exercise Endocrinology | Focuses on the cellular and systems physiology of the neuroendocrine system, as well as presents research-based findings of how exercise alters neuroendocrine function to improve performance and offset injury. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; KIN 340 with C or better; Credit is allowed for only KIN 443 or KIN 533 OR Visiting University Student |
| KIN | 444 | Metabolic Adaptations to Exercise Training | Examines physiologic adaptations to exercise training as they relate to metabolism and tissue functions. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 340 with C or better OR Visiting University Student |
| KIN | 446 | Pediatric Obesity | Covers a variety of aspects related to pediatric obesity including the causes and consequences in terms of physiologic, genetic, psychosocial, environmental and economic. Also discusses potential interventions such as behavioral, pharmacologic, surgical and public health and policy. Evidenced-based course where research guides class lectures and discussions. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 315 or KIN 340; Credit is allowed for only EXW 412 or KIN 446 or EXW 494 (Pediatric Obesity) or KIN 494 (Pediatric Obesity) |

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| KIN | 447 | ECG Interpretation | Using ECG data, this course comprehensively investigates cardiac arrhythmias and interactions with therapeutic drugs and exercise. | N | LEL | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 340 or SSP 315 (EXW 315) with C or better; Credit is allowed for only KIN 447 or KIN 547 OR Visiting University Student |
| KIN | 450 | Biopsychosocial Perspectives on Physical Activity and Health | Utilizes a problem-based learning approach to examine a biopsychosocial perspective of physical and mental health. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 352 with C or better OR Visiting University Student |
| KIN | 452 | Exercise Psychology | Analyzes existing scientific evidence to critically assess the use of exercise to maintain mental health and treat mental illness. Addresses a variety of topics from stress to clinical depression along with research methods to enable students to critically assess the evidence and determine the best applied exercise-based recommendations. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | SB | Prerequisite(s): KIN 352 with C or better; Credit is allowed for only KIN 452 or KIN 522 OR Visiting University Student |
| KIN | 454 | Motivational Theory in Exercise and Health | Assesses motivational theories relevant to the field of exercise and health psychology. Evaluates research and utilizes the findings to create applied public service announcements targeted toward a specific health issue (e.g., exercise, nutrition, smoking) and a specific population. Assesses students on four group public service announcements and "mini exams" for each unit. Taught in class, online and in a hybrid format. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 352 with C or better; Credit is allowed for only KIN 454 or KIN 494 (Motivational Theory in Exercise & Health) |
| KIN | 460 | Theory of Strength Training | Utilizes a problem-based learning approach to facilitate an understanding of the neurological and physiological mechanisms underlying muscular and performance-based adaptations to resistance training. Covers and applies peer-reviewed research to solve practical resistance training-focused questions. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; KIN 340 with C or better OR Visiting University Student |
| KIN | 465 | Muscle Physiology | Discusses the cellular and systems physiology of the skeletal and cardiac muscle systems, as well as presents research on the effects of exercise on skeletal muscle function and adaptation. Describes and recognizes the detailed structure, composition and biochemical properties of skeletal muscle. Applies knowledge of ultrastructure, microanatomy and biochemical properties of skeletal muscle to factors influencing its form and function. Describes the factors that affect muscle adaptation. Applies knowledge of muscle gene expression to the heterogeneity of metabolic and molecular responses to skeletal muscle. Compares and contrasts differences among skeletal, smooth and cardiac muscle fiber types. Interprets and analyzes current research findings and applies these concepts to endurance and strength training adaptations. Develops an understanding of many of the molecular signaling pathways regulating muscle adaptation. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 315 or KIN 340 with C or better; Credit is allowed for only KIN 465 or KIN 494 (Muscle Physiology) or KIN 598 (Muscle Physiology) OR Visiting University Student |
| KIN | 466 | Cardiovascular Exercise Physiology | Examines varying concepts related to cardiovascular exercise physiology. Covers the basics of the cardiovascular system, how the system works both at rest and during exercise, and how it responds to exercise training. Evaluates research and utilizes the findings to enhance learning of course topics. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 340; Credit is allowed for only KIN 466 or KIN 494 (Cardiovascular Exercise Physiology) OR Visiting University Student |
| KIN | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): minimum 2.00 GPA; Corequisite(s): junior or senior standing |
| KIN | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): Barrett Honors student |
| KIN | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| KIN | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): minimum 25 hours OR Visiting University Student |
| KIN | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-3 | | |
| KIN | 512 | Biomechanics of the Skeletal System | Biomechanics of tissues, structures, and major joints of the musculoskeletal system. Discusses injury mechanisms. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student; Credit is allowed for only KIN 412 or 512 |
| KIN | 515 | Theory of Corrective Exercise | The philosophic approach of assessing whole body movement. Expands the student's understanding of the basic movement patterns needed to reduce injury and how the body compensates for movement impairments. Students gain practice screening movement to identify imbalances and dysfunction and learn how to apply corrective exercise techniques. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only KIN 415 or KIN 515 |

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|---------|-------------|---------------------------------------|--|-------------------|-------------------|-----------------|---------------|-----------------------------|-----------------------------|-------|-----------------|---|
| KIN | 520 | Applied Sport Psychology | Psychological theories and techniques applied to a sport to enhance the performance and personal growth of athletes and coaches. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate OR undergraduate postbaccalaureate student; Credit is allowed for only KIN 448 or KIN 520 |
| KIN | 522 | Exercise Psychology | Analyzes existing scientific evidence to critically assess the use of exercise to maintain mental health and treat mental illness. Addresses a variety of topics from stress to clinical depression along with research methods to enable students to critically assess the evidence and determine the best applied exercise-based recommendations. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate OR undergraduate postbaccalaureate; Credit is allowed for only KIN 452 or KIN 522 |
| KIN | 523 | Motor Control and Aging | Focuses on the functional and behavioral changes to the motor system as humans age and how specifically it impacts motor control and learning. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| KIN | 530 | Exercise and Sport Physiology | Covers both acute and chronic adaptation to physical activity with emphasis placed on exercise prescribed to enhance performance in sport and occupational fields relying on maximal or near-maximal efforts. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate or undergraduate postbaccalaureate student |
| KIN | 531 | Physiology of Women in Sport | Physiological aspects of women engaging in physical activity. Emphasizes factors affecting performance and health throughout life. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student; Credit is allowed for only KIN 441 or 531 |
| KIN | 532 | Exercise Biochemistry | Understanding the basic biochemical principles and enzyme pathways involved in energy transduction during exercise. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student; Credit is allowed for only KIN 440 or 532 |
| KIN | 533 | Exercise Endocrinology | Discusses current research and theory concerning hormonal changes during exercise. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student; Credit is allowed for only KIN 443 or 533 |
| KIN | 536 | Fuel Metabolism | Discusses current research concerning the metabolism of carbohydrate, fat, and protein during exercise. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student; Credit is allowed for only KIN 442 or 536 |
| KIN | 540 | Sport Biomechanics | Includes instruction and practical experience in the detailed analysis of sport movements designed to both reduce injury potential and maximize performance. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate or undergraduate postbaccalaureate student |
| KIN | 545 | Movement Assessment and Evaluation | Students perform different laboratory and clinical techniques to analyze human movement for biomechanical applications. Delivered as two components: lecture and laboratory. The lecture component serves to discuss the theory behind quantitative analysis techniques, proper equipment usage, data processing techniques and the connection to biomechanical principles. During the laboratory component students gain hands-on experience with the equipment by performing assigned experiments and clinical assessments. Follows with practice in analyzing, reporting, interpreting and presenting data. Additionally, students make recommendations and assign exercises to correct impaired movement when appropriate. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 515 |
| KIN | 547 | ECG Interpretation | Comprehensive investigation of the heart rhythm disturbances that occur within the chambers and conducting tissue of the heart. Partitioned into three sections allowing the systematic review of arrhythmias that occur in the atria, AV junction and ventricles of the heart. The material is designed to maximize understanding by analyzing electrocardiogram rhythm strips to reinforce applying the theoretical component of the course. Also uses the application of these theories through laboratory experiences allowing hands-on experience with electrode placement and 12 lead ECG interpretations. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Clinical Exercise Physiology MS or Physical Activity and Health MS student; Credit is allowed for only KIN 447 or KIN 547 |
| KIN | 550 | Clinical Applications in Biomechanics | Hands-on experience utilizing clinical techniques and equipment to analyze human movement for biomechanical applications. Uses the student biomechanics laboratory as a simulated clinic environment where volunteers may participate as clients for students to gain experience with clinically relevant biomechanical assessments. Additionally, requires students to showcase successful interpersonal skills to be able to work with a variety of individuals (clients, peers and supervisors) and show an ability to think critically and pay attention to details. | N | LAB | Y | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 515; KIN 540; KIN 545 |

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| KIN | 552 | Applied Research Methods in Biomechanics | Develops research skills and gains further experience working in a biomechanics research environment. Assigns a variety of projects to facilitate the student's skill development for biomechanics research such as utilizing modeling applications with related computer processes, inverse kinematics calculations and motion tracking techniques. | N | LEC | Y | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 500; EXW 501; KIN 540; KIN 545 |
| KIN | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| KIN | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| KIN | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| KIN | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Health Solutions | College of Health Solutions | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| KOR | 101 | First-Year Korean I | Pronunciation, grammar, elementary conversation, and development of basic reading and writing skills, including Han'gul. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | |
| KOR | 102 | First-Year Korean II | Continuation of KOR 101. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): KOR 101 with C or better OR Visiting University Student |
| KOR | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| KOR | 201 | Second-Year Korean I | Continual development of communication skills. Increased emphasis on reading and writing, vocabulary building, and review of fundamentals. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): KOR 102 with C or better OR Visiting University Student |
| KOR | 202 | Second-Year Korean II | Continuation of KOR 201. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): KOR 201 with C or better |
| KOR | 250 | Korean Culture and Society | Surveys Korean culture and society, covering history, religious traditions, gender, and popular culture. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | |
| KOR | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| KOR | 313 | Third-Year Korean I | Continued development of ability to communicate orally and in writing. Exposure to a variety of Korean written styles. | N | REC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): KOR 202 OR Visiting University Student |
| KOR | 314 | Third-Year Korean II | Continuation of KOR 313. | N | REC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Pre-requisites: KOR 313 |
| KOR | 321 | Modern Korean Literature | Introduces various genres of Korean literature written from the seventeenth century to the present in English translation. Aims to help students to understand the history of modern Korean literature in transnational and transdisciplinary contexts. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only KOR 321 or SLC 321 |
| KOR | 347 | Korean Film and Literature | Introduces aspects of Korean history, culture, and society through Korean film and literature. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | |
| KOR | 350 | Women of Korea | Examines the changing role and status of women in modern Korea in relation to political and cultural changes. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | H | |
| KOR | 354 | Religions of Korea | Explores major religious traditions and folk religions in Korea. Covers diverse topics such as mythology, indigenous practices, doctrinal and meditation Buddhism, early and Neo-Confucianism and Christianity as well as the new religions of modern times. Discusses the development of religious ideas and practices in light of the political, cultural and social milieus. Focuses on cultural importation and adaptation as well as interaction and conflict among the different religious traditions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 102 or 105 or 108 with C or better; minimum 24 hours; Credit is allowed for only KOR 354 or REL 354 |
| KOR | 375 | Intercultural Communication in Korea | Focuses on the fundamental knowledge of Korean intercultural values and communication. Explores and analyzes Korean communication styles and patterns in regard to the relationship between language use in cross-cultural communication, social meaning and cultural motivations. While the main focus is on Korean language, course is conducted in a comparative and interdisciplinary manner on how communicative strategies differ between Korea and other countries (such as China, Japan and the U.S.) due to underlying differences in their cultural values. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & G | Prerequisite(s): minimum 30 hours; Credit is allowed for only KOR 375 or KOR 394 (Intercultural Communication in Korea) or SLC 375 or SLC 394 (Intercultural Communication in Korea) |
| KOR | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |

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| KOR | 401 | Advanced Korean I | Offers students the opportunity to acquire advanced levels of vocabulary, reading proficiency and writing ability for an academic or professional purpose. Also helps students prepare for the TOPIK (Test of Proficiency in Korean). Course materials, ranging from literary works, scholarly articles, journalistic pieces, TV news clips, film scripts and other expository writings, encompass a variety of topics relevant to understanding Korean society and culture. Requires students to master a certain number of basic Sino-Korean characters and to use them in their essays. Throughout the course, students build vocabulary and reading proficiency toward the level expected at college in Korea. All discussions are held in Korean. Students can take this course in conjunction with other Korean three-hundred level language courses upon instructor approval. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): KOR 314 with C or better; Credit is allowed for only KOR 401 or KOR 494 (Korean for Professional Purposes I) |
| KOR | 402 | Advanced Korean II | Constitutes the second of two semesters of study of fourth-year Korean. Offers the opportunity to acquire advanced levels of vocabulary, reading proficiency, and writing ability for an academic or professional purpose. Course materials, ranging from literary works, scholarly articles, journalistic pieces, TV news clips, film scripts and other expository writings, encompass a variety of topics relevant to understanding Korean society and culture. Requires students to master a certain number of basic Sino-Korean characters and to use them in their essays. Throughout the course, students build vocabulary and reading proficiency toward the level expected at college in Korea. All discussions are held in Korean. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): KOR 401 with C or better; Credit is allowed for only KOR 401 or KOR 494 (Korean for Professional Purposes II) |
| KOR | 415 | Korean Popular Culture | Examines production, consumption and interpretation of Korean popular culture in the modern historical context from the early twentieth century to the present. Looks at a range of products and fandom of popular culture, including music, drama, fashion, film and game, focusing on their global circulation to and from Korea through radio, television and online social media. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better OR min 45 hours; Credit is allowed for only KOR 415 or KOR 494 (Asian Popular Culture) or SLC 415 or SLC 491 (Asian Popular Culture) or SLC 494 (Asian Popular Culture) OR Visiting University Student |
| KOR | 420 | Emotions Across Languages, Cultures and History | Presents the main academic approaches to emotions that have been developed in the humanities and social sciences. Explores, among other topics: the different notions and constructions of emotions in various languages, societies and time periods; the cross-linguistic and cross-cultural use of metaphorical expressions of emotions; the social functions of emotions; the use of emotions in the formation of identities. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only KOR 420 or SLC 420 or HEB 494/HEB 598/KOR 494/KOR 598/SLC 494/SLC 598 (Emotions Across Language, Culture, & History) OR Visiting University Student |
| KOR | 457 | Premodern Korea in a Global Context | Offers a comprehensive outline of the literary and cultural traditions of premodern Korea from historical and crosscultural perspectives. Targets both undergraduate and graduate students. Gives students an opportunity to read a variety of texts ranging from literary works, historical, philosophical and religious documents, diaries and travelogues, to important recent scholarly works in the field. Identifies representative literary works and terms. Discusses important topics and issues on premodern Korean literature and the cultural exchange between Korea and Japan, and Korea and China, bringing to bear students' own thoughts and ideas which are articulated in their final research papers. All readings are available in English translation. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): minimum 45 hours; Credit is allowed for only KOR 457 or SLC 457 or KOR 494 (Pre-modern Korean Literature and Cultural Exchange) or SLC 494 (Pre-modern Korean Literature and Cultural Exchange) OR Visiting University Student |
| KOR | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| KOR | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| KOR | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| KOR | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| KOR | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| KOR | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| KOR | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| LAP | 231 | Introduction to Digital Applications for Designers | Fundamentals of professional computer operation for designers including basic system usage, introduction of software packages focused on the design of sustainable environments, and utilizing computers to assist in environmental analysis and analytic decision making. Software packages include Microsoft Office, Adobe multimedia and creativity products, Esri ArcGIS geographic information systems (GIS), Autodesk AutoCAD computer aided design/drafting (CAD), and Trimble SketchUp 3D modeling software. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | CS | Prerequisite(s): Landscape Architecture BSLA major; Corequisite(s): LDE 261 OR non-Landscape Architecture major; minimum sophomore standing OR Visiting University Student |
| LAP | 251 | Plant Materials for Sustainable Landscapes | Plants as landscape architectural elements. Emphasizes plant identification and the uses of particular plants in landscape architecture. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Design Studies minor; ALA 102 OR Environmental Design BS major; EDS 223 OR Landscape Studies minor; ALA 102 OR Corequisite(s): Landscape Architecture BSLA major; LDE 262 OR Visiting University Student |
| LAP | 311 | History of Landscape Architecture | Physical record of human attitudes toward the land. Ancient through contemporary landscape planning and design. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU & H | Prerequisite(s): Landscape Architecture major; ALA 100 or 102; passed degree milestone review OR non-Landscape Architecture major; minimum sophomore standing OR Visiting University Student |
| LAP | 312 | 20th-Century Landscape Architecture | Explores concerns, projects, and movements in landscape architecture of late 20th-century understanding; social, ecological, regional, and historical influences. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU | Prerequisite(s) with C or better: Landscape Architecture BSLA major; ALA 100; ALA 102; ALA 121; ALA 122; ALA 124; ENG 101, 105, or 107; MAT 170; minimum 3.00 GPA OR non-Landscape Architecture BSLA major; min junior standing OR Visiting University Student |
| LAP | 332 | GIS Applications in Environmental Design | Addresses fundamentals of geographic information systems (GIS), especially as they relate to applications by environmental planners and designers (including architects, landscape architects, urban designers and related professionals). Focuses on using GIS as tools. Explores the techniques and procedures for acquiring, displaying, editing, analyzing and modeling spatial information. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | CS | Prerequisite(s): Landscape Architecture BSLA major; ALA 235 or LAP 231; minimum junior standing OR Visiting University Student |
| LAP | 341 | Landscape Construction I | Landscape constructions focusing on landform transformations. Topics include landform analysis, grading, and earthwork. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Corequisite(s): LDE 361 OR Visiting University Student |
| LAP | 342 | Landscape Construction II | Characteristics of materials and methods used in landscape architectural construction. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Landscape Architecture BSLA major; LAP 341 (LTC 343) with C or better; Corequisite(s): LDE 362 OR Visiting University Student |
| LAP | 352 | Ecosystems and Sustainable Design | Increases awareness and understanding of the biotic and abiotic systems, processes and factors of our biosphere in order to facilitate sustainable landscape architectural design and applications. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Environmental Design major; LAP 254 OR Landscape Studies minor; LAP 254 OR Design Studies minor; LAP 254 OR Corequisite(s): Landscape Architecture major; LDE 361 OR Visiting University Student |
| LAP | 353 | Planting Design for Sustainable Landscapes | Functional and aesthetic use of plants in arid-region landscape design. Explores design philosophies through planting design problems. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Landscape Architecture BSLA major; Corequisite(s): LAP 341 (LTC 343); LDE 361 OR Visiting University Student |
| LAP | 371 | Professional Practice | Landscape architecture practice including contracts, project and office management, liability, licensing, and professional development. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): Landscape Architecture BSLA major; Corequisite(s): LDE 362 OR Visiting University Student |
| LAP | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| LAP | 413 | Landscape Architecture Theory and Criticism | Critically analyzes landscape architecture theories and projects to evaluate validity of design and contribution to society. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | L | Prereq(s): Lndscp Arch maj; ENG 101,105, 107 w/C; LDE 362 w/C; Coreq(s): LDE 461 OR Envirmntl Dsgn maj or Lndscp Studies min; ENG 101,105,107 w/C OR Dsgn Studies minr; ENG 101,105,107 w/C; LAP 311 (LPH310); LAP 312 (LPH311) OR Visiting University Student |

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| LAP | 443 | Landscape Construction III | Landscape construction focusing on low-technology, biotechnical, regional, and experimental techniques or systems. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Landscape Architecture BSLA major; LAP 342 (LTC 344) with C or better; Corequisite(s): LDE 462 OR Visiting University Student |
| LAP | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): Landscape Architecture BSLA major; Pre- or corequisite(s): LDE 361 |
| LAP | 485 | International Field Studies | Organized field study, culture and language in specified international locations. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-6 | G | Pre-requisite: Junior standing; Credit is allowed for only GCU 485 or GPH 485 or LAP 485 or POR 485 or PUP 485 or 585 |
| LAP | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | | Prerequisite(s): Barrett Honors student |
| LAP | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| LAP | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| LAP | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis | Y | IND | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-3 | | Prerequisite(s): Landscape Architecture BSLA major or Landscape Studies minor; minimum junior standing |
| LAP | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LAP | 585 | International Field Studies | Organized field study in specified international locations. | N | SEM | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GCU 485 or GPH 485 or LAP 485 or LAP 585 or PUP 485 or PUP 585 |
| LAP | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | REC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LAP | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LAP | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LAP | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| LAS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| LAS | 205 | Deep Roots: Latin America | Introduces the diversity of Latin-American traditions through its cultural production. The approach is interdisciplinary (art, architecture, literature, film, theater, business and anthropology). Studies the history and culture of Latin America and its concept of identity and nation through a variety of genres. Focuses on aspects that reveal the complexity of Latin America and in turn provides insights into Latin American culture. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| LAS | 206 | Locating Latin America: Interdisciplinary Methods | Methodologies course designed to provide exposure to academic fields and research approaches that intersect in Latin American studies | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| LAS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| LAS | 324 | Food in Latin America | Uses food as a critical lens for studying Latin American culture and history and looks at how the evolution of human development, and especially the food that we eat, is influenced by social, political and economic context. Studies the production and commodification of food in Latin America, and its globalization. Also covers how Latin American cuisine sheds light on the formation of cultural identity and perceptions of nationalism. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 305 (Food) or HST 324 or LAS 324 OR Visiting University Student |

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| LAS | 330 | From the Inside: The Latin American Journey | Journeys through a wide variety of genres and critical scholarship. Provides a broad exposure to different types of reading and writing. Prepares students to engage with many types of Latin American texts across disciplines. Covers Latin American cultural history from pre-Colombian to the postmodern by exploring different formats and genres around major central themes. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| LAS | 340 | Latin American Women Writers | In the 20th and 21st centuries, Latin America has seen a proliferation of literature published by women authors. While this explosion of the written word owes in part to changing socioeconomic factors and the opening of the international markets, Latin American women's literary history is often ignored in the canon. Examines the concepts of feminism through a Mexican framework, starting from the point of view of Mexican women theorizing about their own. This is not a history of feminism, but it does aim to highlight certain fundamental texts and key concepts of Mexico's history from the position of women writers, including feminism's critique of social structures beyond the bounds of gender relations. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only LAS 340 or WST 341 |
| LAS | 350 | The Construction of a Nation: Chile in the 20th/21st Century | Examines Chilean history, politics and cultural production through its historical development and explores a multiplicity of cultural issues. Develops knowledge and appreciation of cultural and visual production of Chile and Latin America as well as acquired skills for critically analyzing texts in their applicability to modern-day society. Considers the variety of cultural and artistic productions (novel, poetry, short story, film, music, pop culture, presidential speeches) as sources of social commentary in which observations of national identities are constructed. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102 (or ENG 105 or 108) with C or better; Credit is allowed for only LAS 350, ENG 494 (Construction/Nation:Chile in the 20th/21st Cen) or SPA 494 (Construction/Nation:Chile in the 20th/21st Cen) |
| LAS | 351 | Cityscapes: Urban Mexican Literature and Culture | Examines major developments in contemporary Mexican literature. Begins at mid-20th century as the novel turns away from the rural novel of the Revolution, toward a more urban setting. Mexico City serves as a cultural and political center, and the novels mark social and political changes across different literary currents. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| LAS | 355 | Contemporary Mexican Cinema: Changing Cartographies | Examines major themes and auteurs in contemporary film as their work intersects with larger cultural phenomena, expanding students' cultural knowledge as well as critical communication skills. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| LAS | 375 | Colonial Latin America | Ancient civilization, exploration and conquerors, and colonial institutions. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 375 or LAS 375 |
| LAS | 376 | Modern Latin America | In-depth examination of the development of independent Latin American republics since 1821. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 376 or LAS 376 OR Visiting University Student |
| LAS | 378 | Poverty, Inequality and Social Justice in Latin America | With persistently high levels of poverty and inequality, Latin America is often considered the most unequal region in the world. This course explores the economic, political, social and geographic origins of poverty and inequality in Latin American countries since independence. It also studies efforts to address the problem by governments, non-governmental organizations, the international community, religious groups and activists. Explores these themes in more detail through a case study of one Latin American country and a global intensive experience at the end of the course. By reflecting on the Latin American experience, students gain insights for wealthy countries like the United States where inequality is on the rise. | N | LEC | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only HST 378 or JHR 378 or JUS 378 or LAS 378 OR Visiting University Student |
| LAS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |

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| LAS | 404 | Conquest and Encounters in Colonial Latin America | How did Hernan Cortés and Francisco Pizarro defeat the Aztec and Inca Empires? Despite numeric inferiority, limited provisions, and little knowledge about the Americas, Cortés and Pizarro defeated advanced civilizations that had experienced warriors and millions of inhabitants. Possible explanations include the conquistador's valor, advanced weaponry, superior military strategy, Indian allies, and biological attacks. In their encounters with native peoples of the Americas, Europeans were not always conquerors. Álvar Núñez Cabeza de Vaca and Lope de Aguirre failed both in their attempt to conquer a large Indian civilization and in their effort to find mineral wealth. A few Europeans such as Bartolomé de Las Casas spoke out against the abuses committed against the Indians during the conquest. Explores these issues from the perspective of both Europeans and native peoples and looks at the long-term impact for Latin America and its peoples. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours; Credit is allowed for only HST 404 or LAS 404 OR Visiting University Student |
| LAS | 419 | 20th Century Chicano/a History | Historical development of the Chicano community in the 20th century. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only HST 419 or LAS 419 |
| LAS | 428 | Peoples and Cultures of the American West, to 1848 | Provides an integrated understanding of change over time within and between the native, Mexican, Anglo, Asian and African American communities of the region by looking into the major formative historical forces affecting these populations individually and collectively. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only AMS 428 or ETH 428 or LAS 428 or MAS 598 (Chicano Cultures in Southwest) OR Visiting University Student |
| LAS | 430 | Gender on the Borderlands | Examines women's status in the U.S.-Mexico borderlands through key issues such as migration, labor, violence, education, and culture. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR WST 100 or 300 with C or better; Credit is allowed for only ETH 430 or LAS 430 or WST 430 or JHR 598 (Gender on the Borderlands) OR Visiting University Student |
| LAS | 441 | Latin America and the World Economy | Globalization did not begin in the late twentieth century, but rather global trade has linked Latin America with the rest of the world for over five hundred years. The region has been an active and important participant in the world economy since Columbus's first voyage in 1492. This course explores the social, cultural, economic, and environmental impact of such participation on both Latin America and the rest of the world. It is organized both chronologically and thematically. We will study both colonial and post-colonial trade. The commodities studied include sugar, rubber, bananas, and cocaine. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L & G & H | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only HST 441 or JHR 441 or LAS 441 OR Visiting University Student |
| LAS | 449 | Latin American Cinema: The Dead and the Disappeared | Studies Latin American politics and culture through film with particular focus on recent periods of Latin American history in which there have been social upheavals, dictatorships and state repression, and dirty wars. Discusses film as an art form with specific aesthetic goals, a tool to effect change within society, a mode of cultural and social expression, and a vehicle for reconciling collective trauma and preserving memory. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | G & H | Prerequisite(s): ENG 102, 105, or 108 w/C or better; Credit allowed for only FOR 449, LAS 449, SPA 449, FOR 494 (Lat Am Cinema: Dead & Disap), LAS 494 (Lat Am Cinema: Dead & Disap), SPA 494 (Lat Am Cinema: Dead & Disap) OR Visiting University Student |
| LAS | 450 | Latina/os, Schooling and Social Inequality | Advanced interdisciplinary understanding of the issues facing Chicano, Mexican American and Latino communities in relation to K-16 schooling in the southwestern United States. Examines various schools of thought that have shaped social discourse and policies, develops a critical perspective on the social and political issues affecting education, and identifies issues--both historical and contemporary--affecting Chicanos in public education. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | C | Prerequisite(s): minimum 45 hours; Credit is allowed for only AMS 450 or ETH 450 or LAS 450 or AMS 429 (Latino/a School & Social Inequity) |
| LAS | 471 | Treaties and Cultural Production in Spain and the Americas | Emphasizes sociocultural values associated with national, transborder and transatlantic identities providing a panoramic view of treaties, agreements, constitutions and cultural production by Americans and Spaniards from 1812 to 2012 with particular focus on the themes of nations, borders, citizenship and identity. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| LAS | 473 | Indigenous and Latina/Chicana Representation | Examines from an interdisciplinary perspective contemporary issues experienced by Indigenous and Chicana/Latina women in the U.S. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only ETH 473 or LAS 473 or WST 473 |
| LAS | 480 | Current Trends in Theatre and New Media in Latin America and Spain | Overview of the transatlantic cultural interrelationships between Latin American and Spanish theatre and performance in the 20th and 21st centuries. Explores topics such as cyber-theatre, Internet theatre and multimedia theatre. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better |

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| LAS | 481 | Dictatorships and Dirty Wars: Latin American Cinema from Resistance to Reconciliation | Examines aspects of Latin American politics and culture of and through the optic of social unrest. Examines films focusing on the period(s) of recent Latin American history in which there have been social upheavals, dictatorships and state repression, "dirty wars": understood as clandestine wars waged on the citizenry by the government, social movements from below. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only LAS 481 or SPA 481 or ENG 494 (Dictatorships/Dirty Wars:Lat Am Cinema) or SPA 494 (Dictatorships/Dirty Wars:Lat Am Cinema) |
| LAS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | |
| LAS | 485 | Latin American Studies Capstone | Students select and prepare for their capstone project, which represents the culmination of their study. | N | RSC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): Latin American Studies BA major; LAS 205 with C or better; LAS 206 with C or better; LAS 330 with C or better |
| LAS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| LAS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| LAS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| LAS | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| LAS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | IND | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| LAS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-3 | | |
| LAT | 101 | Elementary Latin | Basic Latin grammar with an emphasis on developing reading skills. For beginning students only. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | |
| LAT | 102 | Elementary Latin | Continuation of LAT 101. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Pre-requisites: LAT 101 |
| LAT | 140 | Greek and Latin Roots in Bioscientific Terminology | Introduces students to the ancient Greek and Latin root words most commonly used in biological, medical, and other scientific terminology, and gives practice identifying them in context. The knowledge of these root words enables students to memorize with greater ease and increased retention the bioscientific terminology they encounter in other coursework as well as in their medical or scientific profession. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Credit is allowed for only BIO 140 or GRK 140 or LAT 140 or SLC 140 OR Visiting University Student |
| LAT | 143 | Roman Civilization | Introduces ancient Roman civilization from the earliest times (ca. 1200 BCE) through the fall of the Western Empire (CE 476) and the reign of the Byzantine Emperor Justinian (6th c. CE). Examines ancient Roman society, history, art, architecture, literature, mythology and legends. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Credit is allowed for only LAT 143 or LAT 194 (Roman Civilization) or SLC 143 or SLC 194 (Roman Civilization) |
| LAT | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| LAT | 201 | Intermediate Latin I | Final semester of grammar. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | HU & G | Prerequisite(s): LAT 102 OR Visiting University Student |
| LAT | 202 | Intermediate Latin II | Beginning reading of Latin authors. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | HU & G | Pre-requisites: LAT 201 |
| LAT | 222 | Survey of Roman Literature | Introductory survey of Roman literature. Familiarizes students with the literary genres, texts and authors of the Romans from the origins of the Latin language to the Silver age. All readings in English. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Credit is allowed for only LAT 222, SLC 222, LAT 294 (Roman Literature in Translation) or SLC 294 (Roman Literature in Translation) |
| LAT | 223 | Introduction to Greek and Roman Mythology | Familiarizes students with the characters and events of ancient Greek and Roman myths through their literary manifestations, and moves beyond mere narrative to consider the possible interpretations and functions of these myths, thus revealing the central concerns of ancient society and giving insights into the working of our own society and its literary and artistic traditions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Credit is allowed for only GRK 223 or LAT 223 or SLC 223 or GRK 294 (Greek and Roman Mythology) OR Visiting University Student |
| LAT | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| LAT | 301 | Roman Authors | Intermediate Latin reading class that introduces Roman prose authors such as Livy, Cicero and Pliny and explores the variety of genres within Latin prose, such as historical accounts, personal letters and political oratory. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): LAT 201 with C or better; Credit is allowed for only LAT 301 or LAT 394 (Introduction to Latin Authors) |
| LAT | 322 | Medieval Latin | Surveys Late Antique and medieval Latin authors and texts, both prose and poetry. Some review of grammar. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): LAT 201 with C or better |

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| LAT | 344 | Classics and Comics | Explores the connections between the classical tradition of Ancient Greek and Roman literature and the modern American superhero comic book tradition. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 101 or 105 or 107 with C or better; Credit is allowed for only GRK 344 or LAT 344 or SLC 344 or GRK/LAT/SLC 394 (Classics and Comics) or SLC 494 (Classics and Comics) |
| LAT | 356 | Rome from Village to Empire | Provides an in-depth exploration of Republican Roman literature and explores how these primary sources shaped and were shaped by ancient Rome's history and culture during its formative Republican period. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only LAT 356 or LAT 394 (Rome Before the Empire) or SLC 356 or SLC 394 (Rome Before the Empire) OR Visiting University Student |
| LAT | 357 | Rome's First Emperor | Provides an in-depth exploration of Roman literature during the Augustan period, and explores how these primary sources shaped and were shaped by ancient Rome's history, literature and culture during its formative Republican period. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only LAT 357 or LAT 394 (Augustus and the Creation of the Roman Empire) or SLC 357 or SLC 394 (Augustus and the Creation of the Roman Empire) OR Visiting University Student |
| LAT | 358 | Saving the Roman Empire | In his autobiographical epitaph, the Res Gestae, Augustus, founder of the Roman Empire, claimed to have restored Rome to her former glory. His moral, social and political reforms solidified Roman control of the world and the imperial family's hold on ruling her. Through the next five hundred years, as the power of the empire waned and waxed, Augustus's successors turned time and again to reforming the empire and restoring her to her former glory - to saving the Roman Empire. In doing so they had to deal with problems both external and internal; sometimes their ideas worked, often they did not. Ultimately they failed, and Rome and the western empire fell in CE 476. Examines the rise, decline and fall of the Roman Empire from the perspective of internal and external problems the Empire faced, and asks which reforms worked, which did not work, and why. What could have been done differently? Should anything have been done differently, or was the western Roman Empire always doomed? | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GRK 294/HST 294/LAT 294/SLC 294 (Saving the Roman Empire) or LAT 358 or LAT 394/SLC 394 (Saving the Roman Empire) or SLC 358 OR Visiting University Student |
| LAT | 360 | Greece and Rome at War | Familiarizes students with the major battles, leaders and tactics of Classical Greece and Rome. Supplements lectures with student participation including study of original sources, group presentations, and gaming battle simulations. This multifaceted approach gives a greater sense of the evolution of the leaders, armies and tactical systems of the Greeks and Romans. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only GRK 360, HST 397, LAT 360, SLC 360 or SLC 394 (Greece and Rome at War) |
| LAT | 361 | Roman Religion | Roman religion was never static, despite the best efforts of the Roman state to make it so. Understands the artifacts and procedures of Roman state cult from its earliest origins to the late empire, using ancient literary sources, archaeology throughout the ages and modern scholarly theories. Clarifies the forces that influenced development and change in Roman religion, both internal and external. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only LAT 361 or REL 361 or SLC 361 or SLC 394 (Roman Religion) OR Visiting University Student |
| LAT | 363 | Ancient Magic and Witchcraft | Examines magical spells, curses, amulets and other materials from ancient Greece and Rome. Students read anthropological discussions of magic worldwide to understand how ancient magic operated, what its function was within Greco-Roman society, and how it developed over the centuries. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GRK 363 or LAT 363 or SLC 363 or GRK 394/LAT 394/REL 394/SLC 394 (Magic and Witchcraft in Antiquity) OR Visiting University Student |
| LAT | 373 | Roman History I: Foundations and Republic | Traces the growth of Roman power from Rome's humble beginnings in the eighth century B.C. to its domination of the Mediterranean and the transformation of the Roman Republic into the Roman Empire after the Battle of Actium (31 B.C.). | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 373 or LAT 373 or SLC 373 |
| LAT | 374 | Roman History II: The Roman Empire | The Roman Empire from the reign of the first emperor, Augustus (27 B.C.-A.D. 14), to that of Justinian (A.D. 527-565), focusing on the lives of the Roman emperors, the society and culture of the empire, and the profound changes that eventually contributed to the empire's collapse. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 374 or LAT 374 or SLC 374 |
| LAT | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| LAT | 421 | Roman Literature | Readings in the Latin masterpieces. Authors read change each year in accordance with needs of the class. May be repeated for credit. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): LAT 202 OR Visiting University Student |

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| LAT | 444 | Heroes, Ancient and Modern | Explores the heroic literature of the ancient Greeks and Romans, then traces the classical tradition and reception of the classical hero in medieval and modern texts. Incorporates history, art history and material culture from the relevant societies to supplement study of the texts involved. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only GRK 444, LAT 444, SLC 444 or SLC 494 (Heroes: Ancient and Modern) |
| LAT | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| LAT | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| LAT | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| LAT | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| LAT | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LAW | 210 | Introduction to American Legal System and Business Law | Introduces the American legal system and an overview of laws that impact business in the United States. Initially examines the questions: What is law? What is the source, nature, and scope of laws; and how is law shaped by our culture and political institutions? How is the American legal system structured and operated? The majority of substantive content examines the role of law in business. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Prerequisite(s): minimum sophomore standing OR Visiting University Student |
| LAW | 310 | The Global Legal Community | Introduces the building blocks of the developing "global legal community," global governance institutions, both public and private, international law and transnational legal regimes. Examines how dynamic area of law is influenced by, and influences the conduct of the international and domestic relations. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Pre-requisite: Junior or Senior standing; Credit is allowed for only LAW 310 or 394 (The Global Legal Community) |
| LAW | 315 | Foundations in American Business Law | Explores the foundations of American business law. Topics covered include: the structure and processes of the U.S. legal system, a comparison of transactional law and business litigation concepts and processes, and the role of regulation in the free market. Students read law cases and other legal texts such as legislation, professional and academic legal writing. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Prerequisite(s): minimum 45 hours |
| LAW | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | |
| LAW | 480 | Business Law | Surveys business law across the spectrum from Main Street to Wall Street. Begins with a hypothetical business established by an entrepreneur in her garage, the evolution of the formation and operation of this business as a sole proprietorship, and a transition of the business to a partnership, LLC and corporation. Follows this venture through the typical legal requirements of picking a name, seeking a trademark, defining ownership, appointing officers and directors, hiring staff, navigating the fiduciary duties owed to owners of the business, protecting intellectual property, raising capital, government regulations, and ultimately the structure of a successful exit for the owners by "going public" or sale of the company. Topics included are taxation, creditors rights, technology transfer, contracts, contemporary issues and current events. Capstone course is designed to assess students' recognition of the intersection of law and business, develop critical thinking skills by use of the case method, encourage speaking and class participation and emphasize writing skills. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Prerequisite(s): Business (Law) BA major; LAW 210; LES 305 or any 300- or 400-level LAW course; minimum junior standing OR Visiting University Student |
| LAW | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | |
| LAW | 515 | Contracts | Explores common law legal method and the structure of Article 2 of the U.C.C. in the context of issues of contract formation. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3-5 | | |
| LAW | 516 | Criminal Law | Substantive law of crimes. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | |
| LAW | 517 | Torts | Legal protections of personality, property, and relational interests against physical, economic, and emotional harms. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | |
| LAW | 518 | Civil Procedure | Explores the structure of a lawsuit and techniques of alternative dispute resolution. Specific topics include commencement of suit, joinder of parties, discovery, pretrial motions, subject matter and personal jurisdiction, res judicata, collateral estoppel, and choice of law under the Erie doctrine. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3-5 | | |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|-------------------------------|---|-------------------|-------------------|-----------------|---------------|------------------------------------|------------------------------------|-------|-----------------|---|
| LAW | 519 | Legal Method and Writing | Examines methods used to analyze legal problems. Reviews precedent statutory construction and basic res judicata problems. Use of basic legal writing formats. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 522 | Constitutional Law | Role of courts in the federal system, distribution of powers between state and federal governments, and the role of procedure in litigation of constitutional questions. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | |
| LAW | 523 | Property | Indicia of ownership, found property, estates in land, landlord tenant, nonpossessory interests in property, nuisance, land use planning, and transfers of interests in property. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | |
| LAW | 524 | Legal Advocacy | Continuation of LAW 519. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2 | | |
| LAW | 530 | Fundamentals of Contract Law | Explores the fundamental principles of contract law under the common-law and Uniform Commercial Code statutory provisions. Focuses on issues of contract formation and interpretation, defenses to enforcement, warranties and conditions, and remedies for breach of contract. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Prerequisite(s): Master of Legal Studies major; Credit is allowed for only LAW 530 or LAW 598, Fundamentals of Contract Law |
| LAW | 540 | Legal Analysis | Enhances study and exam skills and facility with legal analysis. Helps students perform their best in all courses throughout law school, providing tools with which they can continue to build skills. Enables students to effectively prepare for the bar exam after graduation with the aim of passing it on first sitting. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 540 or LAW 598 (Legal Analysis) |
| LAW | 581 | U.S. Law and Legal Analysis | Introduces non-JD students to the U.S. legal system and to the types of legal reasoning used by U.S. lawyers and judges. Provides the necessary instruction to use legal reasoning in work, including reading and understanding cases and statutes and applying existing law to the issue presented. Extensive written legal analysis exercises. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Prerequisite(s): Laws (Global Legal Studies) or Legal Studies or Master of Sports Law and Business student |
| LAW | 582 | Patent Drafting | Prepares students to draft patent applications on behalf of clients. Additionally, students learn the techniques and language necessary to reply to Offices Actions issued by the United States Patent and Trademark Office (USPTO). Provides significant drafting experience, requiring three separate writing submissions and revisions based on instructor feedback throughout the course. Students create work product examples that can be shared with potential employers and/or prospective clients. | N | LEL | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; LAW 585 |
| LAW | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LAW | 585 | Comprehensive Patent Practice | Prepares students for the patent prosecution process, as administered by the United States Patent and Trademark Office (USPTO). Uses a "cradle to grave" approach, beginning with the earliest steps taken when preparing to draft a patent application for a client and ending with post-decision options and activities available to those awarded with an issued patent or denied an issued patent. | N | LEL | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-5 | | Prerequisite(s): College of Law student |
| LAW | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | |
| LAW | 596 | Professional Legal Writing | Teaches non-JD students how to organize a legal research project by analyzing the facts and identifying the issues involved, determining the research tools needed to correctly investigate the legal problem, and systematically using these tools to strengthen and support the desired legal argument. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisites: Laws (USLaw&Global Legal Pract) or Legal Studies students |
| LAW | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | |
| LAW | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | |
| LAW | 600 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Pre-requisite: College of Law student |
| LAW | 601 | Antitrust Law | Legislation and its implementation to prevent monopoly and business practices in restraint of trade, including restrictive agreements involving price-fixing, trade association activities, and resale price maintenance. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisites: College of Law student |
| LAW | 602 | Civil Procedure II | Focuses on the Rules of Civil Procedure and how lawyers use the Rules in litigating civil cases from initiation through the pre-trial stages. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3-4 | | |

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|---------|-------------|-------------------------------|--|-------------------|-------------------|-----------------|---------------|------------------------------------|------------------------------------|-------|-----------------|--|
| LAW | 603 | Conflict of Laws | Problems arising when the operative facts of a case are connected with more than one state or nation. Choice of law, bases of jurisdiction, effect of foreign judgments, and underlying federal and constitutional issues. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LAW | 604 | Criminal Procedure | Nature of the criminal procedural system with special focus on constitutional protections for the accused. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Pre-requisites: College of Law student |
| LAW | 605 | Evidence | Principles and practice governing the competency of witnesses and presentation of evidence, including the rules of exclusion and roles of lawyer, judge, and jury under the adversary system. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3-4 | | Pre-requisites: College of Law student |
| LAW | 606 | Federal Income Taxation | Federal income tax in relation to concepts of income, property arrangement, business activity, and current tax problems, with focus on the process of tax legislation and administration. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3-4 | | Pre-requisites: College of Law student |
| LAW | 607 | Nanotechnology Law and Policy | Provides an overview of the legal and policy issues relating to nanotechnology, including risk management, national and international regulations, intellectual property, privacy issues, and liability issues. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 608 | Taxation of Business Entities | Key concepts and issues in the taxation of business entities, including C corporations, S corporations, LL.C.s and partnerships. Considers the tax issues that arise when forming a business entity, how to treat income earned by the entity and distributions from the entity to its owners, and consequences of dissolving or selling business entities. Coursework includes review of specific code provisions, administrative materials and important cases. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; LAW 606; Credit is allowed for only LAW 608 or LAW 691 (Tax Business Entities) |
| LAW | 609 | Administrative Law | A large portion of federal law comes from administrative agencies such as the Environmental Protection Agency, the National Labor Relations Board and the Department of Defense. Examines the institutional role and legitimacy of these federal administrative agencies. Topics include the source of administrative authority; the rationale for delegation of authority to administrative agencies; constitutional constraints on agency power; the different forms of agency rulemaking; agency adjudication of facts and law; the scope and purpose of judicial review of agency action; and the degree to which administrative agencies exercise executive, legislative and judicial powers. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 609 or LAW 600 (Administrative Law) |
| LAW | 610 | Advanced Criminal Procedure | Topics in criminal procedure, with emphasis on legal constraints on grand jury investigations, police practices, pretrial release, preliminary hearings, prosecutorial discretion, and plea bargaining. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 611 | Estate and Gift Tax | Tax laws relating to transfer of wealth both at death and during lifetime, including federal estate tax, gift tax, and income taxation of estates and trusts. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student; LAW 606 |
| LAW | 612 | Family Law | Legal and nonlegal problems that an individual may encounter because of a situation as a family member. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Pre-requisite: College of Law student |
| LAW | 613 | Federal Courts | Federal judicial system; relationship of federal and state law; jurisdiction of federal courts and their relation to state courts. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 614 | International Contracts | Explores the laws applicable to international contractual relations, focusing heavily on the United Nations Convention on Contracts for the International Sale of Goods. One of several offerings in the field of International Business Transactions, touches on choice of law rules and a comparison of selected UCC with CISG provisions; a comparison of the contract law of selected foreign nations with the UCC; and the law of contracts in the United States. The casebook is heavily oriented toward a problem method of study. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 615 | Public International Law | Role of law in international disputes. Considers drafting and interpretation of treaties and multilateral conventions. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Pre-requisite: College of Law student |
| LAW | 616 | Jurisprudence | Introduces legal philosophy, with readings on the nature of law and legal reasoning, the relationship between law and morality and equality and social justice. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Pre-requisite: College of Law student |
| LAW | 617 | Genetics and the Law | Provides background on genetics and recent genetic advances; addresses the legal consequences and issues associated with such advances. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Prerequisite(s): College of Law student or College of Health Solutions graduate student; Credit is allowed for only BMD 617 or LAW 617 |
| LAW | 618 | Decedent's Estates | Substantive concepts involved in transmitting wealth, including interstate succession, wills and will substitutes, the modern trust as a family protective device, creation of future interests in a planned estate, social restrictions of a nontax nature, and methods of devoting property to charitable purposes. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Pre-requisite: College of Law student |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|------------------------------------|------------------------------------|-------|-----------------|--|
| LAW | 619 | Energy Law and Policy | Examines laws relating to the ownership, consumption and conservation of energy resources, including coal, petroleum, natural gas, sunlight and wind. Explores and analyzes laws that allocate interests in energy resources and that regulate energy production and delivery strategies so as to promote economic efficiency and to mitigate adverse impacts on the natural environment. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Prerequisite(s): College of Law student; Credit is allowed for LAW 619 or LAW 691 (Energy Law & Policy) |
| LAW | 620 | Civil Rights Legislation | Coverage of the rights and remedies provided by federal civil rights legislation, principally, the key provisions of the Reconstruction Era Civil Rights Acts, portions of the employment discrimination legislation, and voting rights legislation. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 621 | Sales | Advanced issues involving the formation and interpretation of sales and lease contracts. Focuses primarily on Articles 2 and 2A of the Uniform Commercial Code. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 622 | Secured Transactions | Secured transactions under Article 9 of the Uniform Commercial Code and other relevant sections. Overview of the creation, perfection, and priority effects of security interests. Financing of business enterprise and consumer credit. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 623 | Fourteenth Amendment | Divided into three unequal parts, first explores the antebellum antecedents that are relevant to understanding the Fourteenth Amendment. In the second part, studies the early interpretations of the Fourteenth Amendment, from about 1873 to about 1955. In the third, longest part of the course, explores modern interpretations of the Fourteenth Amendment, and particularly the application of "equal protection" to race and sex discrimination; the application of "substantive due process" and fundamental rights adjudication to sexual intimacy, abortion rights and same-sex marriage; and the debate over the incorporation of the bill of rights against the states. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 623 or LAW 691 (14th Amendment) |
| LAW | 624 | Community Property | Property rights of husband and wife; the Arizona community property system; homestead. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-2 | | Pre-requisite: College of Law student |
| LAW | 625 | Survey of Individual Rights in Constitutional Law | Fundamental protection for person, property, political, and social rights. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3-4 | | Prerequisite(s): College of Law student |
| LAW | 626 | Writing for Law Practice | Helps students attain an advanced level of writing proficiency by exposing them to a broad range of legal documents. | N | SEM | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Pre-requisites: Juris Doctor Candidate; Credit is allowed for only LAW 626 or 665 |
| LAW | 627 | Corporate Taxation | Problems in taxability of the corporation, corporate distributions, and corporate reorganizations. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Prerequisite(s): College of Law student; LAW 606 with C or better |
| LAW | 628 | First Amendment | Offers a comprehensive and in-depth examination of the rights of freedom of speech and the press secured by the First Amendment of the United States Constitution. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed only for LAW 628 or LAW 791 (First Amendment) |
| LAW | 629 | Employment Law | Employment law topics including testing, privacy, OSHA, FLSA, benefits, worker's compensation, rights to compensation, workplace emotional injuries, termination, and sexual harassment. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Pre-requisite: College of Law student |
| LAW | 630 | Employment Discrimination | Focuses primarily on Title VII of the Civil Rights Act of 1964, the Age Discrimination in Employment Act, and the Americans with Disabilities Act. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 631 | Environmental Law | Litigation, administrative law, and legislation relating to problems of environmental quality. Topics covered may include air and water pollution, toxic substances, pesticides, and radiation. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Pre-requisite: College of Law student |
| LAW | 632 | Federal Indian Law I | Inquiry into legal problems special to American Indians and tribes. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Pre-requisite: College of Law student |
| LAW | 633 | Law, Litigation, and Science | Fills a gap in the education of most lawyers, namely, how to effectively think about and use empirical evidence. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 634 | Election Law | Explores the law governing politics and elections in the United States. Examines a variety of topics, including: the Constitution and its protection of the right to vote; reapportionment; the Voting Rights Act; gerrymandering; the constitutional rights of political parties; campaign finance regulation; and election administration (e.g., the use of electronic voting equipment, provisional and early voting). Also considers the relationship between these topics and partisanship. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 634 or LAW 691 (Election Law) |
| LAW | 635 | Juvenile Law | Special problems in the juvenile system. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 636 | Land Use Regulation | Legal problems in the regulation and control of land development by state and local governments. Administration of zoning, subdivision, and other planning controls; issues of fairness and procedure in the utilization of such controls. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|------------------------------------|------------------------------------|-------|-----------------|---|
| LAW | 637 | The Litigation Experience | Offers the opportunity to serve as trial lawyers in a simulated case. Using a "learning by doing" format, students take a hypothetical civil or criminal lawsuit from the pleading stage through discovery, pretrial motion practice, ADR and trial. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): Juris Doctor of Law student; Pre- or corequisite(s): LAW 605 |
| LAW | 638 | Professional Responsibility | Emphasizes the Model Rules and Model Code that govern the professional responsibility of lawyers and their interpretation and application. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Pre-requisite: College of Law student |
| LAW | 639 | Natural Resource Law | Examines the constitutional basis for federal land management and the different kinds of public lands management schemes (e.g., parks, forests, wildlife refuges), emphasizing acquisition of right to, and regulation of, the different uses of public lands and resources (e.g., mining, grazing, timber, wildlife habitat, recreation). | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Prerequisite(s): College of Law student |
| LAW | 640 | Securities Regulation | Selected problems arising under the major statutes concerned with regulating the securities market. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Prerequisite(s): College of Law student; LAW 654 |
| LAW | 641 | Foreign Relations Law | Examines the constitutional and statutory doctrines related to the foreign relations of the United States. Analyzes the distribution of foreign relations powers between the Executive, the Congress and the Courts. Also covers topics including the status of treaties and other types of international agreements, the role of the states in foreign relations, and recent developments in foreign relations law. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 641 or LAW 791 (Foreign Relations Law) |
| LAW | 642 | White Collar Crime | Examines the ways in which white collar crime is prosecuted, principally in the federal system. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 643 | Water Law | Acquisition of water rights; water use controls; interstate conflicts. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Pre-requisite: College of Law student |
| LAW | 644 | Trademark and Unfair Competition Law | In-depth examination of substantive trademark and unfair competition law with focus on both policy and practical considerations. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 644 or LAW 691 (Trademark and Unfair Competition Law) |
| LAW | 645 | Patent Law | In-depth examination of substantive patent law as it applies to the commercialization and enforcement of patent rights. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Pre-requisite: College of Law student |
| LAW | 646 | Copyright Law | Legal rights in original forms of human expression. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Pre-requisite: College of Law student |
| LAW | 647 | Mass Tort Litigation | Examines unique procedural and substantive issues that arise in mass tort litigation. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 648 | Law, Accounting and Finance | Presents the fundamentals of accounting as well as the accounting principles that form the foundation for current day accounting. Students gain an understanding of financial statements, financial statement and auditing reporting requirements and a general overview of the entities that set the rules, ethics and standards for the accounting profession. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 648 or LAW 691 (Law, Accounting, and Finance) |
| LAW | 649 | Scientific Evidence | Examines the use of scientists and scientific tests or studies in criminal and civil litigation. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 650 | Health Law | Introduces health law. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 651 | Public Health Law | Addresses the relationship between the state and the population's health. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 652 | Bioethics and the Law | Covers a range of issues relating primarily to human reproduction and life and death decisions. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 653 | Bankruptcy | Covers basic bankruptcy law and practices. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Pre-requisite: College of Law student |
| LAW | 654 | Business Organizations | Covers the primary forms of business organizations: partnerships, limited partnerships, limited liability companies, and corporations. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3-4 | | Pre-requisite: College of Law student |
| LAW | 655 | Chapter 11 | Covers the law and practice of reorganizing business entities under Chapter 11 of the United States Bankruptcy Code. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Pre-requisite: College of Law student |
| LAW | 656 | Valuing Real Estate and Closely-Held Businesses | Focuses on the valuation of interests in real property and closely-held businesses. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 657 | Private Property Rights | Explores the conflict between property rights and the right of the government to acquire private property for public use. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 658 | Arizona Constitutional Law | Examines the basic provisions of the Arizona Constitution and the judicial decisions interpreting those provisions. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Prerequisite(s): College of Law student |
| LAW | 659 | Mergers and Acquisitions | Focuses on mergers and acquisitions law with an emphasis on the practical aspects of structuring, negotiating and documenting transactions. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; LAW 515; Pre- or corequisite(s): LAW 654; Credit is allowed for only LAW 659 or LAW 691 (Mergers and Acquisitions) |
| LAW | 660 | Advanced Estate Planning | Covers advanced estate planning and estate administration issues. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 661 | Advanced Bankruptcy Law | Explores advanced topics in bankruptcy law, theory and practice. Highly recommend course in secured transactions or bankruptcy. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 661 or LAW 791 (Advanced Bankruptcy) |

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| LAW | 662 | Alternative Dispute Resolution and Employment Law | The use of alternative dispute resolution has been most extensive in the area of employment law. Mediation and arbitration are widely used not only in the collective bargaining setting, but also in virtually every aspect of the employment relationship. Offers a comprehensive review of the subject with special emphasis on the extensive body of law that has developed in regulating employer-imposed arbitration. Discussion of mediation includes use of simulations to enable the students to understand how mediation can effectively resolve employment disputes. Opportunities to observe real mediations of employment disputes. Experienced attorneys discuss the "real world" use of employment ADR from a plaintiff's and a defendant's perspective. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 663 | Prosecuting Trademark Applications | Focuses on the application process before the United States Patent and Trademark Office ("USPTO") for trademark registrations. Includes considerations to be evaluated prior to commencing the application process, including pre-application trademark searches and evaluating marks for registrability, bases for seeking registration, priority of use, priority of application, use in interstate commerce, and specimens of use. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 663 or LAW 791 (Prosecuting Trademark Applications) |
| LAW | 664 | Intellectual Property | Surveys the laws conventionally grouped as intellectual property, with a focus on patents, copyrights, and trademarks. Explores the policy rationales for each body of law. Particularly relevant for two types of students: (a) those who are unsure they want to specialize in IP and want a general introduction, and (b) those who do not have room in the schedules to take all of the upper-level offerings here at ASU. Not appropriate for students who have already taken the upper-level courses in copyright, trademark, and patents; students who have taken these offerings may be withdrawn. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | |
| LAW | 665 | Race and the Law | Examines issues of race within American law through a historical and modern context. Discusses how race and ethnicity affect legislatures, court rooms and communities. Also examines the use of the law both to perpetuate and to reduce and eliminate racial injustice in the United States from the formulation of the Declaration of Independence, the Articles of Confederation and the Constitution through slavery, Jim Crow, segregation, desegregation, the war on drugs, and up through the present day. Explores the biases and prejudices shared by judges, juries, parties, clients and lawyers, as well as our own biases and how those shape the way we view the law. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 665 or LAW 691 (Race and the Law) |
| LAW | 666 | Corporate Governance | Explores current issues in the corporate governance of publicly traded business corporations under both state and federal law. Also addresses the ethical dilemmas with respect to governance issues that lawyers face when advising corporate clients. | N | SEM | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; LAW 654; Credit is allowed for only LAW 666 or LAW 691 (Corp Governance) |
| LAW | 667 | FDA Regulation | Examines the regulation of drugs, medical devices, and biologics (e.g. vaccines) by the Food and Drug Administration. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Prerequisite(s): degree- or nondegree-seeking graduate |
| LAW | 668 | Trade Secrets and Restrictive Covenants | Considers the law of trade secrets, focusing on the principles set forth in the Uniform Trade Secrets Act, the Restatement of Torts, the Restatement (Third) of Unfair Competition, and the Defend Trade Secrets Act. The second portion of the class focuses on the law of restrictive covenants, with an emphasis on Arizona case law and principles. Students learn principles of drafting effective restrictive covenants, non-disclosure and confidentiality agreements, as well as an overview of litigation strategies and techniques. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 668 or LAW 691 (Trade Secrets and Restrictive Covenants) |
| LAW | 669 | Bar Exam Preparation | This two-credit course prepares students to take (and pass) the bar exam. The principal focuses of this course are: (1) writing and analysis for bar exam essays, (2) the MBE (multiple choice section of the bar exam), and (3) the MPT (Multi-state Performance Test) as they pertain to the Arizona bar exam. Although this course primarily focuses on the Arizona bar exam, the skills and strategies learned are applicable for any state's bar exam. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Juris Doctor, JD student; Credit is allowed for only LAW 669 or LAW 791 (Bar Prep) |
| LAW | 670 | Pro Sport Team Operations and Legal Issues | Deals with various legal issues confronted by the Team Counsel of a professional sports team. Reviews the business, risk management, intellectual property and financial issues that raise in connection with the operation of a team. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 670 or LAW 691 (Business Operations for Team Sports) or SLB 519 |

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| LAW | 671 | Sports Venue Construction: Legal and Financial Issues | Studies the structure and issues related to stadium financing in professional and collegiate sports. Covers issues related to professional league expansion and team relocation. Discusses carefully read assigned materials. | N | SEM | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 671 or SLB 520 |
| LAW | 672 | MLB's Impact on Law and Society | Examines how MLB served as a catalyst for change in American law and society post WWII, and the legal and business developments that have shaped modern professional baseball. Addresses such diverse topics as the integration of African-American players into MLB and diversity in MLB; labor relations (collective bargaining, free agency, labor stoppages and drug testing); league operations; franchise relocation; expansion; globalization of the game; the business and marketing of the game in the digital age and the resulting legal implications; and the state of the game in the 21st century. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 672 or SLB 523 |
| LAW | 673 | Risk Management for Venues | American tort law, particularly the foundational elements of duty-breach-causation-harm, as well as causation and reasonableness, as a means of understanding the nature of risk and the tools available to address it in the many circumstances that arise during live sports and entertainment events. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 673 or SLB 521 |
| LAW | 674 | NCAA Compliance, Infractions and Enforcement | Provides a real-world view of a Division I Power 5 Conference Compliance Office and the manner in which such an office directs its institution's efforts to maintain compliance with National Collegiate Athletic Association and member conference legislation governing intercollegiate athletics. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 674 or LAW 791 (Infractions/Compliance - Intercollegiate Athletics) or SLB 522 or SLB 598 (Infractions/Compliance-Intercollegiate Athletics) |
| LAW | 675 | Professional Sports Law | Studies law, revenue, branding and problem solving in the professional sports context, focusing primarily on professional sports league governance and regulation, labor relations, representing and marketing players and coaches, and issues of equity and race. Also examines international issues related to professional sports. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 675 or LAW 691 (Non-Amateur Sports Law) or LAW 691 (Professional Sports Law) or SLB 512 |
| LAW | 676 | Amateur Sports Law | Studies law, policy and problem solving in the amateur sports context, focusing primarily on interscholastic and intercollegiate athletics. Title IX and racial equality in sports. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 676 or SLB 510 or LAW 791 (Amateur Sports Law) or LAW 791 (Non-Professional Sports Law) |
| LAW | 677 | Law and Business of Sports Branding | Examines legal and business issues associated with personal and business branding, particularly in the context of professional and collegiate sports. Discusses and analyzes issues relating to: (1) what constitutes a "brand" and how a "brand" is developed; (2) the recent surge in personal branding by athletes, entertainers and other celebrity personalities; (3) athletes and other celebrities who have transformed their fame into personal branding platforms that support large business enterprises; (4) the basic principles of trademark law and how those principles apply to business and personal brands; (5) regulation and control of brands in professional and collegiate sports, and the Olympics; (6) licensing and corporate sponsorship; and (7) ambush marketing. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 677 or SLB 524 |
| LAW | 678 | The Moral Leader | Successful lawyers are presented with moral and ethical choices throughout their professional careers. This innovative course encourages students to confront those fundamental moral challenges, to develop skills in moral analysis and judgment, and to come to terms with their own definition of moral leadership and how it can be translated into action. Content is based on the leadership course, The Moral Leader, brought by Professor Robert Coles, an educator and psychiatrist, to Harvard Business School in the 1980s. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 678 or LAW 691 (The Moral Leader) |
| LAW | 679 | Trust Law | Provides an overview and in-depth coverage of the law of trusts. Topics include: the creation of trusts; duties of the trustee; enforcement of trusts; modifications of trusts, use of trusts in estate planning, including aspects of the federal estate tax and federal gift tax; drafting issues concerning trusts; powers of appointment; and the rule against perpetuities. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; LAW 618; Credit is allowed for only LAW 679 or LAW 691 (Trust Law) |

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| LAW | 681 | Construction Law | The construction of an actual project serves as the "laboratory" for the course. Many of the problems presented in class each week are based on "real time" events occurring on that project and the class visits the actual construction site during one of the classes. Focuses on practical construction law issues taught by an experienced practicing lawyer. Topics include: types of construction contracts; the basic relationships among the owners, architects/engineers, general contractors, subcontractors and material suppliers on a project; express and implied warranties; the role of the schedule and claims related to scheduling; change orders and concealed site condition claims; the Economic Loss Doctrine; mechanics' liens, stop notices and other payment remedies; proving damages; and the trial of a construction case and the use of expert witnesses. Expects extensive student participation during class. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 681 or LAW 691 (Construction Law) |
| LAW | 682 | Persuasive Speech | This performance-based course focuses on persuasive communication skills. Borrowing proficiencies typically developed for the theatre and applying them in a legal context, students gain increased confidence in communicating and advocating in the courtroom or ADR setting by developing such skills as: pacing, use of gestures, voice projection, voice modulation, and body positioning. Students are on their feet speaking to an audience (the class) each day of class. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): Juris Doctor of Law student; Credit is allowed for only LAW 682 or LAW 791 (Persuasive Speech) |
| LAW | 685 | Separation of Powers | Studies the separation of powers in our federal government by examining the impact of key historical events on constitutional law. Topics include the election of 1800, the Civil War, the Great Depression and World War II, presidential impeachments, and the war on terror. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 685 or LAW 691 (Separation of Powers) |
| LAW | 686 | Victims in Criminal Procedure | Considers the emerging field of crime victims' rights and the tensions victims' rights create with traditional prosecution and defense interests. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 686 or LAW 791 (Victims in Criminal Proced) |
| LAW | 687 | Civil Pretrial Practice | Identifies the skills needed for civil pretrial practice and to appreciate what is involved in developing and applying these skills. In addition to discussion of the rules and their application, class focuses on custom and practice with the goal of preparing students for the practice of law in Arizona. There is insufficient time in this class, or frankly any class, to develop the skills to a point where students can feel comfortable that they have sufficient expertise to competently apply these skills. However, by participating in class activities that involve implementing these skills in the context of a specific case, students should leave with sufficient understanding of these skills that they can move quickly into and through the learning process that comes with practice experience. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 687 or LAW 691 (Civil Pretrial Practice) |
| LAW | 688 | Jury Selection | Provides a firm foundation for selecting juries in both civil and criminal cases. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): Juris Doctor, JD student; Credit is allowed for only LAW 688 or LAW 791 (Jury Selection) |
| LAW | 689 | Health Technologies, Innovation and the Law | Provides an overview of the technologies that are transforming health care today and tomorrow, and the novel legal, policy and ethical issues these new technologies present. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 689 or LAW 791 (Health Technologies, Innovation & the Law) |
| LAW | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): College of Law student |
| LAW | 696 | Privacy, Big Data and Emerging Technologies | Provides expertise in how big data and emerging technologies are changing privacy and security, and the legal responses to these changes. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 696 or LAW 791 (Privacy, Big Data & Emerging Technology) |
| LAW | 697 | Neuroscience, Ethics and the Law | Brain science has become part of our lives. This interactive seminar introduces the normative and practical dimensions of both law and ethics in regard to advances in the neurosciences. Covers techniques and technologies including: neuroimaging, neurostimulation, neurosurgery, neural stem cell research, neurogenetics and neurogenomics and psychiatry. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 697 or LAW 791 (Neuroscience, Ethics & the Law) |
| LAW | 701 | Arbitration | Examines the Federal Arbitration Act and the Uniform Arbitration Act as it has been adopted in Arizona. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 702 | Alternative Dispute Resolution | Broad exposure to methods of settling disputes in our society such as mediation, arbitration/conciliation, and negotiation, including examination of the current litigation model. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 703 | Law, Science, and Technology | Legal mechanisms used in dealing with various issues raised by contemporary science and technology. Explores current legal responses to science and technology. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |

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| LAW | 704 | Federal Indian Law II | Surveys the federal legal doctrines surrounding Indian ownership and exploration of resources. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 705 | Media Law | Examines First Amendment principles and statutory and regulatory requirements with respect to the conventional print and broadcast media, as well as recent technologies such as cable. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 706 | Immigration Law | Explores political, economic, social, and legal issues concerning immigration. Specific topics covered include citizenship and naturalization, denaturalization, deportation, and refugee rights and asylum. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 707 | Elder Law | Looks at legal and policy questions related to aging individuals and an older society. | N | SEM | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 708 | Mediation and Settlement Advocacy | Mediation and judicial settlement conferences are now the mainstream form of dispute resolution. Every attorney participates in some form of settlement process. This highly interactive seminar offers students practical and theoretical training in the mediation and settlement of civil disputes. Taught through a case study in which actors play the role of parties to a dispute. Students interview the clients, draft a mediation memorandum, meet with the clients to prepare for a mediation, and then actually represent the clients during a mediation. In addition, students study mediation and settlement advocacy theory as well as legal issues relevant to mediation and settlement. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 708 or LAW 791 (Mediation Advocacy) |
| LAW | 709 | International Human Rights | International rules and procedures governing the protection of human rights. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 710 | Artificial Intelligence, Law, Ethics and Policy | Explores the growing applications of artificial intelligence and studies the legal, ethical and policy implications of these applications. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 710 or LAW 791 (Artificial Intelligence:Law,Ethics & Policy) |
| LAW | 711 | Blockchain and Cryptocurrencies | Blockchain and cryptocurrencies are rapidly evolving technologies that are already disrupting the practice and substance of law. The first blockchain, Bitcoin, has become an international sensation as its value skyrockets and plummets, but Bitcoin and other cryptocurrencies are just one small corner of blockchain applications. This course familiarizes students with the technology behind blockchain, explores the legal and policy applications and implications of blockchains and cryptocurrencies. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 691 (Blockchain & Cryptocurrencies) or LAW 711 |
| LAW | 712 | Sustainability Law Research Seminar | Enables students to work closely with a full-time professor and with peers on substantive legal academic research projects in the area of environmental sustainability. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 712 or LAW 791 (Sustainability Seminar) |
| LAW | 713 | Tribal Law and Government | Analyzes particular problems in tribal law. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 714 | Biotechnology: Science, Law and Policy | Examines the legal, regulatory, scientific, policy and ethical aspects of biotechnology, focusing on genetically engineered plants, animals, foods, drugs, vaccines and other products. Covers issues such as regulation, labeling, liability issues, intellectual property issues, antitrust, the role of the public in biotechnology decisions, international regulation, international trade, bioprospecting/biopiracy, xenotransplantation, animal cloning, synthetic biology, and bioterrorism. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 714 or LAW 691 (Biotechnology) |
| LAW | 715 | Sports Law | Unique legal problems relating to professional sports, including their relationship to antitrust laws, the nature of player contracts, and associated tax problems. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 716 | Contract Drafting | Provides the opportunity to learn the basic principles of contract drafting, interpretation and negotiation, including drafting contracts that: (1) effectuate the clients' needs; (2) anticipate, and hopefully avoid, potential legal disputes; and (3) are written in plain language. Students represent a particular client throughout the course, and are required to work independently and collaboratively to draft a series of written contracts on behalf of the client. Students also learn about the role of transactional lawyers, ethical considerations, and effective client communications. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): Juris Doctor of Law student; LAW 515; Credit is allowed for only LAW 716 or LAW 691 (Contract Drafting) |

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| LAW | 717 | Reproduction, Reproductive Technologies and the Law | When it comes to the creation of human life, yesterday's science fiction has become today's reality. Stories about baby sellers, egg freezing, runaway surrogate mothers, genetic enhancement and ootomoms have exposed the lack of meaningful legal regulation of assisted reproductive technologies and have spurred calls for reform. But the extent to which the State should regulate who can reproduce and under what circumstances raises a host of difficult questions. This course searches for answers to those questions by considering the role the Constitution, tort, contract, property and criminal law have traditionally played in advancing the State's interest in reproduction and discussing how those doctrines should adapt to new technologies and family configurations. Topics covered include abortion, gamete donation, In Vitro Fertilization, surrogacy, genetic screening and enhancement, eugenics, medical ethics, and alternative family formation. | N | SEM | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 717 or LAW 791 (Reproduction and the Law) |
| LAW | 718 | Economic Development in Indian Country | Focuses on the unique legal, economic, and political issues confronting tribal governments in developing diversified reservation economies. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: Law major; Credit is allowed for only LAW 718 or PUP 718 |
| LAW | 719 | International Indigenous Rights | Examines the developments in recognizing indigenous rights in people's systems of international law. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 720 | Indian Gaming Law | Surveys the law surrounding the Indian gaming industry. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): College of Law student |
| LAW | 721 | Education and the Law | Current legal problems affecting institutions of higher education, faculty, students, and governing boards. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 722 | Law and Psychology | Provides an overview of classic and modern research in the field of law and psychology. Students obtain an understanding of how psychology has been and could be used to inform law and social policy in a variety of civil and criminal domains. Requires no background in statistics or experimental methodology. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 722 or LAW 791 (Law and Psychology) |
| LAW | 723 | Cultural Resources Law | Focuses on the protection of Native American cultural resources and religions. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 724 | Privacy | Traces the development of privacy law with special attention to contemporary challenges. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 725 | Critical Race Theory | Focuses on the idea of "race" as a social/political construct and examines the impact of American law on the construction of race. Provide historical and legal background necessary to understand the significance of race within American law and policy. Evaluate a number of legal frameworks that address issues of race and ethnicity in various contexts (e.g. segregation laws, civil rights law, federal Indian law, international human rights law). Assesses various jurisprudential accounts evaluating the ethical and moral underpinnings of the law. Critical race theory is known as a jurisprudential framework that is often critical of standard liberal approaches. Evaluates the critiques of liberalism and the scholarship of both liberal and critical theorists. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 726 | Indian Legal Research | Teaches students how to research Federal Indian law and tribal law issues. In addition to providing instruction about how to use particular research tools and sources, this course teaches students how to analyze research problems and how and why to use particular types of sources in their legal analysis. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 726 or LAW 691 (Indian Legal Research) |
| LAW | 727 | International Legal Research | Teaches students how to research international and foreign law. As a course project, students prepare a bibliography on an international law topic of their choice. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 727 or LAW 691 (Research & International Law) |
| LAW | 728 | The State Attorneys General | The legal jurisdiction of attorneys general varies significantly from state to state. Course represents the instructor's best judgment as to how to teach in a way that gets to the realities of the operations of attorneys general. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 728 or LAW 691 (The State Attorneys General) |
| LAW | 730 | Appellate Advocacy | Covers the conventions of appellate practice while further developing analytical, drafting and oral communication skills. Tasks students both with drafting an appellate brief and with presenting a formal appellate oral argument. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Juris Doctor, JD student; Credit is allowed for only LAW 730 or LAW 691 (Appellate Advocacy) |
| LAW | 731 | High-Tech Licensing | Dedicated to learning the law, skills and strategies for licensing intellectual property rights relating to technology. Familiarizes students with licensing parties' objectives, intellectual property rights to be licensed, and writing contracts to achieve the client's goals. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 731 or LAW 791 (High Tech Licensing) |

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| LAW | 732 | Patent Preparation and Prosecution | Dedicated to learning the mechanics and strategies for preparing, filing and prosecuting patent applications. Familiarize students with guiding an invention from conception to patent, both domestically and abroad. Considers strategies of patent drafting to provide broad patent scope and enforceable patent claims. Knowledge of intellectual property or patent law recommended prior to taking this course. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Credit is allowed for only LAW 732 or LAW 691 (Patent Preparation) |
| LAW | 733 | Negotiation | Explores alternative models of negotiated dispute resolution, as well as the roles of lawyer and client in the negotiation process. Extensive use of simulation exercises. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 734 | Products Liability | Traces the development of products liability law; analyzes the major issues currently confronting the courts in this area. | N | SEM | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 735 | Teaching Assistant | Legal writing teaching assistants assist a writing professor with various tasks throughout the semester. | N | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | |
| LAW | 736 | Advanced Legal Research Seminar | Focuses on a rigorous review of basic print and electronic resources and strategies for conducting legal research, federal/state. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 737 | Cults and Alternative Religions | Provides opportunity to study laws and policies governing cults. While the definition of a "cult" will be a topic of initial study in the seminar, it may be conceived of loosely as a group with a charismatic leader whose members are persuaded to relinquish their self-identities and material possessions in furtherance of the group's goals. In addition to analyzing the definition of a "cult," the first part of the seminar discusses the various types of cults, studying particular cults, and learning about cultic activities. The remainder covers domestic and foreign legal and policy issues generated by cults, including the legal rights of cultic organizations, anti-cult organizations, cult members, and cult members' families. Covers conventional religions that are conceptually similar to cults, to the degree that religious movements fall outside the mainstream. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | |
| LAW | 738 | Trial Advocacy | Confronts issues of trial advocacy through simulation of a variety of aspects of trial practice in a mock court setting. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Pre-requisites: LAW 605 |
| LAW | 745 | The Supreme Court | Intensive examination of selected current decisions of the U.S. Supreme Court. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 751 | Death Penalty | Surveys the major constitutional and operational issues relating to the death penalty in the United States. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 751 or LAW 691 (Death Penalty) |
| LAW | 768 | International Business Transactions | Introduction to U.S., foreign and international law regulating cross-border business transactions and to the structure of cross-border business deals. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; LAW 515; Pre- or corequisite(s): LAW 654 |
| LAW | 769 | International Intellectual Property | Examination of international protection of intellectual property, surveying various international agreements and treaties for copyrights, patents, trademarks and trade secrets, with focus on the agreement on Trade Related Aspects of Intellectual Property (TRIPs) of the World Trade Organization. Consideration of the basic concept of territoriality, national treatment, minimum standards and political and policy concerns related to efforts to secure and strengthen protection of intellectual property internationally. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 691 (International Intellectual Property) or LAW 769 |
| LAW | 770 | Law Journal | Academic credit for successful completion of editorial work by a member of the staff of Arizona State Law Journal. | N | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Pre-requisite: College of Law student |
| LAW | 771 | Jurimetrics Journal | Academic credit for successful completion of editorial work by a member of the staff of the Jurimetrics Journal of Law, Science, and Technology. | N | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Pre-requisite: College of Law student |
| LAW | 772 | Defender Clinic | Placement in the Public Defender Clinic and related classroom component. | N | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-6 | | Pre-requisite: College of Law student |
| LAW | 773 | Civil Litigation Clinic | Student attorneys in the Civil Litigation Clinic are certified by the Arizona Supreme Court to represent people who do not have adequate resources to hire an attorney in cases such as consumer fraud, employment discrimination and wage claims, benefits eligibility for people with disabilities, and tenant's rights. Student attorneys are involved in all aspects of civil and administrative practice including interviewing and counseling clients, fact investigation, drafting pleadings, motions and appellate briefs, conducting discovery such as taking depositions and propounding interrogatories, and representing clients in trials, arbitrations and mediation. Student attorneys may also present oral argument in appellate courts. | N | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-6 | | Prerequisite(s): College of Law student |
| LAW | 774 | Prosecution Clinic | Placement with various prosecutor offices in the Phoenix area and related classroom component. | N | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-6 | | Prerequisite(s): College of Law student; LAW 605 |

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| LAW | 775 | Mediation Clinic | Study of the mediation process and experience as mediators in cases pending before the justice courts and administrative agencies. | N | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-6 | | |
| LAW | 776 | Indian Legal Clinic | Provides law students the opportunity to participate in cases dealing with native peoples and Indian issues. | N | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-6 | | |
| LAW | 777 | Innovation Advancement Legal Clinic | Allows students to gain real-world experience in legal areas such as patentability of inventions, patent drafting, and technology valuation. | N | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-6 | | Pre-requisite: College of Law student |
| LAW | 778 | Immigration Clinic | The Immigration Clinic collaborates with local nonprofits, governmental agencies and community advocates to identify foster children in need of immigration services. The clinic also provides legal advice and referral at events organized by community agencies, nonprofits and elected officials. | N | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-6 | | Pre-requisite: College of Law student |
| LAW | 779 | Lisa Foundation Patent Law Clinic | Trains students to perform the legal skills necessary to practice transactional patent and trademark law. | N | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 779 or LAW 791 (Patent Litigation Clinic) |
| LAW | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | |
| LAW | 781 | Independent Study | With the approval of a faculty member, a student may research a legal subject of special interest and prepare a paper suitable for publication. | Y | IND | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Pre-requisite: College of Law student |
| LAW | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Pre-requisite: College of Law student |
| LAW | 785 | Externship | Supervised, practical lawyering in an external placement proposed by the student or established by a sponsoring agency and approved by the Sandra Day O'Connor College of Law. In addition, an associated academic component is established by the student with a member of the faculty. | Y | PRA | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | |
| LAW | 786 | Post-Conviction Clinic | Investigates claims of wrongful conviction and manifest injustice from prisoners convicted of crimes in Arizona. Post-conviction work is a specialized practice area that delves into both fundamental and nuanced aspects of criminal law and criminal procedure--one that is becoming increasingly vital as over 400 prisoners nationwide have been exonerated either in full or in part by DNA testing, and over 1,500 people have been exonerated by other means. Arizona is home to more than 40,000 prisoners and more than 5,000 on community supervision. Arizona incarcerates more people per capita than any other state in the west and ranks sixth in the country. The clinic works in conjunction with the Arizona Justice Project and some of the case profiles. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-6 | | Prerequisite(s): College of Law student; Pre- or corequisite(s): LAW 516; LAW 518; LAW 605; LAW 638; Credit is allowed for only LAW 786 or LAW 791 (Post Conviction Clinic) |
| LAW | 787 | First Amendment Clinic | Teaches the practical skills that are part of a First Amendment legal practice through engagement with clients in real cases and controversies, and train students to be familiar with the topics and related precedent that arise in such a practice. | N | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-6 | | Prerequisite(s): College of Law student; Pre- or corequisite(s): LAW 516; LAW 518; LAW 605; LAW 638; Credit is allowed for only LAW 787 or LAW 791 (First Amendment Clinic) |
| LAW | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | |
| LAW | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-15 | | Prerequisite(s): College of Law student |
| LAW | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | LEC | Y | Z3 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1 | | |
| LAW | 797 | Visiting Student Program | - | N | LEC | Y | Z3 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 0-1 | | Prerequisite(s): College of Law student |
| LDE | 261 | Landscape Architecture Design Fundamentals III | Applies design fundamentals with an emphasis on landscape architectural issues. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 4 | | Prerequisite(s) with C or better: Landscape Architecture BSLA major; ALA 100; ALA 102; ALA 121; ALA 122; ALA 124; ENG 101, 105, or 107; MAT 170; minimum 3.00 GPA OR Visiting University Student |
| LDE | 262 | Landscape Architecture Design Fundamentals IV | Applies design fundamentals to landscape architectural design with emphasis given to human factors. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 4 | | Prerequisite(s): Landscape Architecture major; LDE 261 with C or better |

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| LDE | 361 | Landscape Architecture I | Site planning: analysis of natural and cultural features; site systems and implications for plan making and design. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Landscape Architecture major; LDE 262 with C or better; Corequisite(s): LAP 352; LDE 363; LTC 343 OR Visiting University Student |
| LDE | 362 | Landscape Architecture II | Site design: site-specific design of configured space by the creative development of form. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Landscape Architecture BSLA major; LDE 361 with C or better; Corequisite(s): LAP 352 OR Visiting University Student |
| LDE | 461 | Landscape Architecture III | Landscape ecological planning: collection and application of ecological data relevant to planning and design at landscape scale. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Landscape Architecture major; LDE 362 with C or better; Corequisite(s): LPH 411 OR Visiting University Student |
| LDE | 462 | Landscape Architecture IV | Advanced landscape architecture: integrative capstone studio with multifaceted design problems. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Landscape Architecture major; LDE 461 with C or better; Corequisite(s): LTC 446 |
| LDE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| LDE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-3 | | |
| LDE | 521 | Advanced Landscape Architectural Studio I | Explores landscape architecture and design with emphasis on the urban landscape and the significance ecology plays in the design process. Studio-based course includes reading, presentations by faculty and students, discussion, design research, conceptual design practice, and the public exhibition/presentation of this work in multiple formats. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Master of Landscape Architecture student; Credit is allowed for only LDE 521 or LDE 590 (Advanced Landscape Architecture Studio I) or LDE 590 (Applied Landscape Architecture) |
| LDE | 522 | Advanced Landscape Architectural Studio II | Explores landscape architecture and design with emphasis on urban landscapes and human health. Studio-based course includes reading, presentations by faculty and students, discussion, design research, conceptual design practice and the public exhibition/presentation of this work in multiple formats. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): LDE 521 with C or better; Credit is allowed for only LDE 522 or LDE 590 (Advanced Landscape Architecture Studio II) or LDE 590 (Advanced Landscape Studio II) |
| LDE | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LDE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LDE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LDE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LDE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LDE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LDE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LDE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| LDE | 621 | Advanced Landscape Architectural Studio III | Structured around the Design School's "traveling studio" model and provides an opportunity for graduate-level students to refine their talents while also contributing to a better future. Challenges students to work in a multidisciplinary environment to identify new design concepts that improve society and the natural environment. For approximately one week during the semester, students travel to an off-campus location (either in the U.S. or abroad) to examine a local condition there for which new design solutions are needed. Students return to ASU and continue working on the project for the semester. Studio-based course includes reading, presentations by faculty and students, discussion, design research, conceptual design practice, and the public exhibition/presentation of this work in multiple formats. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): LDE 522 with C or better; Credit is allowed for only LDE 621 or LDE 690 (Advanced Landscape Architecture Studio III) |
| LDE | 622 | Advanced Landscape Architectural Studio IV | Capstone course. Students complete a design project that demonstrates mastery of landscape architecture skills and knowledge. Requires some independent direction. The instructor determines deadlines and expectations for deliverables. Requires cooperation and collaboration between students. Design performance is the themed topic and focus. Students develop a complex design project that addresses a significant professional issue. The project explores and demonstrates how advanced design resolves that issue in a performative manner using evidence-based practices and performance-based metrics. Studio-based course includes reading, presentations by faculty and students, discussion, design research, conceptual design practice, and the public exhibition/presentation of this work in multiple formats. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): LDE 621 with C or better; Credit is allowed for only LDE 622 or LDE 593 (Advanced Landscape Architectural Studio IV) |
| LDE | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LDE | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LDE | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LDE | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LDE | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | LEC | Y | Z3 | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LDT | 301 | Foundations of Instructional Design | Foundations and evolution of the field of instructional design; examines accomplishments and issues in the field and explores possible career paths. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| LDT | 320 | Digital Learning Theories | Centers on learning theories and applied learning principles for the design of digital learning environments in a multitude of contexts, including professional and educational settings. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): LDT 301 OR Visiting University Student |
| LDT | 330 | Design of Digital Learning | Focuses on the design, development and implementation of digital learning objects that can be used in hybrid, blended and online learning environments in a variety of academic or organizational contexts. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): LDT 301; LDT 320 OR Visiting University Student |
| LDT | 410 | Assessment and Evaluation for Digital Learning | Covers concepts of conducting evaluation for educational and training episodes in online, hybrid, blended and other digital contexts. Provides learning opportunities for developing evaluation goals, designing instruments and tools for collecting and analyzing data, and interpreting data and reporting results. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): LDT 301; LDT 320; LDT 330 OR Visiting University Student |
| LDT | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| LDT | 501 | Foundations of Learning Design and Technologies | Foundations and evolution of the field of learning design and technology; examines accomplishments and issues in the field and explores possible career paths. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| LDT | 502 | Design and Development of Instruction | Centers on the design and development of competency-based instructional materials, based on a variety of instructional design models, for learning in a multitude of settings. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |

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| LDT | 503 | Design of Effective Communications | Explores the theory, research and practice of computer-mediated communication including principles of graphic design for the purposes of creating effective presentations, job aids/infographics and video/audio for educational purposes. Includes a focus on accessibility and Section 508 compliance. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate OR Instructional Design and Performance Improvement graduate certificate student; LDT 501 (EDT 501); LDT 502 (EDT 502) |
| LDT | 504 | Modalities of Learning | Focuses on the development, design and creation of various forms of Web-based instruction including blended, hybrid and online learning. Examines the characteristics of interactive media, synchronous and asynchronous forms of distance/online learning, eLearning software and project management. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate OR Instructional Design and Performance Improvement graduate certificate student; LDT 501 (EDT 501); LDT 502 (EDT 502) |
| LDT | 506 | Evaluation of Learning Systems | Examines procedures for evaluating educational programs, training systems and new-technology applications. Focuses on basic evaluation concepts, steps in conducting a systematic evaluation project, the preparation of an evaluation report, as well as ethical issues. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate; EDP 540, LDT 501 (EDT 501) or LDT 502 (EDT 502); Credit is allowed for only CED 525 or LDT 506 (EDT 506) |
| LDT | 507 | Performance Improvement and Leadership | Introduces the field of human performance technology. Emphasizes the analysis of performance problems, their causes, and interventions. | N | SEM | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| LDT | 511 | Emerging Trends and Technologies for Learning Design | Identifies current and future trends in the field of educational technology. Examines key trends, developing technologies and the affordances these technologies might offer, as well as the challenges with implementation that might be faced. Prepares students to embrace the ever-evolving nature of teaching and learning with technology, and how this may impact the process of design. Our awareness and openness to change influences our practice, and staying current with trends is an important characteristic of any future role related to educational technology that one may have. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR undergraduate postbaccalaureate student |
| LDT | 523 | Issues in Online and Distance Education | Investigates current issues and trends specific to the implementation of web-based teaching and learning as well as practices for effective online instruction. Examines online learning principles, practices and their effectiveness by exploring the use of related systems and applications. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate OR Instructional Design and Performance Improvement graduate certificate student; LDT 501 (EDT 501); LDT 502 (EDT 502) |
| LDT | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | N | LEC | N | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate post-baccalaureate; EDP 540; LDT 501 (EDT 501); LDT 502 (EDT 502) |
| LDT | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| LES | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-4 | | |
| LES | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-4 | | |
| LES | 305 | Business Law and Ethics for Managers | Legal theories, ethical issues, and regulatory climate affecting business policies and decisions. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W. P. Carey major OR non-business major; minimum 2.00 GPA; minimum 56 hours OR non-degree student; minimum 2.00 GPA OR graduate student OR Visiting University Student |
| LES | 380 | Consumer Perspective of Business Law | Role of law as it affects society. Uses case studies to present principles that govern business and consumers. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): minimum 2.00 GPA ; minimum 56 hours, OR non-degree student with minimum 2.0 GPA, OR graduate student OR Visiting University Student |
| LES | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-4 | | Pre-requisites: Minimum 2.00 GPA; Minimum 56 hours OR Non-degree seeking student |
| LES | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-4 | | |
| LES | 582 | Ethical Issues for Managers | Studies ethical decisions; the role of business in society. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1.5-3 | | Prerequisite(s): W. P. Carey MBA student |

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| LES | 586 | Fundamentals of Ethical Issues for Managers | Studies ethical decisions, the role of business in society. Designed for students with limited business experience and without an undergraduate business degree. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1.5 | | Prerequisite(s): degree-seeking graduate student |
| LIA | 101 | Student Success in The College of Liberal Arts and Sciences | Introduces students to resources that help them succeed in The College of Liberal Arts and Sciences. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | Dean, The College of Liberal Arts and Sciences | 1 | | Credit is allowed for only LIA 101 or LIA 194 (Introduction to Liberal Arts and Sciences) |
| LIA | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Dean, The College of Liberal Arts and Sciences | 1-4 | | |
| LIA | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Dean, The College of Liberal Arts and Sciences | 1-4 | | |
| LIA | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Dean, The College of Liberal Arts and Sciences | 1-4 | | |
| LIA | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | Dean, The College of Liberal Arts and Sciences | 1-12 | | |
| LIA | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Dean, The College of Liberal Arts and Sciences | 1-4 | | |
| LIN | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 501 | Approaches to Research | Theories, methods and/or methodologies as well as qualitative and/or quantitative approaches to the specific discipline. Also serves as an introduction to the profession. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ENG 501 or LIN 501 |
| LIN | 510 | Linguistics | Overview of linguistics, its subfields, and some of its applications. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BLE 537 or LIN 510 |
| LIN | 511 | Phonetics and Phonology | Current trends in phonological theory and its basis in acoustic and articulatory phonetics. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 513 | Semantics | Current approaches to linguistic meaning with particular attention to English. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 514 | Syntax | Analyzes syntactic structures using a generative theoretical model with a focus on English. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 515 | American English | Development of the English language in America, including regional and social varieties, and its relationship to other immigrant and native languages. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 516 | Pragmatics and Discourse Analysis | Studies language use in context and language structures in spoken and written texts. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 517 | History of the English Language | Surveys the development of the English language, with an emphasis on major linguistic transformations. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ENG 413 or ENG 517 or LIN 517 |
| LIN | 520 | Second-Language Acquisition Theories | Theories of second-language acquisition, including the linguistic, cognitive, and sociocultural aspects. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 521 | Methods of Teaching English as a Second Language | Methods of teaching English as a second language, language teaching trends, practical applications, and the teaching of different skills. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 522 | Grammar for TESL | Surveys major grammatical structures in English and how they can be taught to ESL speakers. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 523 | Language Testing and Assessment | Introduces the theory and practice of language test construction. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 524 | Curriculum Design and Materials Development | Practical guide to curriculum and materials development. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 525 | Teaching Second Language Writing | Provides a critical introduction to the field of second language writing as well as issues and strategies in the teaching of second language writing in a wide variety of contexts. After exploring various instructional contexts as well as the characteristics of different types of students and their texts, considers various instructional practices and strategies, focusing on course and assignment designs, reading-writing connection, teacher and peer feedback, grammar instruction, classroom assessment, plagiarism and text borrowing strategies, and negotiating language differences. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only LIN 525, 591 (Teaching 2nd Language Writing) or ENG 525 |
| LIN | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| LIN | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | Department of English | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 597 | MTESOL Capstone | Provides MTESOL students with a culminating experience in which they bring together the knowledge learned in prior courses in the program in a way that is meaningful and relevant to their professional goals. Focuses on projects that the students carry out to demonstrate their ability to apply scholarly and professional knowledge in TESOL practice. Provides opportunities to engage in some professional activities. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): Teaching English to Speakers of Other Languages MTESOL student; Credit is allowed for only ENG 597 or LIN 597 |
| LIN | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 610 | Advanced Studies in Linguistics | Different topics such as morphology, semantics, typology, history of linguistics. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 614 | Advanced Studies in Syntax | Focuses on morphosyntactic feature checking, movement, phrase structure, and their crosslinguistic differences. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 615 | Advanced Studies in Sociolinguistics | Language in its social setting, e.g., social variation among native speakers, sociolinguistics aspects of second-language acquisition, and language policy. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 616 | Advanced Studies in Discourse Analysis | Advanced analysis of spoken and written discourse emphasizing different methodological and theoretical issues. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 617 | Advanced Studies in Historical Linguistics | Overview of theories on language change, the history of languages, and of methods in historical linguistics. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 620 | Advanced Studies in Second-Language Acquisition | Selected topics in second-language acquisition, such as phonetics and phonology, morphology, syntax, and discourse. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 625 | Advanced Studies in Second Language Writing | Provides opportunities to explore advanced research topics as well as current issues and controversies in the field of second language writing--an interdisciplinary field of inquiry simultaneously situated in applied linguistics, rhetoric and composition, and teachers of English to Speakers of Other Languages. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only ENG or LIN 625 |
| LIN | 655 | Advanced Disciplinary Discourses in Linguistics and Applied Linguistics | Advanced investigation of professional and disciplinary issues related to linguistics and applied linguistics. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | Department of English | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | Department of English | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| LIN | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | The College of Liberal Arts and Sciences | Department of English | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LPH | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| LPH | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-3 | | |
| LPH | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LPH | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSC | 145 | Introduction to Marine Biology | Introduces non-majors to the basic concepts of marine biology, the study of the ocean and the diverse life forms that reside in the diverse habitats found there. Includes an extensive discussion on ocean conservation, including threats facing marine life and policy solutions to those threats. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | SG | Prerequisite(s): minimum 25 hours; Credit is allowed for only BIO 145 or LSC 145 or LSC 294 (Introduction to Marine Biology) OR Visiting University Student |
| LSC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | |
| LSC | 322 | Fundamentals of Ecology Laboratory | Investigational field course on fundamental concepts in ecology. | N | LAB | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Pre- or corequisite(s): LSC 320 or BIO 320 with C or better if completed OR Visiting University Student |
| LSC | 325 | Physiological Psychology | Relationships of physiological processes to behavior. Emphasizes nervous system functioning. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): PSY 290 with C or better or two of the following courses with C or better: BIO 181 (or 188), 182 (or 187), 201, 202; Credit is allowed for only LSC 325 or PSY 325 or PTX 325 OR Visiting University Student |
| LSC | 347 | Fundamentals of Genetics | Science of genetics, gene flow, and genetic engineering in humans and other organisms. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): BIO 181 or 188 with C or better; BIO 182 or 187 with C or better; CHM 116 with C or better OR Visiting University Student |
| LSC | 348 | Fundamentals of Genetics Laboratory | Investigational activities using modern molecular techniques to analyze various genetic phenomena. | N | LAB | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Pre- or corequisite(s): LSC 347 with C or better if completed OR Visiting University Student |
| LSC | 359 | Animal Physiology Laboratory | Investigative lab experience using animals (including humans) and models. | N | LAB | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Pre- or corequisite(s): LSC 358 or BIO 360 with C or better if completed |
| LSC | 362 | The Human Environment | Evolution of humans' physiological, ecological, and behavioral interaction with their environment. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better OR Visiting University Student |
| LSC | 363 | Genes, Race, Gender, and Society | Examines biological events and theories on race and gender and their interface with societal views. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | L | Prerequisite(s): BIO 340 or LSC 347 with C or better; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| LSC | 365 | The Human Organism | Analyzes human anatomy, physiology, and behavior in an ecological and evolutionary context with the methods of comparative biology. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | SG | |
| LSC | 369 | Biology of Human Sexuality | Multilevel perspective on human sexuality and reproduction. Integrates psychological with evolutionary, physiological and neuroscientific approaches. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): PSY 101 with C or better; one semester of biology; Credit is allowed for only LSC 369 or PSY 369 or PTX 369 OR Visiting University Student |
| LSC | 380 | Analysis of Nonhuman Forensic DNA Evidence | Nonhuman biological materials are so pervasive in the environment that they often contaminate victims, perpetrators and crime scenes by means of direct deposit or secondary transfer. As the reliability, sensitivity and specificity of animal, plant and microbial DNA assays improve with the advent of new technologies, the potential probative value of DNA information from nonhuman biomaterials also increases, especially for establishing or refuting alibis, determining the chronology of a criminal event and for crime scene reconstruction. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Pre- or corequisite(s): LSC 347 with C or better if completed; Credit is allowed for only FOR 380 or LSC 380 OR Visiting University Student |
| LSC | 386 | STEAM Service Learning | Guided process in which students deepen their understanding of their STEAM content area through knowledge-based problem solving that provides a service to others in the community. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ACO 386 or ENV 386 or FOR 386 or LSC 386 or PTX 386 or LSC 494 (Service Learning in the Life Sciences) |

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| LSC | 388 | STEM Research Fundamentals | Teaches research skills in the natural sciences. Topics covered include the basic research techniques of the study organism and system, experimental design, literature searches, statistical analysis and preparation of scientific papers and posters. | N | LEL | Y | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 320, BIO 182, or MAT 272 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only ENV 388 or FOR 388 or LSC 388 or PLB 388 or PTX 388 OR Visiting University Student |
| LSC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | |
| LSC | 425 | Analytical Chemistry for Life Sciences | Presents an analysis of chemicals, including the theoretical and practical considerations regarding the separation, detection and quantitative determination of chemicals. Illustrates the application of different analytical procedures using some of the common chemicals of concern in the forensics and environmental fields. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): CHM 234 with C or better; CHM 238 with C or better; Credit is allowed for only FOR 425 or LSC 425 OR Visiting University Student |
| LSC | 426 | Analytical Chemistry for Life Sciences Lab | Students learn basic principles of analytical chemistry and explore a wide range of common techniques and methods with applications to forensic science and life sciences. Places specific focus on techniques common in modern analytical laboratories, including gas chromatography, mass spectrometry, FTIR and NMR spectroscopic techniques. Other topics include interpretation of analytical data and evaluation of error and uncertainty in measurements. | N | LAB | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 2 | | Prerequisite(s): CHM 234 with C or better; CHM 238 with C or better; Corequisite(s): FOR 425 or LSC 425; Credit is allowed for only FOR 426 or LSC 426 OR Visiting University Student |
| LSC | 430 | Environmental and Human Toxicology | Lecture/fieldwork course investigating toxic substances in the environment and their effect on the health of organisms, including humans. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better; CHM 116 with C or better |
| LSC | 432 | Fundamentals of Pharmacology | Aspects of pharmacology using an integrated approach to familiarize students with natural and synthetic therapeutic agents used in medicine. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): BCH 361, BCH 371, or BIO 353 with C or better; BIO 340 or LSC 347 with C or better; CHM 231 or 234 with C or better; Credit is allowed for only LSC 432 or PTX 432 OR Visiting University Student |
| LSC | 434 | Marine Ecology | Examines ecological processes in oceans, seas, and estuaries that emphasizes species- and community-level phenomena. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better; LSC 320 or BIO 320 with C or better; Credit is allowed for only BIO 438 or BIO 494 (Marine Biology) or LSC 434 OR Visiting University Student |
| LSC | 447 | Molecular Genetics Laboratory | Investigative lab involving DNA isolation, PCR, gel electrophoresis, enzyme digestion and ligation, transformation, and hybridization analysis. | N | LAB | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FOR 447 or LSC 447 |
| LSC | 475 | Principles of Toxicology | Presents the fundamental principles of toxicology and its application to both human and environmental situations. Starts with the means of defining and quantifying toxic effects through dose response curves (e.g. LD50, EC50, LOEL, NOEL). Then focuses on absorption pathways for toxicants as well as the degradation metabolism pathways for toxicants. Finally focuses on the mechanism of toxic action for common poisons and environmental pollutants. Emphasizes toxicants that students are likely to encounter in forensics and environmental fields. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): BCH 361 or 371 with C or better; Credit is allowed for only FOR 475 or LSC 475 or PTX 475 |
| LSC | 480 | Advanced Topics in Human Forensic DNA Typing | Examines the science of current forensic DNA typing methods by focusing on the technology behind STR, Y-STR and mtDNA typing, real-time PCR, serology tests, capillary electrophoresis, expert systems and statistics. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): LSC 347 with C or better; Credit is allowed for only FOR 480 or LSC 480 OR Visiting University Student |
| LSC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | IND | Y | YGB | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | |
| LSC | 486 | Peer Mentoring in STEM | Advanced students learn and apply mentoring skills in science classes or teaching labs. | Y | SEM | Y | YGB | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ACO 486 or BIO 486 or LSC 486 or MAT 486 or PTX 486 or STP 486 OR Visiting University Student |
| LSC | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | IND | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| LSC | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | IND | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| LSC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| LSC | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | IND | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| LSC | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | YGB | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-3 | | Prerequisite(s): minimum 45 hours |
| LSC | 519 | Applied Learning Lab | Workshop-style course where students develop and peer review graduate-level project proposals. Topics may include integrative writing skills for an interdisciplinary thesis, presentation skills and topics tailored to the appropriate lay or technical audience, writing for a wide range of journals. | Y | SEM | Y | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSC | 540 | Statistics for Biological Data Science I | Statistical concepts and fundamental methods applicable to biological data science. Emphasizes the practical application to biological contexts and communication of results, using data science software such as R and/or Python. Explores statistical concepts and methodologies including hypothesis testing, confidence intervals, correlation, probability, analysis of variance, chi-squared tests and linear regression within biological and life science contexts. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only LSC 540 or LSC 598 (Statistics for Biological Data Science I) |
| LSC | 541 | Statistics for Biological Data Science II | Covers both classical and modern statistical tools for biological data analyses. Divided into five modules: (1) one- and two-variable analyses, (2) multivariate analysis, (3) design of experiments, (4) introduction of longitudinal and survival analysis, (5) modern computer-intensive analysis methods. For each statistical method, students learn the rationale behind the method and how to implement the method using statistical software (primarily R and/or Python). | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only LSC 541 or LSC 598 (Statistics for Biological Data Science II) |
| LSC | 547 | Wet Laboratory Experience | Balances the need for bench work and in silico experience for students interested in pursuing a career with learning important statistical and computational tools to analyze biological data. Under the direct supervision of the PI and/or Laboratory Manager, students receive instruction and perform all experiments as specified in the performance objectives for the course. | N | LAB | Y | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSC | 555 | Integrative Biology I | Provides a comprehensive understanding of the human genome, recent developments, next generation sequencing techniques including the preparation of DNA samples as well as principles of the new generation sequencing assay formats. Describes, critically evaluates and applies theoretical perspectives within genetic/genomic studies, develops and uses computational and mathematical tools and of the invaluable lines of inquiry these biomedical investigations may portend. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSC | 556 | Integrative Biology II | Provides a survey of fundamental issues in organismal biology. Covers biological diversity, relationships between form and function, processes of growth and development in individuals and populations, biomes and organism-environment relationships, populations and ecosystem function. Weaves components of previous course work throughout this course where possible. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSC | 562 | Applied Mathematics Techniques in Biology | Population dynamics, molecular interactions, population genetics, and other biological applications motivate the discrete and continuous mathematics. Studies mathematical techniques and applications representative of a range of applied mathematics topics. Incorporates computer software to help with visualization and numerical solutions of some of the problems. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSC | 565 | Laboratory Leadership, Policy and Practice | Focuses on essential laboratory management functions, knowledge and skills required to successfully function as a laboratory manager and/or senior-level scientist in clinical, academic, research and applied science laboratories (e.g., forensic science laboratories). Topics include quality assurance and quality control; laboratory accreditation and audits; standards for specific accrediting bodies including but not limited to CLIA, CAP, ASCLD/LAB, OSHA; documentation and sample accessioning; laboratory safety and chemical hazard programs; validation studies and protocol development; certification of individual scientists; and overall laboratory management "best practices." | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only FOR 565 or LSC 565 or PTX 565 |
| LSC | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | SEM | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSC | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LAB | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| LSC | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSC | 585 | Capstone I in Biological Data Science | Students bring together knowledge learned in required degree courses via a digital portfolio in a way that is meaningful and relevant to their professional goals. Each student must summarize current knowledge as it relates to a specific group project in the biological data sciences. | N | PRO | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSC | 586 | Capstone II in Biological Data Science | Students use their previously developed digital portfolio and apply this acquired knowledge in a culminating group project. | N | PRO | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSC | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSC | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LAB | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSC | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | SEM | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 303 | Human Development: Addressing Learner Capabilities | Surveys major themes and recent findings in the area of human development across the lifespan, with emphasis on the physical, cognitive, social and emotional domains. Examines the impact of ethnic, gender and cultural factors on development. Applies theories of human development to various educational environments and learning activities. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| LSE | 305 | Conceptualizing Learning: Theories in Practice | Explores a variety of learning theories. Covers the role of the educator, the role of the student, and how tools and systems can help facilitate teaching and learning opportunities. Students design learning experiences for a specific need or opportunity using current research-based learning theories. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| LSE | 401 | Designing Learning Environments for Inclusion | Analyzes current education systems for their ability to meet the needs of diverse populations. Designs sustainable solutions to promote inclusivity in learning environments. Applies current research-based learning theories through a design process. Students advocate for education that changes communities and lives by developing educational solutions that address social concerns. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | SB | Prerequisite(s): minimum 45 hours |
| LSE | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 540 | Theoretical Views of Learning in the Learning Sciences | Theoretical perspectives that inform learning scientists. Examines affordances and limitations of theories for designing productive learning environments. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EDP 540 or LSE 540 |
| LSE | 542 | Research Methods in the Learning Sciences | Develops a strong methodological toolkit for building, testing and advancing learning theory through innovations that achieve meaningful impact. The field of the learning sciences is interdisciplinary, drawing on multiple theoretical perspectives and research paradigms to build understandings of the nature and conditions of learning, cognition and development. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 570 | Case Exemplars of Learning Systems | Examines in-depth cases of learning systems in order to examine different ways of explaining learning, knowing and teaching and attendant strategies for generating data about these systems. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 571 | History of the Learning Sciences | Examines the history of the interdisciplinary field of the learning sciences in relation to the various disciplinary traditions from which it derives. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| LSE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| LSE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| LSE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| LSE | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| LSE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1 | | |
| LSE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 600 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 683 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| LSE | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| LSE | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| LSE | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 783 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|--|
| LSE | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| LSE | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| LSE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LST | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| LST | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| LST | 370 | Dimensions of Liberal Studies | Draws on the humanities and social sciences to engage diverse ideas and perspectives, develop resilient and productive habits of mind, and investigate the different dimensions of human meaning-making. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L or HU | Prerequisite(s): Liberal Studies BA major; ENG 102, 105, or 108 with C or better; minimum sophomore standing OR Visiting University Student |
| LST | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| LST | 470 | Liberal Studies Seminar | Applies creativity, reflection and diverse modes of inquiry from the humanities and social sciences to at least one topic/theme. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Liberal Studies BA major; ENG 102, 105, or 108 with C or better; LST 370 (BIS 370) with C or better; minimum senior standing OR Visiting University Student |
| LST | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | |
| LST | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | | |
| LST | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| LST | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| LST | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-7 | | |
| LST | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-3 | | |
| LTC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| LTC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAE | 201 | Mechanics of Particles and Rigid Bodies I: Statics | Force vectors and force system resultants, equilibrium of particles and rigid bodies, friction, centroid and moments of inertia of an area. Required for aerospace engineering and mechanical engineering. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): MAT 266 or 271 with C or better; PHY 121 with C or better; Credit is allowed for only MAE 201 or MAE 212 OR Visiting University Student |

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| MAE | 202 | Mechanics of Particles and Rigid Bodies II: Dynamics | Kinematics and kinetics of particles. Work, energy, and momentum principles for particles. Planar kinematics and kinetics of rigid bodies. Conservation of energy and momentum for rigid bodies. Equations of motion for particles and rigid bodies. Vibrations. Required for aerospace engineering and mechanical engineering. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prereq(s) w/ C or better: Aerospace or Mech Engr BSE major; MAE 201 OR non-Aerospace or non-Mech Engr major; CEE 210, CNE 210, or MAE 201; Pre- or coreq(s): MAT 274 or 275; Credit is allowed for only MAE 202 or 212 OR Visiting University Student |
| MAE | 213 | Mechanics of Materials | Equilibrium, strain-displacement relations, and stress-strain-temperature relations. Applications to force transmission and deformations in axial, torsional, and bending of bars. Combined loadings. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): MAE 201 with C or better; MAT 274 or 275 with C or better; PHY 122 with C or better OR Visiting University Student |
| MAE | 214 | Computer-Aided Engineering I | Introduces geometry and construction techniques in CAD, technical drawing conventions, generating drawings from CAD models. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1 | | Prerequisite(s): Mechanical & Aerospace Engineering major; Pre- or corequisite(s): MAE 201 or 212 with C or better if completed OR Visiting University Student |
| MAE | 215 | Introduction to Programming in MATLAB | Introduces basic topics and concepts of computer programming in MATLAB. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1 | | Prerequisite(s): Aerospace or Mechanical Engineering BSE major or Biomedical Engineering BSE major; MAT 265 or 270 with C or better OR Visiting University Student |
| MAE | 241 | Introduction to Thermodynamics | Concepts of equilibrium, properties, states, systems, energy and entropy; 1st and 2nd thermodynamic laws, analysis of open and closed systems, power and refrigeration cycles. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s) with C or better: Aerospace or Mech Engr BSE major; CHM 114 or 116; MAT 267 or 272; PHY 121 OR non-Aerospace or non-Mech Engr major: MAT 267 or 272; PHY 121; Credit is allowed for only MAE 240 or MAE 241 OR Visiting University Student |
| MAE | 242 | Introduction to Fluid Mechanics | Introductory survey course covering fundamental concepts relating to engineering fluids. Fluid statics. Integral methods. Differential methods. Dimensional analysis and similarity. Incompressible internal and external flow. Potential flow. Required for Aerospace Engineering and Mechanical Engineering majors. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prereqs w/C: MAT 267, 272; MAT 274, 275; MAE maj: MAE 201 OR non-MAE maj: CEE 210, CNE 210, MAE 201; Pre- or coreqs w/min C: MAE maj: MAE 202, 212 OR non-MAE maj: CEE 212, MAE 202, MAE 212; Credit allowed for MAE 240 or 242 OR Visiting University Student |
| MAE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-4 | | |
| MAE | 301 | Applied Experimental Statistics | Introduces key concepts in probability and statistics with engineering applications. Emphasizes modeling variation in observations, characterizing its distribution, and making inferences with regard to quality assurance and control. Develops critical skills such as fitting multivariate models, experimental design, and hypothesis testing, utilizing data from engineering projects, simulations, and laboratory experiences. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prereq(s): Aerospace or Mech Engr major; With C or better: CSE 100, CSE 110 or MAE 215; MAE 384; MAT 242, 342 or 343; MAT 274 or 275; MAT 267 or 272; Credit allowed for MAE 301 or MAE 394 (Applied Experimental Statistics) OR Visiting University Student |
| MAE | 318 | System Dynamics and Control I | Dynamics of physical systems, models of mechanical, electrical and electromechanical systems, Laplace transform, transfer functions, time response and frequency response, poles and zeros, block diagrams, stability, introduction to feedback control: closed-loop response, PID compensation, steady-state characteristics, root-locus design and analysis of systems, frequency-domain design concepts, Bode-plots and analysis of systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 4 | | Prerequisite(s) with C or better: EEE 202; MAE 202 or 212; MAE 384; MAT 267 or 272; PHY 131; PHY 132; Aerospace or Mechanical Engineering BSE major; Pre- or corequisite(s): MAE 301 with C or better if completed OR Visiting University Student |
| MAE | 341 | Mechanism Analysis and Design | Positions, velocities, and accelerations of machine parts; cams, gears, flexible connectors, and rolling contact; introduces synthesis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; MAE 212 with C or better, or both MAE 201 and 202 with C or better |
| MAE | 384 | Advanced Mathematical Methods for Engineers | Methods for numerical solutions to engineering problems. Nonlinear equations, quadrature, ordinary differential equations. Analytical and numerical solutions to partial differential equations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | CS | Prerequisite(s): Engineering major; CSE 100, CSE 110, or MAE 215 with C or better; MAT 242, 342, or 343 with C or better; MAT 274 or 275 with C or better; Pre- or corequisite(s): MAT 267 or 272 with C or better if completed OR Visiting University Student |
| MAE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-4 | | Prerequisite(s): Fulton Engineering undergraduate student OR Visiting University Student |

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| MAE | 400 | Engineering Profession | Impact of mechanical and aerospace engineering in a global and societal context; effects of and on globalization, environment, sustainability, economy, politics; engineering ethics and business practices. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | L | Prerequisite(s): Aerospace Engineering or Mechanical Engineering BSE majors; ENG 101, 105, or 107 with C or better; MEE 322, MAE 322, AEE 325, or MAE 325 with C or better OR Visiting University Student |
| MAE | 404 | Finite Elements in Engineering | Formulation and application of the finite element method through integration of theory, code development and application to problems in heat transport and solid mechanics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; CEE 213 or MAE 213 with C or better; CEE 384 or MAE 384 with C or better |
| MAE | 417 | System Dynamics and Control II | Fundamentals of feedback control using linear transfer function system models. Analysis in time and frequency domains. Design in the s-plane (root locus) and in the frequency domain (loop shaping). State-space representation and state-feedback control, multivariable control with observers, discrete systems and z-transform, nonlinear systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Mechanical Engineering BSE or Aerospace Engineering BSE major; MAE 318 with C or better OR Visiting University Student |
| MAE | 436 | Combustion | Combustion of gaseous and condensed-phase fuels. Thermodynamics, mass transfer and chemical kinetics of combustion. Explosion and ignition theories. Structure, propagation and stability of flames. Pollutant formation. Applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; MEE 340 with C or better; Credit is allowed for only MAE 436 or MAE 536 OR Visiting University Student |
| MAE | 451 | Applied Machine Learning for Mechanical and Aerospace Engineers | Machine learning is impacting every aspect of our daily lives, from recognizing faces in a crowd to designing drugs to treat epidemic diseases. There is no doubt that, as a result of the impact, the job market for future engineers will be drastically different. Equips engineering students with a working understanding of machine learning and better prepares them for the future job market. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): MAE 301 with C or better; MAE 384 with C or better; Credit is allowed for only MAE 451 or MAE 551 or MAE 598 (Machine Learning for Engineers) or MSE 551 or MSE 598 (Machine Learning for Engineers) OR Visiting University Student |
| MAE | 455 | Polymers and Composites | Relationship among chemistry, structure, and properties of engineering polymers. Design, properties, and behavior of fiber composite systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prereq(s) w/ C or better: Fult Engrn undergrad or Materials minor; CEE 213, MAE 213, or MSE 211; MAT 242, 342, or 343; MSE 250 or Aerospace major w/ MAE 325; Credit allowed for only MAE 455 or MAE 513 or MSE 470 or MSE 513 OR Visiting University Student |
| MAE | 460 | Applied Computational Fluid Dynamics | Numerical techniques for solving incompressible and compressible flow equations using industrial solvers. Computer-aided analysis of thermofluid systems. Applications to fluid system engineering. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering Undergrad student; AEE 360 or MEE 340 w/ C or better; Credit allowed for only MAE 460 or MAE 494 (Applied Computational Fluid Dyn) or MAE 560 or MAE 598 (Applied Computational Fluid Dyn) OR Visiting University Student |
| MAE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-12 | | |
| MAE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-6 | | Prerequisite(s): Barrett Honors student |
| MAE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MAE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-4 | | Prerequisite(s): Fulton Engineering undergraduate student OR Visiting University Student |
| MAE | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-7 | | Prerequisite(s): Fulton Engineering undergraduate student |
| MAE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-3 | | |
| MAE | 501 | Linear Algebra in Engineering | Development and solution of systems of linear algebraic equations. Applications from mechanical, structural, and electrical fields of engineering. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate students, except Computer Engineering (Comp Sys or Elec Engr) MS or PhD, or Electrical Engineering MS, MSE, or PhD, or Electrical Engineering (AME) MS or PhD student; Credit is allowed for only MAE 501 or MSE 501 |

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| MAE | 502 | Partial Differential Equations in Engineering | Development and solution of partial differential equations in engineering. Applications in solid mechanics, vibrations, and heat transfer. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only MAE 502 or MSE 502 |
| MAE | 503 | Finite Elements in Engineering | Ideas and methodology of finite element analysis. Applications to solid mechanics, heat transfer, fluid mechanics and vibrations. Knowledge of free-body diagrams and vector calculus operations is recommended. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only MAE 404 or MAE 503 or MAE 598 (Finite Elements in Engineering) |
| MAE | 504 | Experimental Methods for Thermal and Fluid Processes | Theory of analog and digital signal analysis as applied to fluid and thermal measurements; optical diagnostics and micro sensors for measuring fluid velocity, pressure and temperature in unsteady flows; particle image velocimetry and thermal anemometry. Applies experimental in a weekly laboratory. Students should have completed an intermediate-level course in fluid dynamics, familiarity with Matlab or some programming language, prior exposure to Fourier series and Fourier transforms, as well as probability and statistics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 4 | | Prerequisite(s): Ira A. Fulton graduate student; Pre- or corequisite(s): MAE 571 |
| MAE | 505 | Perturbation Methods | Nonlinear oscillations, strained coordinates, renormalization, multiple scales, boundary layers, matched asymptotic expansions, turning point problems, and WKBJ method. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering students; Credit is allowed for only APM 575 or MAE 505 |
| MAE | 506 | Advanced System Modeling, Dynamics, and Control | Lumped-parameter modeling of physical systems with examples. State variable representations and dynamic response. Introduces modern control. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Pre- or corequisite(s): APM 505 or MAE 501; Credit is allowed for only EGR 556 or EGR 598 (System Control & Optimization) or MAE 506 |
| MAE | 507 | Advanced Modern Control and Estimation | System analysis, control, estimation and optimization. Stability, optimality, robustness, adaptation and safety considerations. Continuous-time, discrete-time and hybrid systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering student; MAE 506 with C or better |
| MAE | 508 | Digital Control: Design and Implementation | Analysis and design of control systems in which the digital computer plays a major role. Review of continuous control and introduction to the key effects of sampling. Elements of discrete system analysis; z-transform; sampled-data systems; sampling theorem and combined discrete and continuous system and the phenomenon of aliasing. Deterministic design methods for digital control systems (root-locus, frequency response, pole placement and estimators). Multivariable, optimal control and Kalman filtering, followed by nonlinear control and system identification. Emphasizes digital control implementation topics and a case study on robot control. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering major. Credit is allowed for only MAE 508 or MAE 598 (Digital Control: Design and Implementation) |
| MAE | 509 | Linear Matrix Inequality Methods in Optimal and Robust Control | The recent introduction of Linear Matrix Inequality (LMI) methods in control has dramatically expanded the types and complexity of the systems we can control. For example, consider the problems: gain scheduling for missile attitude control (a switched system); control of robots over noisy communication channels (a sampled-data system); remote control of spacecraft attitude (a delayed system); behavioral therapy (a system with binary inputs); or self-driving vehicles (a case of decentralized control). None of these systems can be studied using classical root-locus or PID control methods. Rather, advances in these fields have been made possible through the increased power and flexibility created by the LMI (optimization-based) approach to control. Background knowledge in controls and linear algebra is recommended to be successful in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only MAE 509 or MAE 598 (LMI Methods in Optimal and Robust Control) |
| MAE | 510 | Dynamics and Vibrations | Lagrange's and Hamilton's equations, rigid body dynamics, gyroscopic motion, and small oscillation theory. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Pre-requisites: Graduate Engineering students |
| MAE | 512 | Random Vibrations | Reviews probability theory, random processes, stationarity, power spectrum, white noise process, random response of single and multiple DOF systems, and Markov processes simulation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 2-3 | | Pre-requisite: Graduate Engineering major |
| MAE | 513 | Polymers and Composites | Relationship among chemistry, structure, and properties of engineering polymers. Design, properties, and behavior of fiber composite systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Pre-requisites: Graduate Engineering or Science & Engr of Materials student; Credit is allowed for only MAE or MSE 513 |
| MAE | 514 | Vibration Analysis | Free and forced response of single and multiple degree of freedom systems, continuous systems; applications in mechanical and aerospace systems numerical methods. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Mechanical or Aerospace Engineering graduate student; Credit is allowed for only AEE 415 or MAE 514 |
| MAE | 515 | Structural Dynamics | Free vibration and forced response of discrete multidegree of freedom and continuous systems, cyclosymmetric structures, introduction to rotordynamics, component mode synthesis, vibration of structures with moving mass/pipes with flow. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; MAE 514 with C or better |

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| MAE | 518 | Fundamentals of Microelectronics Packaging | Multidisciplinary foundation course in addressing electrical, thermal, materials, chemical, manufacturing, and reliability problems in packaging. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only CHE 518 or EEE 518 or MAE 518 or MSE 548 |
| MAE | 519 | Mechanics of Micro/Nano Systems | Basic processes used for fabricating micro and nanoscale structures used in MEMS. Analyzes the processes and micro/nanoscale structures from a mechanics perspective. Covers the fundamentals of microfabrication, scaling of forces, thermal stresses and strains in thin beams, thermal oxidation and dynamics of MEMS. Optional topics include mechanics of thin films and nanostructured materials. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering student; Credit is allowed for only MAE 519 or MAE 598 (Mechanics of Micro/Nano Systems) |
| MAE | 520 | Stress Analysis | Introduces tensors: kinematics, stress analysis, and constitutive assumptions leading to elastic and plastic behavior. Strain energy and energy methods; applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only CEE 521 or MAE 520 |
| MAE | 521 | Structural Optimization | Linear and nonlinear programming. Problem formulation. Design sensitivity analysis. FEM-based optimal design of structural and mechanical systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; CEE 526 or MAE 527 with C or better; MAE 501 with C or better; Credit is allowed for only CEE 533 or EEE 589 or MAE 521 |
| MAE | 522 | Plasticity | Discusses theory of plastic (and inelastic) deformation in solids, e.g., metals and polymers, with emphasis on the fundamental foundations of the field derived from empirical observations and thermodynamic principles, all within a small strain framework. Assumes some knowledge of undergraduate-level thermodynamics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): MAE 520 or 529; Credit is allowed for only MAE 522 or MAE 598 (Plasticity) |
| MAE | 523 | Fracture Mechanics | Linear elastic fracture mechanics. Nonlinear problems. Fatigue fracture. Experimental methods in fracture. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; MAE 520 or MAE 598 (Continuum Mechanics) with C or better |
| MAE | 524 | Theory of Elasticity | Elastic behavior in two and three dimensions. Airy stress functions and displacement potentials. Elements of fracture. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering student; MAE 520 or MAE 598 (Continuum Mechanics) |
| MAE | 526 | Design of Aerospace Structures | Provides a fundamental understanding of the design of aerospace structures. Topics include flight vehicle loads, metallic and composite materials, manufacturing methods, buckling and crippling of aerospace structures, fatigue, damage tolerance, finite element structural analysis, and design of joint and fittings. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Mechanical or Aerospace Engineering graduate student; Credit is allowed for only AEE 426 (or MAE 426) or MAE 526 or MAE 598 (Design of Aerospace Structures) |
| MAE | 527 | Finite Elements for Engineers | Direct stiffness, method of weighted residuals, weak formulation, and variational techniques in the solution of engineering problems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; APM 505 or MAE 501 with C or better; Credit is allowed for only CEE 526 or MAE 527 |
| MAE | 528 | Advanced Computational Mechanics | Teaches methods for treating material and geometric nonlinearities by finite elements for transient and static simulations. Topics to be included are total and updated Lagrangian formulations, linearization and solution methods, stability analysis, nonlinear material models such as hyperelastic and plasticity, and recent research topics such as extended finite element methods. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): CEE 526 or MAE 527 or MAE 598 (Finite Elements in Engineering); MAE 529; Credit is allowed for only MAE 528 or MAE 598 (Advanced Computational Mechanics) |
| MAE | 529 | Continuum Mechanics | Tensors, Eulerian/Lagrangian strains, compatibility equations, Cauchy/nominal stresses, balance laws, Reynolds transport theorem, laws of thermodynamics for a continuum; equations of state, restrictions on constitutive laws, Newtonian fluids, inviscid flows, viscoelasticity. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Mechanical or Aerospace Engineering graduate student; MAE 501 with C or better |
| MAE | 530 | Dynamic Behavior of Materials | Focuses on material response under fast mechanical loading, with emphasis on plastic and elastic behavior as a function of pressure, temperature and strain rate, with and without effects of inertia. Starts with a treatment of elastic wave propagation, followed by a study of effects of strain rate and temperature on plastic behavior of metals, including a review of mechanisms and constitutive equations. Then, addresses the theory of shock waves including analysis of shocks using conservation principles as well as thermodynamics, followed by a discussion of dynamic failure. Finally, reviews experimental techniques for dynamic experiments, including drivers and diagnostics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton graduate student; MAE 520 or 529; Credit is allowed for only MAE 530 or MAE 598 (Dynamic Behavior of Materials) |
| MAE | 533 | Transport Processes I | Unified treatment of momentum, heat, and mass transfer from molecular theory, and continuum points of view. Continuum equations of microscopic and macroscopic systems and multicomponent and multiphase systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering major. Credit is allowed for only BME 533 or CHE 533 or MAE 533 |
| MAE | 536 | Combustion | Combustion of gaseous and condensed-phase fuels. Thermodynamics, mass transfer and chemical kinetics of combustion. Explosion and ignition theories. Structure, propagation and stability of flames. Pollutant formation. Applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton graduate student; Credit is allowed for only MAE 436 or MAE 536 |

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| MAE | 540 | Advanced Product Design Methodology | Surveys research in engineering design process, artifact and design, knowledge, formal and informal logic, heuristic and numerical searches, theory of structure and complexity. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Pre-requisite: Mechanical or Aerospace Engineering graduate student |
| MAE | 541 | CADTools for Engineers | Elements of computer techniques required to develop CAD software. Data structures, including lists, trees, and graphs. Computer graphics, including 2- and 3-D algorithms and user interface techniques. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering student |
| MAE | 542 | Design Geometry and Kinematics | Selected topics in geometry related to current potential applications in CAD/CAM, design theory, kinematics, and robotics. Euclidean isometrics, transformations; 4-D geometry; screw theory and its applications to robotics and assemblies. Differential geometry; curvature and torsional properties of curves and surfaces. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Pre-requisite: Mechanical and Aerospace Engineering graduate student; Credit is allowed for only MAE 542 or 598 (Design Geomtry & Kinematics) |
| MAE | 544 | Mechanical Design and Failure Prevention | Modes of mechanical failure; applies principles of elasticity and plasticity in multiaxial state of stress to design synthesis; failure theories; fatigue; creep; impact. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering student |
| MAE | 545 | Modern Manufacturing Methods | Investigates the capabilities and equipment of both conventional manufacturing processes and modern manufacturing processes. Emphasizes the fundamental, development and application of casting, forming and sintering processes for conventional manufacturing processes. Emphasizes the emerging topics related to additive manufacturing, field-assisted manufacturing and nanomanufacturing for modern manufacturing processes. Also introduces engineering materials, structure of materials, property of materials and material characterizations in the manufacturing processes. Complements theoretical concepts presented in lectures with the presentation of relevant research topics and/or industrial applications. Develops an understanding of manufacturing process evolution and the capabilities of modern manufacturing processes and equipment. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton graduate student; Credit is allowed for only MAE 545 or MAE 598 (Modern Manufacturing Methods) or MFG 545 |
| MAE | 546 | Advanced CAE Simulation | Solution of advanced engineering problems with analysis software for structural, dynamic, nonlinear, contact and kinematic problems; selection of modeling parameters; reliability tests on software. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| MAE | 547 | Modeling and Control of Robots | Homogeneous transformations, workspace, forward and inverse kinematics, differential kinematics, statics and dynamics, motion planning, motion and force control. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Pre- or corequisite(s): APM 505 or MAE 501 |
| MAE | 548 | Probabilistic Methods for Mechanical Analysis | Fundamental probabilistic theory, engineering statistics, data analysis, reliability methods, Monte Carlo simulation with different sampling technique, mechanical and structural analysis under uncertainties, focusing on the application for mechanical, aerospace and civil engineering structures and materials. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only MAE 548 or MAE 598 (Probabilistic Methods for Eng Analysis and Design) |
| MAE | 551 | Applied Machine Learning for Mechanical Engineers | Machine learning impacts every aspect of our daily lives, from recognizing faces in a crowd to designing drugs to treat epidemic diseases. There is no doubt that, as a result of the impact, the job market for future engineers will be drastically different. This course equips engineering students with a working understanding of machine learning and better prepares them for the future job market. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only MAE 451 or MAE 551 or MAE 598 (Machine Learning for Engineers) or MSE 551 or MSE 598 (Machine Learning for Engineers) |
| MAE | 557 | Mechanics of Composite Materials | Analysis, design, and applications of laminated and chopped fiber reinforced composites. Micro- and macromechanical analysis of elastic constants, failure, and environmental degradation. Design project. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; MAE 520 or MAE 529 |
| MAE | 560 | Applied Computational Fluid Dynamics | Numerical techniques for solving incompressible and compressible flow equations using industrial solvers. Computer-aided analysis of thermofluid systems. Applications to fluid system engineering. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering student; Credit is allowed for only MAE 460 or MAE 494 (Applied Computational Fluid Dynamics) or MAE 560 or MAE 598 (Applied Computational Fluid Dynamics) |
| MAE | 561 | Computational Fluid Dynamics | Finite-difference and finite-volume techniques for solving the subsonic, transonic, and supersonic flow equations. Method of characteristics. Numerical grid-generation techniques. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Graduate Engineering students; Credit is allowed for only AEE 471 or MAE 471, 561 |
| MAE | 562 | Advanced Computational Fluid Dynamics: Interfaces | Numerical methods for interfaces in low Mach number flows including level set methods, volume of fluid methods, Lagrangian interface tracking, ghost fluid methods, and immersed boundary methods. Includes coding of the covered numerical techniques and application to different physical interfaces, e.g., liquid/gas phase interfaces, premixed flames and flows in complex geometries. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): MAE 561; Corequisite(s): MAE 502, 529, or 571; Credit is allowed for only MAE 562 or MAE 598 (Advanced Computational Fluid Dynamics) |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| MAE | 563 | Aircraft Propulsion | Fundamentals of gas-turbine engines. Analysis and design of components. Alternative aircraft propulsion systems. Recommend a background in thermodynamics and high-speed aerodynamics. It is recommended that students have had a prior technical course on compressible flow before enrolling. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only AEE 463 or MAE 563 |
| MAE | 564 | Advanced Aerodynamics | Advanced topics in aerodynamics with application to design. Slender body theory. Thin airfoil theory. Transonic and supersonic effects. Sweep theory. Wave drag. Post-stall (vortex) flows. Supersonic and hypersonic flows. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Aerospace Engineering major |
| MAE | 565 | Rocket Propulsion | Rocket flight performance, nozzle design, combustion of liquid and solid propellants, component design, advanced propulsion systems, interplanetary missions, testing. It is recommended that students have had a prior technical course on compressible flow before enrolling. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Mechanical or Aerospace Engineering graduate student; Credit is allowed for only AEE 465 or MAE 565 |
| MAE | 566 | Rotary-Wing Aerodynamics | Introduces helicopter and propeller analysis techniques. Momentum and blade-element, helicopter trim. Hover and forward flight. Ground effect, autorotation and compressibility effects. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Engineering graduate student; Credit is allowed for only AEE 466 or MAE 566 |
| MAE | 570 | Intermediate Thermodynamics | Applied thermodynamics; gas mixtures, psychrometrics; property relationships, power and refrigeration cycles, and reactive systems. A basic knowledge of thermodynamics is required to be successful in this course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering major; Credit is allowed for only MAE 482 or MAE 570 or MEE 482 |
| MAE | 571 | Fluid Mechanics | Basic kinematic, dynamic, and thermodynamic equations of the fluid continuum and their application to basic fluid models. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Pre- or corequisite(s): MAE 502 |
| MAE | 573 | Advanced Fluid Mechanics | Mechanics of fluids flows where either the effects of inertia or viscosity are significant. Exact and approximate solutions of the Navier-Stokes equations, laminar flow and flow at low and high Reynolds numbers. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; MAE 571 with C or better |
| MAE | 574 | Multiphase Flow | Models for multiphase flows including dispersed and continuous phase flow models, particle-fluid and particle-particle interactions, droplet collision and coalescence, atomization, and numerical and experimental methods for analyzing multiphase flows. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): MAE 502; MAE 529; MAE 571; Credit is allowed for only MAE 574 or MAE 598 (Multiphase Flow) |
| MAE | 575 | Turbulence | Graduate-level introduction to turbulent flows covering the essential physical basis of turbulence, the statistical description of turbulent flows, dynamics of energy transfer and dissipation in such flows, inner- and outer-variable scaling of turbulent flows, and modern computational modeling and simulation of turbulence and turbulent flows. Requires undergraduate background in fluid mechanics and strong graduate-level mathematics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student |
| MAE | 576 | Energy Efficiency | Provides a broad background in energy efficiency analysis and technologies. Applies fundamental concepts from thermodynamics, heat transfer and fluid mechanics to real-world applications including heating, ventilating, air conditioning (HVAC), refrigeration, compressed air systems, steam systems, combined heat and power (CHP). Complements other courses on conventional and renewable power generation by focusing on reducing energy consumption, thus making it easier to meet our energy needs from sustainable sources. To be successful in this course, students should have knowledge of thermodynamics principles. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton graduate student; Credit is allowed for only MAE 494 (Energy Management) or MAE 494 (Energy Efficiency) or MAE 576 or MAE 598 (Energy Management) |
| MAE | 577 | Advanced Turbulence | Reynolds equations and their closure. Modeling of simple and complex turbulent flows, calculations of internal and external flows, and application to engineering problems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; MAE 575 with C or better |
| MAE | 578 | Geophysical and Environmental Fluid Dynamics | Dynamics of large-scale flows under the influence of stratification and earth rotation. Thermally and mechanically driven flows in turbulent boundary layer. Waves and instability of geophysical flows. Global-scale circulation. Applications to environmental prediction. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student |

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| MAE | 579 | Wind Energy | Wind energy systems convert kinetic energy in the wind into electrical energy. Focuses on flow machines, including for example, aerodynamics and fluid dynamics. Begins with wind resource assessment utilizing atmospheric boundary layer science and then proceeds to computational fluid dynamics to understand the tools of modern wind resource assessment. Includes applications of the Navier-Stokes equations and some basics from turbulence theory. Resource assessment also includes modern remote sensing techniques such as lidar, radar and in situ instrumentation. Also includes discussions from current events and policy. Requires a background in applied experimental statistics, thermodynamics or aerodynamics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering student; Credit is allowed for only MAE 494 (Wind Energy) or MAE 579 or MAE 598 (Wind Energy) or MEE 441 |
| MAE | 581 | Advanced Thermodynamics | Basic concepts and laws of classical equilibrium thermodynamics; applications to engineering systems; introduction and applications of statistical mechanics and kinetic theory; Boltzmann integro-differential equation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering student |
| MAE | 582 | Renewable Energy: Mechanical Systems | Renewable energy systems are energy conversion systems that rely on naturally replenishing flows of energy. Considers the foundational principles behind many renewable energy systems, and application of these principles to practical systems. Emphasizes covering the following energy systems, some only at an introductory level and some with significant depth: solar, wind, geothermal, biomass, hydropower, energy storage, electric power generation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering major; Credit is allowed for only MEE 440 or MAE 582 or MAE 494 (Renewable Energy Engineering) or MAE 598 (Renewable Energy Engineering) |
| MAE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z2 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-12 | | Prerequisite(s): Fulton Engineering graduate student |
| MAE | 585 | Solar Thermal Engineering | Solar energy availability, flat-plate and concentrating solar thermal collectors, solar heating and cooling, concentrating solar power (CSP). | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| MAE | 586 | Advanced Heat Transfer | Basic concepts and governing equations. Analysis of laminar and turbulent heat transfer for internal and external flows. Natural and mixed convection. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering student |
| MAE | 587 | Radiation Heat Transfer | Advanced concepts and solution methodologies for radiation heat transfer, including exchange of thermal radiation between surfaces, radiation in absorbing, emitting, and scattering media and radiation combined with conduction and convection. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering student |
| MAE | 588 | Nanoscale Heat Transfer | Explores the fundamental micro and nanoscale origins of thermal transport. Uses energy transport formalism to explain the breakdown of macroscopic transport laws (e.g., Fourier's law) at the micro and nanoscale. Defines and explores the key carriers of heat: phonons, photons, electrons and molecules. Derives the energy states of these carriers and combines this knowledge with statistical thermodynamics to determine the population distribution of these carriers. Combining these distributions with scattering processes enables fundamental laws to be derived within the context of their microscopic/nanoscale underpinnings. Some of these phenomena include, Fourier's law, Ohm's law, thermopower, Wiedemann-Franz law, Dulong-Petit law, equation of radiative transfer. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton graduate student; Credit is allowed only for MAE 588 or MAE 598 (Nanoscale Heat Transfer) |
| MAE | 589 | Heat Transfer | Basic concepts; physical and mathematical models for heat and mass transfer. Applications to conductive, convective, radiative, and combined mode heat transfer. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Pre-requisites: Graduate Engineering student; Credit is allowed for only MAE 494 topic (Heat and Mass Transfer) or 589 |
| MAE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | SEM | Y | Z2 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-12 | | Prerequisite(s): graduate MAE major |
| MAE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | Z2 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-12 | | Pre-requisite(s): Mechanical or Aerospace Engineering graduate student |
| MAE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-12 | | Pre-requisites: Mechanical or Aerospace Master's degree student |
| MAE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-12 | | Pre-requisite(s): Mechanical or Aerospace Engineering graduate student |

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| MAE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1 | | Prerequisite(s): Fulton Engineering graduate student |
| MAE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-4 | | Prerequisite(s): graduate Engineering student |
| MAE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-12 | | Prerequisite(s): Aerospace Engineering or Mechanical Engineering or Robotics and Autonomous Systems (Mechanical and Aerospace Engineering) MS student |
| MAE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-15 | | Prerequisite(s): Mechanical or Aerospace Doctoral student |
| MAE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1 | | Prerequisite(s): Fulton Engineering graduate student |
| MAE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-15 | | Prerequisite(s): Mechanical or Aerospace Doctoral student |
| MAS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| MAS | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | Prerequisite(s): Interdisciplinary Studies MA student |
| MAS | 501 | Methods for Interdisciplinary Inquiry | Critical survey of current models of inquiry, tools, processes, and methods in different fields. | N | SEM | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): Interdisciplinary Studies MA student |
| MAS | 502 | Perspectives in Interdisciplinary Studies | Introduces interdisciplinarity through explorations of epistemological and rhetorical practices that bridge traditional disciplines. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAS | 505 | Theories of Change, Culture, and Mind | Introduces graduate-level interdisciplinary study of key thinkers, movements, theories, and paradigms in 20th-century thought. | N | SEM | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAS | 510 | Science and Religion: Cosmologies and Worldviews | Examines science and religion, stressing modern scientific findings and philosophical and historical debates and dialogues. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IAS 430 or MAS 510 |
| MAS | 513 | Sociology of Everyday Life | Examines institutional ethnography, a way of exploring the particular and generalized social relations that shape people's everyday experiences. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAS | 514 | Continental Philosophy | Contemporary European thought emerges out of a crisis of the Enlightenment that unfolds throughout the nineteenth and twentieth centuries. Course dovetails with other fields like communication, cultural studies, law, political science, religious studies, literature and various social sciences. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only MAS 514 or MAS 598 (Studies in Critical Theory) or MAS 598 (Continental Philosophy and Religion) |
| MAS | 550 | Philosophical and Spiritual Issues in Death and Dying | From Plato to Maimonides to Heidegger to Kubler-Ross, scholars, clinicians, and spiritual writers have recognized that attitudes about death and dying contribute to understandings of human existence. Recalling the ancient Socratic, biblical, and other spiritual traditions of the cura animarum (care for and cure of the soul) and joining contemporary post/secular conversations relevant to integration of body-mind-spirit, this course introduces basic concepts and practices of care ethics and spirituality. Focuses on relations among existential (ontological), therapeutic (psychosomatic), and spiritual (religious) dimensions of care. Theoretically, the course is inter-faith in approach, holistic in scope, and specialized in content. Practically, students examine real-life issues in care ethics and spirituality from multiple perspectives. | N | SEM | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3-9 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IAS 450 or MAS 550 or PHI 450 or PHI 494 (Issues in Death & Dying) or REL 450 or REL 494 (Issues in Death & Dying) |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| MAS | 560 | Composition: Process, Technique, and Style | Advanced study of specific compositional theories and procedures; in-depth analysis of individual work. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IAP 421 or IAP 560 or MAS 560 or MAS 598 (Composition: Process, Technique, and Style II) |
| MAS | 569 | Digital Graphic Applications | Targeting, planning, design, authoring, development, and presentation of professional digital media graphics for Internet and print. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IAP 468 or IAP 569 or MAS 569 |
| MAS | 570 | Language, Culture and Performance | In-depth examination of language in myth, poetry, social and aesthetic performance genres. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IAP 471 or IAP 570 or MAS 570 or MAS 598 (Language, Culture, and Performance) |
| MAS | 573 | Art and Politics | Explores issues and relationships between the arts and politics through historical examples, significant artists and works, key thinkers, and theoretical approaches. Considers topics such as: the arts and ideology, art and the politics of representation, propaganda, censorship, state-supported art, human rights, revolution and war, cultural change, and political aesthetics. Emphasizes interdisciplinary arts and period study, including the arts and The Russian Revolution, the art in the Weimar Republic and Nazi Germany, and, generally, the arts, art and social movements (e.g., U.S. Civil Rights era, Eastern Europe's solidarity movement and Velvet Revolutions), as well as the arts and politics in selected contemporary contexts (e.g., China, the Middle East). | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAS | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAS | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAS | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAS | 585 | Capstone Course | Assists students in preparing their capstone project, which represents the culmination of their study for the MA in Interdisciplinary Studies. | N | RSC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3-4 | | Prerequisite(s): Interdisciplinary Studies MA student |
| MAS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | Prerequisite(s): Interdisciplinary Studies MA student |
| MAS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | Prerequisite(s): Interdisciplinary Studies MA student |
| MAS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | Prerequisite(s): Interdisciplinary Studies MA student |
| MAS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1 | | Prerequisite(s): Interdisciplinary Studies MA student |
| MAS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| MAT | 110 | Enhanced Freshman Mathematics | Individually paced, computer-mediated course designed to prepare students for college-level mathematics. Students work on various modules in an online adaptive learning technology platform created to help students progress through the course material based on individual needs in preparation for enrollment in the next level math course required by the student's major (pre-MAT 117 "Track 1" or pre-MAT 142 "Track 2"). Upon completion of this course, students should see improvement of basic math skills, an increase in the confidence in mathematical abilities, and advancement in ability to relate math to real-life applications. Credit for this course does not count towards university graduation requirements | N | LEL | N | ELG | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 0-3 | | Prerequisite(s): Mathematics Placement Test below 32% for majors that require MAT 142 OR Mathematics Placement Test 32-39.9% for majors that require MAT 117 or higher (consult your major map) |
| MAT | 117 | College Algebra | Linear functions, quadratic functions, general polynomial functions, rational functions, systems of linear equations, logarithmic and exponential functions. | N | LEL | N | Z1 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | MA | Prerequisite(s): ALEKS score of 0-60 or higher OR Visiting University Student |
| MAT | 117S | College Algebra Stretch | For students who have an in-progress (Z) grade for MAT 117. The grade earned in MAT 117S replaces the Z grade for MAT 117. Course content is the same as MAT 117, which is intended to develop skills in linear functions, quadratic functions, general polynomial functions, rational functions, exponential functions and logarithmic functions. Also studies systems of linear equations. Emphasizes problem-solving techniques, specifically by means of discussing concepts in each of these topics. | N | LEL | N | NOG | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 0 | | Prerequisite(s): MAT 117 with grade of Z OR Visiting University Student |
| MAT | 119 | Finite Mathematics | Topics from linear algebra, linear programming, combinatorics, probability, and mathematics of finance. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | MA | Prerequisite(s): MAT 117, 170, 210, or 270 with C or better or ALEKS score of 61 or higher OR Visiting University Student |
| MAT | 142 | College Mathematics | Applies basic college-level mathematics to real-life problems. Topics include numerical reasoning, sets, counting techniques, probability, basic statistics and finance. Appropriate for students whose major does not require MAT 117 or 170. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | MA | Prerequisite(s): MAT 110 with Y grade or ALEKS score of 0-60 or higher OR Visiting University Student |
| MAT | 170 | Precalculus | Intensive preparation for calculus. Topics include functions (including trigonometric), vectors and complex numbers. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | MA | Prerequisite(s): MAT 117 with C or better or ALEKS score of 61 or higher; Credit is allowed for only MAT 170 or MAT 171 OR Visiting University Student |
| MAT | 171 | Precalculus: Science, Technology, Engineering and Mathematics (STEM) | Robust treatment of advanced algebraic skills and trigonometry that are vital in calculus. Algebra topics include functions, compositions, inverses, transformations, complex numbers, roots of polynomial functions, rational functions, exponential and logarithmic functions and their properties. Trigonometry is approached via the unit circle as well as the right triangle. Topics include the trigonometric functions, their graphs and identities, inverse trigonometry, the laws of sine and cosine, vectors and the dot product with an application toward work, and polar coordinates and roots of complex numbers (deMoivre's theorem). | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 4 | MA | Prerequisite(s): MAT 117 with C or better or ALEKS score of 61 or higher; Credit is allowed for only MAT 170 or MAT 171 OR Visiting University Student |
| MAT | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-3 | | Pre-requisites: Freshman standing; Maximum 25 hours |
| MAT | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 0-5 | | |
| MAT | 207 | Algebra and Geometry in the High School | Provides a conceptually rigorous treatment of the central ideas of algebra and geometry in high school. Explores and develops familiar mathematical content from a very different perspective. Focuses squarely on creating meaning for concepts and on building coherence of meaning across concepts and various representations of them. As such, course activities and assessments (class/lab activities, homework assignments, and exams) reflect these expectations, focusing on both doing high school mathematics with meaning and on expressing and communicating that meaning accurately and coherently in verbal and written form. Prior to enrolling in this course, students should have experience with algebra/geometry to at least the high school level. | N | LEL | N | GNA | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Corequisite(s): MTE 210 OR Visiting University Student |

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| MAT | 208 | Discrete Mathematics for Secondary Teachers | Potential secondary teachers of mathematics should master the Math Standards proposed by the National Council of Teachers of Mathematics for college-intending students. Focuses on those aspects of these standards that apply to discrete mathematics with particular emphasis on: mathematical problem solving, mathematics as communication, mathematical reasoning, and discrete mathematics. Taking a broader view, introduces mathematics as a discipline that uses known methods to discover and verify new conclusions through the study of discrete mathematics. | N | LEL | N | GNA | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | |
| MAT | 210 | Brief Calculus | Differential and integral calculus of elementary functions with applications. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | MA | Prerequisite(s): MAT 117, 119, 170, or 171 with C or better or ALEKS score of 61 or higher; Credit is allowed for only MAT 210 or MAT 251 OR Visiting University Student |
| MAT | 211 | Mathematics for Business Analysis | Topics in business analysis, including: Lagrange multipliers, linear programming, linear algebra, intermediate probability, random variables, discrete distributions, and continuous distributions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 210, MAT 251, MAT 265 or MAT 270 with C or better OR Visiting University Student |
| MAT | 242 | Elementary Linear Algebra | Introduces matrices, systems of linear equations, determinants, vector spaces, linear transformations, and eigenvalues. Emphasizes development of computational skills. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 2 | | Prerequisite(s): MAT 210, MAT 251, MAT 265 or MAT 270 with C or better OR Visiting University Student |
| MAT | 243 | Discrete Mathematical Structures | Logic, sets, functions, elementary number theory and combinatorics, recursive algorithms, and mathematical reasoning, including induction. Emphasizes connections to computer science. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 210, 251, 265, or 270 with C or better; minimum sophomore standing OR Visiting University Student |
| MAT | 251 | Calculus for Life Sciences | Differential and integral calculus of elementary functions. Introduces differential and difference equations. Emphasizes applications to the life sciences. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | MA | Prerequisite(s): MAT 170 or 171 with C or better or ALEKS score of 61 or higher; Credit is allowed for only MAT 210 or MAT 251 OR Visiting University Student |
| MAT | 265 | Calculus for Engineers I | Limits and continuity, differential calculus of functions of one variable, introduction to integration. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | MA | Prerequisite(s): MAT 170 or 171 with C or better or ALEKS score of 76 or higher; Credit is allowed for only MAT 265 or MAT 270 OR Visiting University Student |
| MAT | 266 | Calculus for Engineers II | Methods of integration, applications of calculus, elements of analytic geometry, improper integrals, Taylor series. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | MA | Prerequisite(s): MAT 265 or 270 with C or better; Credit is allowed for only MAT 266 or MAT 271 OR Visiting University Student |
| MAT | 267 | Calculus for Engineers III | Vector-valued functions of several variables, partial derivatives, multiple integration. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | MA | Prerequisite(s): MAT 266 or 271 with C or better; Credit is allowed for only MAT 267 or 272 OR Visiting University Student |
| MAT | 270 | Calculus with Analytic Geometry I | Real numbers, limits and continuity, and differential and integral calculus of functions of 1 variable. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 4 | MA | Prerequisite(s): MAT 170 or 171 with C or better or ALEKS score of 76 or higher; Credit is allowed for only MAT 265 or MAT 270 OR Visiting University Student |
| MAT | 271 | Calculus with Analytic Geometry II | Methods of integration; applies calculus, elements of analytic geometry, improper integrals, sequences and series. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 4 | MA | Prerequisite(s): MAT 265 or 270 with C or better; Credit is allowed for only MAT 266 or MAT 271 OR Visiting University Student |
| MAT | 272 | Calculus with Analytic Geometry III | Vector-valued functions of several variables, multiple integration, and introduction to vector analysis. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 4 | MA | Prerequisite(s): MAT 266 or MAT 271 with C or better; Credit is allowed for only MAT 267 or MAT 272 OR Visiting University Student |
| MAT | 274 | Elementary Differential Equations | Introduces ordinary differential equations, adapted to the needs of students in engineering and the sciences. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | MA | Prerequisite(s): MAT 266 or MAT 271 with C or better; Credit is allowed for only MAT 274 or 275 |
| MAT | 275 | Modern Differential Equations | Introduces differential equations, theoretical and practical solution techniques. Applications. Problem solving using MATLAB. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | MA | Prerequisite(s): MAT 266 or 271 with a C or better; Credit is allowed for only MAT 274 or 275 OR Visiting University Student |
| MAT | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| MAT | 298 | Honors Directed Study | Independent study or practicum under the supervision of a faculty member. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| MAT | 300 | Mathematical Structures | Logic and set theory, induction, functions, order and equivalence relations, cardinality. Emphasizes writing proofs. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; MAT 210, 251, 265, or 270 with C or better OR Visiting University Student |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|--|
| MAT | 310 | Introduction to Geometry | Congruence, area, parallelism, similarity and volume, and Euclidean and non-Euclidean geometry. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 267 or 272 with C or better OR Visiting University Student |
| MAT | 342 | Linear Algebra | Linear equations, matrices, determinants, vector spaces, bases, linear transformations and similarity, inner product spaces, eigenvectors, orthonormal bases, diagonalization, and principal axes. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 267 or 272 with C or better; Credit is allowed for only MAT 342 or MAT 343 OR Visiting University Student |
| MAT | 343 | Applied Linear Algebra | Solving linear systems, matrices, determinants, vector spaces, bases, linear transformations, eigenvectors, norms, inner products, decompositions, applications. Problem solving using MATLAB. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 266 or 271 with C or better; Credit is allowed for only MAT 342 or MAT 343 OR Visiting University Student |
| MAT | 350 | Techniques and Applications of Applied Mathematics | Mathematical techniques and applications representative of the range of applied mathematics used in operations research, biology, economics, finance, and sociology. In depth exploration of these techniques in detail by focusing on selected applications. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): MAT 274 or 275; Pre- or corequisite(s): MAT 342 or 343; Corequisite(s): STP 280 or 420 |
| MAT | 353 | Mathematics and Cancer | Addresses some of the mathematical questions regarding the dynamics of cancer growth and treatment. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 267 or 272 with C or better; MAT 275 with C or better; MAT 342 or 343 with C or better; Credit is allowed for only MAT 353 or MAT 394 (Mathematics and Cancer) OR Visiting University Student |
| MAT | 355 | Introduction to Computational Molecular Biology | Introduces the mathematical skills used in molecular biology, genomics, and bioinformatics. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | CS | Prerequisite(s): MAT 119, 210, 243, 251, 265, or 270 or STP 220, 226, or 231 with C or better; Credit is allowed for only BIO 355 or CPI 480 or MAT 355 or MBB 355 OR Visiting University Student |
| MAT | 370 | Intermediate Calculus | Theory behind basic 1-variable calculus: continuity, derivative, Riemann integral, sequences, and series. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 267 or 272 with C or better; MAT 300 with C or better; Credit is allowed for only MAT 370 or MAT 371 with C or better OR Visiting University Student |
| MAT | 371 | Advanced Calculus I | Real numbers, completeness, sequences/series, continuity, uniform theorems, derivative, Riemann integral, pointwise/uniform convergence, Taylor's theorem. Credit is allowed for only MAT 371 or 370 toward a mathematics degree. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 267 or 272 with C or better; MAT 300 with C or better OR Visiting University Student |
| MAT | 372 | Advanced Calculus II | Open, closed, compact sets in R^n continuity, differentiation, partial differentiation, integration in R^n Inverse/implicit function theorems. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 371 with C or better; Pre- or corequisite(s): MAT 342 or 343 with C or better; Credit is allowed for only MAT 372 or 460 |
| MAT | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| MAT | 410 | Introduction to General Topology | Point set topology, topological spaces, metric spaces, continuity, compactness, connectedness and product spaces. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 300 with C or better; MAT 371 with C or better OR Visiting University Student |
| MAT | 411 | History and Philosophy of Mathematics | Examines nature of mathematics from origins to present, revealed by its history and philosophy. Strong background in mathematics not required. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | HU & H | |
| MAT | 412 | Differential Geometry | Rigorous treatment to the concepts and methods of differential geometry via the classical theory of curves and surfaces in Euclidean space, the Gauss-Bonnet theorem, and additional topics as time and interest permits. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 342 with C or better; MAT 371 with C or better; Credit is allowed for only MAT 412 or MAT 494 (Introduction to Differential Geometry) |
| MAT | 415 | Introduction to Combinatorics | Enumerating permutations and combinations of sets and multisets, inclusion-exclusion, recurrence relations, generating functions, Pólya theory and combinatorial structures. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 300 with C or better; MAT 242, 342, or 343 with C or better; Credit is allowed for only MAT 415 or MAT 512 OR Visiting University Student |
| MAT | 416 | Graph Theory | Trees, cycles, matchings, planarity, connectivity, hamiltonicity, chromatic number, Ramsey theory with emphasis on proof techniques. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 300 with C or better; MAT 242, 342, or 343 with C or better; Credit is allowed for only MAT 416 or MAT 513 |
| MAT | 419 | Introduction to Linear Optimization | Simplex method, duality, and network flows. Applications to game theory, geometry, combinatorics, graph theory, and posets. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | CS | Prerequisite(s): ACO 101, ACO 102, CSE 100, CSE 110, or CSE 205 with C or better; MAT 242, 342, or 343 with C or better; MAT 300 with C or better |
| MAT | 420 | Scientific Computing | Surveys and applies programming languages, libraries, and scientific visualization tools. Programming assignments emphasize software development skills. Completion of advanced calculus recommended prior to this course. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): CSE 205 with C or better; MAT 274 or 275 with C or better; MAT 342 or 343 with C or better OR Visiting University Student |
| MAT | 421 | Applied Computational Methods | Numerical methods for quadrature, differential equations, roots of nonlinear equations, interpolation, approximation, linear equations, floating-point arithmetic, and roundoff error. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | CS | Prerequisite(s): MAT 272 or 267 with C or better |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|--|
| MAT | 423 | Numerical Analysis I | Solution of systems of linear and nonlinear equations, optimization, eigenvalues, round-off error, and floating point arithmetic. Fluency in computer programming is required for enrollment in this course. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | CS | Prerequisite(s): MAT 342 or 343 with C or better OR Visiting University Student |
| MAT | 425 | Numerical Analysis II | Analysis of and algorithms for numerical interpolation, integration, and differentiation. Numerical solution of ordinary and partial differential equations, introductory level. Applications. Fluency in computer programming is required for success in this course. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | CS | Prerequisite(s): MAT 274 or 275 with C or better; MAT 371 recommended |
| MAT | 429 | Optimization | A variety of optimization models and their applications to management, economics, engineering, and science. Topics include linear programming, integer programming, nonlinear programming, and stochastic programming. Stresses formulation and modeling as well as numerous applications and solving algorithms. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): MAT 343 with C or better; MAT 350 or 419 with C or better |
| MAT | 440 | Group Theory | Covers basic group theory. Students learn about the concept of a "group," related structures, their underlying theory and examples of how they arise in mathematics. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 300; MAT 342 or 343 OR Visiting University Student |
| MAT | 441 | Ring Theory | Covers basic ring theory. Students learn about the concept of a "ring," related structures, their underlying theory, and examples of how they arise in mathematics. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 300; MAT 342 or 343 |
| MAT | 442 | Advanced Linear Algebra | Fundamentals of linear algebra, dual spaces, invariant subspaces, canonical forms, bilinear and quadratic forms, and multilinear algebra. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 300 with C or better; MAT 342 or 343 with C or better OR Visiting University Student |
| MAT | 443 | Introduction to Abstract Algebra | Introduces concepts of abstract algebra. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 300 with C or better; MAT 342 or 343 with C or better; Credit is allowed for only MAT 443 or MAT 444 |
| MAT | 444 | Intermediate Abstract Algebra | Basic theory of groups, rings, and fields, including an introduction to Galois theory. Appropriate as preparation for MAT 543. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 440, 441, or 442 with C or better |
| MAT | 445 | Theory of Numbers | Prime numbers, unique factorization theorem, congruences, Diophantine equations, primitive roots, and quadratic reciprocity theorem. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 300 with C or better; MAT 342 or 343 with C or better |
| MAT | 447 | Cryptography I | Block ciphers, stream ciphers, congruence arithmetic, information theory, public key cryptosystems, key exchange, electronic signatures. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): CSE 100, 110, or 205 with C or better; MAT 242, 342, or 343 with C or better; MAT 300 with C or better OR Visiting University Student |
| MAT | 448 | Cryptography II | Mathematical underpinnings of contemporary cryptosystems, electronic signatures, key exchange, primality testing and factorization algorithms. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 447. Credit is allowed for only MAT 448 or MAT 494. Cryptography II |
| MAT | 450 | Mathematical Models in Biology | Introduces mathematical models in biological systems. Applications range from the cellular level to systems level and may include applications from areas such as physiology, ecology, epidemiology, population biology, computational and systems biology. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): MAT 342 or 343 with C or better; MAT 274 or 275 with C or better |
| MAT | 451 | Mathematical Modeling | Detailed study of one or more mathematical models that occur in the physical or biological sciences. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | CS | Prerequisite(s): MAT 274 or 275 with C or better; MAT 242 or 342 or 343 with C or better OR Visiting University Student |
| MAT | 452 | Introduction to Chaos and Nonlinear Dynamics | Properties of nonlinear dynamical systems; dependence on initial conditions; strange attractors; period doubling; bifurcations; symbolic dynamics; Smale-Birkhoff theorem; and applications. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 274 or 275 with C or better; MAT 242, 342, or 343 with C or better; MAT 371 is recommended OR Visiting University Student |
| MAT | 460 | Vector Calculus | Vectors, curvilinear coordinates, Jacobians, implicit function theorem, line and surface integrals, Green's, Stokes', and divergence theorems. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Pre-requisite(s): MAT 274 or 275 with C or better; MAT 242, 342 or 343 with C or better; MAT 371 is recommended; Credit is allowed for only MAT 372 or 460 |
| MAT | 461 | Applied Complex Analysis | Analytic functions, complex integration, Taylor and Laurent series, residue theorem, conformal mapping, and harmonic functions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 267 or 272 with C or better |
| MAT | 462 | Applied Partial Differential Equations | Second-order partial differential equations, emphasizing Laplace, wave, and diffusion equations. Solutions by the methods of characteristics, separation of variables, and integral transforms. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Pre-requisite(s): MAT 274 or 275 with C or better; MAT 242, 342 or 343 with C or better OR Visiting University Student |
| MAT | 472 | Intermediate Real Analysis I | Introduces analysis in metric spaces with emphasis on the real line. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 371 with C or better OR Visiting University Student |
| MAT | 473 | Intermediate Real Analysis II | Analysis in R^n : implicit function theorem, introduction to manifolds, Lebesgue integration, change of variables formula, convergence theorems for integrals. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 342 or 343 with C or better; MAT 472 with C or better |

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|---------|-------------|---------------------------------------|--|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| MAT | 475 | Differential Equations | Linear and nonlinear ordinary differential equations, asymptotic behavior of solutions, stability, existence and uniqueness, limit sets, Poincar-Bendixson theorem. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 242, 342, or 343 with C or better; MAT 274 or 275 with C or better; MAT 371 with C or better OR Visiting University Student |
| MAT | 476 | Partial Differential Equations | First-order quasilinear, method of characteristics, second-order linear (hyperbolic, parabolic, elliptic), Green's functions, integral representations, eigenfunction expansions, maximum principles, harmonic functions, and additional topics as time permits. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 242, 342, or 343 with C or better; MAT 274, 275, or 475 with C or better; MAT 371 with C or better |
| MAT | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z2 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): minimum 45 hours |
| MAT | 485 | History of Mathematics | Topics from the history of the origin and development of mathematical ideas. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Pre-requisite(s): MAT 267 or 272 with C or better OR Visiting University Student |
| MAT | 486 | Peer Mentoring in STEM | Advanced students learn and apply mentoring skills in science classes or teaching labs. | Y | SEM | Y | YGB | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ACO 486 or BIO 486 or LSC 486 or MAT 486 or PTX 486 or STP 486 OR Visiting University Student |
| MAT | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| MAT | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MAT | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| MAT | 495 | Undergraduate Research | Supervised research in mathematical sciences. | N | RSC | Y | GNA | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| MAT | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-3 | | Prerequisite(s): minimum 45 hours |
| MAT | 500 | Research Methods | Course on research methods in a specific discipline. | Y | RSC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 501 | Geometry and Topology of Manifolds I | Brief review of general topology, cell complexes, topological manifolds, fundamental groups, covering spaces, homology. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only MAT 501 or MAT 598 (Geometry and Topology of Manifolds) |
| MAT | 502 | Geometry and Topology of Manifolds II | Differentiable manifolds, vector and tensor fields, differential forms, flows, Lie groups, homogeneous spaces, de Rham cohomology, Riemannian metrics and curvature. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 501; Credit is allowed for only MAT 502 or MAT 598 (Geometry Topology of Manifolds II) |
| MAT | 512 | Introduction to Combinatorics | Enumerating permutations and combinations of sets and multisets, inclusion-exclusion, recurrence relations, generating functions, Polya theory and combinatorial structures. Same topics as MAT 415; mastery at much higher level required. Students with MAT 415 (even as undergraduates) may not enroll. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Pre-requisites: Graduate student; Credit is allowed for only MAT 415 or 512 |
| MAT | 513 | Graph Theory | Rigorous introduction to graph theory. High-level mastery in topics such as trees, cycles, matchings, planarity, connectivity, hamiltonicity, chromatic number, Ramsey theory with emphasis on proof techniques. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only MAT 416 or 513 |
| MAT | 514 | Enumerative Combinatorics I | First semester of a systematic development of enumerative combinatorics, including elementary counting techniques, sieve methods, and partially ordered sets. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 515 | Enumerative Combinatorics II | Second semester of a systematic development of enumerative combinatorics, including lattices, exponential structures, symmetric functions, and selected special topics. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 516 | Graph Theory I | First semester of a systematic development of graph theory, including matchings, connectivity, arboricity, planarity, coloring, network flows. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 517 | Graph Theory II | Second semester of a systematic development of graph theory, including dense and sparse graphs, Ramsey theory, hamiltonicity, random graphs, minors. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 541 | "p"-Adic Numbers | Introduces "p"-Adic numbers and analysis. Topics include valuations, completions of number fields, extensions of the field of "p"-adic numbers and "p"-adic analysis. Students should have previously taken courses in analysis and algebra. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 542 | Elliptic Curves | Geometry and arithmetic of elliptic curves, points of finite order, the group of rational points, curves over finite fields, complex multiplication. Students should have previously taken a senior-level course in abstract algebra. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|-------------------------|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|--|
| MAT | 543 | Abstract Algebra I | Groups, modules, rings and fields, Galois theory, homological algebra, and the representation theory. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 544 | Abstract Algebra II | Continuation of groups, modules, rings and fields, Galois theory, homological algebra, and the representation theory | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 543 |
| MAT | 545 | Abstract Algebra III | Covers modules, Galois theory, and preparation for advanced study in algebraic parts of mathematics. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Pre-requisite: MAT 544 |
| MAT | 547 | Algebraic Number Theory | Algebraic properties of number fields and their completions. Topics include rings of integers, ramification, finiteness of the class group, and Dirichlet's unit theorem. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Pre-requisite: MAT 544 |
| MAT | 570 | Real Analysis I | Lebesgue integration, selected function spaces, differentiation, abstract measure theory, and elements of functional analysis. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 571 | Real Analysis II | Continuation of Lebesgue integration, selected function spaces, differentiation, abstract measure theory, and elements of functional analysis. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 570 |
| MAT | 572 | Complex Analysis I | Analytic functions, series and product representations, entire and meromorphic functions, normal families, Riemann mapping theorem, harmonic functions, and Riemann surfaces. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 573 | Complex Analysis II | Continuation of analytic functions, series and product representations, entire and meromorphic functions, normal families, Riemann mapping theorem, harmonic functions, and Riemann surfaces. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 572 |
| MAT | 578 | Functional Analysis I | Locally convex, normed, and Hilbert spaces. Linear operators, spectral theory, and application to classical analysis. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 579 | Functional Analysis II | Continuation of locally convex, normed, and Hilbert spaces. Linear operators, spectral theory, and application to classical analysis. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Pre-requisite: MAT 578 |
| MAT | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | LEC | N | Z1 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| MAT | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MBB | 343 | Genetic Engineering and Society | Introduces genetic engineering, with emphasis on applications (transgenic plants and animals, cloning, vaccines, therapeutics, and diagnostics). | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 4 | L | Prerequisite(s): BIO 340 or MBB 347 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only BIO 343 or MBB 343 OR Visiting University Student |
| MBB | 347 | Molecular Genetics: From Genes to Proteins | Emphasizes molecular and cell biology and gene technology, both at the basic and applied research levels, in the growing areas of biotechnology and the molecular biosciences; focuses on molecular processes that allow genetic information to be expressed and regulated and by introducing applications to real-world situations. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): BIO 181 and 182 both with C or better or BIO 282 with C or better; CHM 116 with C or better; Credit is allowed for only BIO 340 or BIO 342 or MBB 347 OR Visiting University Student |
| MBB | 350 | Applied Genetics | Introduces molecular genetics with emphasis on application of genetics to solve biological questions and to engineer organisms for biotechnology. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): BIO 340 or MBB 247 or MBB 347 with C or better; Credit is allowed for only MBB 350 or PLB 350 OR Visiting University Student |
| MBB | 355 | Introduction to Computational Molecular Biology | Introduces the mathematical skills used in molecular biology, genomics, and bioinformatics. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | CS | Prerequisite(s): MAT 119, 210, 243, 251, 265, or 270 or STP 220, 226, or 231 with C or better; Credit is allowed for only BIO 355 or CPI 480 or MAT 355 or MBB 355 OR Visiting University Student |
| MBB | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| MBB | 440 | Functional Genomics | Covers emerging fields of genomics and proteomics. Discusses key technologies and their applications to the study of genomes. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 340 or LSC 347 or MBB 347 with C or better; Credit is allowed for only BIO 440 or MBB 440 or MCB 540 |
| MBB | 445 | Techniques in Molecular Biology/Genetics | Molecular genetic principles: plasmid construction, purification and characterization; PCR; mutagenesis; DNA sequence analysis; protein quantitation, hybridization, immunologic detection and electrophoresis. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 340 or MBB 347 with C or better; Credit is allowed for only MBB 445 or MIC 445 OR Visiting University Student |
| MBB | 446 | Techniques in Molecular Biology/Genetics Lab | Molecular genetic techniques; plasmid construction, purification, and characterization; PCR; mutagenesis; hybridization and sequence analysis; protein quantitation; immunologic detection, and electrophoresis. | N | LAB | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 2 | | Pre- or corequisite(s): MBB 445 or MIC 445 with C or better if completed; Credit is allowed for only MBB 446 or MIC 446 OR Visiting University Student |
| MBB | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): Molecular Biosciences and Biotechnology BS major; minimum 2.75 GPA |
| MBB | 490 | Capstone: Issues in Biotechnology | Integrates science and biotechnology industry issues dealing with intellectual property, regulatory issues, business practices, and commercialization. Both MBB 490 and MBB 491 for L General Studies credit. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 2 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; MBB 343 with C or better |
| MBB | 491 | Capstone: Issues in Molecular Biosciences | Integrates molecular science and societal issues dealing with ethics, regulatory issues, and societal needs that pertain to molecular biosciences. Both MBB 490 and MBB 491 for L General Studies credit. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 2 | L | Prerequisite(s): BIO 340 or MBB 347 with C or better; ENG 101, 105, or 107 with C or better |
| MBB | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| MBB | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MBB | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| MBB | 495 | Undergraduate Research | Supervised research in biology/microbiology/molecular biosciences and biotechnology/or plant biology. | Y | RSC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-3 | | Prerequisite(s): minimum junior standing OR Visiting University Student |
| MBB | 496 | Undergraduate Thesis | Guided research culminating in the preparation of an undergraduate thesis based on supervised research done in this and previous semesters. | N | RSC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): junior or senior standing; Credit is allowed for only BIO 496 or HPS 496 or MBB 496 or MIC 496 OR Visiting University Student |

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| MBB | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-3 | | Prerequisite(s): Molecular Biosciences and Biotechnology BS major; minimum 3.0 GPA |
| MBB | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| MCB | 500 | Research Methods | Course on research methods in a specific discipline. | Y | RSC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 501 | Seminar: Molecular and Cellular Biology Colloquium | Presentation of current research by noted researchers in the field. | N | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 539 | Computing for Research | Works mainly with command-line programs, focusing on sequence-based analysis. An interactive flipped course, with required hands-on aspects both in class debugging and troubleshooting and for out-of-class assignments where students work on problem solving and implementation. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 539 or EVO 539 or MCB 539 or BIO 498 (Comp for Research) or BIO 598 (Comp for Research) or EVO 598 (Comp for Research) or MCB 598 (Comp for Research) |
| MCB | 540 | Functional Genomics | Functional relevance of genomic sequences; DNA arrays, proteomics, analysis of genomic information for metabolic physiology of organisms. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 440 or MBB 440 or MCB 540 |
| MCB | 555 | Advanced Molecular and Cellular Sciences | Study of structural and functional organization of biomolecules and cells, based on current literature. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 556 | Advanced Molecular and Cellular Biology II | Continuation of MCB 555. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 701 | Seminar: Molecular and Cellular Biology Colloquium | Presentation of current research by noted researchers in the field. | N | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| MCB | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCE | 447 | Diversity in Families and Communities in Multicultural Settings | Diversity and the changing role of schools in a multiethnic society. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| MCE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| MCO | 101 | Everyday Grammar | Helps students master the elements of English grammar. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Prerequisite(s): non-Journalism and Mass Communication majors or non-Sports Journalism majors; Credit is allowed for only JMC 101 or JMC 194 (Grammar for Journalists) or MCO 101 or MCO 194 (Everyday Grammar) OR Visiting University Student |
| MCO | 102 | Fundamentals of Coding | Provides a basic understanding of how the Internet works, knowledge of how to create and upload Web pages, and a basic introduction to programming with JavaScript. Assumes no previous knowledge of any of the topics, although requires basic knowledge of how to use a Web browser and navigate the Web. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Credit is allowed for only JMC 102 or JMC 194 (Coding for Journalists) or MCO 102 or MCO 194 (Fundamentals of Coding) OR Visiting University Student |
| MCO | 120 | Media and Society | Covers the role of newspapers, magazines, radio, television and motion pictures in American society. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | SB | Prerequisite(s): non-Journalism and Mass Communication major or non-Sports Journalism major; Credit is allowed for only JMC 110 or MCO 120 OR Visiting University Student |
| MCO | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-4 | | |
| MCO | 240 | Media Issues in American Pop Culture | Explores how pop culture is created, shared and controlled in American society. What is pop culture? Who controls and manipulates pop culture trends and phenomena? Examines pop culture in advertising, film, video, music and social media. Challenges students to think about different aspects of pop culture across society and its role in modern America. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | |
| MCO | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-4 | | |
| MCO | 302 | Media Research Methods | Surveys research methods used in the social sciences, with a focus on mass communication. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| MCO | 307 | The Digital Audience | Introduces students to the foundations of digital strategy, including audience research, social media campaigns, SEO, analytics, audience targeting, goal setting and more. Through hands-on exercises with real brands, students learn how audiences differ across industries and platforms, approaches for engaging users, and how organizations use audience data to create growth strategies. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): minimum 45 hours; minimum 2.00 GPA OR Visiting University Student |
| MCO | 335 | Social Media Foundations | Discover the social media landscape: What are social media platforms, who uses them and how are they transforming society? Explores the basics of virtual social networks and critically analyzes the social, cultural, legal, ethical, economic and technological dimensions of social media platforms and the communities who use them. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): minimum 2.00 GPA; Credit is allowed for only JMC 305 or JMC 306 or MCO 335 OR Visiting University Student |
| MCO | 366 | Media Ethics and Diversity | Explores contemporary news media ethical problems in a seminar setting. Uses journalism and mass communication ethical perspectives to obtain keys to unlock contemporary dilemmas surrounding the news media. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): minimum 2.00 GPA; Credit is allowed for only JMC 366 or JMC 367 or MCO 366 or MCO 494 (Media Ethics and Diversity) OR Visiting University Student |
| MCO | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-4 | | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| MCO | 403 | Media Law | Provides a grounding in the laws and regulations that govern various aspects of the media with a focus on First Amendment guarantees and privileges and the extent to which those have been limited by courts and lawmakers. Topics include freedom of expression, libel, privacy and obscenity. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): minimum 2.00 GPA; Credit is allowed for only JMC 402 or MCO 403 or MCO 503 OR Visiting University Student |
| MCO | 418 | History of Mass Communication | Explores the history of American media from its English and colonial origins to the present day, including the development and influence of newspapers, magazines, radio, television and news-gathering agencies. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | SB & H | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| MCO | 420 | Strategic Sports Communication | Covers the wide-ranging field of strategic sports communication. Prepares students for an entry-level position in the strategic sports communication field. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism or Business (Sports and Media Studies) major; minimum 45 hours OR Visiting University Student |

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| MCO | 425 | Digital Media Literacy I | Helps students begin to navigate the 21st-century media, starting by becoming active users of media, not just passive consumers. The Internet-fueled democratization of media creation has enabled anyone to be a publisher, and given audiences' almost infinite choices, with both great and questionable effects. In a world of information abundance, it can be difficult to discern fact from opinion and truth from fiction. We need to know how to wade through this barrage of information with a critical eye, to be better informed, and ultimately become creators of media ourselves. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): minimum 2.00 GPA; Credit is allowed for only MCO 425 or MCO 494 (Digital Media Literacy) OR Visiting University Student |
| MCO | 426 | Digital Media Literacy II | Discusses digital media consumption to some degree, but focuses more on media creation and the many issues we need to understand for best practices. Students learn the importance of understanding the tools and techniques of media creation, and how media are used to persuade, the ethical and legal issues in creating media, policy issues that can (or will) affect media creation, and an assortment of media-creation techniques. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): minimum 2.00 GPA; Credit is allowed for only MCO 426 or MCO 494 (Digital Media Literacy II) OR Visiting University Student |
| MCO | 427 | Misinformation and Society | Develops strategies and tactics to recognize misinformation, and inoculates students--and helps them join the battle--against it. Misinformation in our context is false information purposefully created to deceive and cause harm. It runs rampant in today's digital information ecosystem, and is becoming more and more sophisticated and difficult to spot. Bad actors are using powerful tools and techniques to infect our information supply, sowing confusion and discord. While there are laudable efforts to staunch the flow of misinformation, media users need help in deciding what information to trust. Examines the evolution of misinformation and the range of content types that fall under its umbrella. Explores tools, techniques and tactics that individuals can employ to identify misinformation, and gives them a head start on making informed decisions on what, and whom, they can trust. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): minimum 2.00 GPA |
| MCO | 428 | Digital Media and Freedom of Expression in the 21st Century | Covers the extraordinary nature of media in this century. Examines how the media and communications tools of the past 100+ years-- telephones, print publications and broadcasting outlets--gave way to the Internet, a radically centralized network of networks that is rapidly re-centralizing. Also explores how the ability to exercise freedom of expression became radically easier in the early days of the Internet, but how that freedom, among others, may be in jeopardy--and, if so, what can be done about that, as individuals and members of communities. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): minimum 2.00 GPA; Credit is allowed for only MCO 428 or MCO 494 (Media and Free Expression in the 21st Century) or MCO 598 (Media and Free Expression in the 21st Century) |
| MCO | 430 | International Mass Communication | Compares international communication and media and explores how audiences, information gathering and dissemination differ across global political and cultural systems. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | G | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| MCO | 431 | Media Entrepreneurship | Familiarizes students with media entrepreneurship and innovation in a quickly changing digital media environment. Students study the principles of entrepreneurship and innovation, assess their own tolerance for risk, evaluate opportunity and market conditions, and learn about various revenue models for entrepreneurial enterprises. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): minimum 2.00 GPA; Credit is allowed for only MCO 431 or MCO 494 (Media Entrepreneurship) or MCO 556 OR Visiting University Student |
| MCO | 433 | Social Media Campaigns, Engagement and Research | Learn how to attract, engage and grow audiences on social media platforms through both organic and paid social media campaigns, and research social media behavior and performance. Includes evaluating organizations' existing social media audiences, identifying opportunities for audience growth, creating content and campaigns for specific social platforms, measuring the impact of social media content, and developing an organizational strategy for managing social media across an enterprise. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Comm undergraduate major or minor or Interdisciplinary Studies BIS major; MCO 307 w/ C or better; minimum 2.00 GPA; Credit is allowed for only MCO 433, MCO 436, MCO 437 or MCO 563 OR Visiting University Student |
| MCO | 434 | Search Engine Research and Strategy | Learn how to research, attract and grow audiences through the strategic use of search engine optimization and search engine marketing. Includes search trend research, keyword research, user behavior, SEO (search engine optimization), tagging and coding for on-page SEO, SEM (search engine marketing), competitive analysis, domain authority and pay-per-click advertising. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School undergraduate major or minor, or Interdisciplinary Studies BIS major; MCO 307 with C or better; minimum 2.00 GPA; Credit is allowed for only MCO 434 or MCO 436 or MCO 437 or MCO 562 OR Visiting University Student |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|---|
| MCO | 436 | Audience Research and Behavior | Prepares students to undertake or manage research on customers, employees, readers, viewers, influencers and others with whom an organization seeks to communicate or build relationships. Digital data have profoundly reshaped how organizations mine and interpret audience data, so the course introduces new techniques and tools for developing audience insights, as well as traditional qualitative and quantitative research methods. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School undergraduate major or minor, or Interdisciplinary Studies BIS major; MCO 307 with C or better; minimum 2.00 GPA; Credit is allowed for only MCO 433 or MCO 434 or MCO 436 or MCO 564 OR Visiting University Student |
| MCO | 437 | Audience Acquisition and Engagement | Students learn how to attract and grow audiences on established and emerging digital platforms. Students discover tactics and strategies for targeting, obtaining and engaging audiences by leveraging social media, search marketing and SEO, digital content, ecommerce, digital advertising and others. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School undergraduate major or minor, or Interdisciplinary Studies BIS major; MCO 307 with C or better; minimum 2.00 GPA; Credit allowed for only MCO 433 or MCO 434 or MCO 437 or MCO 562 or MCO 563 OR Visiting University Student |
| MCO | 438 | Digital Audience Analysis | Students discover how to access, manipulate and translate audience data. Students learn how to mine data from Web sites, social networks, apps, email campaigns and video platforms, and how to use analysis tools and techniques to translate metrics into valuable, actionable insights that drive engagement strategies and business decisions. By working with real audience data, students receive hands-on analysis and reporting experience. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School undergraduate major or minor, or Interdisciplinary Studies BIS major; MCO 307 with C or better; minimum 2.00 GPA; Credit is allowed for only MCO 438 or MCO 565 OR Visiting University Student |
| MCO | 439 | Digital Audience Growth | Capstone challenges students to synthesize their digital audience knowledge and skills acquired in the previous courses through an applied project. Working with a real client and live, ever-changing data, students work to increase and engage the client's digital audience, executing a growth campaign from audience identification, targeting and strategy development to implementation, engagement and measurement. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s) with C or better: Digital Audience BS major or minor; MCO 307; (MCO 433 and 434) or (MCO 436 and 437); MCO 438; minimum 2.00 GPA; Credit is allowed for only MCO 439 or MCO 566 OR Visiting University Student |
| MCO | 450 | Visual Communication | Theory and tradition of communication through the visual media with emphasis on the continuity of traditions common to modern visual media. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | HU | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| MCO | 456 | Political Communication | Explores the intersection of media and politics and examines how the political system works and how journalists cover politics, political campaigns and elections. Students gain knowledge of opinion polling, debates, campaign finance, the party system, political communication, issues coverage, fact checking, crowd sourcing and more. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | SB | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| MCO | 460 | Race, Gender, and Media | Readings seminar designed to give students a probing examination of the interface between AHANA Americans and the mass media in the United States. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | C | Prerequisite(s): minimum 2.00 GPA; Credit is allowed for only AFR 460 or MCO 460 OR Visiting University Student |
| MCO | 465 | Sports and Media | Designed for aspiring journalists and media users, explores why great sports journalism is essential to our society. Establishes the goals, dreams, and expectations for sports journalism and introduces ethical philosophy and popular ethical models and decision-making tools. Students then apply these tools to sports journalism. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| MCO | 470 | Exploring the Business of Journalism | Exposes students to broad media management problems. Focuses on how essential the bottom-line and quality journalism are to the entire journalistic and mass communication enterprise; helps students think about how to balance those two concerns. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): minimum 2.00 GPA; Credit is allowed for only JMC 473 or JMC 474 or MCO 470 OR Visiting University Student |
| MCO | 473 | Sex, Love, and Romance in the Mass Media | The role of the mass media in constructing and/or reinforcing unrealistic mythic and stereotypic images of sex, love, and romance. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | SB | Prerequisite(s): minimum cumulative 2.00 GPA |
| MCO | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-12 | | |
| MCO | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-6 | | Prerequisite(s): Barrett Honors student |
| MCO | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MCO | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-4 | | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| MCO | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-7 | | |

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| MCO | 502 | Journalism Skills | Basic journalism skills for print, digital and broadcast. Significant hands-on practice writing and reporting stories on deadline as well as an immersion in the principles and practices of good journalism. | Y | LEL | Y | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 2-8 | | Prerequisite(s): Cronkite School masters or PhD student |
| MCO | 503 | Media Law | Examines the philosophical and legal aspects of press freedom with an emphasis on the First Amendment from 1791 to present. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School master's student; Credit is allowed for only JMC 402 or MCO 403 or MCO 503 |
| MCO | 504 | Cronkite Master's Seminar | Provides an introduction to the Cronkite School as well as challenges and opportunities in media leadership today. Students develop strategies and tactics for establishing themselves as leaders now and into the future, with a focus on driving change and innovation in media. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Prerequisite(s): Cronkite School of Journalism and Mass Communication master's student; Credit is allowed for only MCO 504 or MCO 598 (Journalism Skills Lab) |
| MCO | 505 | Depth Reporting | Covers in-depth and investigative reporting and writing techniques. Students produce long-form, deeply sourced articles and produce multimedia with the goal of publication. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School of Journalism and Mass Communication on-campus master's student |
| MCO | 506 | Media Law for Strategic Communication | The 24-hour news cycle routinely starts in 280 characters or less followed by a single click. This democratization of information provides anyone and everyone an opportunity to control the narrative, leaving individuals and entities sharing or reliant on such information more prone to missteps. Such missteps impact professional reputations as well as companies and their stakeholders. Therefore, the professional communicator must be well versed in the fundamentals of the applicable law when a defining moment presents itself. This course requires students to engage in issues concerning the First Amendment, commercial advertising, copyright, trademarks, Section 230 and defamation. Such information is intended to help its recipients understand their rights (or lack thereof) to publish certain information, steer clear of lawsuits and increase their value in the workplace. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCO | 510 | Data Journalism | Students use data to tell stories, employing computer spreadsheets, database software, mapping programs and statistical techniques and learn how these tools can be used across a wide variety of beats and stories. Students negotiate with government officials for public records and use the internet and other online sources to find information and sources for stories. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School of Journalism and Mass Communication on-campus master's student |
| MCO | 512 | Humphrey Seminar | Identifies, examines and exports role models of leadership in the field of global communications. Explores leadership issues in journalism, strategic communications and management under different cultural and political systems. | N | SEM | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Master of Mass Communication or Sports Journalism MA student; minimum 2.50 GPA; Credit is allowed for only JMC 406 or JMC 494 (Humphrey Seminar) or MCO 512 or MCO 598 (Humphrey Seminar) |
| MCO | 515 | Advanced Online Media | Builds on and expands basic multimedia knowledge. Students leave with heightened Web-language literacy and visual sophistication; fluency with multiple digital tools that create, publish and distribute content; and the requisite storytelling skills to produce works of a professional level on diverse online and mobile platforms. Draws on Adobe Creative Cloud software and other current tools. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Master of Mass Communication or Sports Journalism MA student; MCO 502 with C or better; Credit is allowed for only JMC 460 or MCO 515 |
| MCO | 517 | Public Relations Campaigns | Enables students to synthesize and apply the theories, principles and techniques of public relations. This body of knowledge includes research, planning techniques, types of budgets, organizational systems, management styles, campaign components, types of campaigns, technology, ethics, diverse channels of communication and target audiences. The student develops an in-depth understanding of a client's needs; conducts primary and secondary research; works with a client in a team-based approach to prepare a comprehensive campaign proposal to address the client's problem or issue; designs and develops media products for client; formally presents the proposal to the client and the class and analyzes, discusses then responds to public relations case studies. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Sports Journalism MA or Master of Mass Communication student; Credit is allowed for only MCO 517 or MCO 598 (Public Relations Campaigns) |

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| MCO | 519 | Strategic Communications Leadership and Ethics | Communications and the ability to tell an organization's story to a variety of audiences and stakeholders is a key part of corporate strategy. Provides a broad understanding of ethical communications practices in agency and corporate settings, and includes instruction in reputation management, corporate communications, brand management, and stakeholder engagement in a digital context. Especially useful for future communications professionals and those who will work with them such as journalists and business leaders. | N | SEM | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite master's student; Credit is allowed for only JMC 419 or MCO 519 |
| MCO | 521 | News Producing | Principles of broadcast news producing, delivered via a combined lecture/lab experience. Students complete assignments based on editorial judgment, technical skills and industry awareness and develop strategies for total newsroom management. In the process, students build confidence in producing news content and newscasts under deadline pressure and are prepared for a variety of producer-related roles in professional newsroom environments. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School of Journalism and Mass Communication on-campus master's student; Credit is allowed for only MCO 521 or MCO 598 (News Producing) |
| MCO | 525 | 21st-Century Media Organization and Entrepreneurship | Focuses on the future of journalism, the future of journalism business organizations and entrepreneurship, new media experiences, online solutions to popular media problems, financial realities of the media, and media innovation. | N | SEM | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Master of Mass Communication or Investigative Journalism MA student; Credit is allowed for only JMC 473 or MCO 525 or MCO 526 |
| MCO | 526 | Advanced Issues in 21st-Century Sports and Media | Through critical analyses of major contemporary issues in sports and media, provides tools and information needed to more fully engage in and become fluent with the main conversations about the business, technology and the future of sports journalism. | N | SEM | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Sports Journalism MA student; Credit is allowed for only JMC 474 or MCO 525 or MCO 526 |
| MCO | 529 | Ethics and Diversity in Sports Journalism | Explores the connection among sports media, journalism and society in an ethical and issue-oriented context. Students gain an understanding of the issues and ethics of the sports journalism profession while becoming better and more informed consumers of sports media. At the end of the course students have a better understanding of the importance of sports in our society and how that is reflected in coverage by local and national media outlets. | N | SEM | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Sports Journalism MA student |
| MCO | 530 | History, Philosophy, and Ethics of Journalism | Explores contemporary news media issues in a seminar setting. Critically analyzes historical and contemporary dilemmas in journalism ethics using a case study approach. | N | SEM | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Investigative Journalism MA or Mass Communication MMC student |
| MCO | 531 | Advanced Broadcast Reporting | Teaches news and information practices of networks and local television stations. Students report, write and edit broadcast packages with an emphasis on video. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School of Journalism and Mass Communication on-campus master's student |
| MCO | 533 | Advanced Spanish-Language Broadcast Reporting | Students produce bilingual television packages on a wide range of issues of interest to Latino audiences. Students also report and produce an occasional Spanish-language newscast. Opportunity to develop and master advanced reporting, interviewing, visual storytelling and writing skills in English and Spanish needed to obtain an entry-level position in a small/medium market local television newsroom. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Master of Mass Communication or Sports Journalism MA student; MCO 502 with C or better; Credit is allowed for only MCO 533 or MCO 598 (Advanced Bilingual Broadcast Reporting) |
| MCO | 534 | Advanced Spanish-Language Reporting | Students get experience reporting and writing stories on topics related to Latinos in the U.S. Requires ability to write and report in Spanish, although students do not have to be proficient. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Master of Mass Communication or Sports Journalism MA student; MCO 502 with C or better; Credit is allowed for only JMC 434 or JMC 494 (Advanced Bilingual Reporting) or MCO 534 or MCO 598 (Advanced Bilingual Reporting) |
| MCO | 535 | Latino and Transnational Issues | Focuses on some of the most pressing and controversial issues of the day that are taking place in the Southwest borderlands. Successful students move on to the Borderlands Initiative depth reporting project in the spring semester that includes an international reporting experience. | N | SEM | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Investigative Journalism MA, Master of Mass Communication or Sports Journalism MA student |
| MCO | 536 | Public Relations Research | Teaches the importance and practice of research in a public relations context. Students conduct research using qualitative and quantitative methods and analyze data to understand implications within a specific communications context. They also critically evaluate published academic and professional research. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Master of Mass Communication student; Credit is allowed for only MCO 536 or MCO 598 (PR Research) |
| MCO | 537 | Strategic Communications Writing | Focuses on content creation, with students producing content in digital formats in addition to text. Emphasizes storytelling across different platforms. Students work in groups of 2-3 to produce content for a client based both on research they conduct in class, as well as information provided by the instructor. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): MCO 502 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 415 or MCO 537 or MCO 598 (Writing for Public Relations) |

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| MCO | 540 | Sports Reporting | Hands-on experience reporting, writing, script writing and video producing sports stories. Students report, write and produce professional-level, clear, well-reported, accurate stories and video packages about athletes and sports stories newsworthy in the Valley and beyond. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Sports Journalism MA student; MCO 502 |
| MCO | 541 | Narrative Writing and Reporting | Students learn the elements of narrative journalism--structure and narrative arc, the use of character, description, dialogue and quotes, context and background, and pacing--and apply them to a long-form story they report and write during the semester. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School masters student; MCO 502 with C or better; Credit is allowed for only JMC 441 or JMC 494 (Narrative Writing) or MCO 541 or MCO 598 (Narrative Writing) |
| MCO | 542 | Sports and Culture Commentary | Students learn how to craft informed opinion in both news and sports across a variety of platforms, including written columns and video and audio commentaries. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Investigative Journalism MA, Master of Mass Communication, or Sports Journalism MA student; MCO 502 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 442 or MCO 542 or JMC 494/MCO 598 (Opinion in the Digital Age) |
| MCO | 544 | Accountability in Journalism | Seminar about accountability journalism in the digital age: its history, mission, values, techniques, ethics and future. Students research and analyze notable recent examples of accountability journalism and produce accountability story ideas about water quality and supply in Arizona. | N | SEM | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Prerequisite(s): Cronkite School masters or PhD student; Credit is allowed for only JMC 444 or JMC 494 (Accountability Journalism) or MCO 544 or MCO 598 (Accountability Journalism) |
| MCO | 545 | Techniques of Investigative Reporting | Student teams work under the direction of a veteran investigative journalist, learning how to do research and reporting on projects to expose wrongdoing, focusing on public records, databases, in-depth interviews and how to conceptualize, organize and tell these stories on multiple platforms. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): MCO 502 with C or better; Credit is allowed for only MCO 502 or MCO 545 |
| MCO | 546 | News 21 Seminar | Prepares students for the Carnegie-Knight News21 investigative journalism summer fellowship. Immerses students in the selected topic for the annual investigation, conducting deep research, generating data and public records, interviewing experts, developing sources and producing initial reports and multimedia elements. Considers students who perform well in the seminar for paid summer fellowships during which they travel the country to complete their reporting and produce the annual project on an issue of national import. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School of Journalism and Mass Communication on-campus master's student; MCO 502 with C or better; Credit is allowed for only JMC 446 or JMC 494 (News 21) or MCO 546 or MCO 598 (News 21 Seminar) |
| MCO | 548 | Non-Narrative Video Storytelling | Teach students how to create video pieces that effectively communicate a story, information or concept to your audience in non-narrative form that is engaging, interesting and intelligent. Focuses on the various forms of non-narrative storytelling to gain experience creating both longer and shorter pieces with DSLR cameras, advanced editing and graphics that are appropriate to the intended platform. Students learn how to shoot video and stills with a DSLR camera and when to use each in video creation, while advancing skills as a video editor and graphic designer. Students broaden their creativity and range as a video producer in the areas of journalism and mass communication. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Master of Mass Communication or Sports Journalism MA student; MCO 502 w/ C or better; Credit is allowed for only JMC 448 or MCO 548 |
| MCO | 550 | Issues in Coverage of Business and the Economy | Teaches the basics of business and economics reporting, one of the fastest-growing areas of journalism. Students learn what skills are needed to cover business and economic stories as well as how private companies operate and the factors that drive the economy. They also learn about opportunities in the field and hear from leaders in business journalism. | N | SEM | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School of Journalism and Mass Communication master's or PhD student |
| MCO | 551 | Better Business Reporting | Provides training and practice in reporting and writing stories related to business and the economy. Students learn tools and techniques to enhance their coverage of various kinds of business stories, from profiles to financial reports. They learn best practices for pitching stories, cultivating sources, conducting effective interviews, structuring stories, using appropriate narrative elements and translating complex information for a general audience. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Business Journalism MS student; MCO 550 with C or better |

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| MCO | 552 | Data in Business Journalism | Students learn how to find powerful business and economic data from U.S. sources such as the Census Bureau, the Bureau of Labor Statistics, the Securities and Exchange Commission and the Federal Reserve. Examines international data sources of the United Nations, the World Bank, the European Union and the statistics offices of various countries. Covers basic mathematical and statistical formulas for working with business data, how to find stories in data using tools such as Microsoft Excel and Google Fusion Tables and how to create basic data visualizations that are useful for understanding business and economic trends. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Business Journalism MS student; MCO 550 with C or better |
| MCO | 553 | Reporting on Business and the Economy | Trains students in the basics of reporting about business and the economy. They learn to tell the stories behind companies, people and money, while improving their competency in using numbers in stories. Students have the opportunity to have stories appear in print, online or broadcast. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Master of Mass Communication or Sports Journalism MA student; MCO 502 OR Business Journalism MS student |
| MCO | 555 | Digital Media Entrepreneurship | Students identify a marketable idea and transform it into a product and/or company. In the process, they learn about key concepts of entrepreneurship and practice skills that they can employ as entrepreneurs themselves. Students are exposed to a range of national and regional entrepreneurs and emerge with a deeper understanding of entrepreneurship's importance within the media and communications landscape. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Master of Mass Communication or Sports Journalism MA student; Credit is allowed for only JMC 455 or JMC 494 (Digital Media Entrepreneurship) or MCO 555 or MCO 598 (Digital Media Entrepreneurship) |
| MCO | 556 | Media Entrepreneurship | Familiarizes students with media entrepreneurship and innovation in a quickly changing digital media environment. Students study the principles of entrepreneurship and innovation, assess their own tolerance for risk, evaluate opportunity and market conditions, and learn about various revenue models for entrepreneurial enterprises. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School graduate student; Credit is allowed for only MCO 431 or MCO 494 (Media Entrepreneurship) or MCO 556 |
| MCO | 557 | Advanced Radio Reporting | Students report and produce long-form radio stories in commercial and public radio formats. They develop planning, writing, voicing and detailed editing skills in a variety of radio broadcast formats, including general news and business as well as hard news and feature reporting. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Master of Mass Communication or Sports Journalism MA student; MCO 502 with C or better; Credit is allowed for only JMC 457 or JMC 494 (Advanced Radio Reporting) or MCO 557 or MCO 598 (Advanced Radio Reporting) |
| MCO | 560 | Arizona Media Law | Case study approach to first amendment issues, media access, libel, confidentiality, and invasion of privacy as applied to media organizations in Arizona. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Master of Mass Communication or Sports Journalism MA student |
| MCO | 561 | Defining the Digital Audience | Who are the people who make up digital audiences? How do digital audiences behave? And why is it important to research, identify and monitor digital audiences and their engagement with your organization? Covers the very essence of the digital audience, exploring how community, consumer, social psychology and theory converge on digital platforms and social networks. Through case-study analyses, teaches how audiences differ across industries and platforms, the elements that engage or dissuade users, and how organizations use audience data to manipulate growth strategies. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCO | 562 | Search Engine Strategy for Digital Audience Acquisition | How to attract and grow audiences through strategic use of search engine marketing. Includes user search behavior, SEO (search engine optimization), tagging and coding for on-page SEO, SEM (search engine marketing), keyword research, competitive analysis, domain authority and pay-per-click advertising. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prereq(s): Bus Journ MS, Dig Aud Strat MS; Dig Aud cert, Investigative Journ MA, Journ & Mass Comm PhD, Global Mgt (Dig Aud Strat) MGM, Mass Comm MMC or Sports Journ MA stdnt; MCO 561 w/B or better; Credit allowed for only MCO 434 or MCO 437 or MCO 562 |
| MCO | 563 | Social Media Campaigns and Engagement | How to attract, engage and grow audiences on social media platforms through both organic and paid social media campaigns. Includes evaluating an organization's existing social media audience, identifying opportunities for audience growth across social media platforms, designing and generating content for specific platforms, measuring the impact of social media content, and developing an organizational strategy for managing social media across an enterprise. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School graduate student or Global Management (Digital Audience Strategy) MGM student; MCO 561 with B or better; Credit is allowed for only MCO 433 or MCO 437 or MCO 563 |
| MCO | 564 | Digital Audience Research and Behavior | Provides skills to undertake research on digital audiences, customers, viewers, influencers and others with whom an organization seeks to communicate or build relationships. Digital data have profoundly reshaped how organizations mine and interpret audience data. Digital audience research as a subset of social research. Overviews both traditional and newer research methods for developing audience insights. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School graduate student or Global Management (Digital Audience Strategy) MGM student; MCO 561 with B or better; Credit is allowed for only MCO 436 or MCO 564 |

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| MCO | 565 | Digital Audience Analytics | Provides skills to access, manipulate and translate audience data. How to mine data from websites, social networks, apps, email campaigns and video platforms, and how to use analysis tools and techniques to translate metrics into valuable, actionable insights that drive engagement strategies and business decisions. Works with real audience data to receive hands-on analysis and reporting experience. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prereq(s): Bus Journ MS, Digtl Aud Strategy MS; Digtl Aud cert, Investigative Journ MA, Journ&Mass Comm PhD, Mstr Global Mgt (Digtl Aud Strategy), Mstr Mass Comm or Sports Journ MA stdnt; MCO 561 w/B or better; Credit allowed for only MCO 438 or MCO 565 |
| MCO | 566 | Digital Audience Management | Challenges students to synthesize their digital audience knowledge and skills acquired in previous courses through a culminating experience. Working with a real client and live, ever-changing data, students work to increase and engage the client's digital audience, executing a growth campaign from audience identification, targeting and strategy development to implementation, engagement and measurement. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Digital Audience Strategy MS student; MCO 561 with B or better; MCO 562 with C or better; MCO 563 with C or better; MCO 564 with C or better; MCO 565 with C or better; minimum 3.00 GPA; Credit is allowed for only MCO 439 or MCO 566 |
| MCO | 567 | Diversity in Digital Audiences | Examines diversity in digital communities and conversations through many lenses--race, ethnicity, age, gender, sexual orientation, religion, education, culture, ability, geography, economics, politics and experience among them. Through examining representation and inequality, power and privilege, harassment and discrimination, and how our own identities and biases affect our communication, students learn how to critically think about diversity in digital spaces and engage diverse communities both accurately and fairly. Students also learn how to apply the core principles and tenets of identity, diversity, equity and inclusion to the practice of professional communication, from developing audience-specific digital content to targeting diverse audiences in strategic communication campaigns. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): MCO 561 with C or better; Credit is allowed for only MCO 567 or MCO 598 (Diversity in Digital Audiences) |
| MCO | 570 | Master of Mass Communication Capstone | Students synthesize and apply their knowledge and skills in these full-day immersive programs that are powered by students and led by faculty. Students may choose from among several programs, including newsroom environments, sports bureaus, strategic communications agencies, special projects labs and more. Students emerge with real professional experience, portfolio work and preparedness for careers across the media industry. Programs are available in Phoenix, Los Angeles and Washington, D.C. | Y | LEL | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3-9 | | Prerequisite(s): Investigative Journalism MA, Master of Mass Communication or Sports Journalism MA student |
| MCO | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCO | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-12 | | Prerequisite(s): Cronkite School master's student |
| MCO | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCO | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-12 | | Prerequisite(s): Investigative Journalism MA, Sports Journalism MA, Master of Mass Communication, Business Journalism MS, Digital Audience Strategy MS, Journalism and Mass Communication PhD, or Digital Audiences certificate student |
| MCO | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCO | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-4 | | Prerequisite(s): Cronkite School of Journalism and Mass Communication graduate student |
| MCO | 710 | Research Methodology in Mass Communication | Identifies research problems in mass communication and provides an overview of questionnaire construction as well as attention to survey, historical, content analysis, experimental and legal research methods. | N | SEM | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Pre-requisites: Journalism Mass Communication PHD students |
| MCO | 711 | Critical, Historical, Legal Research Methods in Mass Communication | Critical, legal and historical methods necessary to conduct qualitative mass communication research. | N | SEM | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Pre-requisite: Journalism Mass Communication PhD student |
| MCO | 712 | Freedom of Expression Theory | Examines philosophical and legal aspects of press freedom; emphasizes First Amendment theory evolution from 1791 to present. | N | SEM | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Pre-requisite: Journalism Mass Communication PhD student |

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| MCO | 720 | Mass Communication Theory | Analyzes various theoretic models of mass communication with emphasis on the applications of these theories to professional communication. | N | SEM | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Pre-requisites: Journalism and Mass Communication PhD student |
| MCO | 722 | Philosophy of Mass Communication | Mass media as social institutions, particularly interaction with government and public; emphasizes criticism and normative statements. Seminar. Prerequisite: Journalism and Mass Communication PhD student. | N | SEM | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Pre-requisites: Journalism and Mass Communication PhD student |
| MCO | 755 | Research Apprenticeship | Students and faculty work on a research project with the expected outcome of a scholarly publication. | N | RSC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Pre-requisite: Journalism and Mass Communication PhD student |
| MCO | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCO | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCO | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | IND | Y | Z3 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCO | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MDC | 211 | Introduction to Digital Sound | Examines how technology is used as listeners, creators, critics, remixers, and a wide variety of other roles to participate in and gain a deeper understanding of music and its role in our lives. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Credit is allowed for MDC 211 or MUE 294 Open Minds, Digital Ears |
| MDC | 311 | Composing and Performing for Hybrid Ensembles | Provides opportunities to perform music in a variety of digital and hybrid contexts using both physical and digital instruments. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only MDC 311 or MUE 394 (Performing in Digital and Hybrid Music Groups) |
| MDC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MDC | 411 | Advanced Interactive Sound | Explores the development of interactive music systems. Covers a variety of sound synthesis methods with particular emphasis as to how they can be used in real-time sound creation. Covers techniques for sensing such as computer vision, sound analysis, tangible interfaces and 3D sensing. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AME 411 or AME 511 or MDC 411 or MDC 511 OR Visiting University Student |
| MDC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | |
| MDC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MDC | 511 | Advanced Interactive Sound | Explores the development of interactive music systems. Covers a variety of sound synthesis methods with particular emphasis as to how they can be used in real-time sound creation. Covers techniques for sensing such as computer vision, sound analysis, tangible interfaces and 3D sensing. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AME 411 or AME 511 or MDC 411 or MDC 511 |
| MDC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MDL | 410 | Laboratory Leadership | Clinical lab leadership and management. Applies the principles of personnel management and supervision, allocation of resources, and staff communication. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite: Admission to Medical Laboratory Science program |
| MDL | 420 | Advanced Clinical Urinalysis and Body Fluids | Theory and applications of principles in urinalysis with emphasis on the etiology, pathophysiology, and clinical manifestations of renal and other metabolic defects as reflected by the analysis of urine and other body fluids. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 2 | | Pre-requisites: BIO 182; Admission to Medical Laboratory Science program |
| MDL | 421 | Advanced Practicum in Clinical Urinalysis and Body Fluids | Correlation and application of theory in a supervised clinical laboratory. Processing, analysis, and evaluation of urine and body fluids, emphasizing manual and automated techniques of specimen analysis. | N | PRA | N | OPT | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): Medical Laboratory Sciences BAS major; MDL 420 with C or better |
| MDL | 430 | Advanced Hematology and Hemostasis | Theory and application of principles in hematology, with emphasis on techniques to evaluate blood dyscrasias and analyze body fluids. Etiology, pathophysiology, clinical manifestations, and treatment of blood dyscrasias/hemostatic defects. | N | LEL | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Pre-requisites: BIO 182; Admission to Medical Laboratory Science program |

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| MDL | 431 | Advanced Practicum in Hematology and Hemostasis | Correlation and application of theory in a supervised clinical laboratory. Processing, analysis, and evaluation of blood samples, emphasizing manual and automated techniques of specimen analysis. | N | PRA | N | OPT | College of Health Solutions | College of Health Solutions | 1 | | |
| MDL | 440 | Advanced Immunohematology and Immunology | Theoretical and practical application of clinical immunology and immunohematology. Emphasizes serological techniques that aid disease diagnosis and blood donor selection. | N | LEL | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Pre-requisites: BIO 182; MIC 205; Admission to Medical Laboratory Science program |
| MDL | 441 | Advanced Practicum in Immunohematology and Immunology | Correlation and application of theory in a supervised clinical laboratory. Processing, analysis, and evaluation of samples, emphasizing manual and automated techniques of specimen analysis. | N | PRA | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): Medical Laboratory Sciences BAS major; MDL 440 with C or better |
| MDL | 450 | Advanced Clinical Microbiology | Theoretical and practical application of clinical microbiology. Emphasizes identification of pathogenic organisms, molecular techniques, mycology, virology, and parasitology. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): MDL 410; MDL 420; MDL 421; MDL 430; MDL 431; MDL 440; MDL 441 OR Visiting University Student |
| MDL | 451 | Advanced Practicum: Clinical Microbiology | Correlation and application of theory in a supervised clinical laboratory. Processing, analysis, and evaluation of samples, emphasizing manual and automated techniques of specimen analysis routinely used in microbiology testing. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): MDL 450 with C or better OR Visiting University Student |
| MDL | 460 | Advanced Clinical Chemistry | Theoretical and practical applications of clinical chemistry with particular emphasis on correlation of test results to disease status, statistical analysis, pre-analytical testing, critical values, calibration, and trending and tracking of quality control results. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): MDL 410; MDL 420; MDL 421; MDL 430; MDL 431; MDL 440; MDL 441 OR Visiting University Student |
| MDL | 461 | Advanced Practicum: Clinical Chemistry | Correlation and application of theory in a supervised clinical laboratory. Processing, analysis, and evaluation of samples, emphasizing manual and automated techniques of specimen analysis routinely used clinical chemistry testing. | N | LAB | N | GNA | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): MDL 460 with C or better |
| MED | 100 | Introduction to Medical Studies | Presents basic concepts related to sciences, social sciences, humanities, statistics and other topics related to medical and health studies. Solidifies concepts through the use of assignments, exams and discussions. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 1 | | |
| MED | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| MED | 300 | Historical and Contemporary Issues in Health | History of medicine in the modern world and its relationship to contemporary issues in medicine with emphasis on the broader context of ways in which technology, personalized medicine, genomics, ethical issues and shared decision making between patients and providers have evolved. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 30 hours OR Visiting University Student |
| MED | 320 | Applied Medical/Health Care Ethics | Integrates the theory and practice of ethics within health-related disciplines and the application of bioethics by health science professionals, including health disparities. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | HU | Prerequisite(s): minimum 30 hours OR Visiting University Student |
| MED | 325 | Elements of Hospice and Palliative Care | Introduces hospice and palliative care through direct experience communicating and working with persons on hospice and the nurses, physicians, social workers and chaplains who provide care. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 30 hours |
| MED | 375 | Alzheimer's and Other Dementias | Covers Alzheimer's disease and related dementias through discussions with health care professionals and direct experience working with persons with Alzheimer's disease and their caregivers. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only MED 375 or MED 394 (Intro Dementia & Alzheimer's Disease) OR Visiting University Student |
| MED | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| MED | 417 | Impact of Violence on Health | Approaches violence from a public health perspective, using the Centers for Disease Control, National Center for Injury Prevention and Control, as a benchmark. Applies an interprofessional approach to violence, to include medicine, nursing, law, law enforcement, social work, psychology, economics and education, among others. Discusses principles of epidemiology, underlying etiologies and sequelae and evidence-based strategies for prevention throughout the course. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |
| MED | 445 | Prevention and Management of Chronic Disease | The United States spends more on health care than any other developed country in the world, yet our health care outcomes are not superior. We face an epidemic of chronic diseases which are the leading causes of mortality and disability in the U.S., despite being highly preventable. Examines chronic disease in the U.S. and provides an overview of prevention and management with a focus on population health and social determinants of health. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| MED | 450 | Leadership and Professionalism | Leadership, leadership theory and inter-professionalism in practice. Applies didactic content to case studies and activities designed to promote critical thinking and effective teamwork. Solidifies concepts through the use of assignments, exams and discussions. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only HCD 401 or MED 450 OR Visiting University Student |

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| MED | 475 | Palliative Care: Managing Complex Serious Illness | Includes reading, discussion and study on palliative care including national trends, international models, ethics, mental health issues, business and workforce issues, boundaries between patients and caregivers, the intersection between humanities and palliative care, and the future of the field. Honors contracts are available. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 25 hours; Credit is allowed for only MED 475 or MED 494 (Advances in Palliative Care) or MED 494 (Palliative Care Managing Complex Serious Illness) OR Visiting University Student |
| MED | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | LEC | Y | YGB | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): minimum 3.00 GPA |
| MED | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): Barrett Honors student |
| MED | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | PRA | N | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MED | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| MED | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| MED | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-3 | | |
| MEE | 322 | Structural Mechanics | Three-dimensional stress and strain analysis, generalized Hooke's Law, failure theories for ductile and brittle materials, combined loading, stress concentrations, energy methods, mechanical vibrations and structural dynamics, fatigue. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s) with C or better: Mechanical Engineering BSE major; MAE 213; MAE 384; MAT 267 or 272; Pre- or corequisite(s): MSE 250 with C or better if completed; Credit is allowed for only AEE 325 or MEE 322 OR Visiting University Student |
| MEE | 323 | Computer-Aided Engineering II | Introduces finite-element analysis, pre- and postprocessing, solving problems with FEA. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 2 | | Prerequisite(s) with C or better: Aerospace Engineering BSE major: AEE 325 (or MAE 325 or 394 - Aerospace Structures and Materials); MAE 214 or Mechanical Engineering BSE major: MAE 214; MEE 322 (or MAE 322) OR Visiting University Student |
| MEE | 324 | Structural Mechanics Laboratory | Lab companion where students perform supervised experiments to analyze stress and strain for materials loaded in bending, torsion, combined and torsion, tensile tests of materials until failure, stress concentrations, and structural dynamics. Required for mechanical engineering | N | LAB | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1 | | Pre- or corequisite(s): MEE 322 with C or better if completed OR Visiting University Student |
| MEE | 340 | Heat Transfer | Conduction, convection, radiation and phase change heat transfer processes. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Aerospace or Mechanical Engineering BSE major; MAE 241 with C or better; MAE 242 with C or better; MAE 384 with C or better OR Visiting University Student |
| MEE | 342 | Principles of Mechanical Design | The design process; conceptual and embodiment design of mechanical elements; form synthesis; material selection, failure modes, manufacturability tolerances, common mechanisms and machine elements. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Mechanical Engineering BSE major; MAE 202 with C or better; MEE 322 with C or better; MSE 250 with C or better; Pre- or corequisite(s): MEE 323 with C or better if completed OR Visiting University Student |
| MEE | 351 | Manufacturing Processes | Production technique and equipment. Casting and molding, forming, machining, joining and assembly, computer-integrated manufacturing, rapid prototyping, and electronics manufacturing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; MAE 213 with C or better; MSE 250 with C or better OR Visiting University Student |
| MEE | 434 | Internal Combustion Engines | Performance characteristics, combustion, carburetion and fuel-injection, and the cooling and control of internal combustion engines. Computer modeling. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; MEE 340 or MEE 482 with C or better; Credit is allowed for only MEE 434 or MAE 598 (Internal Combustion Engines) OR Visiting University Student |
| MEE | 440 | Renewable Energy: Mechanical Systems | Renewable energy systems are energy conversion systems that rely on naturally replenishing flows of energy. Considers the foundational principles behind many renewable energy systems and application of these principles to practical systems. Emphasizes covering the following energy systems, some only at an introductory level and some with significant depth: solar, wind, geothermal, biomass, hydropower, energy storage, electric power generation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering BSE major; MEE 340 with C or better; Credit is allowed for only MEE 440 or MAE 582 or MAE 494 (Renewable Energy Engineering) or MAE 598 (Renewable Energy Engineering) |

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| MEE | 441 | Wind Energy | Wind energy systems convert kinetic energy in the wind into electrical energy. Focuses on flow machines, including for example, aerodynamics and fluid dynamics. Begins with wind resource assessment utilizing atmospheric boundary layer science and then proceeds to computational fluid dynamics to understand the tools of modern wind resource assessment. Includes applications of the Navier-Stokes equations and some basics from turbulence theory. Resource assessment also includes modern remote sensing techniques such as lidar, radar and in situ instrumentation. Also includes discussions from current events and policy. Requires a background in applied experimental statistics, thermodynamics or aerodynamics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering BSE major; AEE 360 or MEE 340 with C or better; MAE 301 with C or better; Credit is allowed for only MAE 494 (Wind Energy) or MAE 579 or MAE 598 (Wind Energy) or MEE 441 OR Visiting University Student |
| MEE | 445 | Energy Systems Design I | Applies mechanical engineering principles and techniques to modeling, analysis and synthesis of energy systems and components. Design and optimization. Capstone design project. First part of an energy systems design course focusing on the design of compact heat exchangers and fluid flow systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1 | | Prerequisite(s) with C or better: Mechanical Engr (Energy & Environment) BSE major; MAE 301; MEE 324; MEE 340; Pre- or corequisite(s) with C or better if completed: MAE 400; MEE 482; Credit is allowed for only MEE 445 or MEE 494 (Energy Systems Design I) |
| MEE | 446 | Energy Systems Design II | Applies mechanical engineering principles and techniques to modeling, analysis, and synthesis of energy systems and components. Design optimization. Design project. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 2 | | Prerequisite(s): Mechanical Engineering (Energy and Environment) BSE major; MAE 400 with C or better; MEE 342 with C or better; MEE 445 with C or better; MEE 482 with C or better; Credit is allowed for only MEE 446 or MEE 494 (Energy Systems Design II) |
| MEE | 472 | Intermediate Fluid Mechanics | Second course covering fundamental concepts relating to engineering fluids. Flow meters, airfoil and wing aerodynamics; pipe flow; normal and oblique shock waves. Nozzles. Open Channel Flow. Turbomachinery flows including performance curves and maps, scaling and affinity laws. Elective for Aerospace Engineering and Mechanical Engineering. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; senior standing; MAE 242 with C or better; MAE 384 with C or better |
| MEE | 482 | Intermediate Thermodynamics | Applied thermodynamics; gas mixtures, psychrometrics, property relationships, power and refrigeration cycles, and reactive systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; MAE 240 or 241 with C or better; Credit is allowed for only MAE 382 or MAE 570 or MAE 598 (Thermodynamics) or MEE 482 OR Visiting University Student |
| MEE | 488 | Mechanical Engineering Design I | Conceptual and embodiment design; modeling; rapid prototyping. Team project. MEE 488 and 489 must be taken in consecutive semesters. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s) with C or better: Mechanical Engineering BSE major; MAE 301; MAE 318; MAE 384; MEE 323; MEE 324; MEE 340; MEE 342; Pre- or corequisite(s): MAE 400 with C or better if completed |
| MEE | 489 | Mechanical Engineering Design II | Detail design; fabrication and testing. Team project. MAE 488 and 489 must be taken in consecutive semesters. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; MEE 488 with C or better |
| MEE | 491 | Experimental Mechanical Engineering | Experimental and analytical studies of phenomena and performance of fluid flow, heat transfer, thermodynamics, refrigeration, and mechanical power systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | L | Prerequisite(s) with C or better: Mechanical Engineering BSE major; ENG 101, 105, or 107; MAE 301; MAE 318; MEE 324; MEE 340; Pre- or corequisite(s): MEE 342 with C or better if completed OR Visiting University Student |
| MEE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-4 | | |
| MET | 212 | Applied Engineering Mechanics: Dynamics | Masses; motion kinematics; dynamics of machinery. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 211 (or CON 221 or MAE 212); MAT 266 (or MAT 271) |
| MET | 213 | Applied Mechanics of Materials | Stress, strain, stress-strain relations. Axial, shear, bending, torsional and combined loads and deflections. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisite: MET 211 or CEE 210, or MAE 212 |
| MET | 214 | Applied Mechanics of Materials Laboratory | Measurements of loads and deformations relating stress and strain in axial, shear, bending, torsional, and combined loading configurations. | N | LAB | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1 | | Pre-requisites: MET 213, MAE 213, MSE 211, CON 223, CEE 213 OR be co-enrolled in MET 213 |
| MET | 230 | Introduction to Engineering Materials | Introduces materials and their properties, emphasizing basic concepts and structures and how these properties relate to manufacturing and design. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 2 | | |

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| MET | 300 | Applied Material Science | Principles of materials science emphasizing concepts relevant to design, manufacturing, and use. Covers metals, polymers, ceramics, and composites. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: EGR 218 OR EGR 294 (Engineering Materials & Manufacturing) OR MET 231 OR MSE 250 OR Applied Science (Manufacturing Technology & Management) major; MET 230 |
| MET | 309 | Nondestructive Testing and Quality Assurance | Part and material inspection using metrology and nondestructive inspection tools and techniques. Theory and application with use of pertinent standards. | N | LAB | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1 | | Prerequisite(s): EGR 218 OR EGR 294 (Engineering Materials & Manufacturing) OR MET 231 OR Applied Science (Manufacturing Technology & Management) major |
| MET | 321 | Introduction to Automotive Engineering | Engineering principles and the design of ground vehicles. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): MET 212. Pre- or corequisite(s): MET 213, 340 |
| MET | 331 | Machine Design I | Applies mechanics to design of machine elements and structures. Stress analysis, failure modes, tolerances, cylindrical fits, and shaft design. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 213 (or CON 223 or MAE 213) |
| MET | 344 | Casting and Forming Processes | Analyzes various forming processes to determine load requirements necessary for a particular metal-forming operation. Information used to select equipment and design tooling. Metal casting processes and design of castings. Introduces powder metallurgy. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 218 OR EGR 294 (Engineering Materials & Manufacturing) OR MET 231 OR Applied Science (Manufacturing Technology & Management) major |
| MET | 345 | Advanced Manufacturing Processes | Material removal processes emphasizing advanced turning, milling, and machinability studies using cutting tools. CNC programming for machining and turning centers. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: EGR 218 OR EGR 294 (Engineering Materials & Manufacturing) OR MET 231 OR Applied Science (Manufacturing Technology & Management) major |
| MET | 351 | Introduction to Automation | Introduces automation. Topics include assembly techniques, fixed and flexible automation systems, robots, material-handling systems, sensors, and controls. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisite: EST 210 |
| MET | 396 | Professional Orientation | Topics related to a successful career in engineering technology industry. Includes safety, life-long learning, ethics, and career planning. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1 | | Pre-requisite: Junior or Senior standing |
| MET | 401 | Quality Assurance | Statistical quality control methods, design of experiments, sampling, gauge requirements and specifications, use of quality assurance tools. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: STP 420 (or APM 301); Credit is allowed for only MET 401 or 501 |
| MET | 409 | Applied Engineering Economics | Fundamentals of engineering economics in a practical, industry-based approach. Includes effects of depreciation, taxes, inflation, and replacement analysis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: Junior or Senior standing; Credit is allowed for only MET 409 or 509 |
| MET | 410 | Manufacturing Resource Management | Measures like cycle time, throughput, capacity, work-in-process, inventory, variability, and how they drive operating relationships in a factory. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisite: MET 341; Credit is allowed for only MET 410 or 510 |
| MET | 415 | Manufacturing Simulation | Computer simulation of manufacturing operations. Discrete event simulation models range from individual processes to whole factories. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 341; STP 420; Credit is allowed for only MET 415 or 515 |
| MET | 416 | Applied Computer-Integrated Manufacturing | Techniques and practices of computer-integrated manufacturing as applied in a broad range of industry. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | CS | Pre-requisite: MET 341; Credit is allowed for only MET 416 or 516 |
| MET | 418 | Composites Materials Manufacturing | Introduces composite materials and associated manufacturing issues, including tooling, processes, and quality control. Related issues, including testing and joining. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 300 or MSE 250. Credit is allowed for only MET 418 or 518 |
| MET | 421 | Vehicle Powertrains | Internal combustion engine design, performance and operation, and power transmission systems within vehicles. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 321 |
| MET | 423 | Vehicle Chassis and Running Gear Design | Design and manufacture of chassis, structures, steering and braking systems and components, wheels and tires, suspension systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 321; MET 331 |
| MET | 424 | Vehicle Electrical Systems | Vehicle electrical power and signal systems, computer control and analog control systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: EST 210; MET 321; MET 421 |
| MET | 426 | Vehicle Thermal Design | Heat management in vehicle systems, including thermal design of engine and transmission cooling systems, cabin heating, and air conditioning. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 421; Pre/Co-requisite: MET 434 |
| MET | 427 | Vehicle System Integration and Testing | Systems engineering principles. Design of the interfaces between vehicle subsystems. Testing of integrated systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 423; MET 424 |
| MET | 432 | Engineering Thermo-Fluids II | Thermodynamic analysis of mixtures and power cycles. Design and analysis of fluid systems, conduction heat transfer, and introduction to convection and radiation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 340 with C or better; Credit is allowed for only EGR 432 or MET 432 OR Visiting University Student |
| MET | 434 | Engineering Thermo-Fluids III | Transient conduction, convection and radiation heat transfer, heat exchangers, thermo-fluid systems engineering. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 340 |
| MET | 438 | Machine Design II | Applies mechanics to the design of machine elements and structures. Emphasizes basics of gears, springs, brakes, clutches, and bearings. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisites: MET 331 OR Fulton Schools of Engineering graduate student |
| MET | 440 | Finite Element Analysis | Analyzes machine elements, frames, and aerospace structures employing finite element analysis and software. Includes sensitivity analysis and estimating accuracy. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 331 |

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| MET | 442 | Specialized Production Processes | Nontraditional manufacturing processes, emphasizing EDM, ECM, ECG, CM, PM, HERF, EBW, and LBW. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 218 (or EGR 294 [Engineering Materials & Manufacturing] or MET 231). Credit is allowed for only MET 442 or MET 502 |
| MET | 443 | CNC Computer Programming | Theory and application of N/C languages using CAM software and CNC machine tools. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 345; Credit is allowed for only MET 443 or 514 |
| MET | 444 | Production Tooling | Design and fabrication of jigs, fixtures, and special industrial tooling related to manufacturing methods. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre- or corequisite(s): MET 309. Credit is allowed for only MET 444 or MET 504 |
| MET | 455 | Automation Systems Integration | Applies sensors and devices and their integration with PLCs and computers into automated devices and systems. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 351 |
| MET | 460 | Capstone Project I | Group project designing, evaluating, and analyzing components, assemblies, and systems. Develop products/manufacturing techniques demonstrating state-of-the-art technology. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 300; 331; 340; 345 |
| MET | 461 | Capstone Project II | Small-group projects applying manufacturing techniques, with emphasis on demonstrating state-of-the-art technology. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): MET 460 |
| MET | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-12 | | |
| MET | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-3 | | |
| MET | 501 | Statistical Quality Control Applications | SPC problem-solving techniques for implementation in industrial setting; design and analysis of experiments. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only MET 401 or 501 |
| MET | 504 | Applications of Production Tooling | Design and fabrication of fixtures, jigs, templates, and specialized industrial tooling for manufacturing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only MET 444 or 504 |
| MET | 509 | Applied Engineering Economics | Fundamentals of engineering economics in a practical, industry-based approach. Includes effects of depreciation, taxes, inflation, and replacement analysis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; credit is allowed for only MET 409 or 509 |
| MET | 510 | Manufacturing Resource Management | Measures like cycle time, throughput, capacity, work-in-process, inventory, variability, and how they drive operating relationships in a factory. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only MET 410 or 510 |
| MET | 514 | CNC Computer Programming | Theory and application of N/C languages using CAM software and CNC machine tools. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only MET 443 or 514 |
| MET | 515 | Manufacturing Simulation | Computer simulation of manufacturing operations. Discrete event simulation models range from individual processes to whole factories. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only MET 415 or 515 |
| MET | 516 | Applied Computer-Integrated Manufacturing | Techniques and practices of computer-integrated manufacturing as applied in a broad range of industry. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only MET 416 or 516 |
| MET | 518 | Composites Materials Manufacturing | Introduces composite materials and associated manufacturing issues, including tooling, processes, and quality control. Related issues, including testing and joining. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only MET 418 or 518 |
| MET | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MET | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MFG | 308 | Manufacturing System Project I | Focuses on design for product realization in a manufacturing environment. Projects are industry driven and applicable to low-volume product development. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 202 with C or better; EGR 217 with C or better; EGR 218 with C or better OR Visiting University Student |
| MFG | 318 | Manufacturing Systems Project II | Focuses on process development for high-volume manufacturing in the competitive global economy. Uses discrete event simulation software to model and study the manufacturing environments. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 219 with C or better; MFG 308 with C or better OR Visiting University Student |

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| MFG | 381 | Manufacturing Processes and Validation Lab | Theory of basic manufacturing processes accompanied by the fundamental skills; safety practices while working with engineering drawings, machine tools and metrology equipment related to manufacturing. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 217 with C or better; EGR 218 with C or better OR Visiting University Student |
| MFG | 382 | Modeling of Manufacturing Systems I | Modeling of manufacturing systems using discrete event simulation. Introduces basic manufacturing-related data and system configurations. Uses commercial simulation software to build and analyze model output data. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 219 with C or better; EGR 280 with C or better OR Visiting University Student |
| MFG | 383 | Communications in a Production Environment | Effective communication is essential in all production environments for efficiency, yield and safety. Covers the major applications within a company and the expectations for the individual's capabilities. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): minimum junior standing OR Visiting University Student |
| MFG | 385 | Design for Manufacturing | Introduces the methods employed to design and produce products that can compete in the global marketplace. Topics include design for manufacturability and assembly, product life-cycle, economics of design and reliability. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 218 with C or better OR Visiting University Student |
| MFG | 387 | Industrial Automation | Introduces concepts and application of industrial automation systems. Topics include PLC control systems, embedded control systems, sensing technologies, robotics and material-handling systems. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 216 with C or better; EGR 219 with C or better OR Visiting University Student |
| MFG | 461 | Engineering Economics | Covers the role of engineers in the manufacturing environment. Aspects of this role include troubleshooting, performance control, risk mitigation and financial planning. Provides tools and approaches for understanding and representing costs and making decisions based on these costs. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 280 with C or better; MAT 343; Credit is allowed for only EGR 598 (Engineering Economics) or MFG 461 or MFG 494 (Engineering Economics) OR Visiting University Student |
| MFG | 472 | Additive Manufacturing | Additive Manufacturing (AM) is driving a paradigm shift in design and manufacturing. Provides hands-on exposure across a wide range of commercial 3D printers. Topics include fundamentals of polymer, metal and composite AM processes and process capabilities such as rate and resolution. Introduces material properties and their dependence on raw material properties and process parameters; existing and new applications of AM; and a perspective on current and future technical challenges in AM. Provides a foundation for a more in-depth study of design for AM, and AM materials and structures. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 218 with C or better OR Visiting University Student |
| MFG | 480 | Advanced Statistical Approaches for Manufacturing | Applies experimental design and statistical process control in the manufacturing environment. Uses engineering statistical software to formulate and solve problems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 280 with C or better OR Visiting University Student |
| MFG | 481 | Enterprise Economics | All manufacturing is about cost. Considers the components of these costs and presents a number of mathematical tools and approaches for representing, understanding and making decisions based on them. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 280 with C or better OR Visiting University Student |
| MFG | 482 | Materials Science in Manufacturing | High-technology manufacturing combines and exploits the properties of a wide range of materials. Provides a science-based view of materials selection and optimization for product manufacturability and reliability. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): CHM 116 with C or better; EGR 218 with C or better OR Visiting University Student |
| MFG | 485 | Engineering Internship | Experiential education. Local company oversees a student project experience at their facility. | N | PRA | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-3 | | Prerequisite(s): minimum junior standing |
| MFG | 486 | CNC Computer Programming | Theory and applications of NC languages using CAM software and CNC machine tools. Overview of advanced manufacturing processes including production CNC part programming ranging from current design to inspection standards. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): MFG 381 with C or better OR Visiting University Student |
| MFG | 487 | Casting and Forming Processes | Theory and practice of metal casting processes and design of castings. Analysis of various forming processes to determine load requirements. Theory and practice of tooling design for stamping operations. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 218 with C or better OR Visiting University Student |
| MFG | 488 | Integrated Circuit Manufacturing | Integrated circuit manufacturing combines judicious selection of materials with nano-meter features to create complex digital and analog circuits. The process demonstrates extreme applications of design, control and resource organization. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 216 with C or better; EGR 280 with C or better; Credit is allowed for only MFG 488 (MFG 386) or MFG 598 (Integrated Circuit Manufacturing) OR Visiting University Student |
| MFG | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-6 | | Prerequisite(s): Barrett Honors student |
| MFG | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MFG | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-4 | | |
| MFG | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-3 | | |

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| MFG | 545 | Modern Manufacturing Methods | Investigates the capabilities and equipment of both conventional manufacturing processes and modern manufacturing processes. Emphasizes the fundamental, development and application of casting, forming and sintering processes for conventional manufacturing processes. Emphasizes the emerging topics related to additive manufacturing, field-assisted manufacturing and nanomanufacturing for modern manufacturing processes. Also introduces engineering materials, structure of materials, property of materials and material characterizations in the manufacturing processes. Complements theoretical concepts presented in lectures with the presentation of relevant research topics and/or industrial applications. Develops an understanding of manufacturing process evolution and the capabilities of modern manufacturing processes and equipment. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): Ira A. Fulton graduate student; Credit is allowed for only MAE 545 or MAE 598 (Modern Manufacturing Methods) or MFG 545 |
| MFG | 581 | Simulating Manufacturing Systems | Specific modeling and simulation tools used to understand and optimize manufacturing systems operations, with an emphasis on both model building and statistical interpretation of model output. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only EGR 581 or EGR 598 (Simulating Manufacturing Systems) or MFG 581 |
| MFG | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MFG | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MFG | 799 | Dissertation | Supervised research focused on preparation of a dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MGT | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-4 | | |
| MGT | 300 | Principles of Management and Leadership | Covers a broad range of concepts, theories and practices important for a basic understanding of the field of management with a special emphasis on leadership. Increases the students' understanding of and ability to apply contemporary management and leadership knowledge in both work and personal situations. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s) w/C or better: W. P. Carey or Engr Mgmt BSE major; ACC 231, 232 or 261; ECN 221, ECN 231, IEE 380 or STP 280; MAT 210, 251, 265 or 270; Pre- or corequisite(s): ACC 241, 242 or 271 w/C or better if completed OR Visiting University Student |
| MGT | 302 | Principles of International Business | Multidisciplinary analysis of international economic and financial environment. Operations of multinational firms and their interaction with home and host societies. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | G | Prerequisite(s): W. P. Carey major; ECN 211, 212, 213, or 214 with C or better OR non-Business major; ECN 211, 212, 213, or 214 with C or better; minimum 56 hours; minimum 2.50 GPA OR Visiting University Student |
| MGT | 303 | Honors Organizational Strategies, Leadership, and Behavior | Overview of business strategy principles, management processes, motivation, and leadership. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey School of Business Honors student; PSY 101 or 304 or SOC 101 or 301 with C or better; ECN 221 or 231 with C or better; Pre- or corequisite(s): ACC 241, 242, or 271 with C or better if completed |
| MGT | 310 | Collaborative Team Skills | Development of skills in managing and working in collaborative environments. Theories and applications in small group dynamics and team facilitation. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey BA or BS major OR non-business student; minimum 3.00 GPA; minimum 56 hours OR Visiting University Student |
| MGT | 320 | Organizational Behavior | Management processes, fundamentals of business-level strategy, individual difference issues, motivation and leadership of people in organizations. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s) with C or better: Business Entrepreneurship BS or Management BS major; ACC 241, 242, or 271; ECN 221 or 231; MAT 211, 266, or 271; MGT 300 or 303; PSY 101 or PSY 304 or SOC 101 or 301 OR Visiting University Student |
| MGT | 380 | Management and Strategy for Nonmajors | Introduces the functions and applications of management in organizations, including controlling, decision making, leadership, motivation, planning, and social responsibility. Not open to business majors. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): Non-Business major; minimum 2.00 GPA; minimum 56 hours, OR nondegree-seeking student; minimum 2.00 GPA, OR graduate student OR Visiting University Student |

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| MGT | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-4 | | Prerequisite(s): W. P. Carey BS or BA student; Pre- or corequisite(s): ACC 240, 241, 242, or 271 with C or better |
| MGT | 400 | Cross-Cultural Management | Cultural role in international business relations; applied principles of cross-cultural communications, negotiations, and management; regional approaches to business relations. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | C & G | Prerequisite(s): WP Carey BS or BA student OR non-business student with minimum 2.50 GPA and minimum 56 hours; MGT 300 or 303 or 320 or 380 with C or better OR Visiting University Student |
| MGT | 404 | Chinese Language and Global Business Communication | Capstone course designed to synthesize the knowledge acquired from business, language and cultural coursework in the BA in Business: concentration in Chinese Language and Culture. Analyzes case studies in which Chinese language and cultural skills are used to develop communication strategies in doing business in China. Learn new tools and techniques of analysis to enhance communication with Chinese business counterparts. Applies language and cultural skills to a major project in which students demonstrate complex and integrated knowledge of negotiating with the Chinese and using global business skills. Integrates international business knowledge into presentations, research and the use of sophisticated tools of analysis to provide practical training for the global business environment. Students are proficient in communicating in Chinese prior to taking this course. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey BA or BS major; CHI 302 with C or better; LES 305 with C or better; MGT 300 with C or better; SCM 300 with C or better |
| MGT | 405 | Spanish Language and Global Business Communication | Synthesizes the knowledge acquired from business, language and cultural coursework in the BA in Business: concentration in Spanish Language and Culture. Students proficient in communicating in Spanish analyze case studies in which Spanish language and cultural skills are used to develop communication strategies in doing business in Spanish-speaking countries. Students learn new tools and techniques of analysis to enhance communication with their Spanish-speaking business counterparts. Applies language and cultural skills to a major project in which students demonstrate complex and integrated knowledge of negotiating with Spanish speakers and using global business skills. Integrates international business knowledge into presentations, research and the use of sophisticated tools of analysis to provide practical training for the global business environment. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey BA or BS major; LES 305 with C or better; MGT 300 with C or better; SCM 300 with C or better; SPA 314 with C or better |
| MGT | 411 | Leading Organizations | Comprehensive overview of leadership in organizations. Provides students with understanding of leadership research and its applications to global organizations and the development of leaders. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey BA or BS major; MGT 300, 303, 320, or 380 with C or better OR Non-Business major; MGT 300, 303, 320, or 380 with C or better; minimum 2.50 GPA; minimum 56 hours OR Visiting University Student |
| MGT | 420 | Human Resource Management | Development of skills and knowledge to lead associates effectively: hiring, developing, evaluating, retaining, and rewarding employees. Preparation for leadership roles. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W. P. Carey Business major; MGT 300, 303, 320, or 380 with C or better OR non-Business major; MGT 300, 303, 320, or 380 with C or better; minimum 2.50 GPA; minimum 56 hours OR Visiting University Student |
| MGT | 421 | Compensation in Organizations | Develops knowledge of theory and research in motivation, compensation and rewards, and skill in applying such knowledge to important compensation and reward decisions. Discusses strategic compensation and reward systems issues. Explores in detail a variety of monetary and nonmonetary reward systems; the motivational impact these systems have on employees, teams, and CEOs; and the performance impact they have on organizations. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey major; Pre- or corequisite(s): MGT 420 with C or better if completed OR Visiting University Student |
| MGT | 422 | Staffing | Focuses on the effective management of the flow of talent into and through organizations. Covers human resource planning, recruiting and selection, career transitions and other workforce movement. Provides opportunities to develop hands-on skills that are relevant to effectively managing talent flow. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey major; Pre- or corequisite(s): MGT 420 with C or better if completed OR Visiting University Student |
| MGT | 423 | Training and Development in Organizations | Familiarizes students with the training and development function in organizations. Although tailored to students interested in human resources management, the course may also be relevant to students who may at some point be involved in training and development within an organizational context. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey major; Pre- or corequisite(s): MGT 420 with C or better if completed OR Visiting University Student |

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| MGT | 424 | Employment Law | Provides an overview of U.S. employment law at both the federal and state levels. Reviews employment at will and wrongful discharge, employment torts, privacy, discrimination law, worker's compensation, occupational safety and health, unemployment, federal compensation laws, and the law of noncompetition and trade secrets. Designed for individuals preparing for careers in human resource management, labor relations or dispute resolution. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey BA or BS major; MGT 420 with C or better OR Visiting University Student |
| MGT | 425 | Global Human Resources | Explores the importance of international business management in the context of international human resource management, including topics on culture, compensation and benefits, international organizations and their structures, international assignment management and the legal and regulatory considerations that global organizations face. Identifies differences in operating a domestic versus international business and how business practices need to be adapted to operate successfully in foreign markets. Covers global strategy and structure; understanding and managing cultural differences; design and alignment of global HRM practices; and the global HR function. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey major; Pre- or corequisite(s): MGT 420 with C or better if completed OR Visiting University Student |
| MGT | 426 | HR Consulting Projects | Provides an opportunity to practice business management, relationship building, and HR technical skills in a real-world environment. Students complete human resource consulting projects with external outside organizations, allowing them to learn about the consultative nature common in corporate relationships, discuss real-world problems and solutions, and navigate technical processes related to the HR discipline. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey major; Pre- or corequisite(s): MGT 420 with C or better if completed; Credit is allowed for only MGT 426 or MGT 494 (HR Consulting Projects) OR Visiting University Student |
| MGT | 430 | Negotiations | Improves student's understanding of and skills in the art of negotiation. For most managers, negotiation is a significant aspect of their day-to-day jobs, not to mention a major element of everyday life. Give students experience in bargaining and negotiation, as well as provide a foundation in the essential knowledge bases crucial to being an effective negotiator. Emphasizes experiential learning--students spend most of their time participating in exercises and negotiation simulations, as well as discussing negotiation-based cases involving issues that often arise in the workplace. Provides a fundamental understanding of what it takes to be an effective negotiator, as well as several experiences to draw upon in future negotiation situations. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey BA or BS major, or non-business student with minimum 3.00 GPA and minimum 56 hours; MGT 300, 303, or 310 or TMC 330 with C or better OR Visiting University Student |
| MGT | 450 | Consulting Projects | Describes and analyzes business processes. Generates and evaluates alternatives. Creates improvement and implementation plans. | N | PRA | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | L | Prerequisite(s) with C or better: W.P. Carey BS or BA major; ENG 101, 105, or 107; ENG 301 or 302; MGT 300 or 303; MGT 411; MKT 300, 302 or 303; Pre- or corequisite(s): FIN 300, 302 or 303 with C or better if completed |
| MGT | 459 | International Management | Concepts and practices of multinational and foreign firms. Objectives, strategies, policies, and organizational structures for operating in various environments. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | G | Prerequisite(s): W.P. Carey BA or BS major, OR non-Business student; MGT 302 or ECN 306 with C or better; minimum 2.50 GPA; minimum 56 hours OR Visiting University Student |
| MGT | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | PRA | Y | Z1 | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-12 | | Prerequisite(s): W.P. Carey BA Human Resources or BS Business Entrepreneurship or BS Management major |
| MGT | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-6 | | Prerequisite(s): Barrett Honors student |
| MGT | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MGT | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-4 | | Prerequisite(s): W.P. Carey BA or BS major; MGT 300, 302, 303, or 310 with C or better OR non-business major; MGT 300, 302, 303, or 310 with C or better; minimum 2.50 GPA; minimum 56 hours OR Visiting University Student |
| MGT | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-3 | | Pre-requisites: W. P. Carey BS or BA student OR non Business students with a minimum GPA of 2.50 and either at least 56 earned hours or non degree students OR Graduate students |

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| MGT | 501 | Fundamentals of Organizational Behavior | Allows students to understand the human side of organizations through management theories and applications. Develops knowledge and skills for successful management of self and others. Designed for students with limited business experience and without an undergraduate business degree. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): degree-seeking graduate student |
| MGT | 502 | Organizational Behavior | Understands human side of organizations through management theories and applications. Develops knowledge and skills for successful management of self and others. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 2-4 | | Prerequisite(s): W. P. Carey MBA students |
| MGT | 513 | Mindful Leadership | Provides a transformative experience that aids in developing skills associated with being a mindful leader. Focuses on introducing the concept of mindful leadership and explaining how to use it to achieve personal and professional goals. Then concentrates on using mindful leadership to lead individuals and teams. Specific learning goals include: (1) to enhance understanding of mindful leadership; (2) to improve skills in using mindful leadership to achieve personal goals; (3) to improve skills in using mindful leadership to lead individuals and teams; and (4) to propose a transformative plan aimed at increasing use of mindful leadership. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-3 | | Prerequisite(s): W.P. Carey graduate student |
| MGT | 520 | High-Impact Leadership | Addresses the inherent ambiguity surrounding effective leadership by providing a toolkit of tangible behaviors to ensure leaders create "high impact" in all areas of their professional and personal lives. Emphasizes what high-impact leaders do differently and uniquely to achieve results while also inspiring loyalty in relationships. Covers core topics including building executive maturity and presence, developing and delivering compelling messages, inspiring those around you, building a strong relationship network, establishing credibility, and managing upward relationships. Includes peer dialogue, extensive presentation skills training, and assignments based on students' real-life leadership experiences. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-3 | | Prerequisite(s): W. P. Carey graduate student |
| MGT | 525 | Leadership and Teamwork | A key objective of the W. P. Carey Full-Time MBA program is to develop each student's leadership competencies, which are essential competencies as the individual enters the workforce and advances through organizations. During the FT MBA program, each student participates in the Executive Connections program. This program gives each student an opportunity to enhance his or her understanding of key leadership competencies, apply an experiential process of leadership development, and meet one-on-one with an executive coach to deeply explore and reflect on personal leadership competencies and goals for development. | N | LEL | Y | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 0.5-3 | | Prerequisite(s): WPC MBA degree student |
| MGT | 526 | Future World of Work | Focuses on the future world of work in terms of how organizations need to be agile along with their leaders. Focuses on the skills individuals need to be successful in the future world of work, in essence, the Forward Focus leadership skills. A critical component of this course is partnering with executive mentors from the Executive Connections Program. Also pairs well with the Interdisciplinary Learning Labs which gives students experiential learning in terms of some of the skills needed in the future. | N | LEC | Y | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 0.5-1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MGT | 528 | Basics of Mastering the Art of Influence and Negotiations | Contemporary management issues, including environmental, project and supply chain management; new product development; quality control; TQM. Designed for students with limited business experience and without an undergraduate business degree. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): degree-seeking graduate student |
| MGT | 530 | Mastering the Art of Influence and Negotiation | Improves students' understanding of and skills in the art of negotiation. For most managers, negotiation is a significant aspect of their day-to-day jobs, not to mention a major element of everyday life. Gives students experience in bargaining and negotiation, as well as provides a foundation in the essential knowledge bases crucial to being an effective negotiator. Emphasizes experiential learning--students spend most of their time participating in exercises and negotiation simulations (including negotiating job offers), as well as discussing negotiation-based cases involving issues that often arise in the workplace. The goal is to provide students with a fundamental understanding of what it takes to be an effective negotiator, as well as several experiences to draw upon in future negotiation situations. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-3 | | Prerequisite(s): W.P. Carey School of Business graduate student; Credit is allowed for only MGT 530 or MGT 591 (Negotiations) |

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| MGT | 540 | Going Out on Your Own: Entrepreneurship | Capstone case-based course covering all aspects of starting a business: opportunity identification, evaluation, concept development, identifying required resources, acquiring those resources, launching the entity, managing growth, and ultimately, harvesting the enterprise. Revolves around a series of cases, readings and class discussions designed to build a comfort level with understanding and solving problems faced every day, in real life, by a broad spectrum of entrepreneurs at various phases of venture development. Significant emphasis on understanding the valuation and financing of entrepreneurial ventures interwoven through discussions. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-3 | | Prerequisite(s): W.P. Carey School of Business graduate student; ACC 502 with C or better; FIN 502 with C or better; Credit is allowed for only MGT 540 or MGT 591 (Entrepreneurship) |
| MGT | 545 | Becoming Leaders Who Matter | Addresses core questions: What does it mean to be a leader who really matters? How can you become such a leader? Today's competitive and complex environment requires leaders who are equipped with not just the functional and technical skills necessary to run a business but, more significantly, the leadership skills that allow the business and the people involved in it to thrive. Provides an opportunity to reexamine thinking about leadership and assess current skills and competencies in this area. Highly interactive learning environment with case analyses, exercises, discussion, guided reflection activities, assessments and group work. Covers topics such as self awareness (motivations, values, and leadership style), developing perspective as leaders, the social context of leadership, the role of emotions in the workplace, using life experiences to extract leadership lessons. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-3 | | Prerequisite(s): W. P. Carey graduate student |
| MGT | 552 | Professional Development and Engagement Program | Deeply explores and develops professional skills. By identifying and building managerial competencies, facilitates the acceleration of career goals. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-3 | | Prerequisite(s): W. P. Carey MBA student; Credit is allowed for only MGT 552 or MGT 591 (Professional Development & Engagement Program). |
| MGT | 565 | Business Strategy and Public Policy | Takes a managerial perspective to examine the interface between businesses and their external political environments. Potential changes in public policy can affect current operations and future opportunities. Examines how managers can anticipate and affect the formation, modification and enforcement of public policy in various institutional environments. | N | LEL | Y | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-4 | | Prerequisite(s): W.P. Carey MBA Executive Program or W.P. Carey School of Business graduate student; Credit is allowed for only MGT 565 or MGT 591 (Business and Public Policy) |
| MGT | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MGT | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | W. P. Carey School of Business | Department of Management and Entrepreneurship | 0-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MGT | 586 | Fundamentals of Strategic Management | Explores the general manager as organizational leader. Focuses on competitive advantage and how each functional area contributes to it. Designed for students with limited business experience and without an undergraduate business degree. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1.5 | | Prerequisite(s): degree-seeking graduate student |
| MGT | 588 | Sources of Competitive Advantage | Explores the general manager as organizational leader. Focuses on competitive advantage and how each functional area contributes to it. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-4 | | Prerequisite(s): MBA degree student |
| MGT | 589 | Strategic Management | Formulation of strategy and policy in the organization, emphasizing the integration of decisions in the functional areas. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 2-4 | | Prerequisite(s): W. P. Carey MBA student |
| MGT | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MGT | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 0-12 | | Prerequisite(s): W. P. Carey graduate student |
| MGT | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-12 | | Pre-requisites: MBA degree student |
| MGT | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 0-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| MGT | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MGT | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MGT | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-12 | | Prerequisite(s): W. P. Carey degree-seeking graduate student |
| MGT | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MGT | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MHL | 140 | Sounds and Cultures | Introduces a range of practical and intellectual challenges presented by encounters with various kinds of music. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & G | Prerequisite(s): Music or Performance and Movement major OR Visiting University Student |
| MHL | 201 | Media Literacy for Musicians | Instruction in basic Macintosh computer literacy, including generic applications and music-specific programs with hands-on experience. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | CS | |
| MHL | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MHL | 339 | Undergraduate Bibliography I | Research tools and methods in musicology, concentrating on resources pertinent to the study of music from Antiquity to the Baroque. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): MHL 140; Corequisite(s): MHL 300- or 400-level course OR Visiting University Student |
| MHL | 340 | Undergraduate Bibliography II | Research tools and methods in musicology, concentrating on resources pertinent to the period 1750-present. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): MHL 140; Corequisite(s): MHL 300- or 400-level course |
| MHL | 341 | Music History I | Western European art music from Antiquity through Baroque. Identification/analysis through listening; application of historical and analytical concepts; research project comprising fresh thesis, detailed musical research, personal reflection, fluent English writing, correct citation. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s) w/ C or better: Performance BM or Theory & Composition BM major; MHL 140; MTC 223 OR Music Learning & Teaching BM, Music Therapy BM, or Music BA major; MHL 140; MTC 221 OR Visiting University Student |
| MHL | 342 | Music History II | Western European, American art music from Classical period to present. Identification/analysis through listening; transfer/application of music/analytical concepts; research project comprising fresh thesis, insightful musical research/reflection, fluent English writing, correct citation. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s) w/ C or better: Performance BM or Theory & Composition BM major; MHL 140; MTC 223 OR Music Learning & Teaching BM, Music Therapy BM, or Music BA major; MHL 140; MTC 221 OR Visiting University Student |
| MHL | 344 | Music in World Cultures | Examines the relations among music, dance, theatre, religion, and social status in Asia, Africa, Oceania, Europe, and the United States. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & G | Prerequisite(s): minimum 42 hours OR Visiting University Student |
| MHL | 345 | Music in Renaissance Cities | Examines the civic contexts for music from 15th-16th century Europe through analysis and discussion of style, composition, civic histories and broader sociocultural concepts. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s): Music major or minor; Credit is allowed for only MHL 345 or MHL 394 (Music in Renaissance Cities) OR Visiting University Student |
| MHL | 363 | Survey of Russian Music | Examines music and musical life in Russia, the Soviet Union, and the post-Soviet C.I.S. from the Middle Ages to the present. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s): Music major; MHL 140 with C or better |
| MHL | 365 | Popular Music and Race | Examines popular music in the United States with emphasis on historical, sociocultural, economic and aesthetic concerns as they intersect with issues of race and race relations. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | (L or HU) & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; MTC 221 with C or better; Credit is allowed for only MHL 365 or MHL 394 (Pop Music and Race) or MHL 494 (Pop Music and Race) OR Visiting University Student |
| MHL | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): Music major |
| MHL | 437 | Music in the Baroque Era | Examines music, culture and aesthetics in the 17th and early 18th centuries. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music major or minor; MHL 140 with C or better; MTC 221 with C or better; minimum 45 hours OR Visiting University Student |

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| MHL | 438 | Topics in 18th-Century Music | Selected topics exploring the musical styles of the 18th century and their cultural contexts. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | L & H | Prerequisite(s): Music major; ENG 101, 105, or 107 with C or better; MHL 140 with C or better; MTC 223 with C or better OR Visiting University Student |
| MHL | 439 | Topics in 19th-Century Music | Selected topics exploring the musical styles of the 19th century and their cultural contexts. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music major; ENG 101, 105, or 107 with C or better; MHL 140 with C or better; MTC 223 with C or better OR Visiting University Student |
| MHL | 440 | Topics in 20th-Century Music | Selected topics exploring the musical styles of the 20th century and their cultural contexts. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | L or HU | Prerequisite(s): Music major; ENG 101, 105, or 107 with C or better; MHL 140 with C or better; MTC 223 with C or better OR Visiting University Student |
| MHL | 441 | Concerts in the 20th Century | Presents a concert-centered approach to 20th-century music history, investigating important concerts that emphasized artistic collaboration, interaction between "high" and "low" genres, and other major issues affecting the changing means of creating, disseminating, and receiving music in the twentieth century. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s): MHL 140 with C or better; MTC 223 with C or better; Credit is allowed for only MHL 441 or MHL 494 (Concerts in the 20th Century) or MHL 598 (Concerts in the 20th Century) OR Visiting University Student |
| MHL | 445 | Music of the Silk Road | Provides an overview of music across the territories historically traversed by the silk roads, emphasizing the social contexts of music-making, and of a variety of musical practices found in this region. Studies the dynamics of musical exchange and change, the relationship of music to ecology within this varied geography, and how political interventions into the realm of culture have informed musical meaning, often by obscuring or highlighting long-standing social interconnections that have structured musical sound. Further studies the relationship of belief systems, economic patterns and gender ideologies to music. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & G | Prerequisite(s): Music major who has passed audition; MHL 140 with C or better; MTC 125 with C or better; Credit is allowed for only MHL 445 or MHL 494 (Music of the Silk Road) or MHL 545 or MHL 598 (Music of the Silk Road) |
| MHL | 447 | Music and Healing | Combines elements of musicology, philosophy, anthropology, music therapy, neuroscience, psychology; investigates ways music has been proven to positively affect the "human condition"; focuses on what music means to humans. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & H & G | Prerequisite(s): Music major who has passed audition; MHL 140 with C or better; MTC 222 with C or better; Credit is allowed for only MHL 447 or MHL 494 (Music and Healing) or MHL 547 or MHL 598 (Music and Healing) |
| MHL | 456 | History of Opera | Development of opera from its creation ca. 1600 to present. Emphasis placed on major stylistic developments and representative works. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music major; MHL 140 with C or better; MTC 222 with C or better |
| MHL | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | |
| MHL | 490 | Capstone Project I: Undergraduate Thesis Research | Selection of topic and research toward the completion of an undergraduate thesis of no fewer than 50 pages. | N | RSC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MHL 339 |
| MHL | 491 | Capstone Project II: Undergraduate Thesis | Completion of an undergraduate thesis in musicology or ethnomusicology of no fewer than 50 pages. | N | RSC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MHL 490 |
| MHL | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | | Prerequisite(s): Barrett Honors student |
| MHL | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MHL | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): Music major; MHL 140 with C or better; MTC 222 with C or better OR Visiting University Student |
| MHL | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | |
| MHL | 532 | Music Bibliography | Major historical and analytical writings; systematic and historical collections of music. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Graduate Music student |
| MHL | 545 | Music of the Silk Road | Provides an overview of music across the territories historically traversed by the silk roads, emphasizing the social contexts of music making, and of a variety of musical practices found in this region. Studies the dynamics of musical exchange and change, the relationship of music to ecology within this varied geography, and how political interventions into the realm of culture have informed musical meaning, often by obscuring or highlighting long-standing social interconnections that have structured musical sound. Further studies the relationship of belief systems, economic patterns and gender ideologies to music. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music graduate student; Credit is allowed for only MHL 445 or MHL 494 (Music of the Silk Road) or MHL 545 or MHL 598 (Music of the Silk Road) |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|---|------------------------------------|-------|-----------------|--|
| MHL | 547 | Music and Healing | Combines elements of musicology, philosophy anthropology music therapy, neuroscience, psychology; investigates ways music has been proven to positively affect the "human condition"; focuses on what music means to humans. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music graduate student; Credit is allowed for only MHL 447 or MHL 494 (Music and Healing) or MHL 547 or MHL 598 (Music and Healing) |
| MHL | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MHL | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre-requisites: Graduate Music student |
| MHL | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre-requisites: Graduate Music student |
| MHL | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre-requisites: Graduate Music student |
| MHL | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): Music graduate student who has passed audition |
| MHL | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre-requisites: Graduate Music student |
| MHL | 632 | Applied Musicology | Explores practice-oriented entrepreneurial opportunities and methods in musicology, acquires knowledge and develops skills in community engagement and outreach, explores pathways of professional publication and network building, and participates in organizing curated concert series and scholarly conferences. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MHL 532 |
| MHL | 657 | Topics in Symphonic Literature | Examines the evolution of the symphony and symphonic poem from the early classic era through the 19th century, with emphasis on the analysis of selected works. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MHL | 668 | Introduction to Ethnomusicology | Experiencing theory and methodology by being ethnomusicologists through musical performance, primary writings on fieldwork, career structuring, the history of the discipline, its relationship with historical musicology, and the cultural theories which ethnomusicologists draw on. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MHL | 670 | Area Studies in Ethnomusicology | Study of the music of a particular culture, country, or area (e.g., music of Mexico, Latin America, China, Africa). | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MHL | 675 | History of Choral Music and Institutions | Examines the history of choral music through the lens of choral institutions: patronage, education, ritual, performing forces, status (professional vs. amateur), and locale. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MHL | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MHL | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | N | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MHL | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MHL | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MHL | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | N | Z3 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MHL | 798 | Research Colloquium | Interactive research forum featuring research presentations and discussion among musicology students, faculty and guest speakers from across campus and other institutions. Encourages students to engage in constructive dialogue with their peers as well as with faculty and guest speakers in a collegial environment conducive to exchange and collaboration. Supervised by a faculty panel from the musicology division. | N | RSC | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MSI 601 or 602 |
| MHL | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|--|
| MIC | 205 | Microbiology | Introductory microbiology, emphasizing basic principles of microorganisms (bacteria, protozoa, algae, fungi, and viruses) and the role they play in health, ecology, and applied fields. May not be used for Microbiology credit unless a diagnostic test is passed. Both MIC 205 and MIC 206 required for SG General Studies credit. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | SG | Prerequisite(s): CHM 101 or 113 OR Visiting University Student |
| MIC | 206 | Microbiology Laboratory | Principles and lab techniques used in identifying and handling microorganisms. Both MIC 205 and 206 must be taken to secure SG General Studies credit. | N | LAB | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | SG | Pre- or corequisite(s): MIC 205 or 220 with C or better if completed OR Visiting University Student |
| MIC | 220 | Biology of Microorganisms | Introductory microbiology for students majoring in the life sciences. Detailed study of microbial cells, their structure, genetics, physiology, and taxonomy. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 181 or 281 with C or better; CHM 112, 116, or 118 OR Visiting University Student |
| MIC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| MIC | 302 | Advanced Bacteriology Laboratory | Advanced lab techniques in bacterial growth, physiology, and genetics, with an emphasis on quantitative data and formal lab reports. Both MIC 302 and 401 must be taken to secure L General Studies credit. | N | LAB | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 2 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; MIC 206 with C or better; MIC 220 with C or better OR Visiting University Student |
| MIC | 314 | HIV/AIDS: Science, Behavior, and Society | Overview of the basic biological, behavioral, and psychosocial aspects of HIV disease and AIDS. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only MIC 314 or SSH 314 OR Visiting University Student |
| MIC | 360 | Bacterial Physiology | Mechanisms and control of cell metabolism, structures, and functions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): MIC 220 with C or better OR Visiting University Student |
| MIC | 379 | Medical Bacteriology | Principles of medical bacteriology with emphasis on bacterial infections, diagnostic testing, clinical symptoms, pathogenesis, and treatments. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): MIC 220 with C or better OR Visiting University Student |
| MIC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| MIC | 401 | Research Paper | Paper of 15 or more pages based on library or lab research in collaboration with a faculty member. Required of all Microbiology majors. Both MIC 302 and 401 must be taken to secure L General Studies credit. | N | RSC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; MIC 206 with C or better; MIC 220 with C or better; senior standing OR Visiting University Student |
| MIC | 420 | Immunology: Molecular and Cellular Foundations | Antibody/antigen interactions, cellular response, cytokines, immunogenetics, immunoregulation, autoimmunity, psychoneuroimmunology research/medical perspectives. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 353, BIO 360, or MIC 220 with C or better; Credit is allowed for only BIO 420 or MIC 420 OR Visiting University Student |
| MIC | 421 | Experimental Immunology | Introduces the basic techniques, methods, and assays used in immunology. | N | LAB | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 2 | | Prerequisite(s): BIO 353 or 360, MBB 247, or MIC 220 with C or better OR Visiting University Student |
| MIC | 425 | Advanced Immunology | Surveys recent advances in immunology, including lymphocyte membranes, lymphokines/biochemistry, molecular genetics, theoretical immunology, immunoregulation, neuroimmunology, and immunologic diseases. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): MIC 420 with C or better |
| MIC | 441 | Bacterial Genetics | Surveys genetic exchange and regulatory processes in bacteria and their viruses. Bacteria and viruses as tools in genetic engineering. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 340 or MBB 347 with C or better; MIC 220 with C or better OR Visiting University Student |
| MIC | 442 | Bacterial Genetics Laboratory | Techniques of mutagenesis, mapping, and strain and genetic library construction. | N | LAB | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Pre/Co-requisite: MIC 441 |
| MIC | 443 | The Microbial Universe | Diversity and physiology of microorganisms with emphasis on recent advances in the biology of microorganisms of environmental and medical importance. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): BIO 182 or 282 with C or better; Pre- or corequisite(s): MIC 444 with C or better if completed OR Visiting University Student |
| MIC | 444 | The Microbial Universe Laboratory | Techniques used to explore the microbial universe with emphasis on structural, metabolic, genetic, and growth characteristics relevant to the identification and characterization of microorganisms of environmental and medical importance. Not open to students with credit in MIC 206. | N | LAB | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Pre- or corequisite(s): MIC 443 with C or better OR Visiting University Student |
| MIC | 445 | Techniques in Molecular Biology/Genetics | Molecular genetic principles: plasmid construction, purification and characterization; PCR; mutagenesis; DNA sequence analysis; protein quantitation, hybridization, immunologic detection and electrophoresis. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 340 or MBB 347 with C or better; Credit is allowed for only MBB 445 or MIC 445 OR Visiting University Student |
| MIC | 446 | Techniques in Molecular Biology/Genetics Lab | Molecular genetic techniques; plasmid construction, purification, and characterization; PCR; mutagenesis; hybridization and sequence analysis; protein quantitation; immunologic detection, and electrophoresis. | N | LAB | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 2 | | Pre- or corequisite(s): MBB 445 or MIC 445 with C or better if completed; Credit is allowed for only MBB 446 or MIC 446 OR Visiting University Student |
| MIC | 461 | Geomicrobiology | Past and present interactions among microbial life, geological materials, and biogeochemical cycles involving carbon, sulfur, phosphate, nitrogen, and metals. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Credit is allowed for only GLG 461 or MIC 461 |
| MIC | 470 | Bacterial Diversity and Systematics | Biology, classification, and enrichment culture of the nonpathogenic bacteria. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): MIC 302 with C or better |

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|---------|-------------|-----------------------------|---|-------------------|-------------------|-----------------|---------------|--|-------------------------|-------|-----------------|--|
| MIC | 481 | Bacterial Pathogenesis | Human host-bacterial interactions in infectious diseases with emphasis on pathogenesis and molecular mechanisms of bacterial virulence. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): MIC 220 with C or better; MIC 360 or 441 with C or better |
| MIC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | |
| MIC | 485 | General Virology | Fundamental principles of viruses, their molecular biology, replication, genetics, and pathogenesis. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): MIC 206 with C or better; MIC 220 with C or better OR Visiting University Student |
| MIC | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| MIC | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MIC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| MIC | 495 | Undergraduate Research | Supervised research in biology/microbiology/molecular biosciences and biotechnology/or plant biology. | Y | RSC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-3 | | Prerequisite(s): junior or senior standing OR Visiting University Student |
| MIC | 496 | Undergraduate Thesis | Guided research culminating in the preparation of an undergraduate thesis based on supervised research done in this and previous semesters. | N | RSC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): junior or senior standing; Credit is allowed for only BIO 496 or HPS 496 or MBB 496 or MIC 496 OR Visiting University Student |
| MIC | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-7 | | |
| MIC | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-3 | | |
| MIC | 501 | Foundations in Microbiology | Provides overview of the field of microbiology including: bacterial genetics and physiology, virology and host/pathogen interactions through lectures, reading, presentations and discussion of papers in the field of microbiology and immunology. Students read all papers, participate in class discussions and present papers during the semester. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only MIC 501 or MIC 591 (Milestones in Microbiology) |
| MIC | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MIC | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MIC | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MIC | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MIC | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MIC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MIC | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MIC | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MIC | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--|--------------------------------|-------|-----------------|--|
| MIC | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MIC | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MIC | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MIS | 101 | Introduction to the United States Army | Introduces the personal challenges and competencies that are critical for effective leadership and communication. Students learn how the personal development of life skills such as cultural understanding, goal setting, time management, stress management and comprehensive fitness relate to leadership, officership and the Army profession. Focuses on developing basic knowledge and comprehension of Army leadership dimensions, attributes and core leader competencies while gaining an understanding of the Army ROTC program, its purpose in the Army, and its advantages for the student. Includes physical training assessments, tactical training, as well as lecture-based instruction. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Military Science | 4 | | |
| MIS | 102 | Foundation of Agile and Adaptive Leadership | Introduces the professional challenges and competencies that are needed for effective execution of the profession of arms and Army communication. Through this course, students learn how ethics and values shape the Army and the specific ways that these ethics are inculcated into Army culture. Explores the seven Army values and the warrior ethos, investigate the profession of arms and Army leadership as well as an overview of the Army, and gains practical experience using critical communication skills. Includes physical training assessments, tactical training, as well as lecture-based instruction. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Military Science | 4 | | |
| MIS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of Military Science | 1-4 | | |
| MIS | 201 | Army Leadership and Decision Making | Academically challenging course where students study, practice and apply the fundamentals of Army leadership, officership, Army values and ethics, personal development and small-unit tactics at the platoon level. Requires the student to demonstrate writing skills and present information briefings as preparation for development in becoming a successful future officer. Includes reading assignments, homework assignments, small group assignments, briefings, case studies, practical exercises, a mid-term exam and final exam. Also includes physical training assessments, tactical training, as well as lecture-based instruction. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Military Science | 4 | | Prerequisite(s): MIS 101; MIS 102 OR Visiting University Student |
| MIS | 202 | Army Doctrine and Team Development | Academically challenging course where students study, practice and apply the fundamentals of the leadership, officer skills, Army values and ethics, personal development and tactics at the small-unit level. Focuses on cross-cultural competencies as they relate to Army doctrine and how they apply in a combatant commander's engagement strategies. Stresses Army values, teamwork and warrior ethos and their relationship to the law of land warfare and philosophy of military service. Covers the ability to lead and follow through team building exercises in small units up to squad level. Requires the student to demonstrate writing skills and present information briefings as preparation for development in becoming a successful future officer. Also includes physical training assessment, tactical training, as well as lecture-based instruction. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Military Science | 4 | | Prerequisite(s): MIS 101; MIS 102; MIS 201 |
| MIS | 205 | Leader's Training Course | 6-week training program emphasizing practical hands-on skills and leadership development. Taken in lieu of MIS 101, 102, 201, 202. Conducted at Fort Knox, Kentucky. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Military Science | 4 | | |
| MIS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of Military Science | 1-4 | | |

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| MIS | 301 | Training Management and the Warfighting Functions | Academically and physically challenging course where students study, practice and apply the fundamentals of Army leadership, officership, Army values and ethics, personal development and small-unit tactics at the platoon level. At the conclusion of this course, the student is capable of planning, coordinating, navigating, motivating and leading a squad and platoon in the execution of a mission during a classroom PE, a leadership lab or during a Leader Training Exercise (LTX). Requires the student to write peer evaluations and receive feedback on abilities as a leader and how to improve those leader skills that can further develop into a successful officer. Students receive systematic and specific feedback on their leader attributes, values and core leader competencies from the instructor, other ROTC cadre and MSL IV Cadets who evaluate the students using the Cadet Officer Evaluation System (OES). | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Military Science | 4 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; MIS 101; MIS 102; MIS 201; MIS 202 |
| MIS | 302 | Applied Leadership in Small-Unit Operations | Academically and physically challenging course where students study, practice and apply the fundamentals of Army leadership, officership, Army values and ethics, personal development and small-unit tactics at the platoon level. At the conclusion of this course, the student is capable of planning, coordinating, navigating, motivating and leading a squad and platoon in the execution of a mission during a classroom PE, a leadership lab, or during a Leader Training Exercise (LTX). Students receive systematic and specific feedback on their leader attributes, values and core leader competencies from the instructor, other ROTC cadre and MSL IV cadets who evaluate the students using the Cadet Officer Evaluation System (OES). Teaches the student the necessary skills to be successful at the USACC Advance Camp. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Military Science | 4 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; MIS 101; MIS 102; MIS 201; MIS 202; MIS 301 |
| MIS | 303 | National Advanced Leadership Camp | 6-week training program emphasizing leadership development and advanced military skills, including tactics, land navigation, and physical training. Conducted at Fort Lewis, Washington. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Military Science | 4 | | |
| MIS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of Military Science | 1-4 | | |
| MIS | 401 | The Army Officer | Academically and physically challenging course where students study, practice, develop and apply critical thinking skills pertaining to Army leadership, officer skills, Army values and ethics, personal development and small-unit tactics at platoon level. Includes reading assignments, homework assignments, small group assignments, briefings, case studies, practical exercises, a mid-term exam, and final exam. Assesses students on the execution of a mission during a classroom PE, leadership lab or during a Leader Training Exercise (LTX). Students receive systematic and specific feedback on their leader attributes, values and core leader competencies from the cadre, PMS and other MSL IV cadets. At the conclusion of this course, students plan, coordinate, navigate, motivate and lead a platoon in future operational environment. Successful completion of this course assists in preparing for the BOLC and is mandatory for commissioning. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Military Science | 4 | | Prerequisite(s): MIS 101; MIS 102; MIS 201; MIS 202; MIS 301; MIS 302 OR Visiting University Student |
| MIS | 402 | Company Grade Leadership | Academically and physically challenging course where students study, practice, develop and apply critical thinking skills pertaining to Army leadership, officer skills, Army values and ethics, personal development and small-unit tactics at platoon level. For the capstone exercise, requires students to complete an oral practicum that is evaluated on their knowledge of the 20 Army warfighting challenges. Assesses students on leadership abilities during classroom PE, leadership labs or Leader Training Exercises (LTXs). Students receive systematic and specific feedback on their leader attributes, values and core leader competencies from the cadre, PMS and other MSL IV cadets. At the conclusion of this course, students plan, coordinate, navigate, motivate and lead a platoon in future operational environment. Successful completion of this course assists in preparing for the BOLC and is a mandatory requirement. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Military Science | 4 | | Prerequisite(s): MIS 101; MIS 102; MIS 201; MIS 202; MIS 301; MIS 302; MIS 401 |
| MIS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | Department of Military Science | 1-3 | | |
| MKT | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Marketing | 1-4 | | |

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| MKT | 280 | Fashion Merchandising | Examines the business side of the fashion industry with a focus on fashion marketing and the fundamentals of merchandising and retailing. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Credit is allowed for only FSH 280 or MKT 280 |
| MKT | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | |
| MKT | 300 | Marketing and Business Performance | The dynamic role of marketing within society and organizations. Emphasizes frameworks and analytical tools that ensure customer focus and drive organizational performance. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey major, or non-business major with minimum 2.50 GPA and minimum 56 hours; ECN 211, 212, 213, or 214 with C or better OR Visiting University Student |
| MKT | 302 | Applied Marketing Management and Leadership | Market planning, execution, and assessment. Emphasizes decision and communication skills related to market opportunity analyses and marketing program development as a core business function. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | L | Prerequisite(s) w/ C or better: W. P. Carey Marketing BS major; ECN 221 or 231; ENG 101, 105, or 107; MAT 211, 266, or 271; Pre- or corequisite(s): ACC 241, 242, or 271 w/ C or better if completed OR Visiting University Student |
| MKT | 303 | Honors Marketing Theory and Practice | Covers basic applications of marketing concepts to problems that are common to marketing managers. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | L | Prerequisite(s) w/ C or better: W.P. Carey Honors student; ECN 221 or 231; ENG 101, 105, or 107; MAT 211; Pre- or corequisite(s): ACC 241, 242, or 271 w/ C or better if completed; Credit is allowed for only MKT 300 or MKT 302 or MKT 303 |
| MKT | 311 | Sports Business | Focuses attention on components ranging from professional sports to collegiate sports, as well as sports-related products. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey Business (Sports Business) BA major or BS major obtaining Sports Business certificate; minimum 56 hours; Pre- or corequisite(s): MKT 300, 302, or 303 with C or better if completed OR Visiting University Student |
| MKT | 352 | Marketing Research | Knowledge and skills to make intelligent decisions in the design, evaluation and application of marketing research and market data. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | L | Prerequisite(s): W. P. Carey Marketing student; ENG 101, 105, or 107 with C or better; MKT 302 or 303 with C or better OR Visiting University Student |
| MKT | 355 | Designing Brand Identity: Methods and Digital Tools | Creates brand identity initiatives by beginning with a focus on research and strategy. Covers how the support system of design principles, color, imagery, typography and composition makes an entire brand identity program cohesive, yet differentiated. Explores major media development tools (e.g., Adobe Creative Cloud) in a way that can help students select the right approach for a brand, and also to make good choices for working across media. Differentiates between critical digital literacy as opposed to functional digital literacy, which focuses predominately on how to operate software applications. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): MKT 302 or 303; Credit is allowed for only MKT 355 or MKT 494 (Digital Tools for Building Brands) |
| MKT | 365 | Advertising and Beyond: Customer-Centric Brand Development | Advertising and brand development as means to marketing and business success. Consideration of market research, segmentation, objective, creative strategy, digital and integrated media tactics, media management, and metrics of effectiveness. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W.P. Carey BS student; MKT 300, 302 or 303 with C or better OR Visiting University Student |
| MKT | 370 | Professional Sales and Relationship Management | Investigate the vital role of sales, its relationship to other functions within the firm, and its impact on customers. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W.P. Carey BA or BS major, or non-business major with minimum 2.50 GPA and minimum 56 hours; MKT 300, 302, or 303 with C or better OR Visiting University Student |
| MKT | 385 | Data-Driven Marketing | Investigates the increasingly important relationship between marketing and data, looking both at the collection of qualitative and quantitative inputs and the analysis of that data to make informed decisions. It's big (and small) data meets big ideas. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey major; MKT 300, 302, or 303 with C or better; Credit is allowed for only MKT 385 or MKT 494 (Data-Driven Marketing) OR Visiting University Student |
| MKT | 390 | Essentials of Marketing | Focuses on the nature and processes of marketing with an emphasis on practical application. Not open to business majors. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): Non-Business student; minimum 2.00 GPA; minimum 56 hours OR nondegree-seeking undergraduate student OR degree- or nondegree-seeking graduate student OR Visiting University Student |

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| MKT | 391 | Essentials of Selling | Focuses on the selling process and its practical applications within consumer and business markets. Not open to business majors. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): Non-business student; minimum 2.00 GPA; minimum 56 hours OR nondegree-seeking undergraduate student; minimum 2.00 GPA OR degree-seeking or nondegree-seeking graduate student OR Visiting University Student |
| MKT | 392 | Essentials of Business Marketing | Provides the tools and specialized knowledge for developing and executing marketing strategy in the business-to-business market. Covers how to identify forces that drive buying behavior in organizations, measure market opportunity, identify profitable segments and develop strategy, particularly for turbulent, high-technology markets. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): Non-Business major; minimum 2.00 ASU cumulative GPA; minimum 56 hours; MKT 390 with C or better; or Non-degree seeking undergraduate or Degree seeking or Non-degree seeking graduate student |
| MKT | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): Non-business student, and minimum cumulative GPA of 2.00, and minimum 56 hours OR be a Non-degree student with minimum 2.0 ASU cum GPA OR be a graduate student |
| MKT | 395 | Essentials of Advertising and Marketing Communication | Covers topics of immediate or special interest to a faculty member and students. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W.P. Carey BA major or non-business major; minimum 2.00 GPA; minimum 56 hours, OR non-degree student with minimum 2.0 GPA OR graduate student; Credit is allowed for only BUA 382 or MKT 395 OR Visiting University Student |
| MKT | 396 | Essentials of Services Marketing | Focuses on challenges of managing service brands and delivering quality service to customers across industry sectors. Emphasizes skills and knowledge needed to implement quality service and service strategies, frameworks for customer-focused management, and how to increase customer satisfaction and retention through service strategies. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): non-Business major; minimum 2.00 GPA; minimum 56 hours; MKT 390 with C or better OR Business (Retail Management) BA major OR nondegree-seeking student OR graduate student (degree- or nondegree-seeking) OR Visiting University Student |
| MKT | 397 | Essentials of Global Marketing | Introduces the concepts of globalization in markets and gives an appreciation and understanding of the differences between marketing in the student's home country and marketing globally. The rapid adoption of technology has fundamentally changed the dynamics of marketing and created new competitive paradigms that must be understood for firms to be successful. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): non-Business major; minimum 2.00 GPA; minimum 56 hours; MKT 390 with C or better OR non-degree seeking undergraduate OR degree- or non-degree seeking graduate student OR Visiting University Student |
| MKT | 398 | Essentials of Sports Business | Introduces the concepts of sports business. Builds knowledge, skills and understanding of the fundamentals of sports business. Develops an appreciation for and understanding of the multiple stakeholders and diverse interests in and around sports business, and how they impact sports business practice and performance. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): non-Business major; minimum 2.00 ASU GPA; minimum 56 hours; MKT 390 with C or better OR non-degree seeking undergraduate OR degree- seeking or non-degree seeking graduate student OR Visiting University Student |
| MKT | 402 | Consumer Behavior | Applies behavioral concepts in the analysis of consumer behavior and the use of behavioral analysis in marketing strategy formulation. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey Marketing student; MKT 352 with C or better OR Visiting University Student |
| MKT | 410 | Sales Management | Constructive investigation of selling processes, their application in business and consumer contexts, and management of the sales function. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey BA or BS major; MKT 300, 302, or 303 with C or better OR Visiting University Student |
| MKT | 420 | Retail Management | The role of marketing in retailing and retail performance. Challenges and processes of retail management across various institutions. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey Business (Retail Management) BA or Marketing BS major; MKT 300, 302, or 303 with C or better OR Visiting University Student |
| MKT | 421 | Fan Behavior and Sports Marketing | Focuses on what it means to be a consumer in a sports marketing context society and what, as a marketer, you need to know to develop, evaluate and implement effective marketing strategies for fans. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey Business (Sports Business) BA major; MKT 300, 302, or 303 with C or better; MKT 311 with C or better OR Visiting University Student |
| MKT | 425 | Global Marketing Management | Analyzes marketing strategies and practices developed by firms to compete in global markets and adapt to changing international environments. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | G | Prerequisite(s): W.P. Carey BA or BS major or non-business major with minimum 2.50 ASU cum GPA and minimum 2.50 ASU business GPA and 56 earned hours; MKT 300 or 302 or 303 with C or better OR Visiting University Student |

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| MKT | 430 | Sports Business | Builds knowledge, skills, and understanding of sports business; exposure to leading-edge thought, methods, and practices in sports business. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey BS student; must have completed MKT 300, MKT 302 or MKT 303 with a grade of C or better. |
| MKT | 431 | Sports Events and Facility Management | Project-based course that encompasses the administration, coordination and evaluation of any type of event related to sports. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey Business (Sports Business) BA major or BS major obtaining Sports Business certificate; MKT 300, 302, or 303 with C or better; MKT 311 with C or better OR Visiting University Student |
| MKT | 435 | Entrepreneurial Marketing | Identifies and evaluates marketing opportunities; motivates an appreciation of entrepreneurial marketing and its different environmental contexts for general marketing principles. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey BA or BS major; MKT 300, 302, or 303 with C or better OR Visiting University Student |
| MKT | 438 | Advanced Selling Using Data and Technology | Focuses on the use of technology to advance sales. Students explore how technology is leveraged in the sales process. Hands-on and interactive course leverages case studies, role plays, team projects, presentations, and in-class application of CRM technology. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey BA or BS major; MKT 300, 302, or 303 with C or better; MKT 370 or 410 with C or better; Credit is allowed for only MKT 438 or MKT 494 (Strategic Selling Using Data and Technology) OR Visiting University Student |
| MKT | 440 | Creating Digital Experiences | Marketing is about creating meaningful experiences between brands and the people they serve. Designed to jump start learning for any student interested in marketing goods and services in contemporary society, this course covers digital ideation and planning as well as digital media, all with a focus on practical application. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 1-3 | | Prerequisite(s): W. P. Carey Marketing major; MKT 302 or 303 with C or better; Credit is allowed for only MKT 440 or MKT 494 (Digital Marketing in Practice) OR Visiting University Student |
| MKT | 441 | Sports Revenue Generation | Focuses on selling and how to create, maintain and build relationships within the sports context. Students gain knowledge and develop skills in choosing a sales career including attributes of a sales person, sales call preparation, value propositions, creating value for the client, team selling, questioning and listening techniques, negotiating, persuasion and closing techniques. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey Business (Sports Business) BA major or BS major obtaining Sports Business certificate; MKT 300, 302, or 303 with C or better; MKT 311 with C or better OR Visiting University Student |
| MKT | 442 | Services Marketing Strategy | Concepts, skills, and strategies for addressing the imperative marketing challenges and opportunities involving service. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey Marketing BS major; MKT 302 or 303 with C or better; MKT 352 with C or better; minimum 56 hours; Pre- or corequisite(s): MKT 402 with C or better if completed OR Visiting University Student |
| MKT | 450 | Social Media and Content Marketing | Centers on how to effectively use social media and content marketing to build relationships between a company and its customers. Students learn to create content, how to deliver content through social media and community management, as well as how to optimize content for maximum effectiveness. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 1-3 | | Prerequisite(s): W. P. Carey Marketing BS major; MKT 302 or 303 with C or better; Credit is allowed for only MKT 450 or MKT 494 (Social Media Mktg and Com Mgmt) OR Visiting University Student |
| MKT | 451 | Sports Business Analytics | Develops and applies critical and creative thinking skills through the lens of a sports context with the goal of making data-driven decisions. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey Business (Sports Business) BA major or BS major obtaining Sports Business cert; MKT 300, 302 or 303 with C or better; MKT 311 with C or better OR Visiting University Student |
| MKT | 452 | Business-to-Business Marketing Strategy | Concepts, skills, and strategies for performing competitively in the business market where organizations rather than households are the customers. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey Marketing BS major; MKT 302 or 303 with C or better; MKT 352 with C or better; minimum 56 hours; Pre- or corequisite(s): MKT 402 with C or better if completed OR Visiting University Student |
| MKT | 455 | Brand Management | Focuses on understanding brand management and the concepts associated with building brand equity and managing brand identity and positioning. Students learn how firms create a competitive advantage by incorporating consumer insight into an effective branding strategy. In addition, students gain an understanding of the role of branding on product portfolio management. Heavily features case discussion, projects and real brands. Applies brand management knowledge to an actual branding strategy project for a small firm. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey Marketing major; MKT 302 or 303 with C or better; Credit is allowed for only MKT 455 or MKT 494 (Brand Management) OR Visiting University Student |
| MKT | 460 | Sports Revenue Generation | Focuses on providing a sophisticated understanding of revenue generation in the context of sports. Students gain knowledge of key marketing, management and administrative functions that play a critical role in revenue-generation strategies. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W.P. Carey BS major; MKT 300, 302 or 303 with C or better |

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| MKT | 462 | Competitive Marketing Strategy | Strategy formulation and decision making by the marketing executive. Integrates marketing programs and considers competitive marketing issues. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W.P. Carey Marketing student; MKT 302, 303 or 352 with C or better; Pre- or corequisite: MKT 402 with C or better if completed OR Visiting University Student |
| MKT | 465 | Projects in Sports Business | Focuses on providing students with an innovative opportunity to work directly with sports business industry professionals to address real-world and real-time issues faced by these organizations. Students develop an appreciation for and understanding of the multiple stakeholders and diverse interests in and around sports business, and of their constantly changing and interactive impact on sports business practice and performance. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey Business (Sports Business) BA major or BS major; MKT 300 or 302 or 303 with C or better; MKT 311 or 430 with C or better OR Visiting University Student |
| MKT | 472 | Immersive Brand Experience I: Intelligence, Insights and Strategy | Provides in-depth, hands-on experience creating complete branding initiatives (campaigns, projects, products/services) for business or nonprofit organizations. Functioning as a real working branding firm, each student provides both an individual effort, as well as works within teams. Focuses on customer and brand market research, strategic planning and foundations of the creative process. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s) w/ C or better: W.P. Carey Marketing major; MKT 302 or 303; MKT 352; min 56 hours; Pre- or corequisite(s): MKT 402 w/ C or better if completed; Credit allowed for only MKT 472 or MKT 494 (Proj in Advertising) OR Visiting University Student |
| MKT | 473 | Immersive Brand Experience II: Creative, Media and Measures | Provides in-depth, hands-on experience creating complete branding initiatives (campaigns, projects, products/services) for business or nonprofit organizations. Functioning as a real working branding firm, each student provides both an individual effort, as well as works within teams. Applies previously acquired marketing knowledge and best practices in creative direction, writing and art direction, media development and strategy to deliver completed brand development initiatives for clients. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W.P. Carey Marketing major; MKT 302 or 303 with C or better; MKT 352 with C or better; min 56 hours; Pre- or corequisite(s): MKT 402 with C or better if completed; Credit is allowed for only MKT 473 or MKT 494 (Projects in Advertising) |
| MKT | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | W. P. Carey School of Business | Department of Marketing | 1-12 | | Prerequisite(s): W.P. Carey BA or BS major; MKT 300, 302, or 303 with B- or better; minimum 3.00 GPA |
| MKT | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | IND | Y | Z1 | W. P. Carey School of Business | Department of Marketing | 1-6 | | Prerequisite(s): Barrett Honors student |
| MKT | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | IND | N | Z1 | W. P. Carey School of Business | Department of Marketing | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MKT | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): W.P. Carey BA or BS major; MKT 300, 302, or 303 with C or better OR Visiting University Student |
| MKT | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | W. P. Carey School of Business | Department of Marketing | 1-3 | | Prerequisite(s): Business major with professional status OR non-Business student; minimum 2.50 GPA; minimum 56 hours |
| MKT | 501 | Fundamentals of Marketing Management | Manages the marketing function; market and environmental analysis; marketing planning, strategy and control concepts. Development and management of marketing programs. Designed for students with limited business experience and without an undergraduate business degree. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): degree-seeking graduate student |
| MKT | 502 | Marketing Management | Managing the marketing function; market and environmental analysis; marketing planning, strategy, and control concepts. Development and management of marketing programs. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): W. P. Carey MBA students |
| MKT | 520 | Delivering Outstanding CX Through Service and Digital Experiences | Explores how to develop long-term, loyal relationships with customers by optimizing the experiences they have with the firm across a variety of touchpoints. Students learn several frameworks to help them to create and document quality experiences. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): MKT 502 |
| MKT | 525 | Excel in Services | Focuses on challenges of managing services and delivering quality service to customers. The attraction, retention, and building of strong customer relationships through quality service (and services) are at the heart of the course content. The course is equally applicable to organizations whose core product is service and to organizations that depend on services for competitive. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| MKT | 530 | Creativity and Innovation | Multidisciplinary approaches to theories and practices of inspiring and managing innovation and change for sustainable competitive advantage. Focuses on both the student's individual creativity and the planning and implementation of innovations, technologies, processes, or systems that pose significant uncertainty. Places special attention on the processes surrounding understanding the consumer, ideation and implementation. Inclusive in this are methods such as environmental scanning, scenario planning, contextual research, storytelling, concept testing and prototyping. Also includes the many aspects of the organization's structure and culture regarding innovation and creativity. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MKT | 535 | Global Marketing Strategy | Introduces the concepts of globalization in markets and gives an appreciation and understanding of the differences between marketing in a home country and marketing globally. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MKT | 540 | Strategic Brand Management | Some of a firm's most valuable assets are its brands. Building and effectively maintaining brand equity is one of a firm's top priorities. This course provides an understanding of strategic brand management and provides students with insights into how sustainable and customer-centric brand strategies can be created and leveraged over time. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MKT | 545 | Entrepreneurial Marketing | Introduces the process of developing a plan for starting a business and presenting that plan to potential investors in order to obtain financing. Covers the purposes of a business plan, the varying objectives of different types of investors or financial institutions, and how they complement or conflict with the interests of an entrepreneur. Topics include proprietary positioning, types of organization, and differing management objectives. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MKT | 550 | Product Management and Innovation | Develops student proficiency in product management skills to guide products and services through their product lifecycle. In particular, explores effective ways to coordinate customer needs, ensure accurate product development, and how to develop and use the appropriate tools needed to successfully sell products and services to customers from the perspective of the product manager. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): MKT 502 |
| MKT | 555 | B2B: Capturing Value Through Products, Services and Customer Solutions | Provides the tools and specialized knowledge for developing and executing marketing strategy in the business-to-business market. Covers how to identify forces that drive buying behavior in organizations, measure market opportunity, identify profitable segments, and develop strategy, particularly for turbulent, high-technology markets. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): MKT 502 |
| MKT | 560 | Customer Relationship Management | Focuses on the tools, metrics, and systems used to measure and manage customer relationships. Key to the development and use of sound customer metrics are market research skills including competencies in research design, sampling, measurement, data collection, and data analysis. Covers how to use types of data such as surveys, purchased data, transactional data, the Web, and social media to measure and manage customer relationships. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MKT | 561 | Customer-Centric Research and Analytics | Covers three major components: (1) a consideration of what it means to be "customer centric"; (2) development of qualitative and quantitative market research techniques; and (3) application of this material to project situations. | N | LEL | N | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only MKT 561 or MKT 591 (Customer Centric Research Analytics) |
| MKT | 562 | Advanced Analytics for Marketing Decisions | Involves formulating critical marketing problems, developing relevant testable hypotheses, collecting and analyzing data and, most importantly, drawing inferences and suggesting actionable implications. | N | LEL | N | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only MKT 562 or MKT 591 (Marketing Analytics) |
| MKT | 571 | Digital Marketing Applications and Analytics | Gives the applied understanding of the internet marketplace that allows students to adapt to its many changes, while also equipping them with the practical skills needed to perform vital daily functions. Covers Web experience, SEO, search ads, social media marketing, content marketing, email marketing, mobile marketing. Through this process, students learn how digital marketing has revolutionized the interactions between firms and consumers. | N | LEL | N | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): MKT 502; Credit is allowed for only MKT 571 or MKT 591 (Digital Marketing) |
| MKT | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | GNA | W. P. Carey School of Business | Department of Marketing | 1-12 | | Pre-requisites: W. P. Carey MBA Full Time student. |
| MKT | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | W. P. Carey School of Business | Department of Marketing | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| MKT | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | W. P. Carey School of Business | Department of Marketing | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MKT | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Marketing | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MKT | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | W. P. Carey School of Business | Department of Marketing | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MKT | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Pre-requisites: W.P. Carey degree seeking Graduate student |
| MKT | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | IND | Y | Z2 | W. P. Carey School of Business | Department of Marketing | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MKT | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | W. P. Carey School of Business | Department of Marketing | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MKT | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | W. P. Carey School of Business | Department of Marketing | 1-12 | | Pre-requisites: W.P. Carey degree seeking Graduate student |
| MKT | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | W. P. Carey School of Business | Department of Marketing | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MKT | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | W. P. Carey School of Business | Department of Marketing | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MKT | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | W. P. Carey School of Business | Department of Marketing | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MLS | 501 | Writing About Social Issues | Reading, discussion and creation of nonfiction writing on diverse societal issues. Investigates diverse forms and genres of writing. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MLS | 502 | Religion, Culture, and Health: Where Cultures Intersect | Focuses on how cultural and religious notions may come into conflict around issues of health. Contrasts two societies, not necessarily contemporary, from different continents. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MLS | 503 | Ethics, Science and Culture | Introduces ethics related to the practice of art, science and medical practice in modern and premodern society. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MLS | 504 | Film Analysis | Introduce formal and cultural issues important to understanding movies. | N | REC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only FMS 504 or MLS 504 |
| MLS | 505 | The Research Process | Contemporary scholarly writing and research processes that adult learners, new to graduate study, can use in all MLS classes and for years ahead. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only MLS 505 or MLS 598 (The Research Process) or MLS 598 (Research Methods) |
| MLS | 520 | Ecologies of Possibility: Creative and Critical Approaches | Provides a foundation of experiential, creative and critical exploration into ways of knowing that are reflexive and justice oriented. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MLS | 525 | Creative and Critical Research Design | Emphasizes that research, as an open-ended process, is a creative act that can help solve problems, generate possibilities, destabilize oppressive systems and promote justice. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MLS | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): Liberal Studies MLSt or Liberal Studies (Film and Media Studies) MLSt student |
| MLS | 582 | Applied Project Plan | Students employ select research methodologies, creative/critical thinking, reflexive practices and peer feedback to devise an applied project plan and an annotated literature review. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| MLS | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | PRA | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): Liberal Studies MLSt or Liberal Studies (Film and Media Studies) MLSt student |
| MLS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): Liberal Studies MLSt or Liberal Studies (Film and Media Studies) MLSt student |
| MLS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | N | LEC | N | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): Liberal Studies MLSt or Liberal Studies (Film and Media Studies) MLSt student |
| MLS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MLS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MND | 101 | First-Year Chinese I | Beginning course in Modern Standard Chinese designed for students who have little or no previous background in the language. Adopts different pedagogical approaches such as group practice, role play and situational dialogues to help students acquire basic skills in listening, speaking, reading and writing in Modern Standard Chinese. While linguistic elements are the focus of this course, also includes cultural information that go along with language use. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 5 | | Credit is allowed for only CHI 101 or MND 101 OR Visiting University Student |
| MND | 102 | First-Year Chinese II | Beginning course in Modern Standard Chinese designed for students who have completed MND 101. Different pedagogical approaches such as group practice, role play and situational dialogues are designed to help students acquire basic skills in listening, speaking, reading and writing in Modern Standard Chinese. While linguistic elements are the focus of this course, also includes cultural information with application to global business communication. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 5 | | Prerequisite(s): MND 101; Credit is allowed for only CHI 102 or MND 102 |
| MND | 201 | Second-Year Chinese I | First part of a two-semester course of intermediate Modern Standard Chinese for students who have successfully completed First-Year Chinese I and II. Adopts different pedagogical approaches such as group practice, role play and situational dialogues to help students acquire basic skills in listening, speaking, reading and writing. While linguistic elements are the focus of this course, also includes cultural information that accompanies language use along with a deep emphasis on global work situations. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 5 | | Prerequisite(s): MND 101; MND 102; Credit is allowed for only CHI 201 or MND 201 OR Visiting University Student |
| MND | 202 | Second-Year Chinese II | Second part of a two-semester course of intermediate Modern Standard Chinese for students who have successfully completed three semesters of Modern Standard Chinese at the college level or equivalent. Builds on the vocabulary introduced in the first three courses, with deeper emphasis on global work situations. Adopts different pedagogical approaches such as group practice, role play and situational dialogues to help students acquire basic skills in listening, speaking, reading and writing Modern Standard Chinese. While oral proficiency is the focus of this course, also includes cultural information that accompanies language use in the teaching as well. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 5 | | Prerequisite(s): MND 101; MND 102; MND 201; Credit is allowed for only CHI 202 or MND 202 |
| MSA | 101 | Elementary Arabic I | Introductory Arabic language focuses on pronunciation of Arabic sounds and basic writing skills. Students learn Arabic culture through standard greetings, common phrases, vocabulary and performance of appropriate social behaviors common in the Arab world which prepares students for work in global organizations. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 4 | | Credit is allowed for only ARB 101 or MSA 101 |
| MSA | 102 | Elementary Arabic II | Continuation of Elementary Arabic I, adopts different pedagogical approaches such as group practice, role play and situational dialogues to help increase listening, speaking, reading and writing skills. While linguistic elements are the focus, cultural and intellectual contexts provide a medium for understanding the Arab-Islamic world and the global business setting. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 4 | | Prerequisite(s): MSA 101; Credit is allowed for only ARB 102 or MSA 102 |

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| MSA | 201 | Intermediate Arabic I | Directed to students who have completed the first two courses of college-level Arabic. Students reach an advanced level of oral proficiency through concentrating on new verbs, vocabulary and unique structures of sentences which enable them to master a highly sophisticated usage of the language. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 4 | | Prerequisite(s): MSA 101; MSA 102; Credit is allowed for only ARB 201 or MSA 201 |
| MSA | 202 | Intermediate Arabic II | Provides advanced ability to understand, read, write and communicate in Arabic and is directed to students who have completed the first two Arabic elementary courses and the first intermediate course. Focuses on transitive, intransitive and passive and active verbs which enable students to express themselves in highly sophisticated Arabic styles and discourse. Students study how Arabic people perceive and communicate important cultural, historical and economic themes as well as major historical figures and their contributions to Arabic society. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 4 | | Prerequisite(s): MSA 101; MSA 102; MSA 201; Credit is allowed for only ARB 202 or MSA 202 |
| MSC | 115 | Music Production Fundamentals | Introduces the basic tools and techniques of the "in the box" music production. Students begin to hone their production chops and create their own original and collaborative work in the process. Course is broken down into 4 modules: writing in the DAW, producing in the DAW, collaborating in the DAW and working in the DAW. Students experience a series of lectures to cover weekly topic(s); participate in in-class exercises and demos; and write, arrange and produce original material to be workshopped in class, both individually and collaboratively. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Credit is allowed only for MSC 115 or MSC 194 (Music Production Fundamentals) |
| MSC | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MSC | 211 | Songwriting Fundamentals | Introductory course presenting the basic elements of the songwriting craft. Students experience a series of lectures that cover weekly topics, participate in class writing exercises and analysis of visiting artists and the student material being work shopped. Through in-class writing assignments, analysis and by recording and notating songs, students begin to hone their craft and create their own original and collaborative work. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre- or corequisite(s): MTC 125 with C or better if completed; Credit is allowed for only MSC 211 or MSC 294 (Songwriting Fundamentals) or MSC 294 (Songwriting I) OR Visiting University Student |
| MSC | 212 | Intermediate Music Production | Building upon previous coursework, dives deeper into the tools and techniques of music production, both in a home and professional studio setting. Students create their own original and collaborative work through the execution of four main projects. Students experience a series of lectures to cover weekly topic(s), participate in in-class exercises and demos and write, arrange and produce four original tracks through both individual and collaborative work, which are workshopped in class. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MSC 115 with C or better; Credit is allowed for only MSC 212 or MSC 294 (Intermediate Music Production) or MSC 294 (Music Production II) OR Visiting University Student |
| MSC | 213 | Sound Design Fundamentals | Centers on the basic elements of sound design as well as the acoustics and physics of sound. Students explore and learn about synthesizers, samplers, standard audio processors, creative effects processing and digital signal processing techniques, both in hardware and software form. Presents historical context for the development and evolution of the associated technology. Students generate several pieces of work which represent a diverse set of applications of tools presented in class. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MSC 115 with C or better; Credit is allowed for only MSC 213 or MSC 294 (Sound Design Fundamentals) OR Visiting University Student |
| MSC | 216 | Popular Music Foundations | Menu of courses designed to lay the foundational knowledge in various areas of study. | Y | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre- or corequisite(s): MSC 115 OR Visiting University Student |
| MSC | 221 | Popular Music Lab | Menu of courses designed to build popular music-specific musicianship skills. Respective course topics serve as complements to the fields of study available in the popular music foundation series. | Y | LAB | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | |
| MSC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MSC | 314 | Critical Listening | Focuses on developing critical listening and ear training skills with an emphasis on analyzing recording and mix techniques in the context of popular music. Topics include acoustics and spatial considerations, mix elements such as balances, panning, depth, EQ, reverb, compression, delay and time-based effects, instrument identification, stylistic comparisons of recording and mix techniques, being able to aurally discern and verbalize changes to frequency, dynamics and timbre. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MSC 115 with C or better; Pre- or corequisite(s): MSC 212 with C or better if completed; Credit is allowed for only MSC 314 or MSC 394 (Critical Listening) or MSC 474 (Mixing and Critical Listening 1) OR Visiting University Student |
| MSC | 441 | Live Sound and Stage Technology I | Presents the basic elements of running sound for live music performances and other associated stage technology such as microphones, lighting and video. Students experience a series of lectures to cover weekly topic(s), participate in hands-on class exercises and run sound for student ensembles and recitals. | Y | LAB | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only MSC 441 or MSC 494 (Live Sound and Stage Technology I) or MUP 441 (Live Sound and Stage Technology) OR Visiting University Student |

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| MSC | 442 | Live Sound and Stage Technology II | Continues the study of live sound reinforcement and concert technology, presenting advanced elements and techniques of running sound for live music performances and other associated stage technology such as microphones, lighting and video. Students experience a series of lectures to cover weekly topic(s), participate in hands-on class exercises and run sound for student ensembles and recitals. | N | LAB | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): MSC 441 with C or better; Credit is allowed for only MSC 442 or MSC 494 (Live Sound and Stage Technology 2) OR Visiting University Student |
| MSC | 443 | Popular Music Forum | Studio class that functions as a collaborative lab for all popular music students regardless of their musicianship specializations. Investigates various topics in popular music performance, composition and production. Students cultivate skills related to their musicianship specializations and develop aural skills and knowledge of music through participation in collaborative and solo projects, the study of recordings, and compositions. | N | LAB | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major or non-Music major who has passed audition |
| MSC | 444 | Popular Music Senior Forum | Studio class that functions as a collaborative lab for all popular music seniors who are preparing to graduate from the program, regardless of their musicianship specializations. Topics include but are not limited to: financial literacy and preparedness for the music industry, personal branding and presentation, management of personal digital profiles and external facing touchpoints, short- and long-term planning. Invites several industry professionals to speak to students. Concludes with a portfolio presentation which is a culmination of work done throughout the program. | N | LAB | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): two completions of MSC 443; Corequisite(s): MSC 489 OR Visiting University Student |
| MSC | 451 | Popular Music Industry Studies I | Familiarizes students with an overview of the popular music industry, business, law and operations while contextualizing and including aspects of its history and development. Study of the production of various popular and traditional music styles, specifically in the United States. Additionally, students study the music and the musicians of popular music throughout history and learn to recognize and apply aspects of creativity and innovation when developing a new product or business venture. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): minimum 45 hours |
| MSC | 452 | Popular Music Industry Studies II | Familiarizes students with aspects of starting and operating a business in the music industry. Students learn how to start a music production label, how to market new talent and how to release and promote their own music using up-to-date on and offline promotion and marketing tools. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MSC 451 with C or better |
| MSC | 470 | Sound Designer/Producer | A menu of courses for students in the popular music program who are interested in pursuing a career in sound design and production as one of their specializations. | Y | LEL | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MSC 115 with C or better; MSC 212 with C or better; MSC 213 with C or better; Pre- or corequisite(s): MSC 314 OR Visiting University Student |
| MSC | 471 | Contemporary Composer/Producer Specialization | A menu of courses for students in the popular music program who are interested in pursuing a career in contemporary writing and production as one of their specializations. | Y | LEL | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MSC 115 with C or better; MSC 212 with C or better; MTC 224 with C or better; Pre- or corequisite(s): MSC 213 OR Visiting University Student |
| MSC | 472 | Songwriter/Producer Specialization | A menu of courses for students in the popular music program who are interested in pursuing a career in songwriting and production as one of their specializations. | Y | LEL | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MSC 115 with C or better; MSC 211 with C or better; Pre- or corequisite(s): MTC 224 OR Visiting University Student |
| MSC | 473 | Engineer/Producer Specialization | A menu of courses for students in the popular music program who are interested in pursuing studio multi-track engineering, mix engineering and/or record production as one of their specializations. | Y | LEL | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MSC 115 with C or better; MSC 212 with C or better; Pre- or corequisite(s): MSC 314 OR Visiting University Student |
| MSC | 474 | Popular Music Specialization | A menu of courses designed to deepen specific aspects of student's musicianship in the context of popular music; each specialization course has an associated internship that provides students opportunities to apply what they are learning in a real-life context while also gaining additional skills and understanding. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | Prerequisite(s): MSC 451 with C or better; Pre- or corequisite(s): MSC 452 with C or better if completed OR Visiting University Student |
| MSC | 475 | DIY Creative Careers | A menu of courses for students in the popular music program who are interested in pursuing a career as an independent writer, producer, artist or any other type of freelance creative, and have chosen DIY creative careers as one of their specializations. | Y | LEL | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MSC 115 with C or better; MSC 451 with C or better OR Visiting University Student |
| MSC | 477 | Live Experience Design Specialization | A menu of courses for students in the popular music program who are interested in pursuing a career in live music concert and experience design, and have chosen live experience design as one of their specializations. | Y | LEL | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MSC 441 with C or better; MSC 442 with C or better OR Visiting University Student |
| MSC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): minimum 45 hours |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|---|
| MSC | 489 | Popular Music Capstone Project | Summative presentation of the student's interests which demonstrates mastery of the student's chosen area of focus. This may include but is not limited to a creative project or experience with a focus in music industry studies; performing, songwriting, composing, film scoring, recording, producing, or promoting. Students gain a more advanced level of knowledge and understanding of the practice and philosophy of the music industry in order to launch or further their career as a professional popular musician. | N | RSC | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): complete six credit hours from MSC 470, MSC 471, MSC 472, MSC 473, MSC 474, MSC 475, or MSC 477 |
| MSC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| MSC | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | |
| MSC | 551 | Popular Music Industry Studies I | Familiarizes students in the popular music industry, business, law and operations while contextualizing and including aspects of its history and development. This is accomplished through the study of the production of various popular and traditional music styles, specifically in the United States. Additionally, students study the music and the musicians of popular music throughout history and learn to recognize and apply aspects of creativity and innovation when developing a new product or business venture. | Y | LEC | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music graduate student |
| MSC | 552 | Popular Music Industry Studies II | Familiarize students with aspects of starting and operating a business in the music industry. Students learn how to start a music production label, how to market new talent and how to release and promote their own music using up-to-date on- and offline promotion and marketing tools. | N | LEC | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music graduate student |
| MSC | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): Music graduate student |
| MSC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MSE | 208 | Patterns in Nature | Examines topics from optics to analytical techniques. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 4 | SQ | Credit is allowed for only MSE 208 or PHS 208 |
| MSE | 211 | Introduction to Mechanics of Materials | Topics include stress, strain, elasticity, axial loading, torsion, bending, yield criteria, fracture, general energy methods and Castigliano's Theorem. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): PHY 121; PHY 122; MSE 250 with a C or better |
| MSE | 212 | Microstructure and Properties Lab | Lab experiments introducing optical and electron microscopy techniques, metallography and microstructure of metals, effects of composition and processing, and compositional identification. | N | LAB | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1 | | Prerequisite(s): MSE 215; MSE 250 OR Visiting University Student |
| MSE | 215 | Materials Synthesis | Introduces contemporary techniques for synthesizing both traditional and novel materials and the corresponding correlation to synthesized materials properties. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Pre- or corequisite(s): MSE 250 with C or better if completed OR Visiting University Student |
| MSE | 250 | Structure and Properties of Materials | Basic concepts of material structure and its relation to properties. Application to engineering problems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): CHM 114 or 113 with Pre- or corequisite(s): CHM 116 OR Visiting University Student |
| MSE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-4 | | |
| MSE | 301 | Materials and Civilization | Focuses on exploring how materials technology can change people's lives. Traces how societies evolved based on the access to materials and the ability to exploit them and trade them among nations. Studies the role of materials in a variety of contexts such as food, art, warfare, transportation, medicine, information and energy from the Stone Age through the industrial revolution to the modern world. Analyzes the connection between the dramatic developments in civilization and advances in materials through the lens of structure, properties and processing of materials. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): minimum junior standing OR Visiting University Student |
| MSE | 308 | Sensing the World | Project-oriented science course develops critical thinking and technical skill using Internet modules on the five senses. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 4 | SQ | Prerequisite(s): MSE 208 OR Visiting University Student |
| MSE | 330 | Thermodynamics of Materials | Principles of statistical mechanics, statistical thermodynamics of single crystals, solutions, phase equilibrium, free energy of reactions, free electron theory, and thermodynamics of defects. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student or Materials Science and Engineering minor; MSE 250 with C or better; Pre- or corequisite(s): MAT 274 or 275 with C or better if completed OR Visiting University Student |
| MSE | 335 | Materials Kinetics | Introduces kinetics in processing of materials as illustrated through real-world materials processing examples. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student or students with approved Materials minor; MSE 330 |

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| MSE | 355 | Structure and Defects | Intermediate-level grounding in crystallography, crystal defects, surfaces and interfaces. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prereq(s): Fulton Engineering undergrad stdnt or Material Scie & Engineering minor; MSE 250 w/ C or better; Pre- or coreq(s): MAT 267 or 272 w/ C or better if completed; MAT 242, 342, or 343 OR Fulton Engineering grad stdnt OR Visiting University Student |
| MSE | 356 | Thin Film and Microelectronic Devices Lab | Lab experiments correlating atomic structure, defects and microstructure of processed metals, ceramics polymers and composites to their mechanical and thermal properties. | N | LAB | N | GNA | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1 | | Prerequisite(s): MSE 212; Pre- or corequisite(s): MSE 355 OR Visiting University Student |
| MSE | 415 | Mathematical and Computer Methods in Materials | Mathematical, computational, and statistical methods and computer programming used to model materials science phenomena and materials engineering applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | CS | Prerequisite(s) w/ C or better: Fulton Engr undergrad stdnt or Materials Scie & Engr minor; MAT 267 or 272; MAT 274 or 275; MSE 250; Credit is allowed for only MSE 415 or MSE 511 or MSE 598 (Math & Comp Methods in Materials) OR Visiting University Student |
| MSE | 420 | Advanced Metallurgical Alloys and Processes | Phase diagrams, structural alloys, additive manufacturing and metallurgy processing, materials selection and high entropy alloys. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; MSE 355 with C or better; Credit is allowed for only MSE 420 or MSE 514 |
| MSE | 421 | Physical Metallurgy Laboratory | Focuses on analysis of microstructure of metals and alloys and includes correlation with mechanical properties to some extent. | N | LAB | N | GNA | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1 | | Prerequisite(s): Materials Science & Engineering BSE major or minor; MSE 355 with C or better |
| MSE | 435 | Computational Materials Science and Engineering | Computer simulation has become a tool for the advancement of our understanding of fundamental material physics and practical material applications. Provides an introductory understanding of concepts and techniques for the modeling and simulations of materials on a wide spectrum of length scales, ranging from atomic to macroscopic. Accordingly, discusses a variety of computational modeling: particle-based simulations (Monte-Carlo and molecular dynamics); mesoscale methods (cellular automaton and phase-field modeling); and continuum models (finite-element analysis, stochastic microstructure reconstruction). Recommend a background in or working knowledge of a computer programming language (C/ C++ /FORTRAN /MATLAB) linear algebra, differential equations, thermodynamics and statistical mechanics. Reviews the essence of the C/C++ programming language and explains example codes to make the course accessible to students with minimal programming experience. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): MSE 250 with C or better; PHY 121 with C or better; Credit is allowed for only MSE 435 or MSE 494 (Introduction to Computational Materials) or MSE 535 or MSE 598 (Introduction to Computational Materials) OR Visiting University Student |
| MSE | 440 | Mechanical Behavior of Materials | Effects of environmental and microstructural variables of mechanical properties, including plastic deformation, fatigue, creep and brittle fracture. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Materials Science and Engineering BSE major or minor; MSE 335; MSE 355 with C or better; Credit is allowed for only MSE 440 or MSE 516 OR Visiting University Student |
| MSE | 442 | Fatigue, Fracture, and Creep of Materials | Relationship between microstructure and fracture; fatigue and creep properties of materials. Environmental effects and recent developments. Current theories and experimental results. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student or Materials minor; MSE 250 with C or better; Credit is allowed for only MSE 442 or MSE 494 (Fatigue, Fracture, Creep) or MSE 540 |
| MSE | 450 | Introduction to Materials Characterization | Introduces materials characterization techniques for analysis of thin films and bulk materials by TEM, SEM, XRD, XPS, and AES. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student or Materials minor; PHY 131; MSE 355; Credit is allowed for only MSE 450 or MSE 510 |
| MSE | 451 | Nanomaterials and Electronics Characterization Lab | Lab for materials characterization techniques for analysis of thin films and bulk materials by TEM, SEM, XRD, XPS, and AES. | N | LAB | N | GNA | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1 | | Prerequisite(s): MSE 356; Pre- or corequisite(s): MSE 450 OR Visiting University Student |
| MSE | 457 | Quantum Mechanics for Understanding Properties of Atoms and Solids | The effect on quantum mechanics on the electronic structure and properties of atoms and solid materials. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering student or Materials Science and Engineering minor; MAT 275 with C or better; MSE 250 with C or better; PHY 131 with C or better OR Visiting University Student |
| MSE | 458 | Electronic, Magnetic, and Optical Properties | Electrical, optical, and magnetic properties of solids and microstructure effects as examined through materials-based examples. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Materials Science and Engineering student; MSE 457; Credit is allowed for only MSE 458 or MSE 515 |

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| MSE | 460 | Nanomaterials in Energy Production and Storage | Emphasizes the relationship among fundamental materials properties, chemical and energy transformation, as well as energy storage. Applications include the role of materials for photovoltaics, nanocatalysts, batteries, and fuel cells. Stresses fundamental principles and charge transfer processes in nanostructured materials in addressing energy needs. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student or Materials minor; MSE 250; Credit is allowed for only MSE 460 or MSE 494 (Nanomat. In Energy Production) or MSE 560 or MSE 598 (Nanomat. In Energy Production) |
| MSE | 466 | Electrochemical Energy Storage and Conversion | Electrochemical concepts relevant to real-world devices. Discusses basic electrochemical principles with an emphasis on solid-state electrochemistry and the nature of the solid-electrolyte interface in order to give students the background knowledge needed for understanding and analyzing real device performance of, e.g., batteries, solar hydrogen generation, photoelectrochemical cells, electrocatalysts, electrochemical capacitors, fuel cells. Critically evaluates media reports and journal publications describing electrochemical energy conversion and storage devices. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prereq(s): CHM 114 or 116; PHY 121; MSE 250; Pre- or coreq(s): CHE 342, MAE 241 or MSE 330; Credit for only CHE 494, CHE 598, MAE 494, MAE 598, MSE 494, MSE 598, or NAN 598 (Electrochemistry Energy Conversion & Storage) or MSE 466 or MSE 566 |
| MSE | 470 | Polymers and Composites | Relationship among chemistry, structure, and properties of engineering polymers. Design, properties, and behavior of fiber composite systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prereq(s) w/ C or better: Fult Engrn undergrad or Materials minor; CEE 213, MAE 213, or MSE 211; MAT 242, 342, or 343; MSE 250 or Aerospace major w/ MAE 325; Credit allowed for only MAE 455 or MAE 513 or MSE 470 or MSE 513 OR Visiting University Student |
| MSE | 471 | Introduction to Ceramics | Principles of structure and property relations in ceramic materials. Processing techniques. Applications in mechanical, electronic, and superconducting systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student or Materials minor; MSE 355 OR Visiting University Student |
| MSE | 476 | Growth and Processing of Semiconductors | Briefly introduces semiconducting materials and emphasizes the characteristics of defects in semiconductors and their influence on electronic properties. Covers principles of growth of bulk crystals, epitaxial growth, oxidation, diffusion, ion implantation, and metallization. Discusses the introduction of defects during growth and processing of semiconductors and their influence on device behavior. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering major or Materials minor; MSE 250 with C or better; Credit is allowed for only MSE 476 or MSE 519 |
| MSE | 482 | Materials Engineering Design | Principles of the design process. Feasibility and optimization. Manufacturing processes, materials selection, failure analysis, and economics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | L | Prerequisite(s): Materials Science and Engineering BSE major; ENG 101, 105, or 107 with C or better; MSE 211 with C or better; MSE 355 with C or better OR Visiting University Student |
| MSE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-12 | | |
| MSE | 489 | Capstone Design Project I | Covers how to plan an open-ended design project, including experience with technical writing and technical presentations. Both MSE 489 & 490 must be taken to secure L General Studies designation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1 | L | Prerequisite(s): Materials Science and Engineering BSE major; ENG 101, 105, or 107 with C or better; MSE 451; Pre- or corequisite(s): MSE 482 |
| MSE | 490 | Capstone Design Project II | Students learn how to conduct an open-ended design project, including experience with technical writing and technical presentations. Both MSE 489 and 490 must be taken to secure L General Studies designation. | N | RSC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 2 | L | Prerequisite(s): Materials Science & Engineering BSE major; ENG 101, 105, or 107 with C or better; MSE 482; MSE 489 |
| MSE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-6 | | Prerequisite(s): Barrett Honors student |
| MSE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MSE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-4 | | Prerequisite(s): Fulton Engineering undergraduate student OR Visiting University Student |
| MSE | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-7 | | Prerequisite(s): Fulton Engineering undergraduate or graduate student |
| MSE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | GNA | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-3 | | |
| MSE | 501 | Linear Algebra in Engineering | Development and solution of systems of linear algebraic equations. Applications from mechanical, structural, and electrical fields of engineering. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Engineering graduate students, except Computer Engineering (Comp Sys or Elec Engr) MS or PhD, or Electrical Engineering MS, MSE, or PhD, or Electrical Engineering (AME) MS or PhD student; Credit is allowed for only MAE 501 or MSE 501 |

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| MSE | 502 | Partial Differential Equations in Engineering | Development and solution of partial differential equations in engineering. Applications in solid mechanics, vibrations, and heat transfer. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only MAE 502 or MSE 502 |
| MSE | 503 | Concepts in Materials Science | Familiarizes students with fundamental concepts and terms used in MSE. Introduces the relationship between structure-processing-property-performance-characterization. From this point, explores crystal structure, symmetry and defects. After which, introduces fundamental theory of diffusion, kinetic and phase transformation and gives examples of their impact on the material. Next, presents the correlation between structure-processing-property on performance. Throughout the course, exposes concepts of materials characterization. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Engineering graduate students; Credit is allowed for only MSE 503 or MSE 598 (Concepts in Materials Science) |
| MSE | 510 | Introduction to Materials Characterization | Introduces materials characterization techniques for analysis of thin films and bulk materials by TEM, SEM, XRD, XPS, and AES. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Pre-requisite: Graduate Engineering student; Credit is allowed for only MSE 450 or 510 |
| MSE | 511 | Mathematical and Computer Methods in Materials | Mathematical, computational and statistical methods and computer programming used to model materials science phenomena and materials engineering applications. Prior completion of undergraduate-level calculus, differential equations, and linear algebra needed for success in the course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only MSE 415 or MSE 511 or MSE 598 (Mathematical and Computer Methods in Materials) |
| MSE | 513 | Polymers and Composites | Relationship among chemistry, structure, and properties of engineering polymers. Design, properties, and behavior of fiber composite systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Pre-requisite: Graduate Engineering or Science & Engr of Materials student; Credit is allowed for only MAE or MSE 513 |
| MSE | 514 | Advanced Metallurgical Alloys and Processes | Phase diagrams, structural alloys, additive manufacturing and metallurgy processing, materials selection and high entropy alloys. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton graduate student; Credit is allowed for only MSE 420 or MSE 514 |
| MSE | 515 | Introduction to Electronic, Magnetic, and Optical Properties | Electrical, optical and magnetic properties of solids and microstructure effects as examined through materials-based examples. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only MSE 458 or MSE 515 |
| MSE | 516 | Mechanical Behavior of Materials | Effects of environmental and microstructural variables of mechanical properties, including plastic deformation, fatigue, creep and brittle fracture. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only MSE 440 or MSE 516 |
| MSE | 517 | Introduction to Ceramics | Principles of structure, property relations in ceramic materials. Processing techniques. Applications in mechanical, electronic, and superconducting systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Pre-requisite: Graduate Engineering OR Science and Engineering of Materials student |
| MSE | 519 | Growth and Processing of Semiconductors | Briefly introduces semiconducting materials and emphasizes the characteristics of defects in semiconductors and their influence on electronic properties. Covers principles of growth of bulk crystals, epitaxial growth, oxidation, diffusion, ion implantation, and metallization. Discusses the introduction of defects during growth and processing of semiconductors and their influence on device behavior. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Pre-requisite: Graduate Engineering student; Credit is allowed for only MSE 476 or 519 |
| MSE | 523 | Structural and Mechanical Properties of Materials | Designed for first-year PhD students in the School of Materials. Topics include crystallography theory, tensor properties of materials, elasticity, crystal defects, dislocation theory, plasticity, fracture, fatigue, and creep. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| MSE | 524 | Advanced Thermodynamics | Equilibrium thermodynamics. Chemical reactions, phase equilibria, and stability in multicomponent systems. Aqueous solutions and electrochemistry. Introduces statistical thermodynamics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only CHM 541 or MSE 524 |
| MSE | 525 | Fundamentals of Electrical, Optical, and Magnetic Materials and Device Applications | Behavior of materials; electronic band structure, electronic and ionic conduction, electronic processes in semiconductors, dielectric, optical and magnetic properties. Emphasizes the fundamental understanding of material properties while establishing structure-property relations. Aims to link these properties to applications in optoelectronics, photonics and optics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only MSE 525 or MSE 527 or MSE 598 (Fund of Elec, Optical, & Mag Matls & Device Apps) or NAN 512 or PHY 482 or PHY 512 |
| MSE | 526 | Materials Physics I | Fundamentals of materials physics: crystal structure, diffraction, elasticity, point defects, dislocations, lattice vibrations, thermal properties, periodic potential, band structure. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only MSE 526 or NAN 511 or PHY 511 |
| MSE | 527 | Materials Physics II | Electronic behavior of materials: energy bands, electronic properties, metals, semiconductors, insulators, optical properties, magnetic properties, superconductivity, biophysics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; MSE 526; Credit is allowed for only MSE 525 or MSE 527 or MSE 598 (Fund of Elec, Optical, & Mag Matls & Device Apps) or NAN 512 or PHY 482 or PHY 512 |

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| MSE | 535 | Computational Materials Science and Engineering | Computer simulation has become a tool for the advancement of our understanding of fundamental material physics and practical material applications. Provides an understanding of concepts and techniques for the modeling and simulations of materials on a wide spectrum of length scales, ranging from atomic to macroscopic. Accordingly, discusses a variety of computational modeling: particle-based simulations (Monte-Carlo and molecular dynamics), mesoscale methods (cellular automaton and phase-field modeling), and continuum models (finite-element analysis, stochastic microstructure reconstruction). Recommend a background in/working knowledge of a computer programming language (C/C++/ FORTRAN/ MATLAB), linear algebra, differential equations, thermodynamics and statistical mechanics. Reviews the essence of the C/C++ programming language and explains example codes to make the course accessible to students with minimal programming experience. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only MSE 435 or MSE 494 (Introduction to Computational Materials) or MSE 535 or MSE 598 (Introduction to Computational Materials) |
| MSE | 540 | Fracture, Fatigue, and Creep | Relationship between microstructure and fracture; fatigue and creep properties of materials. Environmental effects and recent developments. Current theories and experimental results. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Pre-requisites: Graduate Engineering student; Credit is allowed for only MSE 442, 494 (Fatigue, Fracture, Creep) or 540 |
| MSE | 546 | Surfaces and Thin Films | Thermodynamics and kinetics of surface structures and thin film processes. Ultra-high vacuum techniques for examining surfaces. Case studies of physics, chemistry and nanoscience applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only NAN 546 or MSE 546 or PHY 546 |
| MSE | 548 | Fundamentals of Microelectronics Packaging | Multidisciplinary course in addressing electrical, thermal, materials, chemical, manufacturing, and reliability problems in packaging. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only CHE 518 or EEE 518 or MAE 518 or MSE 548 |
| MSE | 550 | Advanced Materials Characterization | Analytical instrumentation for characterization of materials; SEM, SIMS, Auger, analytical TEM, and other advanced research techniques. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| MSE | 551 | Applied Machine Learning for Mechanical Engineers | Machine learning impacts every aspect of our daily lives, from recognizing faces in a crowd to designing drugs to treat epidemic diseases. There is no doubt that, as a result of the impact, the job market for future engineers will be drastically different. This course equips engineering students with a working understanding of machine learning and better prepares them for the future job market. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only MAE 451 or MAE 551 or MAE 598 (Machine Learning for Engineers) or MSE 551 or MSE 598 (Machine Learning for Engineers) |
| MSE | 552 | Electron Microscopy I | Kinematical and dynamical electron diffraction and microscopy. Defect structure and composition using STEM imaging, x-ray and electron-energy-loss spectroscopy. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only MSE 552 or NAN 552 or PHY 552 or SEM 552 |
| MSE | 553 | Electron Microscopy Laboratory I | Lab support for MSE 552. | N | LAB | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Corequisite(s): MSE 552 or PHY 552; Credit is allowed for only MSE 553 or PHY 553 |
| MSE | 554 | Electron Microscopy II | Determination of structure and composition of materials using high-resolution imaging, convergent-beam diffraction, and electron holography. Novel developments and applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only MSE 554 or PHY 554 |
| MSE | 555 | Electron Microscopy Laboratory II | Lab support for MSE 554. | N | LAB | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only MSE 555 or PHY 555 |
| MSE | 560 | Nanomaterials in Energy Production and Storage | Emphasizes the relationship among fundamental materials properties, chemical and energy transformation, as well as energy storage. Applications include the role of materials for photovoltaics, nanocatalysts, batteries, and fuel cells. Stresses fundamental principles and charge transfer processes in nanostructured materials in addressing energy needs. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): graduate Chemistry, Engineering or Physics major. Credit is allowed for only MSE 460 or MSE 494 (Nanomaterials In Energy Production and Storage) or MSE 560 or MSE 598 (Nanomaterials In Energy Production and Storage) or NAN 560 |
| MSE | 561 | Phase Transformations, Kinetics, and Diffusion in Solids | Hetero/homogeneous diffusion-controlled transformations, order-disorder transformations, and shear martensitic) athermal transformations in solids. Courses in advanced thermodynamics and structure and properties of materials are strongly recommended in preparation for this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| MSE | 566 | Electrochemical Energy Storage and Conversion | Electrochemical concepts relevant to real-world devices. Discusses basic electrochemical principles with an emphasis on solid-state electrochemistry and the nature of the solid-electrolyte interface in order to give students the background knowledge needed for understanding and analyzing real device performance of, e.g., batteries, solar hydrogen generation, photoelectrochemical cells, electrocatalysts, electrochemical capacitors, fuel cells. Critically evaluates media reports and journal publications describing electrochemical energy conversion and storage devices. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Materials Scie, Chem Engineering, Mech Engineering, Chem or Physics graduate stdnt; Credit for only CHE 494, CHE 598, MAE 494, MAE 598, MSE 494, MSE 598, or NAN 598 (Electrochemistry Energy Conversion & Storage) or MSE 466 or MSE 566 |

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|---------|-------------|---------------------------------------|---|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|--|
| MSE | 571 | Quantum Physics | Review modern physics, chemistry, math. Differential equation, operator, matrix formulations. Free particle, bound state problems. Examples from physics, chemistry and nanoscience. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only MSE 571 or NAN 571 or PHY 571 |
| MSE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z2 | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-12 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| MSE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | SEM | Y | Z2 | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-12 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| MSE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | Z2 | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-12 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| MSE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-12 | | Pre-requisite: Materials & Science Engineering Masters student |
| MSE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-12 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| MSE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1 | | Prerequisite(s): Fulton Engineering graduate student |
| MSE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-4 | | Prerequisite(s): Fulton Engineering graduate student |
| MSE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-12 | | Pre-requisite: Materials & Science Engineering Masters student |
| MSE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-15 | | Pre-requisite: Materials Science & Engineering PhD student |
| MSE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1 | | Prerequisite(s): Fulton Engineering graduate student |
| MSE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-15 | | Pre-requisite: Materials Science & Engineering PhD student |
| MSI | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): Music graduate student |
| MSI | 601 | Contemporary Topics in Music Research | Required for all PhD in Music students. Content includes readings and discussions of topics drawn from the arts and other disciplines that impact and interact with music, music practices, and music research. Requires literature review or research paper. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): doctoral Music students |
| MSI | 602 | Current Issues in Music Research | Required for all PhD in Music students. Content includes readings and discussions of topics drawn from current public policies, events, and popular culture that impact and interact with music, music practices, and music research. Requires literature review or research paper. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): doctoral Music students |
| MSI | 755 | Historical Research in Music | Required for all PhD in Music students. Knowledge and insights related to conducting historical research in music. Includes development of a mini-proposal for a dissertation on the history of music education, or draft of a historical research paper suitable for presentation or publication. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): doctoral Music students |
| MTC | 123 | Beginning Composition | Intended for freshmen and sophomores in the composition concentration. Introduces composing. May be repeated for credit. | N | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Theory and Composition (Composition) BMUS major OR Visiting University Student |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|---|------------------------------------|-------|-----------------|---|
| MTC | 125 | Basic Music Theory | Notation, scales, keys, modes, intervals, chords, basic part writing and composition. Development of related aural skills through sightsinging and dictation. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Digital Culture (Music) major, Music major, Performance and Movement major, Music Performance minor, or Music Theatre minor OR Visiting University Student |
| MTC | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MTC | 221 | Music Theory: 18th Century | Styles, techniques, and idioms of 18th-century music; emphasis on analysis, composition (part writing), and related aural skills, with applications for performance. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music student; MTC 125 with C or better |
| MTC | 222 | Music Theory: 19th Century | Styles, techniques, and idioms of 19th-century music; emphasis on analysis, composition (part writing), and related aural skills, with applications for performance. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music student; MTC 221 with C or better OR Visiting University Student |
| MTC | 223 | Music Theory: 20th Century | Styles, techniques, and idioms of 20th-century music; emphasizes innovative treatments of musical elements, analysis, and composition; related aural skills. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music student; MTC 222 with C or better |
| MTC | 224 | Arranging for Popular Musicians | Explores the contemporary practice of composition, arrangement and notation for popular music ensembles and productions. Through the study of scores, recordings and transcriptions, students gain an understanding of contemporary techniques. From this study, they develop their own ideas and apply understanding through original work. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MSC 115 with C or better; MTC 125 with C or better; MTC 221 with C or better; Credit is allowed for only MTC 224 or MSC 294 (Arranging) OR Visiting University Student |
| MTC | 225 | Popular Music Theory | Builds upon the broad foundation of music theory built in previous courses, shifting focus toward engaging with music theory through the lens of contemporary popular music and specific styles/genres. Explores concepts of harmony, melody, rhythm, form and arrangement as it pertains to a popular music repertoire and deepens understanding of the tools in context of students' own musicianship. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MTC 125 with C or better; MTC 221 with C or better; MTC 222 or 224 with C or better OR Visiting University Student |
| MTC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MTC | 320 | Modal Counterpoint | Counterpoint based on 16th-century vocal polyphonic style. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music student; MTC 221 with C or better |
| MTC | 321 | Tonal Counterpoint | Counterpoint based on 18th-century polyphonic style. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music student; MTC 221 with C or better |
| MTC | 323 | Composition | Writing music compositions, with emphasis on basic techniques and smaller structures. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MTC 123 with C or better OR Theory and Composition (Composition) BMUS or Theory and Composition (Theory) BMUS major; minimum 55 hours OR Visiting University Student |
| MTC | 327 | Intermediate Form and Analysis | Organizing elements in the most important contrapuntal and homophonic musical forms from the Renaissance through the 19th century. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music student; MTC 222 with C or better OR Visiting University Student |
| MTC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MTC | 415 | Scoring for Instrumental Jazz Ensembles I | Analyzes scores and recordings, application of orchestration and four and five-part harmonization techniques frequently used in arranging for the contemporary jazz ensembles and studio orchestra. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music major who has passed audition; MUP 236 with C or better |
| MTC | 416 | Scoring for Instrumental Jazz Ensembles II | Analyzes scores and recordings, application and creation of new arrangements for contemporary jazz ensembles and/or studio orchestra. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music major who has passed audition; MTC 415 (MTC 315) with C or better |
| MTC | 422 | Musical Acoustics | Properties of sound and tone. Harmonic series, instruments, the ear, auditorium acoustics, and the reproduction of sound. Assumes a thorough knowledge of musical notation, intervals, scales, and harmony, or 2 years of music theory. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Music student; Passed audition |
| MTC | 425 | Studies in 20th- and 21st-Century Theory | Continued development of analytical techniques and aural skill, with an examination of theoretical systems applicable to 20th- and 21st-century music. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music student who has passed audition; MTC 223 with C or better |
| MTC | 428 | Advanced Form and Analysis | Organizing principles of the large forms of musical composition in the 19th and 20th centuries. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Music student; MTC 223 with C or better |
| MTC | 429 | Canon and Fugue | Writing of canons and fugues in tonal style. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music student; MTC 321 with C or better OR Visiting University Student |
| MTC | 430 | 20th- and 21st-Century Counterpoint | Counterpoint studies utilizing 20th- and 21st-century idioms. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music student; MTC 223 with C or better OR Visiting University Student |
| MTC | 433 | Orchestration | Studies scoring music for full and chamber orchestras; examines individual orchestral instruments (characteristics and performance techniques). Requires a working knowledge of a computer music notation program. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music major |

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| MTC | 436 | Electronic Studio Techniques I | The study of computer music systems emphasizing advanced audio synthesis and resynthesis as well as their application to professional compositional environments. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Digital Culture (Music) major or MTC 223 OR Visiting University Student |
| MTC | 437 | Electronic Studio Techniques II | Principles of digital electronic music systems and their applications in the composition of electronic music. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| MTC | 440 | Jazz Theory and Ear Training | Advanced study of jazz harmonic systems. Daily oral drills. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| MTC | 441 | Jazz Composition | Creative writing in the smaller forms and in the idiom of jazz. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2-3 | | Prerequisite(s): Music student; MTC 440; MUP 236 with C or better |
| MTC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | |
| MTC | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | | Prerequisite(s): Barrett Honors student |
| MTC | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MTC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MTC | 495 | Final Project | Half recital of compositions or approval of a large-scale composition or a research paper. | N | RSC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 0 | | |
| MTC | 496 | Theory Project | Supervised individual writing project dealing with music theory. | N | RSC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | |
| MTC | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | |
| MTC | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): Music graduate student |
| MTC | 516 | Baroque Music | Detailed analysis of selected examples of music from the Baroque period. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Graduate Music student |
| MTC | 517 | Classic Music | Detailed analysis of selected examples of music from the Classic period. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Graduate Music student |
| MTC | 518 | Romantic Music | Detailed analysis of selected examples of music from the Romantic period. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Graduate Music student |
| MTC | 519 | Late 19th-Early 20th Century Music | Detailed analysis of selected examples of music from the late 19th and early 20th centuries. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Graduate Music student |
| MTC | 520 | Analytical Techniques | Analytical techniques systematically applied to music. Concentration on structural and compositional procedures. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Graduate Music student |
| MTC | 523 | Advanced Composition | Advanced music composition, including complex techniques and larger structure. May be repeated for credit. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2-3 | | Pre-requisite: Graduate Music student |
| MTC | 525 | Pedagogy of Theory | Practices and principles of teaching music theory. Emphasizes most desirable and practical offerings possible. Comparative studies of existing practices. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Graduate Music student |
| MTC | 535 | Survey of Rhythm and Meter Studies | Exposes students to seminal research in rhythm and meter studies with the aim of introducing a range of methodologies and common issues found in this area of research. Reading assignments include music theory and music cognition literature relating to questions of rhythm and meter in diverse repertoires, including classical, post-tonal, world, and popular music genres. Students reflect on the strengths and weaknesses of various approaches, analytical techniques, and the implications that theories of rhythm and meter have for performance practice and write and present a final research paper on a topic relating to rhythm and meter studies. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music graduate student; Credit is allowed for only MTC 535 or MTC 591 (Survey of Rhythm and Meter Studies) |
| MTC | 540 | Jazz Theory and Ear Training | Surveys some of the most influential trends in the jazz tradition with in-depth analysis of harmonic systems, linear elements, and compositional strategies. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Graduate Music student |
| MTC | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): Music graduate student |
| MTC | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre-requisite: Graduate Music student |
| MTC | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): Music graduate student |
| MTC | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre-requisite: Graduate Music student |
| MTC | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | |

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| MTC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): Music graduate student |
| MTC | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre-requisite: Graduate Music student |
| MTC | 723 | Advanced Composition | Special problems in writing in complex forms and textures. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): doctoral Music student |
| MTC | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): doctoral Music student |
| MTC | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-15 | | Prerequisite(s): doctoral Music student |
| MTC | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-15 | | Prerequisite(s): doctoral Music student |
| MTE | 210 | Mentored Tutoring Internship | Introduces math education students to issues of balancing the content of precalculus mathematics with the needs of someone learning it. Addresses core issues, including articulating what is involved in learning the mathematical idea(s); interpreting students' questions; analyzing student thinking and inferring their underlying rationale from a learner-centered perspective; techniques of question-posing, problem-posing, and instructional scaffolding. | N | LEL | N | GNA | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1 | | Co-requisite: MAT 207 |
| MTE | 250 | Technology and Mathematical Visualization | Uses several software packages for exploring mathematics and for preparing mathematical materials, starting from introductory skills and leading to advanced techniques. Places particular emphasis on using computer software with the aim of visualizing mathematical relationships, structures, and processes. | N | LEL | N | GNA | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 207 with C or better; MAT 270 with C or better; MTE 210 with C or better OR Visiting University Student |
| MTE | 280 | Numbers, Operations and Proportional Reasoning for K-8 Teaching | Investigation of mathematical principles and processes regarding the real number system and its properties develop number sense and qualitative reasoning abilities. Designed to meet the requirements for preservice elementary school teachers. | N | LEC | N | Z1 | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): General Studies MA course with C or better OR Visiting University Student |
| MTE | 281 | Investigating Space: Geometry, Measurement, and Visualization | Explores three aspects of geometry: spatial visualization, measurement, and proof. Uses visualization, spatial reasoning, and geometric modeling to solve problems. Provides opportunities for participants (1) to use physical models, technology, and pattern-finding strategies to identify properties of and develop formulas for measuring two- and three-dimensional shapes; and (2) to develop powerful ways of thinking to justify geometric relationships | N | PRA | N | Z1 | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): General Studies MA course with C or better OR Visiting University Student |
| MTE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| MTE | 298 | Honors Directed Study | Independent study or practicum under the supervision of a faculty member. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| MTE | 301 | Investigating Change: Patterns, Functions, and Modeling | Examines different conceptions of algebra as the study of (1) generalized arithmetic, (2) reasoning with symbols, (3) reasoning with patterns and functions, (4) structure in the number system, and (5) modeling. Distinguishes arithmetic from algebraic reasoning, and develops an appreciation for the pervasiveness of the function concept in the K-8 school mathematics curriculum. Features algebraic thinking and representation using algebra tiles and other concrete models, realistic problems, dynamic geometry software, graphing calculators, and a variety of virtual tools and Web sites. Topics include, but are not limited to: patterns, relations, functions and covariational thinking; multiple conceptions of quantity, variables, constants, and unknowns; inductive, deductive, and analogical reasoning; rate of change and proportional thinking; algebra learning trajectories; and comparisons of additive vs. multiplicative, absolute vs. relational, and arithmetic vs. algebraic thinking. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |

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| MTE | 310 | Number Sense, Spatial Relationships, and Measurement and Data for Early Childhood Education Teaching | Focuses on key concepts in counting, number operations, spatial relations, measurement and data in early childhood education. Prospective teachers acquire content knowledge by using physical models, technology and pattern-finding strategies to explore the progressions of these concepts from birth to grade 3. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MAT 117 or 142 or higher; MTE 280 OR Visiting University Student |
| MTE | 311 | Geometry, Algebra, Statistics and Probability for K-8 Teaching | Focuses on key concepts needed to prepare K-8 teacher candidates to teach in algebra, geometry, measurement, data, probability and statistics. Prospective teachers will (1) use physical models, technology, and pattern-finding strategies to explore the trajectories of these concepts; and (2) develop strategies to predict, generalize, and justify decisions based on data, statistics and probability. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MTE 280 OR Visiting University Student |
| MTE | 320 | Conceptual Foundations of 7-12 Mathematics Curricula and Assessment | Focuses on concepts of mathematics curricula and their relationships to perspectives on learning, instruction, and assessment. Using a variety of participation formats (e.g., individual and small group work, and whole group discussions) and directed activities, participants examine curricular principles underlying the historical development of mathematics curricula and assessment, and current curricula and curricular recommendations and controversies surrounding them. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 207 with C or better; MTE 210 with C or better; MTE 250 with C or better |
| MTE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| MTE | 412 | Mathematics in Elementary Schools | Methods of teaching mathematics to all students at the K-8 level, instructional planning and assessment. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours; Credit is allowed for only EED 412 or MTE 412 or SPE 410 |
| MTE | 430 | The Development of Mathematical Thinking | This capstone course requires students' sustained engagement with, and analysis of, artifacts from research on learning mathematics from instruction. The artifacts include: curricular/instructional task sequences, samples of student work, video-cases showcasing students' involvement in instruction, problem-solving interviews, and teaching experiments. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MTE 320 with C or better OR Visiting University Student |
| MTE | 482 | Methods of Teaching Mathematics in Secondary School | Examines secondary school curricular material and analyzes instructional devices. Teaching strategies, evaluative techniques, diagnosis, and remediation and problem solving. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 310 with C or better; admission to the Professional Program |
| MTE | 483 | Mathematics in the Secondary School | Topics in geometry, number theory, algebra, and analysis. Emphasizes unifying principles. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 310 with C or better |
| MTE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | |
| MTE | 485 | Methods of Teaching Standards-Based Middle Grades and Early Secondary Mathematics | Experiential introduction to standards-based teaching in middle and early secondary mathematics grades 6-9. Targets five aspects of a mathematics teacher's work, including knowledge of (1) mathematics content; (2) learning; (3) learners; (4) teaching; and (5) curriculum and assessment. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MAT 300 with C or better; MAT 310 with C or better OR Visiting University Student |
| MTE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| MTE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MTE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| MTE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-3 | | |
| MTE | 501 | Research in Undergraduate Mathematics Education I | Research in Undergraduate Mathematics Education I (RUME I) covers academic research in (undergraduate) mathematics education. Develops the ability to read, discuss, criticize and draw practical conclusions from research in (undergraduate) mathematics education, all with the overarching aim of broadening perspective on areas of past and current mathematics education research. Research on the learning and teaching of undergraduate mathematics is one of the foci of the course. Students read research literature drawn from a variety of content areas and grade bands: quantitative reasoning, early learning of algebra, proportional reasoning, algebra and functions, calculus, statistics and probability. Prepares for Part 1 of the qualifying exam in mathematics education | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only MTE 501 or MTE 598 (Research in Undergraduate Mathematics I) |

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| MTE | 502 | Research in Undergraduate Mathematics Education II | RUME II is the second course in a core four-course sequence in the mathematics education doctoral program. Explores research on problems in the teaching and learning of algebra, geometry, calculus and probability as seen from multiple theoretical perspectives. Develops ability to read, discuss, criticize and draw practical conclusions from research in mathematics education, all with the overarching aim of broadening perspectives on areas of past and current mathematics education research. RUME II builds on its prerequisite in a subtle but important way. Increased emphasis and focus on theory in mathematics education research--a consideration of various types of theories and the roles they may play in the research endeavor. Also prepares for the required qualifying exam | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MTE 501; Credit is allowed for only MTE 502 or MTE 598 (Research in Undergraduate Mathematics II) |
| MTE | 503 | Research in Undergraduate Mathematics Education III | RUME III is the third course in a series of mathematics education courses designed to prepare students to conduct independent mathematics education research. Students learn different methods for implementing data collection and analysis, reporting results; and continue to conduct a pilot study with the goal of developing a dissertation proposal from their research. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MTE 502; Credit is allowed for only MTE 503 or MTE 598 (Research in Undergraduate Mathematics III) |
| MTE | 504 | Research in Undergraduate Mathematics Education IV | RUME IV is the fourth and final course in a series of mathematics education courses designed to prepare students to conduct independent mathematics education research. Students continue to conduct a pilot study with the goal of developing a dissertation proposal from their research. Continues developing the student's ability to: synthesize research literature in a specific area of mathematics education, refine research statement and question(s) to advance knowledge in a specific area of mathematics education, refine design and methods for conducting a study, analyze research data using theoretical constructs, describe results of analysis, report findings using theoretical constructs and submit a paper for publication. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MTE 503; Credit is allowed for only MTE 504 or MTE 598 (Research in Undergraduate Mathematics IV) |
| MTE | 585 | Modern Geometry for Teachers | Euclidean, projective, and non-Euclidean geometries. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | |
| MTE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | |
| MTE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | |
| MTE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | |
| MTE | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | |
| MTE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1 | | |
| MTE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MTE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | |
| MTE | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | |
| MTE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-15 | | |

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| MTE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1 | | |
| MTE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-15 | | |
| MUD | 521 | Advanced Urban Design Studio I | Explores urban design with emphasis on the nexus of urban systems and the significance ecology plays in the design process. Studio-based course includes reading, presentations by faculty and students, discussion, design research, conceptual design practice, and the public exhibition/presentation of this work in multiple formats. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Urban Design MUD 521 or MUD 590 (Advanced Urban Design Studio I) |
| MUD | 522 | Advanced Urban Design Studio II | Explores urban design with emphasis on urban design and human health. Studio-based course includes reading, presentations by faculty and students, discussion, design research, conceptual design practice and the public exhibition/presentation of this work in multiple formats. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): MUD 521 with C or better; Credit is allowed for only MUD 522 or MUD 590 (Advanced Urban Design Studio II) |
| MUD | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | |
| MUD | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUD | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | |
| MUD | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | |
| MUD | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | |
| MUD | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | |
| MUD | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | Y | Z3 | Herberger Institute for Design and the Arts | The Design School | 1 | | |
| MUD | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| MUD | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | |
| MUD | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | |
| MUD | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | |
| MUD | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | |
| MUD | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | |

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| MUD | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | LEC | Y | Z3 | Herberger Institute for Design and the Arts | The Design School | 1 | | |
| MUE | 101 | The ASU School of Music Experience | Introduces all new first-time ASU students to the unique elements, culture, challenges and opportunities of their university, the School of Music and the Herberger Institute for Design and the Arts. Covers the music education and music therapy programs in the School of Music. | N | REC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Credit is allowed for only MUE 101 or MUE 194 (ASU School of Music Experience for Music Education) OR Visiting University Student |
| MUE | 110 | Introduction to Music Education | Overview of music education and career options. Orientation to student characteristics, teacher roles, teaching qualities, and philosophical and historical foundations. Requires school observations. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisites: Music major |
| MUE | 154 | Gesture and Sound | Covers fundamentals of musical leadership through gestures associated with sounds in the performance of music. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | |
| MUE | 161 | Introduction to Music Therapy | Overview of the profession of music therapy and its applications in mental health, rehabilitation, and special education. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| MUE | 162 | Introduction to Music Therapy Lab | Develops skills needed to lead music experiences in a variety of settings. | N | LAB | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music Education or Music Therapy major; Corequisite(s): MUE 161 OR Visiting University Student |
| MUE | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MUE | 211 | Music in Recreation | Materials, methods, and organizational structures appropriate for recreational music. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| MUE | 260 | Repertoire for Music Therapy | Music skills repertoire for music therapy, including units on brass, strings, woodwinds, electronic instruments, computer music, and improvisation techniques. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music Therapy major |
| MUE | 261 | Music Therapy Treatment Process | Orientation to preclinical experience with emphasis on observation skills, assessment, goal setting, and professional ethics. Requires off-campus observations. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music student; MUE 161 with C or better |
| MUE | 262 | Music Therapy as a Behavioral Science Lab | Develops skills needed to lead music experiences in a variety of settings. | N | LAB | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Corequisite(s): MUE 261 |
| MUE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MUE | 310 | Music in Early Childhood | Examines music through the lens of the culture(s) of young children, which (though they intersect with adult cultures) are unique, different from adult experiences, and particular to them. Emphasizes the musical content of children's songs as well as the music they hear, and the kinds of musical engagements that are particular to young children. Also emphasizes the uses, functions, and meanings of music for children. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s): ENG 102 with C or better; minimum 30 hours |
| MUE | 311 | Music in the Lives of Children and Youth | Examines the role of music in the lives of young people with particular attention to child and youth learning and development (cognitive, social, emotional, personal/identity, musical). Includes examination and critique of music intended for children and youth (e.g., social and gendered meanings), as well as consideration of how music is related to individual and social identity. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s): BLE 220, RDG 291, SPE 222 or TEL 215, or minimum 30 hours OR Visiting University Student |
| MUE | 317 | Strings Lab | Students apply educational theory to the development and refinement of specialized skills in string teaching. 3 hours per week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisite: Music major; Passed music education interview |
| MUE | 319 | Digital and Hybrid Lab | Provides a foundation for integrating a range of technologies and digital media in music teaching and learning. Encourages critical and creative thinking while considering the possibilities for innovative applications of technology and digital media based upon contemporary curricular, theoretical and pedagogical frameworks. Students demonstrate skills and understanding related to using technology and digital media in the context of musicianship, music teaching and learning. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUE | 321 | Jazz Lab | Jazz rehearsal and performance techniques and repertoire appropriate for rehearsing jazz ensembles in K-12 schools. | N | LEC | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music Education major; Credit is allowed for only MUE 321 or MUE 394 (Jazz Lab) |
| MUE | 323 | Keyboard Lab | Piano keyboard skills appropriate for music educators. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MUP 132 with C or better; minimum 45 hours; Credit is allowed for only MUE 323 or MUE 394 (Keyboard Lab) OR Visiting University Student |

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| MUE | 325 | Voice/Choral Lab | Skills for developing voices and rehearsing choral ensembles. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MUE 110; Credit is allowed for only MUE 325 or MUE 394 (Voice/Choral Lab) OR Visiting University Student |
| MUE | 327 | Brass Lab | Students apply educational theory to the development and refinement of specialized skills in brass teaching. 3 hours per week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisite: Music major; Passed music education interview |
| MUE | 334 | Guitar Lab | Guitar skills for teaching guitar classes in K-12 schools. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music Education major; Credit is allowed for only MUE 334 or MUE 394 (Guitar Lab) OR Visiting University Student |
| MUE | 335 | Educational Methods for Guitar | Students apply educational theory to the development and refinement of specialized skills in guitar teaching. 3 hours per week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre-requisite: Music major; Passed music education or therapy interview |
| MUE | 336 | Percussion Lab | Students apply educational theory to the development and refinement of specialized skills in percussion teaching. 3 hours per week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisite: Music major; Passed music education interview |
| MUE | 337 | Woodwinds Lab | Students apply educational theory to the development and refinement of specialized skills in woodwind teaching. 3 hours per week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisite: Music major; Passed music education interview |
| MUE | 381 | Music Therapy Research | Statistics and research design appropriate for investigations in music therapy. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | L | Prerequisite(s): Music Therapy student; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| MUE | 384 | Therapy Practicum I | Practicum students provide music therapy to members of the community for a minimum of ten clock hours. | N | PRA | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music Therapy major; MUE 261 with C or better |
| MUE | 385 | Therapy Practicum II | Practicum students provide music therapy to members of the community for a minimum of ten clock hours. | N | PRA | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music Therapy major; MUE 261 with C or better |
| MUE | 386 | Therapy Practicum III | Practicum students provide music therapy to members of the community. | N | PRA | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music Therapy major; MUE 385 with C or better OR Visiting University Student |
| MUE | 387 | Therapy Practicum IV | Practicum students provide music therapy to members of the community. | N | PRA | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music Therapy major; MUE 386 with C or better OR Visiting University Student |
| MUE | 388 | Therapy Practicum V | Individual clinical work in a community mental health facility. | N | PRA | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music Therapy major; MUE 261 with C or better |
| MUE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisites: Music Education or Music Therapy student |
| MUE | 413 | The Art of Teaching Children Music | Methods of instruction, planning, and presentation of appropriate contents in music. For music educators and music therapists. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 4 | | Prerequisite(s): Music student OR Visiting University Student |
| MUE | 415 | The Art of Teaching Contemporary Musicians | Curriculum, student characteristics, and teaching strategies for general music. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 4 | | Prerequisite(s): Music major who has passed audition |
| MUE | 434 | Health Rhythms Drum Facilitation | Hand drumming and facilitation for group leaders in music therapy, music education, community music and related disciplines. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music Therapy major; Credit is allowed for only MUE 434 or MUE 494 (Health Rhythms Drum Facilitation) or MUE 534 or MUE 598 (Health Rhythms Drum Facilitation) OR Visiting University Student |
| MUE | 436 | Percussion Methods for Music Therapy | Provides knowledge and practical performance skills on percussion instruments, further improving the effectiveness of the student in the practice of music therapy. 3 hours per week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre-requisites: Music Therapy student |
| MUE | 441 | Psychology of Music | Psychological and physiological aspects of music emphasizing musical behavior, function, perception and learning. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music Therapy major; MUE 381 with C or better; MUE 463 with C or better OR Visiting University Student |
| MUE | 463 | Music Therapy Theory and Practice II | Organization, administration, and use of music in rehabilitation with various client populations. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music Therapy student; MUE 467 with C or better |
| MUE | 465 | Children's Music for Music Therapy | Methods of music therapy instruction, planning, and presentation of appropriate contents in music for children ages 2-12. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Music Therapy student; Minimum Junior standing |
| MUE | 467 | Music Therapy Theory and Practice I | Influence of music on behavior; principles and practices of music therapy and psychiatric clients. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music Therapy major; MUE 261 with C or better OR Visiting University Student |
| MUE | 475 | Group Process and Music Therapy | Principles of group process, verbal counseling, professional writing, as related to music therapy practice. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | Prerequisite(s): Music Therapy student; MUE 463 (MUE 362) with C or better or Graduate student in Clinical Music Therapy OR Visiting University Student |
| MUE | 476 | Internship in Music Therapy | Full-time, 6-month, off-campus residency in an approved clinical institution. | N | PRA | N | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music Therapy major |
| MUE | 480 | The Art of Teaching Choral Musicians | Methods of instruction, organization, and presentation of appropriate content in choral music classes. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 4 | | Prerequisite(s): Music major who has passed audition; minimum 55 hours |

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| MUE | 481 | The Art of Teaching Beginning Instrumentalists | Instrumental music as a means of developing music skills, understandings, and attitudes in elementary and secondary school students. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 4 | | Prerequisite(s): Music major who has passed audition; minimum 55 hours |
| MUE | 482 | The Art of Teaching Advanced Instrumentalists | Advanced instrumental music as a means of developing music skills, understandings, and attitudes in elementary and secondary school students. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 4 | | Prerequisite(s): Music major who has passed audition; minimum 55 hours |
| MUE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | |
| MUE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | | Prerequisite(s): Barrett Honors student |
| MUE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MUE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MUE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | |
| MUE | 501 | Introduction to Professional Music Therapy | Introduces the profession of music therapy through lecture, active discussion, and observations of clinical sessions. Experiential learning is achieved through music making in peer groups. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music Therapy graduate student |
| MUE | 534 | Health Rhythms Drum Facilitation | Hand drumming and facilitation for group leaders in music therapy, music education, community music and related disciplines. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music graduate student; Credit is allowed for only MUE 434 or MUE 494 (Health Rhythms Drum Facilitation) or MUE 534 or MUE 598 (Health Rhythms Drum Facilitation) |
| MUE | 536 | Percussion Methods for Music Therapy | Designed to provide knowledge and practical performance skills on percussion instruments, further improving the effectiveness of the student in the practice of music therapy. 3 hours per week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre-requisites: Music Therapy MM Student |
| MUE | 548 | Introduction to Research in Music Education | Survey of research methods and literature in music education. Focuses on interpretation and evaluation. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music graduate student |
| MUE | 549 | Foundations of Music Education | A treatment of historical perspectives, philosophy-aesthetics identified with music education, and learning theories applied to music teaching/learning. Basic research and writing skills appropriate to graduate studies in music education. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music graduate student |
| MUE | 550 | Studies in Music Curricula | Scope and sequence of musical experiences. Develops criteria for the evaluation of music curricula. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music graduate student |
| MUE | 551 | Listening and Creating | Studies the nature of music listening and music creating and their relationship. Reviews research and pedagogical practices. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUE | 555 | String Pedagogy and Rehearsal Techniques | String pedagogy and orchestral rehearsal skills for teachers who work with K-12 string classes. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only MUE 555 or MUE 598 (String Pedagogy and Rehearsal Techniques) |
| MUE | 559 | Social and Cultural Studies in Music Education | Considers how music education is shaped by social and cultural concepts. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): graduate Music student; Credit is allowed for only MUE 559 or MUE 598 (Social and Cultural Studies in Music Ed) |
| MUE | 560 | Jazz Pedagogy | Study of pedagogy, repertoire, and technique of instruction in jazz styles, ensemble techniques, and performance practice for school ensembles. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music graduate student |
| MUE | 563 | Theory and Practice in Music Therapy II | Organization, administration, and use of music in rehabilitation with children and adolescents with special needs. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Music Therapy MM student; MUE 581 with C or better |
| MUE | 564 | Instrumental Music, Advanced Rehearsal Techniques | In-depth analysis of instrumental techniques in preparation for a thorough discussion of band tuning problems and solutions. Discussion of productive conducting and rehearsal techniques for school music teachers. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music graduate student |
| MUE | 565 | Children's Music for Music Therapy | Methods of music therapy instruction, planning, and presentation of appropriate contents in music for children ages 2-12. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Music Therapy Graduate student |
| MUE | 566 | Instrumental Literature and Pedagogy for Schools | Provides an in-depth examination of ensemble music and teaching techniques to instrumental music teachers. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music graduate student |
| MUE | 567 | Professional Practicum | Students provide music therapy for small groups at a community agency providing services to people who are intellectually disabled, physically disabled, and the elderly. | N | PRA | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): graduate Music Therapy student |

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| MUE | 568 | Choral Music, Advanced Rehearsal Techniques | Musical and vocal techniques necessary for presentation of choral literature. Analysis and experimentation with psychological, acoustical, and other problems of rehearsal and performance. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music graduate student |
| MUE | 569 | Professional Practicum II | Students continue to provide music therapy for small groups at a community agency providing services to people who are intellectually disabled, physically disabled, and the elderly. | N | PRA | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music Therapy graduate student; MUE 567 with C or better |
| MUE | 570 | Choral Literature for Schools | Comprehensive study and analysis of choral music for the high school with special emphasis on octavo literature. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music graduate student |
| MUE | 571 | Music Therapy Seminar I: Supervision and Administration | Covers health care administrative skills pertinent to music therapy practice, including budgeting, resource allocation, and staff supervision. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music graduate student |
| MUE | 572 | Music Therapy Seminar II with Lab: Advanced Practice in Music | Deepens and broadens knowledge and skills in music therapy clinical practice. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music graduate student |
| MUE | 573 | Music Therapy Seminar III with Lab: Music Therapy Theory and Philosophy | Explores current theory in music therapy and develops the theoretical basis for the profession. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Music Therapy MM student |
| MUE | 574 | Special Topics in Music Therapy | Introduces graduate students to advanced music therapy topics related to clinical practice. | N | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Music Therapy MM student |
| MUE | 575 | Music Therapy Music Skills: Accompaniment | Teaches new forms of musical accompaniment pertinent to music therapy practice, broadening and deepening existing skills. | N | PRA | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre-requisites: Music Therapy MM student |
| MUE | 579 | Psychology of Music | Nature of musicality and its evaluation. Review of recent research. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music graduate student |
| MUE | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): Music graduate student |
| MUE | 581 | Theory and Practice in Music Therapy I | Influence of music on behavior; principles and practices of music therapy and psychiatric clients. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music Therapy graduate student |
| MUE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): Music graduate student |
| MUE | 586 | Music Therapy Graduate Clinical Project | Develops clinical- and research-based music therapy skills in selected cognate area. | N | PRA | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2-6 | | Pre-requisites: MUE 571, 572, 574, and 575 |
| MUE | 589 | Repertoire for Music Therapy | Music skills repertoire for music therapy, including units on brass, strings, woodwinds, electronic instruments, computer music, and improvisation techniques. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisites: Music Therapy MM Student |
| MUE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): Music graduate student |
| MUE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): Music graduate student |
| MUE | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): Music graduate student |
| MUE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): Music graduate student |
| MUE | 754 | Teacher Education Research and Policy | Reading and discussion of research and policy documents in teacher education with a focus on arts and music teacher preparation. Includes development of a research project or essay suitable for publication or presentation, an abbreviated prospectus for a dissertation, or literature review. | N | LEC | N | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Doctoral Student in Music Education |
| MUE | 756 | Qualitative Research in Music Teaching and Learning | Studies qualitative research and methods in music education, including readings and discussion, data collection and data analysis. Includes development of an abbreviated prospectus for a qualitative dissertation, or a draft of a qualitative research paper suitable for presentation or publication. Prerequisite: doctoral student in music education. | N | LEC | N | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Doctoral Student in Music Education |
| MUE | 757 | Quantitative Research in Music Teaching and Learning | Studies quantitative research and methods in music education, including readings and discussion, data collection, and analysis. Includes development of an abbreviated prospectus for a quantitative dissertation or a draft of a quantitative research paper suitable for presentation or publication. | N | LEC | N | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Doctoral Student in Music Education |
| MUE | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): doctoral Music student |
| MUE | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): doctoral Music student |

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| MUE | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): doctoral Music student |
| MUE | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): doctoral Music student |
| MUE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-15 | | Prerequisite(s): doctoral Music student |
| MUE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): doctoral Music student |
| MUE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-15 | | Prerequisite(s): doctoral Music student |
| MUP | 101 | The ASU School of Music Experience | Orientation to university and School of Music resources and procedures as well as career planning and guidance. Through various course discussions and assignments, music students examine the concept of academic integrity and its potential impact on their future and learn about taking an interdisciplinary perspective. Required for all music majors. | N | REC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Credit is allowed for only MUP 101 or MUP 194 (ASU School of Music Experience) |
| MUP | 111 | Studio Instruction | Bassoon, cello, clarinet, contrabass, cornet, euphonium, flute, guitar, harp, harpsichord, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, voice. Minimum contact of 1 hour plus studio class weekly. May not be taken for audit. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 117 | Applied Jazz Improvisation | Principles, methods, and theory of jazz performance and pedagogy. | N | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major who has passed a jazz studies audition |
| MUP | 121 | Studio Instruction | Secondary or minor instrument instruction. Bassoon, cello, clarinet, contrabass, cornet, euphonium, flute, guitar, harp, harpsichord, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, voice. Minimum contact of 1/2 hour per week. May not be taken for audit. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition, or Performance and Movement major |
| MUP | 127 | Studio Instruction | Bassoon, cello, clarinet, contrabass, cornet, euphonium, flute, guitar, harp, harpsichord, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, voice. Minimum contact of 1 hour plus studio class weekly. May not be taken for audit. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 4 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 131 | Class Piano | 4-semester sequence (with MUP 132, 231, and 232) designed for those with little or no piano experience. Emphasizes keyboard technique, sight reading, simple accompaniments, and improvisation. 2 hours per week. May not be taken for audit. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre-requisite: Music student |
| MUP | 132 | Class Piano | 4-semester sequence designed for those with little or no piano experience. Emphasizes keyboard technique, simple accompaniments, and improvisation. 2 hours per week. May not be taken for audit. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music student; MUP 131 with C or better |
| MUP | 133 | Class Voice | 4-semester sequence (with MUP 134, 233, and 234) open to all students. 2 hours per week. May not be taken for audit. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 134 | Class Voice | See MUP 133. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre-requisite: Music student |
| MUP | 170 | Music Theatre I | Develops introductory performance skills for opera and music theater emphasizing the portrayals of simple and complex relationships, character development, solo and ensemble performance, music and dialogue analysis, body awareness, and freedom of the vocal and breath mechanisms. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| MUP | 172 | Music Theatre II | Further develops introductory performance skills for opera and music theater emphasizing the portrayals of simple and complex relationships, character development, solo and ensemble performance, music and dialogue analysis, body awareness, and freedom of the vocal and breath mechanisms. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MUP 170 |
| MUP | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |

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| MUP | 209 | Beginning Choral Conducting | Essentials of choral conducting techniques. 2 hours per week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 210 | Beginning Instrumental Conducting | Essentials of instrumental conducting techniques. 2 hours per week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 217 | Applied Jazz Improvisation | Emphasizes basic jazz literature, chord symbol reading, melodic patterns and concepts, ear training, analysis of improvised solos, and pedagogical issues. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MUP 117 with C or better OR Visiting University Student |
| MUP | 231 | Class Piano | See MUP 131. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music student; MUP132 with C or better |
| MUP | 232 | Class Piano | See MUP 131. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music student; MUP231 with C or better |
| MUP | 235 | Jazz Piano | 2-semester sequence (with MUP 236) designed for jazz keyboard experience. Emphasizes chord symbol reading, simple improvisation, and voicing. 2 hours per week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre-requisite: Music student |
| MUP | 236 | Jazz Piano | See MUP 235. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 250 | Diction for Singers | Use of phonetics in the study of song and opera literature. Language emphasis differs each semester. May be repeated for credit. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 270 | Music Theatre III | Develops intermediate performance skills for opera and music theater emphasizing the portrayals of simple and complex relationships, character development, solo and ensemble performance, music and dialogue analysis, body awareness, and freedom of the vocal and breath mechanisms. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MUP 172 OR Visiting University Student |
| MUP | 272 | Music Theatre IV | Further develops intermediate performance skills for opera and music theater emphasizing the portrayals of simple and complex relationships, character development, solo and ensemble performance, music and dialogue analysis, body awareness, and freedom of the vocal and breath mechanisms. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MUP 270 |
| MUP | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 311 | Studio Instruction | Bassoon, cello, clarinet, contrabass, cornet, euphonium, flute, guitar, harp, harpsichord, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, voice. Minimum contact of 1 hour plus studio class weekly. May not be taken for audit. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 319 | Advanced Audio Engineering in the Arts | Synthesis and application of analog and digital recording methods (voices and instruments), mixing and the advanced skills needed to create professional recordings (CDs, DVDs, internet sound files, etc.). Further emphasis on electronic music production, computer based applications, MIDI, and contemporary studio hardware. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisite: Minimum Junior standing in the Herberger Institute for Design in the Arts |
| MUP | 321 | Studio Instruction | Secondary or minor instrument instruction. Bassoon, cello, clarinet, contrabass, cornet, euphonium, flute, guitar, harp, harpsichord, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, voice. Minimum contact of 1/2 hour per week. May not be taken for audit. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 327 | Studio Instruction | Bassoon, cello, clarinet, contrabass, cornet, euphonium, flute, guitar, harp, harpsichord, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, voice. Minimum contact of 1 hour plus studio class weekly. May not be taken for audit. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2-4 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 337 | Studio Instruction: Collaborative Piano | Repertoire to be selected from vocal and instrumental literature. 1 hour lesson per week. May be repeated for credit. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 340 | Intermediate Conducting | Further study in conducting of instrumental and choral music, including score reading, gesture and interpretation. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MUE 154 or MUP 210 with C or better |
| MUP | 360 | Musicianship for Singers | Covers reading in the treble and bass clefs (other clefs may be covered time permitting), conducting, intervallic patterns, harmonic outlining, rhythm, dictation, sight reading melodies, musical preparation of repertoire, score scanning and score marking. Additional topics may be addressed as specific student skills and goals are assessed. Assignments are sung and drilled with movable do solfeggio and the takadimi rhythm solmization system. All of the repertoire studied and performed are vocal literature, including: art song, opera, oratorio, musical theatre, jazz, popular. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major or Music Theatre minor who has passed audition; Credit is allowed for only MUP 360 or MUP 394 (Musicianship for Singers) |

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| MUP | 370 | Music Theatre V | Interpretational study of advanced acting and musical theatre performance techniques. Includes exploration of several historical and contemporary music styles in musical theatre, applying best practices for research, solo and ensemble performance. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music major or Music Theatre minor who has passed audition; MUP 272 with C or better |
| MUP | 373 | Music Theatre Performance and Production | Participation in music theatre and opera productions, including auditioning for productions, adhering to departmental policies and completing assigned technical hours. | Y | STO | Y | YGB | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major or Music Theatre minor who has passed audition |
| MUP | 374 | Music Theatre Technical Production | In-depth study of approaches to technical music theatre. Classroom study of costumes, sets and lighting (Section 1 Topic: Foundations) is followed by practical experience on a technical running crew for a music theatre and opera production (Section 2 Topic: Practicum). The two sections should be taken in consecutive semesters. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major or Music Theatre minor who has passed audition |
| MUP | 388 | Collaborative Piano | Performance class for collaborative piano majors. Repertoire includes vocal and instrumental selections. Advanced analysis of ensemble techniques, style and performance practice in preparation for graduate study or professional application. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): 4 completions of MUP 127 with C or better OR Visiting University Student |
| MUP | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MUP | 417 | Applied Jazz Improvisation | Emphasizes listening, analysis, and performance of advanced jazz literature and composition in contemporary styles. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MUP 217; Music student who has passed audition |
| MUP | 418 | Bassoon Reed Making | Develops and refines skills for making bassoon reeds. | Y | LAB | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major or nonmajor who has passed audition; minimum 45 hours; Credit is allowed for only MUP 418 or MUP 494 (Bassoon Reed Making) |
| MUP | 438 | The Enterprising Musician | Familiarizes students with concepts of entrepreneurship and explores good business practices. The broad objectives of the course are to understand the importance of entrepreneurial thinking and opportunity recognition in the music industry; and to provide to the students the concepts, capabilities and information to achieve a desired career in music. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music major, The Arts BA major, or Music Entrepreneurship certificate; Credit is allowed for only MUP 438 or MUP 538 or MUP 494 (The Enterprising Musician) or MUP 598 (The Enterprising Musician) OR Visiting University Student |
| MUP | 439 | Music Product Creation and Development | Processes and proven methodologies of new music product creation and development. Assesses and evaluates the quality of different models and techniques through case studies and by talking to potential customers. Develops a business model canvas for a personal new music product idea or project. Taught in conjunction with the online Udacity course How to Build a Start Up, combined with experiential learning in and out of the classroom. Students should have a basic idea of a business model for a startup or project they will pursue throughout the duration of the course. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): HDA 252 or MUP 438 or 494 (The Enterprising Musician); Credit is allowed for only MUP 439 or MUP 494 (Music Product Creation and Development) or MUP 539 |
| MUP | 440 | Keyboard Harmony | Performance-oriented class emphasizing chord progressions, harmonization, figured bass realization, stylistic improvisation, transposition, open score reading, and sight reading. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 441 | Popular Music Ensemble | Focuses on one or several popular music styles involving in-depth study and application of specialized, professional skills in performing with two or more players of like or unlike instruments and/or voice. | Y | LAB | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major or non-Music major who has passed audition |
| MUP | 442 | Instrumental Ensembles | Students enhance musical diversity and artistic depth by participating in numerous ensembles as well as other artistic and educational projects. Each project focuses on specific pedagogical and/or musical learning outcomes. Together they comprise a rich assortment of musical experiences and promote the primary course objective. The curriculum accommodates the distinctive needs of each student and is tailor-made to each individual's career aspirations. Consequently, learning outcomes are highly individualized and student driven. This ensemble is available to both music majors and non-majors, and may require an audition. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): Music major or nonmajor who has passed audition |
| MUP | 443 | Choral Ensembles | Active, thoughtful participation in music ensembles can provide for development beyond the possibilities of individual study alone. The ensemble setting is, in part, a forum for the synthesis of component parts of a complete music education. Includes the study and performance of diverse musical expressions that represent a variety of historical and cultural perspectives. These ensembles provide the opportunity to prepare and present varied music composed for the mixed choir from the major stylistic periods with the intent of serving composers, performers and listeners by performing choral music of the highest possible quality. This ensemble is available to both music majors and non-majors, and may require an audition. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): Music major or nonmajor who has passed audition |

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| MUP | 444 | Maroon and Gold Concert Band | Open to all ASU students. Composed of students who are music majors, as well as those pursuing other fields of study, the group rehearses and performs mainly traditional band literature, giving one or two major performances per semester. Students must audition with the band staff for seating placement. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): Music major or nonmajor who has passed an audition |
| MUP | 448 | Classical Style: Performance and Analysis | Integrates historical and theoretical analysis with performance, examining classical period repertoire. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisites: Music major who has passed audition; Junior standing; Credit is allowed for only MUP 448 or 494 (Classical Style: Performance and Analysis) |
| MUP | 449 | The Unaccompanied Music of JS Bach: Performance and Analysis | Integrates historical and theoretical analysis with performance, examining the unaccompanied works of J.S. Bach. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisites: Music major who has passed audition; Junior standing; Credit is allowed for only MUP 449 or 494 (Unaccompanied Bach: Performance & Analysis) |
| MUP | 450 | Choral Union | Large mixed ensemble focuses on the study, synthesis and performance of major choral masterworks while gaining in-depth understanding of significant choral repertoire and historical ramifications. This ensemble is available to both music majors and non-majors, and may require an audition. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): Music major or Non-Music majors who have passed audition |
| MUP | 451 | Repertoire | In-depth study of music for performing, involving advanced interpretive and technical concepts from historical, stylistic, and performance-related perspectives. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Completed 4 semesters of 100-level studio instruction |
| MUP | 453 | Art Song Repertoire | A survey of repertoire for one voice and piano beginning with Haydn and continuing through the present day. Focuses on the core Art Song Repertoire of Germany and France, but also explores a variety of composers, eras and regions, including Italy, Spain, England and America. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 454 | Song Literature | American, Russian, Spanish, Scandinavian, and contemporary song. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 455 | Canticum Bassum | Membership in this ensemble involves the in-depth study and application of specialized musical skills in the performance of a variety of historically and musically standard male repertoire, within historical context. This ensemble is available to both music majors and non-majors, and may require an audition. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): Music major or Non-Music majors who have passed audition |
| MUP | 457 | Sol Singers | Membership in this ensemble involves the in-depth study and application of specialized musical skills in the performance of historically and musically important repertoire for treble voices. This ensemble is available to both music majors and nonmajors, and may require an audition. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): Music major or non-Music major who has passed audition |
| MUP | 458 | ASU Gospel Choir | The ASU Gospel Choir is a vocal ensemble open to students and community members regardless of their faith. The ensemble performs a variety of song forms drawn from the African American religious tradition, including traditional and contemporary gospel, anthems, hymns and spirituals. The Gospel Choir maintains an active performance schedule both on and off campus. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): undergraduate music major or nonmajor by audition |
| MUP | 459 | Barrett Choir | The Barrett Choir is an opportunity for students from all over the university, but primarily from Barrett, The Honors College, to participate in a high-quality choral ensemble. The group seeks to harness the creativity and intellect of honors students to create a collaborative ensemble that operates on a unique model of student-centered learning. The repertoire, mostly chosen by the members, is highly varied, ranging from world music to pieces in the great choral tradition to newer music and popular music. There are normally two major concerts per semester, with some occasional smaller performances. This ensemble is available to both music majors and non-majors, and may require an audition. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): Music major or Non-Music majors who have passed audition |
| MUP | 460 | The Visiting Quartet Residency Program | Develops skills as a chamber musician and provides opportunities to work with members of the visiting string quartet in residence. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Pre-requisite: Music major (bass, cello, viola, violin) who has passed audition |
| MUP | 461 | Marching and Athletic Bands | Development of specific professional performing skills through staging of formations and drills for football games and other events. Explores a wide variety of musical repertoire from current top 40 hits to classical. These ensembles are available to both music majors and nonmajors, and may require an audition. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major or nonmajor who has passed an audition |
| MUP | 465 | Music Theatre VI | Further interpretational study of advanced acting and musical theatre performance techniques. Includes exploration of historical and contemporary styles in musical theatre, applying best practices for research, solo and ensemble performance. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MUP 370 |

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| MUP | 466 | Broadway Dance | Designed for students in the collaborative performance areas of musical theatre (music, theater and dance). Examines the development of landmark styles and theories specifically in musical theater and Broadway dance. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): two completions of MUP 467 OR Visiting University Student |
| MUP | 467 | Music Theatre Dance Technique | Students gain a basic understanding of body awareness and alignment, strength and technique with a focus on musical theatre vocabulary as well as basic turns and leaps. The first semester students focus on the individual dancer, spatial awareness, development of character and intention. The second semester students work on basic partnering skills and partner dances. Intended to be a full-year course. | N | LAB | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major, Performance (Music Theatre) major, or Music Theatre minor who has passed audition |
| MUP | 470 | Music Theatre VII | Development and practice of professional music theatre skills in solo and ensemble performance with an emphasis on applied skills and industry immersion. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MUP 465; Credit is allowed for only MUP 470 or MUP 494 (Musical Theatre Dance) or MUP 566 OR Visiting University Student |
| MUP | 471 | Music Theatre: Workshops | The development of specific skills for musical-dramatic interpretation. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Performance (Music Theatre) or Performance (Voice) major; minimum 45 hours |
| MUP | 472 | Music Theatre VIII | Further development and practice of professional music theatre skills in solo and ensemble performance with an emphasis on applied skills and industry immersion. | N | LEL | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MUP 470 |
| MUP | 476 | New Music Ensemble | In-depth study, synthesis, and performance of classical works written within the last twenty years for small ensemble and for instruments with electronics. Involves discussion and realization of advanced interpretive and technical concepts related to contemporary music. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 479 | Chamber Music Ensembles | Faculty-coached ensembles involving in-depth study and application of specialized, professional skills in performing with two or more players of like or unlike instruments and/or voice. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 481 | Performance Pedagogy and Materials | Principles and methods of performance techniques for each performance field. May be repeated for credit. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisites: Music students who have passed audition |
| MUP | 482 | Piano Pedagogy | Continuation of MUP 481 (Piano). Problems and techniques of teaching intermediate to advanced piano students. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 485 | Percussion Ensemble | Rehearsal and performance of standard and original repertoire for the percussion ensemble and related instruments. 2 hours per week. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 486 | Jazz Band | Analysis, rehearsal and performance of new, traditional, and Latin literature for jazz ensembles. Development of advanced sight-reading and instrumental doubling skills. 4 hours per week. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | |
| MUP | 487 | Collaborative Piano | Piano accompaniments found in vocal and instrumental literature; discussion of styles and performance practices; experience in public performance. 2 hours per week. May not be taken for audit. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 489 | Ethnomusicology Ensembles | Students apply indigenous music theories to actual practice, contextualized in background reading and listening, as they refine their ability to perform orally generated music and sometimes dance traditions. This ensemble is available to both music majors and nonmajors, and may require an audition. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| MUP | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | | Pre-requisites: Barrett Honors Music students who have passed audition |
| MUP | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | L | Prerequisite(s): Barrett Honors Music students who have passed audition; ENG 101, 105, or 107 with C or better |
| MUP | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MUP | 495 | Performance | For candidates of a BM degree in which 1/2 recital is a requirement. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 0 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 496 | Performance | For candidates of a BM degree in which a full recital is a requirement. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 0 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | STO | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |

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| MUP | 503 | Literature for Teaching Voice | Equips students with knowledge of repertoire for teaching applied voice, and to cultivate skills in mindfully assigning said repertoire. Topics and activities include learning about the types of repertoire across many styles, pedagogical implications of repertoire, benefits and pitfalls in assigning repertoire to the developing singer, and assignment of repertoire to true and hypothetical students. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music graduate student |
| MUP | 504 | Voice Teaching Practicum | Provides opportunities to develop practical teaching skills through experiential learning for voice and/or music education graduate students who have a strong interest in teaching applied voice lessons. Topics and activities include teaching, teaching observations, guided teaching activities, and the creation of a teaching portfolio. | N | PRA | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music graduate student |
| MUP | 507 | Group Piano Practicum | Curricula, materials, and teaching techniques for group teaching at the university and community college levels. Observation/supervised teaching in group piano. | N | PRA | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 508 | Studio Observation | Weekly observation of studio teaching by various piano faculty. Paper as final requirement. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 509 | Jazz Keyboard Harmony | Emphasizes jazz chords and chord progressions, harmonization, voicing, and analysis of transcriptions. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 510 | Jazz Keyboard Harmony | Continuation of emphasis on jazz chords and chord progressions, harmonization, voicing, and analysis of transcriptions. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 511 | Studio Instruction | Bassoon, cello, clarinet, contrabass, cornet, euphonium, flute, guitar, harp, harpsichord, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, voice. Minimum contact of 1 hour plus studio class weekly. May not be taken for audit. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music graduate student who has passed audition |
| MUP | 517 | Advanced Improvisation | Improvisation techniques within the context of advanced jazz literature. Must be taken in sequence with MUP 518. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 518 | Bassoon Reed Making | Students develop and refine skills for making bassoon reeds. | Y | LAB | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only MUP 518 or MUP 598 (Bassoon Reed Making) |
| MUP | 521 | Studio Instruction | Secondary or minor instrument instruction. Bassoon, cello, clarinet, contrabass, cornet, euphonium, flute, guitar, harp, harpsichord, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, voice. Minimum contact of 1/2 hour per week. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music graduate student who has passed audition |
| MUP | 527 | Studio Instruction | Bassoon, cello, clarinet, contrabass, cornet, euphonium, flute, guitar, harp, harpsichord, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, voice. Minimum contact of 1 hour per week. May be repeated for credit. May not be taken for audit. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2-4 | | Prerequisite(s): Music graduate student who has passed audition |
| MUP | 538 | The Enterprising Musician | Familiarizes students with concepts of entrepreneurship and explores good business practices. The broad objectives of the course are to understand the importance of entrepreneurial thinking and opportunity recognition in the music industry; and to provide to the students the concepts, capabilities and information to achieve a desired career in music. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): graduate Herberger Institute student; Credit is allowed for only MUP 438 or MUP 538 or MUP 494 (The Enterprising Musician) or MUP 598 (The Enterprising Musician) |
| MUP | 539 | Music Product Creation and Development | Processes and proven methodologies of new music product creation and development. Assesses and evaluates the quality of different models and techniques through case studies and by talking to potential customers. Develops a business model canvas for a personal new music product idea or project. Taught in conjunction with the online Udacity course How to Build a Start Up, combined with experiential learning in and out of the classroom. Students should have a basic idea of a business model for a startup or project they will pursue throughout the duration of the course. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MUP 538 or 598 (The Enterprising Musician); Credit is allowed for only MUP 439 or MUP 539 or MUP 598 (Music Product Creation and Development) |
| MUP | 540 | Principles of Integrated Conducting | Score preparation and conducting techniques for instrumental music. Concentration on study of historical styles. Required of DMA students in Instrumental Music. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisite: DMA Conducting major |
| MUP | 541 | Song | Seminar on solo song from its beginning to the present day. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre- or corequisite(s): Graduate Music major who has passed audition |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|---|------------------------------------|-------|-----------------|---|
| MUP | 542 | Instrumental Ensembles | Students participate in numerous ensembles and artistic and educational projects that together, comprise a rich assortment of musical experiences. Graduate students especially need opportunities to hone their skills in a great variety of performance opportunities. During the academic year, each student participates in a variety of projects that present a wide range of musical experiences. The curriculum is designed to accommodate the distinctive needs of each student in that artistic-educational experiences are, to a large extent, tailor made to each individual's career aspirations. Consequently, learning outcomes are highly individualized and student driven, rather than institutionally convenient. Each artistic-educational project focuses on specific pedagogical and/or musical learning outcomes that, in various ways, promote the primary course objective: the enhancement of musical diversity and artistic depth in every student. Audition required during the first week of classes. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): Music graduate student |
| MUP | 543 | Choral Ensembles | Active, thoughtful participation in music ensembles can provide for development beyond the possibilities of individual study alone. The ensemble setting is, in part, a forum for the synthesis of component parts of a complete music education. Includes the study and performance of diverse musical expressions that represent a variety of historical and cultural perspectives. These ensembles provide the opportunity to prepare and present varied music composed for the mixed choir from the major stylistic periods with the intent of serving composers, performers and listeners by performing choral music of the highest possible quality. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUP | 548 | Classical Style: Performance and Analysis | Integrates historical and theoretical analysis with performance, examining classical period repertoire. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisite: Graduate Music major who has passed audition; Credit is allowed for only MUP 548 or 598 (Classical Style: Perf. & Anlys) |
| MUP | 549 | The Unaccompanied Music of JS Bach: Performance and Analysis | Integrates historical and theoretical analysis with performance, examining the unaccompanied works of J.S. Bach. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisite: Graduate Music major who has passed audition; Credit is allowed for only MUP 549 or 598 (Unaccomp Bach Perf & Analysis) |
| MUP | 550 | Choral Union | Open to all students in the university and to interested singers in the community by audition. Preparation and performance of the larger choral works. 2 hours per week. An audition is required to participate in the ensemble. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUP | 551 | Repertoire | Literature available for performance in all performing media. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 554 | Major Repertoire, Score Study, and Performance Practice | Conducting course comprising a survey of significant repertoire (encompassing, over multiple semesters, literature from choral, musical theater/opera, orchestral, and wind band genres); an introduction to historical performance practice; and a range of score study techniques. Conducting majors are required to enroll each semester (or as advised) and, subsequently: display a comprehensive historical knowledge of the repertoire and development of ensembles over the past 500 years, demonstrate command of standard performance practices with respect to each historical era, and exhibit a clear understanding of varied methods of score study. | Y | SEM | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: DMA Conducting major |
| MUP | 555 | Arizona Statesmen | Rehearsal and performance of music for mixed voices. 3 hours per week. An audition is required to participate in the ensemble. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUP | 557 | Sol Singers | Rehearsal and performance of music for mixed voices. 2 hours per week. An audition is required to participate in the ensemble. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUP | 558 | ASU Gospel Choir | The ASU Gospel Choir is a vocal ensemble open to students and community members regardless of their faith. The ensemble performs a variety of song forms drawn from the African American religious tradition, including traditional and contemporary gospel, anthems, hymns and spirituals. The Gospel Choir maintains an active performance schedule both on and off campus. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUP | 560 | The Visiting Quartet Residency Program | Develops skills as a chamber musician and provides opportunities to work with members of the visiting string quartet in residence. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Pre-requisite: Graduate Music major who has passed audition |
| MUP | 561 | Marching and Concert Bands | Staging of formations and drills for football games and other events (fall); masterpieces of symphonic band literature (spring). Meets MWF. An audition may be required to participate in the ensemble. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| MUP | 565 | Acting and Movement | Process class with exercises specifically developed to assist the student actor to learn the fundamental techniques of acting with an emphasis on the actor's approach to characterization. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): graduate Music major who has passed an audition; Credit is allowed for only MUP 565 or MUP 598 (Acting for Singers) |
| MUP | 566 | Broadway Dance | Designed for students in the collaborative performance areas of musical theatre (music, theater and dance). Examines the development of landmark styles and theories specifically in musical theater and Broadway dance. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): graduate Music major who has passed an audition; Credit is allowed for only MUP 566 or MUP 598 (Musical Theatre: Dance) |
| MUP | 567 | Music Theatre Dance Technique | Students gain a basic understanding of body awareness and alignment, strength and technique with a focus on musical theatre vocabulary as well as basic turns and leaps. The first semester focuses on the individual dancer, spatial awareness, development of character and intention. The second semester works on basic partnering skills and partner dances. Intended to be a full year. | N | LAB | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music graduate student who has passed audition |
| MUP | 570 | Music Theatre: Techniques | Exercises and improvisations for the singing actor emphasizing body awareness, isolations, and freedom of the vocal and breath mechanisms. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 571 | Music Theatre: Workshops | Develops specific skills for the musical-dramatic interpretation. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 573 | Music Theatre: Performance | Participation in Lyric Opera Theatre productions. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 574 | Music Theatre Technical Production | Introduces technical music theatre. Classroom study of costumes, sets and lighting (Section 1, Topic: Tech) followed by practical experience on a technical running crew for a Lyric Opera Theatre production (Section 2 Topic: Problems). The two sections should be taken in consecutive semesters. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 576 | New Music Ensemble | Rehearsal and performance of music written in the last 20 years. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUP | 579 | Chamber Music Ensembles | String, brass, woodwind, percussion, keyboard, vocal, and mixed ensembles. 2 hours per week. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUP | 581 | Performance Pedagogy and Materials | Principles and methods of performance techniques for each performance field. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 582 | Anatomy and Physiology of Singing | Detailed study of the anatomy, physiology, neurology and acoustics of the singing voice. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2-3 | | Prerequisite(s): Music graduate student |
| MUP | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUP | 585 | Percussion Ensemble | Rehearsal and performance of standard and original repertoire for the percussion ensemble and related instruments. 2 hours per week. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUP | 586 | Jazz Band | Rehearsal and performance of new, traditional, and Latin literature for jazz bands. 4 hours per week. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUP | 587 | Ethnomusicology Ensembles | Performance learning experience for the music of various cultures of the world. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUP | 588 | Collaborative Piano | Piano accompaniments found in vocal and instrumental literature; discussion of styles and performance practices; experience in public performance. 2 hours per week. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 596 | Solo Performance | May be full recital, major operatic role, solo performance with orchestra, ensemble, or lecture recital. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 597 | Solo Performance | See MUP 596. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| MUP | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 727 | Studio Instruction | Minimum contact of 1 hour per week. May be repeated for credit. Conducting students register for 2 semester hours; all other students register for 4 semester hours. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2-4 | | Prerequisite(s): Doctoral Music major who has passed audition |
| MUP | 751 | Seminar in Piano Literature | In-depth study of selected topics related to the standard piano literature. Requires research paper, bibliography, class presentation. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre- or corequisite(s): Doctoral Music major who has passed audition |
| MUP | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre- or corequisite(s): Doctoral Music major who has passed audition |
| MUP | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre- or corequisite(s): Doctoral Music major who has passed audition |
| MUP | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre- or corequisite(s): Doctoral Music major who has passed audition |
| MUP | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-15 | | Pre- or corequisite(s): Doctoral Music major who has passed audition |
| MUP | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre- or corequisite(s): Doctoral Music major who has passed audition |
| MUP | 796 | Solo Performance | May be full recital, major operatic role, solo performance with orchestra, ensemble, or lecture recital. | N | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-15 | | Pre- or corequisite(s): Doctoral Music major who has passed audition |
| MUP | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-15 | | Pre- or corequisite(s): Doctoral Music major who has passed audition |
| MUS | 100 | Fundamentals of Music Notation | Provides nonmusic majors with sufficient symbol literacy to begin work in the field of musical learning. Credit not applicable toward any music degree. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | |
| MUS | 131 | Bach to Bebop | Develops an understanding of the repertoire for the various musical instruments and ensembles throughout the five eras being studied and discernment through listening different genres of music. For the lectures regarding instruments, introduces students to the respective repertoire for the instrument from c. 1700-present with special emphasis on how the use of the instrument developed throughout history or during each era. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Credit is allowed for only MUS 131 or 194 (Performance: Bach to Bebop) |
| MUS | 145 | Nonmajors Class Piano: Beginner | For students with little or no previous music experience. Students learn beginning piano skills. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Credit is allowed for only MUS 145 or MUS 194 (Non-Majors Beginning Class Piano I) OR Visiting University Student |
| MUS | 146 | Singing for Nonmajors I | Introduces the basics of singing in many styles, from classical to popular. Topics and activities include learning about the mechanics of singing, music reading, critical listening, learning and performing in a group, and learning and performing alone. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Credit is allowed for only MUS 146 or MUS 194 (Beginning Class Voice for Non-Majors) |
| MUS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MUS | 210 | The Arts Around Us | Develops the ability to think and create from an arts-rich perspective. In particular, focuses on the arts in the lives of children and youth, arts experiences for children and youth in the community, and one's personal experiences with the arts. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | |
| MUS | 211 | Dance, Music and Meaning | Explores the fundamental nature of human experience across time and culture through the medium of dance and music using a variety of dance and musical materials including folk dance and music, popular dance and music, and such theatrical forms as ballet and modern dance and the music connected with them. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | |
| MUS | 212 | Music, Meaning and Imagination | Explores how music provides ways to make meaning of the world around us and music as a medium for creative thinking and doing. Develops understanding by trying on roles ranging from critics to creators in both individual and group projects. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Credit is allowed for only MUS 212 or 294 (Music, Meaning and Imagination) |

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| MUS | 213 | Critical Thinking in the Arts | Fosters critical thinking abilities in relationship to performing and visual arts. Students learn how to listen to music and view art analytically. Develops and applies knowledge of common elements (within and across art forms) such as form, texture, balance and contrast in order to enhance understanding both of arts processes and products. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | |
| MUS | 214 | Art, Music and Learning | Offers an integrated introduction to, and examination of, the core structural and formal elements of visual art and music in the context of contemporary experiences and learning process. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | |
| MUS | 215 | Children, Creativity, Arts | Interdisciplinary exploration of children's creative processes through critical analysis, hands-on participation and personal reflection. Specifically focuses on creative processes in the arts. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | |
| MUS | 231 | Laughing to Music | Modern-day comedies like Spamalot, Avenue Q, and Glee are part of a comic tradition extending back to the Renaissance. Looks at funny in music from commedia dell'arte to the present. Studies works including the comedies of Mozart, Gilbert and Sullivan, the Marx Brothers, Monty Python, Mel Brooks and many others. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Credit is allowed for only MUS 231 or MUS 294 (Laughing to Music) OR Visiting University Student |
| MUS | 240 | Listening to Music | Surveys the historical periods of music making in western civilization, the study of which will hopefully create within the student a listener with an appreciation for art music of many periods and provide more enjoyment in the process. Through lectures, presentations, readings, listening examples and video/DVDs, studies music identified as strong examples of the major periods, composers and compositions in the history of music. Students learn and adopt a minimum new language to help express the elements of music they experience and listen to and develop strategies for writing and communicating about what they hear and put words to how they respond to it. Because experiencing music performed live is an integral part of the learning process, students are required to attend concerts outside of class and submit critical reviews of what they hear. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | |
| MUS | 245 | Nonmajors Class Piano: Intermediate | For students who have completed 1-3 years of piano study. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MUS 145 or MUS 194 (Non-Majors Beginning Class Piano I) with C or better; Credit is allowed for only MUS 245 or MUS 294 (Non-Majors Class Piano II) OR Visiting University Student |
| MUS | 246 | Singing for Nonmajors II | Continues to cultivate the basics of singing in many styles, from classical to popular. Topics and activities include gaining a deeper understanding of the mechanics of singing, sharpening music reading skills and critical listening, learning and performing in a group, and learning and performing alone. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MUS 146; Credit is allowed for only MUS 246 or MUS 294 (Non-Majors Class Voice II) or MUS 294 (Singing 2 for Non-majors) OR Visiting University Student |
| MUS | 254 | Blues to Heavy Metal | Covers important musicians and trends from the 1930s through the 1970s. Topics include blues, rhythm and blues, rockabilly, doo wop, teen idols, girl groups, dance craze, surf, novelty, soul, Motown, British invasion, art rock, psychedelic rock, hard rock, heavy metal, and early '70s styles. Emphasizes musical instruments and stylistic traits with historical information provided as background. Features listening examples drawn from selected artists and bands including popular songs and rarities, and demonstrations using various musical instruments and techniques. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Credit is allowed for only MUS 254 or 354 (Blues to Heavy Metal) |
| MUS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MUS | 340 | Music for the Concert Hall, Stage, and Screen | In-depth study of examples from Western art music. Emphasizes aural analysis and synthesis of historical data with musical phenomena. Critiques the canon and its limits in specific instances. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & H | Prerequisite(s): minimum 42 hours |
| MUS | 345 | Nonmajors Class Piano: Advanced | For students who have completed 4 of more years of piano experience. | N | LEC | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MUS 245 or MUS 294 (Non-Majors Class Piano II) with C or better OR Visiting University Student |
| MUS | 347 | Jazz in America | In-depth study, analysis and synthesis of examples from the jazz tradition. Includes the application of advanced aural analytic techniques to exemplary jazz musical works. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & C | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| MUS | 349 | Music in America | Current styles of American music including jazz, popular, and folk music. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & H | |
| MUS | 354 | Popular Music | In-depth study of a specific topic in the history of popular music. Emphasizes aural analysis and synthesis of historical data with musical phenomena to create new perspectives. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): minimum 42 hours OR Visiting University Student |

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| MUS | 355 | American Music | In-depth study of current research topics in American music. Engages students in current scholarly debates. Charts the limits of current scholarly methodologies and historical research programs. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & C & H | Prerequisite(s): minimum 42 hours OR Visiting University Student |
| MUS | 356 | Broadway and the American Musical | In-depth chronological study of American musical theatre on Broadway, including origin and development, historical references, global and cultural influences. By way of critical analysis, emphasizes comprehensive stylistic understanding of minstrelsy, operetta, revues, book musicals, film musicals, rock musicals, mega-musicals, and Broadway revivals. Engages students in current scholarly debates on American musical theatre. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| MUS | 362 | Rap Music and Hip Hop Culture | Examines the history of rap music and hip hop culture from their origins to about 1995, including most, but not all, of the major artists from this period. Explores connections between rap music and other elements of hip hop culture, and challenges students to think critically about rap music and its place in society. Uses listening exercises, demonstrations, and conversations with artists to examine how rappers create meaning in their musical works. Drawing on secondary articles by rap critics and scholars, considers in detail such controversial subjects as censorship, sexism, obscenity, and race politics in America as they relate to rap music. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & C | Prerequisite(s): minimum 42 hours; Credit is allowed for only MUS 354 (Hip Hop) or MUS 362 OR Visiting University Student |
| MUS | 371 | World Music | Provides an introduction to world music, including traditional and popular styles. Examines specific music genres from Africa, Asia, Europe, and the Americas and explores their historical development, cultural contexts, communicative functions, forms, styles, instruments and musical philosophies. Throughout the semester, considers the interrelationships among musical genres and other art forms (dance, theater, visual arts, and literature) and analyzes how these musics have intersected with the issues of race, class, gender, religion, ritual, politics, social movements and cultural identity. Students learn to hear and discuss significant stylistic elements of selected genres through listening assignments. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & G | Pre-requisite: Minimum 45 hours; Credit is allowed for only MUS 371 or 394 (World Music) |
| MUS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MUS | 410 | History of Women in Music | Surveys musical achievements of women as well as the historical contexts that shaped and defined their artistic development. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & C & H | |
| MUS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | | Prerequisite(s): Barrett Honors student |
| MUS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MUS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MUS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | |
| MUS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| NAN | 505 | Nanoscience and Society | Integrates nanoscience and nanotechnology with potential societal issues involved in the students' NAN 593 Applied Projects. Coordinated by the faculty and research staff at the Center for Nanotechnology in Society. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 2 | | |
| NAN | 506 | Innovation and IP Management | Intellectual Property (IP) Management in the context of innovation (research, regulations, manufacture, access to markets, and trade) with emphasis on strategies, public-private interface, licensing, and technology transfer. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 2 | | |
| NAN | 511 | Materials Physics I | Fundamentals of materials physics: crystal structure, diffraction, elasticity, point defects, dislocations, lattice vibrations, thermal properties, periodic potential, band structure. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Pre-requisites: Degree- or nondegree-seeking graduate; Credit is allowed for only MSE 526, NAN 511, PHY 511, or PHY 481 |
| NAN | 512 | Materials Physics II | Electronic behavior of materials: energy bands, electronic properties, metals, semiconductors, insulators, optical properties, magnetic properties, superconductivity, biophysics. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Credit is allowed for only MSE 525 or MSE 527 or MSE 598 (Fund of Elec, Optical, & Mag Matls & Device Apps) or NAN 512 or PHY 482 or PHY 512 |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|-----------------------------|-------|-----------------|---|
| NAN | 542 | Topics in Biophysics | Overview of modern biology, length scales: emphasizes molecular and cellular biology. Nonequilibrium systems: compare and contrast stochastic processes in biological and physical systems. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Credit is allowed for only NAN 542 or PHY 542 |
| NAN | 544 | Introduction to Nanoscience | Survey of nanoscience: quantum/ statistical mechanics/kinetics; measurement and fabrication methods; applications to materials, nano-electronics, molecular electronics and nano-biology. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only CHM 544, NAN 544, PHY 444 or PHY 544 |
| NAN | 546 | Surfaces and Thin Films | Thermodynamics and kinetics of surface structures and thin film processes. Ultra-high vacuum techniques for examining surfaces. Case studies of physics, chemistry and nanoscience applications. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Credit is allowed for only MSE 546, NAN 546 or PHY 546 |
| NAN | 552 | Electron Microscopy I | Kinematical and dynamical electron diffraction and microscopy. Defect structure and composition using STEM imaging, x-ray and electron-energy-loss spectroscopy. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Credit is allowed for only MSE 552, NAN 552, PHY552 or SEM 552 |
| NAN | 560 | Nanomaterials in Energy Production and Storage | Emphasizes the relationship among fundamental materials properties, chemical and energy transformation, as well as energy storage. Applications include the role of materials for photovoltaics, nanocatalysts, batteries, and fuel cells. Stresses fundamental principles and charge transfer processes in nanostructured materials in addressing energy needs. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): graduate Chemistry, Engineering or Physics major. Credit is allowed for only MSE 460 or MSE 494 (Nanomaterials In Energy Production and Storage) or MSE 560 or MSE 598 (Nanomaterials In Energy Production and Storage) or NAN 560 |
| NAN | 564 | Bionanotechnology | The use of biomolecules, bioelectronics, and biomedicine for applications in nanotechnology. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Credit is allowed for only BCH 564 or NAN 564 |
| NAN | 571 | Quantum Physics | Review modern physics, chemistry, math. Differential equation, operator, matrix formulations. Free particle, bound state problems. Examples from physics, chemistry and nanoscience. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Credit is allowed for only MSE 571, NAN 571 or PHY 571 |
| NAN | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |
| NAN | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |
| NAN | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of Physics | 1-4 | | |
| NAV | 101 | Introduction to Naval Science | Introduces the customs, traditions, missions and regulations of the Department of Defense, United States Navy and United States Marine Corps. Introductory course for the Naval Reserve Officer Training Corps (NROTC) by laying the basic foundation of knowledge about the Navy and Marine Corps required to progress through the NROTC program. Also provides the requisite knowledge to allow follow-on shipboard summer training to be safely and effectively conducted. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of Naval Science | 3 | | |
| NAV | 102 | Sea Power and Maritime Affairs | Informs the participants of the historical evolution of sea power for the U.S. Navy and world history. Also covers the evolution of international terrorism and the effects on U.S. strategies and policies regarding potential adversaries. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of Naval Science | 3 | | Credit is allowed for only NAV 102 or NAV 194 (Sea Power and Maritime Affairs) |
| NAV | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of Naval Science | 1-4 | | |
| NAV | 202 | Navigation | Basic principles, procedures and analytic processes of marine navigation. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of Naval Science | 3 | | Credit is allowed for only NAV 202 or NAV 294 (Navigation) |
| NAV | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of Naval Science | 1-4 | | |
| NAV | 301 | Naval Ship Systems I | Provides detailed knowledge of naval engineering systems and principles of ship construction. Topics covered include ship design, hydrodynamic forces, stability, conventional and nuclear propulsion, electrical theory and systems, hydraulics and ship control. Concepts of the theory and design of steam, gas turbine and diesel propulsion. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of Naval Science | 3 | | Prerequisite(s): minimum 30 hours; Credit is allowed for only NAV 301 or NAV 394 (Navy Ship Systems I - Engineering) OR Visiting University Student |
| NAV | 302 | Naval Ship Systems: Weapons | Overview of the theory and concepts underlying modern weapon systems used aboard naval warships. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of Naval Science | 3 | | Prerequisite(s): minimum 30 hours. Credit is allowed for only NAV 302 or NAV 394 Naval Ship Systems II: Weapons |
| NAV | 303 | Evolution of Warfare | Provides marine option students with a basic understanding of the art, science and concepts of war from the beginning of recorded history to the present day. Addresses the interrelationships among technology, politics, culture and society to better understand warfare today and in the future. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of Naval Science | 3 | | Prerequisite(s): minimum 30 hours. Credit is allowed for only NAV 303 or NAV 394 Evolution of Warfare |
| NAV | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of Naval Science | 1-4 | | |

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| NAV | 401 | Naval Operations and Seamanship | In-depth study of numerous aspects relating to the efficient and professional manner of U.S. Navy ships' operations. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of Naval Science | 3 | | Prerequisite(s): minimum 30 hours; Credit is allowed for only NAV 401 or NAV 494 (Naval Operations and Seamanship) OR Visiting University Student |
| NAV | 402 | Leadership and Ethics | Applies leadership and ethical theories discussed to an actual leadership or ethical dilemma or issue that Junior Officers in the Fleet or FMF are currently facing or have faced in the recent past. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of Naval Science | 3 | | Prerequisite(s): minimum 30 hours; Credit is allowed for only NAV 402 or NAV 494 (Leadership and Ethics) |
| NAV | 403 | Fundamentals of Maneuver Warfare | Focuses on the historical aspect of amphibious operations. Emphasizes how the development of this war fighting discipline played a key role throughout much of the early history of the Marine Corps. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of Naval Science | 3 | | Prerequisite(s): minimum 30 hours OR Visiting University Student |
| NAV | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | The College of Liberal Arts and Sciences | Department of Naval Science | 1-3 | | |
| NEM | 500 | Research Methods | Course on research methods in a specific discipline. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEM | 501 | Emerging Media | Driven by contemporary case studies, this seminar course overviews the current emerging media markets by exploring latest developments in short-form video, AR/VR, extended reality, documentaries, live digital immersive theatre, virtual production and more. Reviews the history of these emerging media markets and considers the influences of various genres--gaming, theatre, film, TV and art--that inform content created in these new formats. Also looks ahead to the future of emerging media, examining development best practices, funding models including crowdsourcing and grant-funding, audience development as well as client-based commissioned productions that may be critical to their own practice. | N | SEM | N | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Narrative and Emerging Media MA student |
| NEM | 510 | Narrative Development and Pre-Production | Why are some stories more engaging than others? What are the narrative tools that pull in audiences--to touch, teach and inspire? What are the kinds of stories that move you? Students learn the foundations of good storytelling and pre-production, particularly for short form and emerging media. Assesses the potential interest and impact of different storylines; conducts background research and interviews; develops compelling story arcs and characters; writes voiceover and narrative scripts; explores multiple emerging storytelling modes, including animation and immersive; and applies best practices for pitching and accepting/implementing critique. While primarily focused on nonfiction storytelling, also considers fiction. | N | LEL | N | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Cronkite School of Journalism and Mass Communication graduate student or Herberger Institute for Design and the Arts graduate student |
| NEM | 515 | Emerging Media Production | Immersive storytelling breaks through the fourth wall, bringing audiences into the heart of the story. Viewers are no longer bystanders peering through a screen or a window. Explores the XR techniques artists, filmmakers and producers can use to ensure their audiences are immersed in the narrative. Deepens familiarity with the techniques required to produce emerging media, including exploration of game engine and other technologies for AR/VR/XR and successful short form video techniques. Explorations also include in-class experiments, readings, discussions and viewings. Students become familiar with theoretical understanding of spatial and embodied experience, in contrast to two-dimensional approaches and the development of how that might inform a personal approach for advanced artistic and professional production practices. | N | LEL | N | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | |
| NEM | 520 | AR/VR/XR for Storytelling | Applies game engine technology and techniques to create original and compelling AR/VR/XR work. Students gain advanced skills in game engine workflows and development mechanics to gain an understanding of how 3D programs can create fully immersive narratives. Using techniques previously applied to video games, this course deepens understanding how narrative, interactive and linear, can be powerfully employed using these new technologies. Students learn the strengths and limitations of game engine tools available to ensure immersion, exploring audience interaction techniques as well as 3D environment creation, to create agency for audiences or viewers and to center the story using embodiment. | N | LEL | N | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Narrative and Emerging Media MA student |

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| NEM | 525 | Virtual Production for Storytelling | Taught directly on the Planar virtual production stage at the California Center's Hearst Building, provides professional skills necessary for working in virtual production. Techniques used in virtual production are derived from techniques devised for live action production, cinematography, animation and video games, but merge them in using real-time technologies to produce cinematic content. With major Hollywood film and television productions turning to virtual production to capture scenes once reliant on costly visual effects, this course familiarizes students with the crucial workflows to successfully manage and produce narrative using the virtual production pipeline with a focus on the core underlying technologies used in virtual production, including motion capture, performance capture, virtual cinematography, "simulcam" and others. Upon completion of this course, students produce cinematic content captured fully in a game engine that can be directly edited into the professional-level film or television content. | N | STO | N | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Narrative and Emerging Media MA student |
| NEM | 530 | Emerging Media Project Management | Students master advanced skills in emerging media project management, including conceptualization and production workflows for AR/VR/XR, 360 and short-form film and the agile process. Focuses on essential project management techniques from pre-production, a topline budget, production tracking and delivery onto current potential distribution platforms as well as roll out/transmission on those platforms. Students become familiar with project timeline creation, tools for milestone tracking, licensing, audience insight/testing and the key emerging distribution channels such as new social media platforms and social virtual reality spaces. At the end of the course, students complete a fully formed pitch-deck, including concept, project overview narrative summary, budget, schedule, distribution goals and how to assemble a team. | N | LEL | N | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Narrative and Emerging Media MA student |
| NEM | 550 | Diversity and Ethics in Emerging Media | What is the dominant narrative in emerging media and how can we make sure diverse voices and viewpoints are ethically represented? Students explore these questions and evaluate current ethical and inclusive practices in narrative development, artistic practice and collaboration frameworks. Also focuses on a critical understanding of the importance of and best practices for ethically and diversely sourcing/portraying subjects in projects, particularly children and vulnerable characters; applying ethical decision-making models; analyzing diversity in storytelling; respecting privacy of subjects; as well as exploring content co-creation and collaboration with nonfiction characters. Using one or more forms of emerging media, students create a piece of storytelling anchored in a diverse community and/or subject matter. | N | SEM | N | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Narrative and Emerging Media MA student |
| NEM | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEM | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEM | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEM | 585 | Portfolio | Centers the relationship of artists and journalists to their own work by documenting process and progress through professional asset development and display. Students learn how to craft portfolios representing conceptual and developmental processes, critical thinking, creative ideation and evaluation with strong technical, production and communication skills. During this course, students have access to visiting professionals, specialized professional development opportunities and industry networking, and they build material for both assessment and evaluation of their progress as well as culminating materials for immediate transfer into professional portfolio platforms. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1 | | Prerequisite(s): Narrative and Emerging Media MA student |
| NEM | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEM | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEM | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| NEM | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEM | 601 | Short Form and 360 Video Production | Students debate, critique and contextualize approaches to short form emerging media and immersive narrative against traditions in film, television, games and interactive media. With a focus on producing short form and 360 filmmaking, students develop an enhanced understanding of writing, developing and storyboarding for short form and immersive productions. Besides learning advanced approaches to implementing best practices and latest techniques for filming, lighting and audio, this course also gives an in-depth understanding of assembling and shooting with 360 cameras and associated audio equipment. Students work toward producing a short emerging media or 360 film using the learned techniques. | N | LEL | N | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Narrative and Emerging Media MA student |
| NEM | 630 | Emerging Media for Clients | Gives students a unique opportunity to work with a leading emerging media industry client to gain invaluable experience developing and producing an emerging media project. Students work to a real-world brief set out by the emerging media company for a live project. The briefs varies according to the needs/project of the emerging media company, but could include projects such as background research, market insight and user testing, writing pitches and R&D experimental work. By the end of the course, students have developed a professional-level understanding of how creative productions are conceived, produced and delivered within emerging media industries. | N | STO | N | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Narrative and Emerging Media MA student |
| NEM | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEU | 101 | Introduction to Neuroscience | Provides an overview of fundamental concepts in the study of brain organization and function. Discusses key principles regarding cellular and molecular mechanisms of neuron function, organization and information processing in sensory and motor systems, endocrine and emotional components of behavior, and cognitive consequences of diseases of the brain. Introduces methods by which these features of brain function are established. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | |
| NEU | 290 | Data Science for Neuroscience Majors | Builds a foundation for understanding and implementing basic research methodology, scientific programming in R, modeling using regression and statistical inference for neuroscience data. A strong foundation in these topics facilitates academic and professional careers in neuroscience. Beyond a career in neuroscience, develops computer programming and statistical literacy skills that are broadly applicable to day-to-day life. Delivered as a blend of lectures, R coding workshops and laboratory assignments where students plot, model and make inferences about data from molecular, systems, behavioral and cognitive neuroscience. These four branches of neuroscience are the four fundamental areas of the neuroscience major. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of Psychology | 3 | CS | Pre- or corequisite(s): NEU 101; Credit is allowed for only NEU 290 or NEU 294 (Design and Statistics for Neuroscience) OR Visiting University Student |
| NEU | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 1-4 | | |
| NEU | 307 | Your Brain on Drugs | Provides an overview of the effects of addictive drugs on the brain from a psychobiology and neuroscience perspective. Covers all classes of addictive drugs, from alcohol to nicotine to heroin to crystal meth. Also discusses topics related to many popular questions about addiction, such as: Is addiction really a disease? Is marijuana a gateway to harder drug use? Do drugs really kill brain cells? Which drug is the most addictive? | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): BIO 181 or PSY 101; minimum 45 hours OR Visiting University Student |
| NEU | 310 | Fundamentals of Cognitive Neuroscience | Provides an overview of major theories, methods and topics of inquiry in the field of cognitive neuroscience. Covers the neural underpinnings of everyday cognitive activities such as attention, memory, decision making, emotion, social interaction and language. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): NEU 101; Credit is allowed for only NEU 310 or NEU 394 (Fundamentals of Cognitive Neuroscience) or PSY 224 or PSY 294 (Introduction to Cognitive Neuroscience) OR Visiting University Student |
| NEU | 323 | Neuroscience of Perception | Designed to understand neural mechanisms underlying our visual experiences from seeing spots of light to recognizing complex visual objects. Includes hands-on experiences on visual illusions, in-class demonstration of neuroimaging techniques (e.g., EEG) and introduction of advanced analysis methods (e.g., neural decoding). | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): NEU 101 with C or better; minimum 30 hours; Credit is allowed for only NEU 323 or NEU 394 (Neuroscience of Perception) or PSY 323 OR Visiting University Student |

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| NEU | 325 | Biopsychology | Explores the biological basis of behavior. Covers the basic components and functioning of neurons, the various ways that bodily functions are regulated, how the central nervous system contributes to higher-level cognitive processing, and how malfunctions in the nervous system lead to various psychological disorders. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): NEU 101; BIO 181, BIO 182, BIO 282, CHM 113 or CHM 116 OR PSY 290 OR complete two of the following: BIO 181, BIO 182, BIO 282, CHM 113, CHM 116; Credit is allowed for only NEU 325 or NEU 394 (Biopsychology) OR Visiting University Student |
| NEU | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | The College of Liberal Arts and Sciences | Department of Psychology | 1-4 | | |
| NEU | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | |
| NEU | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | Department of Psychology | 1-6 | | Prerequisite(s): Barrett Honors student |
| NEU | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | Department of Psychology | 1-6 | | Prerequisite(s): Barrett Honors student |
| NEU | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| NEU | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | Department of Psychology | 1-3 | | |
| NEU | 556 | Human Systems Neuroscience | Systems-level neuroscience course focusing on human diseases. Classes involve lectures and/or other activities such as observations of clinical procedures and tours of clinical facilities (e.g., the neurosurgical suite, imaging facilities). | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): BME PhD student or Neuroscience PhD student; Credit is allowed for only BIO 598 (Human Sys Neuroscience) or BME 556 or NEU 556 |
| NEU | 558 | Neuroscience Journal Club | Small class emphasizing discussion, presentation by students, and written research papers. | N | SEM | Y | GNA | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) |
| NEU | 576 | Advanced Cellular and Molecular Neuroscience | Explores the basic neurobiology of the central nervous system across genetic, molecular, cellular, synaptic and circuit levels. Focuses on the principles underlying the function of individual neurons and glia how they give rise to integrated networks during normal behavior and in pathological states | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEU | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): Interdisciplinary Graduate Program in Neuroscience PhD students |
| NEU | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEU | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEU | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEU | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | Y | Z3 | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEU | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEW | 100 | Introduction to Conflict Resolution | Introduces students to theory, research and practice of communication and language skills which are useful in conflict management, negotiation, transformation, reconciliation and forgiveness. Gives students access to practical exercises and role-playing opportunities. Critical thinking and critical decision-making are embedded in both the theory and the practice in this course and apply to the personal, professional and cross-cultural levels of interaction. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 3 | | |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| NEW | 101 | The ASU New College Experience | Students learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. Required for all first-time, first-year students in the New College of Interdisciplinary Arts and Sciences. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1 | | Prerequisite(s): New College of Interdisciplinary Arts and Sciences major; Credit is allowed only for ASU 101 or NEW 101 OR Visiting University Student |
| NEW | 101-H | The ASU New College Experience | Students learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. Required for all first-time, first-year students in the New College of Interdisciplinary Arts and Sciences. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1 | | Prerequisite(s): New College School of Humanities, Arts, and Cultural Studies major; Credit is allowed only for ASU 101 or NEW 101 |
| NEW | 101-M | The ASU New College Experience | Students learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. Required for all first-time, first-year students in the New College of Interdisciplinary Arts and Sciences. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1 | | Prerequisite(s): New College School of Mathematical and Natural Sciences major; Credit is allowed only for ASU 101 or NEW 101 |
| NEW | 101-S | The ASU New College Experience | Students learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. Required for all first-time, first-year students in the New College of Interdisciplinary Arts and Sciences. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1 | | Prerequisite(s): New College School of Social and Behavioral Sciences major; Credit is allowed only for ASU 101 or NEW 101 |
| NEW | 102 | Global Transformations | Focuses on the various economic, historical, cultural, environmental, technological and political forces that have transformed our world into an increasingly interconnected global community. To be a responsible and engaged global citizen necessitates understanding globalization and its implications for our future. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1 | | Credit is allowed for only NEW 102 or NEW 194 (Global Transformations) |
| NEW | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1-3 | | Prerequisite(s): freshman standing with 25 or fewer hours |
| NEW | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1-4 | | |
| NEW | 200 | Innovation Challenge, Service Learning and Leadership | Integrates academic coursework with lessons in leadership, community engagement and service learning in order to cultivate students' civic mindedness, knowledge and sensibility to issues of social justice and community engagement. Students develop solutions to real-life challenges and participate in implementing a community-based service learning project. Applying multicultural engagement and interdisciplinary knowledge and critical thinking skills to civic responsibility, course provides students with skills and knowledge applicable to the mission and goals of ASU and the New College. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 3 | | Credit is allowed for only NEW 200 or IAS 294 (Innovation Challenge, Service Learning, Leadership) |

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| NEW | 202 | Interdisciplinary Transformations | Examines how interdisciplinary approaches to knowledge can successfully address topics that are too broad or complex to be dealt with adequately by a single discipline. Exposes students to interdisciplinary research and problem solving, in oral and written communication, and in the synthesis of diverse perspectives. Familiarity and understanding of interdisciplinarity prepares students to engage in the type of complex thinking necessary for success in life and career, no matter the major or job path, and for better understanding our complex world. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1 | | Prerequisite(s): NEW 102 or 194 (Global Transformations); Credit is allowed for only NEW 202 or NEW 294 (Social Transformations) OR Visiting University Student |
| NEW | 210 | From Passion to Practice: Charting Your Path | Part self-discovery, part professional boot camp, this highly interactive course allows students to explore their strengths and passions and utilize them most effectively in their careers. Drawing upon the expertise of successful leaders and organizations from diverse professions as they are presented in text, video and in person, students learn skills and methodology that prepare them for entry into a fulfilling profession. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 3 | | Credit is allowed for only IAS 294 (Passion to Practice: Charting Your Path) or NEW 210 OR Visiting University Student |
| NEW | 225 | Building a Better You | Equips students to manage their lives effectively and integrate beliefs, values and skills into fulfilling careers. Students develop a focused career path based upon their learning profile, interests and self-knowledge. Develops critical thinking and reading skills needed for effective decision making and communication. Uses the Let Me Learn Advanced Learning System® to enhance self-awareness and growth. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 3 | | |
| NEW | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1-4 | | |
| NEW | 300 | International Cities | Expands the global awareness of students through intensive study of a major international city. Students study such areas as the history, political system, economy, geography, architecture, science, technology, arts and/or culture of the city before visiting it physically during a break. While abroad, students build on what they have learned in class by exploring the city and experiencing it firsthand. | N | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| NEW | 302 | Personal Transformations | Provides a structured approach as to how students can synthesize and reflect upon their general studies experience via the completion of an ethical will. Through an iterative writing process, students compose a document which outlines how their thoughts have developed and evolved over their course of study. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1 | | Prerequisite(s): NEW 102 or 194 (Global Transformations); NEW 202 or 294 (Social Transformations) OR Visiting University Student |
| NEW | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1-4 | | Prerequisite(s): minimum 45 hours |
| NEW | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1-12 | | Prerequisite(s): minimum 45 hours |
| NEW | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| NEW | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| NEW | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| NEW | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1-3 | | |
| NLM | 160 | Voluntary Action and Community Leadership | Introduction to voluntary behavior in American society for students interested in volunteerism, community service, and civic engagement. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | SB | |
| NLM | 203 | Program Planning | Overview of the conceptual foundations and professional competencies necessary to effectively assess, plan, implement and evaluate programs. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Credit is allowed for only CSM 203 or NLM 203 or PRM 203 OR Visiting University Student |
| NLM | 220 | Introduction to Nonprofit Organizations | Introduces the nonprofit sector and its role in developing the cultural, economic, and social impact in U.S. society. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | |
| NLM | 235 | Leadership and Ethics | Examines ethical questions faced by emerging leaders. Focuses on helping students develop emotional intelligence, current professional issues, and the refinement of a professional philosophy and comprehensive set of competences that enable transition from student to professional. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Credit is allowed for only CRD 235 or NLM 235 |

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| NLM | 300 | Fund Raising and Resource Development | Theory and practice of philanthropy, resource acquisition methods through ethical fund raising, and earned income approaches for nonprofit organizations. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | |
| NLM | 310 | Volunteer Management | Studies volunteer engagement practices integral to community organizations introducing management techniques such as program organization, recruitment, interviewing, placement, supervision, recognition and evaluation. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only NLM 310 or PRM 310 OR Visiting University Student |
| NLM | 320 | Professional Development Seminar | Professional seminar featuring nonprofit executives; variable topics on leadership and management concerns. Forum for exchange between students and professionals. | N | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 2 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| NLM | 380 | Financial Management for Nonprofit Organizations | Instructs students about nonprofit financial, management, and social accounting; accounting issues specific to nonprofits; budgeting; reporting; and nonprofit analysis. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): NLM 220 with C or better OR Visiting University Student |
| NLM | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |
| NLM | 402 | Assessment and Evaluation of Community Services | Introduces applied leisure research with emphasis on program evaluation, research design, data collection techniques, and data analysis. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 210 or PRM 210; Credit is allowed for only CRD 402 or CSM 402 or NLM 402 or PRM 402 or TDM 402 OR Visiting University Student |
| NLM | 410 | Social Entrepreneurship | In-depth study of social entrepreneurship, including how ideas are formulated, constructed, and implemented; experiential learning in developing a social enterprise plan. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): Cross-Sector Leadership certificate or NLM 220; Credit is allowed for only NLM 410 or PAF 415 (CPP 410) OR Visiting University Student |
| NLM | 420 | Nonprofit Leadership Alliance Institute | Nonprofit Leadership Alliance Institute for preparation of nonprofit professionals. Requires out-of-state conference. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| NLM | 430 | Managing Nonprofit Organizations | Analyzes administrative structures, decision making, and program delivery within nonprofit organizations. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; NLM 220 with C or better OR Visiting University Student |
| NLM | 435 | Service Learning for Community Development | Applies community development and service-based learning applications. Students develop a professional relationship with an agency/organization management-level representative. Through this professional relationship, a service-learning plan is developed in a partnership with an agency/organization related to the student's degree program. | N | LEL | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CRD 435 or NLM 435 OR Visiting University Student |
| NLM | 440 | Nonprofit Professional Certification | Prepares students to sit for the Certified Nonprofit Professional national credentialing examination. | N | LEC | N | Z2 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1 | | Prerequisite(s): NLM 320; Pre- or corequisite(s): NLM 420; Credit is allowed for only NLM 440 or NLM 494 (CNP Certification) or NLM 598 (CNP Certification) OR Visiting University Student |
| NLM | 451 | Grant Writing | How to increase grant funding: creating fundable ideas, identifying sponsors, following guidelines, writing effectively, constructing budgets, responding to reviewers. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Credit is allowed for only NLM 451, 565 or PRM 451 |
| NLM | 463 | Senior Internship | Supervised guided experience in selected agencies. | N | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3-12 | | Prerequisite(s): CRD 403 or PRM 413 with C or better; Credit is allowed for only CRD 463 or CSM 463 or NLM 463 or PRM 463 or TDM 463 |
| NLM | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | Prerequisite(s): minimum 45 hours |
| NLM | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-6 | | Prerequisite(s): Barrett Honors student |
| NLM | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| NLM | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |
| NLM | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| NLM | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-3 | | |
| NLM | 510 | The Nonprofit Sector | Provides grounding in scope, function and philosophical foundations of the nonprofit sector in American society, including civic engagement, service delivery, reproduction of values and entrepreneurship. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| NLM | 515 | Nonprofit Organizational Behavior and Principles of Management | Organizational behavior theories and effective management practices for nonprofits. Focuses on designing systems and developing habits to optimize the performance of individual employees and teams, in the context of the organization's goals, culture and capacity. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only NLM 515 or NLM 598 (Nonprofit Organizational Behavior) |
| NLM | 520 | Financial and Resource Management | Baseline understanding of key and critical financial management issues and practices for nonprofit organizations. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 525 | Fundraising and Resource Development | Examines fundraising and resource development in philanthropy from the perspective of the nonprofit practitioner. Also examines issues confronting nonprofit organizations related to fundraising and philanthropic purposes in society. Increases students' knowledge and understanding of charitable giving and fundraising--who gives to what, why, and how to raise funds for a cause. Examines a wide range of fundraising methods and tools. Focuses on critical thinking, reflection on practice, collaboration, discussion and writing. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 530 | Program Evaluation and Information Management | Develops skills in several areas, including evaluation, needs assessment, information and data collection, data management and analysis, computer applications, and report writing. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 540 | Strategic Human Resources Management | Managing human resources in nonprofit organizations; practices and theories. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 545 | Volunteer Resource Management | Core topics in effective management of volunteers in carrying out the mission of organizations and ensuring volunteers have good experience with community organizations. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 550 | Philanthropy | Examines the role of philanthropy and charitable giving in contemporary American society from perspectives of the nonprofit practitioner, the philanthropist and the general public. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 560 | Leadership and Ethics in the Nonprofit Sector | Examines leadership and ethical questions encountered by managers and leaders in the nonprofit organizations. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 562 | Social Entrepreneurship | Introduces social entrepreneurship, including how ideas are formulated, constructed, and implemented; experiential learning in developing a social enterprise plan. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 565 | Grant Writing Nonprofit Organizations | Provides practical, experiential instruction identifying grant makers, writing proposals, developing budgets and evaluating grant proposals for the nonprofit sector. Develops proposals with a partner nonprofit organization. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only NLM 451 or NLM 565 or PRM 451 |
| NLM | 570 | International Non-Governmental Organizations | Increases knowledge and understanding of international non-governmental organizations by examining what these organizations do and how they operate in a cross-cultural context. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 572 | Community and Social Innovations | Considers community innovation and development from the perspective of achieving balance among economic, environmental, social, physical and political realms as a framework of sustainability. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CRD 572 or NLM 572 |
| NLM | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 585 | Social Marketing | Covers a wide spectrum of topics associated with marketing and strategic communications for socially oriented organizations wanting to influence behavior for social change. Students gain a broad understanding of the principles and practices of marketing through theoretical and practical perspectives and have an opportunity for "hands-on" application. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only NLM 585 or NLM 598 (Nonprofit Marketing and Communications) |
| NLM | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | IND | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| NLM | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 605 | Nonprofits, Law and Society | Enhances the legal sensibilities of nonprofit leaders and engaged stakeholders. This necessitates critical in-depth understanding of: (1) legal needs common to all nonprofit organizations, regardless of mission or area of focus such as nonprofit corporation law, tax-exempt status, fiduciary duties and fundraising and lobbying ethics and parameters; (2) commonalities among nonprofit, for-profit and governmental enterprises operating within similar spheres of society, especially the importance of nonprofit organizations' compliance with laws generally applicable to specific subsectors such as contracts, labor and employment, volunteer and premises liability, and intellectual property; and (3) the overall importance and impact of legal structures on nonprofit organizations' abilities to successfully pursue their missions for the benefit of society. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 610 | Executive Leadership and Governance | Examines the multiplicity of roles for executives and board of directors in providing strategic leadership for nonprofits. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 620 | Capstone: Integrative Seminar | Synthesizes learning across MNLM program; analyzes emergent nonprofit and philanthropic sector trends; develops leadership approaches to enact social impact; develops and defends Capstone Solutions Project. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): Nonprofit Leadership and Management MNLM student; NLM 510; NLM 520; NLM 530; NLM 540 or 545; NLM 550 |
| NTR | 100 | Introduction to Nutrition Science | Introduces the science of food and nutrition as well as food systems. Focuses on personal dietary behavior change and sustainable dietary recommendations targeting human and environmental health to minimize risk of chronic disease. Overview of healthy dietary patterns, nutrients and energy balance and the digestive system. Addresses food systems issues, cultural aspects of food, and methods for evaluating credibility of nutrition information in the media as well as nutrition science. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |
| NTR | 142 | Applied Food Principles | Applied scientific principles of food preparation and production. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |
| NTR | 150 | Introduction to the Professions in Nutrition and Dietetics | Introduces the professions of nutrition and dietetics. Emphasizes the scope of dietetics practice, the role and functions of registered dietitian nutritionists, and the education requirements for entry into practice. Includes guest presentations by various nutrition professionals. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 1 | | |
| NTR | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| NTR | 241 | Human Nutrition | Introduces nutritional concepts with an emphasis on evidenced-based guidelines and practices. Students explore the macronutrients and micronutrients in food, how these nutrients are utilized by the body and their effect on overall health and disease. Also discusses what makes a 'healthy diet,' dietary eating patterns, energy balance and body weight. Students learn techniques to assess the credibility of nutrition information in the media, on the Internet and in scientific journals. Additional topics also include cultural aspect of food, food sustainability and food safety. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): CHM 101, 113, or 114 OR Visiting University Student |
| NTR | 290 | Introduction to Evidence-Based Research in Nutrition | Introduces best practices for gathering, interpreting, analyzing, synthesizing and evaluating research within the nutrition field. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s) w/ C or better: College of Health Solutions major; ENG 101, 105, or 107; ECN 221, HCD 300, JUS 302, PBH 300, POS 401, PSY 230, SOC 390, STP 226, STP 231 or SWU 321; Credit allowed for only KIN 290 or NTR 290 OR Visiting University Student |
| NTR | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| NTR | 300 | Computer Applications in Food Service | Introduces common uses of software and technology in the food service environment, including dietary assessment and analysis, point of sale, and food inventory and control. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): NTR 100 or 241 OR Visiting University Student |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|-----------------------------|-----------------------------|-------|-----------------|---|
| NTR | 302 | Digital Technologies in Nutrition | Students will learn to leverage existing digital technologies ethically and efficiently to solve problems, complete tasks, and accomplish goals related to nutrition . Students will learn effective adaptability to new and emerging technologies. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): NTR 100 or 241; Credit is allowed for only NTR 302 or NTR 394 (Digital Technologies in Nutrition Communication) OR Visiting University Student |
| NTR | 320 | History of Human Nutrition | Origins of human nutrition; evolving theories of nutrition and disease; historical role of nutrition in social, military, cultural events. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | H | Prerequisite(s): NTR 100 or 241 OR Visiting University Student |
| NTR | 341 | Medical Nutrition Therapy I | First course in a three-course sequence in medical nutrition therapy. Introduces the study of medical nutrition therapy and evidence-based practice for health promotion and prevention and treatment of disease. Covers the nutrition care and therapeutic diets for a variety of conditions including diabetes, cardiovascular disease and neurological conditions. Teaches nutrition care planning via a variety of methods including case studies and active learning scenarios. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): NTR 100 or 241 OR Visiting University Student |
| NTR | 343 | Food Service Purchasing | Introduces purchasing systems, bid processes, receiving and storage procedures, and regulatory agencies involved in the food service industry. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): NTR 100 or 241 OR Visiting University Student |
| NTR | 344 | Nutrition Management and Leadership | Students gain a greater understanding of organizational structure, culture, administration, traits, values, diversity, marketing, budget development, unions, and more, all through the lens of management and leadership. Students also utilize their research and writing skills to investigate a variety of management topics. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; NTR 100 or 241 OR Visiting University Student |
| NTR | 345 | Development of Healthy Cuisines | Principles and applications of nutrition, food selection, food preparation and mindful eating in the development of healthy cuisine for wellness, prevention and disease states. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): NTR 100 or 241 OR Visiting University Student |
| NTR | 348 | Cultural Aspects of Food | Explores origins, development and diversity of food preferences and dietary habits. Also addresses food patterns and attitudes of global populations and the role of U.S. immigrants in shaping food culture. Requires students to prepare and try new cultural and ethnic foods in this course. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | SB & C & G | Prerequisite(s): NTR 100 or 241 OR Visiting University Student |
| NTR | 350 | Nutrition Counseling | Counseling techniques in nutrition; interpersonal and communication skills in clinical and community sites; nutrition education for individuals and populations. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): NTR 341 with C or better or NTR 345; Credit is allowed for only EXW 340 or EXW 342 or HSC 340 or NTR 350 OR Visiting University Student |
| NTR | 351 | Nutrition Communication | Explores how to best communicate evidence-based nutrition messages to help promote change. Students produce various written and oral pieces that are aimed at health professionals or lay audiences. Course concepts include health literacy, tailoring messages to a target audience, and simplifying the language. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; NTR 100 or 241 OR Visiting University Student |
| NTR | 353 | Perspectives on the Western Diet: Food, Health and Sustainability | Hybrid course covering political, ethical, social and cultural issues inherent in the U.S. food system. Topics include examination of U.S. food guidance; the food system and food environment; the history of food and farm policy; food security and aspects of sustainability in relation to food system impacts on the health of humans, society and the environment. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only NTR 353 or NTR 394 (The Western Diet: Food, Health, & Sustainability) or SOS 353 OR Visiting University Student |
| NTR | 360 | Nutrition Entrepreneurship | Explores entrepreneurial opportunities in nutrition, food service, wellness and health communications. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| NTR | 390 | Current Nutrition Research | Covers concepts in nutrition research that help prepare students for beginning an undergraduate research project. Teaches the basics of undergraduate research focusing on identifying research topics and potential research mentors/faculty, performing literature reviews, critiquing scientific articles, evaluating ethics and participant safety, and proposal writing. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): NTR 241; NTR 290 |
| NTR | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| NTR | 400 | Preprofessional Preparation in Dietetics | Assists the senior dietetics student in navigating the process of selecting potential internships and applying for internships through DICAS. Focuses on each student's unique professional development needs with projects designed to explore career paths, network, and/or to develop career development skills. Provides an overview of the dietetics profession. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): Nutrition (Dietetics) BS major; NTR 341 with C or better; NTR 440, 441, or 444 with C or better; minimum senior standing OR Visiting University Student |

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| NTR | 401 | Preprofessional Preparation in Nutrition | Students complete 60 hours of fieldwork experience (volunteer work) within their area(s) of professional interest to develop practical skills in planning, development, production and collaboration; including interview skills, social media ethics, cover letter and resume development. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prereq(s): Applied Sci (Food & Nutrition Entrep) BAS, Food & Nutrition Entrep BS, Nutrition BS, Nutrition (Human Nutrition) BS, or School Nutrition cert student; senior standing; Pre- or corequisite(s): NTR 343, 351, or 444 OR Visiting University Student |
| NTR | 440 | Advanced Human Nutrition I | Explores the metabolic reactions in humans that involve vitamins and minerals. Students learn how these micronutrients and phytochemicals interact with one another to influence health and disease, explore how genetic variability alters the metabolism of vitamins and minerals, and integrate micronutrient nutrition with physiology and biochemistry to optimize health and prevent metabolic disease. Students immerse themselves in a content-rich learning environment, engage with one another in lectures and in-class discussions, and apply information they have learned in team projects. They also enhance their skills in evidence-based approaches to nutrition science and dietetics by critiquing scientific articles with a micronutrient focus. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BIO 202 with C or better; NTR 241 with C or better; Pre- or corequisite(s): BCH 361 with C or better if completed; Credit is allowed for only NTR 440 or NTR 540 OR Visiting University Student |
| NTR | 441 | Advanced Human Nutrition II | Metabolic reactions and interrelationships of carbohydrate, lipid, alcohol and protein. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BCH 361 with C or better; BIO 202; NTR 241; Credit is allowed for only NTR 441 or NTR 541 OR Visiting University Student |
| NTR | 442 | Experimental Functional Foods | Food product development techniques, food evaluation and testing, and investigation of current research into food composition. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Pre-requisite: CHM 101 or CHM 113; NTR 142; NTR 100 or NTR 241 |
| NTR | 444 | Medical Nutrition Therapy II | Second in a three-course sequence in medical nutrition therapy. Covers the principle of medical nutrition therapy for prevention and treatment of disease and health promotion. Also covers medical nutrition therapy for pediatrics, critical care, nutrition support, renal, liver, cancer and HIV/AIDS patients. Students apply critical thinking skills in simulation, active learning and interprofessional activities. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BIO 202; NTR 341 with C or better; Credit is allowed for only NTR 444 or NTR 544 OR Visiting University Student |
| NTR | 445 | Management of Food Service Systems | Reviews standardized methods of quantity food preparation, operation of institutional equipment, and institutional menu planning. Requires students to participate in a weekly lab where food is prepared and sold to the public in our functional retail kitchen operation. Tasks students to create and prepare menu items and manage all aspects of a fully operational kitchen. This is a capstone course for the dietetics degree. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): NTR 100 or 241; NTR 142; NTR 343; Credit is allowed for only NTR 445 or NTR 545 OR Visiting University Student |
| NTR | 446 | Medical Nutrition Therapy III | Third in a three-course sequence in medical nutrition therapy. Lecture and lab components include hands-on assessment techniques, evaluation and interpretation of malnutrition, laboratory data, and nutrition support therapy in relation to disease process and progression. Covers nutrition therapy for advanced practice including critical care, advanced wound care and failure/compromise of organ systems. Utilizes case studies, active learning and interprofessional experiences; as well as critical thinking skills to perform and evaluate nutrition assessment techniques including the NFPE and interpretation of laboratory data; develop and evaluate nutrition support therapies. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): NTR 444 with C or better; Pre- or corequisite(s): BCH 361; Credit is allowed for only NTR 446 or NTR 546 OR Visiting University Student |
| NTR | 448 | Community Nutrition | Includes content related to community nutrition screening and assessment, nutritional epidemiology, nutrition monitoring and food assistance programs, public policy, nutrition interventions for vulnerable populations, planning effective community nutrition programs, grant writing, nutrition marketing and designing nutrition education programs. Students work in teams to analyze a specific community and population, conduct a literature review on nutrition concerns with their group, then design a community intervention and nutrition education lesson. Students also complete 10 hours of fieldwork in a community nutrition field outside of the classroom. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; NTR 100 or 241; Credit is allowed for only NTR 448 or NTR 548 OR Visiting University Student |
| NTR | 450 | Nutrition in the Life Cycle | Reviews nutritional needs and nutrition-related conditions in different stages of the life cycle. Course topics include pregnancy, lactation, infancy, childhood, adolescence and older adulthood. Reviews how developmental changes at each life stage contribute to specific diet characteristics and nutritional needs. Also covers how cultural, environmental, behavioral, psychosocial, physical and socioeconomic factors affect nutritional status through the life span. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | SB | Prerequisite(s): NTR 100 or 241; Credit is allowed for only NTR 450 or NTR 550 OR Visiting University Student |

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| NTR | 453 | Nutrition and the Media | Examines various aspects of nutrition and the media, including how food and nutrition professionals use the media in their career, how the media constructs our cultural views of food and body image, and how to frame nutrition messages to make them more newsworthy. Also explores the fields of food writing and food journalism. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| NTR | 455 | Retail Food Service Operations | Development, evaluation and management of retail food service operations; legal and ethical issues in food and beverage management. Capstone course for food management degrees. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): NTR 100 or 241; minimum junior standing OR Visiting University Student |
| NTR | 457 | Sports Nutrition | Provides a foundation in sports nutrition and addresses the nutritional needs of various types of athletes. Topics include energy and nutrient metabolism during activity, fluid and electrolyte regulation, the evaluation of sports supplements, and travel nutrition. Students also gain experience in developing and providing educational sports nutrition materials outside of the classroom. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BIO 160 or 201; NTR 241 OR Visiting University Student |
| NTR | 480 | Integrative and Functional Nutrition | Core tenants of dietetics and integrative medicine and the seven physiological systems underpinning this approach. Explores how nutrition contributes to a complex system of interacting biological, psychological, social, spiritual, community, environmental and biochemical systems. Trains how to put the patient at the center of the healing process so that students are able to address chronic disease concerns through a holistic and integrative framework as part of a larger interdisciplinary team. Challenges students to utilize conventional clinical nutrition approaches while embracing complementary therapies that are evidence based and address the biochemical individuality or specific life experiences of each patient/client. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BCH 361; NTR 241; NTR 341 |
| NTR | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | |
| NTR | 490 | Undergraduate Research Methods in Nutrition | Engages students in research methods in the field of nutrition. Provides an overview of common measurements and study designs that are used in health and nutrition research. Applies knowledge to conducting mini-studies and a class-based research project. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 290 or NTR 290 with C or better; NTR 100 or 241 with C or better; minimum 56 hours OR Visiting University Student |
| NTR | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): Barrett Honors student |
| NTR | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| NTR | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| NTR | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-7 | | |
| NTR | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-3 | | |
| NTR | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Dietetics MS, Medical Nutrition MS, or Nutritional Science MS student |
| NTR | 501 | Research Methods in Nutrition | Reviews survey, focus group, and epidemiologic research; develops questionnaires; analyzes large data sets. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Dietetics MS or Nutritional Science MS student |
| NTR | 502 | Statistics in Research | Covers the fundamental principles of the scientific process. Critically reviews scientific articles including review articles. In particular, students understand study limitations and how they impact data interpretation and generalizability. Basic training in statistical analyses using the statistics program SPSS. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Dietetics MS or Medical Nutrition MS student; Credit is allowed for only NTR 502 or NTR 598 (Statistics in Research) |
| NTR | 503 | Designing Health Behavior Change Interventions | Project-based course focuses on the process of health behavior change interventions using design process and behavioral science. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Nutritional Science MS, Nutritional Science (Dietetics) MS, or Exercise and Nutritional Sciences PhD student |
| NTR | 510 | Food and Nutrition Across the Lifespan | Examines the nutritional needs of humans as they move through the lifespan from pre-conception through elder years. Highlights conditions that may alter or substantially impact nutrition at these stages using case studies and medical reviews. Reviews programs that provide support for food or nutrition education at various life stages including changes in needs for specific macronutrients and micronutrients. Diet assessment techniques and diet prescription strategies to meet needs during various life stages. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Medical Nutrition MS student |

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| NTR | 511 | Medical Nutrition in the Care and Prevention of Disease | Provides an overview of the role of nutrition in medical practice and disease prevention. Includes an introduction to nutrition-based approaches in the prevention and treatment of chronic diseases such as obesity, cardiovascular disease, diabetes, cancer and gastrointestinal diseases. Discusses integrative aspects of nutrition along with review of normal digestion and absorption and a discussion of disorders arising from abnormalities in these processes. An introduction to clinical nutrition assessment and the basics of nutrition support will also be provided. Utilizes relevant clinical case discussions along with review of the literature and current authoritative guidelines to reinforce the content. Students learn how to individualize nutrition recommendations and utilize motivational interviewing for patients with the various above-listed needs. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Medical Nutrition MS student |
| NTR | 519 | Nutrition Therapies for Eating Disorders and Addictions | Critical review of the specialized role that dietitians play in the treatment of eating disorders, disordered eating, and substance use disorders as they relate to medical nutrition therapy, dietary interventions and long-term recovery in an individualized and treatment team approach. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only NTR 519 or NTR 598 (Nutrition Therapy for Eating Disorders and Addictions) |
| NTR | 523 | Vegetarian Nutrition | Health benefits, nutritional characteristics, potential risks of vegetarian diets. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 524 | Chronic Inflammation and Metabolic Syndrome: The Common Pathway for Cardiovascular Disease, Diabetes | Examines how diet and lifestyle contribute to the development of metabolic syndrome. Reviews and discusses various risk factors that comprise metabolic syndrome through lectures and readings. Reviews chronic inflammation as a common etiology for chronic disease. Highlights nutrition interventions to treat and to prevent chronic inflammation using case studies and medical reviews. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Medical Nutrition MS student, Nutritional Science MS student, or Nutritional Science (Dietetics) MS student |
| NTR | 525 | Complementary Nutrition | Critical review of functional foods, phytochemicals, nutrient supplements in health promotion. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Medical Nutrition MS student, Nutritional Science MS student, or Nutritional Science (Dietetics) MS student |
| NTR | 527 | Policies, Environment, and Obesity Prevention | Enhances students' understanding of the role policies and environments play in health promotion and disease prevention with a special focus on obesity prevention. Looks at a variety of examples to see how policies and environments related to food, nutrition and physical activity affect individual and community health. Also explores how "non-health" policies can be used as an effective tool to promote healthy behaviors. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 529 | Pediatric Nutrition | Critical review of pediatric disease states and current nutritional therapies. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Nutritional Science MS or Nutritional Science (Dietetics) MS student |
| NTR | 530 | Techniques of Health Coaching | Health coaching techniques and skills for medical, allied health and health promotion professionals. The content illustrates the theory, principles and practices of evidence-based coaching psychology. Aligns with the training programs affiliated with Wellcoaches® (endorsed by the American College of Sports Medicine). Designed in three parts: (1) building of core coaching skills; (2) establishing generative moments with clients; and (3) developing coaching presence and positive psychology. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HSC 440 or NTR 530 or HSC 598 (Health Coaching Concepts and Skills) |
| NTR | 532 | Endocrine Pathophysiology and Nutrition | Explores the etiology of various endocrine pathophysiological conditions. Throughout the course, students learn the etiology of common conditions and are responsible for finding and presenting evidence for nutrition-based treatments for these conditions. At the conclusion of the course, students gain an appreciation and understanding of current research in nutrition-based approaches to treat endocrine disorders. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 533 | Ethics and Policy of American Diets | Political and ethical issues inherent in the U.S. food system. Topics include food and agricultural policy, government dietary recommendations and regulations, food environment, current issues in food politics, ethical questions of food choice, issues of obesity and food security, sustainability, and investigation of how and why Americans eat the way they do. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Medical Nutrition MS student, Nutritional Science MS student, or Nutritional Science (Dietetics) MS student |
| NTR | 535 | Nutrigenomics | Provides a sound foundation for promoting personalized nutrition by integrating and applying molecular nutrition and nutritional biochemistry to clinical settings. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Medical Nutrition MS student, Nutritional Science MS student, or Nutritional Science (Dietetics) MS student |
| NTR | 537 | Evidenced-Based Nutrition | Reviews current evidence of the role of diet on disease prevention, development, and management. | N | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Nutritional Science MS or Nutritional Science (Dietetics) MS student |

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| NTR | 539 | Global Nutrition | Provides an overview of global nutrition issues, including the epidemiology, etiology, sociocultural and economic context, and program and policy responses to nutrition-related topics. Areas to be covered include childhood malnutrition, growth stunting, micronutrient deficiencies, parasites and nutrition, sanitation, and obesity and chronic disease incidence in developing countries. Course is participatory; students engage in a series of class activities, discussions, and presentations. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 540 | Advanced Micronutrient Metabolism | Metabolism of vitamins and minerals, primarily as applied to humans, with research literature emphasized. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only NTR 440 or 540 |
| NTR | 541 | Advanced Macronutrient Metabolism | Metabolism of protein, fat, and carbohydrate, primarily as applied to humans, with research literature emphasized. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only NTR 441 or 541 |
| NTR | 544 | Therapeutic Nutrition | Current theories of the nutritional prevention or treatment of various diseases. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only NTR 444 or 544 |
| NTR | 545 | Management of Institutional Food Service Systems | Standardizes methods of quantity food preparation, operation of institutional equipment, institutional menu planning, quantity food experiences. May require field trips. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only NTR 445 or 545 |
| NTR | 546 | Assessment Techniques in Nutrition | Clinical and biochemical evaluation of nutritional status. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only NTR 446 or NTR 546 |
| NTR | 548 | Advanced Community Nutrition | Planning, development, implementation, and evaluation of community nutrition programs, including the process of grant applications. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only NTR 448 or 548 |
| NTR | 550 | Advanced Nutrition in the Life Cycle | In-depth review of metabolic characteristics and nutritional needs during pregnancy and lactation, infancy, childhood, adolescence, adults and older adults. Analysis of cultural, environmental, behavioral, psychosocial, physical and socio-economic factors affecting nutritional status through the life span. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 551 | Geriatric Nutrition | Explores the impact of nutrition on the aging process and how the aging process influences nutritional needs. Examines the physiology, demographics and economics of aging as well as issues such as end-of-life care. Addresses health promotion, disease prevention and disease management within the context of geriatric nutrition. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Nutritional Science MS or Nutritional Science (Dietetics) MS student |
| NTR | 553 | Nutrition and Cardiovascular Disease | Reviews current evidence of the role of diet on cardiovascular disease prevention, development and management. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): NTR 541. Credit is allowed for only NTR 553 or NTR 598 (Nutrition and Cardiovascular Disease) or NTR 537 (Cardiovascular Nutrition) |
| NTR | 555 | Nutrition and the Athlete | In-depth study of current practices in sports nutrition and review of scientific literature. Also investigates the application of sports nutrition methodologies. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Clinical Exercise Physiology MS, Exercise and Nutritional Sciences PhD, Nutritional Science MS, Nutritional Science (Dietetics) MS, Physical Activity and Health MS, or Strength and Conditioning MS student |
| NTR | 556 | Hydration for Health and Performance | Comprehensive overview of human thermoregulatory responses and fluid balance to exercise in the heat. Provides students with the opportunity to learn the in-depth thermoregulatory responses to heat and the complication related to exercise-induced hyperthermia as well as water and electrolyte imbalances. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only NTR 556 or NTR 598 (Thermoregulation and Fluid Balance) |
| NTR | 557 | Nutritional Epidemiology | Designed for graduate students interested in conducting epidemiologic studies, or learning how to interpret and evaluate evidence from epidemiologic studies relating diet and nutritional status to disease risk and health. Familiarizes students with concepts and methodologies used in nutritional epidemiologic studies, and current state of knowledge on diet in etiology of chronic diseases. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only NTR 557 or NTR 598 (Nutritional Epidemiology) |
| NTR | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree-seeking graduate student |
| NTR | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| NTR | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | GNA | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): Exercise and Nutritional Sciences PhD student |
| NTR | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Health Solutions | College of Health Solutions | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NUR | 300 | Professional Nurse Concepts I | Introduces students to professional nursing attributes. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): enrollment into upper-division Nursing program; Pre- or corequisite(s): NUR 325; NUR 336; NUR 352 |
| NUR | 310 | Health and Illness Concepts: Beginning | Applies physiologic and psychosocial health and illness concepts in the client domain with exemplars from across the lifespan. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): Nursing BSN major in clinical program |
| NUR | 311 | Pharmacology in Nursing | Applications of pharmacologic interventions. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Nursing major in clinical program OR postbaccalaureate Clinical Nursing Program major |
| NUR | 312 | Psychomotor Skills for Professional Nursing Practice | Theoretical foundation for application of psychomotor nursing skills to professional nursing practice. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): Nursing major in clinical program |
| NUR | 313 | Nursing Concepts for Adult Health | Nursing concepts related to selected alterations in health with focus on adult populations. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): NUR 310 and NUR 311 and NUR 330 all with C or better if completed; NUR 320 with Y passing grade; Corequisite(s): NUR 323 |
| NUR | 315 | Nursing Research and Application to Practice | Provides scientific and clinical inquiry and research methodology along with concepts needed for integration of evidence into practice. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | L | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program; ENG 101, 105, or 107 with C or better |
| NUR | 316 | Nursing Concepts for Psychiatric/Mental Health | Theoretical concepts related to select psychiatric/neurobiological disorders as they affect nursing practice, with focus on individuals, families, and groups. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): NUR 310 with C or better if completed; NUR 311 with C or better if completed; NUR 330 with C or better if completed |
| NUR | 317 | Nursing Concepts for Psychiatric/Mental Health Nursing | Theoretical concepts related to select and/or prevalent psychiatric/neurobiological disorders as they affect nursing practice, with focus on individuals, families and groups. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): NUR 311 with C or better; NUR 330 with C or better; NUR 356 with C or better; NUR 366 with Y grade; Corequisite(s): NUR 367 |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| NUR | 318 | Nursing Research and Evidence Translation | Explores the process of scientific and clinical inquiry, research methodology, critical appraisal of research findings, and the translation of current evidence into nursing practice. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; NUR 391 with C or better |
| NUR | 320 | Clinical Practice: Beginning | Students have an opportunity to practice beginning nursing skills and provide evidence-based care for adults, children and/or families experiencing both wellness and acute and chronic alterations in health across multiple settings. | N | LAB | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Nursing Accelerated BSN major |
| NUR | 323 | Nursing Practice Adult Health | Applies nursing process with selected alterations in health with focus on adult populations in the acute care setting. | N | LAB | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): NUR 310 with C or better; NUR 311 with C or better; NUR 330 with C or better; NUR 320 or NUR 484 (Nursing Practice) with Y Grade; Corequisite(s): NUR 313 or NUR 394 (Nursing Concepts Adult Health) |
| NUR | 324 | Nursing Practice: Psychiatric/Mental Health | Application of nursing process, critical thinking, clinical decision making with individuals, families, and groups experiencing acute/chronic alterations in mental health and/or psychiatric disorders. | N | SEM | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s) with C or better if completed: NUR 310; NUR 311; NUR 330; Corequisite(s): NUR 316 |
| NUR | 325 | Health and Illness Concepts I | Applies physiologic and psychosocial concepts in the client domain. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the traditional BSN |
| NUR | 326 | Health and Illness Concepts: Adults and Psychiatric/Mental Health | Applies concepts related to health and illness and evidence-based principles in the care of clients experiencing alterations in health. The physiologic and psychosocial concepts focus on the leading causes of morbidity and mortality with emphasis on safe, competent and compassionate nursing care. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 327 | Health and Illness Concepts: Developing | Developing nursing students apply concepts of health and illness to populations with exemplars from across the lifespan. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): Nursing Accelerated BSN major |
| NUR | 330 | Professional Nurse Attributes | Professional nursing roles and responsibilities. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | HU | Prerequisite(s): Nursing major in clinical program OR postbaccalaureate Clinical Nursing Program major |
| NUR | 331 | Experiential Learning: Beginning | Using fundamental knowledge, skills and attitudes of best evidence, clinical judgement and client personal preferences, learners deliver quality care across spheres of care and client developmental level. | N | LAB | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): Nursing Accelerated BSN major |
| NUR | 336 | Experiential Learning | Applies assessment and care concepts in the nursing domain. | N | LAB | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 337 | Experiential Learning: Intermediate | Practices professional nursing interventions including medication administration, bio-psycho-social care of the adult and childbearing family, and basic developmental assessment of the child. | N | LAB | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 346 | Nursing Practice: Geriatric and Adult Health | Practices skills for professional nursing focusing on providing care for adult clients experiencing acute and chronic physiologic and/or psychiatric alterations in health in multiple acute and community clinical settings. Emphasizes providing safe, competent, compassionate and evidence-based care to individuals and their families. | N | LAB | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 347 | Nursing Practice: Psychiatric/Mental Health and Childbearing Family | Applies concepts learned in previous courses to assist with developing plans, providing care and implementing teaching strategies to obstetric, gynecological and psychiatric/mental health clients and their families. | N | LAB | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 348 | Intermediate Nursing Practice: Adults | Practices skills for professional nursing focusing on providing care for adult clients experiencing acute and chronic physiologic and/or psychiatric alterations in health in multiple acute and community clinical settings. Emphasizes providing safe, competent, compassionate and evidence-based care to individuals and their families. | N | LAB | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): NUR 311; NUR 325; NUR 330; NUR 336; NUR 352 all with a C or better if completed; NUR 346 with a Y if completed |
| NUR | 349 | Nursing Practice: Psychiatric Mental Health--Prelicensure BSN | Applies concepts related to bio-psycho-social care of adults experiencing psychiatric alterations in the nursing domain. | N | LAB | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Prerequisite(s): NUR 311; NUR 325; NUR 330; NUR 336; NUR 352 all with a C or better if completed; NUR 346 with a Y if completed |
| NUR | 352 | Fundamental Concepts in Nursing | Applies care concepts in the client and nursing domain. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 353 | Integration of Concepts Across the Lifespan: Conception to End of Life | Focuses on the physical, cognitive and socio-emotional development of individuals and families using a life cycle approach. Concepts reside in the client domain of health and wellness and include development, reproduction, family roles, spirituality and end-of-life/palliative care. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 356 | Nursing Concepts: Fundamentals and Adult Health | Focuses on the knowledge and skills essential to maintaining the health and wellness of clients across the lifespan and the concepts related to selected alterations in health in the adult population. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 5 | | Prerequisite(s): Nursing major - Postbaccalaureate Clinical Nursing program; Pre- or corequisite(s): NUR 311 with C or better if completed |

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| NUR | 366 | Nursing Practice: Adults and Elders | Applies knowledge and skills essential to maintaining health and wellness in clients across the lifespan. | N | PRA | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 6 | | Prerequisite(s): Nursing major - Postbaccalaureate Clinical Nursing Program student; Pre- or corequisite(s): NUR 311 with C or better if completed; NUR 356 with C or better if completed |
| NUR | 367 | Nursing Practice: Psychiatric Mental Health-- Postbaccalaureate BSN | Applies nursing process, critical thinking, clinical decision-making with individuals, families, and groups experiencing acute and/or chronic alterations in mental health and/or psychiatric disorders. | N | PRA | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): NUR 311 with C or better; NUR 330 with C or better; NUR 356 with C or better; NUR 366 with Y grade; Corequisite(s): NUR 317 |
| NUR | 384 | Gerontological Nursing | Focuses on optimizing the health of older adults and the management geriatric syndromes and chronic conditions. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Prerequisite(s): NUR 311 with C or better; NUR 330 with C or better; NUR 356 with C or better; NUR 366 with Y grade |
| NUR | 391 | Professional Nursing Theory | Analyzes the multiple dimensions of contemporary professional nursing. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | L | Prerequisite(s): ENG 101 with C or better; ENG 102 with C or better; Pre- or corequisite(s): General Studies Literacy (L) course with C or better if completed |
| NUR | 392 | Health Promotion Across the Life Span | Examines concepts and theories involved in health promotion across the lifespan and their application for nurses. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): ENG 101 with C or better; ENG 102 with C or better; Pre- or corequisite(s): General Studies Literacy (L) course with C or better if completed |
| NUR | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-4 | | Prerequisite(s): Upper Division Nursing Program students |
| NUR | 400 | Concept Integration Across the Lifespan: Beginning | Students gain an understanding of health care systems and nursing concepts, as well as nursing care throughout the lifespan. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Nursing Accelerated BSN major |
| NUR | 401 | Concept Integration Across the Lifespan: Developing | Students gain an understanding of nursing concepts focusing on development and reproduction, as well as nursing care throughout the lifespan. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Nursing Accelerated BSN major |
| NUR | 404 | Professional Nurse Concepts: Intermediate | Explores concepts related to quality of care, quality improvement, safety, innovation and communication within health care. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 405 | Professional Nurse Concepts: Advanced | Focuses on preparing to become active members of the nursing profession, including developing strategies for successful transition into professional practice. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 410 | Nursing Concepts for Community and Public Health | Examines concepts related to health promotion, disease prevention, and health maintenance within the global community. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): NUR 313 and 315 and 316 all with C or better if completed; NUR 323 and 324 with Y grade if completed; Corequisite(s): NUR 420 or 484 (Nur Pract: Comm/Pub Hlth); Credit allowed for only NUR 410 or 494 (Nur Concepts Comm & Pub Hlth) |
| NUR | 411 | Nursing Concepts for Child bearing and Pediatric Clients | Concepts related to care of individuals and families within the childbearing and pedatric populations. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): NUR 313 and 315 and 316 all with C or better if completed; NUR 323 and 324 with Y passing grade if completed; Corequisite(s): NUR 421; Credit is allowed for only NUR 411 or 494 (Nursing Concepts Childbearing Individ & Families) |
| NUR | 412 | Nursing Concepts for Pediatric Patients and their Families | Examines essential concepts related to the nursing care of pediatric patients and their families. Provides a nursing care approach for the pediatric patient and family across the healthcare continuum. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): NUR 313 with C or better; NUR 315 with C or better; NUR 316 with C or better; NUR 323 with Y grade; NUR 324 with Y grade; Corequisite(s): NUR 422; Credit is allowed for only NUR 412 or NUR 394 (Nursing Concepts: Pediatrics) |
| NUR | 413 | Nursing for Complex Care | Advanced theoretical knowledge and interprofessional collaborative care required for the delivery of safe and competent care of the adult client experiencing acute and complex alterations in health. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Pre- or corequisite(s): NUR 410 and NUR 411 and NUR 412 all with C or better if completed; NUR 420 and NUR 421 and NUR 422 all with Y passing grade if completed; Corequisite(s): NUR 423 |
| NUR | 415 | Nursing Concepts for Childbearing Family | Examines the care of childbearing clients and their families. Embedded content focuses on providing care to clients along the healthcare continuum. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Corequisite(s): NUR 475; Pre- or corequisite(s): NUR 311 with C or better if completed; NUR 330 with C or better if completed; NUR 356 with C or better if completed; NUR 366 with Y grade if completed |

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| NUR | 416 | Nursing Concepts: Community/Public Health | Examines selected concepts, theories, and applications of epidemiology, community assessment, and population-centered health education for community and public health nursing locally and globally. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 315 with C or better; NUR 317 with C or better; NUR 415 with C or better; NUR 417 with C or better; NUR 367 with Y grade; NUR 475 with Y grade; NUR 477 with Y grade; Corequisite(s): NUR 476 |
| NUR | 417 | Nursing Concepts: Pediatric Clients | Concepts related to care of individuals and families within pediatric populations. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): NUR 311 with C or better; NUR 330 with C or better; NUR 356 with C or better; NUR 366 with Y grade; Corequisite(s): NUR 477 |
| NUR | 418 | Nursing Concepts: Complex Care | Advanced theoretical knowledge and interprofessional collaborative care required for the delivery of safe and competent care of the adult client experiencing acute and complex alterations in health. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 315 with C or better; NUR 317 with C or better; NUR 415 with C or better; NUR 417 with C or better; NUR 367 with Y grade; NUR 475 with Y grade; NUR 477 with Y grade; Corequisite(s): NUR 478 |
| NUR | 419 | Leading and Managing Nursing in Organizational Systems | Analyzes selected concepts and theories related to leading and managing nursing in organizational systems. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): NUR 315 with C or better; NUR 317 with C or better; NUR 415 with C or better; NUR 417 with C or better; NUR 367 with Y grade; NUR 475 with Y grade; NUR 477 with Y grade; Corequisite(s): NUR 478 |
| NUR | 420 | Nursing Practice: Community/Public Health | Applies community/public health nursing concepts in the delivery of primary, secondary, and tertiary care in a variety of community settings. | N | PRA | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s) with C or better if completed: NUR 313; NUR 315; NUR 316; Corequisite(s): NUR 410 |
| NUR | 421 | Nursing Practice: Child Bearing/Family Nursing | Applies nursing care concepts related to the child-bearing woman and family. | N | PRA | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Pre- or corequisite(s): NUR 313 and NUR 315 and NUR 316 all with C or better if completed; NUR 323 and NUR 324 with Y grade if completed; Corequisite(s): NUR 411 |
| NUR | 422 | Nursing Practice: Pediatrics | Focuses on clinical care of the pediatric client and family. | N | PRA | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Pre- or corequisite(s): NUR 313 and NUR 315 and NUR 316 all with C or better if completed; NUR 323 and NUR 324 with Y passing grade if completed; Corequisite(s): NUR 412 |
| NUR | 423 | Nursing Practice: Complex Care & Clinical Immersion | Students perform nursing practice in a variety of clinical settings, laboratory and simulated patient care environments. Students provide nursing care to patients who are physiologically unstable in advanced medical-surgical, and critical care clinical environments. Students perform advanced psychomotor skills in the clinical, laboratory and simulation environments. Students also complete a clinical immersion experience in a selected clinical setting. During the clinical immersion experience, students have the opportunity to apply leadership and management principles, and work in interprofessional healthcare teams to provide nursing care to clients experiencing health alterations across the lifespan. | N | PRA | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 5 | | Pre- or corequisite(s): NUR 410 with C or better; NUR 411 with C or better; NUR 412 with C or better; NUR 420 with Y grade ; NUR 421 with Y grade ; NUR 422 with Y grade; Corequisite(s): NUR 413 |
| NUR | 425 | Health and Illness Concepts: Adults and Pediatrics | Applies and integrates interrelated concepts related to health and illness concepts. Integrates evidence-based principles into the care of clients experiencing acute alterations in health. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 426 | Health and Illness Concepts Advanced | Applies and integrates interrelated concepts related to advanced health and illness concepts. Integrates evidence-based principles into the care of clients experiencing acute alterations in health. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 430 | Professional Nurse Attributes: Leadership and Management | Applications of theories and concepts of organizations, management, and leadership with focus on nursing management and leadership in healthcare organizations. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): NUR 410 and NUR 411 and NUR 412 all with C or better if completed; NUR 420 and NUR 421 and NUR 422 all with Y passing grade if completed; Corequisite(s): NUR 431 |
| NUR | 431 | Professional Nurse Attributes Innovative Professional | Focuses on the process of transition to the professional nursing role, and the gathering, interpretation, and evaluation of evidence that serves as a basis for improving client outcomes and professional satisfaction. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 315 with C or better; NUR 317 with C or better; NUR 415 with C or better; NUR 417 with C or better; NUR 367 with Y grade; NUR 475 with Y grade; NUR 477 with Y grade |
| NUR | 436 | Experiential Learning: Advanced | Students practice skills for professional nursing including advanced medication administration and bio-psycho-social care of the child and acutely ill adult. | N | LAB | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 437 | Experiential Learning: Readiness to Practice | Students demonstrate readiness for interprofessional nursing practice including coordination of nursing care of multiple patients. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |

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| NUR | 440 | Community and Public Health Nursing in the United States | Examines selected concepts, theories and applications of epidemiology, community assessment, and population-centered health education for community and public health nursing in the United States. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): NUR 315 or 318 with C or better; NUR 391 with C or better |
| NUR | 444 | Innovation in Nursing | Examines the role and behaviors of an innovator in the nursing profession. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): NUR 315 or 318 with C or better; NUR 391 with C or better |
| NUR | 445 | Nursing Management in Health Care | Examines selected theories and concepts of organizational behavior and the management of people and resources. Focuses on the application of selected management theories and concepts to nursing practice and health care systems. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): NUR 315 or 318 with C or better; NUR 391 with C or better; NUR 392 with C or better; NUR 444 with C or better; NUR 495 with C or better; Pre- or corequisite(s): NUR 440 with C or better if completed; NUR 460 with C or better if completed |
| NUR | 446 | Nursing Practice: Pediatrics and Complex Care of Adults | Prepares learners in the application and demonstration of advanced theoretical knowledge, professional nursing practice, and interprofessional collaboration and referral in the management and delivery of safe, competent care of pediatric and adult clients experiencing serious health alterations. | N | PRA | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 447 | Nursing Practice: Pediatrics | Applies previous nursing knowledge to develop plans of care and implement teaching strategies to pediatric clients and their families. | N | LAB | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Prerequisite(s): NUR 315 with C or better; NUR 326 with C or better; NUR 337 with C or better; NUR 353 with C or better; NUR 347 with Y grade; NUR 348 with Y grade; NUR 349 with Y grade |
| NUR | 448 | Nursing Practice Readiness | Prepares the learner for the practice of professional nursing in diverse settings. | N | PRA | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 452 | Concepts in Population-Based Health | Assesses and examines the management of health and disease in the community. Focuses on health promotion, disease prevention and identification of barriers that prevent populations from maintaining optimal health. Discusses public health theories and models including epidemiology, health education and health behavior theory. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 453 | Integration Concepts in the Health Care | Explores the impact of health care policy, systems, economics, law and informatics on the delivery of health care today and in the future. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | L | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program; ENG 101, 105, or 107 with C or better |
| NUR | 458 | Community Care and Collaboration | Focuses on the assessment and analysis of health and disease in the community and population. Provides the data for the IPE Seminar in Senior 2 where an Interprofessional Team of students utilizes the information to plan and implement interventions to improve the health status of communities and populations. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 459 | Interprofessional Education and Collaboration Seminar: Advanced | Focuses on the development, implementation and evaluation of a community action project. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 404 with C or better; NUR 425 with C or better; NUR 436 with C or better; NUR 446 with Y grade; NUR 447 with Y grade; NUR 452 with C or better; NUR 458 with C or better |
| NUR | 460 | The Art of Nursing | Explores the aesthetic, ethical, and personal patterns of knowing in nursing for the practicing RN. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | HU | Prerequisite(s): ENG 101 with C or better; ENG 102 with C or better; Pre- or corequisite(s): General Studies Literacy (L) course with C or better if completed |
| NUR | 464 | Capstone: The Synthesis of Professional Nursing | Synthesizes theories and concepts for professional nursing practice with a focus on role transition. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s) with C or better: BIO 202; CDE 232 or PSY 101 or PSY 341; CHM 101; MIC 205; General Studies MA course; NUR 315 or 318; NUR 391; NUR 392; NUR 440; NUR 444; NUR 445; NUR 460; NUR 495; TWC 361 |
| NUR | 475 | Nursing Practice: Care of the Childbearing Family - Post Baccalaureate | Applies nursing care concepts related to the childbearing woman and family. | N | PRA | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): NUR 311 with C or better; NUR 330 with C or better; NUR 356 with C or better; NUR 366 with Y grade; Corequisite(s): NUR 415 |
| NUR | 476 | Nursing Practice: Community and Public Health | Applies community and public health nursing concepts in the delivery of primary, secondary, and tertiary prevention from a population-centered perspective. | N | PRA | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): NUR 315 with C or better; NUR 317 with C or better; NUR 415 with C or better; NUR 417 with C or better; NUR 367 with Y grade; NUR 475 with Y grade; NUR 477 with Y grade; Pre- or corequisite(s): NUR 416 |

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| NUR | 477 | Nursing Practice: Pediatric Clients | Focuses on clinical care of the pediatric client and family. | N | PRA | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): NUR 311 with C or better; NUR 330 with C or better; NUR 356 with C or better; NUR 366 with Y grade; Corequisite(s): NUR 417 |
| NUR | 478 | Nursing Practice: Complex Care | Applies advanced psychomotor and leadership skills, nursing care delivery management, and interprofessional referral and collaboration for clients experiencing health alterations across the lifespan in advanced care settings. | N | PRA | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): NUR 315 with C or better; NUR 317 with C or better; NUR 415 with C or better; NUR 417 with C or better; NUR 367 with Y grade; NUR 475 with Y grade; NUR 477 with Y grade; Corequisite(s): NUR 418 |
| NUR | 479 | Nursing Practice: Clinical Immersion | Builds on the knowledge and skills obtained in the nursing curriculum and integrates the curriculum concepts in varied and diverse practice settings. Supports the student's transition into the role of the professional registered nurse. | N | PRA | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): NUR 315 with C or better; NUR 317 with C or better; NUR 415 with C or better; NUR 417 with C or better; NUR 367 with Y grade; NUR 475 with Y grade; NUR 477 with Y grade; Corequisite(s): NUR 419 |
| NUR | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-6 | | Prerequisite(s): Barrett Honors student |
| NUR | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| NUR | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-4 | | Prerequisite(s): Upper Division Nursing Program students |
| NUR | 495 | Public and Global Health in Nursing | Analyzes public health concepts, theories, and practice with a focus on the health of all clients in a global environment. Includes core public health functions, domestic and international health care delivery systems, public health and health policy, conceptual and scientific frameworks for community/public health nursing practice, epidemiology, and global health issues. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | G | Prerequisite(s): NUR 315 or 318 with C or better; NUR 391 with C or better; General Studies Literacy (L) course with C or better |
| NUR | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-7 | L | Prerequisite(s): Upper Division Nursing Program students; ENG 101, 105, or 107 with C or better |
| NUR | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-3 | | |
| NUR | 501 | Individual and Innovation Leadership in Health Care | Examines the role and behaviors of an innovator in nursing and the interprofessional role. Explores the skills required to create a compelling vision to influence others through innovation and ethical leadership. Examines and correlates different situational challenges utilizing principles of complexity and emotional intelligence to advance innovation in nursing and the interprofessional health care roles. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree-seeking graduate student |
| NUR | 502 | Advanced Health Assessment and Health Promotion | Uses lifespan developmental and social determinates frameworks to integrate advanced nursing concepts applied to health assessment and promotion. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): Edson College graduate student |
| NUR | 503 | Advanced Health Assessment, Pathophysiology and Pharmacotherapeutics for Health Promotion II | Uses an at-risk population framework to present, integrate and interrelate advanced concepts, practices and principles applied to the biological, cognitive and psychosocial domains of pathophysiology, pharmacotherapeutics and health assessment for health promotion among vulnerable populations appropriate to master's-level nursing practice and roles. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 502 with C or better |
| NUR | 508 | Interprofessional Care Coordination Practicum | Care coordination practicum (90 approved contact hours) preceptored by a practitioner and/or faculty member. Practicum builds on care coordination and interprofessional collaborative practice core competencies, and theories, with an emphasis on the design, delivery and evaluation of culturally relevant and linguistically appropriate clinical prevention interventions, population health strategies and/or services that incorporate broad ecological, global and social determinants of health. Includes principles of epidemiological data; communication, quality improvement and health information technologies appropriate to master's level practice and roles within the context of team-based interprofessional clinical prevention and population health care and/or services. | N | PRA | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): Interprofessional Care Coordination MS student |
| NUR | 509 | Clinical Prevention and Population Health Practicum | Preceptored practicum appropriate to master's level nursing practice and roles within the context of team-based interprofessional clinical prevention and population healthcare and/or services. | N | PRA | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Pre- or corequisite(s): NUR 502 with C or better if completed |

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| NUR | 510 | Foundations of Care Coordination Practice | Focuses on the theoretical concepts of care coordination and case management, including current models, intervention components, evaluation methods and financing. Provides the foundation for understanding care coordination and the roles nurses have played in the evolution and implementation of the care coordination models. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): admission to Nursing (Care Coordination) MS degree or certificate program |
| NUR | 511 | Concepts of Care Coordination and the Interprofessional Team | Focuses on developing skills and strategies for interprofessional collaboration, team leadership, care coordination, communication and project management to improve patient safety and health care quality outcomes in an interprofessional health-related setting. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 501; NUR 510 |
| NUR | 512 | Improving Quality and Safety Outcomes Through Effective Care Coordination | Focuses on the nurse's role in care coordination, and how care coordination programs are used to provide cost-effective and patient-centered care, improve quality and safety outcomes for patients and families, and use health information technology to advance the goals of care coordination. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 510 with B- or better; NUR 511 with B- or better |
| NUR | 513 | Interprofessional Collaborative Practice and Transforming Health Care Policy | Examines the nurse's role in communicating, collaborating and leading interprofessional teams to advance innovative care coordination models. Prepares nurses to influencing health policy through care coordination research and leadership. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 510 with B- or better; NUR 511 with B- or better |
| NUR | 514 | Nursing Theory: Nursing Fundamentals | Focuses on the knowledge and skills essential to maintaining the health and wellness of clients across the lifespan and the concepts related to selected alterations in health in the adult population. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 5 | | Prerequisite(s): Nursing (Entry to Nursing Practice) MS student |
| NUR | 515 | Nursing Concepts for Psychiatric Mental Health | Theoretical concepts related to select psychiatric/neurobiological disorders as they affect nursing practice, with focus on individuals, families and groups. Applies knowledge and skills essential to maintaining health and wellness in Psychiatric Mental Health clients. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): Nursing (Entry to Nursing Practice) MS student |
| NUR | 516 | Nursing Practice: Psychiatric Mental Health | Applies nursing process and critical thinking/clinical decision-making with individuals, families and groups experiencing acute/chronic alterations in mental health and/or psychiatric disorders. | N | LAB | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): Nursing (Entry to Nursing Practice) MS student |
| NUR | 517 | Nursing Practice: Pediatrics | Focuses on clinical knowledge and skills essential to maintaining health and wellness in pediatric clients and their family unit. | N | LAB | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): Nursing (Entry to Nursing Practice) MS student |
| NUR | 518 | Nursing Practice:Adults | Maximizes knowledge and skills essential to maintaining health and wellness in adult and geriatric clients. | N | LAB | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): Nursing (Entry to Nursing Practice) MS student |
| NUR | 519 | Role-Focused Practicum: Care Coordination for the Nurse Leader | This mentored practicum provides the learner with opportunities to apply care coordination (CC) concepts and principles in a practice environment at the unit, organization or systems levels. Tailored to the prior experiences and level of the learner and may include working in intra- and interprofessional teams to address care coordination initiatives at the unit, organizational or systems levels. | N | PRA | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-3 | | Prerequisite(s): Nursing (Entry to Nursing Practice) MS student |
| NUR | 520 | Patient Safety and Health Care Quality Principles, Assessment and Methods | Focuses on the application of core principles of patient safety and health care quality to patients. Explores current and historical factors that contribute to quality health care outcomes. Examines the influence of financial, legal and regulatory factors on patient safety and health care quality. Applies various theories, concepts and tools to promote patient safety and health care quality. Describes the principles of just culture and the relationship to analyzing errors. Discusses the nurse's role in advancing patient safety and health care quality. Infuses the Quality Safety Education in Nursing (QSEN) competencies into course activities. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Health Care Simulation MS, Nursing MS, or Nursing (Entry to Nursing Practice) MS student |
| NUR | 521 | Health Care Evidence, Informatics and Analysis | Focuses on applying information technology and research methodology to safety and quality initiatives. Students learn the role of technology related to select human factors engineering concepts and related clinical application (e.g., medication administration, clinical decision making). Focuses on determination of outcome measures related to evidence-based practice (EBP) and quality improvement (QI). Discusses survey methods including construction, data collection methods, and data analysis. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Edson College graduate student |
| NUR | 522 | Designing Systems for Patient Safety and Health Care Quality | Focuses on the design, implementation, evaluation and sustainability of patient safety and health care quality initiatives. Uses innovation and change theories, as well as high reliability and just culture principles, to support data collection, analysis and reporting within complex health care systems. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 520 with B- or better; NUR 521 with B- or better |

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| NUR | 523 | Interprofessional Collaboration for Designing Systems to Improve Patient Safety & HealthCare Quality | Focuses on developing skills and strategies for interprofessional collaboration, team leadership, communication, and project management to improve patient safety and health care quality outcomes in an interprofessional health-related setting. Theory and evidence-based strategy for team building, maintenance and conflict resolution for improved team-based practice and performance. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 520 with B- or better; NUR 521 with B- or better |
| NUR | 524 | Nursing Practice:Childbearing Family | Applies nursing care concepts essential to maintaining health and wellness in the childbearing woman and family. | N | LAB | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): Nursing (Entry to Nursing Practice) MS student |
| NUR | 529 | Role-Focused Practicum: Patient Safety and Health Care Quality for the Nurse Leader | Mentored practicum provides opportunities to apply patient safety and health care quality (PSHQ) concepts and principles in a practice environment at the unit, organization or systems levels. Tailored to the prior experiences and level of the learner. | N | PRA | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3-7 | | Prerequisite(s) with C or better: DNP 602; NUR 501; NUR 502; NUR 503; NUR 509; NUR 521; NUR 544; NUR 547; NUR 548 |
| NUR | 530 | Foundational Concepts for Nursing Informatics | Focuses on the foundational concepts of nursing informatics. Analyzes the scope and standards of practice; ethical and privacy principles; relationships amongst biomedical, health and nursing informatics; and models, concepts and theories that support nursing informatics practice. Appraises accreditation and legal and regulatory requirements for health and nursing informatics practice. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): BMI 601 with B- or better; BMI 603 with B- or better |
| NUR | 531 | Advanced Concepts in Nursing Informatics | Focuses on advanced concepts in nursing and health informatics practice. Analyzes the health informatics metastructures, relationships between nursing and multidisciplinary standardized terminologies, trends in nursing and health informatics, ethical, privacy and legal issues, and the emerging role for the nurse informaticist. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 530 |
| NUR | 533 | Nursing Concepts:Childbearing Family | Concepts related to care of individuals and families within the childbearing populations. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): Nursing (Entry to Nursing Practice) MS student; Corequisite(s): NUR 524 |
| NUR | 539 | Role-Focused Practicum: Nursing Informatics | Learners complete 135 hours of mentored clinical practice during this practicum applying nursing informatics (NI) concepts and principles in a practice environment at the unit, organization or systems levels. Tailored to the prior experiences and level of the learner and may include working in intra- and interprofessional teams to address informatics initiatives at the unit, organizational or systems levels. | N | PRA | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 530 with B- or better; NUR 531 with B- or better |
| NUR | 542 | Readiness to Practice | Applies concepts that prepare nurses to deliver innovative, safe and quality client care in a dynamic health care paradigm. Prepares learners for their roles in professional nursing. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-3 | | Prerequisite(s): Nursing (Entry to Nursing Practice) MS student |
| NUR | 544 | Theoretical Foundations for Nursing | Analyzes the multiple dimensions of contemporary professional nursing and the interrelationships among theory, philosophy and practice | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Edson College graduate student |
| NUR | 545 | Advanced Pharmacology | Provides advanced knowledge of pharmacology with an emphasis on the professional nurse's role in medication therapy and administration. Presents medication classifications within the framework of the patient's psychological and physiological function. Applies pharmacological principles to treatment of specific diseases and symptoms. Examines legal, cultural and ethical aspects of medication theory. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Nursing (Entry to Nursing Practice) MS student |
| NUR | 546 | Nursing Concepts for Complex Care | Advanced theoretical knowledge and interprofessional collaborative care required for the delivery of safe and competent care of the adult client experiencing acute and complex alterations in health. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Nursing (Entry to Nursing Practice) MS student |
| NUR | 547 | Community, Global and Population Health | Provides an opportunity to apply community health nursing concepts, disaster principles, population-level determinants of health, social determinants of health, and the nursing process from a global perspective. The development of a plan of care allows the student the opportunity to implement indirect nursing care in assessment, analysis, planning, implementation (planned) and evaluation (planned) for a global/international population/community. Exposure to a variety of communities, local, state, national and international, contribute to an understanding of community health nursing in today's global world. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Nursing MS or Nursing (Entry to Nursing Practice) MS student; Credit is allowed for only NUR 547 or NUR 591 (Community, Global and Population Health) |

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| NUR | 548 | Patient Safety, Health Care Quality & Informatics | Focuses on the application of core principles of patient safety and health care quality to patients. Explores current and historical factors that contribute to quality health care outcomes. Examines the influence of financial, legal and regulatory factors on patient safety and health care quality. Students apply various theories, concepts and tools to promote patient safety and health care quality. Students describe the tools used to prevent errors, such as human factors, care coordination, informatics and patient engagement. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Edson College graduate student |
| NUR | 550 | Health Assessment | Provides knowledge and skills basic to health assessment in nursing. Emphasizes critical thinking skills required for accurate collection and analysis of client health information and provides opportunities for enhancement of physical assessment skills. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): Nursing (Entry to Nursing Practice) MS student |
| NUR | 552 | Dynamics of Professional Nursing I | Builds on the foundation of prior learning and competency development related to four interrelated concepts: communication; compassionate care; diversity, equity, and inclusivity; and ethics. These hubs for transferable knowledge, values, skills/strategies, and performance are associated with and essential to graduate-level professional nursing practice and bridge within and across multiple competency domain areas that frame and distinguish the practice of nursing and relate to other health professions. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Edson College graduate student |
| NUR | 553 | Dynamics of Professional Nursing II | Builds on the foundation of prior learning and competency development related to four interrelated concepts: clinical judgment, evidence-based practice, health policy and social determinants of health. These hubs for transferable knowledge, values, skills/strategies and performance are associated with and essential to graduate-level professional nursing practice and bridge within and across multiple competency domain areas that frame and distinguish the practice of nursing and relate to other health professions. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Edson College graduate student |
| NUR | 579 | Role-Focused Practicum: Nurse Educator | Mentored teaching practicum includes application of teaching/learning principles in a specialized area of interest. Tailored to the teaching experience and level of the student. May include classroom, online or clinical teaching, attendance at approved conferences, relevant meetings or other activities that provide opportunity for the learner to gain expertise in the selected area of interest. | N | PRA | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 670 with C or better; NUR 671 with C or better; NUR 672 with C or better; NUR 673 with C or better |
| NUR | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | SEM | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Pre-requisites: Nursing student |
| NUR | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Pre-requisites: Nursing Graduate student |
| NUR | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | |
| NUR | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | |
| NUR | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | IND | Y | Z3 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Pre-requisites: Nursing Graduate student |
| NUR | 601 | Scientific Role Development I: Engaging and Committing | First in a series that focuses on the development of a scientific role identity in nursing and health care innovation, including the areas of education, policy and research. Analyzes current trends in the development of innovative scientists and leadership characteristics needed for future roles. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Prerequisite(s): Edson College of Nursing and Health Innovation PhD student |
| NUR | 602 | State of the Science in Nursing and Healthcare Innovation | Focuses on research synthesis and critiques of the scientific literature as a basis for knowledge generation related to a focal area of research interest. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Edson College of Nursing and Health Innovation PhD student; Corequisite(s): NUR 605 |
| NUR | 603 | Social and Contextual Issues in Nursing and Healthcare | Analyzes nursing practice and the healthcare system for an identified population using social-ecological approaches. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | |
| NUR | 604 | Philosophy of Science Perspectives in Nursing and Healthcare Innovation | Analyzes the history and philosophy of science as a basis for knowledge and academic scholarship in nursing and healthcare innovation. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | |

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| NUR | 605 | Theory Analysis | Examines theoretical perspectives and approaches guiding research in nursing and healthcare innovation across the lifespan. Includes the historical evaluation, social contextual factors, implicit assumptions, and bias that influence nursing and healthcare innovation knowledge generation. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Edson College of Nursing and Health Innovation PhD student |
| NUR | 606 | Scientific Role Development II: Validating and Demonstrating | Second in a series that focuses on the development of a scientific role identity in nursing and health care innovation, including the areas of education, policy and research. Posits the knowledge, skills and resources needed to expand one's career as an educator and scientist in a health-related leadership role in the context of a future health care environment. Explores strategies for progressive and creative approaches in preparing leaders for innovative change in education, research and health care policy affecting healthcare delivery. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Prerequisite(s): Edson College of Nursing and Health Innovation PhD student |
| NUR | 607 | Scientific Role Development III: Bridging | Focuses on the development of a scientific role identity in nursing and health care innovation, including the areas of education, policy and research. Students study the career trajectories of key leaders in nursing and health care innovation as a basis for development of their own personal plans for success, including research trajectories and marketing. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Prerequisite(s): NUR 606 |
| NUR | 608 | Qualitative Research Design and Methods | Explores and critiques selected qualitative research approaches. Includes fieldwork exercises as an integral part of course expectations. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | |
| NUR | 609 | Quantitative Research Design and Methods | Examines multiple research approaches in clinical and health policy research from a quantitative perspective. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | |
| NUR | 610 | Genomics and Population Health | Covers genetics and genomics, diverging into two tracks of subject matter interest. Emphasizes the effects of social determinants on population health and genetic expression, ethical, social and legal implications in the doctoral track; and emphasizes the planning and operational aspects of clinical trials and precision health care in the master's degree track. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 605; Credit is allowed for only HCR 610 or NUR 610 |
| NUR | 612 | Advanced Analysis of Variance: Design and Analysis of Experiment | Introduces theory, methods, and practice of analysis of variance. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | |
| NUR | 613 | Principles of Regression and Correlation | Introduces theory, methods, and practice of regression analysis. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | |
| NUR | 614 | Design and Implementation of Theory-Based Interventions | Focuses on the knowledge related to advanced methods for intervention research. Examines methodological, ethical, and practical issues in the design and implementation of theory-based intervention studies. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | |
| NUR | 615 | Qualitative Data Management Seminar | Qualitative research methods applied to thesis, dissertation or qualitative research reports, focusing on data reduction, analysis, interpretation, credibility, ethics and dissemination. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): COE 503 or CRJ 613 or EDP 503 or NUR 608 or PAF 610 |
| NUR | 616 | Community-Based Participatory Research | Overview of Community-Based Participatory Research (CBPR). Familiarizes participants with key historical underpinnings of CBPR, principles of CBPR practice, as well as methodological CBPR considerations in building community partnerships, issue analysis, research planning, data gathering and data sharing. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only NUR 616 or NUR 691 (Community-Based Research) |
| NUR | 617 | Foundational Concepts in Science and Statistics | Provides basic skills necessary for health-related research specifically geared toward (1) understanding concepts of widely used statistical methods with examples from health care; (2) ethical knowledge of human subjects research; and (3) processes of research including research design, interpretation and presentation of results and critiquing research articles. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): COE 502 or EDP 502 or EXW 501; Credit is allowed for only NUR 617 or NUR 691 (Foundational Concepts in Science and Statistics) |
| NUR | 618 | Advancing Research-Based Health Policy Through Leadership and Innovation Science | Integrative synthesis course in which students apply values and knowledge from previous PhD core courses in philosophy of science, theory analysis, state of the science, quantitative and qualitative methods, and the art and science of teaching. Examines the role of scholars and scientists in health policy reform. Using tools from leadership and innovation science, advances strategies to accelerate the use of interprofessional research in policy decisions and advances the national agenda for improving health and the quality and affordability of health care. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 602, 603, 604, 605, and 609 |
| NUR | 620 | Mixed Methods for Health Science Research and Practice | Provides approaches, theory, methods and skills development for designing and conducting mixed-methods research for the health sciences. The mixed methods approach has been described as a third paradigm in research, building on and extending the qualitative (QUAL) and quantitative (QUAN) paradigms. The mixed methods approach integrates the positive aspects of these paradigms to create a new more potent research paradigm. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree-seeking graduate student; Credit is allowed for only NUR 620 or NUR 691 (Mixed Methods for Health Science Resrch & Practice) |

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| NUR | 628 | Research, Theory and Principles for Palliative Care in the Older Adult | Focuses on theory and research underlying end of life and palliative care for the older adult utilizing current practice guidelines and research. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NUR | 629 | Research for Geriatric Practice | Gaining knowledge and skills in critical appraisal and synthesis of evidence to guide best practice in gerontology. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NUR | 630 | Mechanisms of Disparities | Analyzes and applies the complex issues underpinning culture and health disparities related to a specific health outcome to research with a selected cultural group. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Edson College of Nursing and Health Innovation PhD student; Credit is allowed for only NUR 598 (Mechanisms of Culture), 598 (Mechanisms of Disparities) or 630 |
| NUR | 631 | Leveraging Culture in Intervention Development | Analyzes the complex issues underpinning the development of evidence-based interventions among various cultural groups. Also analyzes methods of leveraging culture to optimize the development, delivery, effect and evaluation of health interventions for various cultural groups. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 630 (or NUR 598 Mechanisms of Disparities); Edson College of Nursing and Health Innovation PhD student; Credit is allowed for only NUR 598 (Leveraging Culture in Intervention Development) or 631 |
| NUR | 640 | Integrative Theories of Innovation in Health Care | Analyzes cross-disciplinary theories of innovation for improving health and quality of health care. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice DNP student, Advanced Nursing Practice (Innovation Leadership) DNP student, or NUR 605 |
| NUR | 641 | Theories of Emergent Leadership in Healthcare Innovation | Analyzes cross-disciplinary theories of leadership. Emphasizes leadership frameworks that describe, explain and predict the relationships among leadership and healthcare innovation and outcomes. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 640. Credit is allowed for only NUR 641 or 691 (Theories of Emergent Leadership in Healthcare Innovation) |
| NUR | 650 | Human Lactation in the Post-Modern World | In-depth exploration of the complex and multifaceted social, cultural and environmental contexts that affect the public health goal of improving successful breastfeeding during the first years of life. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre-requisite: Degree- or Nondegree-seeking graduate; Credit is allowed for only NUR 650 or 691 (Human Lactation in the Post Modern World) |
| NUR | 670 | Curriculum Development in Academic and Practice Settings | Includes analyses of historical, philosophical, societal, environmental, cultural, technological, and educational factors of curriculum development in academic and practice settings. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Edson College graduate student; Pre- or corequisite(s): NUR 671 with C or better if completed |
| NUR | 671 | Teaching in Academic and Practice Settings | Analyzes theories, issues, research related to teaching in nursing and educational leadership. Focuses on the process of teaching and learning. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Edson College graduate student |
| NUR | 672 | Design and Delivery of Mediated Instruction | Addresses instructional design issues, theory, and practices related to online and electronically mediated learning. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Edson College graduate student |
| NUR | 673 | Producing and Evaluating Programs for Academic and Practice Settings | Critical examination of standards, regulatory environment, administrative systems, leadership requirements, technological infrastructure, human factors, future trends regarding mediated education planning, production, and evaluation. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 671 with C or better; Pre- or corequisite(s): NUR 670 with C or better if completed |
| NUR | 677 | Scholarly Citizenship: Teaching Intensive | Designed as a mentored teaching experience in nursing and a mentored exploration of the concept of scholarly citizenship as applied in the educator role in interdisciplinary, university-level education. Includes opportunities for students to examine different philosophies and theories of traditional and mediated teaching and learning; design content and learning experiences for selected topics; compare and contrast various culturally relevant, learner-centered strategies, technologies, media and Web-based tools for classroom and clinical use and analyze evaluation methods. Includes opportunity for exploring educational policy and translation of policy into best practices. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 670; NUR 671; Credit is allowed for only NUR 677 or NUR 691 (Scholarly Citizenship: Teaching Intensive) |
| NUR | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | |
| NUR | 688 | Management of Complex Diseases and Syndromes in Geriatric Population | Focuses on diagnosis and management of complex diseases and syndromes in the geriatric population. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only DNP 688 or NUR 688 |
| NUR | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | N | IND | N | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | |
| NUR | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Pre-requisites: Nursing Graduate student |

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| NUR | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | |
| NUR | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-15 | | |
| OBS | 501 | Obesity Prevention and Management: An Introduction | Helps students understand the complex etiology of obesity and enhances their ability to work with individuals and populations at risk of obesity to develop effective behavior change-based strategies for prevention and management of the condition across the lifespan. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Obesity Prevention and Management MS major; Credit is allowed for only OBS 501 or OBS 598 (Obesity Prevention and Management) |
| OBS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | REC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| OBS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| OBS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | |
| OBS | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| OBS | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| OGL | 10 | Leadership Development | Trains and manages the student team leads for the Jump Start Program. Students learn ways to effectively manage, facilitate and lead group discussions and activities. | N | LEC | Y | YGB | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 0 | | |
| OGL | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | SEM | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-3 | | |
| OGL | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| OGL | 200 | Introduction to Organizational Leadership | Basic introduction to leadership by focusing on what it means to be a good leader. Examines topics such as the nature of leadership, recognizing leadership traits, developing leadership skills, creating a vision, setting the tone, listening to out-group members, handling conflict, overcoming obstacles, and addressing ethics in leadership. Gives attention to helping students understand and improve their own leadership performance. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | |
| OGL | 220 | Behavioral Dynamics in Organizations | Explores the different theories, strategies and skills in the fields of organizational behavior and interpersonal relationships. Covers critical skills and perspectives associated with cross-cultural relationships, personality and values-driven behaviors, empathy, perspective-taking, learning and motivation, conflict resolution, stress management, effective communication, group dynamics, and diagnosis of performance-related issues in organizations. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | |
| OGL | 260 | Resource Allocation in Organizations | Introduces the decision-making framework of resource allocation within the broader context of organizations and society. Students learn that resource allocation decisions are regularly guided by values, organizational purpose, and fundamental principles of value creation and sustainability. Primarily focuses on the development, management, and allocation of tangible and intangible resources; accounting statements; profit and loss drivers; risk, return and tradeoffs; and stakeholder accountability. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): MAT 117 or any course with General Studies MA designation OR Visiting University Student |
| OGL | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| OGL | 298 | Honors Directed Study | Independent study or practicum under the supervision of a faculty member. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | | Prerequisite(s): Barrett Honors student |
| OGL | 300 | Theory and Practice of Leadership | Students perform an in-depth study of leadership theories and their practical applications in formal organizations. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Organizational Leadership AA student or minimum 45 hours OR Visiting University Student |

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| OGL | 340 | Organizational Skills | Develops and enhances skills needed in effective organizations such as communication and the use of technology. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| OGL | 343 | Social Processes in Organizations | Examines social processes and human interactions within different organizational contexts and engages in experiential learning through team-based projects. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum junior standing or minimum 56 hours; Credit is allowed for only BIS 343 or OGL 343 OR Visiting University Student |
| OGL | 345 | Organizational Ethics | Explores and considers normative and applied ethics within a variety of organizations. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | HU | Prerequisite(s): minimum 45 hours; Credit is allowed for only BIS 345 or OGL 345 OR Visiting University Student |
| OGL | 350 | Diversity and Organizations | Students engage in a critical analysis of individual, cultural and organizational diversity. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 56 hours; Credit is allowed for only BIS 350 or OGL 350 OR Visiting University Student |
| OGL | 355 | Leading Organizational Innovation and Change | Processes and methods to ensure current organizational success and sustainable relevance in changing domestic and global environments. Presents an introduction of strategic management with primary emphasis on situation analysis, strategy formulation, and long-term strategy evaluation. Covers the strategic leadership context using external and internal analysis to inform functional and competitive strategies that can be applied across multiple sectors and industries. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| OGL | 357 | Assessment in Organizations | Considers the role and function of assessment in effective organizations. Provides the knowledge and tools required to identify, collect and analyze information to assess organizations. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum junior standing or minimum 56 hours; Credit is allowed for only BIS 357 or OGL 357 OR Visiting University Student |
| OGL | 360 | Assessment of Leadership Effectiveness | An analysis of effective leadership and a guide for developing the competencies most likely to produce effective leaders. Utilizes examples from contemporary and historical sources and peer-mentoring sessions to enhance leadership development with self-reflection, creative and critical thinking, effective teamwork, and achievable future visions. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 56 hours OR Visiting University Student |
| OGL | 365 | Organizational Contexts | Explores how organizations function by analyzing in depth a specific organizational context such as: health care, technological innovation, family, education, government, community, religion, nongovernmental organizations, the economy, or country/country groups. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| OGL | 375 | Corporate Leadership: Starbucks | Examines leadership from the perspectives of the leaders of one of the most trusted and respected companies in the world, Starbucks. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Starbucks College Achievement Plan student; Credit is allowed for only OGL 375 or OGL 394 (Corporate Leadership: Starbucks) |
| OGL | 381 | Organizational Leadership Capstone | Students draw on their experiences in previous organizational leadership courses, employing learned key concepts, theories and skills toward the strategic analysis of organizations. Using Bolman & Deal's organizational frames concept, students synthesize key learnings across their education and explore organizations through four unique perspectives. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only OGL 381 or OGL 481 |
| OGL | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| OGL | 481 | Organizational Leadership Pro-Seminar I | In part one of their pro-seminar experience, students reflect on their experiences in the organizational leadership program, focusing on the key competencies they have learned. Applying the organizational frames concept, students synthesize key learnings across their education and explore organizational leadership through multiple perspectives such as: structural, human resources, political, symbolic or ethical. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): BIS 345 or OGL 345; BIS 350 or OGL 350; OGL 300; OGL 340 (BIS 340); PMG 240 (OGL 240) or PMG 320 (OGL 320); minimum 90 hours; Credit is allowed for only OGL 381 or OGL 481 |
| OGL | 482 | Organizational Leadership Pro-Seminar II | In part two of their pro-seminar series, students explore how their personal background experiences, individual characteristics, knowledge, skills and abilities can inform career choices that maximize their strengths, values and passions. Students explore strategies for career management and work/life integration from a variety of perspectives. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; OGL 481 with C or better |
| OGL | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | |
| OGL | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | | Prerequisite(s): Barrett Honors student |
| OGL | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |

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| OGL | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| OGL | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | | Prerequisite(s): Barrett Honors student |
| OGL | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-7 | L | Prerequisite(s): Organizational Leadership major; minimum 90 hours; ENG 102 or 105 or 108 with C or better; BIS 343 and 345; OGL 200, 220, 240, 260, 300, 321, and 350 |
| OGL | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | N | LEC | N | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-3 | | |
| OGL | 520 | Organizational Leadership: Social Psychological Perspectives | Social psychology is defined by the social influence that all people have on the beliefs, feelings and behavior of others. Studies social influences, the behavioral ramifications associated with the psychology of social processes and the ramifications for organizations and organizational leadership. The foundations of the field of social psychology, methodological approaches, interdisciplinary perspectives and application-oriented ideas and innovations form the basis for this course that integrates scholarship and applied social psychology to gain an enhanced perspective on the social influences associated with organizational and interpersonal behavior. From a leadership perspective, explores ideas as diverse as interpersonal influence, attitude formation and differentiation, stereotyping and prejudice, attraction, persuasion, obedience and aggression. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Organizational Leadership MS student; Credit is allowed for only OGL 520 or PMG 504 |
| OGL | 530 | Critical Perspectives in Leadership Theory | Engages the normative and epistemological underpinnings of many of the theories of organizational leadership studies. This critical engagement explores how assumptions about leadership and leadership theories may challenge or reinforce, overtly or not, oppressive social relations. Places leadership studies as an academic field in a broader social, political, cultural and ethical context to best address the embedded assumptions in leadership relations. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 540 | Evidence-Based Inquiry in Organizational Leadership | Provides a broad understanding of the methodological issues involved in leadership research. As such, exposes students to the assumptions, principles and applications of a selected set of research methods, whether inductive, deductive or abductive. Largely hands on with a focus on discussion and exercises. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 550 | Leading Organizational Change | Organizations are a combination of structures, processes and relationships that bring people together to achieve a common goal. However, organizations do not operate in isolation--they are embedded in complex social, political and financial contexts. Leadership requires individuals to discern and balance competing demands and tensions inherent in organizations. Provides an overview of organizational theories to help leaders understand and be effective in these contexts. By looking at organizations through metaphorical lenses such as machines, brains and organisms, students learn how to create new options for organizational success in ever-changing operating environments. Applies theories to case studies to develop insights and innovative approaches to organizational change. A student deliverable is the creation of a plan to map out the student's capstone project in preparation for the applied project. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Organizational Leadership MS student; OGL 520; OGL 530; OGL 540 |
| OGL | 551 | Developing Leadership Through Emotional Intelligence | Encourages greater knowledge of self through personal reflection, participation in experiential activities and numerous opportunities to make sense of discoveries. All of this occurs within the context of expanding knowledge of leadership skills and abilities. Encourages students to take every opportunity to learn about and bring insights to bear in classroom discussions. Shapes the leader within so that students are best positioned to lead in all areas of life. Over the next few weeks, explores the essential knowledge, abilities and values relevant to effective leadership. By the end of this course students have a greater understanding of their own leadership style and developmental plan for acquiring new leadership-related knowledge and abilities throughout their careers. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Organizational Leadership MS student |

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| OGL | 552 | Leading Diverse Teams | Helps students build more effective working relationships and improve their ability to lead, influence, cooperate and work effectively with others in today's increasingly team-oriented organizations. This course may differ from previous courses taken. At the center of the course is an intensive, unstructured learning group experience. The primary educational tool in this class is experience in a group (in this class referred to as a T-Group or Training Group). Other educational resources are readings, brief theory discussions, personal journals and a personal reflection paper after the class sessions conclude. These are fundamental for helping students to frame learning group experience and for facilitating learning. Emphasizes learning about oneself in the context of others based on the here-and-now experience of the group. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 553 | Intercultural Leadership | In today's increasingly global and interconnected world it is important for leaders to understand the role that culture plays in one's leadership and communication style. Students obtain the knowledge and skills necessary to lead in culturally diverse environments. Through readings, discussions, video and interactive simulations, students gain a concrete understanding of a variety of leadership and communication styles that are found throughout the world. Students also increase their intercultural competencies and global awareness. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 554 | Learning and Development in Organizations | Focuses on adult learning interventions and professional development within the context of a learning organizational setting. Integrates motivation and adult learning, current neuroscience, Bohm dialogue and instructional design. Develops the knowledge and skills needed to plan, design, develop, implement and evaluate adult learning interventions (materials, courses, curricula, programs) within different forms of organizations. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 555 | Leading Beyond Conflict | Today's leaders are increasingly confronted with conflicts that escalate into issues that could result in costly litigation. Comprises a review and analysis of contemporary methods of alternative dispute resolution, including arbitration, negotiation and mediation, with a strong focus on mediation. Students learn about the alternatives to costly litigation and develop working strategies to take advantage of these alternatives. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 556 | Leadership for Wicked Environmental Problems | Environmental leadership promotes a societal change such that we move away from the perspective where economic growth is valued and takes precedence above all to one that both recognizes the limits and value of natural resources in our environment and embraces just conservation practice. The environmental challenges we are faced with today (e.g., climate change, renewable energy) are described as "wicked." Wicked problems are difficult to explain, plainly define, have no one solution, and are often the result of other indefinable problems. Environmental leadership focuses on engaging followers to jointly and creatively confront wicked challenges and promotes environmental justice addressing the relationship between social inequality and environmental quality among various stakeholders. Course critically evaluates these leadership dimensions. This examination is not limited to Western ideals found in corporate organizations but also extends to conservation practice in the developing world. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 558 | Leading Organizational Innovation | Every modern organization, regardless of sector or mission, needs leaders who understand the impacts of continuing innovation on organizational success and sustainability. Examines how leadership can facilitate innovative activities within every level of an organization. Students conduct independent research for integration into a collaborative team project in the development of a graphical conceptual model that includes factors such as culture, structure and collaborative activities that enhance organizational innovation. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Master of Project Management student or Organizational Leadership MS student |
| OGL | 559 | Modeling Systems and Stakeholders | Studies how leaders can use systems theory and stakeholder theory to assess the inputs from external stakeholders and their impacts on internal organizational systems. Using current literature, students work independently and in teams to build and apply a conceptual model of the significant relationships among organizational systems and stakeholders. Results highlight relationships among variables that can be tested using quantitative and/or qualitative research methods. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Organizational Leadership MS student |

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| OGL | 561 | Collaborative Governance: NGOs and Private-Public Partnerships | Exposes students to the opportunities and challenges of the non-market, non-state realm of nongovernmental organizations and how they facilitate private-public partnerships. Assesses the realm of action, appropriateness of their missions and where they find their limitations. Requires students to think globally and consider the roles of various actors of civil society with a critical eye. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 562 | Resource Development in Organizations: A Multiple Capitals Approach | Many types of resources are needed for organizations to achieve long-term sustainability. Surveys various capital resources firms need to succeed. Covers tools such as the International Integrated Reporting Council's six capitals framework (financial, manufactured, intellectual, human, social, natural) and theories that undergird these models. Through readings, case studies, and assignments, students learn about the process of value creation; the relationship between resources and an organization's business model; how the various forms of capital can be measured and reported; and what leaders can do to intentionally develop multiple forms of capital in a way that creates financial returns for the organization. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Master of Project Management student or Organizational Leadership MS student |
| OGL | 563 | Leading Social Change: Community Activism | Focuses on methods used to reform social, cultural or political norms, beginning at the local level and connecting with movements for broader social change. Grassroots movements arise on all sides of the political spectrum, and local movements can unite activists around common goals despite larger ideological differences. The term "grassroots" is a misnomer, however, in that it implies the lack of leaders or of institutional support, whereas in reality, leaders attempting to change society must learn to network with a variety of stakeholders, from the level of individual neighbors to political leaders and large institutions. Students look critically and creatively at the ways local leaders have worked on a daily basis to promote community-based causes, in order to become more effective local activists, organizers, and civic and community leaders. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 565 | The Future of Work and Organizations | Focuses on the dynamic nature of work, labor and occupations related to social and technological change; the impacts on workers, management and society. Also addresses new and changing occupations and leadership roles related to new economies of scale. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Master of Project Management student or Organizational Leadership MS student |
| OGL | 568 | Women and Leadership | Investigates how gender is produced, operationalized and reified in the workplace. Course content is specific to the role of women at work and in leadership. Emphasizes understanding the reproduction of gender inequality with a focus on how commonly shared beliefs about gender and other social categories operate through interaction to differentially affect the experiences of men and women in ways that often disadvantage women. Despite majority representation across a range of public and private sectors, women continue to be visibly absent from leadership roles. Although, some purport that progress has been made to narrow the existing leadership gap for women, more men than women achieve leadership roles and assume these positions at a faster pace than their female counterparts. What contributes to this ongoing phenomenon? What are the results of the underrepresentation of women in leadership? How might organizations intervene and cultivate equity in the workplace? | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 569 | Indigenous Leadership and Diplomacy | Offers critical insights into how indigenous peoples around the world have responded to challenging issues in both historical and contemporary contexts by drawing from case studies, primary source materials, and emerging scholarship on indigenous leadership and diplomacy. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 570 | Analyzing Organizations | Focuses on the qualitative and quantitative research methods that are commonly used to assess organizations. Explores how best to frame organizational assessments and explore possible methodological choices for assessment design. Discusses both quantitative designs and qualitative approaches to organizational assessment. Focuses on planning assessments, making informed research decisions, understanding the ethical implications of organizational assessment, carrying out research and reporting finding. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Organizational Leadership MS student; OGL 550 |

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| OGL | 571 | Advanced Leadership Assessment | Students reflect on and assess their advancement as leaders while also critiquing and assisting with the development of leadership abilities in colleagues. Leadership effectiveness and social dynamics are analyzed in contexts ranging from students' own experiences to narratives in historical, literary, anthropological, political and sociological contexts. Hands-on practice with leadership assessment surveys is central to the course, and students are trained in creating their own versions of qualitative and quantitative questions on 360-degree surveys. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 574 | Qualitative Data Analysis in Leadership Research | Research design and research methods in leadership using qualitative approaches. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Master of Project Management student or Organizational Leadership MS student; OGL 540 |
| OGL | 575 | Quantitative Data Analysis in Leadership Research | Provides a broad understanding of the theoretical and methodological issues involved in basic data analysis in leadership research. Exposes students to the assumptions, principles and applications of basic quantitative research methods and analytical techniques, such as t-test, ANOVA and simple regression. Uses the SPSS statistical software. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Master of Project Management student or Organizational Leadership MS student; OGL 540 |
| OGL | 576 | Advanced Multivariate Data Analysis | Provides a broad understanding of the theoretical and methodological issues involved in applied multivariate data analysis in leadership research. As such, exposes students to the assumptions, principles and applications of a selected set of multivariate techniques, from multiple regression to mediation, moderation and conditional process analysis. Uses the SPSS statistical software. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 577 | Structural Equation Modeling in Organizational Leadership Research | Provides a broad understanding of the theoretical and methodological issues involved in structural equation modeling in leadership research. As such, exposes students to the assumptions, principles and applications of structural equation modeling. Uses SPSS and AMOS statistical packages. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 578 | Agent-Based Modeling to Address Complexity in Leadership Research | Leadership is a complex process that involves multiple stakeholders, including followers, organizations and communities. Students learn to think about leadership processes systematically and learn to use NetLogo to build agent-based models capturing phenomena of interest. Also examines how the interactions among individual agents in the system create dynamics and emergent collective outcomes. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): Organizational Leadership MS student; OGL 540; OGL 550; OGL 570 |
| OGL | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | RSC | Y | Z3 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 599 | Thesis | Supervised research focused on preparation of a thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): Organizational Leadership MS student; OGL 540; OGL 574; OGL 575 |
| OMT | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-4 | | |

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| OMT | 230 | Creativity and Business Innovation | Introduces concepts, models and techniques of creativity and innovation. Exposes processes related to developing creative skills and habits with an emphasis on problem solving and design. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only OMT 230 or TEM 230 OR Visiting University Student |
| OMT | 311 | Opportunity Analysis | The key to making sound business decisions involves the careful analysis of the situation, intelligent use of research, and successful practice. Entails the research and implementation of strategy to determine consumer expectations utilizing the skills especially important in today's competitive and turbulent market. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): TEM 200 or TMC 110 with C or better; Credit is allowed for only OMT 311 or TEM 311 OR Visiting University Student |
| OMT | 330 | Systems Innovation | Systems thinking course that investigates how innovators can incorporate the knowledge of complex systems into the processes of technology development, product/service innovation and venture development. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only OMT 330 or TEM 330 OR Visiting University Student |
| OMT | 343 | Occupational Safety and Ergonomics | Health and safety movement, accident theories and effects, OSHA standards and liability, safeguarding, hazards, workers' compensation, ergonomics, and safety. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): minimum 56 hours OR Visiting University Student |
| OMT | 402 | Legal Issues for Technologists | American legal system and impact on technology management issues: contracts, torts, intellectual property, white collar crime, antitrust, environmental, and employment. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): MGT 300 or TMC 330 with C or better; minimum 56 hours OR Visiting University Student |
| OMT | 430 | Ethical Issues in Technology | Topics in social responsibility for industrial technology and engineering. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): MGT 300 or TMC 330 with C or better; minimum 56 hours; Credit is allowed for only OMT 430 or OMT 504 OR Visiting University Student |
| OMT | 431 | Innovation Management | Focuses on execution challenges that innovation initiatives face, including: (a) Resources: Where do the resources for innovation initiatives come from? (b) Organization: How should innovation initiatives be organized? (c) Planning: How should plans for innovation initiatives be written and through what kind of process should they be revised? Explores the processes of innovation management for various sizes of companies utilizing smaller scale, local processes to large scale, globally dispersed innovation processes and teams. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; TMC 110 with C or better; Credit is allowed for only OMT 431 or TEM 431 or TEM 531 OR Visiting University Student |
| OMT | 440 | International Business | International business principles and operations, including partnerships, trade agreements, currency issues, international sales, and cultural differences between countries. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | G | Prerequisite(s): MGT 300 or TMC 110 with C or better OR Visiting University Student |
| OMT | 452 | Industrial Human Resource Management | Explores the management of workplace issues and contemporary events as it relates to human capital within an organization. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; MGT 300 or TMC 110 with C or better or senior standing OR Visiting University Student |
| OMT | 480 | Organizational Effectiveness | Explores the interaction of individual and group behavior with organizational efficiencies, strategies, structure and culture so organizations can work more effectively. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): MGT 300 or TMC 330 with C or better OR Visiting University Student |
| OMT | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-12 | | |
| OMT | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-4 | | Pre-requisites: Minimum Junior standing; Minimum 2.25 GPA |
| OMT | 503 | Marketing Management | Modern methods and industrial case studies of planning, pricing, promoting, and distributing goods and services in the global marketplace. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| OMT | 504 | Ethical Issues in Technology | Analyzes legal and ethical framework for making managerial decisions in the corporate environment of engineering- and technology-related industries. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only OMT 430 or OMT 504 |
| OMT | 520 | Strategic Management of Technology | Analyzes entrepreneurial dynamics and technology development, methods of research and development management, new technology implementation, and start-up organization. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| OMT | 548 | Statistical Methods for Research | Multivariate statistical techniques to analyze research data. Uses statistical software and applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| OMT | 549 | Research Techniques and Applications | Selection of research problems, analysis of literature, individual investigations, preparing reports, and proposal writing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| OMT | 560 | Managerial Decision Making | Focuses on structural thinking to make informed and optimal managerial decisions. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| OMT | 570 | Advanced Project Management | Planning, organizing, coordinating, and controlling staff and project groups to accomplish the project objective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only OMT 570 or TMC 470 |

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| OMT | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| OMT | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 112 | Identity, Service and American Democracy | Introduces the history of American democracy and civic engagement, while developing civic identity through hands-on democracy-in-action assignments. Examines the rich history of civic engagement as it applies to different races, sexes, genders and religions to unpack the what, why and how of getting involved and making a difference in public service. Examines cultural identity, including diversity of race, sex, gender and religion, as it contributes to social, civic, political and democratic life. Understanding how to participate in civic society culminates in the creation of a plan to contribute to the ongoing mission of sustaining a vibrant, healthy and unifying American democracy. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | SB & C | Credit is allowed for only CPP 112 or CPP 194 (National Service and American Democracy) or PAF 112 OR Visiting University Student |
| PAF | 115 | Foundations of Cross Sector Leadership | Prepares NGSC track members for success in their four-year journey while also sparking opportunities to develop as a leader throughout their Sun Devil careers. Provides a baseline for ethical decision making which is the cornerstone of effective leadership. This is accomplished through the lens of the public, private and nonprofit sectors. Also explores complex challenges we face and examples of successful cross-sector collaboration that have led to sustainable solutions. Additionally, students develop teamwork, time management, professionalism and respect for fellow NGSC team members. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 1 | | |
| PAF | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-4 | | |
| PAF | 200 | Public Service and Policy in the 21st Century | Provides a broad introduction to the field of public service and leadership. Topics include an overview of management, policy, urban studies, and leadership in the public sector. Covers the history and development of the public sector, as well as how it serves contemporary society. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | |
| PAF | 201 | Economics and Public Policy | Introduces the terminology and methods of analysis in microeconomics. In particular, examines the behavior of individual consumers and firms, with a focus on market failures and the role of government policy in correcting those failures. Applies microeconomic principles to the distribution of income, policies for eliminating poverty and discrimination, the problems of environmental pollution, and the impact of different market structures on economic activity. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | SB | |
| PAF | 215 | NGSC Community Impact Lab | Behind every challenge is an opportunity to innovate. Course offers hands-on, service learning opportunities for students within the ASU Public Service Academy--Next Generation Service Corp (NGSC). Using a problem-solving method called human-centered design, student teams work closely with a nonprofit organization, small business, government office or community organization to develop a solution to a critical issue within their organization that is based in research and empathy for the organization and their stakeholders. Beyond learning and applying the design thinking process, students also develop skills in team management, conflict management and reflection. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 2 | | Prerequisite(s): PAF 115 (CPP 101) OR Visiting University Student |
| PAF | 220 | Introduction to Urban America | Investigates traditional and evolving forms of civic engagement and management. Examines leadership and organizational models to urban development and decision making. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | |
| PAF | 240 | Urban Policy | Examines major theories about the purposes and processes of urban policy formulation, adoption, and implementation. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | C | |
| PAF | 300 | Public Management and Administration | Examines the context and role of the public manager and the development of the field of public administration. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FIS 351 or PAF 300 OR Visiting University Student |
| PAF | 301 | Applied Statistics | Focuses on statistical techniques used in social science research. Applies concepts such as measures of central tendency and dispersion as well as statistical techniques, including the following: one-sample z and t tests, two-sample t tests, chi-square, and correlation. Goals include helping students understand the mathematical and statistical concepts presented and assisting them in using these concepts in everyday life and in the study of social sciences. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | CS | Prerequisite(s): MAT 142 or higher OR Visiting University Student |

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| PAF | 302 | Public Service Research Methods | The philosophy, scope, and methods of public sector research. Examines quantitative and qualitative research methods and research design. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): Urban and Metropolitan Studies BA or BS major OR PAF 301 with C or better OR Visiting University Student |
| PAF | 305 | Urban Governance | Examines major shifts and trends in urban America. Concentrates on the changing approaches to governance and policies of urban areas. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PAF | 311 | Leadership and Change | The leader's role in bringing about significant organizational and societal change with special attention to group and organizational behavior dynamics, establishing a vision, mobilizing and empowering individuals and groups, and assessing outcomes of the change process in a variety of settings. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | SB | Prerequisite(s): minimum 30 hours OR Visiting University Student |
| PAF | 315 | Cross-Sector Collaboration | Examines how public, private and nonprofit organizations seek to address social challenges and explores how the three sectors work together and in isolation to tackle social problems. Students learn about the motivation of employees in the public, private and nonprofit sectors and the ways in which organizational structure, environment and legal contexts differently constrain or facilitate action within and across these organizations. Explores effective strategies for collaboration among the public, private and nonprofit sectors and identifies organizational similarities and points of contrast that could enhance or create barriers to such collaboration. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): PAF 115 (CPP 101); Pre- or corequisite(s): Public Service Academy student; minimum 45 hours |
| PAF | 340 | Contemporary Policy Challenges | Develops conceptual, critical, and practical understanding of public policy, the policy process, and policy analysis. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 30 hours OR Visiting University Student |
| PAF | 350 | Introduction to Science & Technology Policy | Explores the variety of ways in which governments make policies, how the policies shape the development of science and technology and their applications, and how policy may be shaped to create better futures. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 30 hours |
| PAF | 351 | Urban and Metropolitan Studies | Examines the city using a multidisciplinary approach drawing from different historical, cultural, social, philosophical, and economic issues and concepts. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PAF | 352 | Urban Theory | Examines the sociological, economic, and political theoretical positions underlying the development and evolution of metropolitan areas. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours |
| PAF | 360 | Emergency Management I | Emergency management, including basic issues of all-hazards management, phases of emergency management and basic operational systems of incident command and the broader incident management system in the United States. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PAF | 361 | Hazards and Risk Management | Overview of natural and technological hazards and disasters, including core concepts and evidence in the field. Introduces concepts of risk and risk management and how they are used in emergency and disaster preparedness, response and mitigation operations. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PAF | 363 | Technology in Emergency Management | Explores latest apps, software and social media used in planning (e.g., GIS for hazard mitigation), public crisis communications (via apps or social media platforms) and incident response platforms (for resource and operations coordination). Emphasizes hands-on experience with such tools. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PAF | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-4 | | |
| PAF | 400 | Senior Capstone Project | Teaches students to solve problems related to the public sector by applying theory, knowledge, and methods from previous courses to a hands-on project in the community. Seminars include guest speakers and discussions on professional development. Students work as individuals and as a team to prepare research papers and a professional report that is presented to the community. | N | LEC | Y | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): PAF 200 with C or better; PAF 201 with C or better; PAF 301 with C or better; PAF 302 with C or better; PAF 311 with C or better; PAF 340 with C or better; PAF 460 with C or better OR Urban and Metropolitan Studies BA or BS student |
| PAF | 405 | Citizen Engagement and Community Building | Develops a conceptual, critical, and practical understanding of urban dwellers' involvement in community affairs as citizens and as builders of vital neighborhoods and vibrant cities. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 30 hours |
| PAF | 406 | Public Administration and Community Development | Critically examines the concepts community and development and considers how important forces such as diversity, civic life, changes in social space, and globalization, affect our understandings about these concepts and influence our actions. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 30 hours |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|---|--------------------------|-------|-----------------|---|
| PAF | 410 | Building Leadership Skills | Introduces understanding and developing leadership skills, including an examination of leadership theories and models from multidisciplinary and crosscultural points of view, an assessment of the student's leadership capabilities, and practical applications to improve individual leadership capabilities. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | SB | Prerequisite(s): minimum 30 hours; Credit is allowed for only PAF 410 or URB 410 OR Visiting University Student |
| PAF | 415 | Social Entrepreneurship | In-depth study of social entrepreneurship, including how ideas are formulated, constructed, and implemented; experiential learning in developing a social enterprise plan. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): Cross-Sector Leadership certificate or NLM 220; Credit is allowed for only NLM 410 or PAF 415 (CPP 410) OR Visiting University Student |
| PAF | 420 | Managing Across Boundaries | Within the U.S. system of federalism, thousands of governments interact at different levels on issues ranging from taxation and education to zoning and water. Further, governments at all levels interact with nonprofit and industry sectors to provide public services and collaboratively address complex regional and, increasingly, global challenges. Finally, governments and other service providers interact across local, state, regional and national boundaries. Examines how to manage across boundaries (e.g., governmental, nongovernmental, stakeholders, communities, sectors). Emphasizes intergovernmental relations from the perspective of local and state governments; also exposes students to interstate and international forms of intergovernmental relations. Exposes contemporary public management frameworks and applies these frameworks to understand how leaders manage increasingly complex public challenges. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PAF | 421 | Leadership Capstone | Builds upon leadership courses in the Leadership and Ethics certificate program by applying concepts and examples from the readings as well as individual experiences. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): CPP 301 or PAF 410; PAF 311 |
| PAF | 424 | Emergency Management II | Accidents and emergency situations have plagued man since the beginning of history and will undoubtedly occur during our conceivable future. Armed with knowledge and skills for managing such occurrences can lessen their impact on society. Presents the theories, principles and approaches to emergency management. Discusses the philosophy of comprehensive emergency management with the four attendant steps which include mitigation, preparedness, response and recovery. Presents an analysis of past disasters along with their impacts on policy formation leading to the current FEMA all-hazards approach. Discusses the role, duties and importance of the emergency manager throughout the course. Reviews contemporary threats such terrorism. Finally, presents legal issues involving emergency management. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): PAF 360 with C or better |
| PAF | 425 | National Incident Management System (NIMS) | Covers concepts, terminology, players, compliance requirements, including doctrine of National Incident Management System per HSPD-5. Discussion of National Response Plan. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours |
| PAF | 426 | Intelligence Analysis and Homeland Security | Covers the role of intelligence in the United States with an emphasis on its application across homeland security and related agencies in the public sector and parallel private-sector organizations. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PAF | 450 | Ending Homelessness Through Public Policy | Examines the multifaceted issues surrounding homelessness in an urban environment with a special focus on downtown Phoenix. Examines how public policy decisions have shaped the issue in our community; explores the impact of federal, state and local policy formulation on our population of persons experiencing homelessness. Investigates multiple ways in which homelessness can be mitigated through research, service intervention analysis, services system design, and reframe many long-held assumptions about homelessness. Empowers students to think about solving homelessness in innovative and creative ways and through the lens of multiple stakeholders. Service learning opportunities are available. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only PAF 450 or PAF 494 (Ending Homelessness through Public Policy) or PAF 550 or PAF 591 (Ending Homelessness through Public Policy) OR Visiting University Student |
| PAF | 460 | Public Service Ethics | Role, values, and issues of public management in democratic governance, citizen participation, power structures, and professional codes of conduct. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | |
| PAF | 461 | Homeland Security | In-depth analysis of policies, procedures, and organizational structure for effective homeland security program. Covers all hazard/all risk philosophy. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only PAF 461 or CRJ 554 OR Visiting University Student |
| PAF | 468 | Planning and Exercises | Requirements, planning, conduct, and critique of exercises related to emergency planning. Emphasizes realism using moulage and props. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |

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| PAF | 469 | Terrorism Defense | Explores the background and evolution of terrorism. Presents specific tactics for preparation for and response to acts of terrorism. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ABS 598 (Terrorism Defense) or PAF 469 OR Visiting University Student |
| PAF | 470 | Topics in Public Economics and Financial Management | Provides an analysis of public economic practices and problems in a federal system. Presents detailed descriptions, where appropriate, of significant institutions and applies modern economic theory to the ways that these institutions finance and deliver services. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): ECN 212 or PAF 201 with C or better |
| PAF | 471 | Public Policy Analysis | Provides further study in the concepts, models, and operational methods used in public policy decisions and analysis. Enables students to develop higher skills needed for defining policy issues, identifying alternative solutions, and predicting the potential impact of policy alternatives. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): PAF 301 with C or better; PAF 340 with C or better |
| PAF | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-12 | | |
| PAF | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-6 | | Prerequisite(s): Barrett Honors student |
| PAF | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| PAF | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-4 | | |
| PAF | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-7 | | |
| PAF | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-3 | | |
| PAF | 501 | Public Service Research I | Covers research-based concepts and tools that can be used to diagnose and improve public programs and initiatives. Emphasizes understanding a program's logic and objectives; framing questions in a manner that facilitates investigation and collecting, analyzing and presenting quantitative and qualitative data from a variety of sources relevant to the practice of public administration and policy. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 502 | Public Service Research II | Application of quantitative methods for inferring cause and effect relationships in public administration and policy. Interpretation, critique and execution of statistical analysis of data for effective evaluations, particularly multiple regression analysis. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; PAF 501 with C or better |
| PAF | 503 | Public Affairs | Development and context of American public administration and policy, role of administration in governance, and values and ethics in administration. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 504 | Microeconomics of Public Policy I | Provides key principles of microeconomics. Places particular emphasis on developing the analytic tools of economic reasoning and using these tools to examine policy interventions of interest to public managers. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 505 | Public Policy Analysis | Institutional and formal analysis of policy processes, decision making, and problem solving; values, ethics, and the uses of policy analysis. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 506 | Public Budgeting and Finance | Legal, social, economic, political, institutional, and ethical foundations of governmental finance, budgets, and budgeting. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 507 | Public Human Resource Management | Personnel systems, behavior and management of people in public organizations, collective behavior, unionism, conflict management, motivation, productivity, and ethics. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 508 | Organization Behavior | Theory and application in the management of organizational behavior with emphasis on leadership and the public service. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 509 | Public Affairs Capstone | Capstone application of core course knowledge, skills, and abilities required for public service. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s) with C or better: degree- or nondegree-seeking graduate student; PAF 501; PAF 502; PAF 503; PAF 504; PAF 505; PAF 506; PAF 507; PAF 508 |
| PAF | 520 | Public Management | Management process in government and public agencies, with emphasis on the executive leadership within the public sector. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | |

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| PAF | 521 | Managing Public Money | Overview of public financial management, including budget planning and execution; capital budgeting, debt management and administration; funds management and investment; and financial control. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): PAF 506 |
| PAF | 522 | Advanced Governmental Financial Management: Capital Budgeting and Infrastructure Financing | Focuses on capital budgeting and infrastructure financing. Covers information required to finance a capital improvement plan, specifically for infrastructure items such as streets, parks, public utilities, airports, highways, bridges and tunnels, and other public works. Combining strategy as well as process, examines financial management from different perspectives. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): Public Administration MPA student |
| PAF | 523 | The City and County Manager | Provides an overview of the profession of local government manager including roles and responsibilities, the forms of government and administration, and review of management techniques and styles. Includes case study analysis of real-life manager issues, examination of current events about local government, and discussion of ethical issues. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | |
| PAF | 525 | Public Entrepreneurship | Explores public and social entrepreneurship; students create solutions in cooperation with community partners to help address complex social challenges. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | |
| PAF | 529 | Organization Change and Development | Explores the nature and management of change and development as a tool to achieve organizational goals; effecting planned change. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | |
| PAF | 530 | Management of Urban Government | Examines the environment in which public administrators work and the major management challenges and functions for local government. Includes information on relationships between administrators and elected officials, and between officials and citizens. Focuses on effective and responsive service delivery by government, and the need for cooperation and coordination with other levels of government, including regional partners. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 531 | Community Conflict Resolution | Interdisciplinary approach to understanding the dynamics of community conflict. Strategic considerations in policy design and advocacy; potential reaction to conflict. Relevant models and research findings generated by both case studies and comparative methods. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | |
| PAF | 534 | Urban Services Infrastructure | Provides an overview of the services provided by local government with a focus on coordination, cooperation and overlap of services by cities, towns, counties, special districts, county, regional and state. Overview of how services are managed, evaluated, funded, including use of intergovernmental agreements, nonprofits and private businesses. Includes examination of leadership and management strategies, how to promote and establish cultural innovation, and to manage local priorities and expectations. Examines the context of regional issues and demands for cooperation, collaboration and coordination. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 540 | Adv Policy Analysis | Covers data analytics and modeling methods for public policy analysis and management beyond those used for program evaluation. Topics include optimizing the allocation of resources; using machine learning to predict outcomes, target resources and detect outliers; and developing computational and social network models of policy and innovation diffusion and implementation. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; PAF 505 with C or better |
| PAF | 541 | Program Evaluation | Provides foundational and related methodological tools for the evaluation of public policies and programs. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; PAF 501 with C or better |
| PAF | 544 | Urban Policy | Understands major theoretical frameworks, methodological approaches and substantive issues emphasized in urban policy research. Hones skills in policy analysis. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 545 | Creating Sustainable Organizations | Sustainability is a strategic concern for managers in all types of organizations: private, public and nonprofit. Forward-thinking managers are redefining their operational strategies to balance economic development, environmental quality and social justice needs. By drawing on practical cases and a real-time project with a local client, students explore these connections through multiple lenses. Topics covered include creating organization change, involving stakeholders, transformational vs. incremental sustainability, sustainability market strategies, strategic alliances, enhancing the organization value from sustainability initiatives, and assessing organization sustainability. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): Degree- or Nondegree-seeking graduate; Credit is allowed for only PAF or SOS 545 |

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| PAF | 546 | Environmental Policy and Management | Systems-level approach to environmental policy and management, emphasizing the societal, economic and political forces that influence the development and implementation of environmental policy. Topics include: defining environmental problems; environmental policy in congress; environmental policy in the courts; the Environmental Protection Agency; market principles in environmental policy; sustainable production, sustainable cities; global climate change; population and the developing world; energy policy; air pollution; water pollution; hazardous waste; ecosystem-based management and market-based solutions. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 547 | Science, Technology and Public Affairs | Explores the political, economic, cultural, and moral foundations of science and technology policy and governance in democratic society. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only BIO 515 or GLG 547 or HSD 515 or PAF 547 or SOS 516 |
| PAF | 548 | Women/Politics/Public Policy | Explores how political philosophy, politics, and public policy affect and are affected by women. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | |
| PAF | 550 | Ending Homelessness Through Public Policy | Examines the multifaceted issues surrounding homelessness in an urban environment with a special focus on downtown Phoenix. Examines how public policy decisions have shaped the issue in our community; explores the impact of federal, state and local policy formulation on our population of person's experiencing homelessness. Investigates multiple ways in which homelessness can be mitigated through research, service intervention analysis, services system design, and reframe many long-held assumptions about homelessness. Empowers students to think about solving homelessness in innovative and creative ways and through the lens of multiple stakeholders. Service learning opportunities are available. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PAF 450 or PAF 494 (Ending Homelessness through Public Policy) or PAF 550 or PAF 591 (Ending Homelessness through Public Policy) |
| PAF | 552 | Integrated Emergency Management | Theory and practice of comprehensive emergency management. Explores scope and function of Department of Homeland Security. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 555 | Information Technology in Emergency Management | Provides theory and application of computer-based programs in emergency management and the use of various emergency modeling programs. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 560 | Community Resilience | Examines community resilience from a systems perspective, embracing governments, private, nonprofit and civic roles. Presents research, case studies, and strategies for policy planning and implementation. Provides an understanding of how community members respond to the need to prepare for, endure and recover from disasters and the ability to utilize multiple communication methods to help community members before, during and after these emergencies. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 561 | Interoperability for Emergency Managers | Enables understanding of the multiple technologies and skills utilized by emergency managers to enhance successful coordination and communication between all levels of emergency managers and responders during emergency mitigation, prevention, preparedness, response and recovery operations. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 562 | Higher Education Policy | Broad overview of higher education policy. As used here, the term "policy" in higher education refers to government-produced policies (e.g., federal grants policy, state policies for university budgets) but also university-produced policies (e.g., strategic alliances, policies for faculty or student conduct). Despite the breadth of coverage, there is one theme permeating the course: universities as "public values-based institutions," including social impact, social engagement, outreach and economic impact. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PAF 562 or PAF 591 (Higher Education Policy) |
| PAF | 565 | Theories and Practices of Democracy | Critically explores the wide range of ideas, issues, challenges, and promises related to democracy in theory and practice. Intended for all students interested in democratic leadership, public service, civic engagement, and participatory governance. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 566 | Participatory Governance & Civic Engagement | Examines classic and current theoretical debates on participatory governance and civic engagement, discusses theoretical and practical implications, and analyzes different models of participatory governance. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| PAF | 570 | Microeconomics of Public Policy II | Provides the policy tools to solve economic problems such as market concentrations, market failures and externalities, and asymmetric information. Increasingly, government interventions are moving away from a command-and-control-style of direct provision of goods and services and toward a large menu of indirect approaches implemented through a complex system of third-party actors. Government intervention in private markets now entails loans and loan guarantees, grants-in-aid, contracts, vouchers, social and economic regulation, and many other policy tools. Each of these instruments involves vastly different behavioral distortions, policy technologies, political considerations and technical sophistication. Analyzes the economics of four policy interventions: grants, tax expenditures, social regulation and vouchers. Provides an overview of each tool (including its key design features) and combines economic theory with background information on how public policies actually operate. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; PAF 504 with C or better |
| PAF | 571 | Geographic Information Systems (GIS) and Analysis | Provides foundational information related to application of GIS technology to meet various needs within governmental operations, administration, and public policy. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | |
| PAF | 573 | Applied Econometrics | Applied treatment of the most important modern econometric methods used to evaluate public policies. Help students become savvy consumers of econometric methodology and develops the methodological skills necessary for implementing quantitative evaluations of public policies. Accordingly, course stresses critical thinking and creativity. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; PAF 502 with C or better |
| PAF | 574 | Diversity, Ethics, and Leading Public Change | Focuses on leading public change with a strong ethical foundation and commitment to engaging a diverse and inclusive workforce. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 579 | Public Policy Capstone | Integrative, client-based project course. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | |
| PAF | 582 | E-Public Administration | Explores how new techniques and technologies for using, processing and managing information are changing how we interact, work and serve. As an example of this very concept, this course is offered online. During the semester, managers explore current trends, use a wide variety of information and communication tools, and have manager-created content consistent with new trends of online participation. By the end of the course, managers have experience with tools (including Wikis, Blogs, search engines, collaboration tools, reputation systems, social networks, virtual worlds); are familiar with current information issues (transparency, privacy, equal access, governance); and explore how they are relevant to a variety of contexts (local government, non-profits, public service). | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-12 | | |
| PAF | 585 | Strategic Planning for Public Sector Leaders | In an age of diminishing resources, the tools of strategic planning have become crucial for every public sector and non-profit manager. How can a public sector agency (or non-governmental organization) achieve its goals and advance its mission? How can it motivate its people given the absence of the sorts of incentives often found in the private sector? How can these organizations respond to a rapidly changing political, economic and social environment? These are among the questions that are addressed. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 586 | Data Analytics for the Public Good | Explores techniques used for data extraction, analysis and visualization. In particular, students engage with social media data, devise solutions to address data-poor scenarios, and explore the potential of sentiment analyses to elucidate opinion trends and predict future attitude shifts. Discusses data visualization techniques and engages students with Tableau software. Also explores the social, political and ethical considerations associated with building and managing data analytics programs in the public sphere. Explores issues-critical dilemmas when it comes to issues such as data privacy, data protection, predictive analytics, personalized service delivery and resource provision, algorithmic regulation, and large-scale data analytics for administrative efficiencies and resource management optimization, among others. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| PAF | 587 | Federal Budgeting and Tax Policy | Provides a broad understanding of federal budget and tax policy issues. The knowledge acquired in this class enable students to act as competent parties in the formulation of public policy within the federal budget and tax policy domains. Approximately one half of the class is devoted to federal budget processes and concepts including purposes, coverage, scoring, performance evaluation and proposed options for reform. The second half covers tax policy issues. Throughout the course, focuses on those budget and tax policy issues that are the current subject of political attention. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 588 | Global Public Policy | The study of public policy has traditionally focused on the operations of government agencies within national borders. Increasingly, however, public officials at all levels of government must confront challenges and opportunities that exist across borders. Whether the issue is immigration, national security, trade and finance, or the environment, public managers must be aware of global pressures and, in many cases, respond to them. This course gives managers the analytical tools to understand how global issues are currently being managed and what they might do to make the most of global opportunities. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 589 | Leadership in Public Organizations | Provides the foundation of theory and practice of administrative leadership. While students learn about all the major theoretical frameworks, focuses on an applied action research model that is useful in analyzing and developing oneself and others in organizational settings. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-12 | | |
| PAF | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-12 | | |
| PAF | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-12 | | |
| PAF | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-4 | | |
| PAF | 601 | Advanced Public Policy Seminar | This advanced seminar in public policy has a single objective: to develop a critical thinking of theoretical perspectives developed to analyze several dimensions of public policy. Focuses on theories and perspectives across specific policy areas since the objective is to get used to analytical lenses, not a specific policy area. This objective is achieved by reading required books each week. This class requires the ability to critically analyze a body of literature as a prerequisite for advancing that literature. The general format of this course includes reviews of class material and discussion. Prior to each class, students are expected to read the required books listed in the syllabus. Students are responsible for contents included in the readings, even if it is not explicitly reviewed in class. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 602 | Advanced Research Design for Public Policy and Management | The logic, design and conduct of applied social research for students interested in public management and policy. Traditional scientific explanatory research is a necessary prerequisite for any prescriptive research. The primary orientation of this course is to focus on development of social science explanations for public administrative phenomena and the development of research designs which permit testing of hypotheses derived from these explanations. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): admission to a doctoral program |
| PAF | 603 | Advanced Economics for Public Administration and Public Policy | Theory of utility and demand, theory of the producer, organization, operation of product and factor markets, market equilibrium, regulation, risk and uncertainty, general equilibrium and welfare policy, market failure, public goods and taxation, and game theory. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): PAF 504 with C or better; doctoral major |

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| PAF | 604 | Intellectual Foundations of Public Administration | Explores significant developments and themes in the theory of public administration, especially American public administration. Major foci in this seminar include the historical development of public administration as a body of thought and as a theory of politics; the enduring theme of public administration and democracy; various possible unifying themes, theories, and criteria; and prospects for future theory and research. Aimed at encouraging advanced students to refine their abilities to identify, analyze, interpret, critique, evaluate, and contribute to the literature and intellectual developments of this field of scholarship, as well as to place current and emerging trends in broader context. Builds on more basic courses in public administration and is intended in part to assist students in preparation for doctoral preliminary examinations in public administration. Assumes that students have a solid understanding of American government and bureaucracy. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): admission to a doctoral program |
| PAF | 605 | Organization Theory and Behavior Seminar | Advanced survey of organization theory (OT) and organization behavior (OB) literatures for doctoral students. The seminar pursues multiple goals. It examines the intellectual foundations and historical progression of OT/OB research and explores the craft of conducting social science research related to OT/OB. Specifically analyzes how current literature in public management and administration applies organization theory for research. Develops a research-based understanding of main schools of organization theory so that students gain skills to enable them to engage OT/OB theories in their own research. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): admission to doctoral program |
| PAF | 609 | Advanced Quantitative Methods Seminar | Provides opportunity to learn the tools necessary for carrying out empirical work through hands-on data work and analysis. Students learn how to specify and estimate linear regression models and test hypotheses about model parameters under different statistical assumptions. Students become proficient in programming statistical routines. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): admission to doctoral program |
| PAF | 610 | Advanced Qualitative Methods for Public Affairs Research | Explores a number of qualitative research approaches and methods, including ethnography, ethnomethodology, participant observation, interviews, focus groups, content analysis, discourse analysis, and some comparative/historical methods. Also exploreS the important theoretical and ethical issues that bear on these approaches. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Pre-requisites: PhD student |
| PAF | 620 | Public Administration Professional Development Workshop | Prepares doctoral students to become productive and effective public administration scholars, teachers, and researchers. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Pre-requisites: Doctoral PAF student |
| PAF | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-12 | | |
| PAF | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-12 | | |
| PAF | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-15 | | |
| PAF | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Watts College of Public Service and Community Solutions | School of Public Affairs | 1 | | |
| PAF | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-15 | | |
| PAX | 230 | Introduction to Peace Studies | Intensive, one-semester introductory course. Explores multidisciplinary approaches to the study of peace, conflict and human rights as well as the historical background of peace studies (trans)disciplinary orientation. Knowledge gained in peace studies can be applied toward education, policy, law, cross-cultural communication, community-based organizations, nongovernmental organizations and ethics. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | G | |

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| PAX | 310 | War and Peace: The Evolution of Conflict and Cooperation | Examines the evolutionary foundations of conflict and cooperation using theories and evidence spanning humans and other animals. Covers mechanisms of nonviolent conflict in nature, strategies for violent conflict and mechanisms to reduce the cost of conflict. Additionally, examines how cooperation evolved in humans and other animals. Topics include nepotism, reciprocity, cultural group selection and the evolution of moral sentiments. Also examines the interaction between cooperation and warfare. Topics include the relation between violence and morality, and how warfare shapes cultural evolution. The course ends examining combat-induced Post Traumatic Stress Disorder and Moral Injury, and how it relates to the evolution of cooperation and warfare. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASM 310 or ASM 394 (War & Peace: Origins of Conflict & Cooperation) or PAX 310 OR Visiting University Student |
| PAX | 456 | Studies in Forensic Linguistics | Focuses on the three main aspects of that branch of applied linguistics, namely language and the law, court cases where language is the central dispute, and linguistic evidence. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 456 or FOR 456 or PAX 456 or SBS 456 |
| PBH | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| PBH | 201 | Economics for Health Majors | Introduces economics and demonstrates the relevance of economic principles to the study of health care delivery systems and public health. Combines elements of a traditional introductory economics curriculum with broad coverage of microeconomics and specific application to current issues in health care delivery and public health policy. Prepares students for further study of health economics. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only HCD 201 or PBH 201 OR Visiting University Student |
| PBH | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| PBH | 300 | Biostatistics | Biostatistics and its use in health and health services research. Familiarizes students with statistical concepts and methods to analyze and interpret data and conceptually addresses statistical theory. Introduces Excel software to manage data and perform statistical tests. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | CS | Prerequisite(s): completion of General Studies MA requirement with C or better; minimum 30 hours; Credit is allowed for only HCD 300 or PBH 300 |
| PBH | 310 | Epidemiology in Public Health | Essential principles and practices of public health epidemiology. Increases an undergraduate student's ability to analyze problems and make decisions based on application of epidemiologic concepts and methods in a variety of settings. Students gain experience communicating epidemiologic findings in both written and oral formats. Includes applied hands-on exercises in analysis of epidemiologic data, case studies and critical review of epidemiologic methods used in scientific literature. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): PBH 300; not open to Exercise and Wellness or Health Education and Health Promotion majors |
| PBH | 355 | Research Methods for Public Health | Society incurs high opportunity costs when public health interventions which yield a high health return on investment are not implemented, or when resources are expended on interventions with low health returns. Public health practitioners should, therefore, incorporate the best scientific evidence in planning, implementing and evaluating public health policies and programs. Covers concepts and tools of public health research where the research objective is to provide evidence that informs and improves decisions regarding the allocation of public health resources. Covers basic components that inform evidence-based decision making, namely: accessing the best available scientific evidence; developing research questions, collecting and analyzing qualitative and quantitative data; using data and information systems methodically; and adhering to standards of ethical research. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): PBH 310; not open to Exercise and Wellness or Health Education and Health Promotion majors |
| PBH | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| PBH | 402 | Health Economics | Examines decisions made by patients, practitioners, health care administrators, and public policy makers using economic tools and models. Gives particular emphasis to using economic models to understand and predict decision making under scarcity and imperfect information, which provides insight into the successes and pitfalls of a health care system. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): ECN 211, ECN 212, HCD 201, or PBH 201; minimum 45 hours; Credit is allowed for only HCD 402 or PBH 402 |
| PBH | 410 | Public Mental Health | Explores public mental health research and practice. Considers social determinants, social theory, population assessment methods, ecological models, risk, resiliency, and behavioral health systems of treatment and prevention. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |

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| PBH | 422 | Health Disparities and Access to Health | Racial and ethnic health disparities in the United States. Explores disparities in healthcare seen at the provider and system level and their effects on health in the community. Also considers the historical context of racial and ethnic health disparities and the demographic and conceptual issues surrounding health disparities research. Reflects on the effects of behavior, socioeconomic status and group-specific disparities on community health status. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only HCD 422 or PBH 422 OR Visiting University Student |
| PBH | 435 | Environmental and Occupational Health | Examines health issues, scientific understanding of causes, and possible approaches to control major environmental health problems in global human populations. Topics include how the body reacts to environmental pollutants; physical, chemical, and biological agents of contamination; vectors for dissemination (air, water, soil); solid and hazardous waste; vulnerable populations; risk analysis; scientific basis for policy decisions; and emerging global environmental health problems. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 56 hours OR Visiting University Student |
| PBH | 455 | Public Health Program Evaluation | Federal, state and local policies shape the nature of the public health programs implemented in communities. Public health professionals are often responsible for evaluating, at multiple levels, the programs that result from such policies. Provides public health students with the analytical tools necessary to manage the implementation and evaluation of public health programs. Program evaluation serves many important functions. It supplies information to managers who are charged with implementing public health programs and to policymakers who face decisions about which programs to fund, scale back, expand, modify or eliminate. Evaluation is an accountability tool: when a public health agency decides to finance a program, they have a right to ask what their funds bought. Evaluation is also a vehicle for improving public health programs. By identifying what works and what does not--and how new programs fare relative to existing practice--policymakers and managers can improve program designs. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): PBH 355 |
| PBH | 482 | Capstone I | First course in capstone sequence wherein a student identifies a project to complete in Capstone II and conducts background research. Projects are related to broad topics explored during prior coursework in the student's program. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): minimum 45 hours |
| PBH | 483 | Capstone II | Independent study in which a student, under the supervision of capstone coordinator, conducts research that is expected to lead to a specific project such as a thesis, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. Capstone II projects can be done in conjunction with a health care organization or health agency. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): PBH 482 (or HCD 482) |
| PBH | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): Barrett Honors student |
| PBH | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): Barrett Honors student |
| PBH | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| PHI | 101 | Introduction to Philosophy | Explores issues that philosophers have traditionally considered, including morality, reality, and knowledge. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | |
| PHI | 103 | Principles of Sound Reasoning | Fallacies, validity, and soundness of arguments. May include syllogistic, elementary symbolic, inductive logic, and scientific method. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105 or 107 with C or better OR Visiting University Student |
| PHI | 105 | Intro to Ethics | Philosophical examination of such questions as, How should we live? Is morality a social invention? Does anything matter? | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | |
| PHI | 107 | Introduction to Philosophy of Sex and Love | Examines philosophical views of the nature of sex and love, their relation to gender and sexual ethics. Focuses on the historical development of these concepts and contemporary moral and political debates over issues such as same-sex marriage, polyamory, pornography and free speech, objectification, cybersex, and consent to sex. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): Credit is allowed for only PHI 107 or PHI 394 (Philosophy of Sex and Love) |
| PHI | 120 | Introduction to Medical and Bioethics | Philosophical examination of moral problems that arise in medicine and biology, e.g., end-of-life, reproduction, and patient's rights. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | |
| PHI | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-3 | | Pre-requisites: Freshman student; Maximum 25 hours |

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| PHI | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |
| PHI | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |
| PHI | 300 | Philosophical Argument and Exposition | Develops techniques of philosophical argument and exposition. Frequent written exercises. Course content may vary with instructor. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L | Prerequisite(s): Philosophy major; ENG 102 with C or better; minimum 25 hours OR Visiting University Student |
| PHI | 303 | The Future of Religions | Critical theorists of modern religious and secular beliefs argued that both theism and atheism have had their martyrs and tyrants. Nietzsche proclaimed "God" of the West dead, Marx unmasked religion as opium for the oppressed masses, and Freud analyzed religious future as an unconscious illusion. The future of secular progress has become equally suspect in the wake of the Holocaust, Hiroshima, the gulags, the killing fields of Cambodia, Rwanda. Globally motivated terror revealed itself as capable of religious as much secular justifications. The future of faith and reason has become a doubly open theoretical and practical question in philosophy, religious studies, literary study, critical theory, cultural and gender studies, and all sciences. Applies theoretical and methodological tools to critically exam beliefs, practices, and communities and their role in both generating and transforming the ethical and spiritual discontents of the global age. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Pre-requisites: ENG 102, 105 or 108 with C or better; Credit is allowed for only HON 394 (The Future of Religions), PHI 303 or REL 300 |
| PHI | 304 | Existentialism | Covers such topics as absurdity, authenticity, the meaning of life and death, responsibility, and subjectivity. May include readings in phenomenology. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PHI | 306 | Applied Ethics | Philosophical discussion of contemporary moral and political issues, such as abortion, euthanasia, animal rights, affirmative action, and sexual rights. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | |
| PHI | 307 | Philosophy of Law | Nature and source of law and its relation to morality. Legal rights, legal enforcement of morals, civil disobedience, liability and responsibility, punishment, judicial reasoning, justice, property, and differences between theories of natural and positive law. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PHI | 310 | Environmental Ethics | Examines a full range of philosophical positions pertaining to our moral relationship to the natural world; anthropocentrism, individualism, biocentrism. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Credit is allowed for only BIO 324 or PHI 310 OR Visiting University Student |
| PHI | 311 | Philosophy and Literature | In-depth study of selected literary and philosophic texts. Addresses philosophical problems such as the nature of moral goodness and human relations; the purpose of life; or the relations among beauty, truth and justice. Also addresses whether literary aspects of philosophical texts such as myth, image, metaphor or rhetorical devices contribute to meaning or promote ethical insight as well as interdisciplinary tensions and bridges between rhetoric and philosophy. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): minimum 45 hours |
| PHI | 313 | Probability, Evidence, and Decision | Philosophical topics in epistemology and practical reasoning; probability and its use in representing and reasoning about belief, evidence, and rational choice. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): MAT 117 or 142 or higher; minimum 30 hours; Credit is allowed for only HPS 313 or PHI 313 |
| PHI | 314 | Philosophy of Science | Structure and justification of scientific theories, explanation, and theory change. Roles of observation and laws, theoretical concepts and entities, reduction, probability, confirmation, space and time, and causation. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Credit is allowed for only HPS 314 or PHI 314 OR Visiting University Student |
| PHI | 318 | Philosophy of Religion | Classical arguments for the existence of God. Argument from evil against the existence of God. Justification of religious belief. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | |
| PHI | 319 | Philosophy, Computing and Artificial Intelligence | Philosophical problems surrounding artificial intelligence (AI). Thinking as computation and AI; the ethics, epistemology and metaphysics of computing. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | CS | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 25 hours OR Visiting University Student |
| PHI | 320 | Bioethics | Critical examination of moral questions arising in biomedical contexts, particularly due to new technologies and scientific discoveries. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): minimum 45 hours; Credit is allowed for only BIO 312 or IAS 340 or PHI 320 OR Visiting University Student |
| PHI | 322 | History and Philosophy of Sustainability | Examines sustainability issues in a broadly interdisciplinary way, but with a special emphasis on humanities perspectives, focusing on human ideas, values and institutions as they have evolved over time. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102 or 105 or 108 with C or better; minimum 25 hours; Credit is allowed for only HST 308 or PHI 322 or SOS 309 or BIO/HST/PHI/SOS 394 (History & Philosophy of Sustainability) |
| PHI | 324 | Existential Ethics | Ethical aspects of theistic and atheistic accounts of existentialist philosophy. Freedom and responsibility and their significance in human experiences. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | |

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| PHI | 325 | Philosophy of Social Science | Philosophical problems surrounding the aims, structure, and methods of the social sciences. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU or SB | |
| PHI | 326 | Philosophy of Happiness | Examines ancient and contemporary philosophical models of happiness and consideration of criteria for living a life of human flourishing. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| PHI | 328 | History of Ancient Philosophy | History of Western philosophy from its beginnings through the Hellenistic period. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 25 hours OR Visiting University Student |
| PHI | 329 | History of Modern Philosophy | History of Western philosophy from the Renaissance through Kant. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 25 hours OR Visiting University Student |
| PHI | 330 | Theory of Knowledge | Nature, sources, and limits of human knowledge. Topics may include truth, a priori knowledge, empirical knowledge, perception, induction, and skepticism. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 25 hours OR Visiting University Student |
| PHI | 331 | Philosophy of Language | Problems pertaining to the nature of language, including meaning, reference, truth, definition, analyticity, translatability, synonymy, and contributions of contemporary linguistics. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102 or 105 or 108 with C or better; minimum 25 hours |
| PHI | 332 | Metaphysics | Problems pertaining to the nature of reality. Topics may include nature of person, minds, substance, universals, space, time, causation, and modality. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 25 hours OR Visiting University Student |
| PHI | 333 | Symbolic Logic | Studies symbolic techniques to represent knowledge, deductive arguments, refutation by counter-example, and model-theoretic representation. Covers propositional and first-order predicate logic and provides a deeper understanding of theories about the world and of reasoning in life generally. Students gain a valuable tool for any field or discipline in which rigorous thinking is necessary such as science, medicine, business and the legal profession. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; MAT 243 or MAT 300 or PHI 103 with C or better; minimum 25 hours OR Visiting University Student |
| PHI | 334 | Philosophy of Mind | Nature of consciousness. Common sense view of mind, behaviorism, materialism, dualism, functionalism, self-knowledge, and knowledge of other minds. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 25 hours OR Visiting University Student |
| PHI | 335 | History of Ethics | Major works of moral philosophy, both ancient and modern, such as those by Plato, Aristotle, Hobbes, Hume, Kant, and Mill. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 25 hours OR Visiting University Student |
| PHI | 336 | Social and Political Philosophy | Alternative principles and methods relevant to problems of human association and conflict; discusses justice and power, freedom and equality, and autonomy and order. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 25 hours OR Visiting University Student |
| PHI | 337 | Ethical Theory | Theories in normative ethics about the nature of what is right and wrong, good and bad, virtuous and vicious. May include issues in metaethics. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 25 hours OR Visiting University Student |
| PHI | 338 | Metaethics | Concerns questions about the nature of value, morality, and normativity in general, such as "Is morality objective, subjective, or relative?" | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102 (or ENG 105 or 108) with C or better; minimum 25 hours. Credit is allowed for only PHI 338 or PHI 420 (Metaethics) |
| PHI | 339 | Philosophy of Art | Central problems in philosophy of art, e.g., the nature of a work of art, modern and traditional theories of art, aesthetic perception and experience, and objectivity and relativity in art criticism. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): minimum 45 hours |
| PHI | 347 | Philosophical Theories of Constitutional Law | In-depth study of the philosophical theories surrounding constitutional rights and interpretation. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 25 hours OR Visiting University Student |
| PHI | 360 | Business and Professional Ethics | Examines moral theories applied to cases of corporate responsibility, property rights, environment, fairness, profit, employee rights, and responsibilities. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PHI | 370 | Sports Ethics | Studies moral issues in sports, including but not limited to the nature and application of sportsmanship, the prohibition of performance enhancing drugs, ethical issues in the economics of sports, the role of violence, and fandom. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 25 hours OR Visiting University Student |
| PHI | 371 | Philosophy of Sport | An inquiry into philosophical issues in sport. Topics and readings vary, but may include: the nature and definition of sport, an examination of the main theories of sport, metaphysical and epistemological issues, and the aesthetics of sport. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 25 hours; Credit is allowed for only PHI 371 or PHI 394 (Philosophy of Sport) OR Visiting University Student |
| PHI | 390 | Jewish Philosophy | The history of Jewish philosophy from its origins in the Hebrew Scriptures to postmodern expressions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105 or 108 with a C or better; Minimum 30 hours; Credit is allowed for only HST 390, JST 314, PHI 390 or REL 314 |
| PHI | 391 | Historical Perspectives on Philosophy and Religion | Comprehensive, advanced study of central concepts in the philosophy of religion in the history of Western philosophy. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105 or 108 with C or better; Minimum 30 hours; Credit is allowed for only HST 357, PHI 391 or REL 391 |

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|---------|-------------|-------------------------------------|--|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| PHI | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |
| PHI | 401 | Rationalism | Examines classical philosophical rationalism, as in Descartes, Spinoza, Malebranche, or Leibniz. Contemporary rationalist thought may also be examined. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): undergraduate Philosophy major; minimum 56 hours |
| PHI | 402 | Empiricism | Examines representatives of either classical or contemporary philosophical empiricism, e.g., Bacon, Hobbes, Locke, Butler, Berkeley, Reid, Hume, Mill, Carnap, and Ayer. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): Philosophy student; minimum 56 hours |
| PHI | 403 | Contemporary Analytic Philosophy | Aims and methods of such 20th-century philosophers as Frege, Moore, Russell, Wittgenstein, Carnap, Ayer, Wisdom, Ryle, Austin, Strawson, Quine, and Sellars, with application to metaphysics and epistemology. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): Philosophy BA or Philosophy (Morality, Politics and Law) BA or Philosophy (Science, Nature and Mind) BA major; minimum 56 hours OR Visiting University Student |
| PHI | 405 | Moral Psychology | Advanced study of key, contemporary authors and issues in moral psychology as a subfield of philosophy. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy undergraduate major; minimum 56 hours; Credit is allowed for only PHI 405 or PHI 420 (Moral Psychology) or PHI 530 |
| PHI | 406 | Moral Dilemmas | Philosophical analysis of moral dilemmas arising in professional and public settings. Ethical decision making in business, educational, human service, and scientific communities. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only FOR 406 or IAS 406 or PHI 406 OR Visiting University Student |
| PHI | 407 | Environmental Philosophy and Policy | Ethical concepts and theories applied to environmental issues: biotic community, biodiversity, degradation, ecofeminism, ecology, economics, population, property rights, and wilderness. Not open to students with credit in PHI 310. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101 or 105 with C or better; Credit is allowed for only IAS 407 or PHI 407 |
| PHI | 408 | Feminist Ethics | Philosophical exploration of the theoretical and practical aspects of ethical issues affecting women from diverse feminist viewpoints. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PHI | 409 | Eco-Community Ethics | Traces human interaction with the Earth from hunters and gatherers to the present day, examining groups who have lived within ecological constraints and limits. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Credit is allowed for only IAS 409 or PHI 409 |
| PHI | 411 | Continental Philosophy | Contemporary European thought emerges out of a crisis of the Enlightenment that unfolds throughout the 19th and 20th centuries. Kant's critique of the theoretical, practical, aesthetic and religious foundations articulates this crisis in Western philosophy, society and culture. Explores Continental thinkers and schools of thought in light of Kant's understanding of this crisis. Figures might be Nietzsche, Marx, Freud, Kierkegaard, Husserl, Heidegger, Benjamin, Adorno, Marcuse, Sartre, de Beauvoir, Irigaray, Kristeva, Spivak, Habermas, Lévinas, Marion, Derrida and others. Schools of thought considered may include existentialism, phenomenology, hermeneutics, critical theory, poststructuralism, deconstruction, feminist theory, critical race theory, postcolonial theory, and comparative philosophy. Continental philosophy dovetails with other fields like communication, cultural studies, law, political science, religious studies, literature and various social sciences. | N | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): ENG 102 or 105 or 108 with C or better; minimum 30 hours. Credit is allowed for only PHI 411 or PHI 494 (Continental Philosophy & Religion) or PHI 494 (Studies in Continental Philosophy) |
| PHI | 412 | Philosophy and Literary Criticism | Explores dynamic tensions between philosophical and literary critical approaches to texts. Aims to identify distinct ways that literature and critical practices "philosophize" about truth, moral dilemmas or existential struggles. Probes the challenges that each form of inquiry, philosophical and critical, poses for the other. Seeks to enhance understanding of the philosophical underpinnings of key literary works. May address poetry, novels and other media. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 30 hours; Credit is allowed for only PHI 412 or PHI 494 (Philosophy and Literature) or ENG 401 (Philosophy and Literary Criticism) OR Visiting University Student |
| PHI | 413 | Advanced Symbolic Logic | Properties of formal systems axiomatizing propositional and 1st-order predicate logic. May also include modal logic, number theory, and limits of logicism. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): undergraduate Philosophy student; minimum 56 hours; Credit is allowed for only PHI 413 or PHI 556 |
| PHI | 415 | Philosophy and Film | Introduces philosophical themes via the medium of film. Students read classical and contemporary literature in philosophy, view films that portray philosophical concepts, and demonstrate their understanding through writing assignments and class presentations. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only PHI 415 or PHI 294 (Philosophy and Film) |
| PHI | 417 | Philosophy of Censorship | Investigates philosophical concepts underlying instances of censorship, both in historical and in contemporary settings. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 30 hours; Credit is allowed for only IAS 417 or PHI 417 or PHI 494 (Censorship: Philoso/Relig/Soc Perspectives) or REL 494 (Censorship: Philoso/Relig/Soc Perspectives) |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| PHI | 420 | Topics in Philosophy | Advanced seminar featuring in-depth examination of some philosophical topic or area. Topics vary widely and draw from major subfields of philosophy such as metaphysics, epistemology and ethics. Many seminars emphasize the social relevance of philosophy. Format may include peer discussion, class presentations and/or term papers. Intended for students with prior background in relevant subfield of philosophy. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): undergraduate Philosophy major; minimum 56 hours OR Visiting University Student |
| PHI | 421 | Philosophical Topics | Focuses on important issues within the discipline. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| PHI | 422 | God and the Problem of Suffering | Examines whether a Western theistic conception of God (that is, an omniscient, omnibenevolent, omnipotent being--the God of the three main Western religions) is compatible with the existence of what appears to be an abundance of pointless suffering in the world. Addresses the logical and evidential problem of (moral and natural) evil, as well as a variety of proposed theodicies through the study of philosophical texts, literature and film. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only PHI 422 or REL 459 or PHI 494 (God and the Problem of Suffering) or REL 494 (God and the Problem of Suffering) |
| PHI | 439 | Philosophy of Love and Sex | Advanced introduction to historical and contemporary philosophical writings and sociological case studies on the philosophy of sex and love. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): ENG 102 or 105 or 108 with C or better; Credit is allowed for only PHI 439 or PHI 494 (Philosophy of Love and Sex) |
| PHI | 448 | Justice and Reparations | Advanced study of the moral basis of reparations and reparative justice. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy undergraduate major; minimum 56 hours; Credit is allowed for only PHI 420 (Jus/Reparations) or PHI 448 or PHI 527 |
| PHI | 450 | Philosophical and Spiritual Issues in Death and Dying | From Plato to Maimonides to Heidegger to Kubler-Ross, scholars, clinicians and spiritual writers have recognized that attitudes about death and dying contribute to understandings of human existence. Recalling the ancient Socratic, biblical and other spiritual traditions of the cura animarum (care for and cure of the soul) and joining contemporary post/secular conversations relevant to integration of body-mind-spirit, this course introduces basic concepts and practices of care ethics and spirituality. Focuses on relations among existential (ontological), therapeutic (psychosomatic), and spiritual (religious) dimensions of care. Theoretically, the course is inter-faith in approach, holistic in scope, and specialized in content. Practically, students examine real-life issues in care ethics and spirituality from multiple perspectives. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only IAS 450 or MAS 550 or PHI 450 or PHI 494 (Issues in Death & Dying) or REL 450 or REL 494 (Issues in Death & Dying) OR Visiting University Student |
| PHI | 452 | Philosophy of Biology and Medicine | Examines fundamental topics in the philosophy of biology and their implications for medicine. Examples include biological mechanisms and evidence-based medicine, species concepts and race, reductionism and the nature of individuality, and theories of function and health. Uses these topics throughout the semester to address two overarching questions about whether biology is fundamentally different from physics and whether medicine can be reduced to applications of biology. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): minimum 25 hours; Credit is allowed for only BIO 452 or HPS 452 or PHI 452 or BIO/HPS/PHI 394 (Philosophy of Biology and Medicine Introduction) or BIO/HPS/PHI 494 (Philosophy of Biology and Medicine) OR Visiting University Student |
| PHI | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | |
| PHI | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| PHI | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| PHI | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |
| PHI | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-3 | | |
| PHI | 520 | Topics in Applied Philosophy | Selected topics in applied philosophy. | Y | SEM | Y | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 521 | Bioethics | Addresses current controversies and major topics in bioethics and biosciences. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD major; Credit is allowed for only PHI 420 (Found-Bioethics) or PHI 521 |

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| PHI | 522 | Ethics of Sustainability | Explores the normative framework of sustainability. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD major; Credit is allowed for only PHI 420 (Topics in the Ethics of Sustainability) or PHI 522 |
| PHI | 524 | Disaster Ethics | Investigates moral and political questions connected to disasters and emergencies such as obligations of aid workers, responsibilities for preparedness and rebuilding, and related social justice questions. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD major; Credit is allowed for only PHI 420 (Ethics and Disaster) or PHI 524 |
| PHI | 525 | Rational Choice | Recent philosophical work on rational decision making. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD major; Credit is allowed for only PHI 420 (Rational Choice) or PHI 525 |
| PHI | 526 | Evolution and Strategic Interaction | Recent work on the philosophical significance of evolutionary models of social interactions and social structures. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 529 | Feminist Philosophy | Examines contemporary feminist work in some of the subfields of philosophy, such as ethics, political philosophy, epistemology. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD major; Credit is allowed for only PHI 420 (Feminist Philosophy) or PHI 529 |
| PHI | 530 | Moral Psychology | Central issues and texts in moral psychology including the impact of psychological research on philosophical theorizing. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD major; Credit is allowed for only PHI 405 or PHI 420 (Moral Psychology) or PHI 530 |
| PHI | 532 | Experimental Philosophy | Examines experimental work taken to directly bear on important philosophical theories. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD major; Credit is allowed for only PHI 420 (Experimental Philosophy) or PHI 532 |
| PHI | 538 | Human Well-Being and Sustainability | Many of us take it for granted that human well-being is the ultimate end of sustainability or sustainable development. But what is a well-being, really? Social scientists collect empirical data and develop indices, indicators and other proxies to represent and measure well-being; but is it the kind of phenomenon that can be explained? In other words, is there a correct theory of human well-being? How does one measure well-being? Moreover, what are we to make of the relationship between well-being and sustainability? Where do these two concepts coincide? Where do they come apart? Does human well-being presuppose a commitment to sustainability? If the ultimate end of sustainability is human well-being, then is sustainability a redundant concept? This interdisciplinary course tackles such questions by critically examining the most prominent philosophical theories of well-being and by considering how they might be reconciled with relevant empirical evidence. Also spends considerable time reflecting on the problems that arise with respect to measuring well-being, particularly in the context of public policy. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HPS/PHI/SOS 591 (Human Well-Being and Sustainability) or PHI 538 or SOS 494 (Human Well-Being and Sustainability) or SOS 539 |
| PHI | 540 | Topics in Value Theory | Selected topics in value theory. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 541 | Normative Ethics | Explores one or more leading normative ethical theories that inform the contemporary discussions in ethics, applied ethics, issues of justice and human rights, and public policy. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD major; Credit is allowed for only PHI 420 (Normative Ethics) or PHI 541 |
| PHI | 545 | Studies in Philosophy of Law | Selected topics in the philosophy of law. | Y | SEM | Y | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 546 | Studies in Political Philosophy | Selected topics or figures in political philosophy. | Y | SEM | Y | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 555 | Topics in Formal Methods | Selected topics in formal methods. | Y | SEM | Y | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 556 | Advanced Symbolic Logic | Advanced topics in logic relevant to philosophical theorizing such as modal, deontic and temporal logic. | Y | SEM | Y | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 560 | Topics in Epistemology | Selected topics in epistemology. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 562 | Perception | Recent work on the nature and content of perception. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD major; Credit is allowed for only PHI 420 (Perception) or PHI 562 |
| PHI | 565 | Probabilism | Recent work on rational belief, evidence and belief change. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |

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| PHI | 566 | Studies in Philosophy of Science | Selected topics in philosophy of science. | Y | SEM | Y | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 570 | Topics in Metaphysics | Selected topics in metaphysics | Y | SEM | Y | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 571 | Studies in Philosophy of Mind | Selected recent philosophical work in philosophy of mind such as the nature of sensation and perception, theories of consciousness, and the unity of the self | Y | SEM | Y | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 572 | Studies in Philosophy of Language | Selected recent philosophical work in philosophy of mind language as theories of meanings, direct reference and vagueness. | Y | SEM | Y | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD major; Credit is allowed for only PHI 420 (Philosophy of Language) or PHI 572 |
| PHI | 576 | Realism | Recent work on realism and anti-realism, starting with Michael Dummett, and including philosophers such as Hilary Putnam, Donald Davidson, John McDowell and Kit Fine. Global realism and anti-realism and more specific realisms/antirealisms about the past, the mind, theoretical entities, mathematics and ethics. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 581 | Studies in Ancient Greek Philosophy | Selected topics in ancient philosophy from 585 BC to 529 AD. | Y | SEM | Y | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student; Credit is allowed for only PHI 420 (Studies in Ancient Greek Philosophy) or PHI 581 |
| PHI | 582 | Studies in Modern Philosophy | Selected topics and significant figures in the modern period. | Y | SEM | Y | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | |
| PHI | 587 | Topics in the History of Philosophy | Selected topics in the history of philosophy. | Y | SEM | Y | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PHI | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Prerequisite(s): Philosophy MA or Philosophy PhD student |
| PHI | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | |
| PHI | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1 | | |
| PHI | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |
| PHI | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | |
| PHI | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PHI | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | |
| PHI | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-15 | | |

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| PHI | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1 | | |
| PHI | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-15 | | |
| PHS | 110 | Fundamentals of Physical Science | One-semester survey of the principles of physics and chemistry. Presumes understanding of elementary algebra. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 4 | SQ | |
| PHS | 115 | The Science of Musical Instruments | Science class set in a musical context where students learn about music, musical instruments, and also about the underlying scientific and mathematical principles. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of Physics | 4 | SQ | Credit is allowed for only PHS 115 or PHS 194 (Science of Musical Instruments) |
| PHS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of Physics | 1-4 | | |
| PHS | 208 | Patterns in Nature | Examines topics from optics to analytical techniques. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 4 | SQ | Credit is allowed for only MSE 208 or PHS 208 |
| PHS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | |
| PHS | 505 | Energy and the Environment | Current problems in energy resources, production, consumption, and conservation. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHS | 530 | Methods of Physics Teaching I | Inquiry approach to high school physics teaching. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHS | 531 | Methods of Physics Teaching II | Extension of modeling techniques introduced in PHY 580. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHS | 534 | Methods of Teaching Physical Science I, II, III | Design of curriculum and conduct of instruction for physical science courses. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHS | 540 | Integrated Physics and Chemistry | Collaborative inquiry methods for teaching and coordinating physics and chemistry. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only CHM 540 or PHS 540 |
| PHS | 542 | Integrated Mathematics and Physics | Mathematical models and modeling as an integrating theme for secondary mathematics and physics. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHS | 550 | Physics and Astronomy | Astronomy curricula and projects for secondary school, with emphasis on the role of physics in astronomy. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PHS | 556 | Astrophysics | Structure and evolution of stars, galaxies, and the universe. For secondary school teachers. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHS | 560 | Matter and Light | Interactions of light with matter. Lasers and spectroscopy. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CHM 560 or PHS 560 |
| PHS | 570 | Spacetime Physics | Special and general theories of relativity with implications for space and time travel. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHS | 581 | Structure of Matter and its Properties | Models of matter and its properties. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CHM 581 or PHS 581 |
| PHS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |
| PHS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |
| PHS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |
| PHS | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |
| PHS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of Physics | 1-4 | | |
| PHY | 101 | Introduction to Physics | Emphasizes applications of physics to life in the modern world. Presumes understanding of elementary algebra. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 4 | SQ | |
| PHY | 105 | Basic Physics | One-semester survey of the principles of physics. Primarily for students who intend to take PHY 121, 131 but have not taken high school physics. | N | REC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|-----------------------|-------|-----------------|--|
| PHY | 111 | General Physics | Noncalculus treatment of the principles of physics for nonphysics majors. Students whose curricula require a lab course must also register for PHY 113. Both PHY 111 and PHY 113 must be taken to secure SQ General Studies credit. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | SQ | Prerequisite(s): MAT 170 or higher with C or better or ALEKS score of 61 or higher or Corequisite(s): MAT 210 or higher OR Visiting University Student |
| PHY | 112 | General Physics | Continuation of PHY 111. Students whose curricula require a lab course must also register for PHY 114. Both PHY 112 and PHY 114 must be taken to secure SQ General Studies credit. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | SQ | Prerequisite(s): PHY 111 with C or better OR Visiting University Student |
| PHY | 113 | General Physics Laboratory | Elementary experiments in physics. Requires outside preparation for experiments and report writing. May be taken concurrently with, or subsequent to PHY 111. Both PHY 111 and PHY 113 must be taken to secure SQ General Studies credit. | N | LAB | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 1 | SQ | Pre- or corequisite(s): PHY 111 with C or better if completed OR Visiting University Student |
| PHY | 114 | General Physics Laboratory | See PHY 113. May be taken concurrently with, or subsequent to, PHY 112. Both PHY 112 and PHY 114 must be taken to secure SQ General Studies credit. | N | LAB | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 1 | SQ | Pre- or corequisite(s): PHY 112 with C or better if completed OR Visiting University Student |
| PHY | 118 | Explorations in Science Teaching | Examines the field of physical science education via in-class meetings and classroom settings. Discusses the theory, pedagogy and practice of teaching physical science. Reviews various curricula available for the teaching of physical science with a focus on state and national standards. Students work with course instructor(s) to design three lessons that work toward some of the objectives of each cooperating teachers' class. Students are aided in developing materials, guided in planning to teach the lesson, and given time to prepare and practice the lesson. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | Department of Physics | 1 | | Pre-requisite: Mathematics or Physics or other science major |
| PHY | 121 | University Physics I: Mechanics | Kinematics; Newton's laws; work, energy, momentum, conservation laws; dynamics of particles, solids, and fluids. Both PHY 121 and PHY 122 must be taken to secure SQ General Studies credit. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | SQ | Prerequisite(s): MAT 265 or 270 with C or better; Pre- or corequisite(s): MAT 266 or 271 with C or better if completed OR Visiting University Student |
| PHY | 122 | University Physics Laboratory I | Lab accompanying PHY 121. Both PHY 121 and PHY 122 must be taken to secure SQ General Studies credit. | N | LAB | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 1 | SQ | Pre- or corequisite(s): PHY 121 with C or better if completed OR Visiting University Student |
| PHY | 131 | University Physics II: Electricity and Magnetism | Electric charge and current, electric and magnetic fields in vacuum and in materials, and induction. AC circuits, displacement current, and electromagnetic waves. Both PHY 131 and PHY 132 must be taken to secure SQ General Studies credit. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | SQ | Prerequisite(s): MAT 266 or 271 with C or better; PHY 121 or 150 with C or better; Pre- or corequisite(s): MAT 267 or 272 with C or better if completed OR Visiting University Student |
| PHY | 132 | University Physics Laboratory II | Lab accompanying PHY 131. Both PHY 131 and PHY 132 must be taken to secure SQ General Studies credit. | N | LAB | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 1 | SQ | Pre- or corequisite(s): PHY 131 with C or better if completed OR Visiting University Student |
| PHY | 150 | Physics I | Introductory physics for majors. Kinematics, Newton's Laws, basic forces, energy, momentum. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 4 | SQ | Prerequisite(s): MAT 265 or 270 with C or better; Pre- or corequisite(s): MAT 266 or 271 with C or better if completed OR Visiting University Student |
| PHY | 151 | Physics II | Continuation of PHY 150. Electromagnetic fields; Ampere's and Faraday's Laws; Maxwell's equations; basic circuit elements. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 4 | SQ | Prerequisite(s): MAT 266 or 271 with C or better; PHY 150 or PHY 121 and PHY 122 with C or better; Pre- or corequisite(s): MAT 267 or 272 with C or better if completed OR Visiting University Student |
| PHY | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | Department of Physics | 1-3 | | Prerequisite(s): freshman standing; maximum 25 hours OR Visiting University Student |
| PHY | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of Physics | 1-4 | | |
| PHY | 201 | Mathematical Methods in Physics I | Differential equations, linear equations, vectors, matrices, Fourier series, and numerical methods. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | CS | Prerequisite(s): MAT 267 or 272 with C or better; PHY 131 with C or better; PHY 132 with C or better OR MAT 267 or 272 with C or better; PHY 151 with C or better OR Visiting University Student |
| PHY | 202 | Programming for Physicists | Introduces programming in the Python programming language for physics majors. | N | LEL | N | GNA | The College of Liberal Arts and Sciences | Department of Physics | 1 | | Prerequisite(s): MAT 267 or 272 with C or better; PHY 151 with a C or better or PHY 131 and PHY 132 with C or better OR Visiting University Student |
| PHY | 241 | University Physics III | Thermodynamics, kinetic theory, physical and wave optics, relativity, photons, matter waves, atomic physics. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 131 or 151 OR Visiting University Student |
| PHY | 252 | Physics III | Thermodynamics, kinetic theory, physical optics and diffraction, modern physics, special relativity, quantum mechanics and Bohr atom. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 4 | SQ | Prerequisite(s): MAT 267 or 272 with C or better; PHY 151 or PHY 131 and 132 with C or better OR Visiting University Student |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--|-----------------------|-------|-----------------|--|
| PHY | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of Physics | 1-4 | | |
| PHY | 302 | Mathematical Methods in Physics II | Vector calculus, complex variables, partial differential equations, special functions, numerical methods. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 201 with C or better OR Visiting University Student |
| PHY | 310 | Classical Particles, Fields, and Matter I | Particle kinematics, mechanics, conservation laws of single- and multi-particle systems, potentials, oscillations, Lagrangian dynamics, central force problems, dynamics in non-inertial reference frames, rigid body motion. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s) with C or better: (PHY 201; PHY 252) or (PHY 201; PHY 202; PHY 241); Corequisite(s): PHY 302 OR Visiting University Student |
| PHY | 311 | Classical Particles, Fields, and Matter II | Electrostatic and gravitational fields, Poisson and Laplace equations, dielectric materials, magnetic fields and materials, magnetic induction, Faraday's Law. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 302 with C or better; PHY 310 with C or better OR Visiting University Student |
| PHY | 312 | Mechanics and Electromagnetism | Covers two major topics in physics, both dealing with forms of energy and momentum and how they are transmitted in space. Covers mechanics and dynamics, describing how bodies with mass move under various types of forces. Also covers electromagnetism, which describes how electric charges and magnets, and their motions, generate fields of force. Also describes how time-varying electric and magnetic fields are associated with electromagnetic waves, which include light. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 201 with C or better; PHY 252 with C or better OR Visiting University Student |
| PHY | 314 | Quantum Physics I | Photons, models of the atom, wave properties of matter, introduction to wave mechanics, 1-D systems in quantum mechanics. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 201 with C or better; PHY 252 with C or better, or both PHY 202 and 241 with C or better OR Visiting University Student |
| PHY | 315 | Quantum Physics II | General principles of quantum mechanics, 3-D problems, approximation methods, spin, relativity, introduction to many-particle systems. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 302 with C or better; PHY 314 with C or better OR Visiting University Student |
| PHY | 321 | Vector Mechanics and Vibration | Vector-based formulation of Newtonian mechanics of particles and rigid bodies, including oscillatory systems. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHY | 331 | Principles of Modern Electromagnetism | Studies the unified description of electromagnetic phenomena provided by Maxwell's equations in differential and integral form. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHY | 333 | Electronic Circuits and Measurements | Basic principles of electronic circuit analysis and measurement techniques using modern instrumentation and computer-aided analysis of data. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): MAT 267 or 272 with C or better; PHY 131 with C or better; PHY 132 with C or better OR MAT 267 or 272 with C or better; PHY 151 with C or better OR Visiting University Student |
| PHY | 334 | Advanced Laboratory I | Selected experiments from contemporary physics. Emphasizes modern instrumentation, computer-assisted acquisition and analysis of data, and report form writing. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; MAT 267 or 272 with C or better; PHY 151 (or PHY 131 and 132) with C or better; Pre- or corequisite(s): PHY 314, 361, CHM 345, or EEE 434 with C or better if completed OR Visiting University Student |
| PHY | 361 | Introductory Modern Physics | Special relativity and introductory quantum theory with applications drawn from atomic, nuclear, and solid-state physics. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 131 or 151 with C or better; MAT 272 or 267 with C or better OR Visiting University Student |
| PHY | 371 | Driving Forces in Biology | What are the stable states of biomolecules? How do molecules interact? What forces drive molecules to bond and associate, to adsorb, to permeate through membranes, to undergo chemical reactions, to undergo conformational changes? Why are some changes gradual, as in the weakening of a ligand interaction with temperature, and others sudden (cooperative) such as protein folding or the insolubility of oil in water? Addresses these questions by statistical thermodynamics, a collection of principles and models that when combined with thermodynamics, aim to explain molecular forces and flows. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): CHM 346 |
| PHY | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of Physics | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PHY | 412 | Classical Particles, Fields, and Matter III | Electromagnetic fields of moving charges, Maxwell's equations, harmonic phenomena, oscillations, waves, electromagnetic radiation, covariant electromagnetism, introduction to general relativity. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 311 with C or better OR Visiting University Student |
| PHY | 416 | Quantum Physics III | Introduces the quantum theory of atoms, molecules, solids and nuclei, Dirac's equation. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 315 with C or better OR Visiting University Student |

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|---------|-------------|-------------------------------------|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| PHY | 432 | Computational Methods in Physics | Provides a practical introduction to using the computer as a tool to solve problems in physics. Students learn how to work in a scientific computing environment (including software engineering "best practices"), to analyze a physical problem, select appropriate numerical algorithms to solve the problem, and to implement them. Covers computer graphics and object-oriented design. Students work in teams, critically evaluate their approaches and results, and present them in a professional manner to their peers. | N | LEL | N | GNA | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): MAT 267 or 272 with C or better; PHY 202 with C or better; Pre- or corequisite(s): PHY 241 or 252 with C or better if completed; Credit allowed for only PHY 432 or PHY 494 (Computational Methods in Physics) OR Visiting University Student |
| PHY | 441 | Statistical and Thermal Physics | Statistical and experimental basis of heat, temperature, and entropy. Mechanical and statistical basis of the laws of thermodynamics. Applies macroscopic thermodynamics. Phase equilibrium. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 311 with C or better; PHY 315 with C or better OR Visiting University Student |
| PHY | 444 | Fundamentals of Nanoscience | For senior science majors and beginning graduate students teaching the cross-disciplinary subject of nanoscience. There is a strong emphasis on basics, so the course starts with a fairly rigorous introduction to quantum mechanics, statistical mechanics and chemical kinetics, though enough material is provided to allow nonphysics majors to come up to speed in these areas. This is followed by a survey of experimental techniques in nanoscience: microscopy, optical spectroscopy and scanning probe methods, and nanofabrication methods including "top down" and self assembly. Finally we survey applications: electrons in nanostructures, molecular electronics, nanomaterials and bio-nanoscience. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): junior or senior standing; Credit is allowed for only PHY 444 or PHY 494 (Intro to Nanoscience) |
| PHY | 452 | Physical Optics | Principles of reflection, refraction, diffraction. Additional topics from contemporary optics may include Fourier transform spectroscopy, linear systems theory, holography. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 302 with C or better; PHY 311 with C or better OR Visiting University Student |
| PHY | 456 | Laser Optics | Theoretical and experimental aspects of applied optics including basic concepts of lasers, properties of optical beams, resonators and interferometry. Course consists of two parts: preparatory labs and applied projects. Preparatory labs provide theoretical and technical background for understanding of general features of electromagnetic wave propagation and technical features of optical lasers including high-power laser systems. Applied projects give students the opportunity to use laser optical systems to solve real-world problems. | N | LEL | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 4 | | Prerequisite(s): PHY 361; Credit is allowed for only ABS 494 (Advanced Laser Laboratory), ABS 494 (Laser Optics) or PHY 456 |
| PHY | 460 | Numerical Methods in Modern Physics | Advanced numerical methods with an emphasis on electromagnetism, quantum mechanics and materials science with computer labs on a multiprocessor cluster. | N | LEL | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): PHY 315 |
| PHY | 462 | Particle and Nuclear Physics | Nuclear properties, models, decays and reactions; fundamental forces, field theories, symmetry principles; hadrons, quarks, and leptons; the Standard Model. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 311 with C or better; PHY 315 with C or better |
| PHY | 465 | Advanced Laboratory II | Continuation of PHY 334. Students may substitute a short laboratory research project for one of the elective experiments of the course, in consultation with a faculty sponsor and the course instructor. | N | LAB | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 334 with C or better OR Visiting University Student |
| PHY | 472 | Advanced Biophysics Lab | Offers selected experiments from contemporary biophysics. Emphasizes modern instrumentation, computer-assisted acquisition and analysis of data, and report writing. Emphasizes the importance of good notebook keeping. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): CHM 346 OR Visiting University Student |
| PHY | 473 | From Molecules to Cells | Offers selected subjects from biological physics covering the length scales from biomolecules to cells. Builds on knowledge acquired from thermodynamics and statistical mechanics to formulate basic principles behind the working of life systems. Free energy, entropic forces, chemical potentials and electrostatic interactions rule the "nanometer soup" of a living cell. Proton gradients across cell membranes are behind all the energy consumed by life. Random walks, dissipative dynamics, and hydrodynamic fluxes rule time-dependent phenomena. Covers systems including biomolecules, membranes, cells and nerves. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 371 with C or better; Pre- corequisite(s): PHY 472 with C or better if completed |
| PHY | 480 | Methods of Teaching Physics | Evaluates various approaches to the teaching of high school physics. Preparation of demonstrations and experiments. Organization of a lab. Designed for secondary school physics teachers. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHY | 481 | Materials Physics I | Fundamentals of materials physics: crystal structure, diffraction, elasticity, point defects, dislocations, lattice vibrations, thermal properties, periodic potential, band structure. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 311 with C or better; PHY 315 with C or better; Credit is allowed for only MSE 526 or NAN 511 or PHY 481 or PHY 511 OR Visiting University Student |

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| PHY | 482 | Materials Physics II | Electronic behavior of materials: energy bands, electronic properties, metals, semiconductors, insulators, optical properties, magnetic properties, superconductivity, biophysics. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 481 with C or better; Credit is allowed for only MSE 525 or MSE 527 or MSE 598 (Fund of Elec, Optical, & Mag Matls & Device Apps) or NAN 512 or PHY 482 or PHY 512 OR Visiting University Student |
| PHY | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | The College of Liberal Arts and Sciences | Department of Physics | 1-12 | | Prerequisite(s): minimum 45 hours |
| PHY | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | The College of Liberal Arts and Sciences | Department of Physics | 1-6 | | Prerequisite(s): Barrett Honors student |
| PHY | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | The College of Liberal Arts and Sciences | Department of Physics | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| PHY | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of Physics | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PHY | 495 | Project Research | Supervised project in physics or astrophysics. | Y | RSC | Y | OPT | The College of Liberal Arts and Sciences | Department of Physics | 1-3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PHY | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | Department of Physics | 1-7 | | Prerequisite(s): minimum 45 hours |
| PHY | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | Department of Physics | 1-3 | | Prerequisite(s): minimum 45 hours |
| PHY | 500 | Research Methods | Course on research methods in a specific discipline. | Y | RSC | Y | OPT | The College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |
| PHY | 511 | Materials Physics I | Fundamentals of materials physics: crystal structure, diffraction, elasticity, point defects, dislocations, lattice vibrations, thermal properties, periodic potential, band structure. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Pre-requisite: Degree- or nondegree-seeking graduate; Credit is allowed for only MSE 526, NAN 511, PHY 511 |
| PHY | 512 | Materials Physics II | Electronic behavior of materials: energy bands, electronic properties, metals, semiconductors, insulators, optical properties, magnetic properties, superconductivity, biophysics. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 511; Credit is allowed for only MSE 525 or MSE 527 or MSE 598 (Fund of Elec, Optical, & Mag Matls & Device Apps) or NAN 512 or PHY 482 or PHY 512 |
| PHY | 521 | Classical and Continuum Mechanics | Variational principles, Lagrange's and Hamilton's equations, canonical transformations, Hamilton-Jacobi theory, introduction to chaos and nonlinear dynamics, fundamentals of elasticity theory and fluid mechanics. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHY | 523 | General Relativity | Special and general theories of relativity. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHY | 531 | Electrodynamics | Special theory of relativity, covariant formulation of electromagnetic interactions, Maxwell's equations, electrostatics and magnetostatics, dielectric media, inhomogeneous wave equations, Lienard-Wiechert potentials, interactions of charged particles and electromagnetic waves, scattering and diffraction. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHY | 541 | Statistical Physics | Postulates of statistical mechanics, equilibrium ensembles, Bose and Fermi statistics, density matrix, modern theory of phase transitions, fluctuations, and linear response theory. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHY | 542 | Topics in Biophysics | Overview of modern biology, length scales: emphasizes molecular and cellular biology. Nonequilibrium systems: compare and contrast stochastic processes in biological and physical systems. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Credit is allowed for only NAN 542 or PHY 542 |
| PHY | 544 | Introduction to Nanoscience | Survey of nanoscience: quantum/ statistical mechanics/kinetics; measurement and fabrication methods; applications to materials, nano-electronics, molecular electronics and nano-biology. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only CHM 544, NAN 544, PHY 444 or PHY 544 |
| PHY | 546 | Surfaces and Thin Films | Thermodynamics and kinetics of surface structures and thin film processes. Ultra-high vacuum techniques for examining surfaces. Case studies of physics, chemistry and nanoscience applications. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Credit is allowed for only MSE 546, NAN 546 or PHY 546 |
| PHY | 547 | Data Modeling for the Natural Sciences: Applications, Basics and Computation | Data analysis courses that go beyond teaching elementary topics such as fitting residuals, error propagation and p-values are rarely offered in the physical sciences. Thus, data analysis, much like programming, is something often learned and improvised "on the job." Yet, with an explosion of experimental methods generating large quantities of data, students would benefit from a clear presentation of methods of data analysis, many of which are straightforward to implement and would raise our community standard for how data is currently being treated. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Prereq(s): degree- or nondegree-seeking grad stdnt; Credit for only CHM 494/CHM 598/PHY 598 (Data-Driv Inf&StochProc) or CHM 494/CHM 598 (StatMechII: Stoch proc&inf) or CHM 494/CHM 598/PHY 598 (Unravel the noise:data-driv model&ana) or CHM 547 or PHY 547 |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|--------------------------------------|---|-------------------|-------------------|-----------------|---------------|--|-----------------------|-------|-----------------|---|
| PHY | 552 | Electron Microscopy I | Kinematical and dynamical electron diffraction and microscopy. Defect structure and composition using STEM imaging, x-ray and electron-energy-loss spectroscopy. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Credit is allowed for only MSE 552, NAN 552, SEM 552, or PHY 552 |
| PHY | 553 | Electron Microscopy Laboratory I | Lab support for PHY 552. | N | LAB | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Corequisite(s): MSE 552 or PHY 552; Credit is allowed for only MSE 553 or PHY 553 |
| PHY | 554 | Electron Microscopy II | Determination of structure and composition of materials using high-resolution imaging, convergent beam diffraction, and electron holography. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Credit is allowed for only MSE or PHY 554 |
| PHY | 555 | Electron Microscopy Laboratory II | Lab support for PHY 554. | N | LAB | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Credit is allowed for only MSE 555 or PHY 555 |
| PHY | 571 | Quantum Physics | Review modern physics, chemistry, math. Differential equation, operator, matrix formulations. Free particle, bound state problems. Examples from physics, chemistry and nanoscience. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Credit is allowed for only MSE 571, NAN 571 or PHY 571 |
| PHY | 576 | Quantum Theory | Operator methods in quantum mechanics, time-independent perturbation theory, variational methods, angular momentum and group representation theory, identical particles; quantum dynamics, including time-ordered operators, time-dependent perturbation theory, and Fermi's golden rule. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHY | 577 | Introduction to Quantum Field Theory | Explains necessity of generalizing quantum mechanics to a field theory viewpoint. Studies properties of scalar, spinor, and gauge fields; incorporates interactions; and learns to compute amplitudes, cross sections, and decay rates using formalism of Feynman diagrams. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PHY | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |
| PHY | 581 | Quantum Theory of Solids I | Crystal structures; electronic states; lattice dynamics; metals, insulators and semiconductors; and surface science. A brief introduction to optical properties, magnetism and superconductivity as time allows. Addresses the foundations of the subject, but time is devoted to modern and/or technologically important topics such as DFT modeling | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PHY | 582 | Quantum Theory of Solids II | Berry phase effects in solids, quantum Hall effect, topological insulators and semimetals, magnetism, superconductivity. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PHY | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | The College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |
| PHY | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |
| PHY | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |
| PHY | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |
| PHY | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of Physics | 1-4 | | |
| PHY | 700 | Research Methods | Course on research methods in a specific discipline. | Y | RSC | Y | OPT | The College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |
| PHY | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |
| PHY | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | Department of Physics | 1-15 | | |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| PHY | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | Department of Physics | 1 | | |
| PHY | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | The College of Liberal Arts and Sciences | Department of Physics | 1-15 | | |
| PIT | 501 | Principles of Public Interest Technology | Fundamentals of public interest technology. Identifies and analyzes stakeholders, value chains, societal dimensions, and legal and policy issues in the context of emerging technologies such as smart cities, the internet of things, robotics and autonomous systems, and artificial intelligence. Covers the importance of socio-technical change, responsible innovation, public values, accountability, oversight, corporate responsibility and other key concepts when considering technologies working for the public interest. Students work on critical issues such as data ownership, consent, governance, privacy, security, accessibility and the digital divide. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PIT | 502 | Co-Designing the Future | Explores how new technologies for using, processing and managing information are changing how we interact and work. This practical learning and mentoring program helps students design and implement solutions to public interest problems using civic technology. Explores current trends, uses a wide variety of information and communication tools, and develops content to help develop a project from idea to implementation. Takes advantage of the latest innovations in open and participatory problem solving, including the application of open data, crowdsourcing, expert networks and systems. Unlike traditional accelerators, focuses only on public interest projects that work with real-world institutions and partners such as nongovernment organizations. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PIT | 503 | Technology Impact Assessments | Trains students to conduct a technology assessment--a systematic effort to anticipate and understand the impact of a technology. Serves as an "early warning" for policymakers, forecasting technological change and its consequences, to facilitate the prudent procurement of technologies, to plan R&D more effectively, to create the basis for evidence-based regulatory approaches, and to achieve other purpose that serve the public interest. Covers the uses of technology assessment and practices various methods. Each student carries out an abbreviated technology assessment on a topic of his or her choice and communicates it to their colleagues. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PIT | 504 | Public Engagement Strategies | Covers the concepts, tools, institutions and strategies to appropriately and effectively engage with a variety of stakeholders, including scientific and technical experts, policymakers and advocates for responsible research and innovation, and general publics. Students learn how to elevate the societal discourse about emerging and contemporary issues in science and technology through inclusive, informed, equitable, sustainable and democratic engagement with the public. Explores real-world case studies and provides students the opportunity to design and develop a public engagement strategy for stakeholders. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PIT | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PIT | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PIT | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | LEC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PIT | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PIT | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | GNA | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| PIT | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | College of Global Futures | School for the Future of Innovation in Society | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PIT | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PLB | 300 | Plant Diversity and Evolution | An examination of the major groups of land plants, emphasizing evolutionary history, comparative data, and phylogenetic methods. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | L or SG | Prerequisite(s) with C or better: BIO 181; BIO 182; ENG 101, 105, or 107 OR BIO 281; BIO 282; ENG 101, 105, or 107; Credit allowed for only BIO 303 or ENV 300 or PLB 300 OR Visiting University Student |
| PLB | 302 | Plants and Civilization | Plants and plant products used by people throughout the world. Cultivation, processing, and uses in modern life (beverages, fibers, foods, medicinals, and perfumes). | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | L | Prerequisite(s) with C or better: BIO 181; BIO 182; ENG 101, 105, or 107 OR BIO 281; BIO 282; ENG 101, 105, or 107; Credit is allowed for only BIO 304 or ENV 302 or PLB 302 OR Visiting University Student |
| PLB | 308 | Plant Physiology | Concepts of plant function: carbon metabolism, energy acquisition, regulation of growth and development, stress responses, and water and nutrient uptake. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | | Prerequisite(s) with C or better: BIO 181 (or BIO 188) and BIO 182 (or BIO 187 or both PLB 200 and 201) OR BIO 281 and 282; CHM 116; Credit is allowed for only BIO 308 or PLB 308 |
| PLB | 310 | The Flora of Arizona | Overview of Arizona's flora and plant communities; emphasizes identification, classification, and natural history of the state's native vascular species. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | | Prerequisite(s) with C or better: BIO 181 (or BIO 188) and BIO 182 (or BIO 187 or both PLB 200 and 201) OR BIO 281 and 282; Credit is allowed for only BIO 313 or PLB 310 |
| PLB | 388 | STEM Research Fundamentals | Teaches research skills in the natural sciences. Topics covered include the basic research techniques of the study organism and system, experimental design, literature searches, statistical analysis and preparation of scientific papers and posters. | N | LEL | Y | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 320, BIO 182, or MAT 272 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only ENV 388 or FOR 388 or LSC 388 or PLB 388 or PTX 388 OR Visiting University Student |
| PLB | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | Prerequisite(s): minimum 45 hours |
| PLB | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | Prerequisite(s): minimum 45 hours |
| PLB | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-3 | | Prerequisite(s): minimum 45 hours |
| PLB | 502 | Perspectives in Plant Biology | Provides an overview of current topics and introduces some of the practical tools used in plant biology, ecology and conservation (e.g., field and lab methods, urban planning, federal land management, biodiversity bioinformatics, phylogenetics, and GIS). | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PLB | 558 | Molecular Mechanisms of Photosynthesis | Structure and function of photosynthetic complexes; mechanism of energy conversion in plants, bacteria, and model systems. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BCH 568 or PLB 558 |
| PLB | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | |
| PLB | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | |
| PLB | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | |
| PLB | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | |
| PLB | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|--------|-----------------|---|
| PLB | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | | |
| PLB | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| PLB | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | |
| PLB | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | The College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | |
| PLB | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | PRA | Y | Z1 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | |
| PLB | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | The College of Liberal Arts and Sciences | School of Life Sciences | 1 | | |
| PLB | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | |
| PLC | 101 | Elementary Polish | Structural grammar, basic vocabulary; introduction and reinforcement of aural/oral, reading, and writing skills. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | |
| PLC | 102 | Elementary Polish | Structural grammar, basic vocabulary; introduction and reinforcement of aural/oral, reading, and writing skills. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | |
| PLC | 201 | Intermediate Polish | Systematic review of grammar. Development of vocabulary through reading and writing. Drill in aural/oral skills. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | |
| PLC | 202 | Intermediate Polish | Systematic review of grammar. Development of vocabulary through reading and writing. Drill in aural/oral skills. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | Pre-requisites: PLC 201 |
| PLC | 311 | Advanced Polish I | Develops writing ability and oral expression. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): PLC 202 with C or better OR Visiting University Student |
| PLC | 312 | Advanced Polish II | Develops writing ability and oral expression. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): PLC 311 with C or better |
| PLC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| PMG | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 0.25-4 | | |
| PMG | 240 | Introduction to Project Management | Examines various theoretical project management approaches as well as gives hands-on experience of project management tools and steps. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Credit is allowed for only PMG 240 (OGL 240) or PMG 320 (OGL 320) |
| PMG | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 0.25-4 | | |
| PMG | 320 | Foundations of Project Management | Covers effective project management skills. Investigates components of project management and the project life cycle such as: creating charters, developing a project plan and schedule, managing clients and stakeholders, analyzing risk, creating project teams and exploring other tools needed to effectively manage projects. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only PMG 240 (OGL 240) or PMG 320 (OGL 320) OR Visiting University Student |
| PMG | 321 | Project Leadership, Strategy and Scope | Explores how an organization's leaders are responsible for conceiving, designing, implementing and managing the overall objectives, culture, environment and processes as part of the project management process. Within this context, primarily focuses on understanding project management, aligning project management within an organization, project management oversight, projects as capital investments, globalization and resource optimization. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): PMG 240 (OGL 240) or PMG 320 (OGL 320); minimum 45 hours OR Visiting University Student |

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| PMG | 322 | Project Time Management | Explores project scheduling and time management within the broader context of the planning effort. Students learn how important the determination of the timing and sequence of project activities is to the planning process--and ultimate project success. Primarily focuses on understanding bar charts, basic networks, the critical path network, precedence networks, resource allocation, schedule updating, schedule compression, scheduling and schedule risk management. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): PMG 240 or 320 (OGL 240 or 320); minimum 56 hours OR Visiting University Student |
| PMG | 323 | Project Cost Management | Concepts and complex processes of effective project cost management. Primarily focuses on project needs assessment, cost estimation, project cost control, project budgeting, cash flow management, financial management, value management, configuration management and supply chain management. Students also learn to appreciate the importance of integrating cost and value management processes. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): PMG 240 (OGL 240) or PMG 320 (OGL 320); minimum 56 hours OR Visiting University Student |
| PMG | 324 | Resources in Project Management | Major elements of project resource management as well as the broader context of this critical planning function. Students learn that sound resource management is an important part of developing a sustainable competitive advantage in the emerging global marketplace. Primarily focuses on operations and productivity, resources in project management, product design, process strategy, layout strategy, human resources and job design, supply chain, inventory management and scheduling. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): PMG 240 (OGL 240) or PMG 320 (OGL 320); minimum 56 hours OR Visiting University Student |
| PMG | 326 | Project Procurement Management | Concepts and processes of procurement management. Primarily focuses on sourcing management, supplier selection, contracts and legal requirements, risk management, negotiation, project management, quality, supplier management and financial decisions. Effective procurement requires the use of good business practices capable of maximizing value to the organization through the acquisition of goods and services. Students learn that procurement professionals control the entire sourcing and acquisition process. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): PMG 240 (OGL 240) or PMG 320 (OGL 320); minimum 56 hours OR Visiting University Student |
| PMG | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 0.25-4 | | |
| PMG | 421 | Project Risk Management | Philosophy, principles, practices and techniques for managing risk in projects. Covers risk identification, qualitative risk management, risk treatment, monitoring and review, project processes, risk allocation, environmental risk and quantification of project risk. Students learn that risk management assists project managers in setting priorities, allocating resources and implementing actions and processes that reduce the risk of the project not achieving its objectives. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): PMG 321 (OGL 321); minimum 55 hours OR Visiting University Student |
| PMG | 422 | Project Quality Management | Process and theory of total quality management with primary emphasis on the total quality approach, ethics and corporate responsibility, strategic alliances, quality culture, employee empowerment, leadership and change, team building, effective communication, and tools and techniques. Students understand how continual improvement of people, processes, products/services, and environments can enhance the process and outcomes of project management. Students have the opportunity to develop practical total quality management skills as they apply theory and practice to real-world cases. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): PMG 321 (OGL 321); minimum 55 hours OR Visiting University Student |
| PMG | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | |
| PMG | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 0.25-4 | | |
| PMG | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| PMG | 501 | Project Management Theory | Provides an overview of theories that guide conceptual development and application of project management (PM). Topics include theory building; paradigms of knowledge creation; and constructs related to the three domains of project management (people, process and business environment). Using a critical analysis approach, examines conventional and emerging theories of project management and related tasks, including: identifying and empowering stakeholders; leading and governing projects; communicating and building shared understanding among stakeholders; managing human resources; budgeting and allocating resources; and assessing and managing risks. Students develop analytical, communicative and creative skills that enable them to interpret, synthesize and apply theories to solve complex project management problems. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Master of Project Management student |
| PMG | 502 | The Thoughtful Project: Aligning Purpose with Approach | Students hone their capacity to ask questions and critically evaluate different approaches to data collection, decision-making, communication and documentation. Using a graduate seminar-style approach to examine some of the most recent findings and trends among social scientists and project management scholars and practitioners, students tackle weekly case studies pulled from diverse organizational contexts that reflect the project management principles of value, systems thinking, leadership, complexity, adaptability, resiliency and change. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Master of Project Management student; PMG 501; PMG 504 |
| PMG | 503 | Impact Analysis and Sustainability in Project Management | Sustainable development and project management are interconnected. This integrated engagement allows for the continual assessment and implementation of sustainable practices in the process of managing a project and addressing the following key concerns. What are the immediate and long-term environmental and social impacts of the project? What are the risks? Who are the stakeholders? Project managers have the capacity to affect the project cycle at each stage and apply models and techniques for planning, implementing, communicating, evaluating and completing projects through the lens of environmental and social sustainability. The project manager has the space to be a change agent in making a difference on each individual project and beyond as the world is increasingly focused on a more sustainable future. Critically evaluates the role of and methodology used by the project manager in implementing and evaluating sustainability in project life cycles. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Master of Project Management student |
| PMG | 504 | Social Psychological Perspectives in Project Management | Social psychology is defined by the social influence that all people have on the beliefs, feelings and behavior of others. Studies social influences, the behavioral ramifications associated with the psychology of social processes and the ramifications for organizations and project managers. The foundations of the field of social psychology, methodological approaches, interdisciplinary perspectives, and application-oriented ideas and innovations form a basis that integrates scholarship and applied social psychology to gain an enhanced perspective on the social influences associated with organizational and interpersonal behavior. From a project management perspective, explores ideas as diverse as social cognition, interpersonal influence, attitude formation and differentiation, social dynamics of teams, and persuasion. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Master of Project Management student; Credit is allowed for only OGL 520 or PMG 504 |
| PMG | 510 | Interactive Learning: Scope, Schedule and Cost Management | Built around interactive learning technology to provide opportunities for learning about the knowledge, processes and vocabulary of project management focused on scope management, schedule management, cost management and performance measurement. Encourages integrative thinking toward effectively managing any type of project. Adaptive learning technology allows students to proceed at their own pace so that they may review key concepts, technical knowledge and processes as needed. As students proceed through the case study, periodic assessments help the system direct them to content that either initiates or reinforces course objectives. All content for this course is contained within the simulation, with culminating assessments determining whether students have successfully completed the course or need additional learning opportunities. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| PMG | 511 | Interactive Learning: Risk and Procurement Management | Built around interactive learning technology to provide opportunities for learning about the knowledge, processes and vocabulary of project management focused on risk management and procurement management. Encourages integrative thinking toward effectively managing any type of project. Adaptive learning technology allows students to proceed at their own pace so that they may review key concepts, technical knowledge and processes as needed. As students proceed through the case study, periodic assessments help the system direct them to content that either initiates or reinforces course objectives. All content for this course is contained within the simulation, with culminating assessments determining whether students have successfully completed the course or need additional learning opportunities. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PMG | 512 | Interactive Learning: Quality, Resource and Communication Management | Built around interactive learning technology to provide opportunities for learning about the knowledge, processes and vocabulary of project management focused on quality management, resource management and communication management. Encourages integrative thinking toward effectively managing any type of project. Adaptive learning technology allows students to proceed at their own pace so that they may review key concepts, technical knowledge and processes as needed. As students proceed through the case study, periodic assessments help the system direct them to content that either initiates or reinforces course objectives. All content for this course is contained within the simulation, with culminating assessments determining whether students have successfully completed the course or need additional learning opportunities. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PMG | 531 | Leading Integrative Teams | Students read and analyze recent project management team research results. In a team setting, they design and propose strategies and approaches for tackling project team challenges within actual organizational contexts. The project team challenges may relate to the following concepts: facilitation, shared goals, alliance building, conflict management, negotiation, empathy, intellectual humility, intercultural respect, delegation, trust, commitment and mentoring. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Master of Project Management student |
| PMG | 532 | Project and Program Assessment | Examines methods and techniques of projects to insure the adoption of best practices for more agile and effective projects. Includes an analysis and application of contemporary issues and tools impacting assessment in project management. Provides a comprehensive analysis of project practices compared with current best practice standards. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Master of Project Management student |
| PMG | 533 | Stakeholder Engagement | No project exists in a vacuum--projects of all sizes and degrees of complexity are imagined, executed and ultimately evaluated by stakeholders, and stakeholders are often the key to project success or failure. Focuses on the importance of project stakeholders: the initial stage of identifying all parties involved or affected by a proposed project, analyzing their degree of involvement and impact on the project, planning how best to engage and communicate with stakeholders throughout the project lifecycle, and how to do so in an ethical way. While stakeholder theory is incorporated, the aim is for students to develop this key soft skill for interacting with and managing the interests of diverse stakeholders in real-world project situations. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Master of Project Management student |
| PMG | 534 | Master Class in Project Management: Wisdom from the Field | Creates a space for professional project practitioners across a diverse array of industries to bring their wisdom and experiences into the classroom. Supported by a fulltime faculty member, the master teacher focuses this seminar-style course on their firsthand experiences in utilizing advanced project management approaches, processes, structures and techniques to achieve organizational goals, solve problems and effect change around the globe. Framed around six of the degree program's competency areas and supported by weekly readings, class discussions and assignments encouraging students to consider how the approaches, techniques and processes presented by the master teacher can be transferable across industries. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| PMG | 582 | Developing the Plan in Project Management | Capstone planning course builds upon the methods and techniques presented in prior core project management curriculum. Students undertake an applied project focused on a specific problem or opportunity area within an organization or business environment. Students use research, benchmarking and alternative evaluations followed by critical thinking and technical skills to frame analytical models and creative solutions within a predictive, agile or hybrid approach. This is reflective of the Project Management Institute's three domains of People, Process and Business Environment. Course outcomes are an original capstone project plan document. Expectations are quality business writing and presentations with appropriate graduate academic level in the research components. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): PMG 502 |
| PMG | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PMG | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PMG | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PMG | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PMG | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): PMG 582 |
| PMG | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PMG | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PMG | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 100 | Introduction to Population Health | Introduces population health in the United States. Familiarizes students with the broad discipline of population health and how it influences community and individual health status. Discusses the role of various agencies in population health, methods of measurement and evaluation, major population health issues in the United States, and factors that contribute to individual and community health. Solidifies concepts through the use of in-class discussion, group work and individual analysis. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only HCD 101 or POP 100 (or PBH 100) OR Visiting University Student |
| POP | 333 | Systems Thinking in Population Health | Covers systems science and its application to population health. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |
| POP | 444 | Population Health Field Experience | Provides opportunity to gain experience working in community and population health settings. Course meetings provide guidance during the field experience and an opportunity for students to share their projects. | N | LEC | Y | YGB | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 450; HCD 101 or POP 100 OR Visiting University Student |
| POP | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 605 | Population Health Systems Science and Theory | Systems science theory and methodology and its application to population health. Systems science is an interdisciplinary field of research that seeks to understand the general characteristics, dynamics and behaviors of systems. While the theory and methodology presented is applicable to a wide range of academic disciplines (e.g., physical systems, social systems, economic systems), this course focuses on population health systems. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| POP | 610 | Social Epidemiology | Social epidemiology considers how society's human activities and social interactions yield differential exposures that result in health disparities, including the identification of new disease-specific risk factors (e.g., social determinants of health) and how well-known exposures (e.g., cigarette smoking, lead paint, health insurance) emerge and are maintained by the social system. Considers dynamic social relationships and human activities that ultimately locate industries that pollute one neighborhood instead of another, make fresh foods available to some and not others, and permit some to enjoy resources such that they can purchase healthy environments and excellent health care. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 611 | Implementation Science in Population Health | Introduces Dissemination and Implementation (D&I) science, an interdisciplinary scientific field to address the sizable and persistent gap between research and practice. Covers conducting research to support the adoption, implementation, and sustainability of evidence-based interventions in public health, health care and other relevant settings. Topics include origins and theoretical frameworks of D&I science; organizational context; community engagement; implementation strategies; research designs, measures, and methods; selected tools for D&I practice; and emerging issues. | N | LEC | N | OP3 | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 615 | Organizational Behavior and Theory in Population Health | Covers important questions and perspectives relevant to understanding organizational behavior and theory (OBT) across the population health arena, including health care and public health sectors. Covers active paradigms in OBT, particularly perspectives important for understanding how health organizations and systems adapt, evolve and respond. Students analyze strengths and weaknesses of different theories and examine how they can be used as a foundation for research on health care and public health organizations and implications for health management and policy. Examines empirical research to clarify how important organizational constructs have been operationalized and to highlight the methodology-related challenges of studying organizations in health care/public health. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 633 | Population Health Ethics | Examines population health ethics and bioethics. Covers ethical analysis and research in health domains as driven by emerging health challenges, technological innovations and an ever-changing social and cultural landscape. Considers navigation and application of central issues to health ethics in disparate health fields. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): College of Health Solutions graduate student; Credit is allowed for only POP 633 or POP 598 (Population Health Ethics) |
| POP | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 691 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 700 | Research Methods | Course on research methods in a specific discipline. | Y | RSC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 791 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| POP | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | RSC | Y | Z3 | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 799 | Dissertation | Supervised research focused on preparation of a dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Health Solutions | College of Health Solutions | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POR | 101 | Elementary Portuguese I | Introduces the Portuguese language. Encourages meaningful and contextualized use of the language through reading, writing, listening and speaking tasks based on authentic materials with a focus on Brazil. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Students who have credit for POR 102 or POR 201 or POR 202 or POR 301 (POR 320) or POR 302 (POR 321) or POR 313 or POR 314 may not enroll in POR 101 |
| POR | 102 | Elementary Portuguese II | Continues to develop students' abilities at the elementary level. Encourages meaningful and contextualized use of the language through reading, listening, writing and speaking tasks based on authentic materials with a focus on Brazil. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): POR 101; Students who have credit for POR 201 or POR 202 or POR 301 (POR 320) or POR 302 (POR 321) or POR 313 or POR 314 may not enroll in POR 102 OR Visiting University Student |
| POR | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| POR | 201 | Intermediate Portuguese I | Develops students' skills at the intermediate level of Portuguese language and culture through reading, listening, writing and speaking tasks based on authentic materials with a focus on Brazil. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): POR 102 with C or better; Students who have credit for POR 202 or POR 301 (POR 320) or POR 302 (POR 321) or POR 313 or POR 314 may not enroll in POR 201 OR Visiting University Student |
| POR | 202 | Intermediate Portuguese II | Continues to develop students' skills at the intermediate level. Encourages meaningful and contextualized use of the language through reading, listening, writing and speaking tasks based on authentic materials with a focus on Brazil. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): POR 201 with C or better; Students who have credit for POR 301 (POR 320) or POR 302 (POR 321) or POR 313 or POR 314 may not enroll in POR 202 OR Visiting University Student |
| POR | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| POR | 301 | Portuguese for Spanish Speakers I | Intensive introduction to the Portuguese language for Spanish speakers. Designed for students with an active competence in Spanish who wish to learn the essential elements of the Portuguese grammar at an accelerated pace, as well as acquire listening, speaking, reading and writing skills. Based upon the theory of "intercomprehension," which implies the speaker's ability to understand the speech of another speaker who communicates in a dialect of the same language or a related language. Due to the linguistic similarities with Spanish, students master the four basic skills of listening, speaking, reading and writing of in Portuguese at a faster pace. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): SPA 202 or 204; Students who have credit for POR 101 or POR 102 or POR 201 or POR 202 or POR 302 (POR 321) or POR 313 or POR 314 may not enroll in POR 301 (POR 320) OR Visiting University Student |
| POR | 302 | Portuguese for Spanish Speakers II | Intensive intermediate-level Portuguese language class designed for Spanish-speakers. Further develops the students' communication skills in Portuguese. Makes use of the many common elements between Spanish and Portuguese (particularly vocabulary and grammar) to achieve an accelerated learning of linguistic, sociolinguistic and pragmatic competences required for fluency. The class is mostly conducted in Portuguese: do not be afraid of making mistakes while speaking Portuguese because this is a natural part of the learning process. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): POR 102 or 301 (POR 320) with C or better; Students who have credit for POR 201 or POR 202 or POR 313 or POR 314 may not enroll in POR 302 (POR 321) OR Visiting University Student |
| POR | 313 | Portuguese Conversation and Culture | Develops students' linguistic skills in Portuguese, bridging the intermediate and advanced levels. Encourages meaningful and contextualized use of the Portuguese language with an emphasis on speaking and listening, and a focus on Brazilian culture. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): POR 202 or 302 (POR 321) OR Visiting University Student |
| POR | 314 | Portuguese Composition and Culture | Develops students' linguistic skills in Portuguese, bridging the intermediate and advanced levels. Encourages meaningful and contextualized use of the Portuguese language with an emphasis on reading and writing. Each class focuses on topics of personal and general interest, with a focus on Brazil. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): POR 202 or 302 (POR 321) OR Visiting University Student |
| POR | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |

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| POR | 460 | Brazilian Society Through Music | Surveys Brazilian popular music in the 20th and 21st centuries, focusing on one main question: What images of Brazil have been imagined by Brazilian popular music in various socio-political contexts? Working with various genres, discusses how issues pertaining to race, social class, and citizenship have contributed to shape the Brazilian popular music scene and its representations of Brazil both at home and abroad. Taught in English. However, students who have completed POR 202 or POR 321 have the option of completing the assignments in Portuguese. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only POR 460 or POR 494 (Contemporary Brazilian Popular Music) or SLC 460 or SLC 494 (Contemporary Brazilian Popular Music) OR Visiting University Student |
| POR | 472 | Luso-Brazilian Civilization | Lectures, readings, and discussion of important aspects of Luso-Brazilian civilization. Topics from music, art, folklore, literature, history, and politics. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): POR 313 with C or better; Credit is allowed for only POR 472 or POR 598 (Luso-Brazilian Civilization) |
| POR | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| POR | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| POR | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| POR | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| POR | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| POR | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| POR | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POS | 110 | American Government and Politics | Major institutions of modern government and processes of individual and group political activity, with emphasis on the American experience. Meets the federal government requirement for teacher certification. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | Credit is allowed for only POS 110 or POS 310 OR Visiting University Student |
| POS | 112 | Foundations of Democracy | Introduces an interdisciplinary study of democracy with special attention to its historical development as a form of government. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | HU & H | Credit is allowed for only HST 112 or POS 112 or HST 194 (Foundations of Democracy) |
| POS | 150 | Comparative Government | Political institutions and processes in selected foreign countries, including origins, strengths, and weaknesses of contemporary political systems and political development. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | |
| POS | 160 | Global Politics | Nature of contemporary world politics through the study of both general theoretical topics and specific geographical areas. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | Credit is allowed for only POL 160 or POS 160 or POS 360 or POS 362 OR Visiting University Student |
| POS | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-3 | | Pre-requisites: Freshman status; Maximum 25 hours |
| POS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-4 | | Prerequisite(s): maximum 25 hours OR Visiting University Student |
| POS | 210 | Political Ideologies | Leading political ideas and belief systems, e.g., Marxism, liberalism, conservatism, theories of democracy, and alternative futures. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |
| POS | 211 | Arizona Constitution and Government | Constitution and government of the State of Arizona. Meets the Arizona constitution requirement for teacher certification. May not be counted for the major or a teaching major or minor in Political Science. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 2 | | Credit is allowed for only POS 211 or POS 216 or POS 417 |
| POS | 216 | State and Local Government | Surveys the operations, problems, and policies of state and local governments in the United States. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | Credit is allowed for only POS 211 or POS 216 or POS 417 OR Visiting University Student |
| POS | 230 | Current Issues in National Politics | Major issues facing national governments in the domestic field. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| POS | 240 | Introduction to Southeast Asia | Interdisciplinary introduction to the cultures, religions, political systems, geography, and history of Southeast Asia. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | (HU or SB) & G | Credit is allowed for only ASB 240 or GCU 240 or HST 240 or POS 240 or REL240 or SGS 240 OR Visiting University Student |
| POS | 245 | Introduction to India and South Asia | Provides an introduction to the history and major contemporary political, economic, social, religious and cultural features of the South Asia region at large and of selected South Asian nations in particular. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | HU & H & G | Prerequisite(s): ENG 101 or 105 or 107 with C or better; Credit is allowed for only HST 245 or POS 245 or REL 245 or SGS 245 or SLC 245 |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| POS | 247 | Introduction to Latin American Politics | General introduction to the politics and socioeconomic structures of Latin America. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | |
| POS | 260 | Current Issues in International Politics | Analyzes major current problems in world politics. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | (L or SB) & G | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| POS | 270 | American Legal System | Concepts, institutions, classifications, and functions of law. Role of the courts and impact of judicial decision making on social change. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |
| POS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-4 | | |
| POS | 300 | Contemporary Global Controversies | Explores key controversies in global politics including security, economic stability, poverty, gender, race, and the environment. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | |
| POS | 301 | Empirical Political Inquiry | Logic of political inquiry, including research problems, concepts, hypotheses, theories, measurement, data collection, and analysis. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only POS 301 or SGS 305 OR Visiting University Student |
| POS | 305 | Politics and Film | Examines portrayal of political events, ethnic groups, and sociopolitical situations in film, a major medium addressing questions of human values. May be repeated for credit when topics vary. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |
| POS | 310 | American National Government | Powers, functions, and agents of American political institutions. Meets the federal government requirement for teacher certification. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only POS 110 or POS 310 OR Visiting University Student |
| POS | 313 | The Congress | Lawmaking process in the U.S. Congress. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | Credit is allowed for only POL 313 or POS 313 OR Visiting University Student |
| POS | 314 | The American Presidency | Office, role, and power of the American presidency in the American political system. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |
| POS | 315 | The Supreme Court | Role of the Supreme Court in American society and politics; examines decision-making process and impact of decisions; restraint versus activism. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |
| POS | 316 | American Political Institutions | Explores current issues involving American political institutions including electoral systems, legislative bodies, executive agencies, executive leadership, judicial bodies, political parties, interest groups, social movements, the media, and their interactions. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only POS 316 or POS 394 (American Political Institutions) OR Visiting University Student |
| POS | 317 | History of Postwar U.S. Conservatism | Traces the origins of U.S. conservatism as it developed in the work of U.S. and European thinkers, intellectuals and authors after WWII. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 317 or HST 294 (American Conservatism) or POS 317 OR Visiting University Student |
| POS | 325 | Public Policy Development | Examines one or more aspects of public policy development including agenda setting and policy formulation, implementation, and analysis. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |
| POS | 331 | Public Opinion | Formation, expression, and influence of individual and organized opinion on political institutions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |
| POS | 332 | American Political Parties | Development of the American party system. Party organization and functions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |
| POS | 333 | Interest Groups | Examines how minority, corporate, labor, farm, consumer, environmental, health, education and public interest groups, and single-issue movements influence government. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |
| POS | 335 | Power and American Democracy | Explores how persistent patterns of marginalization and privilege impede the realization of democratic ideals in U.S. society. In particular, unpacks how, in practice, different forms of political power reinforce or challenge persistent patterns of marginalization and privilege. In combination with the study of power as the repression and control of others' actions, the course also explores power as exercised in the collective production of social boundaries. Students learn how to better analyze, critique and engage with different forms of power operating in U.S. society. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only POS 335 or SBS 335 or POS 394 (Power and American Democracy) or SBS 394 (Power and American Democracy) |
| POS | 336 | Voters in America | Voting behavior and the attitudes, perceptions, and activities of the citizenry in the political process. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |
| POS | 337 | Political Psychology | Political psychology is an interdisciplinary field that applies theories from the study of human psychology to the study of politics. Focuses on how psychological processes influence political thoughts and actions. Thus, the initial portion of the course discusses the structure of political attitudes and opinions and some of the primary ways that politicians and the media can influence public opinion. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only POS 337 or POS 394 (Political Psychology) OR Visiting University Student |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| POS | 338 | Fake News: How to Identify and Refute It | Critically analyzes the implications of fake news for our democracy and democratic way of life. Examines why we should care about whether or not citizens consume fake news and how it affects our individual lives and public policy. Looks at a variety of topics, rooted in social science research drawing from psychology and political science. Also examines students and how they process fake news, the origins of fake news, elected officials' reliance on false information, fake news and statistics, fact-checking, and fake news and political bias. Additionally, students analyze elected officials' communications, including U.S. Presidents' State of the Union addresses. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only POS 338 or POS 394 (Fake News) or POS 394 (Fake News: How to Identify and Refute it) |
| POS | 339 | Grassroots Social Movements | Explores how groups mobilize collectively to produce social, political, economic and cultural change, with an emphasis on the United States. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ASB 339 or POS 339 or SBS 339 or SOC 339 OR Visiting University Student |
| POS | 340 | History of Political Philosophy I | Western political philosophers and their theories to the 17th century. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | HU & H | |
| POS | 341 | History of Political Philosophy II | Western political philosophers and their theories from the 17th to the 20th centuries. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | HU & H | |
| POS | 342 | Political Theory | Surveys ancient, modern, and contemporary political theorists and ideas in European and American contexts. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | HU or SB | |
| POS | 346 | Problems of Democracy | Issues and problems in democratic theory, e.g., the nature of democracy, majority rule, representation, equality, and the value of political participation. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | HU | |
| POS | 348 | Do You Want to Build a Nation? | Requires students to critically assess their assumptions about nation-states through a series of debates and simulation games. Through in-class, interactive games, students answer: What are the sources of legitimacy and defining elements of statehood? How do those defining elements, such as democratic structures, support or challenge certain functions of the nation-state? How does a nation's purported moral basis affect its foreign policy decisions and negotiations with other nations? | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum junior standing or minimum 45 hours OR Visiting University Student |
| POS | 350 | Comparative Politics | Theoretical approaches and political institutions, such as parties, pressure groups, legislatures, and executives, from a cross-national perspective. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | |
| POS | 351 | Democratization | Examines the consolidation of democracies in postauthoritarian and postcommunist settings (e.g., Latin America, Eastern Europe, Asia). | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | |
| POS | 352 | European Democracies | Addresses questions such as, How has the relationship between European citizens and the democratic process changed in the post-WWII period? How do domestic political institutions influence this process? Explores different approaches to some of the most important questions facing the study of comparative and European politics. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 25 hours OR Visiting University Student |
| POS | 353 | Comparative Politics of the Middle East | Examines the historical, social, and economic context of contemporary Middle East politics; explores political dynamics of selected Middle Eastern regimes; and offers a comparative examination of key political trends and themes. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum junior standing or minimum 45 hours OR Visiting University Student |
| POS | 354 | Central American Studies | Part of the summer ASU study abroad Costa Rica Program, which is a language and social sciences immersion program in the capital city, San Jose. A summer offering permits students to enroll in the program without conflicting with full course loads during the fall or spring semester. However, the course is proposed as a stand-alone course that can be offered in a regular semester as well. | N | REC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | Credit is allowed for only ASB 356 or GCU 356 or POS 354 or SBS 356 or SOC 356 |
| POS | 356 | European Union | History and workings of EU member states, including single market, Euro, legal system, ethnonationalism, immigration, expansion, trade wars, and defense. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | |
| POS | 357 | South Asia Politics | Political culture and systems of South Asia examined through study of political writings, novels, and poetry. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | Prerequisite(s): minimum 45 hours |
| POS | 358 | Southeast Asia | Political background, governmental institutions, political dynamics, and developmental problems of Southeast Asian nations. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | |
| POS | 359 | African Politics and Society | Comparative analysis of socioeconomic forces, political processes, government institutions, and political novels in Sub-Saharan Africa. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | |
| POS | 360 | World Politics | Theory and practice of statecraft as applied to selected issues, regions, or eras. Emphasis may vary with instructor, but cannot be repeated for credit. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | Prerequisite(s): minimum 25 hours; Credit is allowed for only POS 160 or POS 360 OR Visiting University Student |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| POS | 361 | American Foreign Policy | United States in world affairs; foreign policy since World War I. Techniques in formulating American foreign policies. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| POS | 362 | World Politics Theory | Theoretical examination of one or more aspects of international politics, e.g., foreign policy, negotiations, alliances, crises, wars, and international systems. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | Credit is allowed for only POL 160 or POS 160 or POS 362 |
| POS | 364 | National Security, Intelligence, and Terrorism | Theoretical and empirical assessment of U.S. national security policy in the post-cold war era. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |
| POS | 365 | Terrorism and Insurgency | Insurgency, civil war, revolution and terrorism are traditionally thought of as domestic events or "intrastate" conflicts between one violent domestic political group and the state. However, recent conflicts in Afghanistan, Libya and Syria, as well as the 9/11 attacks on the U.S. demonstrate that insurgencies often spill across borders and draw in actors far removed from the original conflict site. These conflicts also demonstrate that insurgencies and terror campaigns necessitate global policy responses. The international character of insurgency, therefore, requires students of political violence to consider a wide array of both international and domestic factors in order to better understand the origins, dynamics and resolution of modern insurgencies and terror campaigns. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only POS 365 or POS 394 (Terrorism and Insurgency) |
| POS | 367 | World Politics and Global Inequalities | Examines the topic of global inequality and the numerous challenges that arise from it, including perspectives and theories pertaining to third world development, the historical background to the political and economic relations between the wealthy countries of the world and the poorer countries, and policies and strategies designed to promote development and alleviate poverty. Studies some contemporary issues that are related to global inequality including ethics and third-world development, sweatshop labor, corporate responsibility, and the tension between globalization and the movement of people across sovereign borders. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | G | Prerequisite(s): minimum 25 hours OR Visiting University Student |
| POS | 368 | Ethics and Human Rights | Explores issues of ethics, morality, and human rights in the global community. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | |
| POS | 370 | Law and Society | Analyzes debates among social scientists and legal theorists concerning the relationship between law and society. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| POS | 374 | Cultures and Politics of the Internet | Explores the culture and politics of the Internet in global perspective, including virtual communities, free software, copyleft, blogs, and hacktivism. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | Credit is allowed for only ASB 374, POS 374, SBS 374 or SOC 374 |
| POS | 377 | Arizona, Immigration, Latinos and Politics | Contemporary immigration and its related issues have generated significant debates, reforms and responses by government officials, businesses and private citizens, to name but a few in this country. This course provides a much-needed framework for understanding some of the immigration issues in Arizona and the country generally. It also focuses on some of the political responses by Latinos and their significant mobilization at the local, state and federal levels. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only JUS 377 or POS 377 or SGS 377 or TCL 377 or HST/JUS/POS/SGS/TCL 394 (Arizona, Immigration, Latinos and Politics) OR Visiting University Student |
| POS | 378 | Religion, War and Peace | In-depth study of the religious, political and ethical dimensions of violence and war. Compares perspectives of Christian, Jewish and Islamic traditions as well as secular viewpoints. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | L | Prerequisite(s): ENG 102, 105 or 108 with C or better; Minimum 24 hours; Credit is allowed for only POS 378, REL 378 or REL 394 (Religion, War and Peace) |
| POS | 379 | The Resource Curse | Explores the paradox known as the resource curse, examining the argument, its mechanisms for impeding development, and its effects. Examines successes and failures, and in doing so, examines the mechanisms of the resource curse and the potential to overcome the negative consequences of resource wealth for developing countries. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only POS 379 or POS 394 (The Resource Curse) or SGS 379 or SGS 394 (The Resource Curse) OR Visiting University Student |
| POS | 388 | Religion, Ethics, and International Politics | Religious and ethical dimensions of international politics. Addresses historical and contemporary ideas, movements, issues and events. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only POS 388 or REL 388 OR Visiting University Student |
| POS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-4 | | |
| POS | 401 | Political Statistics | Basic concepts in statistics as they facilitate the description, explanation, and prediction of social and political phenomena. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | CS | Prerequisite(s): DAT 401, POS 301 or SGS 305 with C or better; Credit is allowed for only POS 401 or SGS 401 OR Visiting University Student |
| POS | 410 | Governing American Cities | Reviews modern urban problems, their sources, and potential solutions, including structural and policy alternatives. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |
| POS | 414 | Political History and Leadership | Research seminar in political values and leadership. Combines lecture, readings and guest lectures by leaders in business, public affairs and the media. Culminates in a substantial written research effort. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours; Credit is allowed for only HST 414 or POS 414 |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| POS | 417 | Arizona Politics | Surveys the operations, problems, and policies of state and local governments in the United States. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | Prerequisite(s): minimum 25 hours; Credit is allowed for only POS 211 or POS 216 or POS 417 OR Visiting University Student |
| POS | 426 | Elements of Public Policy | Each section may cover one of the following topics: consumer protection, natural resources, criminal justice, environmental protection, science and technology, or theories of public policy. May be repeated for credit when topics vary. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum 45 hours |
| POS | 427 | Social Welfare and Health Policy | Examines the political conflicts and debates that underlie social welfare and health policy, and the provisions of major welfare-state programs in the U.S., with comparisons to other developed democracies. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for POS 427 or POS 394 (Social Welfare & Health Policy) |
| POS | 431 | Campaigns and Elections | Examines campaigns from a multitude of perspectives including the politician, reporter, campaign strategist, and voter. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |
| POS | 434 | Media and Politics | Studies mass media and politics in the United States, e.g., media and elections, media and government. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |
| POS | 435 | Women and Politics | Focuses on the uniqueness of women in modern political systems and political thought. Emphasis may vary with instructor. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & C | |
| POS | 436 | Gender, Sexuality, Nation-States | Issues and problems related to the interface of gender, sexualities, nationalisms, and states in various world contexts. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | |
| POS | 437 | Women, Power, and Politics | The roles and treatment of women within various political contexts. Specific focus may vary with instructor. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | G | Prerequisite(s): minimum 45 hours; Credit is allowed for only POS 437 or SOC 437 OR Visiting University Student |
| POS | 438 | Latino Politics | Examines contemporary political issues in the diverse Latino community. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & C | Prerequisite(s): minimum 45 hours |
| POS | 439 | Minority Group Politics in America | Role of minority groups in American politics. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & C | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| POS | 442 | American Political Thought | Political theories and movements from the colonial period to the present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | HU | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| POS | 443 | Topics in Contemporary Political Theory | Major problems and theories in contemporary political thought. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | HU | |
| POS | 446 | Democracy | Issues and problems in democratic theory, e.g., the nature of democracy, majority rule, representation, equality, and the value of political participation. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | HU | |
| POS | 447 | Citizenship, Nationalism and Identity | Critical examination of citizenship, national belonging and identities by examining contemporary social issues and discourses from global and comparative perspectives. Aims to understand complexities of national belonging that go beyond legal, formal citizenship, such as how cultural, racial/ethnic, class and gender differences challenge the limits of national citizenship. Explores case studies that show how members of different societies demonstrate their positions as legitimate national citizens in different and often conflicting ways, especially in order to defend social justice and human diversity. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & C & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 447 or POS 447 or SBS 447 OR Visiting University Student |
| POS | 452 | China | Background of the Communist revolution, political processes, and developmental problems in China from a comparative perspective. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | |
| POS | 453 | Latin America | Political institutions, process, and developmental problems of South American states examined through comparative analysis, novels and poetry. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | Prerequisite(s): minimum 25 hours |
| POS | 454 | Mexico | Politics, economy, institutions, and cultures in Mexico in historical and contemporary perspective. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | |
| POS | 456 | Latin American Cities | Urban studies of Latin American world cities, e.g., Mexico City, Santiago, emphasizing integration with U.S. cities, including Los Angeles, Phoenix. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | |
| POS | 464 | Border Cities: Action Research on Globalization | Examines the effects of globalization on U.S.-Mexico border cities and towns with particular emphasis on Mexican border cities. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | |
| POS | 465 | International Organization and Law | History, practical political significance, and future of international institutions, transnational regimes, and international law. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| POS | 466 | Migration, Environment and Global Security | Human mobility within and across borders is on the rise with rapid globalization and infrastructural investments. National concerns over human security and resource allocation have prompted discussion over the drivers and consequences of emerging migration patterns related to environmental stressors. The objective is to gain perspective on the environmental refugee debate and learn how governments, donors, and international agencies are currently tackling the problem. Students are introduced to cross-disciplinary concepts of migration and environmental stressors (e.g., natural disasters, climate change, water scarcity, soil erosion) in order to understand and discuss recent scientific work, and investigate the challenges in documenting this phenomenon and its consequences on global security. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only POS 466 or SGS 466 or GCU/POS/PUP/SGS/SOS 494 (Migration, Environment, & Global Security) or GCU/GSC/PUP 598 (Migration, Environment, & Global Security) OR Visiting University Student |
| POS | 467 | International Security | Examines issues affecting the international security of states and peoples, e.g., military, economic, technological, environmental, and demographic. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | Prerequisite(s): minimum 45 hours |
| POS | 468 | Comparative Asian Foreign Policies | Foreign policies of the Asian states, emphasizing their security relations and movements toward regionalism. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | |
| POS | 470 | Law and the Political Order | Investigates concepts of justice, political rights, adjudication and legislation, legal ordering, constitutional law, law as an instrument of change. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only POS 470 or CMN 598 (Law and the Political Order) or JHR 598 (Law and the Political Order) or MAS 598 (Law and the Political Order) |
| POS | 471 | Constitutional Law I | Development of the U.S. Constitution as reflected in decisions of the Supreme Court; jurisdiction and organization of the federal courts; judicial review; separation of powers; federalism; the commerce clause; national taxing and spending power; state police power. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| POS | 472 | Constitutional Law II | Development of the U.S. Constitution as reflected in decisions of the Supreme Court; due process; equal protection of laws; individual rights; civil liberties. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| POS | 475 | Morality and Politics | Should morality play a role in politics? Machiavelli gives us one sort of answer, urging politicians to be dishonest, deceptive and even cruel. Kant disagrees, arguing instead that politicians should adhere to their personal morality over political calculations. Explores this question in two ways. First, looks more at the disagreement between great thinkers in the Western political tradition. Second, investigates contemporary political actors who bring moral concerns to the fore, including dirty politicians and extremist citizens (for example, radical animal rights activists, militant environmentalists or global poverty zealots). Seminar course that incorporates in-class discussion and writing, options-based grading and creative assignments. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours. Credit is allowed for only POS 394 (Morality and Politics) or POS 475 |
| POS | 480 | Global Justice | Explores questions of justice that cross national borders, including delivery of foreign aid, immigration, and military intervention. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | G | Prerequisite(s): minimum 45 hours; Credit is allowed for only JHR 494 (Global Justice) or JHR 550 or JHR 598 (Global Justice) or POS 480 or SBS 480 OR Visiting University Student |
| POS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | |
| POS | 485 | Political Economy | Problems, policies, and possibilities of various political-economic systems and the interrelationship of capitalism, socialism, and democracy. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| POS | 486 | International Political Economy | Contending approaches to historical and contemporary issues of international political economy, including global welfare, equality, ecology, and peace. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | |
| POS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| POS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| POS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-4 | | |
| POS | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| POS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |

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|---------|-------------|-------------------------------|---|-------------------|-------------------|-----------------|---------------|--|---------------------------------------|-------|-----------------|--|
| POS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-3 | | |
| POS | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | |
| POS | 503 | Empirical Political Inquiry | Research methods and techniques of the discipline, emphasizing empirical foundations and analytic methods employed in subfields. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Pre-requisites: Political Science student |
| POS | 530 | American Politics | Examines major debates in the study of American political processes and institutions. Covers parties, media, elections, public opinion, interest groups, and the three branches of government. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | |
| POS | 540 | Ancient Political Theory | Surveys the historical and philosophical developments in political thinking from the ancient Greeks up to the Renaissance. The world studied predominantly is one of profound political conflict and change. Moves from the Greek cities to the edge of modern political developments. The movement encompasses the political transformation from city-states to empires to the establishment of an overarching Christian world order that balances secular and sacred power, only to be challenged if not foundationally shaken by Machiavelli and realism. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Pre-requisites: Graduate Political Science major |
| POS | 541 | Modern Political Theory | Surveys the development of modern political thought from Machiavelli--through Hobbes, Locke, Hume, Rousseau, Burke, Kant, Montesquieu, Constant, Bentham, Mill, and Hegel--to Marx. Focuses on the primary writings of these thinkers as well as reading secondary literature. In addition to focusing on the distinctive contribution and relevance of individual thinkers, further explores certain recurring themes among which are the following: Are freedom and equality foes or friends? What allegiance do we owe the state and why? Do we have rights against the state? What is a just state? Is private property essential to individual liberty? Do laws enhance or threaten liberty? Is self-interest an adequate basis for political allegiance? Why should we pursue the common good, if at all? Are self-interest and the common good reconcilable? | N | SEM | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Pre-requisite: MA or PhD major; Credit is allowed for only POS 541 or 591 (Modern Political Thought) |
| POS | 550 | Comparative Politics | Surveys major approaches across topical areas such as revolutions, authoritarianism, policy processes, interest groups, and electoral politics. Focus varies with instructor. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | |
| POS | 552 | Women and Politics | Serve as an introduction to the comparative study of women and politics. Not a course on feminist theory; instead focuses on questions such as: Does the descriptive representation of women guarantee their substantive representation? Which electoral rules favor the election of women? Do the negative effects of gender quotas outweigh their impressive ability to increase the number of women in office? Have the news media helped or harmed female candidacies? Once in power do women govern differently than men? Focuses on the obstacles that women face in obtaining positions of power. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POS | 560 | International Relations | Surveys major theoretical approaches and debates in international relations. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | |
| POS | 565 | Games, Strategy and Politics | Provides an overview of game theory for graduate students in political science. Covers classical game theory, extensive form games, games of incomplete information and non-cooperative games. Applies game theory to international relations, political economy, comparative politics and American politics. Gives special attention to bargaining games, voting in elections and deterrence. Basic mathematical knowledge is helpful; reviews basic algebra and calculus in the class as needed. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only POS 565 or POS 598 (Games, Strategy and Politics) |
| POS | 570 | The Politics of Public Policy | Examines the political dimensions of public policymaking. Emphasizes major theoretical explanations of the policy process--particularly elements such as agenda setting, implementation, and policy change--rather than on the substance of particular policies. Focuses primarily on U.S. domestic policy, with some comparative reference to other developed democracies. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POS | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | |

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| POS | 586 | International Political Economy | International political economy (IPE) focuses on the relationship between the pursuit of wealth and power during the development and evolution of the global political economy. Assigned readings take an analytical approach to the subject, drawing on methods and theories developed in political science, economics, history and sociology. In addition to an overview of the methods and theories employed in the study of IPE, also examines a variety of current empirical research programs in the subfield. This seminar should enable students to read the academic literature, conduct independent research in the subfield, and understand contemporary problems in the global political economy. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | |
| POS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | |
| POS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | |
| POS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | |
| POS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1 | | |
| POS | 596 | Professionalization Workshop | Serves as a professionalization workshop and is intended for new political science doctoral students. However, graduate students at all levels in the program are welcome to take the course. Introduces the professional side of political science. Surveys topics such as attending conferences, applying for grants, publishing an article or a book, and going on the job market. Jointly builds a professional resource bank on our course page that serves as a resource for all students. | N | SEM | N | OP2 | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only POS 596 or POS 598 (Teaching and Writing Worksh) |
| POS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POS | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | |
| POS | 601 | Advanced Experimental Research | Introduces experimental and quasi-experimental research designs in political research, including lab techniques and topics in the analysis of variance. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | |
| POS | 603 | Polimetrics I | Introduces theory and practice of linear regression analysis. Provides skills to read, understand, and evaluate professional literature using regression analysis. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | |
| POS | 604 | Polimetrics II | Applies quantitative techniques to research topics producing publishable papers through exposure to time-series, logit and probit, and simultaneous equations. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | |
| POS | 652 | Religion and Politics | Analyzes the complicated and often conflictual relationship among major religious faiths, religious activists, and the state in the 20th and 21st centuries. Cover topics: secularization theory and its problems; religion as a cultural or attitudinal variable in politics; the rationality of religion, organized religions and their activists; the bases for conflicts between religion and the state; religion's role in conflict; the terms of reconciliation and collaboration; the conditions under which religion is politicized and becomes the basis of a political movement or party; and the means by which organized religions and/or their adherents seek to maintain an influence in 20th- and 21st-century politics and society. Does not provide a survey of religion and politics for all major world religions, or other religions. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): MA or PhD student |

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| POS | 663 | Ethnic Conflict | Acquaints students with a variety of theoretical and empirical approaches to the study of conflict between nations and states, which is often called ethnic conflict. Aims to understand the nature of ethnic identity, the reasons it persists and changes over time, and the conditions under which it can be mobilized for political ends. Discussions are theoretical and comparative. Draws on empirical results and cases to support, qualify and refute propositions, and draw inferences. Prior social science course work preferred. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only POS 598 (Ethnic Conflict) or POS 598 (Deadly Ethnic Conflict) or POS 663 |
| POS | 664 | War, Peace, and Conflict Processes | Systematic analysis of the causes of war, the preconditions for peace, and approaches to the resolution of conflict. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | |
| POS | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1 | | |
| POS | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | |
| POS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-15 | | |
| POS | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1 | | |
| POS | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-15 | | |
| PPE | 215 | Teaching Team Sports | Practical application of biomechanical, physiological, psychological, and learning principles in the analysis of skill acquisition and performance. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2 | | |
| PPE | 220 | Teaching Lifetime Activity K-12 | Participating in and teaching sequenced activities K-12. | N | LEL | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2 | | |
| PPE | 230 | Teaching Group Exercise | Introduces instructional strategies appropriate for the teaching of group exercise classes in secondary school settings. | N | LEL | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2 | | |
| PPE | 235 | Teaching Strength and Conditioning for Health | Fundamental principles, strategies and assessments of strength training and conditioning methodologies that are necessary to effectively operate in a school-based setting. Most secondary schools offer some form of strength training in a physical education setting, either as a stand-alone course or as part of a traditional class structure. Therefore, new physical education teachers should be well informed on the scientific rationale for the use of strength and conditioning programs in schools, and be able to design and implement these programs safely. Provides prospective physical education teachers with the knowledge and skills needed to safely and effectively operate in a school-based strength training setting, whether it is for physical education or sport performance. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2 | | Credit is allowed for only PPE 235 or PPE 294 (Teaching Strength Conditioning for Health) |
| PPE | 240 | Physical Activity | Recognizing individual interests and abilities, the program provides courses covering a wide variety of physical activities. We make an effort to address contemporary trends and student, faculty and staff interests. Offerings may include but are not limited to classes in the areas of: aquatics, artistic and social dance, fitness development, martial arts, mind/body, outdoor recreation, resistance training, sports and games. | Y | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-2 | | |
| PPE | 300 | Introduction to Physical Education, Fitness and Sport | Introduces the fields of physical education, exercise science, sports medicine, and related fields. Discusses the history and trends of physical education as well as key concepts, programs, problems, and issues related to teaching physical education. Teaches essential background knowledge, better preparing for career success. The online (blackboard) component of this class provides practical experiential learning and assesses knowledge and comprehension of the key concepts presented in the course. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 60 hours; junior or senior standing; Credit is allowed for only PPE 300 or PPE 394 (Intro to Physical Education, Fitness & Sport) OR Visiting University Student |

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| PPE | 310 | Healthy Learning Communities | Prepares educators with the knowledge, skills and dispositions to support learners' overall health. Focuses on educator's roles in creating healthy and active learning communities and addresses a variety of educational settings and learner ages. | N | LEL | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours |
| PPE | 315 | Pediatric Movement Sciences for Physical Educators | Provides a general overview of the functional anatomy of the human body as it relates to movement and the biomechanical principles underlying the execution of a given motor skill. Also examines the influence of physical growth and maturation on the development of motor skills. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| PPE | 320 | Exercise Physiology Concepts for Physical Educators | Provides an introductory-level understanding of how the body responds prior to, during, and after participation in dynamic and static exercise. Examines the physiological basis of human movement, with emphasis on reviewing what exercise physiologists have learned about the diversity of physical activity, specifically in children. Although many physiological responses to activity are predictable, the magnitude and pattern of responses are unique depending on the age, gender, and previous experience of the individual. Also examines the role an active lifestyle plays in the overall health and well-being of school-aged children and adolescents. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| PPE | 335 | Movement and Physiology Principles of Children and Youth in Physical Activity Environments | Provides an introductory-level understanding of mechanical principles underlying human movement, the developmental patterns reflected in human movement birth through childhood and adolescence, basic principles of motor learning and the physiological basis of human movement. Covers how these principles directly affect the development of physical activity opportunities in in community-based sport and recreation settings with a specific eye toward the role an active lifestyle plays in the overall health and well-being of children and youth between the ages of 6 and 18. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): junior or senior standing |
| PPE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| PPE | 396 | Clinical Experience: Physical Education Elementary (Grades 1-8) | Applies course content in elementary physical education classrooms grades 1-8: emphasizes observation, pupil management, planning and delivery of instruction, and assessment. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2 | | Prerequisite(s): admission to the Professional Program |
| PPE | 397 | Clinical Experience: Physical Education Secondary (Grades 6-12) | Applies course content in secondary physical education classrooms grades 6-12; emphasizes observation, pupil management, planning and delivery of instruction, and assessment. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2 | | Prerequisite(s): admission to the Professional Program |
| PPE | 450 | Physical Education for the Elementary School | Scope and values of physical education in elementary schools. Methods, materials, and practices in teaching for primary through upper grades. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours; Credit is allowed for only PPE 450 or PPE 550 |
| PPE | 455 | Physical Education in the Secondary School | Current trends and theories such as elective programs, coed classes, legal issues, contract teaching, curriculum, and administration. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours; Credit is allowed for only PPE 455 or PPE 555 |
| PPE | 460 | Adapted and Inclusive Physical Education | Teaching individuals with disabilities physical skills and activities. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours; Credit is allowed for only PPE 460 or PPE 560 |
| PPE | 465 | Teaching Physical Activity Concepts | Focuses on teaching physical activity concepts in physical education settings and other settings such as fitness clubs or community health organizations. Analyzes and critiques state physical activity standards and national guidelines for promoting physical activity. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only PPE 465 or PPE 565 OR Visiting University Student |
| PPE | 477 | Student Teaching: Physical Education Elementary (Grades 1-8) | Student teaching in elementary physical education setting grades 1-8: synthesized experience in curriculum, instruction, assessment and classroom management. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 6 | | Prerequisite(s): admission to the Professional Program |
| PPE | 478 | Student Teaching: Physical Education Secondary (Grades 6-12) | Student teaching in middle/secondary physical education setting grades 6-12: synthesized experience in curriculum, instruction, assessment and classroom management. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 6 | | Prerequisite(s): admission to the Professional Program |
| PPE | 480 | Professional Seminar for Physical Education | Methods of instruction, organization, and presentation of appropriate content in elementary and secondary physical education. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| PPE | 485 | Physical Activity Leadership in Schools | Explores the development of school leadership skills for physical educators specific to promoting physical activity throughout the school day for all K-12 students. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours; Credit is allowed for only PPE 485 or PPE 586 |

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| PPE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| PPE | 501 | Introduction to Research and Evaluation in Education | Overview of educational inquiry from controlled, quantitative to qualitative, naturalistic. Emphasizes locating and critically interpreting published research. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only COE 501 or ECD 503 or PPE 501 or SPE 501 or TEL 501 |
| PPE | 535 | Introduction to Sport Education | Introduces a grade 5-12 school physical education curriculum that focuses on providing more complete and more authentic sport experiences. | N | LEL | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPE | 550 | Physical Education for the Elementary School | Scope and values of physical education in elementary schools. Methods, materials, and practices in teaching for primary through upper grades. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; Credit is allowed for only PPE 450 or PPE 550 |
| PPE | 551 | Innovative Programming in Elementary Physical Education | Provides an understanding of current trends and issues in elementary school physical education curriculum and how to implement the curriculum in a school environment. Students become familiar with a variety of best practices in curriculum and instruction specific to elementary children in physical activity settings. Emphasizes incorporating methods of effective teaching and activity organization, enhancing student learning, and effectively managing student behavior and the learning environment. | N | LEL | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPE | 555 | Physical Education in the Secondary School | Current trends and theories such as elective programs, coed classes, legal issues, contract teaching, curriculum, and administration. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PPE 455 or PPE 555 |
| PPE | 560 | Adapted and Inclusive Physical Education | Teaching individuals with disabilities physical skills and activities. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Pre-requisites: Graduate students (Degree and Non-degree); Credit is allowed for only PPE 460 or PPE 560 |
| PPE | 565 | Teaching Physical Activity Concepts | Teaching physical activity concepts in PE settings. Analyzes and critiques state and national physical education standards. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Pre-requisites: Graduate (degree or non-degree) student; Credit is allowed for only PPE 465 or 565 |
| PPE | 567 | Clinical Experience: Physical Education Elementary (Grades 1-8) | Applies course content in elementary physical education classrooms grades 1-8: emphasizes observation, pupil management, planning and delivery of instruction, and assessment. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPE | 568 | Clinical Experience: Physical Education Secondary (Grades 6-12) | Applies course content in secondary physical education classrooms grades 6-12: emphasizes observation, pupil management, planning and delivery of instruction, and assessment. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPE | 586 | Physical Activity Leadership in Schools | Explores the development of school leadership skills for physical educators specific to promoting physical activity throughout the school day for all K-12 students. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PPE 485 or PPE 586 |
| PPE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPE | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPE | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPE | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| PPE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 501 | Fundamentals of Political Psychology | Core course focuses on the interdisciplinary study of political psychology and teaches the tools necessary to evaluate the application of political psychology to political marketing, campaigns and policy advocacy. Covers both the theoretical foundations underlying research in political psychology as well as foundational and contemporary applications. Examines topics including personality, emotions and genetic bases of behavior as well as approaches to the design and interpretation of experimental research. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 502 | Cognition and Emotions in Political Thinking | Focuses on key concepts in cognitive psychology and the scientific study of mental processes. Covers how people acquire, store, transform, use information. Topics may include perception, attention, language, memory, reasoning, problem solving, decision making and attributions. Also covers the relation between emotions and cognition. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 503 | Prejudices and Politics | Interrogates various theoretical approaches to intergroup conflict; why stereotypes and prejudice exist; the different forms these attitudes take (e.g., ethnocentrism, racial attitudes); and their implications for politics. Also introduces social identity theory and demonstrates how this theory can elucidate group processes. Moreover, covers theoretical arguments for and concrete examples of how prejudice can be reduced and tolerance increased. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 504 | Attitudes and Persuasion | Focuses on the individual and contextual factors responsible for changes in beliefs, attitudes and behaviors. First covers the concept of attitudes and their measurement before examining in depth various theoretical approaches that explain how people come to change their attitudes. Also covers meta-cognitive as well as implicit factors in persuasion. Ends with a more applied look at persuasion, focusing on how persuasive messages can be crafted. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 505 | Biopolitics | Builds a foundational understanding of biological, evolutionary, genetic and neurobiological perspectives in political psychology. Draws on these perspectives to explain political attitudes and behavior, considering literature on nonhuman animals, developmental psychology, personality, psychophysiology, neurobiology, genetics, hormones, disgust sensitivity and mating. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 506 | Experimental Design | Focuses on the experimental paradigm that permeates political psychology. Introduces the logic of experimentation and how to design and evaluate experimental studies. Focuses on a variety of different experimental designs, highlighting the various benefits and drawbacks of laboratory experiments, survey experiments and field experiments. Readings combine both theoretical and methodological pieces on the design, analysis and interpretation of experiments with empirical applications. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 511 | Public Opinion | Provides an advanced examination of the political opinions of citizens. Covers how citizens structure their opinions and what factors can cause these opinions to change. In so doing, also evaluates various theoretical perspectives and methodological approaches used to study public opinion. Topics include political knowledge, ideology, partisanship and values. Moreover, provides insight into how these factors shape people's evaluation of government and how individual-level opinions are aggregated to produce public opinion. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 512 | Political Polarization | Advanced exploration of the concept of political polarization from a political psychology perspective. Introduces the concept of political polarization and provides an overview of recent trends in polarization in the U.S. while covering debates such as whether polarization has increased over time, whether Americans are polarized around issues or social identities, and how value divergence can culturally conflict. Also explores how the media and other external factors can affect citizens in ways that can either fuel or attenuate polarization. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| PPS | 513 | Elite Decision Making | Provides a comprehensive examination of political psychology approaches to understanding and evaluating elite decision making. Introduces paradigms for analyzing elites' decisions that focus on the role of personality, leadership styles and prospect theory among others. Also focuses on covering frameworks that students can apply to systematically study how elite actors make decisions on the domestic and international stage. Combines conceptual readings explaining these approaches with applied readings that analyze the decision-making processes of elites through a range of case studies. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 514 | Campaigns and Elections | Provides a political psychology perspective on campaigns and elections. Topics include the effect of election rules, campaigns, social networks and the media on turnout and vote choice. Students engage with research that addresses these topics through psychological lenses focusing on the role of emotions, negativity, persuasion and learning. Combines theoretical literature with applied papers leveraging a variety of experiments conducted in campaign contexts. Also discusses implications for campaign organization and management. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 515 | Advances in Media Effects | Provides an advanced examination of contemporary research and debates on media effects. Covers the paradigms of agenda setting, priming and framing. Considers key issues in the field of media effects by paying particular attention to the underlying psychological mechanisms through which the media can affect citizens' attitudes and social judgment. Draws on a variety of examples to demonstrate both the power and limits of media to affect citizens. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 550 | Capstone | Serves as the culminating experience of the Masters in Political Psychology. Students apply the theories, frameworks and evidence encountered during the course to explore a novel question or contribute to a contemporary research debate. In the process, students apply a multitude of tools to which they were exposed during the course of the program. Develops final products individually or in a small group based on consultation with course faculty. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | Prerequisite(s): Political Psychology MA student |
| PPS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PRM | 120 | Leisure and the Quality of Life | Conceptual foundations for understanding the role of leisure in the quality of life. Social, historical, psychological, cultural, economic, and political foundations of play, recreation, and leisure. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | SB | |
| PRM | 145 | Special Events Management | Principles of programming and managing special events for diverse populations. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | |
| PRM | 201 | Introduction to Parks, Recreation and Sport Management | Examines the role of parks, recreation and community sports at the local, national and international levels. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Credit is allowed for only CSM 201 or PRM 201 OR Visiting University Student |
| PRM | 203 | Program Planning | Overview of the conceptual foundations and professional competencies necessary to effectively assess, plan, implement and evaluate programs. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Credit is allowed for only CSM 203 or NLM 203 or PRM 203 OR Visiting University Student |
| PRM | 210 | Leisure Delivery Systems | Introduces development, management and organization of the public, nonprofit and private sectors for the leisure services professions. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Pre- or corequisite(s): NLM 160 or PRM 120 with C or better if completed OR Visiting University Student |
| PRM | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |

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| PRM | 304 | Recreation and Sport Planning and Facilities | Surveys development and management of public, private, and commercial recreation areas and facilities with a focus on meeting program needs. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | L | Prerequisite(s): CRD 210 with C or better; ENG 101, 105, or 107 with C or better; MAT 142 or higher with C or better; minimum 2.50 GPA; minimum 45 hours OR Visiting University Student |
| PRM | 306 | Advanced Programming and Facilitation | Provides an experiential learning experience where students implement and reflect upon all aspects of an ongoing recreation program including program facilitation, budgeting, marketing, risk management, experience engineering and evaluation. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CSM 203 or PRM 203; Credit is allowed for only CSM 306 or PRM 306 OR Visiting University Student |
| PRM | 310 | Volunteer Management | Studies volunteer engagement practices integral to community organizations introducing management techniques such as program organization, recruitment, interviewing, placement, supervision, recognition and evaluation. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only NLM 310 or PRM 310 OR Visiting University Student |
| PRM | 315 | Creating Community Through Park and Recreation Systems | Explores the nature of community building and attachment. Examines public, nonprofit and private sector services. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PRM | 335 | Sports and Recreation for Youth Development | Provides an overview of definitions, statistics, theories and models, and types of programs surrounding youth development in relation to sports, recreation and leisure services. Addresses current trends related to youth development and collaborative partnerships in sports, recreation and leisure services at various levels within local, state, national and/or international systems. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Pre-requisite: Minimum 45 hours. Credit is allowed for only CSM 335 or PRM 335 |
| PRM | 340 | Outdoor Survival | Interdisciplinary approach to outdoor survival, including attitudes, psychological stress, physiological stress, preparation, hypothermia, navigation, flora, and wildlife. | N | PRA | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | |
| PRM | 350 | Tourism, Recreation and Sports Marketing | Critical examination of marketing principles in leisure and related industries in diverse settings, including local, national, and international. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 210, CSM 201 or TDM 205; ENG 102, 105 or 108 with C or better; MAT 142 or higher with C or better; minimum 45 hours; Credit is allowed for only CRD 350 or CSM 350 or PRM 350 or TDM 350 OR Visiting University Student |
| PRM | 364 | Foundations of Recreation Therapy | Overview of the fundamentals of therapeutic recreation. Introduces the delivery of treatment services for individuals with a variety of illnesses and disabling conditions experienced throughout the lifespan. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PRM | 370 | Public Lands Management | Introduces outdoor recreation resource delivery systems; history of wilderness and outdoor recreation resources; the role of outdoor recreation in society; outdoor recreation agencies; related environmental issues. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PRM | 380 | Wilderness and Parks in America | Examines the American Conservation Movement and the relationships between the environment and recreation behavior. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | SB & H | |
| PRM | 384 | Recreational Therapy Practicum | Facilitates a structured fieldwork experience with classroom instruction to integrate knowledge and develop skills and abilities in recreational therapy. Students gain direct service experience with health care, human services, education or recreation programs under the supervision of recreational therapists. | N | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3-12 | | Pre- or corequisite(s): PRM 364 |
| PRM | 400 | Intervention Techniques in Recreational Therapy | In-depth analysis of theoretical and philosophical approaches to therapeutic recreation practice with emphasis on various facilitation techniques used in therapy. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Pre- or corequisite(s): PRM 364 OR Visiting University Student |
| PRM | 401 | Managing Leisure Enterprises | Analyzes administrative function, structure, and policies. Successful application in administrative situations. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 210 or PRM 210; TDM 372 or CSM 203 or PRM 203; minimum 2.50 GPA; Credit is allowed for only CRD 401 or CSM 401 or PRM 401 OR Visiting University Student |
| PRM | 402 | Assessment and Evaluation of Community Services | Introduces applied leisure research with emphasis on program evaluation, research design, data collection techniques, and data analysis. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 210 or PRM 210; Credit is allowed for only CRD 402 or CSM 402 or NLM 402 or PRM 402 or TDM 402 OR Visiting University Student |
| PRM | 406 | Program Design and Administration in Recreational Therapy | Examines management strategies and standards of practice applied in a variety of therapeutic recreation programs. Students write a comprehensive program plan including methods of assessment, documentation, service planning, service delivery and evaluation. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): PRM 364 with C or better |
| PRM | 413 | Leadership and Professional Development in Recreational Therapy | Examines therapeutic recreation leadership theory and strategies, current professional issues, and refinement of professional philosophy and competencies that enable transition from student to professional. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |

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| PRM | 422 | Special Event Technology and Production | In-depth analysis of the theoretical and philosophical aspects of special event management relative to talent and entertainment, protocol, etiquette, ethics, and programming. Requires some field work in event management. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): PRM 145 (PRM 486) with C or better |
| PRM | 423 | Special Event Operations | Expands on the concepts of event programming with in-depth examination of the theoretical and philosophical aspects of event operations, festival site design, and working with subcontractors and vendors. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): PRM 145 (PRM 486) with C or better OR Visiting University Student |
| PRM | 427 | Where's the Money: Special Event Revenue Generation | Examines theoretical and philosophical aspects of revenue generation relative to special events through in-depth exploration of budgeting, accounting, and sponsorship opportunities. Requires field work at an event. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): PRM 145 (PRM 486) with C or better OR Visiting University Student |
| PRM | 440 | Advocacy in Therapeutic Recreation | Explores trends and issues facing the field of therapeutic recreation and applies advocacy practices to promote awareness and access. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CRD 563 or PRM 440 OR Visiting University Student |
| PRM | 450 | Therapeutic Recreation and Community Health | Explores health and social needs among vulnerable populations through classroom instruction and field exposure to maximize understanding and skill mastery assessing, planning and facilitating recreational therapy activities to promote community well-being. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only PRM 450 or PRM 550 OR Visiting University Student |
| PRM | 451 | Grant Writing | How to increase grant funding: creating fundable ideas, identifying sponsors, following guidelines, writing effectively, constructing budgets, responding to reviewers. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Credit is allowed for only NLM 451, 565 or PRM 451 |
| PRM | 453 | Inclusive Community Sport | Examines historical and contemporary perspectives shaping the organization and delivery of competitive and cooperative sport and recreation at the local, regional, national and international levels. Emphasizes exploration of barriers to sport and recreation among diverse sociocultural groups (age, disability, gender, race, etc.) and strategies to facilitate access and participation through a continuum of program delivery options including adapted sport and therapeutic recreation. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CSM 453 or PRM 453 OR Visiting University Student |
| PRM | 455 | Recreational Therapy and Play with Children, Youth and Families | In-depth study of the philosophical concepts, principles and techniques of play and recreation applied in practice to promote holistic health and well-being among children, youth and families. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Pre- or corequisite(s): CDE 244 or PRM 364 with C or better if completed OR Visiting University Student |
| PRM | 460 | Assessment and Documentation in Recreational Therapy | In-depth study of the therapeutic recreation assessment process, including examination of interview techniques, assessment instruments, treatment planning, outcomes, evaluation, research, and documentation. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Corequisite(s): PRM 364 OR Visiting University Student |
| PRM | 463 | Senior Internship | Supervised guided experience in selected agencies. | N | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3-12 | | Prerequisite(s): CRD 403 or PRM 413 with C or better; Credit is allowed for only CRD 463 or CSM 463 or NLM 463 or PRM 463 or TDM 463 |
| PRM | 470 | Environmental Communication | Park interpretation and environmental education that includes theories, principles and techniques. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 60 hours |
| PRM | 475 | Entrepreneurial Recreation and Tourism | Explores basic business principles and innovative processes involved in starting a small business in the commercial recreation and tourism industry. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only PRM 475 or TDM 475 OR Visiting University Student |
| PRM | 483 | Sports Tourism | Examines the relationship between sports and tourism, and the role of recreation and amateur sports as an economic and community development strategy. Also considers the motives, behaviors and experiences of sport tourists; the impacts of sport tourism; and trends in sports tourism. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CSM 483 or PRM 483 or TDM 483 OR Visiting University Student |
| PRM | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | Prerequisite(s): CRD 210, CSM 201, NLM 220, or TDM 205; minimum 72 hours; minimum 2.50 GPA |
| PRM | 485 | Sports Events | Expands the basic concepts of recreation, leisure or tourism program planning and leadership as they are specifically related to sport events management. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CSM 485 or PRM 485 |
| PRM | 487 | Advanced Special Events Management | Advanced principles of special event sponsorship, public relations, marketing, contracting, risk management, and financial management. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): PRM 145 (PRM 486) with C or better |
| PRM | 488 | Event Marketing and Promotion | In-depth look at the influence and role of print and social media in special event management. Studies theory, strategies, and planning relative to experience marketing, including the use of promotions. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): PRM 145 (PRM 486) with C or better |
| PRM | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-6 | | Prerequisite(s): Barrett Honors student |

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| PRM | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| PRM | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |
| PRM | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| PRM | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-3 | | |
| PRM | 550 | Therapeutic Recreation and Community Health | Students gain an in-depth understanding of health and social needs among vulnerable populations. The interprofessional course combines field exposure and classroom instruction to maximize understanding and skill mastery assessing, planning and facilitating leisure education, and recreation therapy activities to promote community health. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PRM 450 or PRM 550 |
| PRM | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OP2 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |
| PSB | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSB | 501 | Basic Principles of Applied Behavior Analysis | Fundamental principles of behavior including the history, theory, definitions, processes, concepts and characteristics of applied behavior analysis. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | |
| PSB | 510 | Basic Principles of Experimental Analysis of Behavior | Practical applications of research methodology to examine the effects and evaluate the efficacy of behavioral interventions. Provides an empirical science approach to designing, conducting and critically evaluating research involving applications of the experimental analysis of behavior in the use of graphic displays, single-case, ABAB, multiple baselines, changing criterion and alternating treatment designs. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of Psychology | 2 | | |
| PSB | 511 | Advanced Research Methods | Focuses on research techniques such as time-series methods for single-case assessment, behavior measurement and the effectiveness of treatment interventions on behavior. Topics include conducting component and parametric analyses and use of experimental designs such as withdrawal, reversal, criterion and multiple baselines. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of Psychology | 2 | | Pre-requisite: PSB 501; PSB 510 |
| PSB | 520 | Ethical Issues and Professional Standards in Applied Behavior Analysis | Ethical standards and legal responsibilities including regulatory requirements and Arizona licensing statutes for ABA professionals who provide services to individuals with special needs and their families. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | |
| PSB | 530 | Behavioral Observation and Functional Assessment | Focuses on how to conduct behavioral observations and functional analyses using various methods for assessment and for data collection, organization and interpretation. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Pre-requisite: PSB 501; PSB 510 |
| PSB | 540 | Development of Applied Behavioral Intervention Programs | Techniques for conducting task analyses; developing target intervention outcomes; determining alternative behaviors and environmental changes; use of behavior change procedures such as reinforcement, extinction, punishment, shaping, modeling, training and teaching. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSB 501, 510. Corequisite(s): PSB 530 |
| PSB | 563 | Basic Principles of Organizational Behavior Management | Overview and the use of Behavioral Systems Analysis (BSA) and Performance Management (PM) as they relate to the identification and modification of environmental variables that can affect and improve individual and organizational performance as a system. Basic techniques include analysis of antecedents, behavior and consequences and development of interventions to support the desired performance improvements and increase system productivity. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of Psychology | 2 | | |
| PSB | 573 | Advanced Principles of Learning and Analysis of Behavior | Provides an in-depth review of the philosophy and theory of behaviorism and its scientific application. Includes Skinner's conceptual framework plus fundamental elements of behavior change and procedures. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | |
| PSB | 578 | Applied Behavior Analysis in Developmental Disorders | Provides an overview of the major theories and research related to the development of psychological disorders of childhood and adolescence including autism, attention deficit disorder, behavior disorders and intellectual disabilities. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): MS Applied Behavior Analysis major |
| PSB | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | |
| PSB | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSB | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | |

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| PSB | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | |
| PSB | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | |
| PSB | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | |
| PSB | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | |
| PSB | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | |
| PSB | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | Department of Psychology | 1 | | |
| PSB | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 1-4 | | |
| PSB | 600 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSB | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSB | 683 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | |
| PSB | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | |
| PSB | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | |
| PSB | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | |
| PSB | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | |
| PSB | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | |
| PSB | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | Department of Psychology | 1 | | |
| PSY | 101 | Introduction to Psychology | Major areas of theory and research in psychology. Requires participation in department-sponsored research or an educationally equivalent alternative activity. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | SB | |
| PSY | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 1-3 | | Prerequisite(s): Freshman; maximum 25 earned hours |
| PSY | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 1-4 | | |
| PSY | 211 | The Criminal Mind | Introduces the field of forensic psychology--how psychology and behavioral science are used to understand individual criminal behavior, investigate crimes and prosecute offenders. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | |

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| PSY | 224 | Introduction to Cognitive Neuroscience | Surveys topics relating brain activity to cognitive processes and behavior. Begins with an overview of neurophysiology and techniques to measure brain activity. Discusses perceptual and motor processes before investigating neural responses related to attention, memory and cognitive control. Concludes with a discussion of brain processes related to reward, decision making and social cognition. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Credit is allowed for only NEU 310 or NEU 394 (Fundamentals of Cognitive Neuroscience) or PSY 224 or PSY 294 (Introduction to Cognitive Neuroscience) |
| PSY | 230 | Introduction to Statistics | Basic concepts in descriptive and inferential statistics, emphasizing applications to psychology. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | CS | Prerequisite(s): PSY 101 (PGS 101) with C or better; MAT 119, 170, 242, 243, 251, 260, 261, 262, 270, 271, 272, 274, 290 or 291 with C or better OR Visiting University Student |
| PSY | 231 | Honors Introduction to Statistics | Basic concepts in descriptive and inferential statistics, emphasizing applications to psychology for honors students. Lab includes learning to use statistical software packages. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 4 | CS | Prerequisite(s): Barrett Honors student; MAT 119, 170, 242, 251, or higher with C or better; PSY 101 with C or better |
| PSY | 244 | Introduction to Directed Child Study | Developmental theories and methods of social interaction with preschool children and supervised practicum in the Child Study Laboratory. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | |
| PSY | 290 | Research Methods | Planning, execution, analysis, and reporting of experiments. Literature, procedures, and instruments in representative areas of psychological research. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 4 | L or SG | Prerequisite(s): ENG 102, 105 or 108 with C or better; PSY 101 (PGS 101) with C or better; ECN 221, JUS 302, POS 401, PSY 230, 231, QBA 221, SOC 390 or STP 226 with C or better OR Visiting University Student |
| PSY | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 1-4 | | |
| PSY | 302 | The Psychology of Positive Leadership | To thrive in the 21st century world requires innovation, collaboration and the ability to lead during times of change and complexity. There is increasing demand for leaders who can combine a high level of technical ability with the social skills that are necessary for groups of people to live and work productively and in harmony with each other. Focuses on helping students to understand and apply key psychological and social processes that create the conditions for leaders and teams to thrive in dynamic, collaborative environments. Students become familiar with foundational research insights through an "action learning" format that integrates theory with structured opportunities for self-reflection and individual- and group-level practice. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; PSY 101 OR Visiting University Student |
| PSY | 304 | Effective Thinking | Understanding and improving intellectual and behavioral skills; information analysis, inference, logic, problem solving, and decision making. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; MAT 119, 170 or higher or PSY 230 with C or better OR Visiting University Student |
| PSY | 306 | Environmental Psychology | Concepts and research strategies in the study of behavior in interaction with physical environment. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | SB | Prerequisite(s): PSY 101 (PGS 101) with C or better |
| PSY | 309 | Sleep and Dreaming | Explores something we usually take for granted: sleep--along with the party that occurs when the boss (rational thinking) is gone--dreaming! Our journey covers stages, physiology and genetics of sleep, myriad theories of dreaming, functions of both and dysfunctions (sleep disturbances and disorders). | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 101; minimum 30 hours; Credit is allowed for only PSY 309 or PSY 394 (Sleep and Dreaming) OR Visiting University Student |
| PSY | 310 | Consumer Psychology | Covers the whole range of consumer psychology on a fascinating journey: the psychology of desiring, acquiring, owning, consuming, reviewing (for other consumers), disposing, and saving (for future consumption). Overall goal is to raise awareness of marketing tactics and the psychology behind our desires, so that we can ultimately become wiser consumers! | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 101 with C or better; minimum 30 hours; Credit is allowed for only PSY 310 or PSY 394 (Consumer Psychology) OR Visiting University Student |
| PSY | 315 | Personality Theory and Research | Definition and description of personality in terms of theoretical and methodological approaches. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | SB | Prerequisite(s): PSY 101 with C or better; minimum 45 hours or PSY 290 with C or better OR Visiting University Student |
| PSY | 320 | Learning and Motivation | Principles of conditioning and motivation; approaches to learning, including acquisition of verbal materials, concepts, and motor skills; memory and transfer. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 290 with C or better OR Visiting University Student |
| PSY | 323 | Sensation and Perception | Underlying processes of vision, audition, and the other senses. Integrates theory, research, and application. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 290 with C or better; Credit is allowed for only NEU 323 or NEU 394 (Neuroscience of Perception) or PSY 323 OR Visiting University Student |
| PSY | 324 | Memory and Cognition | Processes underlying information storage and retrieval, including different kinds of memory, forgetting, depth of processing, and control processes. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 290 with C or better OR Visiting University Student |

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| PSY | 325 | Physiological Psychology | Relationships of physiological processes to behavior. Emphasizes nervous system functioning. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 290 with C or better or two of the following courses with C or better: BIO 181 (or 188), 182 (or 187), 201, 202; Credit is allowed for only LSC 325 or PSY 325 or PTX 325 OR Visiting University Student |
| PSY | 326 | Fundamentals of Brain Research | Introduces the study of the mind through brain research. Students acquire foundational knowledge in functional neuroanatomy, brain-mind relationships and brain research methodologies. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): PSY 290 with C or better; Credit is allowed only for PSY 326 or PSY 394 (Fundamentals of Brain Research) OR Visiting University Student |
| PSY | 330 | Statistical Methods | Advanced application of statistics to psychology. Highly recommended for students interested in attending graduate school. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | CS | Prerequisite(s): ECN 221, JUS 302, POS 401, PSY 230, PSY 231, SBS 304, SOC 390, or STP 226 with C or better OR Visiting University Student |
| PSY | 335 | Positive Psychology | Examines the theoretical foundations, empirical bases and practical applications of positive psychology. | N | LEC | N | Z1 | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 101 with C or better; minimum 45 hours or PSY 290 with C or better; Credit is allowed for only PSY 335 or PSY 394 (Positive Psychology: The Science of Happiness) OR Visiting University Student |
| PSY | 338 | Emotional Intelligence | Emotions are important; emotions have meaning and utility. Students have the opportunity to enhance their knowledge of positive psychology and emotional intelligence and practice skills related to supporting and enhancing emotional intelligence--a key factor in sustainable happiness and well-being. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): PSY 101 with C or better; minimum 45 hours or PSY 290 with C or better; Credit is allowed for only PSY 338 or PSY 394 (Positive Psychology of Emotional Intelligence) OR Visiting University Student |
| PSY | 340 | Psychology of Academic Motivation and Growth | There is a large self-help market claiming to harbor psychological secrets of success, but how do these claims and theories hold up to the science? Is it true that you just need to "believe it to achieve it"? Can you really engage in simple "brain exercises" to become a smarter person overall? This course critically reviews the behavioral science literature on psychological strategies of success, and explores the role of social cognitive influences that help form our academic self-concepts and beliefs and how they influence behaviors and performance. Contains a review of the literature examining the significance of short cognitive and psycho-educational interventions that can increase achievement motivation and improve academic performance. Finally, reflects on the role of society in applying this psychological literature toward improving educational systems and social policies. Students become familiar with the works of psychologists such as Albert Bandura, Carol Dweck, Allan Wigfield, Jacquelynne Eccles, Claude Steele, Joshua Aronson, Geoffrey Cohen, Paul Sackett and Arthur Jensen. Students critically appraise and challenge the controversial works of noted psychologists who suggest intelligence is an innate, fixed trait, or that intelligence differs in individuals as a function of belonging to a certain group or class of people. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): PSY 101 with C or better; minimum 30 hours; Credit is allowed for only PSY 340 or PSY 394 (Psychology of Academic Success) OR Visiting University Student |
| PSY | 341 | Developmental Psychology | Analyzes behavior development in terms of psychological principles. Current research in human development. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | SB | Prerequisite(s): PSY 101 with C or better; minimum 45 hours or PSY 290 with C or better OR Visiting University Student |
| PSY | 344 | Directed Child Study | Theories and methods of intervention with preschool children and supervised practicum in the Child Study Laboratory. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | SB | Prerequisite(s): CDE 232, ECD 211 or PSY 341 (PGS 341) with C or better OR Visiting University Student |
| PSY | 350 | Social Psychology | Human social behavior, including such concepts as aggression, attraction, attribution, conformity, groups, helping, person perception, and persuasion. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | SB | Prerequisite(s): PSY 101 with C or better; Credit is allowed for only PSY 350 or PSY 351 OR Visiting University Student |
| PSY | 351 | Honors Social Psychology | Critical analysis of human social behavior for honors students; topics include stereotyping, social influence, attraction, aggression, helping, groups, and attitudes. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | L or SB | Prerequisite(s): Barrett Honors College student; ENG 101, 105, or 107 with C or better; PSY 101; Credit is allowed for only PSY 350 or PSY 351 |
| PSY | 360 | Cognitive Science | Examines cognition from the varied perspectives of philosophy, linguistics, psychology, computer science (artificial intelligence), and neuroscience. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 101 with C or better OR Visiting University Student |
| PSY | 365 | Community Psychology | Mental health and psychological well-being in the community, emphasizing current issues and related research. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | SB | Prerequisite(s): PSY 315 (PGS 315), PSY 350 (PGS 350) or PSY 351 (PGS 351) with C or better; PSY 290 with C or better |

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| PSY | 366 | Psychological Disorders | Covers historical and current etiological theories, assessment, prevention and treatment of mental, emotional and behavioral disorders. Discusses sociocultural and neurobiological influences. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | SB | Prerequisite(s): PSY 101 with C or better; minimum 45 hours or PSY 290 with C or better OR Visiting University Student |
| PSY | 368 | Forensic Psychology | Clinical practice of forensic psychology: the assessment and treatment of people who interact with the legal system. Focuses on the ways in which psychologists do clinical work (assessment and treatment) to help courts make informed decisions about cases. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): PSY 101; PSY 290 or minimum 45 hours OR Visiting University Student |
| PSY | 369 | Biology of Human Sexuality | Multilevel perspective on human sexuality and reproduction. Integrates psychological with evolutionary, physiological and neuroscientific approaches. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): PSY 101 with C or better; one semester of biology; Credit is allowed for only LSC 369 or PSY 369 or PTX 369 OR Visiting University Student |
| PSY | 370 | Interpersonal Relationships | Development of personal skills for competent functioning in interpersonal relationships across multiple social contexts. Principles of mental health adjustment. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | SB | Prerequisite(s): PSY 101 with C or better OR Visiting University Student |
| PSY | 375 | Psychology of Addictive Behavior | Offers a psychological perspective on addictions, including those related to drug use, gambling, sex, eating and Internet use. Specific topics include basic pharmacology, behavioral processes in addiction, behavioral economics, impulsiveness, delay discounting, self-control, self-regulation, and prevention and treatment of addictions. Some of the data presented in the course derive from animal models; an evolutionary perspective is assumed throughout. Encourages students to think critically about drug use and dependence and about addictions in general. Students achieve these objectives through assigned readings (primarily empirical research), writing assignments, and active participation in, and facilitation of, class discussions. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only PSY 375 or PSY 394 (Psychology of Addictive Behaviors) OR Visiting University Student |
| PSY | 384 | Psychology Undergraduate Teaching Assistant | The UTA experience allows students to work with the faculty to contribute to the effectiveness of a particular class and provides them with a unique educational benefit commensurate with their receiving upper-division course credit. Provides students with experience in teaching and interacting with faculty and students. These experiences help students make a decision about whether to pursue a graduate degree in psychology and to develop a personal philosophy of learning and teaching. | N | PRA | Y | YGB | The College of Liberal Arts and Sciences | Department of Psychology | 1-3 | | Prerequisite(s): PSY 101 with C or better; minimum 30 hours; Credit is allowed for only PSY 384 or PSY 394 (Undergraduate Teaching Assistant) OR Visiting University Student |
| PSY | 385 | Psychology of Gender | Examines, from a psychological perspective, multiple frameworks about gender to better understand the integral role that gender plays in the field of psychology and human development (e.g., physical/cognitive/social development, behaviors, experiences, attitudes). Relies on both scientific and anecdotal evidence to understand how biological and social forces interact to shape the construction, regulation, experience and expression of gender. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PSY | 390 | Experimental Psychology | Continuation of concepts in PSY 290, with emphasis on multifactor designs and programmatic sequence of experiments. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; PSY 290 with C or better OR Visiting University Student |
| PSY | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 1-4 | | Prerequisite(s): PSY 101 with C or better; minimum 30 hours OR Visiting University Student |
| PSY | 399 | Supervised Research | Experience within the context of current faculty research projects. Student is assigned responsibility depending on qualifications. | Y | RSC | Y | YGB | The College of Liberal Arts and Sciences | Department of Psychology | 1-3 | | |
| PSY | 400 | Topics in Neuroscience | Covers in-depth important and emerging developments in neuroscience, emphasizing lectures that include readings of recent reviews and contemporary publications in peer-reviewed journals. Includes a significant writing component; students learn skills for writing scientific publications and grant applications. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): BIO 360 with C or better; Credit is allowed for only BIO 400 or KIN 400 or PSY 400 or SHS 400 |
| PSY | 414 | History of Psychology | Historical development of psychology from its philosophical beginnings to the present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; PSY 290 with C or better OR Visiting University Student |
| PSY | 420 | Analysis of Behavior | Research, applications, and philosophy of the analysis and control of human behavior. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; PSY 290 with C or better; PSY 320 with C or better OR Visiting University Student |
| PSY | 424 | Genetic Psychology | Introduces the concepts, methodologies, and findings of behavioral genetics for Psychology majors. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better and PSY 290 with C or better OR Visiting University Student |

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| PSY | 425 | Biological Bases of Behavior | Critical study of physiological psychology, e.g., brain mechanisms underlying motivation, learning. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; PSY 325 with C or better OR Visiting University Student |
| PSY | 426 | Neuroanatomy | Structure and function of mammalian brain, including sheep brain dissection. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 4 | | Prerequisite(s): PSY 325 with C or better; Credit is allowed for only PSY 426 or PSY 526 OR Visiting University Student |
| PSY | 430 | Industrial Psychology | Organizations and management systems: motivation and work performance; human factors in systems design and evaluation; personnel selection and testing. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): MGT 301 or PSY 101 with C or better OR Visiting University Student |
| PSY | 432 | Embodied Cognition | Do left-handers think differently from right-handers? Do paraplegics perceive the world differently from those who can walk? If you say about a potential date, "He leaves me cold," do you literally feel cold? And does a Botox treatment to alleviate frown lines makes it difficult to understand sentences about sadness? The surprising answer to all of these questions is YES! Embodied cognition proposes that thinking is based on neural and bodily systems of perception, action and emotion. Explores this claim through readings, discussions, debates and embodied interactions, and considers implications of embodied cognition across areas of psychology and applications in education. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of Psychology | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; PSY 290 with C or better; Credit is allowed for only PSY 432 or PSY 498 (Embodied Cognition) or PSY 529 OR Visiting University Student |
| PSY | 434 | Cognitive Psychology | Human organism as a processor of information, from perception to cognition. Abstract concepts, semantic memory, attention, and mental imagery. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; PSY 323 or 324 with C or better OR Visiting University Student |
| PSY | 437 | Human Factors | Emphasizes human factors in high-technology systems. Specific topics include systems development, systems analysis techniques, displays, and controls. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; PSY 290 with C or better OR Visiting University Student |
| PSY | 440 | Industrial/Organizational Psychology | Examines personnel selection, performance assessment, job and workplace design, job satisfaction, organizational behavior, management systems, and industrial safety. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): PSY 101 with C or better |
| PSY | 441 | Cognitive Development | Experimental and theoretical literature in child development and behavior. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; PSY 341 with C or better; PSY 290 with C or better OR Visiting University Student |
| PSY | 443 | Child and Adolescent Psychological Disorders | Covers historical and current etiological theories, assessment, prevention and treatment of childhood and adolescent mental, emotional and behavioral disorders. Discusses sociocultural and neurobiological influences. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; PSY 290 with C or better; PSY 315, 341, or 366 with C or better OR Visiting University Student |
| PSY | 444 | Adolescent Psychology and Psychopathology | Advanced-level survey of normal adolescent psychological development and psychological disorders of this age period. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 290 with C or better; PSY 341 with C or better OR Visiting University Student |
| PSY | 446 | Social Development | Discusses theory, research, and issues regarding social development. Topics may include formation of attachments, prosocial development, and gender-role development. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; PSY 341 with C or better; PSY 290 with C or better OR Visiting University Student |
| PSY | 447 | Psychology of Aging | Analyzes loss, maintenance, and gain associated with cognitive and affective aging. Individual differences in coping with normative life transitions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | SB | Prerequisite(s): PSY 290 with C or better OR Visiting University Student |
| PSY | 451 | Stereotyping, Prejudice, and Discrimination | Critical investigation of the processes underlying, and the factors contributing to, stereotyping, prejudice, and discrimination. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; PSY 350, or 351 with C or better; PSY 290 with C or better OR Visiting University Student |
| PSY | 453 | Organizational Behavior | Surveys psychological theory and research as applied to the behavior of individuals in organizational settings. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | Prerequisite(s): PSY 350 with C or better; Credit is allowed for only PSY 453 or PSY 598 (Organizational Behavior) OR Visiting University Student |
| PSY | 458 | Group Dynamics | Theories and methods of group leadership, group effectiveness, communication within groups, and relations between groups and individual members. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 350 (PGS 350) or PSY 351 (PGS 351) with C or better; PSY 290 with C or better |
| PSY | 461 | Interpersonal Influence | Principles and procedures that affect the process of social influence; consideration of attitudinal, compliance-inducing, and perceptual influences. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | SB | Prerequisite(s): PSY 290 with C or better; PSY 350 (PGS 350) or 351 with C or better |
| PSY | 462 | Health Psychology | Contributions of psychology to health promotion and illness prevention, adaptation to acute and chronic illness, and to the healthcare system. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 290 with C or better OR Visiting University Student |
| PSY | 465 | Psychology of Stress and Coping | Readings in theory and research in the area of stress and coping. Lecture, discussion, class presentations. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 315 (PGS 315), 350 or 351 with C or better; PSY 290 with C or better |
| PSY | 467 | Psychology of Criminal Investigation | Covers the techniques and processes of criminal investigation with a focus on understanding psychological factors that affect the reliability of criminal evidence and the accuracy of criminal justice outcomes. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): PSY 101 with C or better OR Visiting University Student |

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| PSY | 468 | Psychology and Law | Theories, research, and practice in psychology as related to law, including criminal, civil, domestic relations, and professional issues. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): CRJ 302; Law and Human Behavior certificate student OR PSY 290 with C or better OR Visiting University Student |
| PSY | 470 | Psychopharmacology | Basis of drug action at physiological and behavioral levels. Psychological and medical applications and limitations of drugs used in the treatment of mental illness. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): BIO 181, BIO 182, BIO 201, BIO 202, or PSY 325; Credit is allowed for only PSY 470 or PSY 570 OR Visiting University Student |
| PSY | 471 | Psychological Testing | Methods and theory of psychological testing; various types of psychological tests; consideration of ethical, social, and legal aspects of testing. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 290 with C or better |
| PSY | 472 | Clinical Psychology | Clinical psychology as a science and profession. Historical development, methods of interviewing, assessment, and therapeutic intervention. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 290 with C or better; PSY 366 or 443 with C or better OR Visiting University Student |
| PSY | 474 | Correctional Psychology | Covers the basic principles of correctional psychology, including psychologists' roles in prisons and jails, the unique challenges of working in these settings, establishing successful relationships with correctional staff and inmates, and the various career opportunities in correctional psychology. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): PSY 366; Credit is allowed for only CRJ 474 or PSY 474 OR Visiting University Student |
| PSY | 475 | Multicultural Issues in Clinical Psychology | Discussion-based course that focuses on cross-cultural conceptions of mental illness, diagnosis and treatment approaches, and beliefs and practices of specific ethnocultural groups in the United States. Encourage students to critically think about diversity issues in clinical psychology, one's own attitudes, and culture and psychology more broadly. Students achieve these objectives through reading empirical articles and chapters; taking quizzes and exams; completing hands-on exercises, essays and other writing assignments; and actively participating in and facilitating class discussions. | N | SEM | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Minimum 45 hours; Credit is allowed for only PSY 475 or 498 (Clinical Psychology: Multicultural Issues) |
| PSY | 482 | Social Influence and Consumer Behavior | Discusses social influence principles, emphasizing strategies employed by professionals that affect consumer behavior. Analyzes consumer defenses against manipulations. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): PSY 350 with C or better |
| PSY | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): minimum 45 hours |
| PSY | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | The College of Liberal Arts and Sciences | Department of Psychology | 1-6 | | Prerequisite(s): Barrett Honors student |
| PSY | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | The College of Liberal Arts and Sciences | Department of Psychology | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| PSY | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 1-4 | | Prerequisite(s): PSY 290 with C or better OR Visiting University Student |
| PSY | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | N | SEM | Y | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 1-6 | | Prerequisite(s): Barrett Honors student |
| PSY | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 1-7 | | Prerequisite(s): PSY 290 with C or better |
| PSY | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | Department of Psychology | 1-3 | | Prerequisite(s): PSY 399 |
| PSY | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): Criminal Justice MA student, Forensic Psychology MA student, Psychology MA student, Law and Psychology MIP MSP student, or Law and Psychology PhD student |
| PSY | 501 | Supervised Teaching | Experience in and examination of perspectives on teaching undergraduate psychology. | N | PRA | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 502 | Professional Issues in Psychology | Introduce graduate students to various aspects of the professional roles of psychology, as well as to the ethical standards of the profession. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree-seeking graduate student; Credit is allowed for only PSY 502 or PSY 598 (Seminar on Professional Issues in Psychology) |
| PSY | 503 | History and Scope of Psychological Science | Overviews the historical landmarks in the development of psychology as a scientific discipline. Explores the major research areas within psychological science through classic research studies and applications of research findings. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 505 | Cognitive Psychology: Theories and Applications | Covers the major research areas within cognitive psychology through classic theories, and highlights the overarching themes in the study of cognition. Students solidify conceptual knowledge by identifying opportunities where such knowledge is applied. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 512 | Advanced Learning | Principles and theories of learning, emphasizing research literature. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| PSY | 513 | Fundamentals in Quantitative Methods | Fundamental concepts in quantitative research, with an emphasis on basic statistical knowledge and skills. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PSY 513 or PSY 598 (Fundamentals in Quantitative Methods) |
| PSY | 514 | Fundamentals of Forensic Psychology Research | Overview of analyses and methods of forensic psychology research. Focuses on literacy and skills in assessment and scale development, experimentation and RCT, prediction and modeling, and presentation and synthesis of data. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 515 | Quantitative Analysis I | Introduces advanced experimental and quasi-experimental analysis. Focuses on group-based design and analysis of variance. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Criminal Justice MA student, Forensic Psychology MA student, Psychology MA student, Law and Psychology MIP MSP student, or Law and Psychology PhD student |
| PSY | 516 | Quantitative Analysis II | Advanced experimental and quasi-experimental analysis. Focuses on principles underlying linear regression and related statistical techniques. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): PSY 515 with B or better; Credit is allowed for only PSY 516 or PSY 598 (Psychological Methods II) |
| PSY | 517 | Quantitative Analysis III | Covers basic multivariate statistical techniques currently utilized in psychology with a primary focus on factor analysis and structural equation modeling. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): PSY 516 with B or better; Credit is allowed for only PSY 517 or PSY 598 (Quantitative Research Methodology & Statistics III) |
| PSY | 526 | Neuroanatomy | Covers the structure and function of the mammalian brain, including sheep brain dissection. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 4 | | Prerequisite(s): graduate; Credit is allowed for only PSY 426 or PSY 526 |
| PSY | 528 | Sensation and Perception | Principles of sensory and perceptual processes, emphasizing research literature. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 529 | Embodied Cognition | Do left-handers think differently from right-handers? Do paraplegics perceive the world differently from those who can walk? If you say about a potential date, "He leaves me cold," do you literally feel cold? And does a Botox treatment to alleviate frown lines make it difficult to understand sentences about sadness? The surprising answer to all of these questions is YES! Embodied cognition proposes that thinking is based on neural and bodily systems of perception, action and emotion. Explores this claim through readings, discussions, debates and embodied interactions, and considers implications of embodied cognition across areas of psychology and applications in education. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): graduate standing in Psychology; Credit is allowed for only PSY 432 or PSY 529 or PSY 591 (Embodied Cognition) |
| PSY | 530 | Intermed Statistics | One-way and factorial designs; contrasts; post-hoc tests; probing of interactions; mixed designs; power; computer applications; and statistical programming in SAS, R or SPSS. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HSE 530 or HSE 598 (Statistics for Human Systems Research III) or PSY 530 |
| PSY | 531 | Multiple Regression in Psychological Research | Multiple regression and correlation; hierarchical regression; interactions; curvilinear relationships; categorical predictors; ANOVA in regression; regression diagnostics; regression graphics; and statistical programming in SAS, R or SPSS. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 532 | Analysis of Multivariate Data | Matrix algebra for multivariate procedures, component and factor analysis, canonical and discriminant analysis, classification, MANOVA, logistic regression, hierarchical linear model. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 533 | Structural Equation Modeling | Path analysis; exploratory and confirmatory factor analysis; recursive and nonrecursive latent variable models; mean and covariance structures; latent growth models. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 534 | Psychometric Methods | Theory and practice of psychological measurement using classical and modern test theories. Reliability assessment, test validation, test construction, test usage. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 535 | Cognitive Processes | Theoretical/empirical treatment of the human organism as a processor of information, including abstraction, memory structure, problem solving, and thinking. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 536 | Statistical Methods in Prevention Research | Statistical methods used in prevention research including epidemiological methods, logistic regression, program effect estimation, estimation, and mediation analysis. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 537 | Longitudinal Growth Modeling | Growth modeling methodology to describe individual variation in development over time. Employs multilevel and structural equation modeling frameworks. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 538 | Advanced Structural Equation Modeling | Mean and covariance structure analysis. Includes multiple-group modeling, two-level hierarchical modeling, longitudinal growth modeling, analysis with categorical outcomes. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| PSY | 539 | Multilevel Models for Psychological Research | Multilevel (i.e., hierarchical linear) modeling, as described by Raudenbush and Bryk (2002) and others. Covers analytic strategies for analyzing a variety of different nested data structures (e.g., couples data, clients nested within group therapy settings, children nested within classrooms, longitudinal data). Covers two- and three-level models for cross-sectional and longitudinal data and also addresses related topics such as centering and estimation. Students perform and interpret the results of these models using a variety of statistical software packages. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Pre-requisite: PSY 531; Credit is allowed for only PSY 539 or 591 (Multilevel Modeling) |
| PSY | 540 | Missing Data Analysis | Covers analytic strategies for analyzing data with missing values, with a special emphasis on modern approaches for dealing with missing data, in particular maximum likelihood missing data handling and multiple imputation, maximum likelihood estimation and multiple imputation. Familiarizes students with missing data theory, traditional analysis methods (e.g., deleting incomplete cases, single imputation methods), maximum likelihood estimation, multiple imputation, planned missing data research designs, and the inclusion of auxiliary variables. Students learn how to perform and interpret the results of these models using a variety of statistical software packages. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Pre-requisite: PSY 532; Credit is allowed for only PSY 540 or 591 (Missing Data) |
| PSY | 541 | Research in Cognitive Development | Theoretical and empirical issues in the study of children's knowledge and cognitive processes. Comparison of research in Piagetian and other traditions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 542 | Social Development | Reviews and critiques major issues in the area of social development. Covers theory, research, and content. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 543 | Statistical Mediation Analysis | Specifically covers the substantive motivations for mediating variables and third-variable effects (interaction, confounder, covariate and mediator) in general. Mediation represents a chain such that one variable causes a mediating variable and the mediating variable causes a dependent variable. Describes the single mediator model in detail including assumptions, estimators and geometric interpretations. Once the details of the single mediator model are understood, analysis is extended to multiple mediator models, path analysis, and models with moderators and mediators. Discusses modern causal inference approaches for mediation along with latent variable models, multilevel models and special models for longitudinal data. Also describes research designs for investigating mediating variables. Students learn how to perform and interpret the results of analysis using a variety of statistical software packages. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 530; PSY 531; Credit is allowed for only PSY 543 or PSY 591 (Mediation) or PSY 591 (Statistical Mediation Analysis) |
| PSY | 544 | Advanced Psychology of Criminal Investigation | Reviews the different types of evidence that state and federal governments use to investigate crimes and incriminate suspected criminal offenders, with a focus on understanding psychological factors that affect the reliability of criminal evidence and the accuracy of criminal justice outcomes. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 545 | Advanced Legal Psychology | Surveys psychological theory and research as applied to the cognitions, feelings and behavior of individuals in the legal system. Explores the implications of several subfields of psychology (e.g., social, cognitive, clinical) for legal settings, such as police departments, courtrooms, jury rooms. Provides foundation for those who are considering a career in forensic psychology, law, social work, criminal justice and should also be interesting to those who want to know more about the social and psychological issues at play in the legal system. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 546 | Advanced Forensic Psychology | Advanced overview of the clinical practice of forensic psychology: the assessment and treatment of people who interact with the legal system. Focuses on the ways in which psychologists do clinical work (assessment and treatment) to help courts make informed decisions about cases. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 547 | Advanced Correctional Psychology | Principles of correctional psychology, including psychologists' roles in prisons and jails, the unique challenges of working in these settings and with incarcerated populations, establishing successful relationships with correctional staff and inmates. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 549 | Capstone in Forensic Psychology | Culminating experience for students in the Master of Science in Forensic Psychology program. Students review and synthesize current literature in the field and make actionable research and policy recommendations through written exams. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Forensic Psychology MS student |
| PSY | 550 | Advanced Social Psychology | Theory and research concerning interpersonal perception, decision making, attitude formation and change, group processes, social motivation, and interaction processes. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 551 | Advanced Social Psychology | Continuation of PSY 550. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| PSY | 553 | Capstone in General Psychology | Culminating experience for online students only in the Master of Science in Psychology program. Students review and synthesize current literature in the field and make actionable research and policy recommendations through written exams. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Psychology MS student |
| PSY | 554 | Item Response Theory | A collection of measurement models based on item response theory (IRT). The models express the probabilities of responses to test or questionnaire items as a function of latent respondent characteristics and item properties. IRT models form the basis for measurement in standardized educational testing, but generally are also now used in clinical, social and personality measurement in psychology, medicine and the social sciences. Assumptions underlying IRT models, methods of parameter estimation and fit evaluation. Also covers important applications of the models in computerized adaptive testing, the detection of measurement bias and multidimensional IRT. Uses several software tools useful in IRT modeling. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 534; Credit is allowed for only PSY 554 or 591 (Item Response Theory) |
| PSY | 555 | Experimental and Quasi-Experimental Designs for Research | Reviews research techniques. Analyzes lab and field research; applications to specific topics. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 560 | Advances in Theoretical Psychology | Covers new empirical and theoretical work in psychology with emphasis on its applicability. | N | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 562 | Advanced Human Factors | In-depth study of the issues, methods, and findings in industrial and organizational psychology. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PSY 562 or SMC 562 |
| PSY | 563 | Prevention Planning and Evaluation in Service Settings | Provides the foundational and theoretical knowledge necessary for prevention planning and evaluation in service settings. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 564 | Prevention Education, Communication and Service Delivery | Provides the foundational and theoretical knowledge necessary for aspiring professionals planning to serve as a resource to community members and organizations regarding prevention education, the promotion of programs, services and activities as well as maintaining good public relations. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 567 | Prevention Organization and Community Change | Provides the foundational and theoretical knowledge necessary for affecting organizational and community change to promote and engage in evidence-based prevention practices. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 568 | Stress and the Brain | Covers the fundamentals of stress and brain interactions. Presents a foundation from a historical perspective, then the basics of an organism's stress response, including the activation of the sympathetic nervous system and the hypothalamic-pituitary-adrenal axis. The stress response is highly conserved and allows organisms to respond and adapt to their environment. A highly effective and robust stress response facilitates adaptation and behavioral flexibility. However, a maladaptive stress response can produce detrimental outcomes. The ultimate goal is to understand the dynamic and reciprocal processes by which the stress response and brain interact to produce behavioral flexibility and resilience or detrimental outcomes. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s) degree- or nondegree-seeking graduate student; Credit is allowed for either BIO 568 or PSY 568 |
| PSY | 569 | Professional Ethics, Growth and Responsibility in Prevention | Provides the foundational knowledge necessary for engaging and maintaining practices in prevention that are ethical, culturally responsive and adhere to the beneficence and non-maleficence principles. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 570 | Psychopharmacology | Provides a broad overview of numerous classes of both psychotherapeutic and addictive drugs (which are sometimes overlapping). Focuses on the classification, mechanism of action, pharmacokinetics/pharmacodynamics, and clinical efficacy of medications that are currently used for the treatment of various psychiatric disorders including mood disorders, anxiety, schizophrenia, ADHD and other conditions. The latter portion of the class focuses on therapeutic drugs that also have abuse potential, including some psychostimulants, opiates, sedative/hypnotics, cannabinoids, steroids and hallucinogens. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PSY 470 or PSY 570 or PSY 591 (Psychopharmacology) |
| PSY | 573 | Psychopathology | Theory and research relating to the contribution of psychological, social, physiological, and genetic factors to the development and persistence of abnormal behavior. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 574 | Psychotherapy | Detailed survey of the theoretical and empirical literature relating to verbal psychotherapy. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 576 | Dynamical Systems in Psychology | Analyzes patterns of behavior change in psychological systems. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 578 | Developmental Psychopathology | Covers major theories and research related to the development of psychological disorders of childhood and adolescence. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| PSY | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | Department of Psychology | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 600 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 601 | Addiction and Substance Abuse: Assessment and Diagnosis | Discusses scientifically informed approaches to assessment. Reviews research-based practical strategies for assessing the clinical symptoms, treatment needs and clinical outcomes of individuals who have problems with substance use. Students examine and explore how sociocultural views of substance use relate to patterns of use, and impacts individuals with substance use disorders, and their families. Uses a biopsychosocial approach to discuss the processes involved in addictive behaviors. Addresses how to weave assessment through the entire process of care, from initial screening, through treatment, to relapse prevention. Examines various screeners and assessments, and diagnostic interviews used to detect substance use disorders, along with the strengths and limitation of each. Also reviews how to communicate findings of assessments and diagnoses to individuals, parents and legal entities. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 602 | Comorbidity in Substance Use Related Problems | Reviews common co-occurring psychiatric, medical and legal problems with substance use related disorders. Discusses scientifically informed approaches to assessment and treatment. Examines and explores how mental illness in combination with chemical dependency and/or substance abuse plus other challenges, such as disabilities and legal problems, impacts individuals, families and society. Uses a biopsychosocial approach to explore and identify evidence-based practice and research in dual diagnoses. Addresses all of the DSM 5 major disorders, including mood, anxiety and psychotic disorders occurring with substance abuse. Examines various screeners and assessments used to detect the presence of and severity of co-occurring disorders. Students learn about the efficacy of psychopharmacology and psychosocial treatments in the treatment of dual diagnoses disorders. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| PSY | 603 | Evidence-Based Interventions for Substance Use Related Problems | Provides a comprehensive review of the evidence-based psychosocial and pharmacological treatments for substance use related problems. Although the current evidence base for the effects of psychosocial interventions is sizable, subsequent steps in the process of bringing a psychosocial intervention into routine clinical care are less well defined. This course details the reasons for the gap between what is known to be effective and current practice and offers recommendations for how best to address this gap by applying a framework that can be used to establish standards for psychosocial interventions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 604 | Multicultural Issues Related to Substance Use Related Problems | Cultural competence refers to an ability to interact effectively and respectfully with people of different cultural and socioeconomic backgrounds. Developing cultural competence results in an ability to understand, communicate with and effectively interact with people across cultures. Within the substance use field, programs with culturally responsive policies, assessments and treatment practices have been associated with higher retention of minorities in substance use treatment. Reviews the historical and cultural context of the most prominent cultures in the state of Arizona such as Hispanic Communities, Native Americans, African Americans, Asians and Pacific Islanders. Also reviews the historical and cultural context across sex, gender and sexual orientation as it relates to substance use. Spends the majority of the course time discussing the development of culture-centric approaches in practice, barriers to treatment and integrating diversity into treatment. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 605 | Group Therapy for Substance Use-Related Problems | Provides a comprehensive review of group dynamics and processes as they relate to addictions and substance use disorders. Reviews theories, research and evidence-based treatment interventions related to group therapy for addictions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 606 | Case Management for Substance Use Related Problems | Successful treatment of substance use disorders requires a comprehensive approach in order to be effective. Case management provides support for clients throughout the treatment process by assessing needs and then arranging, coordinating, monitoring, evaluating and advocating for a package of multiple services to meet the specific client's complex needs. Reviews the principles, knowledge, skills and attitudes necessary to provide evidence-based case management services. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): Addiction Psychology MS student |
| PSY | 607 | Family and Adolescent Treatment for Substance Use Related Problems | Surveys topics of treatment modalities, interventions, psychoeducation, crisis management, trauma-informed care and continuing care for families and adolescents. Covers empirically validated and evidence-based treatments. Students learn to implement interventions based on the assessment and guided by the treatment plan. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): Addiction Psychology MS student |
| PSY | 608 | Supervision of Addictions Counselors | Supervision provides a bridge between the classroom and the clinic, and it is necessary to improve client care, develop the professionalism of clinical personnel, and impart and maintain ethical standards in the field. Provides an overview of the fundamentals, principles, models and methods of clinical supervision. Examines the roles, functions, skills and competencies of clinical supervisors with consideration for the unique aspects of supervising addiction counselors. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): Addiction Psychology MS student |
| PSY | 678 | Preventive Psychosocial Interventions that Work | Provides the foundational knowledge necessary for identifying evidence-based protocols. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OP3 | The College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OP3 | The College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | The College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | The College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| PSY | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | Department of Psychology | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | The College of Liberal Arts and Sciences | Department of Psychology | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | Department of Psychology | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PTX | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-3 | | |
| PTX | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | |
| PTX | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | |
| PTX | 301 | Basics of Pharmacology and Toxicology | Human pharmacology and toxicology focusing on mechanisms of drug action, clearance systems and dose response. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better; CHM 234 with C or better OR Visiting University Student |
| PTX | 325 | Physiological Psychology | Relationships of physiological processes to behavior. Emphasizes nervous system functioning. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): PSY 290 with C or better or two of the following courses with C or better: BIO 181 (or 188), 182 (or 187), 201, 202; Credit is allowed for only LSC 325 or PSY 325 or PTX 325 OR Visiting University Student |
| PTX | 369 | Biology of Human Sexuality | Multilevel perspective on human sexuality and reproduction. Integrates psychological with evolutionary, physiological and neuroscientific approaches. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): PSY 101 with C or better; one semester of biology; Credit is allowed for only LSC 369 or PSY 369 or PTX 369 OR Visiting University Student |
| PTX | 386 | STEAM Service Learning | Guided process in which students deepen their understanding of their STEAM content area through knowledge-based problem solving that provides a service to others in the community. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ACO 386 or ENV 386 or FOR 386 or LSC 386 or PTX 386 or LSC 494 (Service Learning in the Life Sciences) |
| PTX | 388 | STEM Research Fundamentals | Teaches research skills in the natural sciences. Topics covered include the basic research techniques of the study organism and system, experimental design, literature searches, statistical analysis and preparation of scientific papers and posters. | N | LEL | Y | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 320, BIO 182, or MAT 272 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only ENV 388 or FOR 388 or LSC 388 or PLB 388 or PTX 388 OR Visiting University Student |
| PTX | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | Prerequisite(s): minimum 45 hours |
| PTX | 401 | Forensic Toxicology | Focuses on toxicology as it pertains to forensic science. Topics include: the history of toxicology; the pharmacodynamics and pharmacokinetics of drugs and alcohol in the human body; as well as the legal applications of toxicology. Also discusses ethics, quality control and quality assurance, and courtroom testimony (as they relate to forensic toxicology). May address other topics such as environmental toxicology, poisons, and current topics related to forensic toxicology. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Pre- or corequisite(s): BIO 305 or FOR 286 with C or better if completed OR BIO 353 with C or better if completed; LSC 347 with C or better if completed; Credit is allowed for only FOR 401 or PTX 401 OR Visiting University Student |
| PTX | 404 | Forensic Toxicology Laboratory | Focuses on best practices and contemporary protocols and practices used by forensic toxicology labs. Offers topics and exercises dealing with drugs of abuse including alcohol, prescription medications, over the counter medications, and other substances which may be found in the body by the forensic toxicologist. | N | LAB | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Pre- or corequisite(s): BIO 305 or FOR 286 with C or better if completed; FOR 401 with C or better if completed; Credit is allowed for only FOR 404 or PTX 404 OR Visiting University Student |

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| PTX | 432 | Fundamentals of Pharmacology | Aspects of pharmacology using an integrated approach to familiarize students with natural and synthetic therapeutic agents used in medicine. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): BCH 361, BCH 371, or BIO 353 with C or better; BIO 340 or LSC 347 with C or better; CHM 231 or 234 with C or better; Credit is allowed for only LSC 432 or PTX 432 OR Visiting University Student |
| PTX | 450 | Pharmacology and Toxicology Laboratory | Provides experimental and laboratory experience in conducting toxicology tests to determine the ED50 and LD50 for chemicals. Covers the pragmatic considerations of experimental design, implementation and data analysis. Experiments include whole organism tests as well as cell assays and numerical modeling experiments. | N | LAB | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Prerequisite(s): BCH 372 or BIO 354 with C or better; Pre- or corequisite(s): FOR 475, LSC 432, LSC 475, PTX 432, or PTX 475 with C or better if completed OR Visiting University Student |
| PTX | 475 | Principles of Toxicology | Presents the fundamental principles of toxicology and its application to both human and environmental situations. Starts with the means of defining and quantifying toxic effects through dose response curves (e.g. LD50, EC50, LOEL, NOEL). Then focuses on absorption pathways for toxicants as well as the degradation metabolism pathways for toxicants. Finally focuses on the mechanism of toxic action for common poisons and environmental pollutants. Emphasizes toxicants that students are likely to encounter in forensics and environmental fields. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): BCH 361 or 371 with C or better; Credit is allowed for only FOR 475 or LSC 475 or PTX 475 |
| PTX | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | YGB | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): minimum 45 hours |
| PTX | 486 | Peer Mentoring in STEM | Advanced students learn and apply mentoring skills in science classes or teaching labs. | Y | SEM | Y | YGB | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ACO 486 or BIO 486 or LSC 486 or MAT 486 or PTX 486 or STP 486 OR Visiting University Student |
| PTX | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-6 | | Prerequisite(s): Barrett Honors student; minimum 45 hours |
| PTX | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better; minimum 45 hours |
| PTX | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | Prerequisite(s): minimum 45 hours |
| PTX | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-6 | | Prerequisite(s): Barrett Honors student; minimum 45 hours |
| PTX | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-7 | | Prerequisite(s): minimum 45 hours |
| PTX | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | YGB | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-3 | | Prerequisite(s): minimum 45 hours |
| PTX | 565 | Laboratory Leadership, Policy and Practice | Focuses on essential laboratory management functions, knowledge and skills required to successfully function as a laboratory manager and/or senior-level scientist in clinical, academic, research and applied science laboratories (e.g., forensic science laboratories). Topics include quality assurance and quality control; laboratory accreditation and audits; standards for specific accrediting bodies including but not limited to CLIA, CAP, ASCLD/LAB, OSHA; documentation and sample accessioning; laboratory safety and chemical hazard programs; validation studies and protocol development; certification of individual scientists; and overall laboratory management "best practices." | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only FOR 565 or LSC 565 or PTX 565 |
| PUP | 190 | Sustainable Cities | Introduces technological, social, and cultural principles and innovations for cities under the notion of sustainability and sustainable development within the global, regional, and local contexts. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | (HU or SB) & G | Credit is allowed for only PUP 190 or SOS 111 OR Visiting University Student |
| PUP | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-3 | | Pre-requisites: Freshman standing; Maximum 25 hours |
| PUP | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| PUP | 200 | Cities in Cinema | Environmental, aesthetic, social, economic, political cultural, and other factors influencing global cities seen through films from around the world. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | HU & H & G | |

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| PUP | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| PUP | 301 | Introduction to Urban Planning | Theoretical and practical aspects of city planning. Interrelationships among physical planning, environment, government, and society. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| PUP | 343 | Latinas/os and the Environment | Examines the nexus among race/ethnicity, migration, class and the built and natural environment. Explores the proposition that Latina/o and other ethnic minorities and socioeconomically disadvantaged populations bear a disproportionate burden of environmental challenges and its consequences for equality, health and quality of life. Key topics include environmental racism, vulnerability and resilience, climate change, community organizing, and mobilization. Pays considerable attention to community-based efforts to deal with environmental problems affecting the Latina/o population in the U.S. Southwest. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): ENG 101 or 105 or 107 with C or better OR minimum 24 hours; Credit is allowed for only ASB 343 or PUP 343 or SOS 343 or TCL 343 or ASB/PUP/SOS/TCL 394 (Latinos and the Environment) |
| PUP | 360 | Urban Geography | External spatial relations of cities, internal city structure, and spatial aspects of urban problems in various parts of the world, particularly in the United States. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only GCU 361 or PUP 360 OR Visiting University Student |
| PUP | 361 | Planning Workshop | Basic site planning and design techniques. Collection and analysis of information and basic planning research. Report writing and public presentation skills. | N | PRA | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 4 | | Prerequisite(s): PUP 301 with C or better; Minimum 45 hours |
| PUP | 362 | Journey Stories: People and Place in Motion | Explores journeys, storytelling and geographies--real and imagined. Draws on novels, novellas, short stories, film and video in illuminating stories and storytelling as transformative of self, place and culture in human and more-than-human worlds. Enjoins journey stories through the trilogy movement, place and identity; signature themes in cultural geography that resonate across the arts, humanities and social sciences. Students respond to artfully rendered journeys in personal ways via word, image and sound, creating their own journeys en route. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | HU | Prerequisite(s): minimum 45 hours; Credit is allowed for only GCU 362 or PUP 362 or PUP 394 (Journey Stories: People & Place in Motion) OR Visiting University Student |
| PUP | 363 | History of Planning | Historical overview of western urban and regional planning and planning theory, focusing on the 19th and 20th centuries. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): PUP 301 with C or better OR Visiting University Student |
| PUP | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| PUP | 410 | Public Participation in Planning | Theory and practice of public participation in planning. Examines and critiques participation techniques and roles of planners. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): PUP 301 with C or better OR Visiting University Student |
| PUP | 411 | Environment, Justice and Cities | Concepts of environmental, social and ecological justice as they relate in particular to the urban realm. Examines urban impacts on environmental systems, and against this backdrop applies theories of justice to critically analyze the social distribution of environmental benefits and burdens embedded in urban space. Examines the way in which urban space is produced; how rights to that space vary; and how environmental, economic and social inequalities shape urban justice issues. Examines cities in the developed and developing world, as well as the environmental impacts on the regions providing resources and receiving urban waste. Also discusses justice implications for future generations and nonhuman life. Emphasizes the role urban planners can play in identifying and mitigating justice issues in the urban environment. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only PUP 411 or PUP 494 (Environment, Justice & Cities) or PUP 598 (Environment, Justice & Cities) OR Visiting University Student |
| PUP | 412 | History of the City | The city from its ancient origins to the present day. Emphasizes European and American cities during the last five centuries. Requires advanced critical thinking and evaluative skills appropriate to students at the junior or senior level as analytical essays and an in-depth research paper are required in addition to regular tests and quizzes. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | (L or HU) & H | Prerequisite(s): ENG 101, 105, or 107 with C or better; PUP 301 with C or better |
| PUP | 420 | Theory of Urban Design | Analyzes the visual and cultural aspects of urban design. Theories and techniques applied to selected study models. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; PUP 301 with C or better OR Visiting University Student |
| PUP | 424 | Planning Methods | Methods for urban planning research. Emphasizes research design, quantitative and qualitative methods, survey research, and data analysis. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 4 | | Prerequisite(s): PUP 301 with C or better OR Visiting University Student |
| PUP | 425 | Urban Housing Issues | Nature, dimensions, and problems of urban housing, government policy environment, and underlying economics of the housing market. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB | Prerequisite(s): PUP 301 with C or better; Credit is allowed for only PUP 425 or PUP 525 |

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| PUP | 430 | Transportation Planning and the Environment | Overview of transportation planning from the perspective of land use planning, economic development, environmental planning, and social needs. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): PUP 301 with C or better OR Visiting University Student |
| PUP | 432 | Planning and Development Control Law | Case studies on police power, eminent domain, zoning, subdivision controls, exclusion, preservation, urban redevelopment, and aesthetic and design regulation. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): PUP 301 with C or better OR Visiting University Student |
| PUP | 434 | Economic Development Planning | Provides a broad overview of urban economic development planning in the U.S. This overview includes the role and goals of economic development planning in today's global information economy. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; PUP 301 with C or better OR Visiting University Student |
| PUP | 436 | City Structure and Planning | Political structure and organization of government as it relates to planning. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; PUP 301 with C or better OR Visiting University Student |
| PUP | 442 | Environmental Planning | Environmental planning problems, including floodplains, water quality and quantity, solid and hazardous waste, air quality, landslides, and noise. | N | PRA | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): PUP 301 with C or better OR Visiting University Student |
| PUP | 445 | Women and Environments | Examines the role women play in shaping the built environment; ways built/natural forms affect women's lives. Focuses on contemporary U.S. examples. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | C | Prerequisite(s): junior, senior, post-baccalaureate undergraduate student, degree- or nondegree-seeking graduate student, or post-baccalaureate graduate |
| PUP | 451 | Geodesign and Urban Planning | Geodesign is a design and planning method which tightly couples the creation of design proposal with impact simulations informed by geographic contexts, systems thinking and digital technology. Covers the fundamental theory, concepts and frameworks of geodesign. Students become familiar with the geodesign process by reviewing case studies including specific case study applications from University of New South Wales and Arizona State University. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): GIS 205 or PUP 301 with C or better; Credit is allowed for GIS 451 or GIS 551 or PUP 451 or PUP 551 or GIS/PUP 494 (Geodesign and Urban Planning) or GIS/PUP 598 (Geodesign and Urban Planning) OR Visiting University Student |
| PUP | 452 | Ethics and Theory in Planning | Ethics and theory of professional planning practice in urban and regional communities. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; PUP 301 with C or better OR Visiting University Student |
| PUP | 462 | Graphic Design for Planners | Covers a synthesis of graphic design concepts for communication of complex data as well as advanced report production and public presentation skills. | N | PRA | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): PUP 301 with C or better OR Visiting University Student |
| PUP | 465 | Sustainable Urbanism | Examines the history, practice and core ideas of "sustainable urbanism," including leading thinkers, tools and strategies up to the present day. Topics include codes, metrics, certifications, charters, the Sustainable Development Goals and the New Urban Agenda. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prereq(s) w/C or better: Sustainability major or in a sustainability concentration; SOS 110; SOS 111 or PUP 190; min 45 hours OR non-Sus major, non-sus conc; PUP 301; Credit is allowed for only PUP 465 or PUP 565 or SOS 465 OR Visiting University Student |
| PUP | 481 | Fundamentals of Spatial Optimization | Covers the fundamentals of optimization for spatial analysis. Introduces math-based optimization methods, specifically linear programming, integer programming, and branch and bound. Provides the basics for use and application of GIScience and spatial analysis methods for suitability analysis and network analysis. Objectives include: reviewing basics of linear algebra; formulating and solving optimization problems using linear and integer programming; applying raster and vector GIS methods to site suitability analysis, shortest path, and service area problems; and integrating GIS into problem formulation and result visualization. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): GIS 205 or 211; MAT 170, 270, 271, or 272 with C or better; Credit is allowed for only GIS 461 or GIS 561 or PUP 481 or PUP 581 OR Visiting University Student |
| PUP | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Pre-requisites: Urban Planning undergraduate student |
| PUP | 485 | International Field Studies | Organized field study, culture and language in specified international locations. | Y | RSC | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | G | Pre-requisite: Junior standing; Credit is allowed for only GCU 485 or GPH 485 or LAP 485 or POR 485 or PUP 485 or 585 |
| PUP | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | IND | Y | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-6 | | Prerequisite(s): Barrett Honors student |
| PUP | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| PUP | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | Prerequisite(s): junior, senior, postbaccalaureate undergraduate student, degree- or nondegree-seeking graduate student, or postbaccalaureate graduate OR Visiting University Student |

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| PUP | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-7 | | |
| PUP | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-3 | | |
| PUP | 501 | Planning, History and Theory | Comprehensive review of planning profession within a political, governmental, multicultural, and gender framework. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) |
| PUP | 505 | GeoDesign Principles | Systematic exploration and evaluation of alternative complex human-environmental systems using spatially and temporally explicit theories, data and methods. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 2 | | Prerequisite(s): GIS 601 and 602, or PUP 576; Credit is allowed for only GIS 505 or PUP 505 |
| PUP | 510 | Public Participation in Planning | Explores the history, theory and practice of public participation in urban planning, including the emergence and uses of participation in the planning field; how to manage different types of processes; and the relationship between participation and social equity. Starts by addressing foundational concepts, the political context of planning, and the history of public involvement in planning decision-making. Next, delves into the process of preparing a public participation plan and explores a range of commonly used information sharing and consensus building techniques. Covers how to effectively lead public meetings and analyze information gathered. The latter part of the class focuses on special topics pertaining to public participation. These include bottom up, community-led processes, overcoming communication issues, changing opportunities for participation in the information age, engaging diverse groups, and participatory processes in the Phoenix region. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; Credit is allowed for only PUP 510 or PUP 598 (Public Participation Planning) |
| PUP | 515 | International Planning and Development | Introduces globalization, international development, international planning practices and policies, urbanization and urban and regional planning in developing nations. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 520 | Planning Practice, Ethics and Processes | Reviews past and current theoretical developments related to social change perspectives, the role and ethics of planners. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) |
| PUP | 525 | Urban Housing Issues | Nature, dimensions, and problems of urban housing, government policy environment, and underlying economics of the housing market. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only PUP 425 or 525 |
| PUP | 531 | Planning and Development Control Law | Case studies on police power, eminent domain, zoning, subdivision controls, exclusion, preservation, urban redevelopment, and aesthetic and design regulation. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 535 | Water Law and Planning | In-depth study of legal materials providing substantive knowledge of water law, water management issues, and land use planning options. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 542 | Environmental Planning | Environmental policies and their relationship to environmental planning practices. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PUP 442 or PUP 542 |
| PUP | 544 | Urban Land Use Planning | Theory and methods of urban land use planning, including the rational planning process, comprehensive, functional, and neighborhood plans. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 548 | Global Perspectives on Urban Resilience Planning | Theory and applications connecting sustainability sciences and practice to urban environmental planning. Sustainable urban development, restoration, and preservation. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 550 | Transportation and the Environment | Examines transportation planning from the perspectives of land use planning, economic development, environmental planning, and social needs. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 551 | Geodesign and Urban Planning | Geodesign is a design and planning method which tightly couples the creation of design proposal with impact simulations informed by geographic contexts, systems thinking and digital technology. Covers the fundamental theory, concepts and frameworks of geodesign. Students become familiar with the geodesign process by reviewing case studies including specific case study applications from University of New South Wales and Arizona State University. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; Credit is allowed for GIS 451 or GIS 551 or PUP 451 or PUP 551 or GIS/PUP 494 (Geodesign and Urban Planning) or GIS/PUP 598 (Geodesign and Urban Planning) |

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| PUP | 553 | Urban Infrastructure Anatomy and Sustainable Development | Understanding how built environment infrastructure systems interact with ecosystem services is critical for policies and decisions directing urban sustainability. Brings together students from several disciplines to develop a semester-long research project focused on a particular urban sustainability problem in Phoenix. During the semester, students are given background on how infrastructure systems work and are interdependent, and explore tools and methods for urban sustainability assessment with peers from several disciplines. As a class, students evaluate a particular urban sustainability problem for Phoenix, interact with local policy and decision makers in developing solutions, and present their findings at the end of the semester to the ASU community. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree-or nondegree-seeking graduate. Credit for only CEE 507 or 598(Urban Infrastruct Anatomy/Sustainable Dev) or PUP553 or 598(Urban Infrastruct Anatomy/Sustainable Dev) or SOS547 or SOS598 (Urban Infrastr Anatomy & Sustain Dev) |
| PUP | 561 | Urban Design Workshop | Workshop course focuses on applying knowledge and skills in a "real world" setting, developing meaningful planning and design proposals for existing urban areas. | N | STO | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 562 | Tribal Community Planning | Study of tribal planning and best practice including underlying social, political and environmental issues. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 564 | Transportation Systems Professional Seminar | Provides a cross-disciplinary exploration of multimodal transportation systems, with particular emphasis on those issues affecting the state of Arizona. Designed for graduate students in the interdisciplinary Transportation Systems Certificate program (though open to all graduate students), the course offers a broad overview of key concepts; transportation modes (road, rail, air, transit, non-motorized); geographic settings (rural, urban, parks, tribal lands, international trade); and issues (economics, equity, planning, safety, finance, regulation, environment, public participation and alternative fuels). Features speakers from various fields and academic disciplines related to transportation, introducing a variety of perspectives, terminology and methods. Designed as a graduate-level seminar, emphasizes active participation by all students in group discussions based on required readings and information presented by guest lecturers and the instructor. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PUP 564 or PUP 591 (Transportation Systems Pro Sem) |
| PUP | 565 | Sustainable Urbanism | Examines the history, practice and core ideas of "sustainable urbanism," including leading thinkers, tools and strategies up to the present day. Topics include codes, metrics, certifications, charters, the Sustainable Development Goals and the New Urban Agenda. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PUP 465 or PUP 565 or SOS 465 |
| PUP | 571 | Planning Methods I | Theory, methods, and techniques of demographic and economic analysis utilized in urban planning. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 576 | GIS Workshop | GIS as a tool to address large, multifaceted problems. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 577 | Communication and Visualization Tools in Planning | Covers graphic and verbal skills required to effectively communicate planning information and ideas. Emphasizes digital graphics and other computer-based tools and presentation formats, focusing on applying visual strategies and tools most often used by planners to make a persuasive argument. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 2 | | Prerequisite(s): degree- seeking or nondegree- seeking graduate student; PUP 570 and 571 with C or better |
| PUP | 579 | Planning Methods II | Covers key qualitative skills and techniques that planners require, including research design and the understanding of validity and reliability issues, case study research approaches, qualitative data collection strategies, and strategies for analysis. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; PUP 571 with C or better |
| PUP | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |
| PUP | 581 | Fundamentals of Spatial Optimization | Covers the fundamentals of optimization for spatial analysis. Introduces math-based optimization methods, specifically linear programming, integer programming, and branch and bound. Provides the basics for use and application of GIScience and spatial analysis methods for suitability analysis and network analysis. Objectives include: reviewing basics of linear algebra; formulating and solving optimization problems using linear and integer programming; applying raster and vector GIS methods to site suitability analysis, shortest path and service area problems; and integrating GIS into problem formulation and result visualization. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GIS 461 or GIS 561 or PUP 481 or PUP 581 |
| PUP | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Pre-requisite: Urban/Environmntl Planning MUEP student |

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| PUP | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |
| PUP | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): Urban and Environmental Planning graduate student |
| PUP | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRA | Y | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Pre-requisites: Urban and Environmental Planning graduate student |
| PUP | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | IND | Y | Z3 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): Urban and Environmental Planning graduate student |
| PUP | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| PUP | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Pre-requisites: Urban and Environmental Planning graduate student |
| PUP | 642 | Urban and Regional Economic Analysis | Land use and locational impact of economic activity and the urban real property market. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |
| PUP | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |
| PUP | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |
| PUP | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |
| PUP | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |
| PUP | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRA | Y | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |
| PUP | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | IND | Y | Z3 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | |
| PUP | 701 | Urban Planning Colloquium | Presents and discusses new research findings and methods in urban planning. | N | SEM | Y | YGB | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 710 | Current Planning Theory and Practice | Explores and critically evaluates planning theories and approaches with the objective of articulating new ideas for planning research. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 724 | Planning Methods for Doctoral Students | Tools useful for urban planning research; emphasis on research design and survey methods. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) |

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| PUP | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| QBA | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Economics | 1-12 | | Pre-requisites: Graduate Students only (degree and non-degree seeking) |
| RCR | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RCR | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RCR | 691 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RCR | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RCR | 791 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RCR | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RCR | 799 | Dissertation | Supervised research focused on preparation of a dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RDG | 291 | Children's Literature | Focuses on the reading, comprehension, interpretation and analysis of traditional, classic and contemporary children's literature. Provides an overview of the historical development of these texts. Explores the aesthetics of children's literature as a type of literature and its value as an art form. Deepens students' awareness of the role that children's literature plays in the social and cultural context in a multicultural American society. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | HU | |
| RDG | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| RDG | 322 | Language Literacy 1 in Elementary Schools | Theoretical knowledge and pedagogical skills for implementing a high-quality reading program. Course objectives and topics are aligned to standards for reading and research from the International Reading Association (IRA), Arizona College and Career Ready Standards (ACCRS), Interstate Teacher Assessment and Support Consortium (InTASC) standards, and the National Reading Panel Report (2000). Focuses on emergent literacy, phonemic awareness, phonics, fluency, vocabulary and comprehension. Presents strategies and assessments to support students of a variety of ability levels and cultural backgrounds with a specific focus on the struggling readers and English language learners. For education majors only. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program; Credit is allowed for only RDG 322 or SPE 325 |
| RDG | 323 | Literacy Processes in Content Areas | Principles and practices for planning subject matter units of instruction that explicitly address learning with texts across academic disciplines. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program OR Visiting University Student |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
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| RDG | 413 | Literacy Methods of Instruction and Assessment for Diverse Learners | The second of two required literacy courses for teacher certification. Focuses on instructional practices, assessment and interventions based upon scientifically-researched teaching methods, including systematic, explicit instruction in the essential components of literacy, multi-tiered systems of support and assessment-driven instruction. Content includes information and training on dyslexia and other types of reading challenges students may face when learning to read. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student; TEL 331; minimum 39 hours |
| RDG | 505 | Language and Literacy Across the Lifespan | Provides a foundational understanding of language and literacy development over the course of the lifespan. Addresses early literacy skills, decoding, comprehension, and affective factors of literacy. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate student |
| RDG | 507 | Content Area Literacy | Theory, teaching strategies, and practical application concerning learning from text across subject matter disciplines. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RDG | 508 | Essential Elements of Elementary Content Area Literacy (K-8) | Presents theory, rationale, and teaching strategies concerning learning from oral, print, and electronic texts across subject-matter disciplines. Emphasizes practical application of content area literacy principles. Familiarizes participants with the literate lives of today's youth, facilitate participants' inquiry into strategies to motivate students in content learning, and provide strategies to improve students' comprehension and application of content material. Readings, online inquiries, and assignments focus on application of course content. Emphasizes implications of recent research and theory in content literacy and adolescent literacy. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RDG | 510 | Literacies, Digital Technologies and Learning | Explores how literacies are changing as a result of emerging digital media and technologies, and the implications of these cultural and technological shifts for literacy teaching and learning. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RDG | 512 | Theoretical Foundations in Language and Literacy | Introduces theoretical lenses useful in understanding issues in language and literacy education and research. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RDG | 515 | Multimodal Literature for Children and Adolescents | Designed for classroom teachers, librarians and other interested literacy educators as part of the Masters of Arts degree in Literacy Education. Focuses on the analysis of children's, young adult and multimodal literature; understanding the modes of representation and communication used in these texts; and the various sociocultural roles these texts play in contemporary society. Provides participants with the opportunity to read, enjoy, analyze and discuss a wide variety of children's and young adult literature. Also explores numerous authors, illustrators, genres, formats and themes of children's and young adult literature. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): RDG 505; RDG 510; RDG 512 |
| RDG | 518 | Supporting Language and Literacy for Diverse Learners | Provides a foundation of theory and research related to literacy instruction for culturally and linguistically diverse learners. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): RDG 505; RDG 510; RDG 512 |
| RDG | 519 | Writing Throughout the Lifespan | This language and literacy course provides a foundational understanding of writing development, instruction and assessment. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): RDG 505; RDG 510; RDG 512 |
| RDG | 520 | Essential Elements of Elementary Literacy (K-8) | Intended for practicing teachers, focuses on the development of a comprehensive approach to Reading and Writing Instruction K-8. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RDG | 530 | Literacy Methods, Assessment and Reflection for Children (Pre-K to Grade 5) | Literacy methods and assessment course with a nine-week practicum experience utilizing assessment and instructional techniques for individualized reading instruction for children in pre-kindergarten through fifth grade. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 6 | | Prerequisite(s): RDG 505; RDG 510; RDG 512 |
| RDG | 531 | Language and Literacy I | Focuses on the theoretical knowledge and pedagogical skills necessary to equip future teachers to plan and implement high-quality reading and writing instruction in a classroom setting. Course objectives and topics are aligned to standards for reading and research from the International Reading Association (IRA), Arizona College and Career Ready Standards (ACCRS), Interstate Teacher Assessment and Support Consortium (InTASC) standards, and the National Reading Panel Report (2000). Focuses on reading readiness, language development, phonemic awareness, phonics, fluency, vocabulary and comprehension. Presents strategies and assessments to support struggling readers as well as a variety of ability levels and cultural and linguistic backgrounds to include English language learners. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): Teachers College graduate student; Credit is allowed for only RDG 531 or SPE 538 |

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| RDG | 532 | Language and Literacy II | Builds on the theoretical knowledge and pedagogical skills presented in the previous course. Uses diagnostic assessments in the planning and implementation of intervention literacy lessons for struggling readers/writers in a classroom setting as part of the course case study assignment. Includes differentiated instructional and assessment strategies to address the needs of diverse learners to include English language learners. Also includes an emphasis on writing and composition to ensure future teachers have the knowledge necessary to teach all forms of writing in the elementary classroom. Includes an overview of the historical development of children's literature and the criteria necessary for analyzing and selecting all genres of quality children's literature. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): Teachers College graduate student; Pre- or corequisite(s): RDG 531 |
| RDG | 540 | Literacy Methods, Assessment and Reflection for Adolescents and Adults (Grade 6-Adult) | Literacy methods and assessment course with a nine-week practicum experience utilizing assessment and instructional techniques for individualized reading instruction for adolescents (grade 6-12) and adults (age 16 and above not in K-12 setting). | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 6 | | Prerequisite(s): RDG 505; RDG 510; RDG 512 |
| RDG | 550 | Practicum Experiences in Elementary and Secondary Reading | Practicum experience utilizing assessment and instructional techniques for classroom settings. See RDG 557 for State of Arizona reading endorsement. | N | PRA | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RDG | 555 | Formal Measures of Literacy | Understanding the attributes of standardized tests and applying this information to analyze, select, and explore their use. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RDG | 556 | Assessment and Procedures in Elementary and Secondary Reading | Techniques for classroom and clinical reading/literacy assessment and instruction. Emphasizes continuous assessment. May be taken concurrently with RDG 550 or 557. Recommended for State of Arizona reading endorsement. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RDG | 563 | Children's Literature | Selects and uses children's literature and related nonprint media to support the elementary school curriculum. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| RDG | 572 | Literacy Teacher Leader | Provides a foundation in educational and instructional leadership that support continuous school literacy improvement. Also provides opportunities to apply these fundamentals by creating and conducting literacy workshops/professional development for a group of teachers or other literacy educators. Meets the leadership requirement for the AZ Reading Endorsement and serves as the capstone class for the Master of Arts in Curriculum and Instruction with a concentration in Language and Literacy. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Curriculum and Instruction (Literacy Education) MA student; Credit is allowed for only RDG 572 or RDG 598 (Literacy Teacher Leader) |
| RDG | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |

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| RDG | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 597 | Capstone | Provides a foundation in practitioner action research and literacy leadership with opportunities to apply these fundamentals by creating, conducting and researching literacy professional development for literacy educators and other community practitioners. Meets the leadership requirement for the AZ Reading Endorsement, addresses the International Literacy Association Standards for Literacy Professionals, and serves as the capstone class for the Master of Arts in Curriculum and Instruction with a concentration in Language and Literacy. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Literacy Education MA student |
| RDG | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 683 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| REA | 380 | Real Estate Fundamentals | Real estate for the student/consumer with an emphasis on the applied aspects of each area of real estate specialization. Not open to Real Estate majors. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): minimum 2.00 GPA; minimum 56 hours OR nondegree-seeking student; minimum 2.00 GPA, OR degree- or nondegree-seeking graduate student OR Visiting University Student |
| REA | 401 | Real Estate Appraisal | Factors affecting the value of real estate. Theory and practice of appraising and preparation of the appraisal report. Appraisal techniques. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): FIN 300, 302, 303 or REA 380 with C or better; minimum 2.50 GPA; minimum 56 hours OR Visiting University Student |
| REA | 411 | Real Estate Law | Legal and ethical aspects of land ownerships, interests, transfer, finance development, and regulations of the real estate industry. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prereq(s): W.P. Carey BA or BS BUS mjr or non-BUS stdnt w/ min 56 hrs & min 2.50 gpa; FIN 300, 302, or 303 or REA 380 w/ C or better OR degree- or nondegree-seeking grad stdnt; Credit allowed for only LES 411 or REL 411 OR Visiting University Student |

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| REA | 441 | Real Estate Land Development | Neighborhood and city growth. Municipal planning and zoning. Development of residential, commercial, industrial, and special purpose properties. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): W.P. Carey BA or BS Business major or non-business student with minimum 56 hours and minimum 2.50 GPA; FIN 300, 302, or 303 or REA 380 with C or better OR degree- or nondegree-seeking graduate student OR Visiting University Student |
| REA | 456 | Real Estate Investments | Analyzes investment decisions for various property types. Cash flow and rate of return analysis. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): FIN 300, 302, 303 or REA 380 with C or better; minimum 2.50 GPA; minimum 56 hours OR Visiting University Student |
| REA | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | GNA | W. P. Carey School of Business | Department of Finance | 1-12 | | |
| REA | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Finance | 1-4 | | Prerequisite(s): W. P. Carey BA or BS major OR non-Business major; minimum 56 hours; minimum 2.50 GPA OR undergraduate nondegree-seeking student; minimum 2.50 GPA OR degree- or nondegree-seeking graduate student OR Visiting University Student |
| REA | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Finance | 1-12 | | Pre-requisites: W.P. Carey degree seeking Graduate student |
| REA | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Finance | 1-12 | | |
| RED | 501 | Urban Economic and Real Estate Development Principles | Explores the basic principles of urban economics and their application to real estate decision making. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RED | 502 | Real Estate Valuation-Finance and Capital Markets | Addresses the concepts of valuation applied to real estate and teaches how to apply these principles. Intermediate- to advanced-level course in mortgage finance, and associated capital market innovations. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RED | 503 | Real Estate Market Analysis | Focuses on market analysis and market data gathering methods, means, and techniques necessary in identifying market opportunities and developing specific market strategies for successful real estate development. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RED | 504 | Real Estate Site Analysis, Master Planning and Design | Analyzes the physical characteristics of a property, including the site and physical area, legal, political, economic, and financial facts that impact the highest and best use of a property and what can be built upon the property. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RED | 505 | Land Use Law and Public Entitlement Process | Covers a basic understanding of the legal and practical zoning and governmental land entitlement process. Examines the legal history, structure, and implications of zoning, as well as the fundamentals of "real life" situations that occur in the entitlement and real estate development field. Provides a broad overview of this process from a legal and development viewpoint, but is not intended to be a comprehensive analysis of all entitlement issues. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RED | 506 | Real Estate Law for Developers | Covers the nature of property and the legal system as it relates to purchase agreements, title, surveys, declarations of covenants, defining easements, and licenses among other related topics. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate |
| RED | 507 | Synthesis Project #1 Residential Development | Employs the students learning through application of developing a specific parcel of land. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate |
| RED | 508 | Real Estate Engineering and Construction | Explores the basic principles of engineering and construction of real estate development projects. Reviews construction technologies within the framework of architectural design and engineering as well as construction means, methods, and systems. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RED | 509 | Advanced Financial Analysis for Commercial Real Estate | Teaches more complex financial analysis of income-producing property, including various decision-making tools such as Monte Carlo, option pricing, assessing alternatives, and how to build these into financial models. Also teaches financial analysis of business structures to determine potential outcomes such as debt and equity structures, waterfalls, claw backs, and other business and ownership concepts. Emphasizes strategic alternatives, assessing risk and conversion events. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 2 | | Prerequisite(s): Real Estate Development MRED student |
| RED | 510 | Real Estate Development Business and Project Management | Teaches management of real estate development companies and process. Students learn the various aspects of project management, financial management and project accounting, lending relations and managing loans and pay applications as well as dispute resolution and strategic partnerships. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 2 | | Prerequisite(s): Real Estate Development MRED student |

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| RED | 511 | Design of the Built Environment | Teaches the built environment and how that applies to creation of places, market positioning, capturing value and the importance of good design to the business of real estate. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 2 | | Pre-requisite: MRED student; Credit is allowed for only RED 511 or 691 (Real Estate Dev Project Mgmt) |
| RED | 512 | Real Estate Law for Developers | Teaches issues faced by developers such as various types of financing structures, including special districts, TIF and bond financing. Covers issues and process of raising capital and various forms of securing equity. Discusses private placement memorandums, limited liability companies, partnerships and public private partnerships. Students also learn about environmental law, income tax issues, negotiation, and alternative dispute resolution. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 2 | | Pre-requisite: MRED student; Credit is allowed for only RED 512 or 691 (Adv Real Estate Finance/Analys) |
| RED | 513 | Advanced Real Estate Engineering, Construction Management and Sustainable D 2 | Covers various construction delivery methods, construction project management and scheduling, construction contracts, mechanics and materialmans liens, and pay applications. Students also learn about sustainability and the built environment. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 2 | | Pre-requisite: MRED student; Credit is allowed for only RED 513 or 691 (Real Estate Dev. Project Mgmt) |
| RED | 514 | Synthesis Project #2 Income Property Development | Through application to a specific problem given by faculty, students work in teams to analyze and seek solutions to development of land for an income-producing property. Students investigate a specific parcel of land, performing due diligence, preparing a market and segmentation analysis, defining highest and best use(s), designing a solution, preparing residual land value analysis, defining a product offering, pricing points, building design, site planning and comparative valuation analysis. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): Real Estate Development MRED student |
| RED | 515 | Synthesis Project #3 Capstone Project Mixed-Use Property Development | Employs all that the students have learned through application to a specific problem given by faculty. Students work in a team to analyze and seek solutions to development of land for a complex, mixed-use project. Students investigate a specific parcel of land and are required to perform due diligence, prepare a market and segmentation analysis, define highest and best use(s), design a solution, prepare residual land value analysis, define a product offering, price points, building design, site planning and comparative valuation analysis. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 4 | | Pre-requisite: Master of Real Estate Development major; Credit is allowed for only RED 515 or 598 (Ret Analys; High Dens Mix Use) |
| RED | 516 | Real Estate Capital Markets | Covers capital markets on a macro level with an emphasis on real estate. Real estate is a capital-intensive business that necessitates investors and developers regularly securing significant amounts of debt and equity through capital markets. The real estate capital market consists of public, private, individuals and institutional investors that invest money, either directly or indirectly, into real estate. Explores sources of capital for the purchase, development and ownership of real property by evaluating the interaction of real estate space markets with the real estate capital markets. Students gain an understanding of the historic and current capital market participants of the public and private, debt and equity, commercial real estate capital markets. Also explores the use of capital in various real estate investment strategies and defines the major indices that measure public and private real estate investment returns over time. | N | LEL | N | Z1 | W. P. Carey School of Business | Department of Finance | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only RED 516 or RED 598 (Finance - Capital Markets) |
| RED | 517 | Real Estate Financial Decision Making | Explores the risk, its meaning and measurement associated with real estate investment and development and how these are incorporated into real estate business decision making including capital market, valuation, market growth, operating, construction, leasing/sales, finance/leverage and tax risks. Explores how to apply these risks to financial analysis and decision making. Students learn the various typical risks incurred when buying, owning, operating, redeveloping and developing real estate and how to identify and incorporate known and unknown risks into real estate business decision making process. Covers the fundamentals of decision theory and various models of judgement used in real estate business including use of factors outside the parameters of the normal financial model. Introduces concepts such as real options analysis, trade-offs, opportunity costs, risk/return trade-offs, as well as various models used for risk measurement and assessment including the capital asset pricing and arbitrage pricing theory and tools option pricing models. | N | LEL | N | Z1 | W. P. Carey School of Business | Department of Finance | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only RED 517 or RED 598 (Real Estate Financial Decision Making) |
| RED | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | W. P. Carey School of Business | Department of Finance | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RED | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Finance | 1-4 | | |

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| RED | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | W. P. Carey School of Business | Department of Finance | 1-12 | | |
| REL | 100 | Religions of the World | Introduces the history of religious traditions of the world, including Buddhism, Christianity, Hinduism, Islam, Judaism, and others. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Credit is allowed for only REL 100 or REL 200 OR Visiting University Student |
| REL | 101 | Religion, Culture and Public Life | Explores how religions are conditioned by cultural values and operate in the political sphere. | Y | LEC | Y | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | |
| REL | 107 | Religion and Globalization | Explores how different religions interact with the various processes of globalization, including how the world's major religions have been transformed by economic, political, cultural, and technological aspects of globalization. Topics include religious terrorism, human rights, religion, and gender. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Credit is allowed for only REL 107 or SGS 107 OR Visiting University Student |
| REL | 111 | Introduction to Asia | Offers a basic introduction to the geography, history, cultures, states, and societies of South and Southeast Asia as well as China, Japan, and Korea. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H & G | Credit is allowed for only HST 111 or REL 111 |
| REL | 131 | Biblical Hebrew I | Offers an introduction to Biblical Hebrew, the language in which most of the books of the Hebrew Bible/Old Testament have been written. Provides the basic tools to understand and translate Biblical Hebrew texts. Covers the Hebrew alphabet, basic vocabulary, morphology and syntax. Students learn idiomatic expressions, basic literary techniques in narratives and poetry, as well as specificities of Semitic languages. Emphasizes a critical approach to the ancient text. Also introduces the evolution of the biblical text, from ancient manuscripts to contemporary editions and translations. Includes an introduction to the development of writing and to the evolution of Hebrew, from earliest inscriptions to its revival in modern Israel. The texts translated in class are situated in the history of Israel, but also in their Jewish and Christian cultural and religious contexts. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G | Credit is allowed for only HEB, JST, REL 131 or HEB 194 (Biblical Hebrew I) |
| REL | 132 | Biblical Hebrew II | Completes the study of basic Biblical Hebrew grammar and vocabulary (Futato's Beginning Biblical Hebrew, chapters 21-40). Prepares students to translate narrative and legal texts from Hebrew Bible. Students learn to use dictionaries, grammars, paradigms and critical editions of the biblical text. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G | Prerequisite(s): HEB, JST, REL 131 or HEB 194 (Biblical Hebrew I) with C or better; Credit is allowed for only HEB, JST, REL 132 or HEB 194 (Biblical Hebrew II) |
| REL | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-3 | | Pre-requisites: Freshman standing; Maximum 25 hours |
| REL | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |
| REL | 200 | Exploring the World's Religions | Writing-intensive course introducing analytical skills necessary for understanding religious traditions. Beliefs, practices, and communities of several religious traditions of the world. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; maximum 75 hours; Credit is allowed for only REL 100 or REL 200 OR Visiting University Student |
| REL | 201 | Religion and the Modern World | Introduces the nature and role of religious beliefs and practices in shaping the lives of individuals and societies, with particular attention to the modern world. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| REL | 202 | Religion and Popular Culture | Explores various intersectors between religion and the popular media, including music, news, advertising, the visual arts, literature, performance, and film. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & C | Credit is allowed for only FMS 202 or REL 202 OR Visiting University Student |
| REL | 203 | Saints and Sinners: Explorations in Sacred Biography | Comparison of the role of biography across religions to examine the process of categorizing people as saints or sinners. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | |
| REL | 205 | Life, Sex and Death | Ways that religions have understood birth, sexuality, death, and the passing of generations. Examples from traditions throughout the world. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | |
| REL | 207 | Ritual, Symbol, and Myth | Ritual, symbol, and myth as types of religious expression, with examples selected from the nonliterate religions of the world. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| REL | 210 | Introduction to Judaism | Beliefs, ceremonies, festivals, and institutions of Judaism emphasizing the contemporary era. Assumes no previous knowledge about Judaism. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | Prerequisite(s): ENG 101 or 105 or 107 with C or better; Credit is allowed for only JST 210 or REL 210 |
| REL | 211 | Jews and Judaism in America | Chronological analysis of Jews and Judaism in American history and letters. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H & C | Credit is allowed for only HST 211 or JST 211 or REL 211 |
| REL | 225 | Africana Religious Studies | Introduces the history and development of African American and Black Diasporic religious traditions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & C | |

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| REL | 230 | Introduction to Jewish Civilization | Overview of Jewish civilization from antiquity to the present. Answers the following questions: Who are the Jews? What do Jews believe? How did Jews interact with non-Jews? What was the lasting contribution of Jews to the world? In the attempt to answer these questions, provides the skills of being a good college student. Presents Judaism as an evolving civilization with an overarching distinctive culture but with a variety of subcultures and ethnic diversity. Presents the Jewish civilization through literature, films, music, and internet resources, with an overview of its complexity and diversity. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H & G | Credit is allowed for only HST, JST or REL 230 |
| REL | 231 | Biblical Hebrew III | Advanced study of Biblical Hebrew. Deepens understanding of the grammar and composition of the Hebrew Bible. Translates texts of different literary genres (narrative, legal, poetic, prophetic) and different periods. Introduces the basic principles of textual criticism and different approaches to interpret the texts of the Hebrew Bible. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G | Prerequisite(s): HEB, JST, REL 132 or HEB 194 (Biblical Hebrew II) with C or better; Credit is allowed for only HEB, JST, REL 231 or HEB 294 (Biblical Hebrew III) |
| REL | 232 | Biblical Hebrew IV | Addresses advanced topics in Biblical Hebrew grammar and interpretation. The first half of the semester is devoted to texts from the Hebrew Bible; the second half on extra-biblical texts written in ancient Hebrew (for example: Dead Sea Scrolls, Rabbinic texts, ancient Hebrew poetry). Topics and texts change annually. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G | Prerequisite(s): HEB, JST, REL 231 or HEB 294 (Biblical Hebrew III) with C or better; Credit is allowed for only HEB, JST, REL 232 or HEB 294 (Biblical Hebrew IV) |
| REL | 240 | Introduction to Southeast Asia | Interdisciplinary introduction to the cultures, religions, political systems, geography, and history of Southeast Asia. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & G | Credit is allowed for only ASB 240 or GCU 240 or HST 240 or POS 240 or REL 240 or SGS 240 OR Visiting University Student |
| REL | 245 | Introduction to India and South Asia | Provides an introduction to the history and major contemporary political, economic, social, religious and cultural features of the South Asia region at large and of selected South Asian nations in particular. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H & G | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only HST 245, POS 245, REL 245, SGS 245 or SLC 245 |
| REL | 260 | Introduction to Islam | Examines Islamic beliefs, ceremonies, festivals, and institutions. Assumes no prior knowledge about Islam. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Credit is allowed for only HST 260 or REL 260 |
| REL | 270 | Introduction to Christianity | Beliefs, ceremonies, festivals, and institutions of Christianity, emphasizing the contemporary era. Assumes no previous knowledge about Christianity. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | |
| REL | 272 | Heretics, Saints and Emperors: Christianity in the Ancient World | Origins, development and expansion of Christianity; major themes and tensions from the New Testament world to the beginning of the Middle Ages. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only HST 272 or REL 272 (REL 372) OR Visiting University Student |
| REL | 282 | PreHispanic Native Am Wrldview | Surveys cosmological traditions of indigenous civilizations on the Pre-Columbian American continents | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | |
| REL | 287 | Topics in Film, Media, and Religion | Explores specialized topics in the study of film, media and religion. Analyzes how religious values, identities and practices related to various cultural traditions are constructed, communicated and presented through films and media. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Credit is allowed for only FMS 287 or REL 287 |
| REL | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |
| REL | 300 | The Future of Religions | Critical theorists of modern religious and secular beliefs argued that both theism and atheism have had their martyrs and tyrants. Nietzsche proclaimed "God" of the West dead, Marx unmasked religion as opium for the oppressed masses, and Freud analyzed religious future as an unconscious illusion. The future of secular progress has become equally suspect in the wake of the Holocaust, Hiroshima, the gulags, the killing fields of Cambodia, Rwanda. Globally motivated terror revealed itself as capable of religious as much secular justifications. The future of faith and reason has become a doubly open theoretical and practical question in philosophy, religious studies, literary study, critical theory, cultural and gender studies, and all sciences. Applies theoretical and methodological tools to critically exam beliefs, practices, and communities and their role in both generating and transforming the ethical and spiritual discontents of the global age. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only HON 394 (The Future of Religions) or PHI 303 or REL 300 |
| REL | 301 | Comparative Mysticism | Comparative examination of Eastern and Western mystical traditions from antiquity to the present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| REL | 307 | Religion: Theory and Practice | Examines the intellectual history of academic study of religion through various theoretical approaches, major themes, and thinkers. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; REL 101 with C or better OR Visiting University Student |

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| REL | 310 | Western Religious Traditions | Religious traditions of Judaism, Christianity, and Islam, comparing their doctrinal, institutional, and ritual systems and social histories. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours |
| REL | 311 | Israeli Society and Culture | Different partitions of the Israeli society, based on ethnic origin, by religious affiliation or by political association. Depicts how Israel is an absorbing immigration state. Israel is a welfare state and the course covers aspects of a welfare state, such as health, retirement, public transportation, art, higher education and more. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only HEB 348 or HEB 394 (Israeli Culture and Society) or JST 348 or REL 311 or SLC 348 OR Visiting University Student |
| REL | 312 | History and Memory of the Holocaust | In-depth study of the history of the genocide of Jews, the rise of modern antisemitism within the context of Nazi Germany, and the memory and memorialization of the Holocaust post 1945. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 369 or JST 369 or REL 312 or HST 304 (Shoah: History, Memory, and Representation) or HST 394 (History of the Holocaust) |
| REL | 313 | Anti-Semitism in the Media | By examination and discussion of various media, explores the phenomenon of modern anti-Semitism. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; FMS 100 with C or better OR Visiting University Student |
| REL | 314 | Jewish Philosophy | The history of Jewish philosophy from its origins in the Hebrew Scriptures to postmodern expressions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with a C or better; minimum 30 hours; Credit is allowed for only HST 390 or JST 314 or PHI 390 or REL 314 |
| REL | 315 | Hebrew Bible (Old Testament) | Nature, content, background, historical situation, and message of the books of the Hebrew Bible in English translation. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only JST 315 or REL 315 OR Visiting University Student |
| REL | 316 | Literary Readings of the Hebrew Bible | Literary analysis of two of the main genres of the Hebrew Bible: narrative art and poetry. Students learn the main literary conventions of biblical prose and poetry, and how these conventions are applied or subverted. Each class comprises the study of a literary aspect, close readings, and thematic discussions. Biblical texts are read only in translation. They are situated in the religious, literary and artistic traditions that have developed on their basis. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ENG 316, HEB 316, JST 316, REL 316 OR Visiting University Student |
| REL | 318 | Contemporary American Jewish Identities | Analyzes the complexity and diversity of the contemporary American Jewish community in religious and secular affairs. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & C | Prerequisite(s): ENG 102, 105 or 108 with C or better; Minimum 24 hours; Credit is allowed for only JST 318, REL 318 or SOC 375 |
| REL | 319 | Religion, Violence and America | In-depth study of ways in which religion and violence have shaped American history, culture and identity. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105 or 108 with C or better; Minimum 24 hours; Credit is allowed for only REL 319 or 394 (Religion, Violence & America) |
| REL | 320 | American Religious Traditions | Examines the formation, development, and interaction of major American religious traditions (indigenous, African American, Asian American, and Euro-American). | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & C & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 24 hours OR Visiting University Student |
| REL | 321 | Religion in America | History of religion in America with attention to issues of historiography, pluralism, gender, race, ethnicity, politics, and social reform. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & C & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| REL | 323 | African American Religion | Examines the experiences, motivations, and contributions of a number of figures associated with African American religion. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours |
| REL | 324 | Sacred Healing and Arts of the Africana World | Multidisciplinary exploration of religion and religiosity with respect to Black cultural developments such as music, art, food and healing. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| REL | 326 | Hispanic Religion, Culture and Healing | U.S. Hispanic and Latin American religious history with special attention to what are mestizo hybrid cultures and their healing methods. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only REL 326 or TCL 328 OR Visiting University Student |
| REL | 330 | Native American Worldviews | Presents worldviews through the art, architecture, writing, mythology, ritual and folklore of tribes in Native America. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| REL | 331 | Indigenous American Religious History | Explores religion in post-European contact Indigenous American history, including hybrid adaptation and revitalization movements. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & C & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |

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| REL | 338 | Daode Jing: Way to the West | At 5,000 words, the Daode Jing [Tao-te ching, "the Scripture of the Way and its Powers," attributed to the Sage Laozi] is perhaps the shortest religious book in the world. It is also the most widely misinterpreted. In China, Daoists, Buddhists and Confucians have each taken its short, pithy statements as warrant for their very different belief systems. In the West, missionaries, new-age pundits, hippies, rock-stars, mystics and LSD advocates each claim to understand the "true meaning" of Laozi's mystical words. But "the farther one travels, the less one knows..." Students read representative samples of these explanations to understand why this brief book of wisdom has endured for over 2000 years. Requires no knowledge of Chinese. Presents all Chinese texts in the translations of the instructor. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only CHI 338 or REL 338 OR Visiting University Student |
| REL | 343 | Daoism | Introduces the history, doctrines, and practices of Taoism from the mid-second century CE up to the present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & G & H | Prerequisite(s): minimum 24 hours; ENG 102, 105, or 108 with C or better; Credit is allowed for only CHI 343 or REL 343 OR Visiting University Student |
| REL | 344 | Religion and Values in Japanese Life | Japanese values expressed in the life and annual cycles of the family, local and national identities, and popular culture. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Prerequisite(s): ENG 102, 105 or 108 with C or better; Minimum 24 hours |
| REL | 345 | Asian Religious Traditions | Introduces the major concepts of religious beliefs, rituals, and practices in Hinduism and Buddhism. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Prerequisite(s): ENG 102, 105 or 108 with C or better; Minimum 24 hours |
| REL | 346 | Chinese Religions | Examines the history and practices of Chinese religions with particular attention to culture, society, and history. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only CHI 346 or REL 346 |
| REL | 347 | Religions of India | In-depth analysis of major Indian religious traditions in historical and contemporary context, with attention to theologies, textual genres, doctrines, rituals, political and cultural expressions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| REL | 348 | Religion and Culture in Southeast Asia | In-depth study of the religious diversity of Southeast Asia including Hinduism, Buddhism, Islam, Christianity, spirit cults and ancestral religions. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102 or 105 or 108 with C or better; minimum 24 hours; Credit is allowed for only REL 294 (Southeast Asia Global Crossroads) or REL 348 |
| REL | 349 | Nature, Sustainability and Religion | Explores how world religions have conceptualized the natural world, what they have contributed to the current environmental crisis and how they might also serve as inspiration to address the crisis. By focusing on Judaism, Christianity and Islam, the course introduces students to the field of religion and ecology and explores its relationship to other academic disciplines such as environmental philosophy and ethics, justice studies and gender studies. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only HPS 349 or JST 349 or REL 349 or SOS 349 or JST, REL, or SOS 394 (Religion and Ecology) or JST, REL, or SOS 394 (Religion and Environment) |
| REL | 350 | Hinduism | Studies diverse forms of Hinduism through its institutions, literature, folklore, art, and architecture. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| REL | 351 | Buddhism | Doctrines, practices, and institutions of the Buddhist religion, emphasizing its role in the history and culture of Asian societies. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| REL | 352 | Modern Buddhism | Focuses on modern issues related to Buddhism with special attention to colonialism, nationalism, the development of the nation-state and globalization. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105 or 108 with C or better; Minimum 24 hours; Credit is allowed for only REL 352 or 394 (Modern Buddhism) |
| REL | 353 | Zen and Japanese Culture | Students conduct historical, philosophical and sociological analyses of some of the fundamentals of Zen, mainly those of Japanese tradition. Examines the influence of Zen thoughts on value, culture and society in both pre-modern and modern Japan. Classes consist of lectures, documentary films and discussion sessions. Taught in English. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only JPN 354 or JPN 394 (Zen and Japanese Culture) or REL 353 or SLC 354 or SLC 394 (Zen and Japanese Culture) OR Visiting University Student |
| REL | 354 | Religions of Korea | Explores major religious traditions and folk religions in Korea. Covers diverse topics such as mythology, indigenous practices, doctrinal and meditation Buddhism, early and Neo-Confucianism and Christianity as well as the new religions of modern times. Discusses the development of religious ideas and practices in light of the political, cultural and social milieus. Focuses on cultural importation and adaptation as well as interaction and conflict among the different religious traditions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102 or 105 or 108 with C or better; minimum 24 hours; Credit is allowed for only KOR 354 or REL 354 |
| REL | 355 | Japanese Cities and Cultures to 1800 | Relations among ideas and literary, visual, and performing arts of the ancient aristocracy, medieval samurai, and early modern townspeople. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | |

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| REL | 356 | Buddhism in America | Examines diverse Buddhist traditions in the U.S. among Asian-American communities and converts to this religion. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours |
| REL | 357 | Theravada Buddhism in South and Southeast Asia | Examines Theravada Buddhist institutions, practices, and communities in ancient and contemporary south and southeast Asia. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours |
| REL | 360 | Ancient Greek Religion | Surveys ancient Greek religion, including its gods, ritual practices and festivals. Analyzes the development of the religion over time, and how both ancient and modern figures interpreted its meaning. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 101 (or ENG 105 or 107) with C or better; Credit is allowed for only GRK 362, REL 360, SLC 362 or SLC 394 (Ancient Greek Religion) |
| REL | 361 | Roman Religion | Roman religion was never static, despite the best efforts of the Roman state to make it so. Understands the artifacts and procedures of Roman state cult from its earliest origins to the late empire, using ancient literary sources, archaeology throughout the ages and modern scholarly theories. Clarifies the forces that influenced development and change in Roman religion, both internal and external. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only LAT 361 or REL 361 or SLC 361 or SLC 394 (Roman Religion) OR Visiting University Student |
| REL | 362 | Islam and Islamic Societies in Africa: Social and Political History | An in-depth study of the fundamental principles of Islam. Course will examine various forms of development of Muslim societies and institutions in Africa through time. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours; Credit is allowed for only AFR 372 (or AFS 372) or REL 362 or SGS 366 or AFS 394/REL 394/SGS 394 (Islam and Islamic Societies in Africa: Social and Political History) |
| REL | 363 | Islam and World Affairs | Advanced examination of complex trends to construct the roles of Islam as a belief, its institutions, leaders and ordinary believers in contemporary world affairs. Studies different developments, including the rise of (political Islam) fundamentalism, to subsequent changes in the Muslim world, challenges Muslims face, and domestic and international conflicts. Challenges students to reconceptualize and broaden their understanding of the powerful presence of religion in this era of globalization. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours. Credit is allowed for only AFR 373 (or AFS 373) or REL 363 |
| REL | 364 | Islam in Eurasia and Central Asia | Examines the changing role of Islam in Eurasia and Central Asia through history and interprets current transformations in the region. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105 or 108 with C or better; Minimum 24 hours; Credit is allowed for only REL 364 or 394 (Islam in Eurasia & Central Asia) |
| REL | 365 | Islamic Civilization | Global historical survey of Islamic cultures and societies up to the modern period. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only HST 336 or REL 365 OR Visiting University Student |
| REL | 366 | Islam in the Modern World | Examines the worldwide transformations of Islamic religion, cultures, and societies in the modern period. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 24 hours; Credit is allowed for only HST 339 or REL 366 OR Visiting University Student |
| REL | 367 | Religion, Philosophy and Culture in Japan | Examines the influence of Japanese thoughts on value, culture and society while surveying the major religious and philosophical traditions in both pre-modern and modern Japan focusing on Shinto, Confucianism, Daoism, Buddhism and New Religions. Classes consist of lectures, documentary films and discussion sessions. Taught in English. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only JPN 367 or JPN 394 (Religion, Philosophy, and Culture in Japan) or REL 367 or SLC 367 OR Visiting University Student |
| REL | 369 | Women in Islam | Examines the roles women have played through Islamic history (Middle East) and the changing discourse on gender identity. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | |
| REL | 371 | New Testament | Origins and literature of early Christian communities; historical investigations of the types of oral and written tradition in the New Testament. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | |
| REL | 374 | Witchcraft and Heresy in Europe | Background, origins, and development of the Inquisition; persecution of women and marginal groups. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 361 or REL 374 OR Visiting University Student |
| REL | 375 | Lost Scriptures, Forgotten Gospels | Wide diversity of early Christianity and its suppressed and lost texts, which have been found in modern times. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| REL | 376 | Virgin Mary in History, Film, and Culture | Introduces formation and development of cult of the Virgin Mary; analyzes transformations of Mariology within historical, cinematic, and cultural contexts. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L or HU | Prerequisite(s): ENG 102, 105, or ENG 108 with C or better; Credit is allowed for only FMS 376 or REL 376 |
| REL | 377 | Religion in Russia | Examines the history of the various religious traditions of Russia and the former USSR from an interdisciplinary perspective. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |

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| REL | 378 | Religion, War and Peace | In-depth study of the religious, political and ethical dimensions of violence and war. Compares perspectives of Christian, Jewish and Islamic traditions as well as secular viewpoints. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L | Prerequisite(s): ENG 102, 105 or 108 with C or better; Minimum 24 hours; Credit is allowed for only POS 378, REL 378 or 394 (Religion, War and Peace) |
| REL | 379 | Religion, Nationalism, and Ethnic Conflict | Examines the role of religion in national and ethnic conflict in the contemporary world. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only REL 379 or SGS 343 OR Visiting University Student |
| REL | 381 | Religion and Moral Issues | Manner in which human religiousness relates to social concerns, e.g., sexuality, the environment, bioethical issues, and violence. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| REL | 382 | Magick, Religion and Science | Relationship and conflict among magic, religion and science in the West from antiquity to the present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L or HU | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 24 hours |
| REL | 383 | Religion and Sports | Religion and sport in America are both long-held and passionately maintained cultural components. The first part provides a framework for understanding scholarly analyses and approaches regarding the intersections of religion and sport primarily in the 20th and 21st centuries. Indeed, religious sentiments and doctrines have played and continue to play an important role in creating today's American sporting culture. The second part seeks to understand particular arguments framing sports as a space of religious expression or more boldly as a religion in the United States. To gain various perspectives, students engage with various materials including scholarly works, recorded lectures and podcasts, popular culture videos, and conduct qualitative interviews with student athletes. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only ASB 383 or REL 383 or REL 394 (Religion and Sports) |
| REL | 385 | Contemporary Western Religious Thought | Introduces contemporary Jewish and Christian thought. Topics include religion and politics, problem of evil, interpretations of God, and feminist theology. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 24 hours |
| REL | 387 | Religion and Conflict: Theories and Cases | In-depth study of religion and conflict across multiple traditions and regions. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 24 hours; Credit is allowed for only REL 387 or 394 (Religion and Conflict: Theories and Cases) |
| REL | 388 | Religion, Ethics, and International Politics | Religious and ethical dimensions of international politics. Addresses historical and contemporary ideas, movements, issues and events. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only POS 388 or REL 388 OR Visiting University Student |
| REL | 389 | Black Religion: Sex, Power and Eroticism | Explores sexuality and eroticism in the context of the religion, more specifically, the religion of the African Diaspora and Black religious experience in the Americas. Takes an interdisciplinary journey into the intersections of race, sexual norms and mores, and gender dynamics as it pertains to religious praxis, identity and embodied faith. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; min 24 hrs; Credit is allowed for only AFR 368 or AFR 394 (Black Religion: Sex, Power, and Eroticism) or AFS 394 (Religion:Sex,Power,Eroticism) or REL 389 or WST 394 (Religion, Sex, Power, Eroticism) |
| REL | 390 | Women, Gender and Religion | Examines the role of women and the construction and practice of gender identities across religious traditions and cultures. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only REL 390 or WST 390 OR Visiting University Student |
| REL | 391 | Historical Perspectives on Philosophy and Religion | Comprehensive, advanced study of central concepts in the philosophy of religion in the history of Western philosophy. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or ENG 108 with C or better; minimum 30 hours; Credit is allowed for only HST 357 or PHI 391 or REL 391 |
| REL | 393 | Religion and Sex | Examines what issues are involved in incorporating sexuality into religion and how/why religious traditions seek to control sexuality. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours |
| REL | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |
| REL | 401 | Sacred Scriptures and Social Choices | Examines relationships among contemporary moral issues and the sacred scriptures to support choices at individual, group, and public levels. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & G | |
| REL | 405 | Problems in Religious Studies | Selected topics in religious studies; involves students in research interests of instructor. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Religious Studies major; REL 307 with C or better |
| REL | 406 | Religious Studies Capstone I | Develops skills necessary for conducting and presenting in-depth research in the field of religious studies. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1 | | Prerequisite(s): Religious Studies major; REL 307 with C or better; senior standing |

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| REL | 407 | Religious Studies Capstone II | Uses previously developed research to produce original research project in religious studies. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 2 | | Prerequisite(s): REL 406 |
| REL | 410 | Judaism in Modern Times | Variety of expressions of Judaism and Jewishness in the modern period. Topics may include American Judaism or religious responses to the Holocaust. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | |
| REL | 411 | Judaism and the Beginnings of Christianity | Studies the beginnings of Christianity in relation to Judaism: their common context, the process of their distinction and their mutual influence. Through a historical and thematic approach, explores the parallel construction of Jewish and Christian identities. Combines readings from primary sources (Hellenistic Judaism, Qumran, New Testament, Early Christianity, Rabbinic Judaism) and up-to-date scholarly literature. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | Prerequisite(s): ENG 101,105,107,108 or HST 100,102 or REL 100 or SLC 142, 202 w/ C or better; Credit is allowed for only HEB/JST/REL 411 or HEB 394 (Judaism & the Origins of Christianity) or HEB 494 (Judeo-Hellenistic Lit) OR Visiting University Student |
| REL | 413 | Sacred Crimes: Religion and Violence | Religion is capable of doing great good in the lives of humans, leading them to personal betterment and positive social contributions. Yet, throughout human history religion has also led some individuals to engage in acts of violence and other dangerous behaviors. This course explores the history of several religious traditions and texts and their complicated connections to violence and criminality. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | G & H | Prerequisite(s): ENG 102, 105, or 108 w/ C or better; Credit is allowed for only CRJ 423 or FOR 413 or REL 413 or FOR 494 (Sacred Crimes: Religion, Violence & Crim) or REL 494 (Sacred Crimes: Religion, Violence & Crim) OR Visiting University Student |
| REL | 420 | Religion in American Life and Thought | Influence of religion on American society, culture, and ideas; the distinctive character of religion in America. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | |
| REL | 429 | Studies in European Literature and Culture | Literary, cultural, and historical issues. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s) with C or better: ENG 101, 105, 107; ENG 200; one ENG 200- or 300-level literature course OR ENG 101, 105, 107; min 45 hours; Credit is allowed for only CEL 429 or ENG 429 or REL 429 or SLC 429 or THE 429 OR Visiting University Student |
| REL | 450 | Philosophical and Spiritual Issues in Death and Dying | From Plato to Maimonides to Heidegger to Kubler-Ross, scholars, clinicians and spiritual writers have recognized that attitudes about death and dying contribute to understandings of human existence. Recalling the ancient Socratic, biblical and other spiritual traditions of the cura animarum (care for and cure of the soul) and joining contemporary post/secular conversations relevant to integration of body-mind-spirit, this course introduces basic concepts and practices of care ethics and spirituality. Focuses on relations among existential (ontological), therapeutic (psychosomatic), and spiritual (religious) dimensions of care. Theoretically, the course is inter-faith in approach, holistic in scope, and specialized in content. Practically, students examine real-life issues in care ethics and spirituality from multiple perspectives. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only IAS 450 or MAS 550 or PHI 450 or PHI 494 (Issues in Death & Dying) or REL 450 or REL 494 (Issues in Death & Dying) OR Visiting University Student |
| REL | 454 | History of Genocide | Examines the individuals and institutions responsible for the most infamous episodes of state-sanctioned violence in the 20th century. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only FOR 454 or HST 454 or REL 454 OR Visiting University Student |
| REL | 459 | God and the Problem of Suffering | Examines whether a Western theistic conception of God (that is, an omniscient, omnibenevolent, omnipotent being--the God of the three main Western religions) is compatible with the existence of what appears to be an abundance of pointless suffering in the world. Addresses the logical and evidential problem of (moral and natural) evil, as well as a variety of proposed theodicies through the study of philosophical texts, literature and film. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only PHI 422 or REL 459 or PHI 494 (God and the Problem of Suffering) or REL 494 (God and the Problem of Suffering) |
| REL | 460 | Islam and Politics | Examines Islamic political ideas with respect to texts, history, society and movements from Muhammad to the present day. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| REL | 461 | Different Voices Within Contemporary Islamic Discourse | Examines modern Muslim discourse on major contemporary issues such as Shari'a, Jihad, secularism, gender, civil rights, democracy, extremism, religious violence. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AFR 480 or REL 461 or SGS 442 |
| REL | 470 | Religion in the Middle Ages | Religious aspects of medieval life and thought; variety of forms of dissent, heresy, and reform movements from the 4th to 13th centuries. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | |
| REL | 471 | Reformation and Modern Christianity | Protestant Reformation to contemporary Christian movements; includes factors in the dissolution of the Medieval Christian synthesis, variety of reform movements and reformation patterns, Catholic counter-reform measures, formation of liberal theology, ecumenical movement, and the World Council of Churches. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | |

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| REL | 480 | Religion and Global Politics | Explores the nature and role of religion in international politics in the modern period. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L & G | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only REL 480 or SGS 441 OR Visiting University Student |
| REL | 483 | Religion and Science | Investigates the correlation between science and religion as an interdisciplinary study from a historical perspective. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | |
| REL | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Pre-requisite: Minimum CUM GPA of 2.00 |
| REL | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| REL | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| REL | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |
| REL | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-7 | | |
| REL | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-3 | | |
| REL | 501 | The Study of Religion I: Genealogies, Disciplines and Power. | Explores the historical formation and theoretical foundations of the study of religions. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| REL | 502 | The Study of Religion II: Epistemology, Practice and Mediation | Engages with advanced contemporary studies of religions. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| REL | 503 | Black Intellectual Thought and Radical Imaginary | Brings together philosophy, religion and history to explore the ways Black intellectuals have developed new ways of being, seeing and thinking. Critically examines the lives, work and writings of Africana religious studies as they engage religion, race, gender and modernity. Although increasingly critical of "religion" and religious institutions, prophets, philosophers and poets creatively employed religious and spiritual language, scholarship, symbols and ideals as potent weapons in opposition to racial, religious, gendered and economic oppressions globally. By creatively linking both activism and scholarship would be also pioneering contributions to a number of academic disciplines including religious studies, journalism, Africana studies, history, sociology, literature, womanist/feminist studies and justice studies. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AFR 494 (W.E.B. Du Bois & Religious Imagination) or REL 494 (W.E.B. Du Bois & Religious Imagination) or REL 503 or REL 591 (W.E.B. Du Bois & Religious Imagination) |
| REL | 504 | Digital Humanities: Critical Theory and Methods | Digital technologies are now intricately woven into our lives--whether it's in terms of authoring a paper in a text editor, sending texts and emails, or doing data analysis. Popular narratives of the "big" and the "new" celebrate and sometimes bemoan the ways that these tools shape our communication, access to information, habits and even our physical bodies. Focuses on the histories of these technologies, their operations, popular conceptions about such tools, and their affordances and limits for humanities scholarship. Students learn how to leverage digital technologies, but also how to critically read them. Broad ranging; in addition to surveying the "big tent," students are encouraged to utilize their final projects to engage with specific disciplinary digital tools and methods relevant to their scholarly work. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CDH 501 or HST 504 or REL 504 |
| REL | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| REL | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | |
| REL | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | |

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| REL | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1 | | |
| REL | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| REL | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | |
| REL | 603 | Teaching World Religions | Seminar designed to prepare participants to teach a course similar to ASU's REL 100. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Pre-requisites: Phd or Masters student in Religious Studies |
| REL | 620 | Theories in the Anthropology of Religion | Premised on the study of religion as formations of discourse that are embedded in cultural contexts and histories and involve people, practices and texts. This seminar provides the literacy and competence to critically examine and be conversant in the following areas of emphasis: (1) classical and contemporary theories in the anthropology of religion; including foundational authors such as Marx, Mauss, Durkheim, Weber, Geertz, Sahlin and Tambiah, and contemporary works by Cannella, Kean, Pels, Asad, and others; (2) themes like ritual, time, practice, discourse, memory, material culture and commodification; and (3) the anthropological study of particular religious traditions, e.g., the anthropology of Buddhism, Islam or Christianity. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only REL 620 or ASB 691 (AnthroTheories of Religion) or REL 691 (Anthro of Religion) or REL 691 (AnthroTheories of Religion) or REL 691 (Theories in Anthro of Religion) |
| REL | 621 | Ethnography Theory and Methods | Ethnographic theory and method approaches to recording and studying lived cultural practice. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Religious Studies MA or PhD student; Credit is allowed for only REL 621 or REL 591 (Ethnography Theory and Method) or REL 691 (Ethnography Theories and Methods) |
| REL | 626 | Themes in the Anthropology of Religion | Under this rubric, faculty offer seminars on thematic concerns such as: the anthropology of ritual, memory, modernity, post-colonialism, conflict and revolution, hybridity, peacemaking and secularism, semiotics, conversion, iconography, embodiment, material culture. Topics may vary depending on instructor. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only REL 626 or CHI 691 (Buddhism in Chinese Society) or REL 691 (Religion & Colonialism) or REL 691 (Buddhism in Chinese Society) |
| REL | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | |
| REL | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | |
| REL | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| REL | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-15 | | |
| REL | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1 | | |
| REL | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-15 | | |

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| ROM | 101 | Elementary Romanian Language and Culture I | First course in a four-semester sequence that teaches Romanian as a foreign language at ASU. Provides the development of basic speaking, listening, writing, reading and cultural awareness skills. Interactive classroom activities focus on practicing everyday Romanian and ultimately enable students to successfully handle a variety of simple tasks in straightforward social situations. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | HU & H & G | Students may not enroll in ROM 101 if credit with C or better earned in ROM 102, ROM 201, ROM 202, ROM 313, ROM 314, ROM 411, ROM 412 OR Visiting University Student |
| ROM | 102 | Elementary Romanian Language and Culture II | Advances the development of basic speaking, writing, reading and cultural awareness skills. Interactive classroom activities focus on practicing everyday Romanian and ultimately enable students to successfully handle a variety of tasks in straightforward social situations. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | HU & H & G | Prerequisite(s): ROM 101 with C or better OR Visiting University Student |
| ROM | 201 | Intermediate Romanian Language and Culture I | Third course in a four-semester sequence that teaches Romanian as a second language at ASU. This module is the first part of an intermediate-level course, emphasizing both oral and written communication through the development of speaking, writing, reading and cultural awareness skills. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | HU & H & G | Prerequisite(s): ROM 102 with C or better OR Visiting University Student |
| ROM | 202 | Intermediate Romanian Language and Culture II | Second part of an intermediate-level course placing emphasis on both oral and written communication through the development of speaking, writing, reading and cultural awareness skills. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | HU & H & G | Prerequisite(s): ROM 201 with C or better OR Visiting University Student |
| ROM | 310 | Migration and Identity: Digital Storytelling | Represents a fusion of basic theoretical concepts such as globalization, migration, transnationalism and identity with personal narratives in the digital space. Structured in four sections in which students (a) learn a basic theoretical framework of migration studies; (b) listen to and reflect on narratives of migration and identity; (c) learn about digital storytelling; and (d) produce their own digital autobiographical account or interview a migrant. Students engage in a dialogue throughout the course, both in the classroom and in the virtual space (in online discussion forums). In this oral history course, students are at the center of the production of digital stories. At the end of the course students also have the opportunity to provide peer feedback and critically engage in the stories produced in class. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 108 with C or better; Credit is allowed for only ROM 310 or SLC 310 or SLC 394 (Migration and Identity-Digital Storytelling) OR Visiting University Student |
| ROM | 313 | Romanian Composition and Conversation | Develops skills in written Romanian and correct oral expression. Must be taken in sequence with ROM 314. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H & G | Prerequisite(s): ROM 201 OR Visiting University Student |
| ROM | 314 | Romanian Composition and Conversation | Continuation of ROM 313. Develops skills in written Romanian and correct oral expression. Must be taken in sequence. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H & G | Pre-requisite: ROM 313 |
| ROM | 343 | Culture and Society Transformation | Uses video documentaries and movies to explore the way in which cultural values, economic background and human interaction impact and transform societies. Societal changes in Central and Eastern Europe make a good case study for contrasting and comparing with other societies and understanding global trends and issues in today's world. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & G | Prereq(s): ENG 101, 105, or 107 with C or better; Credit for only ASB 345 or ASB 394 (Cult & Soc Transform) or JUS 343 or JUS 394(Cult & Soc Transform) or ROM 343 or SLC 343 or SLC 394 (Cult & Soc Transform) or SOS 344 or SOS 394 (Cult & Soc Transform) |
| ROM | 411 | Advanced Spoken and Written Romanian I | Improvement of spoken and composition skills. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H & G | Prerequisite(s): ROM 101 with C or better; ROM 201 with C or better; ROM 313 with C or better; ROM 314 with C or better OR Visiting University Student |
| ROM | 412 | Advanced Spoken and Written Romanian II | Improvement of spoken and composition skills. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H & G | Prerequisite(s) with C or better: ROM 101; ROM 201; ROM 313; ROM 314; ROM 411 |
| ROM | 442 | Dracula and Vampire Lore | Vampire stories are not only local phenomena placed in Transylvania, as the common stereotype is incessantly spread. Legends about Dracula and the Count himself may be "untrue," but events that took place during the life and reign of the Wallachian Voevode Vlad Tepes, better known as Vlad the Impaler, are nonfictional. He ruled during the time of the Ottoman Empire extension to Europe and his fight against the Turks give us thought on the altered understanding of Vlad as a vampire figure. Occurring and recurring in continuously changed environments, Count Dracula affects everyone to the same degree, but still remains as secret and elusive as before, pitted against a vision of mysterious spaces that evoke the faraway castles from Whitby, UK (the origin of Stoker's Dracula), from Bran and Poenari Castles in Transylvania as well as the visions of Jules Verne's Castle of the Carpathians. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G & H | Prereq(s): ENG 101, 105 or 107 w/C or better; Credit for only ROM 442 or SLC 442 or SLC 494 (Drac&Vamp Belief in the Wrl'd) or SLC 494 (Drac&Vamp Castles) or SLC 494 (Drac&Vamp Lore) or SLC 494 (Drac:Between Myth&Hist) OR Visiting University Student |
| ROM | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| ROM | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-------------------|---|
| ROM | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | REC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| ROM | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| RUS | 101 | Elementary Russian I | Structural grammar and basic vocabulary. Introduces and reinforces aural/oral reading and writing skills. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | | Students may not enroll in RUS 101 if credit with C or better earned in RUS 102 or RUS 201 or RUS 202 |
| RUS | 102 | Elementary Russian II | Structural grammar and basic vocabulary. Introduces and reinforces aural/oral reading and writing skills. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | | Prerequisite(s): RUS 101 with C or better OR Visiting University Student |
| RUS | 141 | Russian Civilization: From Tsars to Putin | For centuries, Russians have argued about who they are as a people and a nation by turning to their history, religion, literature, arts and language. With a foundation in Russian history and geography and using primary sources, we survey debates over Russian history and civilization to understand how Russians have imagined themselves and their nation and empires. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G & H | Pre- or corequisite(s): ENG 101, 105, or 107 with C or better if completed; Credit is allowed for only HST 141 or RUS 141 or SLC 141 OR Visiting University Student |
| RUS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEL | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| RUS | 201 | Intermediate Russian I | Systematic review of grammar. Develops vocabulary through reading and writing. Drill in aural/oral skills. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): RUS 102 with C or better OR Visiting University Student |
| RUS | 202 | Intermediate Russian II | Systematic review of grammar. Develops vocabulary through reading and writing. Drill in aural/oral skills. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): RUS 201 with C or better; Credit is allowed for only RUS 202 or RUS 295 OR Visiting University Student |
| RUS | 211 | Conversational Russian I | Intensive aural/oral drill to supplement reading and grammatical skills acquired in RUS 101, 102, 201 and 202. Target proficiency level: Intermediate Low. Required of Russian majors. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): RUS 102 with C or better; Corequisite(s): RUS 201, 202, or 295 OR Visiting University Student |
| RUS | 212 | Conversational Russian II | Intensive aural/oral drill to supplement reading and grammatical skills acquired in RUS 101, 102, 201 and 202. Target proficiency level: Intermediate Low. Required of Russian majors. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): RUS 102 with C or better; Corequisite(s): RUS 201, 202, or 295 OR Visiting University Student |
| RUS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| RUS | 295 | Russian for Heritage Speakers | Heritage speakers of Russian learn to consciously analyze their passive knowledge of Russian grammar and learn grammatical analysis so that they can master advanced grammatical structures which their native Russian peers use in college-level superior proficiency discourse. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Students may not enroll in RUS 295 if credit with C or better earned in RUS 202 |
| RUS | 311 | Russian Society I | Activates and practices Russian speaking, writing and reading skills; continues a broad introduction to Russian grammar and culture--the customs, behaviors, interests and traditions of the Russian people. Target proficiency level: Intermediate. Required of Russian majors and minors. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): RUS 202 or 295 with C or better OR Visiting University Student |
| RUS | 312 | Russian Society II | Activates and practices Russian speaking, writing and reading skills; continues a broad introduction to Russian grammar and culture--the customs, behaviors, interests and traditions of the Russian people. Target proficiency level: Intermediate. Required of Russian majors and minors. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): RUS 202 or 295 with C or better OR Visiting University Student |
| RUS | 322 | Scandals and Scoundrels: The Nineteenth-Century Russian Novel | An in-depth study of the Golden Age of Russian literature, including novels of Pushkin, Lermontov, Gogol, Khvoshchinskaia, Turgenev, Dostoevsky, Tolstoy, and Chekhov. Taught in English. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| RUS | 323 | Russian Literature and Revolution: The Twentieth Century | An in-depth study of 20th-Century Russian prose and poetry by Zinovieva-Annibal, Gorky, Bely, Babel, Mayakovsky, Platonov, Pasternak, Erofeev, Petrushevskiaia, and other writers. Taught in English. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G | Pre-requisites: ENG 102, 105 or 108; Credit is allowed for only RUS or SLC 323 |
| RUS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| RUS | 411 | Russian Language, History and Culture I | Students read, listen to, discuss and analyze such authentic materials as Internet forums, blogs, advertisements, various genres of nonfictional writing and TV reporting. Expands knowledge of contemporary culture and history. Target proficiency level: Advanced Low. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): RUS 312 with C or better OR Visiting University Student |
| RUS | 412 | Russian Language, History and Culture II | Students read, listen to, discuss and analyze such authentic materials as Internet forums, blogs, advertisements, various genres of nonfictional writing and TV reporting. Expands knowledge of contemporary culture and history. Target proficiency level: Advanced Low. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): RUS 312 with C or better OR Visiting University Student |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| RUS | 421 | Pushkin | Pushkin's poetry, plays, and prose fiction, including Eugene Onegin, The Little Tragedies, Tales of Belkin, Queen of Spades and The Captain's Daughter. Taught in English. Does not satisfy the Liberal Arts and Sciences language requirement for BA degree. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| RUS | 423 | Dostoevsky and Tolstoy | An in-depth study of Dostoevsky's and Tolstoy's major works, including "Crime and Punishment", "Brothers Karamazov", and "Ana Karenina". Taught in English. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| RUS | 425 | Chekhov and Russian Drama | An in-depth study of Chekhov's major works, representative short stories and major plays, including "The Cherry Orchard" and "Three Sisters". Taught in English. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 102, 105 or 108 with C or better; Credit is allowed for only RUS or THE 425 |
| RUS | 430 | Russian Short Story | Detailed study of representative works of the Russian short story genre. Includes authors from both Imperial and Soviet Russia. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; RUS 312 with C or better OR Visiting University Student |
| RUS | 439 | Art in Exile: Vladimir Vladimirovich Nabokov | In English. The scandalous success of Lolita (1955) allowed Vladimir Nabokov to retire from teaching at Cornell University and move to Switzerland to devote himself to fiction, translation, criticism and lepidoptery. This was only one of the many metamorphoses that Nabokov, a Russian noble, underwent while in exile, moving from Russia to the Crimea, Cambridge UK, Berlin, Paris, Cambridge MA, Ithaca, Hollywood and finally Montreux. Examines the Russian roots of Nabokov's Russian (in translation) and American novels about exile: his first novel, Mary (1926), The Defense (1929), Glory (1932), and his tribute to 19th-century Russian literature, The Gift (1938), which he considered his greatest Russian novel. These are followed by Lolita (1955), Pnin (1957) and Pale Fire (1962), his memoirs, Speak, Memory (1966), and some essays and short stories. Films include Lolita by Stanley Kubrick (1962) and Adrian Lyne (1997). | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 102 or 105 or 108 with C or better; Credit is allowed for only RUS 439 or SLC 439 or ENG/RUS/SLC 494 (Art in Exile: Vladimir Vladimirovich Nabokov) |
| RUS | 440 | Russian Mass Media | Explores various aspects of modern Russian life through printed mass media, especially Internet media sources, and helps to develop advanced spoken, listening, reading and written skills in Russian. Students work with live television news broadcasts and investigate the most important general sources of electronic information, including electronic newspapers and the main Russian Web sites on a wide range of issues such as culture and the arts, government and politics, business and economics, armed conflicts, and accidents and catastrophes. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): RUS 211 with C or better; RUS 212 with C or better. Credit is allowed for only RUS 440 or RUS 494 (Russian Mass Media) OR Visiting University Student |
| RUS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| RUS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| RUS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| RUS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| RUS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| RUS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SAO | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Office of the Provost | Office of the Provost | 1-4 | | |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| SAO | 196 | Study Abroad Office Placeholder | Reserved for undergraduate participants in Study Abroad Office (SAO) Partnership and Exchange study abroad programs. This placeholder course remains on the student's academic record until the student's record is updated by SAO following the completion of the student's study abroad program. This course is then dropped and replaced with the ASU courses, credits, and grades equivalent to the coursework completed abroad. Students must register for at least the number of credits equivalent to full-time study at ASU (i.e., 12 hours during the fall and spring semesters, or 1-6 hours during the summer session). Students participating in an SAO Partnership program must register for the topic "SAO: Study Abroad Program"; participants in an SAO Exchange Program must register for the topic "SAO: Exchange Program." NOTE: This placeholder course is not an indication of the level of coursework or the total number of credits the student may complete abroad. Acceptance to an ASU Study Abroad Office program is required. | Y | LEC | Y | OPT | Office of the Provost | Office of the Provost | 1-18 | | |
| SAO | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Office of the Provost | Office of the Provost | 1-4 | | |
| SAO | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Office of the Provost | Office of the Provost | 1-4 | | |
| SAO | 596 | Study Abroad Office Placeholder | Reserved for graduate participants in Study Abroad Office (SAO) Partnership and Exchange study abroad programs. This placeholder course remains on the student's academic record until the student's record is updated following the completion of the student's study abroad program. This course is then dropped and replaced with the ASU courses, credits, and grades equivalent to the coursework completed abroad. Students must register for at least the number of credits equivalent to full-time study at ASU (i.e., 9 hours during the fall and spring semesters, or 1-6 hours during the summer session). Students participating in an SAO Partnership program must register for the topic "SAO: Study Abroad Program"; participants in an SAO Exchange Program must register for the topic "SAO: Exchange Program." NOTE: This placeholder course is not an indication of the level of coursework or the total number of credits the student may complete abroad. Acceptance to a Study Abroad program is required. | N | LEC | Y | OPT | Office of the Provost | Office of the Provost | 1-18 | | |
| SBS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-4 | | |
| SBS | 200 | Introduction to Social and Behavioral Sciences | Overview of the social and behavioral sciences, indicating their contributions to society and emphasizing interdisciplinary integration | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | |
| SBS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-4 | | |
| SBS | 300 | Careers in Psychology | Professional and academic careers in psychology, with a focus on both career and adult development. Provides opportunities to enhance self-assessment and evaluation strategies for both academic planning and postbaccalaureate professional pursuits while also addressing current issues that affect us at any stage of development. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SBS | 301 | Cultural Diversity | Critical analysis of the complexities of the cultural politics of difference in the contemporary United States. Through interdisciplinary and comparative study, examines a range of theoretical and public/popular cultural discourses about the cultural contributions, experiences, perspectives of, by, and about U.S. residents of diverse racial, ethnic, class, gender, sexual, and transnational origins or identities. Analyzes the social conditions and historical precedents that have shaped current diversity concepts and debates, deepening knowledge and understanding of multiple perspectives on these issues and their relevance to social and behavioral sciences. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | (L or SB) & C | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum junior standing OR Visiting University Student |
| SBS | 302 | Qualitative Methods | Basic methodological issues in the systematic application of qualitative analysis of human social life. Surveys range of qualitative methods used by social and behavioral scientists. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | |
| SBS | 303 | Quantitative Methods | Concepts underlying design and implementation of quantitative research methods. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | |
| SBS | 304 | Social Statistics I | Statistical techniques of the social and behavioral sciences. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | CS | |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| SBS | 335 | Power and American Democracy | Explores how persistent patterns of marginalization and privilege impede the realization of democratic ideals in U.S. society. In particular, unpacks how, in practice, different forms of political power reinforce or challenge persistent patterns of marginalization and privilege. In combination with the study of power as the repression and control of others' actions, the course also explores power as exercised in the collective production of social boundaries. Students learn how to better analyze, critique and engage with different forms of power operating in U.S. society. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only POS 335 or SBS 335 or POS 394 (Power and American Democracy) or SBS 394 (Power and American Democracy) |
| SBS | 339 | Grassroots Social Movements | Explores how groups mobilize collectively to produce social, political, economic and cultural change, with an emphasis on the United States. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ASB 339 or POS 339 or SBS 339 or SOC 339 OR Visiting University Student |
| SBS | 342 | Mexico-U.S. Borderlands | Contemporary examination of socioeconomic and political dimensions of border communities, and formation of Mexican-origin communities within and outside the Southwest. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & C | Credit is allowed for only ASB, SBS or SOC 342 |
| SBS | 356 | Central American Studies | Part of the summer ASU study abroad Costa Rica Program, which is a language and social sciences immersion program in the capital city, San Jose. A summer offering permits students to enroll in the program without conflicting with full course loads during the fall or spring semester. However, the course is proposed as a stand-alone course that can be offered in a regular semester as well. | N | REC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | Credit is allowed for only ASB 356 or GCU 356 or POS 354 or SBS 356 or SOC 356 |
| SBS | 374 | Cultures and Politics of the Internet | Explores the culture and politics of the Internet in global perspective, including virtual communities, free software, copyleft, blogs, and hacktivism. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | Credit is allowed for only ASB, POS, SBS or SOC 374 |
| SBS | 389 | Ethnographic Field Lab | Hands-on, guided ethnographic qualitative research and interpretative analysis. | N | LAB | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-6 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 389 or SBS 389 or SOC 389 |
| SBS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-4 | | |
| SBS | 404 | Social Statistics II: Multivariate Analysis | Analysis of variance, multiple regression, dummy variable regression, path analysis, and related topics. Computer application to problem solving. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | CS | Prerequisite(s): SBS 303 with C or better; SBS 304 with C or better |
| SBS | 447 | Citizenship, Nationalism and Identity | Critical examination of citizenship, national belonging and identities by examining contemporary social issues and discourses from global and comparative perspectives. Aims to understand complexities of national belonging that go beyond legal, formal citizenship, such as how cultural, racial/ethnic, class and gender differences challenge the limits of national citizenship. Explores case studies that show how members of different societies demonstrate their positions as legitimate national citizens in different and often conflicting ways, especially in order to defend social justice and human diversity. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & C & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 447 or POS 447 or SBS 447 OR Visiting University Student |
| SBS | 450 | Topics in Local/Global | Examines links among social, political, economic changes at local, national, global levels. May be repeated for credit when topics vary. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | |
| SBS | 456 | Studies in Forensic Linguistics | Focuses on the three main aspects of that branch of applied linguistics, namely language and the law, court cases where language is the central dispute, and linguistic evidence. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 456 or FOR 456 or PAX 456 or SBS 456 |
| SBS | 460 | Global Cities | This close look at megacities in the global south decisively challenges the outdated impression that the rest of the world's cities still lag way behind the U.S. and Europe. The social sciences' debate over "global cities" anchors our examination of the reorganization of metropolitan social space under impact of neoliberal globalization since the 1970s. Explores urban inequalities of slums and dreamworlds; compares vernacular and transnational styles of urbanism (in architecture, design, markets, consumerism, jobs, ads, ways of living); and asks how transnational flows of people, capital and culture have reconfigured ethnic relations and national identities rooted in global cities. Students become virtual transnational flâneurs, tacking between the slums and skyscrapers of global cities, and conduct guided research on a global megacity to investigate how the production of the global city changes the lived space and urban culture of local residents, and how they respond. We ask, whose city is it? | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | Prerequisite(s): minimum junior standing; Credit is allowed for only ASB 442 or SBS 460 |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
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| SBS | 480 | Global Justice | Explores questions of justice that cross national borders, including delivery of foreign aid, immigration, and military intervention. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | G | Prerequisite(s): minimum 45 hours; Credit is allowed for only JHR 494 (Global Justice) or JHR 550 or JHR 598 (Global Justice) or POS 480 or SBS 480 OR Visiting University Student |
| SBS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | |
| SBS | 490 | Senior Thesis I | Supervised, independent, interdisciplinary research and writing on an intellectual issue or social problem chosen by the student. First part of a six-semester-hour sequence, followed by SBS 491. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | |
| SBS | 491 | Senior Thesis II | Supervised, independent, interdisciplinary research and writing on an intellectual issue or social problem chosen by the student. Second part of a six-semester-hour sequence. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | |
| SBS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| SBS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| SBS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-4 | | |
| SBS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| SBS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-3 | | |
| SBS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-4 | | |
| SCM | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 1-4 | | |
| SCM | 300 | Global Supply Operations | Explores modern global integrated supply chain management. Covers traditional supply chain topics such as procurement, inventory management, operations, quality management, customer service, performance management and analytics, logistics and transportation. Also discusses issues related to sustainability, humanitarian logistics, ethical business practices and supply chain analytics in the context of evolving supply chains around the world. Students discover how business processes, performance metrics and modern supply chain IT tools aid in the management and growth of effective and efficient supply chains. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prereq(s) w/C or btr: BUS or Non-BUS maj w/min 2.50GPA; ACC 231,232 or 261; CIS 105,236 or CON 251; ECN 221,231 or STP 280; MAT 210,251,265 or 270 OR Engr Mgt maj; CSE 205; IEE 380; MAT 266; Pre/coreq(s): ACC 241,242 or 271 OR Visiting University Student |
| SCM | 303 | Honors Global Supply Operations | Provides an overview of supply chain management, specifically for Barrett Honors students. Explains principles and concepts from a managerial perspective and how they are used for decision making. Course topics include supply management, operations management and logistics management as applied to a supply chain system. Discusses planning, forecasting, performance measurement and improvement, and collaboration from the perspective of providing excellent customer service. Current topics of interest include the impact of sustainability, security and globalization on managing today's supply chains with an emphasis on supply chain technology. Class methodology focuses on an open-forum discussion of principles and a detailed analysis of case studies. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): W.P. Carey BA or BS major; Barrett Honors student; ECN 221 or 231 with C or better; Pre- or corequisite(s): ACC 241, 242, or 271 |
| SCM | 314 | Analytics for Logistics | Focuses on practical tools and technology for real-world decision making, financial and performance analytics. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): W.P. Carey BA or BS major; SCM 300 or 303 with C or better OR Visiting University Student |
| SCM | 315 | Business Decision Models | Covers quantitative tools used to aid decision making in supply chain management. Focuses on analytics using technology and software to include Tableau and Microsoft Excel. Other topics include the use of tools in performance management, project management and supply chain finance. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): MAT 211, 266, or 271 with C or better; SCM 300 or 303 with C or better OR Visiting University Student |

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| SCM | 344 | Applied Logistics Management | Presents a synthesis of the principles in global logistics (and supply chain) emphasizing the operation and integration of activities such as transportation, inventory, warehousing, facility location, customer service, packaging and materials handling. Examines applicable technology supporting each activity. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Pre- or corequisite(s): SCM 314 with C or better if completed OR Visiting University Student |
| SCM | 345 | Logistics Management | Provides a deep analysis of many logistics services to include: global logistics, customer service and order management, distribution/fulfillment operations, demand and inventory planning and management, network analysis and design, and transportation operations, carrier selection, costing and negotiation. In addition, reviews current logistics technology process support and integration, as well as how emerging technology is changing the future of logistics. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): W.P. Carey Supply Chain Management BS major; Pre- or corequisite(s): SCM 315 with C or better if completed OR Visiting University Student |
| SCM | 354 | Procurement of Services | Discusses management of the supply function for logistics-based organizations. Allows students to better understand the nature of procuring a service, contracting that service and establishing appropriate performance metrics. Also focuses on supply chain finance, performance management and analytics. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): SCM 300 or 303 with C or better OR Visiting University Student |
| SCM | 355 | Supply Management | Discusses management of the supply function, including organization, procedures, supplier selection, quality, inventory decisions and price determination. Students also review project management and governance, supply chain strategy and change management. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 3 | L | Prerequisite(s): W.P. Carey Supply Chain Management BS major; ENG 101, 105, or 107 with C or better; SCM 300 or 303 with C or better OR Visiting University Student |
| SCM | 385 | Business and Sustainability I | First of two related courses; provides a general overview of sustainability topics that are important to business today with a focus on consumer products and services and the social and environmental impact of the organizations that provide them. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): SCM 300 or SOS 110 with C or better; minimum 60 hours; Credit is allowed for only SCM 385 or SOS 385 OR Visiting University Student |
| SCM | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 1-4 | | |
| SCM | 432 | Planning and Control Systems for Supply Chain Management | Covers processes essential to the determination and direction of the flow of resources needed to produce goods and services. Uses Microsoft Excel for supporting analysis. Includes processes, methods, technology and financial impact to forecast, manage inventory, plan needed capacity, determine resources needed for production, determine priority and sequencing of activities, perform master scheduling and material requirements planning. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): W.P. Carey Supply Chain Management BS major; SCM 315 with C or better; SCM 345 with C or better; Pre- or corequisite(s): SCM 355 OR Visiting University Student |
| SCM | 440 | Quality Management/Measurement | Provides a broad introduction to quality management frameworks and tools, with an emphasis on supply chain and operations management issues. Introduces modern quality management approaches including Total Quality Management, Lean and Six Sigma. Students learn how to define quality for a product or service, develop appropriate measurement systems, and apply statistical and systems thinking to control and improve the underlying processes. Covers quality awards and performance excellence programs and quality management systems such as the ISO 9000 family of standards. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): W.P. Carey Business (Retail Management) BA or Supply Chain Management BS major; SCM 300 or 303 with C or better OR Visiting University Student |
| SCM | 445 | Advanced Logistics Management | Logistics processes account for approximately 8% of U.S. GDP; therefore, the efficient and effective execution of these processes is critical to supply chain managers in corporations, government entities and nonprofit organizations. Includes an overview of the processes involved to include customer service, performance management, analytics, technology and supply chain strategy. Includes a survey of the institutions and players in the processes, and the analytical tools to evaluate their efficiency and effectiveness. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): SCM 344 with C or better OR Visiting University Student |
| SCM | 455 | Research and Negotiation | Supply management ensures an organization has resources (i.e., materials, services, equipment) to deliver on promises to stakeholders. This happens by strategically designing supply systems for categories of spend and creating favorable supply agreements. A real-world class project and a real-time contract negotiation simulation helps students understand (1) the relationship among organizational, supply management and purchase category objectives; (2) frameworks and tools to analyze the supply conditions of a category, specifically spend analysis, market/demand analysis and price/cost analysis; (3) how to develop category strategies to ensure adequate and highest value resource supply into the future; (4) the translation of category strategies into manageable supply contracts; and (5) the requisite skills and processes for planning and executing successful contract negotiations. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): W.P. Carey Supply Chain Management BS major; SCM 355 with C or better OR Visiting University Student |

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| SCM | 463 | Global Supply Chain Management | With increased globalization and offshore sourcing, global supply chain management is becoming an important issue for many businesses. Like traditional supply chain management, the underlying factors behind the trend are reducing the costs of procurement and decreasing the risks related to purchasing activities. The big difference is that global supply chain management involves a company's worldwide interests and suppliers rather than simply a local or national orientation. Enables students to appreciate the challenges of operating supply chains across international boundaries including how to manage various salient issues including sociocultural, economic, technological and political factors that may shape decisions relating to sourcing and moving goods and services across different geographical boundaries. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 3 | G | Prerequisite(s): W.P. Carey BA or BS major; SCM 300 or 303 with C or better OR Visiting University Student |
| SCM | 479 | Supply Chain Strategy | Discusses supply chain strategy at the strategic level and from a systems point of view in an open-forum and detailed analysis of case studies. Students work in teams to investigate and report on key supply chain functions, drivers and metrics within an integrated system to include network design, innovation, technology enablement, customer service, sustainability, coordination and management of the critical areas of the supply chain. Includes additional focus on project management, corporate social responsibility and governance and financial implications. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 3 | L | Prerequisite(s): W.P. Carey Supply Chain Management BS major; ENG 101, 105, or 107 with C or better; SCM 355 with C or better; SCM 432 with C or better OR Visiting University Student |
| SCM | 485 | Business and Sustainability II | Second of two related courses focusing on the environmental, social and economic dimensions of sustainable technologies and exposes students to a variety of related concepts and theories. Describes technology hotspot analysis, life cycle assessment and a variety of models of technology forecasting and diffusion. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): SCM 385 or SOS 385 with C or better; Credit is allowed for only SCM 485 or SCM 494 (Business and Sustainability II) or SOS 485 |
| SCM | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 1-6 | | Prerequisite(s): Barrett Honors student |
| SCM | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | W. P. Carey School of Business | Department of Supply Chain Management | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| SCM | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 1-4 | | Prerequisite(s): minimum 60 hours OR Visiting University Student |
| SCM | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 1-7 | | |
| SCM | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Supply Chain Management | 1-3 | | |
| SCM | 501 | Fundamentals of Operations and Supply Chain Management | This contemporary class explores basic operations and supply chain management topics, including process analysis, managing waiting lines, inventory, quality and general supply chain issues and concepts. Designed for students with limited business experience and without an undergraduate supply chain degree to set a foundation of understanding. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): degree-seeking graduate student |
| SCM | 502 | Operations and Supply Chain Management | Explores supply chain management topics including environmental, project and supply chain processes. Additionally, covers processes in the areas of new product introduction development; quality control; TQM (Total Quality Mgt). | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 2-4 | | Prerequisite(s): W. P. Carey MBA or Global Logistics MS student |
| SCM | 515 | Decision Models for Supply Chain Management | Covers decision modeling approaches for supply chain management such as optimization, simulation and decision analysis. Focuses on technology enablement, performance management and analytics, and strategy change and management. Emphasizes modeling using spreadsheet-oriented approaches. Additionally, focuses on financial spreadsheet analysis and its use in optimization. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 2-4 | | Prerequisite(s): W. P. Carey MBA or Global Logistics MS student |
| SCM | 516 | Descriptive and Predictive Supply Chain Analytics | Provides a solid foundation and deeper understanding of the use of quantitative modeling tools and techniques to solve problems faced in modern supply chains. Uses Excel workbooks to implement the appropriate quantitative methods, including forecasting demand, capacity planning of a manufacturing line and the line cycle time as it pertains to parts inventory management. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): W. P. Carey Business Analytics MS or Global Logistics MS student |

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| SCM | 517 | Data-Driven Quality Management | Addresses the use of analytics tools and techniques to enhance the ability of quality management approaches to improve processes. Introduces modern quality management approaches including six sigma and design for six sigma. Covers the define, measure, analyze, improve and control (DMAIC) improvement cycle: the core process used to drive six sigma projects. DMAIC refers to a data-driven improvement cycle used for improving, optimizing and stabilizing business processes and designs. Provides an analytics roadmap to help users work through the DMAIC problem-solving process. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): W. P. Carey MBA or Business Analytics MS student |
| SCM | 518 | Analytical Decision Modeling I | Explains the skills and knowledge necessary for mastery of the use of quantitative modeling tools and techniques to support a variety of business decisions. Also explores deterministic optimization techniques, including linear programming, nonlinear programming, integer programming; network models and a brief introduction to metaheuristics. Covers the use of these models for a variety of common business problems. Practical application of these models uses Excel and standalone software. Also studies how to ensure that these solutions work in a wide variety of situations (what-if analysis). | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): W. P. Carey MBA or Business Analytics MS student |
| SCM | 519 | Analytical Decision Modeling II | Addresses the skills and knowledge necessary to model situations where uncertainty is an important factor. Covers models including decision trees, queuing theory, Monte Carlo simulation, discrete event simulation and stochastic optimization. Uses these models for a variety of common business problems and requires implementation of these models using Excel and standalone software. Studies how to ensure that these solutions work in a wide variety of situations (what-if analysis). Describes each of these methods in detail. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): Business Analytics MS student |
| SCM | 520 | Strategic Procurement | Applies principles, philosophies and processes of supply management to facilitate the continuous improvement and strategic design of an organization's supply management system on a global basis. Focuses on topics like performance management and analytics, project management and governance and finance. Provides a comprehensive understanding of supply management and its impact on the organization. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): W. P. Carey MBA or Global Logistics MS student; SCM 502 with C or better |
| SCM | 521 | Supply Management and Negotiation | Explores the supply management process of selecting, developing and executing of appropriate sourcing strategies and processes. Covers the importance or driving cost, quality and relationship management, as well as organizational change impacts on supply management of a business. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 2-4 | | Prerequisite(s): SCM 520 |
| SCM | 532 | Supply Chain Cost and Design Issues | Strategic design and development of supply chains. Focus on cost-management tools applied to supply chain design and supplier management. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 1-4 | | Pre-requisites: W.P. Carey degree seeking Graduate student |
| SCM | 541 | Logistics in the Supply Chain | Covers theories and practices of modern logistics management within a market-driven supply chain. Begins with an outline of reasons why some operations are not efficient, then introduces management tools to improve efficiency and responsiveness followed by application of analytical tools to evaluate the current logistic management practices. Topics include logistics strategy, demand management, distribution and warehouse management, distribution/warehouse design and location decisions, transportation and delivery frequency, reverse logistics, humanitarian logistics and responsive supply chains. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 2-4 | | Prerequisite(s): W. P. Carey degree-seeking graduate student |
| SCM | 542 | Logistics, Globalization, and Economic Development | Global trade, global networks and the influence those networks have on economic development worldwide. Exposes geographic, economic and sociopolitical perspectives on these issues and invites students to draw conclusions from an increasingly informed perspective. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Pre-requisite: SCM 502 and 541; Co-requisite: SCM 515 |
| SCM | 545 | Cases in Global Logistics | Capstone experience for students in the MS in Global Logistics program. Synthesizes learnings from previous courses and applies this learning to specific issues that have a major global logistics component. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Pre-requisite: SCM 502, 515, 541 and 542 |
| SCM | 551 | Operations Planning and Execution | Studies management of the conversion of raw materials to finished goods including scheduling, work-in-process inventory management, and postponement/customization. Students gain a deeper understanding of the integrated supply chain of plan, source, make, deliver and return. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SCM | 581 | Management of Technology and Innovation | Technology life cycles, technology forecasting, new product development process, innovation teams, innovation best practices. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 2-4 | | |

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| SCM | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | N | LEC | N | Z1 | W. P. Carey School of Business | Department of Supply Chain Management | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SCM | 587 | Project Management | Provides a comprehensive understanding of project management with particular focus on planning, scheduling and control of business processes. Emphasizes understanding team dynamics and risk analysis, as well as program management tools, governance and enabling of technology to drive supply chain processes. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SCM | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 1-12 | | Pre-requisites: W.P. Carey degree seeking Graduate student |
| SCM | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | N | LEC | N | Z1 | W. P. Carey School of Business | Department of Supply Chain Management | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SCM | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Supply Chain Management | 1-12 | | |
| SCM | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 1-12 | | |
| SCM | 791 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 1-12 | | Prerequisite(s): W. P. Carey graduate student |
| SCM | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Supply Chain Management | 1-15 | | |
| SCM | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | LEC | N | Z3 | W. P. Carey School of Business | Department of Supply Chain Management | 1 | | |
| SCM | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | W. P. Carey School of Business | Department of Supply Chain Management | 1-15 | | |
| SCN | 201 | Discovering the Deserts of the Southwest | Introduces deserts of the Southwest. Explores the Southwest desert flora, fauna and geology with particular focus on the Sonoran Desert. Introduces desert habitats, identification of local animals and plants, ecology and adaptations of desert organisms, desert climates and geographical features and human cultures and impacts. This lab course requires field experiences. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 4 | | |
| SCN | 202 | Sustainability Science Literacy for Engaged Global Citizens | Introduces relevant science concepts and issues that are essential for sustainability literacy. Includes topics related to water, energy and climate. Grounded in UN's Sustainable Development Goals (SDGs) and linked to the Arizona K-12 and NGSS science standards, introduces foundational science concepts related to and their relationship to grand local and global sustainability challenges. Includes a range of lab and field experiences, emphasizing issues facing Arizona and its surrounding regions as examples. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 4 | SG & G | |
| SCN | 205 | Introduction to Tropical Ecology: A Cultural Exchange | To better understand the astonishing diversity of tropical ecosystems, students work together to investigate the ecology and cultures of Neotropical ecosystems: how they were formed and how they are changing. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Credit is allowed for only SCN 205 or SCN 305 or SCN 505 |
| SCN | 207 | Introduction to Biomimicry | Foundational course that introduces everyone, no matter their discipline or background, to the emerging field of biomimicry. Biomimicry is the practice of looking to nature for strategies to solve human challenges. We are living in a time when scientists and researchers are finding sustainable solutions to solve local and global challenges by looking to nature and imitating how nature solves similar challenges. Get inspired and look at the world through a whole new lens--one inspired by nature! | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 4 | | |

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| SCN | 208 | Nature and Society: An Introduction to Environmental Studies | Introduces environmental studies and urban environmental practices. Widespread environmental problems such as biodiversity loss, resource depletion and environmental change and degradation are among the most pressing global issues of our day. Identifies and explores some of the pressing questions in the field regarding complex environmental problems and solutions from a global perspective. Explores social science and humanities approaches to environmental issues and addresses environmental practices that foster individual and community well-being, environmental quality in cities and urban sustainability. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 4 | SG & G | Credit is allowed for only SCN 208 or SCN 294 (The Exploration of Environmental Studies) |
| SCN | 209 | Introduction to Environmental Education Project | Covers topics in environmental education that assist students with being able to learn about and investigate their environment in order to make intelligent and informed decisions. | Y | LEC | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | |
| SCN | 250 | Physical Science by Inquiry | Laboratory-based development of concepts and reasoning skills in the physical sciences. Emphasizes open-ended investigations, dialogues between the instructor and individual students, and small group discussions. Helps students think of physical science as an active process of discovery in which they can participate. Helps preservice teachers understand inquiry and develop inquiry skills. Liberal arts students gain experience in the scientific process. Useful for students who wish to improve their science preparation before taking further science courses. Forms foundation for scientific literacy. | N | LAB | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 4 | SQ | Credit is allowed for only SCN 250 or 294 (Physical Science by Inquiry) |
| SCN | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| SCN | 300 | Foundations of Environmental Education | Introduces environmental education, including the philosophy, historical development, resource identification, curriculum development, field trips and other activities designed to provide the structure and development of the field of environmental education. Explores the antecedents to the present-day field and connects the field of environmental education to curricular programs that are an outgrowth of perceived and actual need in the field of environmental education. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | |
| SCN | 301 | Ecology and Natural History of the Sonoran Desert | Overview of the plants, animals, and geology of the desert ecosystem based on the Arizona K-12 Science Standards. Provides students with basic knowledge of the Sonoran Desert characteristics and its relationship to the total school curriculum. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 4 | SG | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SCN | 302 | Environmental Education | Ignites questions, wonder and reflection related to the ways we educate ourselves and the next generations as stewards of this planet. Through lived experiences, classroom exercises, relevant readings, individual and group projects and activities, students gain a wider and deeper appreciation of ecological, sustainability and science education. Explores the historical and philosophical foundations of the diverse emphases and uses of environmental education, experiential education and place-based education. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | L & G | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| SCN | 303 | Environmental Education Internship | Provides opportunities to learn more about natural sciences and local history; outdoor education and field trip course facilitation and training; individual and group development; facility care and maintenance including landscaping, gardening and carpentry; and the restoration and maintenance of the grounds and teaching materials. Supports and/or develops education projects and programs as outlined by the locations' Educational Outreach office. Various other tasks include: field trip coordination, development of curriculum and classroom materials, hands-on fieldwork, school outreach, off-site outreach events support, and Outdoor Education event support. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-3 | | Prerequisite(s): minimum 45 hours |
| SCN | 304 | Sonoran Desert Flora | Plants and plant communities support much of the diversity of life in the Sonoran Desert and the surrounding regions. Covers the fundamentals of ecology from the perspective of plants including population, community and ecosystem ecology. Also includes identification and classification of plants and plant communities in the Sonoran Desert region. Incorporates practical field exercises designed to acquaint the student with plant community analysis, classification and description. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours |

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| SCN | 305 | Tropical Ecology: A Cultural Exchange | To better understand the astonishing diversity of tropical ecosystems. Investigates the ecology and cultures of Neotropical ecosystems: how they were formed and how they are changing. Introduces language, culture and society of people and communities in tropical countries of Central and South America. Also examines cultural perspectives and beliefs. Focuses on four areas: (1) background on history and present day society of Central or South America, introductory conversational Spanish for interacting with Central and South Americans; (2) living in Central and South America, community, family and education: visiting families and private and public schools; (3) debriefing and reflecting on Central and South America language and culture and (4) the location of Central and South America countries, the rain forests' impact on the world, climate, cultures and contributions to science. | Y | LEC | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only SCN 205 or SCN 305 or SCN 505 OR Visiting University Student |
| SCN | 307 | Learning from Nature: Biomimicry and STEM | Introduces biomimicry, an emerging discipline that seeks to learn from nature to solve human problems. "Biomimicry" (from bios, meaning life, and mimesis, meaning to imitate) is a new discipline that studies nature's best ideas and then imitates these designs and processes to solve human problems. With an emphasis on getting outside and exploring the land around, focuses on observing, appreciating and learning from nature and natural systems in our local environment. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only SCN 307 or SCN 494 (Learning from Nature: Biomimicry & STEM) OR Visiting University Student |
| SCN | 308 | Urban Environmental Education | Environmental education and educators translate the complex web of earth systems science, sustainability, environmental issues and environmental change for the public. Provides opportunity to understand and experience the interface between humans and the planet to facilitate ecological literacy and ecologically responsible behavior. Assists students in becoming more sensitive to and aware of earth systems and environmental change. Also provides the knowledge, skills and motivation for understanding sustainable living in the urban environment. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SCN | 309 | Environmental Education Project | Covers topics in environmental education that assist students with being able to learn about and investigate their environment in order to make intelligent and informed decisions. | Y | LEL | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SCN | 310 | Biodiversity Conservation: An Educational Inquiry | The world is in a period of unprecedented environmental change. Examines the causes and consequences of one of the most prominent forms of change in the modern era--changes in biological diversity. Explores the scientific evidence that shows how and why Earth's biological resources are being altered, how these changes impact ecosystems and the benefits various ecosystems provide to society. Describes the social and economic consequences of biodiversity loss and understands current management strategies used to curb changes in our planet's biological resources. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 4 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only SCN 310 or SCN 294 (Biodiversity Conservation) or SCN 494 (Biodiversity Conservation) OR Visiting University Student |
| SCN | 311 | Nature Mindfully | Provides an opportunity for students to do in-depth exploration of the reciprocal relationship between human beings and the natural world. Introduces students to what is currently meant by the term ecopsychology, which studies the relationship between human beings and the natural world through ecological and psychological principles. Participants cultivate the knowledge and skills to integrate mindfulness-based best practices with natural settings. As a species, we came of age with nature, and a need for nature still resides within the architecture of our bodies and minds. Abundant research demonstrates physical and psychological benefits of interacting with nature. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours |
| SCN | 400 | Sustainability Science for Teachers | Explores the challenges of sustaining human health and well-being on Earth due to human exploitation of natural resources. Seeks sustainable solutions through science, technology and society acting at global and local levels. Covers diverse approaches used by scientists, scholars and practitioners to study and assess human-environment interactions pertaining to sustainability challenges and solutions. Focuses on how to teach sustainability concepts in the K-8 classroom. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only SCN 400 or SCN 401 OR Visiting University Student |

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| SCN | 401 | Sustainability Science, Technology, and Society | Explores the challenges of sustaining human health and well-being on Earth due to human exploitation of natural resources. Prepares students to think and engage critically with the world around them. Seeks sustainable solutions through science, technology and society acting at global and local levels. Uncover diverse approaches used by scientists, scholars and practitioners to study and assess human-environment interactions pertaining to sustainability challenges and solutions. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): non-Teacher Preparation student; minimum junior standing; Credit is allowed for only SCN 400 or SCN 401 OR Visiting University Student |
| SCN | 411 | Science in Elementary Schools | Science education standards, curriculum, instructional and assessment strategies for all children. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program; Credit is allowed for only EED 411 or SCN 411 |
| SCN | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| SCN | 501 | Ecology and Natural History of the Sonoran Desert | Gives students an opportunity to study the common plants and animals of the southwest Sonoran Desert. Study also includes their distribution, adaptations, behavior and ecology. Also includes the physical geography and geology of the region. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SCN | 502 | Outdoor Education | Ignites question, wonder and reflection related to the ways we educate ourselves and the next generations as stewards of this planet. Through lived experiences, classroom exercises, relevant readings, individual and group projects and activities, students gain a wider and deeper appreciation of ecological, sustainability and science education. Explores the historical and philosophical foundations of the diverse emphases and uses of outdoor, experiential education and place-based education. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SCN | 504 | Sonoran Desert Flora | Plants and plant communities support much of the diversity of life in the Sonoran Desert and the surrounding regions. Covers the fundamentals of ecology from the perspective of plants including population, community and ecosystem ecology. Also includes identification and classification of plants and plant communities in the Sonoran Desert region. Incorporates practical field exercises designed to acquaint the student with plant community analysis, classification and description. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SCN | 505 | Tropical Ecology: A Cultural Exchange | To better understand the astonishing diversity of tropical ecosystems, students work together to investigate the ecology and cultures of Neotropical ecosystems: how they were formed and how they are changing. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SCN 205 or SCN 305 or SCN 505 |
| SCN | 507 | Learning from Nature: Biomimicry and STEM | Offers an introduction to biomimicry, an emerging discipline that seeks to learn from nature to solve human problem. "Biomimicry" (from bios, meaning life, and mimesis, meaning to imitate) is a new discipline that studies nature's best ideas and then imitates these designs and processes to solve human problems. With an emphasis on getting outside and exploring the land, focuses on observing, appreciating and learning from nature and natural systems in our local environment. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SCN | 508 | Urban Environmental Education | Environmental education and educators translate the complex web of earth systems science, sustainability, environmental issues and environmental change for the public. Gives students an opportunity to understand and experience the interface between humans and the planet to facilitate ecological literacy and ecologically responsible behavior. Assists in becoming more sensitive to and aware of earth systems and environmental change and also provides the knowledge, skills and motivation for understanding sustainable living in the urban environment. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SCN | 509 | Environmental Education Project | Covers topics in environmental education that assist students with being able to learn about and investigate their environment in order to make intelligent and informed decisions. | Y | LEL | Y | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SCN | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SDO | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): Master of Human Resources and Employment Law or Master of Legal Studies student |

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| SDO | 501 | U.S. Law and Legal Analysis: Masters | Introduces the U.S. legal system and the types of legal reasoning used by legal professionals. Provides the necessary instruction to use legal reasoning in both academic work and professional endeavors, including reading and evaluating legal cases, statutes and public policy. Students complete extensive written legal analysis exercises, draft case briefs and complete discussion board posts critically analyzing current legal issues. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources and Employment Law, Master of Laws, or Master of Legal Studies student; Credit is allowed for only SDO 501 or SDO 598 (US Law & Legal Analysis-Masters) |
| SDO | 503 | Professional Writing: Masters | Writing strategies, techniques and genres for use in professional business environments. Presents techniques for crafting and using appropriate workplace grammar and spelling, written structure for memos, emails, reports and presentations, and communication style in a professional setting. Introduces distinct methods for writing for a digital environment as well as general writing skill improvement for success in a professional academic program. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): Human Resources and Employment Law MHREL, Laws LLM, or Legal Studies MLS student; Pre- or coreq(s): SDO 501 or 598 (US Law/Legal Analysis-Masters); Credit for only SDO 503 or SDO 598 (Prof Writ & Comm-Masters) or SDO 598 (Prof Writing-Masters) |
| SDO | 504 | Professional Communication: Masters | Facilitates understanding human communication relative to small group projects, public speaking and interpersonal relationships in the professional environment. Specifically introduces the theory and practice of human communication. Explores communication topics related to interpersonal, small group and public communication. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501 or 598(US Law/Legal Analysis-Master); Credit allowed for only SDO 504 or SDO 598 (Prof Communication:Masters) |
| SDO | 510 | Business Organizations: Masters | Covers the primary forms of business organizations: partnerships, limited partnerships, limited liability companies and corporations. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Mast); Credit is allowed for only SDO 510 or SDO 598 (Business Organizations-Mast) |
| SDO | 511 | Administrative Agencies/Regulation: Masters | Begins with an accelerated introduction to federal administrative agencies, the sources and boundaries of their authority, and options for redress for parties aggrieved by administrative actions. Also briefly examines state administrative agencies in the same light. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS stdnt; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Masters); Credit allowed for only SDO 511 or SDO 598 (Admin Agencies & Reg-Masters) |
| SDO | 512 | Compliance and Ethics: Masters | Focuses on developing competencies for building and leading an effective corporate compliance and ethics program. Students gain a broad understanding of compliance and ethics oversight, along with the skills necessary to identify corporate risks, develop policies and procedures, provide compliance training, investigate issues, resolve disputes and create effective compliance documents for board governance, audit committee and senior management use. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or coreq(s): SDO 501 or 598 (US Law/Legal Analysis - Master); Credit allowed for only SDO 512 or SDO 598 (Compliance & Ethics - Masters) |
| SDO | 513 | Sports Law: Masters | Studies law, policy and problem solving in the context of the sports industry at all levels. Exposes students to professional, amateur and international sports law issues, examining those issues in a problem-focused manner. The requirements of the course are designed to challenge the students. Expects students to think about, and not just read, the materials assigned. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis - Master); Credit is allowed for only SDO 513 or SDO 598 (Sports Law - Masters) |
| SDO | 515 | Criminal Law: Masters | Reviews and analyzes different principles of the fundamentals of criminal law, including: the principles of punishment, burdens of proof, actus reus (acts and omissions), mens rea (mental states), presumptions, causation, strict liability, defenses and homicide | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): Human Resources & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS student; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Mast); Credit allowed for only SDO 515 or SDO 598 (Criminal Law-Mast) |
| SDO | 516 | Criminal Procedure-Masters | Consider the basic principles of criminal procedure and the methods by which the criminal justice system functions. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS student; Pre-or coreq(s):SDO 501 or SDO 598 (US Law/Legal Analysis-Masters); Credit is allowed for only SDO 516 or SDO 598 (Criminal Procedure-Masters) |

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| SDO | 517 | Construction Law: Masters | Uses case studies based on actual construction projects as the primary teaching tool. Topics include: types of construction contracts, relationships among the owners, architects/engineers, general contractors, subcontractors and material suppliers on a project. Additionally, express and implied warranties; the role of the schedule and claims related to scheduling; change orders and concealed site condition claims; mechanics' liens, stop notices and other payment remedies; types of insurance and insurance coverage disputes on construction projects; proving damages; and the trial of a construction case and the use of expert witnesses. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws or Master of Legal Studies student; Pre- or corequisite(s): SDO 501 or 598 (US Law/Legal Analysis - Master); Credit allowed for only SDO 517 or SDO 598 (Construction Law-Masters) |
| SDO | 518 | Fundamentals of Contract Law: Masters | Explores the fundamental principles of contract law under the common-law and Uniform Commercial Code statutory provisions. Focuses on issues of contract formation and interpretation, defenses to enforcement, warranties and conditions, and remedies for breach of contract. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS stdnt; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Mast); Credit allowed for only SDO 518 or SDO 598 (Fundamentals of Contract Law-Mast) |
| SDO | 519 | Environmental Law: Masters | Introductory survey of the fundamental concepts underlying sustainability and environmental policy, as well as the necessary legal foundation for understanding environmental law. Also, examines the main environmental law statutory schemes. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws or Master of Legal Studies student; Pre- or coreq(s): SDO 501 or 598 (US Law/Legal Analysis - Master); Credit is allowed for only SDO 519 or SDO 598 (Environmental Law - Masters) |
| SDO | 520 | Patent Law: Masters | Key principles, concepts and applications of patent law and practice. Patent law is one of the most dynamic and highest stakes area of legal practice. From a practical perspective, covers the basis of the patent system, the requirements of, process of obtaining patents, characteristics and valuation of patents, strategies for enforcing and defending patent assertions. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501 or 598 (US Law/Legal Analysis - Master); Credit is allowed for only SDO 520 or SDO 598 (Patent Law - Masters) |
| SDO | 521 | Property Law: Masters | Provides an introductory survey of legal rules and constructs that allocate interests in real and personal property that govern the acquisition, definition, scope and enforcement of those interests. Also examines how a wide range of legal doctrines and instruments help to balance competing public policy goals involving the nation's vast spectrum of scarce and valuable assets. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources and Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501 or 598 (US Law/Legal Analysis - Master); Credit is allowed for only SDO 521 or SDO 598 (Property - Masters) |
| SDO | 522 | Conflict Theory: Masters | Focuses on conflict before resolution strategies are considered. Thus, concentrating on the sources and nature of conflict--how and why it escalates, de-escalates or persists, and the conditions under which it can be constructive or destructive. Designed to give a better understanding of the meaning and dynamics of conflict to broaden understanding of how conflict resolution strategies operate within the broader structure of conflict situations. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws or Master of Legal Studies student; Pre- or corequisite(s): SDO 501 or 598 (US Law/Legal Analysis-Master); Credit is allowed for only SDO 522 or SDO 598 (Conflict Theory-Masters) |
| SDO | 523 | Organization & Workplace Dispute Resolution: Masters | Examines the complexity of workplace conflict through the role of organizational climate and culture, and the core communication challenges and strategies for managing workplace conflict. Focus is paid to providing the tools, such as team building and positive management, to address and create healthy conflict in the workplace. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or coreq(s): SDO 501 or 598 (US Law/Legal Analysis-Master); Credit is allowed for only SDO 523 or SDO 598 (Org & Work Disp Resol-Master) |
| SDO | 525 | Tort Law: Masters | High-level introduction to torts. Covers various types of tort causes of action, their various elements, defenses and factual patterns that fit those specific tort causes of action. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): Human Resources & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS stdnt; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Masters); Credit allowed for only SDO 525 or SDO 598 (Tort Law-Masters) |

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| SDO | 529 | US Constitutional Law: Masters | Surveys the law surrounding the allocation of governmental power between federal, state and tribal governments and the distribution of governmental authority within the federal government. It is a pervasive subject in the sense that such constitutional questions can emerge in such disparate areas of legal practice as immigration, corporations and securities, family law, criminal law, banking and insurance. Deals with individual rights protected by the U.S. Constitution. Specific areas include due process, freedom of expression and religion, and equal protection. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS student; Pre- or coreq(s): SDO 501 or SDO 598(US Law/Legal Analysis-Masters); Credit allowed for only SDO 529 or SDO 598(US Constitutional Law-Masters) |
| SDO | 531 | Employment Law: Masters | Covers employment law topics including testing, privacy, FLSA, benefits, rights to compensation, workplace emotional injuries, termination, and employer risk management strategies. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Practice) MLS student; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Masters); Credit allowed for only SDO 531 or SDO 598 (Employment Law-Masters) |
| SDO | 535 | Negotiation: Masters | Offers a basic introduction to the concepts, instruments, functions and theories of modern negotiation giving students some of the information needed to better understand the dynamics of interpersonal, business and legally related negotiation. Begins with a discussion of negotiations as interpersonal communication. Examines avoiding exploitation in mixed-motive exchanges. Explores distributive bargaining strengths and weaknesses. Examines the use of integrative bargaining techniques and those settings in which they might be best used. Finally, reviews the landscape of legal jurisprudence in order to apply appropriate ideologies and techniques to the complex adaptive system of American business and personal interaction in the shadow of the law. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): Human Resources & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS stdnt; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Master); Credit allowed for only SDO 535 or SDO 598 (Negotiation-Master) |
| SDO | 538 | Entrepreneurship, Law and Strategy: Masters | Overview of strategy and the law that are most crucial to educating potential entrepreneurs and lawyers who are interested in starting a business. Addresses the five potential major areas of evolution for a startup: the concept, seed, growth, sustaining and exit stages of the business. Focuses on topics around the formation of a company, growing and managing the business for long-term success. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies stdnt; Pre- or coreq(s): SDO 501 or 598 (US Law/Legal Analysis-Masters); Credit allowed for only SDO 538 or SDO 598 (Entrepreneur Law&Strategy: Idea to Exit) |
| SDO | 540 | Immigration Law: Masters | Provides an overview of the history of immigration law, policy and current events. Examines the tension between constitutional immigration powers and federal statutes versus the states' abilities to control immigration within their borders. Provides generalized knowledge of various forms of immigration relief. Students practice their research and writing skills as well as analyze the morality and human rights issues that are at play within the immigration context. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501 or 598 (US Law/Legal Analysis - Master); Credit allowed for only SDO 540 or SDO 598 (Immigration Law-Masters) |
| SDO | 541 | HR and Employment Law: Masters | Provides an introduction to the management of human resources, in an overview perspective. Students also gain a general understanding of the fundamentals of human resource management and employment laws and policies, and how they apply to organizations. Topics covered are: compensation and benefits, staffing, training and development, performance appraisals, organizational management, policy and maintaining effective relationships with employees. Exposes students to the dynamics of how the human resource department and the company strategically work together to balance employee morale and return on investment. Initiates a well-rounded learning experience of HRM and the effects on business operations. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Practice) MLS student; Pre- or coreq(s): SDO 501 or 598 (US Law/Legal Analysis-Masters); Credit is allowed for SDO 541 or LAW 598/SDO 598 (HR & Employment Law) |
| SDO | 542 | Regulation of Small Businesses: Masters | Introduces the wide array of regulations that businesses must navigate. (licensure, taxation, insurance and employment rules as well as other laws and regulations triggered by commerce). Additionally, provides a background into the agencies that create and enforce many of the regulations that impact small business and the legal basis for their ability to do so. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS student; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Masters); Credit allowed for only SDO 542 or SDO 598 (Regulation of Small Business) |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|------------------------------------|------------------------------------|-------|-----------------|---|
| SDO | 543 | Business Relationships: Masters | Introduces the legal frameworks that impact how business and individuals work together to achieve business and individual goals. Topics covered include contracts, strategic partnerships, IP licensing arrangements, franchising, and others. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Practice) MLS student; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Masters); Credit allowed for only SDO 543 or SDO 598 (Business Relationships) |
| SDO | 544 | Evidence: Masters | Focuses on the principles and practices governing the competency of witnesses and presentation of evidence, including the rules of exclusion and roles of lawyer, judge and jury under the adversary system. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Practice) MLS student; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Masters); Credit is allowed for only SDO 531 or SDO 598 (Evidence-Masters) |
| SDO | 545 | Arbitration: Masters | Focuses upon the law, policy and practices relating to arbitration process, using a third-party neutral to render a decision for disputing parties, as it is utilized in consumer and commercial sectors. The class will focus on the Federal Arbitration Act, important policy implications of arbitration, and issues that organizations and individuals should consider when both contemplating entering an arbitration agreement and participating in an arbitration process. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Practice) MLS student; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Masters); Credit is allowed for only SDO 545 or SDO 598 (Arbitration-Masters) |
| SDO | 546 | Mediation: Masters | Studies the process in which a trained neutral third party assists others in resolving a dispute or planning a transaction. Trains students in basic mediation skills through readings, lectures, video demonstrations and simulations, and discussions. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Practice) MLS student; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Masters); Credit is allowed for only SDO 546 or SDO 598 (Mediation-Masters) |
| SDO | 547 | Land Use Regulation: Masters | Surveys modern land use planning with an emphasis on the legal framework used to resolve conflicting land uses | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS student; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Masters); Credit allowed for only SDO 547 or SDO 598 (Land Use Regulation-Masters) |
| SDO | 548 | Water Law: Masters | Provides an introductory survey of the fundamental concepts underlying water law, as well as the necessary legal foundation for understanding sustainable water policy and management. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Practice) MLS student; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Masters); Credit is allowed for only SDO 548 or SDO 598 (Water Law-Masters) |
| SDO | 549 | Family Law: Masters | Primarily focuses on the law of marriage and divorce including the law governing entry into marriage, the legal consequences of being married, and the dissolution of the marital status. Topics include: the law of marriage, child custody, child support, alimony, division of property, the rights and obligations of unmarried cohabitants, and the establishment of paternity rights and obligations. In addition, touches upon issues of domestic violence, child abuse and neglect and assisted reproductive technologies. Relevant Arizona Statutes are referred to throughout the course where appropriate as examples, but the course is not limited to Arizona law. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Practice) MLS student; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Masters); Credit is allowed for only SDO 549 or SDO 598 (Family Law-Masters) |
| SDO | 551 | Duties, Obligations and Rights in the Workplace: Masters | Examines the fundamental employee rights and employer obligations established by federal law and encompasses an examination of the National Labor Relations Act; the Worker Adjustment and Retraining Notification Act; the Equal Pay Act; the Occupational Safety and Health Administration; Worker's Compensation; the Family Medical Leave Act; the Pregnancy Discrimination Act; and the Genetic Information Nondiscrimination Act. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Empl Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS stdnt; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Mstrs); Credit is allowed for only SDO 551 or SDO 598 (Duties, Obligs & Rts in Wplc-Mstrs) |
| SDO | 552 | Employment Discrimination: Masters | Focuses primarily on Title VII of the Civil Rights Act of 1964, the Age Discrimination in Employment Act, and the Americans with Disabilities Act. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Empl Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS stdnt; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Mstrs); Credit is allowed for only SDO 552 or SDO 598 (Empl Discrimination - Mstrs) |

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| SDO | 553 | Amateur Sports Law: Masters | Examines amateur sports law from legal, business and problem-solving (policy) perspectives. Focuses primarily on interscholastic and intercollegiate athletics, including an examination of gender and racial equity issues. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources and Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501; Credit allowed for only SDO 553 or SDO 598 (Amateur Sports Law - Masters) |
| SDO | 554 | Sports Career Planning & Business Communication: Masters | Addresses the hard and soft skills required to excel in a career in the sports industry. Content includes proper personal branding such as an online profile, cover letters, resumes, emailing, business communication skills and networking. Also includes guidance on strategic career planning, research and writing skills to build a career plan and familiarize students with the sports industry. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources and Employment Law, Master of Laws or Master of Legal Studies student; Pre- or corequisite(s): SDO 501; Credit is allowed for only SDO 554 or SDO 598 (Sports Career Planning & Bus Comm - Masters) |
| SDO | 555 | Professional Sports Law: Masters | Studies law, policy and problem solving in the context of the sports industry at the professional level, from both a legal and a business perspective. Exposes students to professional sports law issues, examining those issues in a problem-focused manner. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Empl Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS stdnt; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Mstrs); Credit is allowed for only SDO 555 or SDO 598 (Prof Sports Law - Mstrs) |
| SDO | 556 | Sports Analytics: Masters | Allows students to develop and apply analytical skills that are useful in nearly every career. Although the course focuses on applications in the sports context and uses approaches that are rapidly becoming important in the business of sports analytics, this is not a survey course about issues in sports. Instead, this class is about curiosity, storytelling and logic. An understanding and interest in both sports and numbers make this class good. General curiosity makes it great. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Empl Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS stdnt; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Mstrs); Credit is allowed for only SDO 556 or SDO 598 (Sports Analytics - Mstrs) |
| SDO | 557 | Sports Business Strategy: Masters | Explores the sports business ecosystem and the various stakeholders who play a role in sports business. Beyond stakeholders, the course discusses the various applications within sports business from marketing to venues. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Empl Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS stdnt; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Mstrs);Credit is allowed for only SDO 557 or SDO 598 (Sports Business Strategy-Mstrs) |
| SDO | 558 | Copyright Law: Masters | Includes topics such as copyright bundle of rights, registration, remedies, fair use, work made for hire contracts, licensing and assignments. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Empl Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS stdnt; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Mstrs); Credit is allowed for only SDO 558 or SDO 598 (Copyright Law - Masters) |
| SDO | 559 | Trademark and Unfair Competition Law: Masters | Trademark law is indisputably the most fun area of the law. This course covers, from a practical perspective, the basis and use of the trademark system; the requirements for, process of obtaining, opposing and enforcing trademarks and related rights; and the overlapping federal, state and common law rights and doctrines involved in trademark and unfair competition law including cybersquatting, false advertising and the right of publicity. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Empl Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS stdnt; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Mstrs); Credit is allowed for only SDO 559 or SDO 598 (TM & Unfair Competition Law-Mstrs) |
| SDO | 566 | Advanced Topics in Sports Law: Masters | Studies law, policy and problem solving in the context of the sports industry, at all levels. Exposes students to professional, amateur and international sports law issues, examining those issues in a problem-focused manner. A variety of industry professionals give the lectures, and each section focuses on a specific topic within the realm of sports. The requirements of the course are designed to challenge the students. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Empl Law MHREL, Laws LLM, Legal Stds MLS, or Legal Stds (PatentPrac) MLS stdt; SDO 598 (SprtsLaw-Mstr); Pre- or coreq(s):SDO 501 or SDO 598 (US Law/Legal Anlysis-Mstr); Credit allowed for only SDO 559 or LAW 598/SDO 598 (AdvTopics SprtsLaw) |
| SDO | 567 | Advanced Topics in Criminal Law: Masters | Considers principles of criminal procedure with analytical emphasis on the right to counsel during trial, appellate and post-conviction proceedings. Also examines developments in the criminal justice system derived from the study of wrongful convictions during the Innocence Era. Students read portions of a summary treatise relevant to specific subject areas of criminal law and procedure, case law, law review articles, periodicals and case materials. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Empl Law MHREL, Laws LLM, Legal Stud MLS, or Legal Stud (Patent Prac) MLS std; SDO 515 or 598 (Crim Law-Mstrs); Pre- or coreq(s): SDO 501 or 598 (US Law/Legal Anly-Mstrs); Credit is allowed for SDO 567 or 598 (Adv. Top in Crim Law-Mstrs) |

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| SDO | 568 | Integrating Legal Principles and Business Practices: Masters | Survey course covers various substantive topics with a focus on applying the basic legal principles covered via court decisions and other reading assignments. Requires a basic understanding of "black letter law," but this is not a course that asks MLS students to provide the same level of nuanced legal analysis as would be asked of law students. Instead, merging business acumen and legal analysis is valued above a depth of legal understanding. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Empl Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS stdnt; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Mstrs); Credit is allowed for only SDO 568 or SDO 598 (Integ Leg Pp & Busi Pract-Mstrs) |
| SDO | 569 | Advanced HR and Employment Law: Masters | Covers the laws that govern the rights and duties between employers and employees. Goes beyond knowledge of the law and focuses on the application of the legal knowledge to scenarios HR professionals encounter in both the private and public sector. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Empl Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS stdnt; SDO 531 or 598 (Empl Law); Pre- or coreq(s): SDO 501 or 598 (US Law/Lgl Analy); Credit is allowed for only SDO 569 or SDO 598 (Adv Top in HR & Emp Law) |
| SDO | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): Master of Human Resources and Employment Law or Master of Legal Studies student |
| SDO | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): Master of Human Resources and Employment Law or Master of Legal Studies student |
| SDO | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): Master of Human Resources and Employment Law or Master of Legal Studies student |
| SDO | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): Master of Human Resources and Employment Law or Master of Legal Studies student |
| SDO | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): Master of Human Resources and Employment Law or Master of Legal Studies student |
| SDO | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SDO | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): Master of Human Resources and Employment Law or Master of Legal Studies student |
| SDO | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): Master of Human Resources and Employment Law or Master of Legal Studies student |
| SDO | 685 | Human Resource and Employment Law Capstone | Develops a perspective on how the law interacts and impacts the human resources industry. Understanding and applying solutions for rapidly changing legal requirements related to employment is an essential part of business success. Analyzing the current HR legal environment to understand and plan for risk, opportunities and requirements is the starting point for creating a compliant and effective HR system. Students evaluate the impact of legal changes within Arizona, the United States and internationally, placing emphasis on ethical decision making. Students learn how to successfully navigate legal changes within the employment realm and manage relationships with employee groups. | N | PRA | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): Human Resources and Employment Law MHREL student; Pre- or corequisite(s): SDO 501 |
| SDO | 701 | Contract Review and Structure for Professionals: Masters | Helps students learn how to work with contracts by exploring the general parts of a contract, the purposes of contracts, and reviewing contracts with an eye on supporting business interests. Although students learn some drafting techniques, the focus of the course is not on drafting entire contracts from scratch. Rather, students learn how to review contracts within a specific framework and recognize how contract language affects a party's legal rights. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): LAW 515 or SDO 518; SDO 501 or SDO 598 (US Law/Legal Analysis-Masters); Credit is allowed for only SDO 701 or SDO 598 (Contract Review & Structure for Prof - Masters) |
| SEA | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Ocean Futures | 0.25-4 | | |
| SEA | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Ocean Futures | 0.25-4 | | |

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| SEA | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Ocean Futures | 0.25-4 | | |
| SEA | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Ocean Futures | 0.25-4 | | |
| SEA | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OP3 | College of Global Futures | School of Ocean Futures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SEC | 501 | Solar Engineering and Commercialization I | Examines the fundamentals of the solar energy enterprise regarded from a systems engineering perspective. Examines solar energy technology, economic issues and policy matters and reviews the impact of these three areas on the design process and system operation of photovoltaic systems at the residential and commercial scales. Objectives include learning the basic principles in photovoltaic system design; thinking critically and seriously about the nature of solar energy and its use; formulating views and insights regarding energy resources, conservation, photovoltaic economics, government subsidies; and expressing and defending these views orally and in writing. Includes lectures, case studies, interactive classroom projects and guest speakers. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; Credit is allowed for only SEC 501 or SEC 598 (PV Systems Engineering) |
| SEC | 502 | Solar Engineering and Commercialization II | Examines the fundamentals of the solar energy enterprise at the utility scale--the components, the design process, the economic issues, and the policy matters in large-scale photovoltaic systems--in both the design of these systems (both central plant and aggregated forms) and their interface with the existing (and future) electrical grid. The course educational Objectives include: learning the principles in utility-scale photovoltaic system design; thinking critically and seriously about the interaction of photovoltaic systems with the national grid; formulating views and insights regarding energy resources, conservation, economics, government incentives, and so on, at the utility scale; and expressing and defending these views orally and in writing. Includes lectures, case studies, interactive classroom projects and guest speakers. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 3 | | Prerequisite(s): SEC 501; Credit is allowed for only SEC 502 or SEC 598 (Solar Commercialization) |
| SEC | 510 | Solar Energy and Policy | Elucidates and amplifies the importance, role and mechanisms of solar energy policy. Underscores the significance of policy in the successful deployment of solar energy. Complements other courses in the curriculum of the Professional Science Masters (PSM) in Solar Energy, which is largely centered on engineering concepts and techniques. Content is guided by the principle that technical considerations alone are inadequate to stimulate future expansion of solar energy. Additionally, it is stressed that policy considerations are critical to any potential transition to a solar energy economy. Typically taken in conjunction with DC summer workshop "Science Outside the Lab," but may be taken by others as stand-alone course. Course consists of lectures and discussions of policy instruments at the national, state and local scales. Visiting experts from the energy industry provide their personal experience and real-world perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GCU 510 or GCU 598 (Solar Energy & Public Policy) or SEC 510 or SEC 598 (Solar Energy & Public Policy) |
| SEC | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SEC | 588 | Solar Energy Colloquium | Discussion-oriented class focusing on topical issues in solar energy. Knowledge of thermodynamics or electric power systems is recommended to succeed in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only MAE 588 or SEC 588 |
| SEC | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SEC | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | YGB | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SEC | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SEC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1-4 | | |
| SED | 111 | Exploration of Science Teaching | General overview of the profession of the science educator with a look at student, teachers, curricula, and classroom techniques. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | |
| SED | 322 | Classroom Leadership in Secondary Schools | Theories and practices for managing and maintaining secondary classrooms for learning; strategies for home/school communication; and leadership roles for teachers. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | L | Prerequisite(s): admission to the Professional Program; ENG 101, 105, or 107 with C or better |
| SED | 396 | Clinical Experience I | Applies course content in middle/secondary setting grades 6-12. Emphasizes observation, pupil management, planning and delivering instruction, and assessment. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): admission to the Professional Program |
| SED | 397 | Clinical Experience II | Applies course content in a middle/secondary school setting grades 6-12. Emphasizes observation, pupil management, planning and delivering instruction, and assessment. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 0-1 | | Prerequisite(s): admission to the Professional Program |
| SED | 398 | Clinical Experience | Applies course content in middle/secondary setting grades 6-12. Emphasizes observation, pupil management, planning and delivering instruction, and assessment. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | Prerequisite(s): admission to the Professional Program |
| SED | 403 | Secondary Principles, Curriculum and Methods | Advanced level of development of knowledge and skills of instructional planning and methods of teaching and evaluating in the secondary school. Requires observation/participation. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |
| SED | 404 | World and Native Language Methods and Assessment for K-12 Classrooms | Provides educators with a guided exploration of current methods, assessments and techniques related to teaching world and native languages in K-12 contexts; i.e., communication in languages other than English. Students deepen their understanding of language teaching pedagogy and expand their repertoire of teaching strategies and techniques for addressing the diverse learning needs of all students. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 4 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; Credit is allowed for only SED 404 or SED 504 |
| SED | 464 | Middle-School Curr/Org | Educational implications of the characteristics of a diverse adolescent population on middle-level organization and components, curriculum, instructional strategies, assessment. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |
| SED | 478 | Student Teaching: Secondary Education (Grades 6-12) | Student teaching in middle/secondary setting grades 6-12: synthesized experience in curriculum, instruction, assessment and classroom management. | Y | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3-15 | | Prerequisite(s): admission to the Professional Program |
| SED | 480 | Special Methods of Teaching Social Studies | Interdisciplinary approaches; production and collection of materials. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| SED | 481 | English Teaching Methods for Secondary Schools | Instructional, organizational, and presentation methods for English in secondary schools. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; minimum 56 hours |
| SED | 482 | Science Teaching Methods for Secondary Schools | Methods of instruction, organization, and assessment of science for secondary and middle grade schools. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; minimum 56 hours |
| SED | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| SED | 496 | Clinical Experience III | Applies course content in middle/secondary setting grades 6-12. Emphasizes observation, pupil management, planning and delivering instruction, and assessment. | Y | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): admission to the Professional Program |
| SED | 501 | Introduction to Effective Instruction | Introductory course for certification program in secondary education. Emphasizes developing basic classroom management, instruction, and evaluation. Includes a field assignment of at least 120 hours. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SED | 504 | World and Native Language Methods and Assessment for K-12 Classrooms | Provides educators with a guided exploration of current methods, assessments and techniques related to teaching world and native languages in K-12 contexts, i.e., communication in languages other than English. Students deepen their understanding of language teaching pedagogy and expand their repertoire of teaching strategies and techniques for addressing the diverse learning needs of all students. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 4 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; Credit is allowed for only SED 404 or SED 504 |
| SED | 510 | General Methods and Assessment | Provides an overview and application of teaching methods, unit planning, and research for secondary teachers. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SED | 511 | ELA Methods and Assessment | Methods in design, instruction and assessment of English Language Arts (ELA) for secondary schools. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SED | 512 | Secondary Mathematics Methods and Assessment | Mathematical knowledge for learning, teaching and assessment in grades 7 through 12. Focuses on methods for developing conceptual understanding of mathematics concepts through inductive, inquiry-based, problem-centered learning and teaching. Emphasizes concept development through visualization using concrete, digital and real-world representations; purposeful questions; and generalization of patterns. Focuses on theories of mathematics learning; design of learning sequences concrete-to-pictorial-to-abstract; visible thinking routines; teaching rehearsals; brain science messages for mathematics learning; and practices for creating equitable mathematics learning environments and students' positive growth mindset. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SED | 513 | Science Teaching Methods for Secondary School | Focuses on inquiry-based processes, lesson design, teaching methods and content overview to support science instruction in secondary and middle grades. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SED | 514 | Methods of Teaching Secondary Social Studies | Methods in design, instruction and assessment of the social studies subjects for secondary schools. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; admission to the secondary teacher preparation professional program |
| SED | 520 | Science Methods for Early Adolescence | Examines the interrelationships between theory and practice in teaching science. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SED | 522 | Secondary School Curriculum Development | Social processes, issues, principles, patterns, and procedures in curriculum development. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Pre-requisite: Graduate student |
| SED | 533 | Middle/Secondary Instruction, Management, and Assessment | Analyses of procedures, methods, techniques, and experiments in teaching in secondary schools. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Pre-requisites: Must be a graduate student |
| SED | 544 | Creating Classroom Climates | Emphasizes classroom management and instructional strategies for establishing positive classroom climates that facilitate learning. Includes field experience. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SED | 547 | Teaching Mathematics in the Middle Grades (5-9) | Strategies and methodologies to teach mathematics in the middle grades (5-9). | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SED | 557 | Internship I | Develops knowledge and skills for effective classroom management, establishing a positive classroom environment, and examining K-12 learner behavior. Provides opportunities for students to engage as a teacher and learner in a classroom setting. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-8 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 557 or SED 557 or SPE 556 |
| SED | 560 | Teaching Mathematics with Technology | Strategies and methodologies to teach mathematics with technology, focusing mainly on the middle grades (5-9). | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SED | 561 | Teaching Science with Technology | Strategies and methodologies for effective technology-enhanced science classrooms and improved learning. Models student-driven inquiry teaching throughout the course. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SED | 567 | Internship II | Develops knowledge and skills for effective classroom management, establishing a positive classroom environment and effective lesson delivery. Reinforces the application and evaluation of the NIET Aspiring Teacher Rubric. Provides opportunities for students to engage as a teacher and learner in a classroom setting. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-8 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 567 or SED 567 or SPE 570 |
| SED | 571 | Apprentice Teaching I | Semester one of apprentice teaching in an elementary (EED)/secondary (SED)/special education (SPE) setting for students who are currently working as the teacher of record. Introduces classroom management, curriculum, instruction and assessment supervised and reinforced by a clinical instructor. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 571 or SED 571 or SPE 571 |
| SED | 574 | Apprentice Teaching II | Semester two of apprentice teaching in an elementary (EED)/secondary (SED)/special education (SPE) setting for students who are currently working as the teacher of record. Reinforced application of developing proficiency in classroom management, curriculum, instruction and assessment occurs through supervision and individualized support by a clinical instructor. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 574 or SED 574 or SPE 574 |
| SED | 576 | Internship III | Develops knowledge and skills for creating learning experiences for a range of learners, executing instructional cycles, using assessment methods, and reflecting on best teaching practices. Provides opportunities for pre-service educators to engage as a teacher and learner in a classroom. | Y | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-8 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 576 or SED 576 or SPE 576 |
| SED | 578 | Residency/Student Teaching in Secondary Education | Student teaching in a secondary (SED) school classroom. Synthesized experience in curriculum, instruction, and classroom management. This course builds upon previous professional experiences to extend learning in a classroom setting and to obtain practice and feedback to continuously improve educator knowledge and skills. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SED | 579 | Apprentice Teaching III | Semester three of apprentice teaching in an elementary (EED)/secondary (SED)/special education (SPE) setting for students who are currently working as the teacher of record and enrolled in the masters plus certification program. Continued development toward proficiency in classroom management, curriculum, instruction and assessment. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 579 or SED 579 or SPE 579 |
| SED | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 593 or SED 593 or SPE 593 |
| SED | 596 | Residency/Student Teaching | Student teaching in elementary (EED), secondary (SED), or special education school classrooms. Synthesized experience in curriculum, instruction and classroom management. | Y | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-8 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 596 or SED 596 or SPE 596 |
| SER | 215 | Software Enterprise: Personal Process | Software engineering; personal software processes for individual professionalism; time and defect estimation, yield, and productivity. Software tools. Project based. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): CST 200 or SER 200 with C or better |
| SER | 216 | Software Enterprise: Personal Process and Quality | Introduces software engineering, software lifecycle models, personal software processes for individual professionalism, time and defect estimation, yield and productivity, software testing and quality management. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Pre- or corequisite(s): CSE 310, SER 222, or TGM 410 with C or better if completed OR Visiting University Student |
| SER | 221 | Programming Languages and Their Execution Environment | Introduces the fundamental programming language concepts of data, type, control, abstraction, and structure; software development and execution environments; programming language paradigms. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): CST 200 or SER 200 with C or better; Credit is allowed for only CST 220 or SER 221 |
| SER | 222 | Design and Analysis of Data Structures and Algorithms | Data structures and related algorithms for their specification, complexity analysis, implementation and application. Sorting and searching. Professional responsibilities that are part of program development, documentation and testing. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): CSE 205 or SER 200 with C or better; MAT 243 or 300 with C or better OR Software Engineering MS student OR Engineering Science (Software Engineering) MSE student OR Master of Computer Science student OR Visiting University Student |
| SER | 232 | Computer Systems Fundamentals | Logic design, number systems and arithmetic, Boolean algebra, digital systems components and hardware description languages. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | CS | Pre- or corequisite(s): SER 100 or CSE 110; MAT 117, 170, 171, 210, 251, 265, or 270 with C or better if completed or ALEKS score of 61 or higher; Credit is allowed for only CST 150 or SER 232 OR Visiting University Student |
| SER | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 1-4 | | |
| SER | 315 | Software Enterprise: Design and Process | Software process from the design perspective. Engineering design process, user-centered design and software safety design. User interface, software architecture and design patterns and software design constraints. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Software Engineering BS major; CSE 310, SER 222, or TGM 410 with C or better; Pre- or corequisite(s): FSE 100 with C or better if completed; SER 216 with C or better if completed OR Visiting University Student |
| SER | 316 | Software Enterprise: Construction and Transition | Best practices in software construction in the context of a team project, including refactoring, defensive programming, unit testing, and configuration and release management. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Software Engineering BS major; CSE 310, SER 222, or TGM 410 with C or better; SER 216 with C or better OR Visiting University Student |
| SER | 321 | Principles of Distributed Software Systems | Design and implementation of distributed software components; process and memory management underlying software applications; sockets, protocols, threads, XML, serialization, reflection, security, and events. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): CSE 310, SER 222, or TGM 410 with C or better; Pre- or corequisite(s): CSE 330 or SER 334 with C or better if completed; Credit is allowed for only CST 420 or SER 321 OR Visiting University Student |
| SER | 322 | Principles of Database Management | Fundamental methods in modeling and managing data-oriented systems. Relational, object and hierarchical data modeling techniques. Query languages including SQL. Semantics of transaction processing. Modern trends in data management including unstructured data, NoSQL and Graph databases. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): SER 222 with C or better; Credit is allowed for only ACO 220 or ACO 320 or CSE 412 or IFT 300 (or IFT 433) or SER 322 OR Visiting University Student |
| SER | 332 | Introduction to Graphics and Game Development | Foundations of graphics as used in modern rendering and basic principles of the game development pipeline. Graphics and math concepts and their application in games, graphics and visualization. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): CSE 205 or SER 200 with C or better |

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| SER | 334 | Operating Systems and System Programming | Fundamentals of operating systems: run-time environments, process management, scheduling, synchronization techniques, memory management and file management. Introduces programming concepts and tools for developing operating system modules, system utilities and low-level applications in POSIX environments. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): CSE 230 or EEE 230 with C or better; CSE 240 with C or better; Pre- or corequisite(s): CSE 310, SER 222, or TGM 410 with C or better if completed OR Software Engineering MS or Master of Comp Science student OR Visiting University Student |
| SER | 335 | Engineering Secure Software Systems | Software engineering principles applied to securing software systems. Software life cycle processes contextualized to security needs of software. Software requirements analysis and software verification and validation practices for security. Software architecture security assessment. Software engineering organization policies for security, including threat modeling and assessment, vulnerability classification, risk management, and preparing for security audits. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Pre- or corequisite(s): CSE 330 or SER 334 with C or better if completed; SER 315 with C or better if completed; SER 316 with C or better if completed; SER 321 with C or better if completed OR Visiting University Student |
| SER | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 1-4 | | |
| SER | 401 | Computing Capstone Project I | First half of a comprehensive project experience based on cumulative knowledge and skills gained in earlier coursework. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Software Engineering BS major; SER 316 with C or better; senior standing or postbaccalaureate |
| SER | 402 | Computing Capstone Project II | Second half of a comprehensive project experience based on cumulative knowledge and skills gained in earlier coursework. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Software Engineering BS major; SER 401 with C or better |
| SER | 415 | Software Enterprise: Inception and Elaboration | Third course in the four-course enterprise sequence. Students perform inception (project launch) and elaboration (requirements analysis) activities in project teams. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | L | Prerequisite(s): Software Engineering BS major; ENG 101, 105, or 107 with C or better or postbaccalaureate student; SER 315 with C or better OR Visiting University Student |
| SER | 416 | Software Enterprise: Project and Process Management | Project-centric course focusing on applying software process, project management, and technical leadership. Final course in the software enterprise sequence. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Software Engineering BS major; SER 316 with C or better |
| SER | 421 | Web-Based Applications | Distributed Web applications, their design, architecture and supporting technologies; user-interaction concepts and technologies; design and implementation of software servers for Web systems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): SER 321 with C or better OR Software Engineering graduate student OR Visiting University Student |
| SER | 422 | Web Application Programming | Design and implementation of Web application. Languages, frameworks, technologies, tools and methods used to realize Web client and server solutions. Approaches for securing, testing as well as determining the quality and reliability of Web applications. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): IFT 433 or SER 321 with C or better OR Software Engineering graduate student OR Visiting University Student |
| SER | 423 | Mobile Systems | Mobile applications, their architecture, design, and supporting technologies; mobile device operating systems and frameworks; synchronizing mobile applications, support for inter-application data-exchange; accessing and manipulating special-purpose device capability such as location, orientation and input modality. Practices for securing mobile runtimes and optimizing run-time performance. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): SER 321 with C or better OR Software Engineering MS student OR Engineering Science (Software Engineering) MSE student OR Visiting University Student |
| SER | 431 | Advanced Graphics | Topics in real-time rendering and graphics hardware. Uses graphics processing unit hardware to implement rendering of higher-order surfaces and special effects. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): SER 332 with C or better or graduate Software Engineering student |
| SER | 432 | Game Engine Architecture | Functional requirements of a modern game engine architecture. Students work in teams to develop advanced features for a game engine. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): SER 332 with C or better or graduate Software Engineering student |
| SER | 450 | Computer Architecture | Price/performance analysis, instruction set design, RISC/CISC, processor design and implementation, pipelining, instruction-level parallelism, memory hierarchy, storage and I/O systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): CSE 230 or EEE 230 with C or better OR Software Engineering MS student OR Visiting University Student |
| SER | 456 | Embedded Interfaces: Sensors and Actuators | Electromechanical sensors and electrical actuators, analog-to-digital and digital-to-analog conversion, hardware and software interfaces for embedded systems. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): CSE 120, EEE 120, or SER 232 with C or better; CSE 205 with C or better OR Software Engineering MS student; Credit is allowed for only CST 598 (Embedded Interfaces: Sensors and Actuators) or SER 456 OR Visiting University Student |
| SER | 460 | Software Analysis and Design | Object-oriented and structured analysis and design; software architecture and design patterns; component-based development; software safety and reliability. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prereqs w/min C:Comp Sci, Geo Info Sci or Comp Sys Eng maj; CSE 360 OR SftwrEng maj; CSE 310, SER 222, or TGM 410; SER 315 or 316 OR CompSci&Eng, SftwrEng or online CS nondegree grad stdt; Credit allowed for CSE 460/SER 460 OR Visiting University Student |

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| SER | 463 | Introduction to Human Computer Interaction | Design, evaluate, and implement interactive software intended for human use. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prereqs w/C or btr: Cmp Sci BS or Cmp Sys Eng BSE or GIS BS; CSE 310 OR Dig Cltr (Mda Prcs) BA/BS or Inf BS; CPI 310 OR Sftwr Eng BS; SER 315 or 316; SER 222 OR Cmp Sci & Eng or Sftwr Eng grd st; Crdt only CSE 463 or SER 463 OR Visiting University Student |
| SER | 464 | Software Quality Assurance and Testing | Software quality assurance (SQA), software quality metrics, software configuration management, software verification and validation, reviews, inspections, understanding software testing process, functional testing, structural testing, model-based testing, integration, system, and regression testing techniques, software life cycle models and software testing, testing distributed software, bug management, and use of testing tools. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prereqs w/min C:Comp Sci or Comp Sys Eng mjr; CSE 360 OR SftwrEng mjr; CSE 310, SER 222, or TGM 410; SER 315 or 316 OR CompSci&Engr or SftwrEng grad stdt; Credit allowed for CSE 464 or CSE 598 (SftwrQualAsrn&Tst) or SER 464 OR Visiting University Student |
| SER | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Software Engineering | 1-12 | | Prerequisite(s): Software Engineering BS major; CSE 240 with C or better; SER 216 with C or better; SER 222 with C or better |
| SER | 486 | Embedded C Programming | Programming concepts for embedded systems. Interfacing and controlling LED, LCD, keypads, buttons. Embedded OS concepts. Timers and interrupts. Serial communication. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): CSE 310, SER 222, or TGM 410 with C or better; SER 321 with C or better OR Software Engineering MS student OR Visiting University Student |
| SER | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Software Engineering | 1-6 | | Prerequisite(s): Barrett Honors student |
| SER | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Software Engineering | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| SER | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 1-4 | | Prerequisite(s): CSE 330 or SER 334 with C or better OR Visiting University Student |
| SER | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Software Engineering | 1-3 | | |
| SER | 501 | Advanced Data Structures and Algorithms | Advanced algorithms and how they are effectively applied to solve problems. Algorithm design, analysis, classification, optimization, and application. Practice implementing and employing algorithms to solve realistic problems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Fulton Engineering graduate student |
| SER | 502 | Emerging Languages and Programming Paradigms | Emerging programming languages, their design, description, implementation, and advanced features; API design, including facilities for creating secure distributed applications, facilities supporting software services, naming and composition; language paradigms and the resulting implications on execution; run-time systems and storage management; approaches to compilation and execution. Requires ability to program in an object-oriented programming language and knowledge of data structures, algorithms, and analysis. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Fulton Engineering graduate student |
| SER | 515 | Foundations of Software Engineering | Software engineering overview, with an emphasis on component and service-based architectures, reliability, safety, dependability and software reuse. Introduces software engineering research methods and critical inquiry. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Software Engineering MS graduate student |
| SER | 516 | Software Agility | Focuses on quality software construction principles in an agile community context. Agile methods, open source communities, coding best practices, configuration management, software delivery and building in quality. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Software Engineering MS student |
| SER | 517 | Software Factory Capstone | One-semester capstone culminating experience for graduate students. Student teams work through concurrent product and service offering lifecycles in a project context. Covers concepts including opportunity assessment, risk management, technology evaluation, licensing models, resource planning, delivery models such as hosted, turnkey, Software as a Service (SaaS), technology acquisition, outsourcing, governance, quality assurance, software certification, and continuous process improvement. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Software Engineering MS student |

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| SER | 518 | Software Factory II | Second in a two-semester capstone culminating experience for graduate students. Student teams work through concurrent product and service offering lifecycles in a project context. Covers concepts including opportunity assessment, risk management, technology evaluation, licensing models, resource planning, delivery models such as hosted, turnkey, and Software as a Service (SaaS), technology acquisition, outsourcing, governance, quality assurance, software certification, and continuous process improvement. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): SER 517 |
| SER | 531 | Semantic Web Engineering | State-of-the-art semantics-based approaches and tools that can be leveraged to enrich and enhance today's big data. Covers approaches to ontology engineering, searching and filtering relevant information, representing big data, modern applications of these methods and techniques for Web-based intelligent applications and services. Discusses applications of semantic technology that could improve the processing of big data. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only SER 594 (Semantic Web) or CST 594 (Semantic Web) or SER 531 |
| SER | 533 | Database-Centric Enterprise Applications Development | Solutions for enterprise software systems based on relational database technology. Persistence solutions in middleware frameworks. O/R, XML, and scalability issues. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Fulton Engineering graduate student |
| SER | 540 | Internet-Enabled Embedded Devices | Accessing hardware devices through Internet, including Applets, HTTP, custom byte streams, XML-RPC, SOAP. Building network-based applications that interface hardware. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Fulton Engineering graduate student |
| SER | 554 | Distributed Computing | Topics in distributed systems, including communications, distributed operating systems, fault-tolerance, and performance issues. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Fulton Engineering graduate student |
| SER | 574 | Advanced Software Design | Presents some of the latest advancements in the area of software design and architecture, aiming to help students develop analytical thinking skills which are essential to a successful career in software engineering. Modeling has become the primary communication vehicle in many areas of software engineering, and particularly in the intersection of software and systems engineering. Presents different approaches to software modeling and design for applications in systems engineering. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Software Engineering MS student; SER 515 with C or better; Credit is allowed for only SER 574 or SER 594 (Advanced Software Design) |
| SER | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SER | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Software Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SER | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | REC | Y | Z1 | Ira A. Fulton Schools of Engineering | Software Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SER | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Software Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SER | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SER | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Software Engineering | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SER | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SER | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Software Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SES | 100 | Introduction to Exploration | Science and engineering of Earth, solar system, and space exploration. Experimental design, engineering design; teaming; the professions of science and engineering. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | CS | Prerequisite(s): ALEKS score of 61 or higher or Pre- or corequisite(s): MAT 170, 171, 210, 251, 265, or 270 with C or better if completed OR Visiting University Student |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--|---------------------------------------|-------|-----------------|--|
| SES | 106 | Habitable Worlds | Are we alone in the Universe? If so, why? If not, where are our cosmic cousins? Such questions, once the domain of science fiction, are on the verge of being answered with science facts. Astronomers are discovering planets around other stars. Planetary scientists are exploring the worlds in our solar system. Biologists are unlocking the secrets of metabolism and evolution. Geoscientists are determining how the Earth supports life. And as we struggle to build a sustainable future for ourselves, all of us are finding out how technologically advanced civilizations rise and how they might fall. This course surveys these topics. In the process, students master basic concepts from across the major areas of science and learn what makes the Earth a habitable world. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 4 | SQ | |
| SES | 107 | A Solar System Journey | Introduces modern planetary science--the exploration of our solar system by astronomers, geologists, chemists, physicists, engineers, astronauts and even biologists. Studies the historical and modern science of the Sun, planets, moons, rings, asteroids and comets in our solar system, and about new planets being found in other solar systems. Covers the scientific method as well as the specific techniques used in modern planetary science and space exploration that enable us to apply what we learn about our solar system neighbors to the study of our home planet, and vice versa. | N | LEL | N | GNA | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 4 | SG | Credit is allowed for only SES 107 or SES 194 (A Solar System Journey) |
| SES | 121 | Earth, Solar System and Universe | The Earth, solar system and universe are diverse and dynamic, featuring galaxies, solar systems, suns, planets and moons. Each type of feature is characterized by a suite of processes and features, such as volcanoes, landslides and climate. As scientists and engineers, we want to understand what is going on in our world. Understanding past events helps begin to predict future events. With the Earth, we examine past events and current natural processes to understand how this past and these processes affect humans. Accordingly, this course examines the processes, materials and features observed and inferred on the Earth, in the Solar System, and in the Universe. The course is purposely designed to be rather holistic, exploring concepts from stellar evolution, atmosphere and oceans on Earth and in extraterrestrial objects, plate tectonics, volcanoes and mountain building. Both SES 121 and SES 123 must be taken together to secure SQ General Studies credit. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | SQ | |
| SES | 122 | History of the Earth and Solar System | The Earth and solar system have a long and interesting history, spanning nearly five billion years. Earth and other objects in the solar system have evolved over time, punctuated by a series of events, such as mountain building, volcanic eruptions, impacts and extinctions. As scientists and engineers, we want to understand what events have occurred in our world and which aspects directly affect us or are most interesting. Understanding past events helps us comprehend what has happened and begin to predict future events. With the Earth, examines past events and current natural processes to understand how this past and these processes affect humans. Accordingly, examines the history of the Earth and solar system in the context of the processes, materials and features that can be observed and inferred. Explores the history of the Earth and solar system from a broad, interdisciplinary, perspective. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): SES 121 with C or better |
| SES | 123 | Earth, Solar System and Universe Laboratory | Studies astronomical and geological processes through observations and measurements. Requires field trips and evening telescopic observing. Both SES 121 and SES 123 must be taken together to secure SQ General Studies credit. | N | LAB | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1 | SQ | Pre- or corequisite(s): SES 121 with C or better if completed OR Visiting University Student |
| SES | 124 | History of the Earth and Solar System Laboratory | Studies astronomical and geological processes and life through observations and measurements. Requires field trips and evening telescopic observing. | N | LAB | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1 | | Prerequisite(s): SES 123 with C or better; Pre- or corequisite(s): SES 122 with C or better if completed |
| SES | 126 | Exploration of the Universe | Introduces the basic principles of modern astronomy, with a focus on "Exploration Science," or the methods by which we explore our planet, our solar system, other stars, and even other galaxies. How do we explore? What is the "scientific method"? How is modern science carried out? Study of such questions helps form a solid foundational core for a major in the science of astrophysics--a major that spans many aspects of the universe as a whole. Don't be surprised if class includes stories about how ASU research is proceeding, or how a lesson in class is relevant to some research experience. A key goal is for you to be excited and informed about the incredible era of Earth and space exploration that we're all a part of! | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): SES 121 with C or better; Pre- or corequisite(s): MAT 170, 171, 210, 251, 265, or 270 with C or better if completed |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|---------------------------------------|-------|-----------------|---|
| SES | 128 | Exploration of the Universe Lab | Introduces the basic principles of modern astronomy, with a focus on "Exploration Science," or the methods by which we explore our planet, our solar system, other stars, and even other galaxies. How do we explore? What is the "scientific method"? How is modern science carried out? Study of such questions helps form a solid foundational core for a major in the science of astrophysics--a major that spans many aspects of the universe as a whole. A key goal is for you to be excited and informed about the incredible era of Earth and space exploration that we're all a part of! | N | LAB | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1 | | Prerequisite(s): SES 123 with C or better; Pre- or corequisite(s): SES 126 with C or better if completed |
| SES | 141 | Energy In Everyday Life | Energy permeates our everyday life and is at the heart of understanding how the world around us works. What is energy? How is energy used in the biological, chemical, electrical and mechanical systems that impact our daily lives? What would our world be like if there was a nearly infinite supply of inexpensive energy? This multidisciplinary survey course offers learners the opportunity to master practical job skills: the ability to observe, gather data, and think critically to make order-of-magnitude estimates. | N | LEL | N | GNA | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 4 | SQ | Credit is allowed for only SES 141 or SES 194 (Energy in Everyday Life) OR Visiting University Student |
| SES | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-3 | | |
| SES | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | |
| SES | 220 | Biology of a Changing Earth | Offers a broad survey of basic biological principles, with an emphasis on aspects of biology that are particularly important in the context of interdisciplinary Earth and environmental sciences. Explores how life on Earth has emerged and diversified and how the ubiquity of this life affects the Earth's chemistry, land surface and climate. As many of our current environmental issues are a direct consequence of human impacts on organismal physiology, biodiversity patterns, or ecosystem processes, strongly focuses on application of biological knowledge. Includes weekly laboratory exercises. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): GLG 108 with C or better OR GLG 110 with C or better; GLG 111 with C or better OR SES 121 with C or better; SES 123 with C or better OR Visiting University Student |
| SES | 225 | Global Biogeochemical Cycles | Exposes students to the coupled biogeochemical cycles that link Earth's biosphere, hydrosphere, atmosphere and lithosphere. These cycles operate at the very long time-scales that stabilize Earth's climate and the very short time-scales that support the biosphere. Explores processes and changes through time and the human influence on these systems. Topics include: the rock cycle and the hydrologic cycle; biogeochemical systems; carbon, nutrient and oxygen cycles; global climate change; human forcing on the ecosphere; and future climate scenarios. Strongly emphasizes developing an understanding of the complex interactions among different systems and processes. Specific student interests inform some of the topics covered, and participation in the discussions and analyses are crucial to the success of this class. Develops understanding through readings, class discussion, in-class problem solving, written projects and student presentations. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): BIO 100, BIO 182, BIO 282, or SES 220 with C or better; CHM 101, or both CHM 107 and 108, or CHM 113, or CHM 114 with C or better; GLG 108, or both GLG 110 and 111, or both SES 121 and 123 with C or better OR Visiting University Student |
| SES | 230 | Coding for Exploration | A series of lectures and computer labs on data processing and analysis in Earth and space sciences using Python. Introduces programming with scratch and python. Numerical methods for data analytics. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | CS | Prerequisite(s): AST 111 or GLG 101 or SES 121 with C or better; Pre- or corequisite(s): MAT 265 or 270 with C or better if completed OR Visiting University Student |
| SES | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | |
| SES | 307 | Space Works I: Design, Build, Test | Provides an introduction to: (1) project design and fabrication, including the application of NX CAD software, training and use of the Space Works additive manufacturing equipment, and the implementation of a project from prototype through completion within a dedicated maker space; (2) analytical modeling and its application to planetary exploration; (3) space mission design and implementation; and (4) leadership training, including project organization, schedules, budgets and technical report writing. A key element includes interacting with and learning from engineers and scientists working on space projects. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Pre- or corequisite(s): MAT 265 or 270 with C or better if completed; Credit is allowed for only SES 307 or SES 394 (ASU SpaceWorks Project Level 1:Applied Design....) OR Visiting University Student |
| SES | 311 | Essentials of Astrobiology: Exploration for Life in the Universe | Origin and evolution of life on Earth. Strategies to explore for life in the cosmos. Possible field trips to explore regional geological analogues. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): BIO 181 (188), CHM 113 or PHY 121; MAT 265 or 270 |

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| SES | 330 | Practical Electronics and Instrumentation | Applied principles of electronics and mechanical design as used by the modern instrument builder, using a systematic approach to the design process: Identify a scientific problem, develop specifications necessary to solve the problem, develop a prototype solution, test solution for plausibility, break down problem into components, design and build the solution then test in a relevant environment. Builds on introduction to circuits and engineering concepts from prerequisite courses. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 4 | | Prerequisite(s): EEE 202 with C or better; MAE 201 or 212 with C or better; PHY 131 and 132 with C or better (or PHY 151 with C or better) OR Visiting University Student |
| SES | 350 | Engineering Systems and Experimental Problem Solving | Introduces integration of scientific and engineering computational methods into scientific research and successful exploration. Provides an active, project-based environment for learning science and engineering by means of a common set of computational tools. Also provides a detailed overview of procedural and object-oriented programming with an emphasis on problem solving. Students solve problems by developing software in an interpreted language (Python). Problems may include visualizing data, interfacing with hardware, or solving numeric problems. Covers procedural programming concepts including data types, variables, control structures, arrays, and data I/O. Covers object-oriented programming concepts including object creation and use, object interaction, and the design of simple classes. Covers software engineering concepts including testing, incremental development, understanding requirements, and teamwork. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): AST 301 with C or better OR MAT 267, 272, or 275 with C or better; PHY 131; PHY 132 (OR PHY 151) with C or better OR Visiting University Student |
| SES | 376 | Communicating Astronomical and Planetary Sciences I | Develops science communication writing skills, specifically focusing on communicating scientific concepts and scientific results to a variety of audiences including astronomers and the general public. Through lectures, readings and discussions, introduces the characteristics of written science communication and public engagement within the context of astronomical and planetary sciences to include investigations into the ethics of science communication. Students gain proficiencies in science communication writing, visual data production and various digital technologies through relevant, project-based assignments, digital portfolio creation and contributions to a class blog. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): AST 111 with C or better; AST 112 with C or better; ENG 102, 105, or 108 with C or better OR Visiting University Student |
| SES | 377 | Communicating Astronomical and Planetary Sciences II | Develops science communication oral skills, specifically focusing on communicating scientific concepts and scientific results to a variety of audiences including astronomers and the general public. Through lectures, readings and discussions, introduces a variety of techniques for producing and presenting effective oral science presentations within the context of astronomy and planetary sciences. Students gain proficiencies in public speaking, visual data production and various digital technologies through relevant, project-based assignments, including digital portfolio creation and contributions to a class blog. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; SES 376 with C or better OR Visiting University Student |
| SES | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | |
| SES | 401 | Earth and Space Exploration Colloquium | Colloquium is an opportunity to gain exposure to research that is taking place beyond the School of Earth and Space Exploration (SESE). Colloquium facilitates the cross-disciplinary growth that is always evolving in SESE. Also provides an opportunity for all members of SESE to gather in one location to interact and learn about science. | N | LEC | Y | YGB | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SES | 405 | Exploration Systems Engineering | Provides an introduction to systems engineering with an emphasis on the following topics: the systems engineering process, requirements, design fundamentals, subsystem fundamentals, trade studies, integration, technical reviews, case studies and ethics. Prepares the student for the capstone spacecraft/mission design course. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): MAT 266 or 271 with C or better; PHY 121 and 122 (or PHY 150) with C or better |
| SES | 407 | Space Works II: Model, Fabricate, Test | Provides students with: (1) experience in complex project design and fabrication, including the application of NX software for thermal and structural modeling, use of the Space Works additive manufacturing equipment, and the testing of a team project within space-like conditions; (2) training in clean room protocol; (3) electrostatic discharge training; and (4) preparation of a Preliminary Design Review document which includes a team presentation. A key element includes interacting with and learning from engineers and scientists working on space projects. | N | LEL | N | GNA | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): SES 307 with C or better; Credit is allowed for only SES 407 or SES 494 (ASU SpaceWorks Project Level 2- Model, Fab, Test) OR Visiting University Student |

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| SES | 410 | Senior Exploration Project I | Design and development of an Earth, solar system, or space exploration project. Conceptualization, design, development, deployment, data analysis, communication. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): Earth and Space Exploration BS major; ENG 101, 105 or 107 with C or better; minimum senior standing OR Visiting University Student |
| SES | 411 | Senior Exploration Project II | Continuation of SES 410. Development of Earth, solar system, or space exploration project. Conceptualization, design, development, deployment, data analysis, communication. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Pre-requisites: ENG 101, ENG 105 or ENG 107; SES 410 |
| SES | 480 | Teaching Earth and Space Sciences | Provides a practical review and active exploration of educational research and theory, published and online resources, and best practices, to inform effective teaching of the Earth and space sciences at the high school and undergraduate levels. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; AST 111, AST 112, GLG 101, GLG 102, GLG 108, GLG 110, SES 106, SES 121, or SES 122 with C or better; Credit is allowed for only SES 480 or SES 494/GLG 490 (Teaching Earth and Space Science) |
| SES | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): minimum 45 hours |
| SES | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-6 | | Prerequisite(s): Barrett Honors student |
| SES | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| SES | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | |
| SES | 495 | Undergraduate Thesis | Guided research culminating in the completion and presentation of an undergraduate thesis based on supervised research. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum senior standing OR Visiting University Student |
| SES | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-3 | | Prerequisite(s): minimum 45 hours |
| SES | 501 | SESE Colloquium | Colloquium is an opportunity to gain exposure to research that is taking place beyond the School of Earth and Space Exploration (SESE). Colloquium facilitates the cross-disciplinary growth that is always evolving in SESE. It also provides an opportunity for all members of SESE to gather in one location to interact and learn about science. | N | LEC | Y | YGB | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GLG 500 or SES 501 |
| SES | 502 | Exploring SESE Research | Weekly series of talks by faculty in the School of Earth and Space Exploration (SESE) about their current research. | N | LEC | Y | GNA | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GLG 591 (Faculty Research Seminar) or SES 502 |
| SES | 510 | Graduate Exploration Project I | Design and development of an Earth, solar system or space exploration project. Conceptualization, design, development, deployment, data analysis, communication. First part of a year-long project for the development and testing of experiments and instruments for scientific exploration. Expects students to define the mission and develop an experiment while applying realistic science-based goals and constraints to their design work. | N | PRA | N | GNA | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): Exploration Systems Design MS student; minimum 9 hours of GEN, EEE, IEE, or MAE graduate courses with C or better; minimum 6 hours of AST, GLG, or SES graduate courses with C or better |
| SES | 511 | Graduate Exploration Project II | Development of Earth, solar system or space exploration project. Conceptualization, design, development, deployment, data analysis, communication. Second of a year-long project for the development and testing of experiments and instruments for scientific exploration. Expects students to define the mission and develop an experiment while applying realistic science-based goals and constraints to their design work. | N | PRA | N | GNA | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): Exploration Systems Design MS student; SES 510 with B or better |
| SES | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SES | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | |
| SES | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): School of Earth and Space Exploration master's student |
| SES | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | GNA | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|---------------------------------------|-------|-----------------|---|
| SES | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SES | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | |
| SES | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): School of Earth and Space Exploration master's student |
| SES | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): School of Earth and Space Exploration graduate student |
| SES | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-15 | | Prerequisite(s): School of Earth and Space Exploration doctoral student |
| SES | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SES | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | The College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-15 | | Prerequisite(s): School of Earth and Space Exploration doctoral student |
| SFS | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-3 | | |
| SFS | 215 | Fundamentals of Sustainable Food Systems | Introductory food course provides students with a panoramic understanding of American agriculture. Explores American-grown food through history, policy, society, business innovation, and environmental sustainability. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | L | Prerequisite(s): ENG 101, 102, 105, 107, or 108 with C or better; Credit is allowed for only AGB 215 or SFS 215 or SOS 215 OR Visiting University Student |
| SFS | 216 | The Sustainable Plate | Introductory food course explores agriculture by subsectors, such as livestock, grains and fruits and vegetables. Students learn how dietary choices affect health, the environment, and the people who produce and process food. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): ENG 101, 102, 105, 107, or 108 with C or better; Credit is allowed for only AGB 216 or SFS 216 or SOS 216 OR Visiting University Student |
| SFS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-4 | | |
| SFS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-4 | | |
| SFS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Global Futures | School of Sustainability | 1-12 | | |
| SFS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | IND | Y | Z1 | College of Global Futures | School of Sustainability | 1-6 | | Prerequisite(s): Barrett Honors student |
| SFS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | IND | Y | Z1 | College of Global Futures | School of Sustainability | 1-6 | | Prerequisite(s): Barrett Honors student |
| SFS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-4 | | |
| SFS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| SFS | 560 | Tools and Tactics for Food Policy Change | Reviews competing theories, models and analytical frameworks for understanding the policy-making process. Provides advanced knowledge of the tools and strategies necessary to achieve food policy reform. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): Food Policy and Sustainability Leadership certificate student; Corequisite(s): SFS 561 |
| SFS | 561 | Food and Farm Immersion Experience | Exposes students to farmers, ranchers and supply chain businesses that are the focus of, or are otherwise directly impacted by, food and agriculture policies and programs. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): Food Policy and Sustainability Leadership certificate student; Corequisite(s): SFS 560 |
| SFS | 562 | Managing Natural Resources for Food Production | Highlights the relevance of natural resource conservation for ensuring healthy agricultural, food and environmental systems, as well as the various approaches to achieving sustainable systems. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): SFS 560; Corequisite(s): SFS 563 |

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| SFS | 563 | Applied Food Policy Immersion Experience | Intensive seminar on leadership reviews leadership theories, builds leadership skills, and engages students in question-and-answer sessions with food policy leaders from a variety of sectors on the ASU campus and across Metro-DC. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): SFS 560; Corequisite(s): SFS 562 |
| SFS | 564 | American Agriculture in the Global Context | American agriculture both impacts, and is impacted by, the production and demands of other countries. Considers global food trends, global food policy governance regimes and institutions, and explores current controversies. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): SFS 560; SFS 562 |
| SFS | 565 | Organizational Leadership | Culminating research-based class organizes students into small teams and chooses a topic from a list of contemporary policy controversies provided by the professor. Class work requires original research, creation of policy solutions, and development of strategies to achieve proposed solutions. Each team produces a professional report to be broadly shared with sustainable food system advocates. The professional report is expected to advance food policy knowledge generally and provide certificate graduates visibility to highlight their accumulated skills. Organizes assignments so that students have individual assignments that must be completed and submitted for individual grades. Teamwork is also a highly valued skill for leaders and for this reason, a component of a student's grade is based on the final team report and presentation. | N | PRA | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): Food Policy and Sustainability Leadership certificate student; SFS 560; SFS 563; Pre- or corequisite(s): SFS 564 |
| SFS | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Global Futures | School of Sustainability | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SFS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRO | Y | Z1 | College of Global Futures | School of Sustainability | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SFS | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SFS | 596 | Capstone | Required capstone where students conduct research and write a professional report of publishable quality based on the research. | N | LEL | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): Sustainable Food Systems MS student |
| SFS | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SGS | 101 | Thinking Globally | Survey of globalization processes in historical context, including economic, political, cultural and technological dynamics, and human efforts to analyze and address contemporary global issues. Provides a grounding in patterns of global social change and diverse theoretical approaches to understanding them. Topics addressed vary and may include the emergence and dynamics of capitalism, trade, labor, economic inequality and development; the interstate system, democracy, nationalism, colonialism and post-colonialism; global governance, social movements and resistance to globalization; immigration, environmental and health challenges; media, art and identities including race, ethnicity, language and religion. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | Credit is allowed for only SGS 101 or SGS 301 OR Visiting University Student |
| SGS | 107 | Religion and Globalization | Explores how different religions interact with the various processes of globalization, including how the world's major religions have been transformed by economic, political, cultural, and technological aspects of globalization. Topics include religious terrorism, human rights, religion, and gender. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | HU & G | Credit is allowed for only REL 107 or SGS 107 OR Visiting University Student |
| SGS | 111 | Global History Since 1500 | Surveys Africa, the Americas, and Eurasia; changes in communication, communities, demography, economics, environment, politics, religion, technology, warfare, and women. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | HU & H & G | Credit is allowed for only HST 101 or SGS 111 OR Visiting University Student |
| SGS | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-3 | | |
| SGS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-4 | | |
| SGS | 203 | Contemporary Global Trends | Gives a grounding in patterns of international politics and global social change. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | |
| SGS | 204 | Professional Global Career Development | Orients the student to working in global contexts and to thinking critically about careers in the global arena. Focuses on working in organizational settings distinctly global. Three modules: nation-state, corporations, and working international organizations. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | |
| SGS | 240 | Introduction to Southeast Asia | Interdisciplinary introduction to the cultures, religions, political systems, geography, and history of Southeast Asia. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | (HU or SB) & G | Credit is allowed for only ASB 240 or GCU 240 or HST 240 or POS 240 or REL 240 or SGS 240 OR Visiting University Student |

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| SGS | 245 | Introduction to India and South Asia | Provides an introduction to the history and major contemporary political, economic, social, religious and cultural features of the South Asia region at large and of selected South Asian nations in particular. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | HU & H & G | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only HST 245, POS 245, REL 245, SGS 245 or SLC 245 |
| SGS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-4 | | |
| SGS | 301 | Principles of Global Studies | Advanced overview of globalization processes in historical context, including economic, political, cultural and technological dynamics, and human efforts to analyze and address contemporary global issues. Provides a grounding in patterns of global social change and diverse theoretical approaches to understanding them. Topics addressed vary and may include the emergence and dynamics of capitalism, trade, labor, economic inequality and development; the interstate system, democracy, nationalism, colonialism and post-colonialism; global governance, social movements and resistance to globalization; immigration, environmental and health challenges; media, art and identities including race, ethnicity, language and religion. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | G | Prerequisite(s): minimum 45 hours; Credit is allowed for only SGS 101 or SGS 301 OR Visiting University Student |
| SGS | 303 | Global Trends | Analyzes the process of globalization across boundaries through the investigation of the determinants and ramifications of globalization from the vantage of modern social sciences. Students are expected to conduct and articulate independent critical analyses toward a more in-depth understanding of this social phenomena, global history, and particularly the global economy. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SGS | 304 | Foundations of Cross-Cultural Awareness | Addresses the theory and practice of studying, working and/or living in cultures other than your own, and focuses on cultural preparation to learn successfully in diverse cultures. Develops an awareness of intercultural sensitivity and recognizes its value, gains specific intercultural competencies (as defined within the course), and enables students to better understand their own culture so they can understand their host culture at a more meaningful level. Because of the variety of locations where students study or intern, focuses on culture-general skills, not culture-specific ones. Students also gain career development skills to prepare them to apply to study abroad programs and related scholarships, and guidance on how to best utilize international experiences for maximum benefit and long-term career planning. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only SGS 304 or SGS 394 (Cross-Cultural Awareness) or SGS 394 (Foundations of Cross-Cultural Awareness) OR Visiting University Student |
| SGS | 305 | Empirical Political Inquiry | Logic of political inquiry, including research problems, concepts, hypotheses, theories, measurement, data collection, and analysis. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only POS 301 or SGS 305 OR Visiting University Student |
| SGS | 315 | Energy Policy | Examines the regulation of energy production and consumption in the U.S. at the federal, state and local levels. Identifies energy stakeholders in the U.S. and examines how they have shaped U.S. policies around energy. Explains past and current U.S. energy policies and how energy needs have shaped U.S. relations with other countries. Compares U.S. energy policies to that of other countries in the world, as well as how Arizona's energy policies compare to other states within the U.S. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only SGS 315 or SOS 315 OR Visiting University Student |
| SGS | 320 | Mechanisms of Global Governance | One of the fundamental issues in the social sciences concerns the problematic attainment of social order, which is the principal aim of governance. Presents the five principal mechanisms purported to account for social order, and illustrates these by providing empirical examples of each; includes film clips. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SGS | 321 | International Institutions and Global Governance | Provides an in-depth examination as to how the international community organizes itself, through international institutions, to deal with serious international issues, and how the institutions of international governance can be improved. Studies diverse examples of international institutions primarily from the perspective of international relations (IR) theory and the role of international law (IL). | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours |

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| SGS | 323 | International Development | Provides an introduction to the theories underlying international development and the remaining challenges facing academics, researchers, and policymakers in solving issues contributing to global poverty. Gives an overview of the state of the world, illustrating how indicators of economic growth and well-being are unequally distributed across countries. Conceptualizes the leading factors believed to drive these patterns and discusses the historical approaches to solving these problems. Gives particular attention to examples of policies and development strategies that either strengthened or weakened economies in the past. Second half of the course details current factors that continue to threaten development, such as poor health and education practices, limitations in agricultural growth and food security, and heightened risk due to climate change. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only SGS 323 or SGS 394 (International Development) or SOS 394 (International Development) |
| SGS | 324 | Global Trade in Real Time | Practical aspects of global trade including historic background, negotiations, supply chain, global terms, transportation, chartering, marine insurance, international arbitration, foreign exchange, letters of credit, barter, ethics, leadership, networking, country analysis and introduction to global management theories. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours or minimum junior standing OR Visiting University Student |
| SGS | 325 | Globalization and Socio-Economic Justice | Addresses a trend producing increasing interconnectedness of economies and societies, as well as creating new conflicts and divisions. Provides greater understanding of global forces, as well as the effect of these forces on global economic justice. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 2.00 GPA; Credit is allowed for only JUS 325 or SGS 325 or SOC 325 OR Visiting University Student |
| SGS | 330 | Globalization and the Environment: Problems and Solutions | Assesses the impact of globalization on the earth's environment. Examines such issues as biodiversity loss to pollution to urbanization to climate change, among others, and assess how globalization has driven, impacted or improved these environmental problems. Emphasis on understanding the social, political and economic factors that have contributed to global environmental change and the degree to which globalization processes are something 'new', as well as on examining the ability of communities, nations and transnational institutions to manage these global problems. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SGS | 340 | Violence, Conflict and Human Rights | Interdisciplinary examination of the evolution and role of human rights in global society. Major themes include the political struggles over enforcement of human rights and curtailment of violence against individuals. Pays close attention to the role of non-governmental organizations and diplomacy in advancing human rights norms and also examines America's role in human rights, both at home and abroad. Focuses on the causes and effects of violence and human rights abuses in the context of torture, the "war on terror," and crimes against humanity. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SGS | 341 | Humanitarian Crisis and International Intervention | Focuses on political, legal, and ethical issues raised by decision about military interventions in genocide and humanitarian crisis. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | |
| SGS | 343 | Religion, Nationalism, and Ethnic Conflict | Examines the role of religion in national and ethnic conflict in the contemporary world. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only REL 379 or SGS 343 OR Visiting University Student |
| SGS | 344 | Facing the Past: Truth, Memory, Denial After Atrocities | The past has never been so present as it is today. Over the last two decades, the world has shown an increasing interest in uncovering the hidden and forgotten histories of state-sponsored atrocities and acknowledging the fate of victims and survivors. Studies this movement for the recovery of truth, memory, and moral responsibility includes a wide range of actors and takes a number of different forms. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | |
| SGS | 350 | Economic Development and Globalization | Major issues and models in economic development. Studies development policy and foreign aid practiced since the 1970s and recent critique of these practices. Analyzes the mistakes made in the last 40 years, and potential for improving the practice of foreign aid. Contemporary issues in development economics, including the impacts of bad governance, foreign aid, corruption, war, military intervention and democracy on economic growth with emphasis on policy evaluations in health, education, microfinance and monitoring corruption. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours |

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| SGS | 360 | Cultural Aspects of Globalization | Cultural aspects of globalization, starting with a theoretical discussion of what culture is and then weaving this discussion into an empirical examination of UNESCO's World Heritage program as a practical means of studying the role of culture in globalization. A number of questions guide our inquiry: What is culture? What forms does it take? Can culture be preserved? If so, what are the consequences? How is the UNESCO World Heritage Program structured? How does it conceive culture? What is its understanding of the global and the role of the local in it? | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours |
| SGS | 361 | World Society: Imagining the World | Studies global processes by conceptualizing the world as a world society. This means that globalization is not just people being more interconnected enabling faster interactions. It suggests that interactions and institutions throughout the world are increasingly part of a whole, of a global consciousness, and while boundaries such as national boundaries are important, they do not delimit "society." The global is not just what is outside of national society or beyond the nation-state: it also constitutes what is inside the nation-state. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only SGS 361 or SGS 394 (World Society) |
| SGS | 366 | Islam and Islamic Societies in Africa: Social and Political History | An in-depth study of the fundamental principles of Islam. Course will examine various forms of development of Muslim societies and institutions in Africa through time. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | G | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours; Credit is allowed for only AFR 372 (or AFS 372) or REL 362 or SGS 366 or AFS 394/REL 394/SGS 394 (Islam and Islamic Societies in Africa: Social and Political History) |
| SGS | 370 | Geopolitics | Geopolitics is a field that deals with war, conflict and the politics of animosity and violence. It calls special attention to the distribution of power on a global scale, and to the spatial scales at which power, authority and control operate. At one time, this involved studying how various "great powers" and "wise men" carved up the world according to their goals and interests. But power is everywhere! To name only a few examples, it is present in the ways that NGOs operate in conflict zones, in global health advocacy and awareness, in media coverage of distant catastrophes and seemingly immanent risks, and in disaster management and emergency response plans. Scholars in this field study topics such as war, diplomacy, conflict, migration, religious strife, terrorism and similar fields. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours or minimum junior standing; Credit is allowed for only SGS 370 or SGS 394 (Global Geopolitics) OR Visiting University Student |
| SGS | 377 | Arizona, Immigration, Latinos and Politics | Contemporary immigration and its related issues have generated significant debates, reforms and responses by government officials, businesses and private citizens, to name but a few in this country. This course provides a much-needed framework for understanding some of the immigration issues in Arizona and the country generally. It also focuses on some of the political responses by Latinos and their significant mobilization at the local, state and federal levels. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only JUS 377 or POS 377 or SGS 377 or TCL 377 or HST/JUS/POS/SGS/TCL 394 (Arizona, Immigration, Latinos and Politics) OR Visiting University Student |
| SGS | 379 | The Resource Curse | Explores the paradox known as the resource curse, examining the argument, its mechanisms for impeding development, and its effects. Examines successes and failures, and in doing so, examines the mechanisms of the resource curse and the potential to overcome the negative consequences of resource wealth for developing countries. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only POS 379 or POS 394 (The Resource Curse) or SGS 379 or SGS 394 (The Resource Curse) OR Visiting University Student |
| SGS | 381 | Modern Southeast Asia | Vietnam, Laos, Cambodia, Thailand, Burma, Malaysia, Singapore, Brunei, Indonesia, and Philippines since 1750: imperialism, revolution, and independence. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G & H | Pre-requisite(s): ENG 102, 105 or 108 with a C or better; Minimum 30 hours; Credit is allowed for only HST 391 or SGS 381 |
| SGS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-4 | | |
| SGS | 401 | Political Statistics | Basic concepts in statistics as they facilitate the description, explanation, and prediction of social and political phenomena. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | CS | Prerequisite(s): POS 301 or SGS 305 with C or better; Credit is allowed for only POS 401 or SGS 401 OR Visiting University Student |
| SGS | 441 | Religion and Global Politics | Explores the nature and role of religion in international politics in the modern period. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | L & G | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only REL 480 or SGS 441 OR Visiting University Student |
| SGS | 442 | Different Voices Within Contemporary Islamic Discourse | Examines modern Muslim discourse on major contemporary issues such as Shari'a, Jihad, secularism, gender, civil rights, democracy, extremism, religious violence. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): ENG 102 or 105 or 108 with C or better; Credit is allowed for only AFR 480 (or AFS 480) or REL 461 or SGS 442 |

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| SGS | 454 | Gender, Culture, and Development | In-depth analysis of gender roles related to health, family, work, education and politics in developing countries. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | (L or SB) & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; WST 100 or 300 or minimum 45 hours; Credit is allowed for only SGS 454 or SOS 447 or TCL 447 or WST 447 or TCL 598 (Gender, Culture & Development) OR Visiting University Student |
| SGS | 466 | Migration, Environment and Global Security | Human mobility within and across borders is on the rise with rapid globalization and infrastructural investments. National concerns over human security and resource allocation have prompted discussion over the drivers and consequences of emerging migration patterns related to environmental stressors. The objective is to gain perspective on the environmental refugee debate and learn how governments, donors, and international agencies are currently tackling the problem. Students are introduced to cross-disciplinary concepts of migration and environmental stressors (e.g., natural disasters, climate change, water scarcity, soil erosion) in order to understand and discuss recent scientific work, and investigate the challenges in documenting this phenomenon and its consequences on global security. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only POS 466 or SGS 466 or GCU/POS/PUP/SGS/SOS 494 (Migration, Environment, & Global Security) or GCU/GSC/PUP 598 (Migration, Environment, & Global Security) OR Visiting University Student |
| SGS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | |
| SGS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| SGS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| SGS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-4 | | |
| SGS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-7 | | |
| SGS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | N | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-3 | | |
| SGS | 501 | Global Theory | Examines theoretical and analytical frameworks employed by institutions to frame action related to increased global uncertainty including economic, sociological, psychological, decision theory, gaming and institutional behavior frameworks. Uses case studies in key global issue areas such as climate change/natural hazards, energy security, urbanization, food security, security, failed states. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SGS | 502 | Global Institutions and Actors | Examines key types of global institutions, (1) multinational businesses, e.g., Toyota, (2) international development organizations, e.g., the World Bank, and (3) voluntary organizations, e.g., the Red Cross/Crescent, in terms of the roles that they play in shaping localized outcomes. Using case studies, explores the impact of international actors in terms of the power and influence that they exert through international treaties, standards, information diffusion, influence on local governments and other organizations, dissemination of international "best practice." | N | SEM | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SGS | 503 | Methods: Global Decision Making Under Uncertainty | Examines and critically assesses approaches and methods used in decision making and planning under uncertainty in global contexts, e.g., scenarios, SWOT, risk analysis, contingency planning, gaming, economic forecasting, anticipation-foresight techniques, decision making under complex conditions, and rapid assessment techniques. Explores the strengths and weaknesses of different approaches under varying conditions, synergies achievable through application of multiple methodologies, and normative assumptions underlying various methodologies. Students gain "hands-on" experience in the use of a variety of techniques through assignments based on real-world situations. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): SGS 501; SGS 502; Pre- or corequisite(s): SGS 504 |

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| SGS | 504 | The Individual As Decision Maker in Cross-Cultural Global Contexts | Focuses on the role of the Individual decision maker in cross-cultural contexts, acting in the context of globally engaged institutions. The individual is virtually always embedded in an institutional environment whether as manager, planner, advocate, frequently acting as part of a team. It is recognized that the various agents/stakeholders involved in addressing an issue, negotiating a deal, in a global context, almost invariably hold significantly different worldviews, cultural norms and decision-making styles. Deals with the individual decision maker in both public and private decision-making milieus. Discusses modes of intervention and initiative. Addresses issues of leadership, reconciliation of different decision-making modes, and acting effectively in cross-cultural environments. Emphasizes decision making under high uncertainty, using case studies, e.g., pending nationalizations or privatization. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): SGS 501; SGS 502; Pre- or corequisite(s): SGS 503 |
| SGS | 505 | Preparation for the Global Field Project | Prepares students for the global field project. In addition to scheduled classes, each student meets with her/his advisor at regular intervals during the semester to prepare for the Global Field Project. During the semester, students prepare a work plan for their Global Field Project, including objectives of the exercise, specifications of deliverables. Network building is an important secondary objective, and development of an esprit de corps among Global Studies masters students. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): SGS 501; SGS 502; Pre- or corequisite(s): SGS 503; SGS 504 |
| SHS | 205 | Exploring Communication Disorders in Children and Adults | Introduces hearing, language, and speech problems in children and adults. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |
| SHS | 230 | Peering into the Human Brain | An introductory look into the cognitive and language functions of the human brain, and the resulting behavioral consequences of injury, disease and disorders. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | SG | |
| SHS | 250 | Introduction to Phonetics | Introduces English phonetics with emphasis on phonetic transcription, articulation, phonology and disorders of speech. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Speech and Hearing Science BS major, minor, or BIS concentration student, or Communication Sciences and Disorders certificate student; minimum 45 hours OR Visiting University Student |
| SHS | 300 | Foundations of Rehabilitation Science | Provides a foundation to rehabilitation science and covers an overview of rehabilitation professions and work settings including acute care, rehabilitation centers, long-term care facilities and in-home services. Also provides an introduction to clinical methods, patient privacy and professional ethics as well as an overview of rehabilitation process and continuum for children and adults. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |
| SHS | 310 | Anatomical and Physiological Bases of Speech | Noncadaveric study of anatomical systems that underlie human speech and language, including respiration, phonation, articulation, and related nervous system processes. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BIO 160 or 201 with C or better; SHS 250 with C or better OR Visiting University Student |
| SHS | 311 | Hearing Science | Studies the physical characteristics of sound and of the structure and function of the human auditory system. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): PHY 101 with C or better OR PHY 111 and 113 with C or better OR Visiting University Student |
| SHS | 340 | Chronic Illness, Disability and the Environment | Over a billion people worldwide are estimated to live with some form of disability; however, disability is diverse in its association with chronic health conditions. Individuals with disabilities are vulnerable to deficiencies in health and social services. Depending on the group and setting, persons with disabilities may experience greater vulnerability to chronic illness, co-morbid conditions, age-related conditions, engaging in health risk behaviors and higher rates of premature death. Provide an overview of disability groups and the associated health conditions that impact their lives as well as discussion of the barriers to health care including health care costs, availability of services and physical barriers in the community. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |
| SHS | 360 | Rehabilitation for Children and Adolescents in Educational Settings | Gives an overview of habilitation services for children from early intervention through adolescence in terms of physical, occupational and speech therapy, as well as other support services and their role with early intervention, educational settings, pediatric rehabilitation contexts. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |
| SHS | 367 | Language Science | Psychological processes, linguistic principles and social influences relating to language and communication. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | SB | Prerequisite(s): minimum 30 hours OR Visiting University Student |
| SHS | 375 | Speech Science | Normative aspects of speech, hearing, and language. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): SHS 250 with C or better; Pre- or corequisite(s): SHS 310 with C or better if completed OR Visiting University Student |

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| SHS | 400 | Topics in Neuroscience | Covers in-depth important and emerging developments in neuroscience, emphasizing lectures that include readings of recent reviews and contemporary publications in peer-reviewed journals. Includes a significant writing component; students learn skills for writing scientific publications and grant applications. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BIO 360 with C or better; Credit is allowed for only BIO 400 or KIN 400 or PSY 400 or SHS 400 |
| SHS | 401 | Principles of Audiology | Introduces hearing disorders and the purposes and procedures for basic clinical tests of auditory function. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): SHS 311 with C or better; Credit is allowed for only SHS 401 or SHS 501 OR Visiting University Student |
| SHS | 402 | Clinical Methods and Treatment of Communication Disorders | Principles and techniques for planning speech and language intervention, including observation experiences. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Pre- or corequisite(s): Speech-Language Pathology Assistant certificate student OR SHS 470; SHS 485 OR Visiting University Student |
| SHS | 410 | Deaf Culture | Provides students with an overview of issues related to deaf, hard of hearing and comprehensive vision hearing loss (CVHL). Topics include historical, cultural, educational and political issues, technology, arts and literature as it relates to the deaf community. Taught primarily in English. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | C | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ASL 410 or ASL 494 (Deaf Culture) or SHS 410 or SHS 494 (Deaf Culture) or SLC 410 or SLC 494 (Deaf Culture) OR Visiting University Student |
| SHS | 461 | Accent Modification | Increases speech intelligibility in non-native English speakers by changing their English pronunciation skills. International students learn the pronunciation of American English vowels and consonants, intonation and stress patterns, and rhythm of speech. Conducts pre- and post-assessments of the students' intelligibility to determine the need for improvement on specific sounds and speech patterns. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 2 | | |
| SHS | 465 | Speech and Language Acquisition | Speech and language development in the normal child; introduces disorders. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | SB | Pre- or corequisite(s): SHS 250; Credit is allowed for only SHS 465 or SHS 565 OR Visiting University Student |
| SHS | 470 | Developmental Speech and Language Disorders | The nature of speech and language disorders in children | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): SHS 465 with C or better OR Visiting University Student |
| SHS | 473 | Implementation of Treatment Plans for Individuals with Communication Disorders | Students will learn to follow written treatment plans, individual education programs, individual support plans or protocols developed by the supervising speech-language pathologist. Opportunities to learn methods for eliciting therapy targets and to apply critical thinking and problem solving during therapy will be provided. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): admission to Speech-Language Pathology Assistant certificate |
| SHS | 483 | Professional Issues and Ethical Considerations for the SLPA | Studies licensure laws, professional conduct, and ethical practice in the field of speech language pathology. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): admission to Speech-Language Pathology Assistant certificate |
| SHS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): minimum 45 hours |
| SHS | 485 | Acquired Speech and Language Disorders | Acquired speech and language disorders across the lifespan. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): SHS 310 with C or better; SHS 367 with C or better OR Visiting University Student |
| SHS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): Barrett Honors student |
| SHS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| SHS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| SHS | 496 | Aural Rehabilitation | Approaches to aural rehabilitation of children and adults. Introduces educational audiology and assistive listening devices. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): SHS 311 with C or better; SHS 375 with C or better; SHS 401 with C or better; Credit is allowed for only SHS 496 or SHS 596 OR Visiting University Student |
| SHS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| SHS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-3 | | |
| SHS | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite: MS Communication Disorders, Doctor of Audiology, or PHD Speech and Hearing Science student |
| SHS | 501 | Introduction to Audiology | Introduces hearing disorders and the purposes and procedures for basic clinical tests of auditory function. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): SHS 311 with C or better; Credit is allowed for only SHS 401 or 501 |

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| SHS | 502 | Basic Audiometry | Covers the bases, purposes, rationales, and procedures for the core clinical tests of auditory function in adults and children. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): Doctor of Audiology or Speech and Hearing Science PhD student |
| SHS | 504 | Amplification I | Operation, electroacoustic measurement, selection, and prescriptive fitting of amplification devices. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): Doctor of Audiology or PHD Speech and Hearing Science student |
| SHS | 505 | Sign Language for Audiologists and Speech Pathologists | Facilitates effective manual and alternative methods of communication with deaf individuals in clinical settings. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 508 | Pediatric Audiology | Covers the development of the auditory system and the disorders that can result in hearing loss in children birth to 18 years of age, the diagnostic test techniques used to assess hearing in children from birth to 5 years of age, and best practices for auditory intervention at each stage of childhood. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Doctor of Audiology or PHD Speech and Hearing Science student |
| SHS | 510 | Amplification II | Verification and validation of hearing aid performance, benefit, and satisfaction. Fitting considerations for pediatric and geriatric populations. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): SHS 504 with B- or better |
| SHS | 511 | Auditory Perception by the Hearing Impaired | Psychophysical methods and behavioral aspects of hearing, with an emphasis on the perceptual consequences of sensorineural hearing loss. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Doctor of Audiology or PHD Speech and Hearing Science student |
| SHS | 512 | Topics in Management of Medical Aspects of Speech-Language Pathology | Focuses on varying topics in management of medically based speech and language disorders. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 513 | Neurophysiology of the Auditory System | Focuses on the neurophysiology of the normal auditory system and on changes associated with hearing loss. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): MS Communication Disorders, Doctor of Audiology, or PHD Speech and Hearing Science student |
| SHS | 516 | Auditory Evoked Potentials | Electrophysiologic assessment of the peripheral and central auditory nervous system. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): Doctor of Audiology or Speech and Hearing Science PhD student |
| SHS | 517 | Balance Assessment | Clinical analysis and treatment of balance disorders and dizziness. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): Doctor of Audiology or Speech and Hearing Science PhD student |
| SHS | 518 | Rehabilitative Audiology | Study and clinical application of rehabilitative services for managing the effects of hearing impairment across the lifespan. Covers and applies principles of patient- and family-centered care. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Doctor of Audiology or PHD Speech and Hearing Science student |
| SHS | 520 | Auditory Pathologies/Disorders and Otoneurologic Applications | Familiarizes students with major pathologies and disorders of the human auditory system. Examines advanced otologic, neurologic, and audiologic approaches in the differential diagnosis and treatment of peripheral and central disorders of the auditory system. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): Speech and Hearing Science graduate student |
| SHS | 522 | Tinnitus/Advanced Audiometry | Discusses assessment and intervention procedures beyond the basic audiologic test battery. Includes a special focus on the mechanisms, evaluation and treatment of tinnitus. Examines the prevention, identification and management of hearing loss due to noise exposure. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Speech and Hearing Science graduate student |
| SHS | 523 | Central Auditory Processing Disorders | Discusses assessment and intervention procedures beyond the basic audiologic test battery and for special populations. Examines relevant new audiologic tests and procedures. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): SHS major; SHS 502 and SHS 513 |
| SHS | 524 | Counseling in Communication Disorders | Theories of counseling emphasizing the psychological and emotional impact and management of individuals with communication disorders and their families. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): MS Communication Disorders, Doctor of Audiology, or PHD Speech and Hearing Science student |
| SHS | 525 | Audiology Practice Management | Business practice issues, quality assurance, and professional ethics for the practicing audiologist. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Doctor of Audiology or PHD Speech and Hearing Science student |
| SHS | 526 | Launch to Clinical Methods in Audiology | Introduces clinical practices in audiology. Covers principles of evidence-based practices and ethical and professional conduct, the basics of billing and coding, report writing and clinical documentation, and infection control practices, as well as how to perform a speech and language screening. Introduces policies, procedures and software specific to the ASU Speech & Hearing Clinic operations, which is pertinent to success in clinical rotations. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): Audiology AuD student |
| SHS | 538 | Clinical Methods and Simulation in Speech Language Pathology | Provides the knowledge and skills in clinical methods for treatment and diagnosis in speech-language pathology. Topics cover essential information to participate in screening and prevention opportunities, to structure and implement therapy goals and strategies, to apply for internships, and to administer and interpret informal and formal diagnostic tests. | N | LEL | Y | GNA | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): MS Communication Disorders major. |

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| SHS | 539 | Professional Issues in Speech-Language Pathology | Covers professional issues in speech-language pathology to ensure that students meet the professional knowledge requirements set forth in the American Speech-Language-Hearing Association (ASHA) certification standards. The topics cover essential information that the student needs to have in order to meet graduation requirements, comply with ASHA's ethical requirements, complete ASHA certification requirements, comply with Arizona state licensure requirements, prepare for a Clinical Fellowship Year and be involved in education and advocacy for the profession of Speech-Language Pathology. | N | LAB | Y | GNA | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): Communication Disorders MS student |
| SHS | 541 | Data Analysis in Auditory and Language Neuroscience | Common statistical analyses for the interdisciplinary field of auditory and language neuroscience. Covers fundamental topics of statistics and their applications in this specialty area of neuroscience. Various data types, experimental designs and statistical analyses that are common in the field of auditory and language neuroscience. Through several hands-on activities, students learn to implement and to apply different statistical analyses to auditory and language data. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Speech and Hearing Science graduate student |
| SHS | 542 | Applied Research Methods in Auditory and Language Neuroscience | Team-taught course covering fundamental topics of experiment design and their applications in auditory and language neuroscience. Students learn about the fundamentals of experimental design, and their application in psychoacoustics, EEG, ERP and MRI. A series of hands-on activities require that students analyze existing experiments and a final project requires that students design a new experiment. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Speech and Hearing Science graduate student |
| SHS | 543 | Functional Neuroimaging of Language and Related Processes | Functional neuroimaging for anyone who is interested in its application to study brain functions including language, speech and auditory psychophysics. Functional MRI is a prominent method to see into the human brain. Its use as a research tool in the field of neuroscience (and language neuroscience in particular) has grown exponentially over the past decade. Through a combination of lecture, readings and practicum exercises, this course provides a broad introduction into functional MRI research, including how MRI can generate images; how these signals relate to neuronal activity; and how to design and analyze meaningful functional MRI experiments to investigate the neural computations of language, speech, hearing and other related functions. Students also review recent functional neuroimaging literature, and gain hands-on experience collecting and analyzing fMRI datasets. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SHS 543 or SHS 598 (Functional Neuroimaging of Cognition) |
| SHS | 544 | Introduction to Genetics: Implications for Health, Disease and Society | Foundational concepts in human genetics and precision health. Covers how genetic variations influence health conditions and their behavioral and environmental correlates. Considers complex societal and ethical issues involving genetics. Open to students from a diverse range of clinical, scientific and population health-oriented academic programs. | N | LEL | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SHS 544 or SHS 494/SHS 598 (Introduction to Genetics: From Molecules to Clinic) or SHS 598 (Molecules, Markers, Management: Intro Genetics) |
| SHS | 550 | Development, Assessment, Intervention: School-Age Children | Covers development, assessment and intervention of children from 6 years to 21 years of age, with a focus on school education. Includes child development of anatomical, neurophysiology, cognitive, motor, perceptual, speech, language, reading, writing and hearing aspects. Also addresses service delivery models in different contexts in children with atypical development in the different areas. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 4 | | Pre-requisite: SHS 540 |
| SHS | 552 | Physiological Measures of Auditory Function | Focuses on the measurement of otoacoustic emissions and acoustic immittance. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): Doctor of Audiology or Speech and Hearing Science PhD student |
| SHS | 555 | Cochlear Implants | Covers the research and clinical aspects of cochlear implantation with a focus on the principles of speech coding strategies. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): Doctor of Audiology or Speech and Hearing Science PhD student |
| SHS | 560 | Development, Aging, Assessment, Intervention in Adults | Covers development, aging, assessment and intervention in adults with a focus on the elderly and the contexts for their service delivery. Includes changes in the adults related to anatomy, neurophysiology, cognitive, motor, perceptual, speech, language, literacy and hearing aspects. Also addresses service delivery models in different contexts where elderly and young adults with acquired disabilities are served. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 4 | | Pre-requisite: SHS 550 |
| SHS | 565 | Speech and Language Acquisition | Speech and language development in the normal child; introduces disorders with added focus on common disorders of acquisition. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SHS 465 or SHS 565 |

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| SHS | 567 | Neural Bases of Communication Disorders | Neuroscience and its application to matters of normal and disordered communication. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): MS Communication Disorders, Doctor of Audiology, or PHD Speech and Hearing Science student |
| SHS | 568 | Special Populations in Communication Disorders | Covers basic knowledge of etiological aspects (genetics, embryology) and clinical assessment/intervention issues relevant for children with complex medical and developmental disabilities that impact communicative development. Places special emphasis on children with cleft lip and/or palate. Addresses interprofessional roles and team-based management of complex conditions and the development of evidence-based approaches to assessment and intervention in communicative development. Because of the growing knowledge of genetic etiologies in our field, SLPs will increasingly be in a position to make informed referrals to genetics professionals. Therefore, this course includes practical how-to information on spotting genetic red flags and referring for genetic counseling services. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): degree-seeking graduate student; Credit is allowed for only SHS 568 or SHS 598 (Special Populations in Comm Disorders) |
| SHS | 570 | Communication Disorders and Multicultural Populations | Studies racial and ethnic biases and the communication behaviors and disorders in various cultural groups. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): MS Communication Disorders, Doctor of Audiology, or PHD Speech and Hearing Science student |
| SHS | 571 | Augmentative Communication and Language Programming | Focuses on individuals across the age span who are unable or who are at risk for being unable to communicate with spoken language. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): MS Communication Disorders, Doctor of Audiology, or PHD Speech and Hearing Science student |
| SHS | 572 | Language Assessment and Intervention in Infants and Toddlers | Focuses on the birth to 3-year-old population who are at risk for or who have communication and language disabilities. Examines early developmental risk factors for speech and language delays and evidence-based assessment methods for young children and their families. In addition, explores models of early intervention delivery in homes, clinics, schools and through telepractice and their application in multicultural environments. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): Auditory and Language Neuroscience MS or Communication Disorders MS or Speech and Hearing Science (Auditory and Language Neuroscience) PhD student |
| SHS | 573 | Language Assessment and Intervention with School-Age Populations | Focuses on later language development, linguistic demands of academic settings, assessment and intervention strategies for older children and adolescents. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): MS Communication Disorders, Doctor of Audiology, or PHD Speech and Hearing Science student |
| SHS | 574 | Management of Feeding and Swallowing Disorders | Focuses on assessment and intervention of people with swallowing and feeding disorders. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): MS Communication Disorders, Doctor of Audiology, or PHD Speech and Hearing Science student |
| SHS | 575 | Aphasia and Related Neurogenic Language Disorders | Assessment and treatment of acquired neurolinguistic impairment. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2-3 | | Prerequisite(s): MS Communication Disorders, Doctor of Audiology, or PHD Speech and Hearing Science student |
| SHS | 576 | Neuromotor Speech Disorders | Evaluation and treatment of the dysarthrias and apraxia of speech. Emphasizes acquired adult disorders. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2-3 | | Prerequisite(s): MS Communication Disorders, Doctor of Audiology, or PHD Speech and Hearing Science student |
| SHS | 577 | Current Assessment, Intervention and Research in Autism | Addresses communication disorders in children and adults with autism, as well as evaluation and intervention across a variety of settings and theoretical frameworks. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 578 | Fluency Disorders | Provides the master's level student in speech language pathology understanding of the nature and treatment of stuttering and other fluency disorders. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 2 | | Corequisite(s): Communication Disorders MS student |
| SHS | 579 | Voice and Resonance Disorders | Provides an academic and clinical understanding of voice and voice-related disorders (including resonance and respiration). Includes the impact of voice and voice-related disorders on quality of life and ability to meet communicative ADLs (activities of daily living). Addresses principles of assessment and intervention. Requires students to identify and use relevant evidence-based resources to develop clinical materials to maintain and rehabilitate functional communication and to support interactions with patients, students, caregivers and colleagues. Utilization of evidence-based resources is a skill that speech-language pathologists use throughout their careers, and it represents best practice. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): Communication Disorders MS student |
| SHS | 580 | Clinical Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): degree-seeking graduate student |
| SHS | 581 | Traumatic Brain Injury and Cognitive Linguistic Disorders | Studies the nature, characteristics, and clinical management of cognitive and communicative impairments accompanying right hemisphere damage, TBI, and dementia. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SHS | 582 | Differential Diagnosis of Communication Disorders | Procedures for assessing speech/language disorders in children and adults. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): MS Communication Disorders, Doctor of Audiology, or PHD Speech and Hearing Science student |
| SHS | 584 | Clinical Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): degree-seeking graduate student |
| SHS | 585 | Articulation and Phonology: Assessment and Intervention | Assessment and treatment of developmental articulation and phonological disorders. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2-3 | | Prerequisite(s): MS Communication Disorders, Doctor of Audiology, or PHD Speech and Hearing Science student |
| SHS | 586 | Language Essentials for Teaching Reading | Focuses on the fundamentals of literacy instruction and assessment in children enrolled in preschool through high school. Although speech-language pathologists (SLPs) are not the primary reading teachers for students, they play an important role in improving learning in all areas of language, both oral and written. For this reason it is crucial for SLPs to have foundational knowledge in reading and writing development. Recommend a clear understanding of typical language development and language disorders. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SHS 586 or SHS 598 (Language Essentials for Teaching Reading) or SHS 598 (Reading Decoding) |
| SHS | 587 | Language Assessment and Intervention with Preschool Populations | Focuses on preschool language disorders and assessment and intervention strategies for preschool children. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): MS Communication Disorders, Doctor of Audiology, or PHD Speech and Hearing Science student |
| SHS | 588 | Bilingual Language Acquisition | Examines bilingual language development in children through adulthood. Uses Spanish-English as the primary example. | N | SEM | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate |
| SHS | 589 | Audiology Grand Rounds | Grand Rounds bridges clinical and academic knowledge through case studies, application of emerging research, and clinical workshops. | N | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): degree-seeking graduate student |
| SHS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Health Solutions | College of Health Solutions | 1 | | |
| SHS | 596 | Aural Rehabilitation | Approaches to aural rehabilitation in children and adults. Introduces educational audiology and assistive listening devices. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only SHS 496 or 596 |
| SHS | 597 | Bilingual Speech-Language Pathology | Reviews speech and language assessment and intervention practices with bilingual populations from infants to adults. | N | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 701 | Scientific Writing and Presentation in Communication Sciences and Disorders I | Basics of launching a research project. Helps students gain an independent perspective of a research field, become competent in critical questioning and analysis of literature, learn how to develop a research question and initiate a research plan. | N | SEM | N | GNA | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): Ph.D. student; Credit is allowed for only SHS 701 or SHS 790 (Critical Thinking & Developing Research Questions OR Scientific Writing & Presentation 1) |
| SHS | 702 | Scientific Writing and Presentation in Communication Sciences and Disorders II | Covers the specific parts of an APA style research manuscript, including the structure of the Introduction, Method, Results and Discussion. Also introduces other alternate research manuscript styles such as those used in the biosciences. Discusses strategies and recommendations for creating a successful research presentation. | N | SEM | N | GNA | College of Health Solutions | College of Health Solutions | 1 | | Requisite(s): Ph.D. student; Credit is allowed for only SHS 702 or SHS 790 (Scientific Writing & Presentation 2) |
| SHS | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SHS | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Health Solutions | College of Health Solutions | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SLB | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | |
| SLB | 510 | Amateur Sports Law: MSLB | Studies law, policy and problem solving in the amateur sports context, focusing primarily on interscholastic and intercollegiate athletics. Title IX and racial equality in sports. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 676 or SLB 510 or LAW 791 (Amateur Sports Law) or LAW 791 (Non-Professional Sports Law) |
| SLB | 511 | Career Strategies & Business Communications in the Sports Industry | Focuses on examining job opportunities in the sports industry and the development of strategies for obtaining a position suitable to the talents and abilities of individual students. Students refine their skills in terms of searching for a job. Students also develop a career plan, beginning with an entry-level position for those who have worked in the industry or a next-level position for students currently working in the area. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): College of Law student; Credit is allowed for only SLB 511 or LAW 598 (Strategic Career Planning) |
| SLB | 512 | Professional Sport Law: MSLB | Studies law, revenue, branding and problem solving in the professional sports context, focusing primarily on professional sports league governance and regulation, labor relations, representing and marketing players and coaches, and issues of equity and race. Also examines international issues related to professional sports. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 675 or LAW 691 (Non-Amateur Sports Law) or LAW 691 (Professional Sports Law) or SLB 512 |
| SLB | 513 | Sports Law and Business | Studies law, policy and problem solving in the context of the sports industry at all levels. Exposes professional, amateur and international sports law issues, examining those issues in a problem-focused manner. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student |
| SLB | 514 | Negotiations & Alternative Dispute Resolutions in the Sports Industry | Provides a working or basic knowledge of contract law, with in-depth instruction with regard to negotiating and drafting in the sports context. As their final project, students select a player, coach, university or club and then negotiate a contract. Negotiation sessions are held during class sessions and students evaluate each other, as well as receiving evaluation from the professor. Replicates the negotiation process in the sports industry. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only SLB 514 or LAW 598 (Contracts in the Sports Industry) |
| SLB | 515 | Sports Business Strategies & Executive Decisions | Sports can involve a jog around campus or big business. Sports are interesting, important and a vivid context to learn about consumers, organizations, diverse stakeholders, media and entertainment, partnerships and sponsorship, highly competitive strategies in finance and marketing, managing community venues, big events, and other relevant business topics. Maintains a pragmatic, experiential, yet well-grounded focus, studying the role, nature and dynamics of sports business both in and around "sports industries" and in and around "conventional businesses." Builds and "tests" knowledge and exercise skills related to sports business analysis, decision making, communication and both strategy development and execution. Intellectually rigorous, yet fun. Develops a sophisticated, yet practical understanding of the nature, contexts and dynamics of sports business. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only SLB 515 or MKT 591 (Sports Business Strategy and Industry Dynamics) |

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| SLB | 516 | Revenue Generation in the Sports Industry | Develops an appreciation for and understanding of the multiple stakeholders and diverse interests in and around sports business, and of their constantly changing and interactive impact on sports business practice and performance. Gives broad exposure to the major revenue generating domains in the sports industry. Explores the fundamentals of marketing and applies those fundamentals to the domains of sponsorship, endorsement, media, ticketing, merchandising and fundraising as means to create and maintain revenue streams. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): College of Law student; Credit is allowed for only SLB 516 or MKT 591 (Sports Business Development) |
| SLB | 517 | Marketing for Sports Organizations | Studies the role, nature and dynamics of sports business and builds knowledge and skills related to sports marketing analysis, decision making and strategy development and execution. Intellectually challenging and demanding, yet fun. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only SLB 517 or MKT 598 (Sports Marketing) |
| SLB | 518 | Sports Analytics | Develops and applies analytical skills that are useful in nearly every career. Although the course focuses on applications in the sports context and uses approaches that are rapidly becoming important in the business of sports analytics, this is not a survey course about issues in sports. Instead, this class is about curiosity, storytelling and logic. An understanding and interest in both sports and numbers make this class good. General curiosity makes it great. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): College of Law student; Credit is allowed for only SLB 518 or MKT 591 (Sports Analytics) |
| SLB | 519 | Pro Sport Team Operations and Legal Issues: MSLB | Deals with various legal issues confronted by the Team Counsel of a professional sports team. Reviews the business, risk management, intellectual property and financial issues that raise in connection with the operation of a team. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): Master of Sports Law and Business student; Credit is allowed for only LAW 670 or SLB 519 or SLB 598 (Pro Team Sports:Legal Issues in Business Operation) |
| SLB | 520 | Sports Venue Construction: Legal and Financial Issues: MSLB | Studies the structure and issues related to stadium financing in professional and collegiate sports. Covers issues related to professional league expansion and team relocation. Discusses carefully read assigned materials. | N | SEM | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): Master of Sports Law and Business student; Credit is allowed for only LAW 671 or SLB 520 |
| SLB | 521 | Risk Management for Venues: MSLB | American tort law, particularly the foundational elements of duty-breach-causation-harm, as well as causation and reasonableness, as a means of understanding the nature of risk and the tools available to address it in the many circumstances that arise during live sports and entertainment events. | N | SEM | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): Master of Sports Law and Business student; Credit is allowed for only LAW 673 or SLB 521 |
| SLB | 522 | NCAA Compliance, Infractions and Enforcement: MSLB | Provides a real-world view of a Division I Power 5 Conference Compliance Office and the manner in which such an office directs its institution's efforts to maintain compliance with National Collegiate Athletic Association and member conference legislation governing intercollegiate athletics. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): Master of Sports Law and Business student; Credit is allowed for only LAW 674 or SLB 522 or SLB 598 (Infractions/Compliance-Intercollegiate Athletics) |
| SLB | 523 | MLB's Impact on Law and Society: MSLB | Examines how MLB served as a catalyst for change in American law and society post WWII, and the legal and business developments that have shaped modern professional baseball. Addresses such diverse topics as the integration of African-American players into MLB and diversity in MLB; labor relations (collective bargaining, free agency, labor stoppages and drug testing); league operations; franchise relocation; expansion; globalization of the game; the business and marketing of the game in the digital age and the resulting legal implications; and the state of the game in the 21st century. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): Master of Sports Law and Business student; Credit is allowed for only LAW 672 or SLB 523 |
| SLB | 524 | Law and Business of Sports Branding: MSLB | Examines legal and business issues associated with personal and business branding, particularly in the context of professional and collegiate sports. Discusses and analyzes issues relating to: (1) what constitutes a "brand" and how a "brand" is developed; (2) the recent surge in personal branding by athletes, entertainers and other celebrity personalities; (3) athletes and other celebrities who have transformed their fame into personal branding platforms that support large business enterprises; (4) the basic principles of trademark law and how those principles apply to business and personal brands; (5) regulation and control of brands in professional and collegiate sports, and the Olympics; (6) licensing and corporate sponsorship; and (7) ambush marketing. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): Master of Sports Law and Business student; Credit is allowed for only LAW 677 or SLB 524 |
| SLB | 525 | Sports Big Events: Law/Biz/Ops: MSLB | Teaches the business, legal and operational issues of major sporting events. Examines bid preparation, marketing, sales, ticketing, operational, security, volunteer, sponsorship, legal and other issues related to these events. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Sports Law and Business student; Credit is allowed for only SLB 525 or SLB 598 (Sports Big Events:Law/Biz/Ops-MSLB) |

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| SLB | 581 | U.S. Law and Legal Analysis Through Sport: MSLB | The U.S. legal system and the types of legal reasoning used by legal professionals. Provides the necessary instruction to use legal reasoning in both academic work and professional endeavors, including reading and evaluating legal cases, statutes and public policy. Students complete written legal analysis exercises, draft case briefs and participate meaningfully in class by critically analyzing current legal issues. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): Master of Sports Law and Business student |
| SLB | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): College of Law student |
| SLB | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | REC | Y | Z1 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SLB | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SLB | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): College of Law student |
| SLB | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): College of Law student |
| SLB | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand). | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): College of Law student |
| SLB | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | |
| SLB | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): College of Law student |
| SLC | 103 | Beginning Navajo I | Designed for non-Navajo speakers to develop basic skills in speaking, reading and writing in the Navajo language. Specifically focuses on pronunciation, sounds, basic vocabulary and simple conversation. First of four levels of the Navajo language. | N | LEL | N | GNA | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | Credit is allowed for only AIS 101 or AIS 194 (Beginning Navajo I) or SLC 103 or SLC 194 (Beginning Navajo I) OR Visiting University Student |
| SLC | 104 | Beginning Navajo II | Designed for non-Navajo speakers to continue basic skills in speaking, reading and writing in the Navajo language. Emphasizes a continued focus on pronunciation, sounds, basic vocabulary and simple conversation. Second of four levels of the Navajo language. | N | LEL | N | GNA | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | Prerequisite(s): AIS 101 or SLC 103; Credit is allowed for only AIS 102 or AIS 194 (Beginning Navajo II) or SLC 104 OR Visiting University Student |
| SLC | 115 | Japanese Popular Culture: Anime, Manga and Film | Examines different media of Japanese popular culture such as comics (manga), animation (anime) and film for evidence of how the Japanese express their self identity in Japanese society. By separating the media into themes such as technology and the future, war/apocalypse/disaster, violence in society, gender and sexuality, and human relations, understands the Japanese culture (and social consciousness) more intimately. Students view films, read scholarly articles on the subject matter, and actively participate in the course through written papers and discussion. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Credit is allowed for only JPN 115 or SLC 115 |
| SLC | 120 | Introduction to Chinese Culture | Introduces geographical, historical, literary, and intellectual premises of Chinese culture. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only CHI 120 or SLC 120 OR Visiting University Student |
| SLC | 123 | Gods and Monsters: Comparative Mythology | Guides students in comparing mythologies of a number of different cultures, including ancient Greek, Asian, Middle Eastern, European and American aboriginal traditions. Roots readings and assessments in the relevant literature from each tradition. Introduces students to (short selections from) texts from a variety of cultures, including ancient Greek epic and tragedy, the Ramayana, Norse eddas, the various flood stories from Mesopotamian cultures, African creation and Mesoamerican creation myths, and the legend of King Arthur. In addition, students encounter oral tradition and folklore from the Brothers Grimm, African-American trickster stories, American folklore, vampire legends, and Native American oral tradition. These types of texts invite discussion of cultural appropriation and the modern uses of such traditions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Credit is allowed for only SLC 123 or SLC 194 (Gods and Monsters: Comparative Mythology) |

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| SLC | 140 | Greek and Latin Roots in Bioscientific Terminology | Introduces students to the ancient Greek and Latin root words most commonly used in biological, medical, and other scientific terminology, and gives practice identifying them in context. The knowledge of these root words enables students to memorize with greater ease and increased retention the bioscientific terminology they encounter in other coursework as well as in their medical or scientific profession. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Credit is allowed for only BIO 140 or GRK 140 or LAT 140 or SLC 140 OR Visiting University Student |
| SLC | 141 | Russian Civilization: From Tsars to Putin | For centuries, Russians have argued about who they are as a people and a nation by turning to their history, religion, literature, arts and language. With a foundation in Russian history and geography and using primary sources, we survey debates over Russian history and civilization to understand how Russians have imagined themselves and their nation and empires. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G & H | Pre- or corequisite(s): ENG 101, 105, or 107 with C or better if completed; Credit is allowed for only HST 141 or RUS 141 or SLC 141 OR Visiting University Student |
| SLC | 142 | Ancient Greek Civilization | Ancient Greek civilization and culture. Studies (in roughly equal parts) the art, archaeology, literature, culture and history of ancient Greece from prehistoric times until after the conquests of Alexander the Great (the Hellenistic Age). | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Credit is allowed for only GRK 142, GRK 194 (Ancient Greek Civilization) or SLC 142 |
| SLC | 143 | Roman Civilization | Introduces ancient Roman civilization from the earliest times (ca. 1200 BCE) through the fall of the Western Empire (CE 476) and the reign of the Byzantine Emperor Justinian (6th c. CE). Examines ancient Roman society, history, art, architecture, literature, mythology and legends. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Credit is allowed for only LAT 143 or LAT 194 (Roman Civilization) or SLC 143 or SLC 194 (Roman Civilization) |
| SLC | 144 | The Ancient Mediterranean | Provides a comprehensive introduction to the Mediterranean world, focusing on (but not limited to) the period of the classical Greeks and Romans. Provides some history of the area, but focuses on the classical world and its interaction with the cultures that surrounded it, including Semitic, Near Eastern, and North African cultures, as well as some of the lost cultures of the area such as the Minoans and Etruscans. Introduces the sources that provide information about these cultures (literary, art historical and archaeological sources), and teaches students to think critically and write persuasively about these sources. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only SLC 144 or SLC 194 (The Ancient Mediterranean) |
| SLC | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | Pre-requisites: maximum 25 hours |
| SLC | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEL | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| SLC | 201 | Introduction to Linguistics | Examines the nature and diversity of world languages, linguistic structures and functions of language, language variation, pragmatics, and language acquisition. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU or SB | |
| SLC | 202 | Exploring Cultures: Words, Images, Stories | Introduces the fundamentals of cultural analysis to help students understand the ways in which the languages and literatures they are learning are embedded in a broader cultural context. With an emphasis on comparative perspectives and theoretical discussion, teaches methods of inquiry that enable students to formulate their own research questions and draw on their individual backgrounds as School of International Letters and Cultures majors, no matter the language, country, period or artistic medium they focus on. All course materials and instruction are in English. Interested students are encouraged to bring in and address primary and secondary sources in the target language of their focus. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | |
| SLC | 203 | Intermediate Navajo I | Designed for those who have some comprehension of the Navajo language, and have a beginner's level speaking ability. Continuation of Beginning Navajo; aimed to develop skills in speaking, reading, and writing in Navajo by focusing on pronunciation, vocabulary, conversational studies, and verb conjugation. Third of four levels of the Navajo language. | N | LEL | N | GNA | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | Prerequisite(s): AIS 101 or SLC 103; AIS 102 or SLC 104; Credit is allowed for only AIS 201 or AIS 394 (Intermediate Navajo I) or SLC 203 OR Visiting University Student |
| SLC | 204 | Intermediate Navajo II | Designed for those who have some understanding of the Navajo language and can speak some Navajo. Continuation of previous coursework; develops skills in speaking, reading and writing in Navajo by focusing on pronunciation, vocabulary, conversational studies and verb conjugation. Fourth and final level of Navajo. | N | LEL | N | GNA | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | Prerequisite(s): AIS 101 or SLC 103; AIS 102 or SLC 104; AIS 201 or SLC 203; Credit is allowed for only AIS 202 or AIS 394 (Intermediate Navajo II) or SLC 204 OR Visiting University Student |

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| SLC | 212 | Language and Culture Clash | Not limited to language majors and does not require any previous knowledge of a foreign language or culture. Students complete course projects using the material of their cultures of interest (the language they are taking interest in, including English). Focuses on the following topics in linguistics and cross-cultural communication: cultural norms, cultural conceptualizations, cultural scripts (as linguistic concepts), equivalence, communication failures. Emphasizes hands-on analysis, and also familiarizes participants with the basic concepts in the fields of cross-cultural linguistics and cross-cultural psychology. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (HU or SB) & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only SLC 212 or SLC 294 (Language&Culture Clash/Communctn&Miscommunication) |
| SLC | 214 | The World's Game: History and Culture of Soccer | Provides a survey of the cultural significance and global reach of soccer, both historically and in contemporary culture. Students study materials from around the world in several mediums; they view films that explore the cultural impact of the game; read literary works that focus on soccer; and engage with scholarly articles and contemporary news media dedicated to the game. Provides a comprehensive sense of the history, personalities, rivalries, fandom, and even the finances and scandals related to the world's game. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): Credit is allowed for only HST 214 or HST 294 (The Beautiful Game: History & Culture of Soccer) or SLC 214 or SLC 294 (The Beautiful Game: History & Culture of Soccer) |
| SLC | 221 | Survey of Ancient Greek Literature | Introductory survey of ancient Greek literature. Familiarizes students with the important literary genres, texts, and authors of the ancient Greeks from Homer to the Hellenistic period. All readings in English. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Credit is allowed for only GRK 221 or SLC 221 |
| SLC | 222 | Survey of Roman Literature | Introductory survey of Roman literature. Familiarizes students with the literary genres, texts and authors of the Romans from the origins of the Latin language to the Silver age. All readings in English. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Credit is allowed for only LAT 222, SLC 222, LAT 294 (Roman Literature in Translation) or SLC 294 (Roman Literature in Translation) |
| SLC | 223 | Introduction to Greek and Roman Mythology | Familiarizes students with the characters and events of ancient Greek and Roman myths through their literary manifestations, and moves beyond mere narrative to consider the possible interpretations and functions of these myths, thus revealing the central concerns of ancient society and giving insights into the working of our own society and its literary and artistic traditions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Credit is allowed for only GRK 223 or LAT 223 or SLC 223 or GRK 294 (Greek and Roman Mythology) OR Visiting University Student |
| SLC | 245 | Introduction to India and South Asia | Provides an introduction to the history and major contemporary political, economic, social, religious and cultural features of the South Asia region at large and of selected South Asian nations in particular. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H & G | Prerequisite(s): ENG 101 or 105 or 107 with C or better; Credit is allowed for only HST 245 or POS 245 or REL 245 or SGS 245 or SLC 245 |
| SLC | 250 | Middle East Culture in a Global Perspective | Introduces a broader view and examination of Arab culture in a global perspective. Increases students' knowledge of Arab culture, promotes awareness and understanding of Arab customs, values, attitudes and cultural diversity. Using an interdisciplinary thematic approach, students explore and analyze cultural differences, misunderstandings, stereotypes, and be able to explain how they contribute to Islamophobia and other misconceptions about Arabic culture. Thematic areas of emphasis include the Arab family, fine art/music, food, gender identities, religious life, political conflict and war, Islamic tradition and exile and immigration. Taught in English and requires no knowledge of Arabic. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ARB 250 or ARB 294 (Arab Cultures in a Global Perspective) or SLC 250 or SLC 294 (Arab Cultures in a Global Perspective) OR Visiting University Student |
| SLC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| SLC | 304 | Digital Humanities for Language Majors | Not limited to language majors (Slavic or otherwise). Students complete course projects using the material of their language of interest (the language they are taking interest in, including English). This course focuses on the following topics in digital humanities: (a) audio-visual representation of the content in humanities, (b) computer-assisted learning and assessment, (c) digitizing printed resources, (d) data and text mining, (e) working textual corpora, (f) statistical analysis, (g) computational lexicography, (h) data extraction and manipulation. While emphasizing hands-on skills, this course also familiarizes its participants with the basic concepts in the fields of digital humanities. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | CS | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only SLC 304 or SLV 304 |

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| SLC | 310 | Migration and Identity: Digital Storytelling | Represents a fusion of basic theoretical concepts such as globalization, migration, transnationalism and identity with personal narratives in the digital space. Structured in four sections in which students (a) learn a basic theoretical framework of migration studies; (b) listen to and reflect on narratives of migration and identity; (c) learn about digital storytelling; and (d) produce their own digital autobiographical account or interview a migrant. Students engage in a dialogue throughout the course, both in the classroom and in the virtual space (in online discussion forums). In this oral history course, students are at the center of the production of digital stories. At the end of the course students also have the opportunity to provide peer feedback and critically engage in the stories produced in class. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 108 with C or better; Credit is allowed for only ROM 310 or SLC 310 or SLC 394 (Migration and Identity-Digital Storytelling) OR Visiting University Student |
| SLC | 320 | Compassion: A Dialogue Between the Humanities, the Sciences and the Arts | Explores different aspects of compassion, understood as an emotion, a mental disposition and a motivation to action. Brings together the sciences, the humanities and the arts for an engaging conversation on the biology, history and ethics of compassion. Studies how scientists, philosophers and religious traditions understand empathy and compassion across cultures and languages. Examines various settings such as health care, justice and politics with attention to systemic oppression (e.g., gender, race, sexual orientation). Also explores how mindfulness and the arts (such as literature, film and dance) can promote compassion. Guest lecturers from various disciplines enrich our perspectives and guide us through practice. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only SLC 320 or SLC 394 (Compassion: Dialogue btwn Humanities/Sciences/Arts) OR Visiting University Student |
| SLC | 321 | Modern Korean Literature | Introduces various genres of Korean literature written from the seventeenth century to the present in English translation. Aims to help students to understand the history of modern Korean literature in transnational and transdisciplinary contexts. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only KOR 321 or SLC 321 |
| SLC | 331 | Arabic/Islamic Culture and Literature | General introduction to the Middle East that synthesizes cultural, social, and literary information. Focuses on the experiences of ordinary Middle Eastern people to convey a grassroots sense of the Middle East. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ARB 331 or SLC 331 OR Visiting University Student |
| SLC | 333 | China | Political, economic, social, and cultural history of the Chinese people from early times to the 17th century. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 30 hours; Credit is allowed for only CHI 333, HST 383 or SLC 333 |
| SLC | 334 | Modern China: 1700 to the Present | Political, economic, social, and cultural history of the Chinese people from the 17th century to the present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 384 or SLC 334 OR Visiting University Student |
| SLC | 336 | Interpreting China's Classics | Study of selected Confucian and/or Taoist classics and ways they have been read in both Asian and Western scholarship. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 30 hours; Credit is allowed for only CHI 336, HST 386 or SLC 336 |
| SLC | 340 | Approaches to International Cinema | Offers a historical survey of major film movements from across the world's national cinemas from the silent era to this day. Explores key cinematic works, situating them in their aesthetic, cultural and political contexts, and tracing their impact on the global cinematic culture. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 w/C or better; Credit is allowed for only FMP 340 or FMP 394 (Approach to Int'l Cinema) or FMS 341 or FMS 394 (Approach to Int'l Cinema) or SLC 340 or SLC 394 (Approach to Int'l Cinema) OR Visiting University Student |
| SLC | 343 | Culture and Society Transformation | Uses video documentaries and movies to explore the way in which cultural values, economic background and human interaction impact and transform societies. Societal changes in Central and Eastern Europe make a good case study for contrasting and comparing with other societies and understanding global trends and issues in today's world. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & G | Prereq(s): ENG 101, 105, or 107 with C or better; Credit for only ASB 345 or ASB 394 (Cult & Soc Transform) or JUS 343 or JUS 394(Cult & Soc Transform) or ROM 343 or SLC 343 or SLC 394 (Cult & Soc Transform) or SOS 344 or SOS 394 (Cult & Soc Transform) |
| SLC | 344 | Classics and Comics | Explores the connections between the classical tradition of Ancient Greek and Roman literature and the modern American superhero comic book tradition. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 101 or 105 or 107 with C or better; Credit is allowed for only GRK 344 or LAT 344 or SLC 344 or GRK/LAT/SLC 394 (Classics and Comics) or SLC 494 (Classics and Comics) |
| SLC | 345 | Ancient Greece I: Bronze Age through the Peloponnesian War | Traces Greek History from its prehistoric beginnings through the Peloponnesian War (431-404 B.C.), with a special focus on the Archaic (ca. 800-480 B.C.) and Early Classical periods. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only GRK 347 or HST 347 or SLC 345 OR Visiting University Student |

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| SLC | 346 | Ancient Greece II: Late Classical and Hellenistic Period | Traces the transformation of the Greek world between the end of the Peloponnesian War (404 B.C.) and the absorption of the last major Greek state by growing power of Rome (30 B.C.), with special attention to how Greeks in this period lived and thought and how the period's political and economic changes helped to create new forms of culture. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only GRK 346 or HST 346 or SLC 346 |
| SLC | 347 | Modern Israeli Literature in Translation | Modern Hebrew, or Israeli Hebrew, started at the end of the 19th century in Europe and today it is the language of the State of Israel. During this short period modern Hebrew developed literature with its unique local characteristic, as well as universal ideas. Reads and examines four books against their social and historical background. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ENG 347 or HEB 347 or JST 347 or SLC 347 or ENG/HEB/JST/SLC 394 (Modern Hebrew Literature in Translation) |
| SLC | 348 | Israeli Society and Culture | Different partitions of the Israeli society, based on ethnic origin, by religious affiliation or by political association. Depicts how Israel is an absorbing immigration state. Israel is a welfare state and the course covers aspects of a welfare state, such as health, retirement, public transportation, art, higher education and more. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101 or ENG 105 or ENG 107 with C or better; Credit is allowed for only HEB 348 or HEB 394 (Israeli Culture and Society) or JST 348 or REL 311 or SLC 348 OR Visiting University Student |
| SLC | 350 | Food and Culture: The Mediterranean Lifestyle in Italy | Analyzes the Mediterranean lifestyle (food and eating practices) in Italy from a historical/cultural, scientific and sociological perspective. Students first examine the history and regional cultures of the Mediterranean diet in Italy as they analyze its rich biological diversity and history of cultural exchange. Students then gain an understanding of the critical nutrients of the Mediterranean diet and of the scientific evidence for its health benefits, especially how it can help prevent chronic diseases like obesity and type 2 diabetes, which affect more than half of all adults in the U.S. In addition, students keep a food log for one week, which they then analyze in terms of the critical nutrients of the Mediterranean diet. Finally, Italian food cannot be studied without preparing it! As UNESCO points out, the sharing of food is an important part of the Mediterranean lifestyle. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit allowed for only ITA 350 or ITA 394 (Food & Culture: Mediterranean Lifestyle in Italy) or SLC 350 or SLC 394 (Food & Culture: Mediterranean Lifestyle in Italy) OR Visiting University Student |
| SLC | 351 | Tales of Troy | Provides an in-depth exploration of the ancient Greek archaic primary source material, including literary, art historical and archaeological sources. Uses stories about the Trojan War as a theme for the course, but does not limit exploration of the literature, art, history and culture of archaic Greece. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GRK 351 or GRK 394 (Tales of Troy) or LAT 394 (Tales of Troy) or SLC 351 or SLC 394 (Tales of Troy) OR Visiting University Student |
| SLC | 352 | The Rise and Fall of Ancient Athens | Comprehensive coverage of the cultural and historical world of the ancient Greek civilization from the end of the Greco-Persian wars in 479 BCE through the rise and decline of Athens (including the Peloponnesian War with Sparta) to the final defeat of the Greek cities by Philip of Macedon in 338 BCE. This holistic study addresses not only the history of this period but also its literature, art and philosophy, with an emphasis on how these phenomena relate to one another. This period advanced to the state that was regarded by later civilizations as their peak, and which inspired Rome and Europe in the Renaissance. Athens, as the cultural center of Greece at this time, boasted the tragedies of Aeschylus, Sophocles, and Euripides, the comedies of Aristophanes, the history of Thucydides, the philosophy of Plato, and the artistic achievement of the Parthenon. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GRK 352 or GRK 394 (Glory that was Greece) or LAT 394 (Glory that was Greece) or SLC 352 or SLC 394 (Glory that was Greece) OR Visiting University Student |
| SLC | 353 | Alexander and His Empires | Comprehensive coverage of the cultural and historical world of the ancient Greek civilization from the ascent of Alexander the Great to the Macedonian throne in 338-336 BCE, through the existence of the kingdoms that followed his conquests, until their final subjugation by the Roman Empire in 31 BCE. This holistic study addresses not only the history of this period, but also its literature, art, religion, philosophy and science, with an emphasis on how these phenomena relate to one another. This was a period of massive economic and military expansion (including colonization), accompanied by social dislocation and cultural and scientific innovation. In these respects, this period has much to teach us today. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GRK 353 or GRK 394 (Alexander and His Empires) or SLC 353 or SLC 394 (Alexander and His Empires) OR Visiting University Student |
| SLC | 354 | Zen and Japanese Culture | Students conduct historical, philosophical and sociological analyses of some of the fundamentals of Zen, mainly those of Japanese tradition. Examines the influence of Zen thoughts on value, culture and society in both pre-modern and modern Japan. Classes consist of lectures, documentary films and discussion sessions. Taught in English. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only JPN 354 or JPN 394 (Zen and Japanese Culture) or REL 353 or SLC 354 or SLC 394 (Zen and Japanese Culture) OR Visiting University Student |

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| SLC | 355 | Religious Practice of People in Modern Japan | Examines the influence of Japanese religions on Japanese value, culture and society while surveying the major religious traditions of modern Japan focusing on Shinto, Buddhism and new religions. Also explores current religious practices in Japan and how religion interacts with the government, community groups and daily lives of people. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only JPN 355 or SLC 355 or JPN 394 (Religious Practice of People in Modern Japan) or SLC 394 (Religious Practice of People in Modern Japan) OR Visiting University Student |
| SLC | 356 | Rome from Village to Empire | Provides an in-depth exploration of Republican Roman literature and explores how these primary sources shaped and were shaped by ancient Rome's history and culture during its formative Republican period. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only LAT 356 or LAT 394 (Rome Before the Empire) or SLC 356 or SLC 394 (Rome Before the Empire) OR Visiting University Student |
| SLC | 357 | Rome's First Emperor | Provides an in-depth exploration of Roman literature during the Augustan period, and explores how these primary sources shaped and were shaped by ancient Rome's history, literature and culture during its formative Republican period. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only LAT 357 or LAT 394 (Augustus and the Creation of the Roman Empire) or SLC 357 or SLC 394 (Augustus and the Creation of the Roman Empire) OR Visiting University Student |
| SLC | 358 | Saving the Roman Empire | In his autobiographical epitaph, the Res Gestae, Augustus, founder of the Roman Empire, claimed to have restored Rome to her former glory. His moral, social and political reforms solidified Roman control of the world and the imperial family's hold on ruling her. Through the next five hundred years, as the power of the empire waned and waxed, Augustus's successors turned time and again to reforming the empire and restoring her to her former glory - to saving the Roman Empire. In doing so they had to deal with problems both external and internal; sometimes their ideas worked, often they did not. Ultimately they failed, and Rome and the western empire fell in CE 476. Examines the rise, decline and fall of the Roman Empire from the perspective of internal and external problems the Empire faced, and asks which reforms worked, which did not work, and why. What could have been done differently? Should anything have been done differently, or was the western Roman Empire always doomed? | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GRK 294/HST 294/LAT 294/SLC 294 (Saving the Roman Empire) or LAT 358 or LAT 394/SLC 394 (Saving the Roman Empire) or SLC 358 OR Visiting University Student |
| SLC | 360 | Greece and Rome at War | Familiarizes students with the major battles, leaders and tactics of Classical Greece and Rome. Supplements lectures with student participation including study of original sources, group presentations, and gaming battle simulations. This multifaceted approach gives a greater sense of the evolution of the leaders, armies and tactical systems of the Greeks and Romans. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only GRK 360, HST 397, LAT 360, SLC 360 or SLC 394 (Greece and Rome at War) |
| SLC | 361 | Roman Religion | Roman religion was never static, despite the best efforts of the Roman state to make it so. Understands the artifacts and procedures of Roman state cult from its earliest origins to the late empire, using ancient literary sources, archaeology throughout the ages and modern scholarly theories. Clarifies the forces that influenced development and change in Roman religion, both internal and external. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only LAT 361 or REL 361 or SLC 361 or SLC 394 (Roman Religion) OR Visiting University Student |
| SLC | 362 | Ancient Greek Religion | Surveys ancient Greek religion, including its gods, ritual practices and festivals. Analyzes the development of the religion over time, and how both ancient and modern figures interpreted its meaning. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 101 or ENG 105 or ENG 107 with C or better; Credit is allowed for only GRK 362, REL 360, SLC 362 or SLC 394 (Ancient Greek Religion) |
| SLC | 363 | Ancient Magic and Witchcraft | Examines magical spells, curses, amulets and other materials from ancient Greece and Rome. Students read anthropological discussions of magic worldwide to understand how ancient magic operated, what its function was within Greco-Roman society, and how it developed over the centuries. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GRK 363 or LAT 363 or SLC 363 or GRK 394/LAT 394/REL 394/SLC 394 (Magic and Witchcraft in Antiquity) OR Visiting University Student |
| SLC | 367 | Religion, Philosophy and Culture in Japan | Examines the influence of Japanese thoughts on value, culture and society while surveying the major religious and philosophical traditions in both pre-modern and modern Japan focusing on Shinto, Confucianism, Daoism, Buddhism and New Religions. Classes consist of lectures, documentary films and discussion sessions. Taught in English. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only JPN 367 or JPN 394 (Religion, Philosophy, and Culture in Japan) or REL 367 or SLC 367 OR Visiting University Student |

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| SLC | 370 | Japanese Aesthetics: Art and Beauty in Japan | Surveys the history of Japanese art and beauty and investigates several issues of Japanese aesthetics from historical, philosophical and sociological perspectives. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only JPN 370 or JPN 394 (Japanese Aesthetics: Art & Beauty in Japan) or SLC 370 or SLC 394 (Japanese Aesthetics: Art & Beauty in Japan) OR Visiting University Student |
| SLC | 371 | Language Hegemony and Culture | Historical and cultural analysis of language and the ideological constructs imposed upon resident populations in the Southwest North American region since 1540. Analyzes the suppositions, ideologies, premises and mechanisms by which Spanish and English became imposed among Native peoples and later national populations of Mexicans during the 19th century and continuing with their descendants and migrating populations crossing the bifurcated border. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 371 or HST 371 or SLC 371 or SPA 371 or TCL 371 or ASB/HST/SLC/SPA/TCL 394 (Language Hegemony & Culture in SW North America) |
| SLC | 373 | Roman History I: Foundations and Republic | Traces the growth of Roman power from Rome's humble beginnings in the eighth century B.C. to its domination of the Mediterranean and the transformation of the Roman Republic into the Roman Empire after the Battle of Actium (31 B.C.). | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 373 or LAT 373 or SLC 373 |
| SLC | 374 | Roman History II: The Roman Empire | The Roman Empire from the reign of the first emperor, Augustus (27 B.C.-A.D. 14), to that of Justinian (A.D. 527-565), focusing on the lives of the Roman emperors, the society and culture of the empire, and the profound changes that eventually contributed to the empire's collapse. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 374 or LAT 374 or SLC 374 |
| SLC | 375 | Intercultural Communication in Korea | Focuses on the fundamental knowledge of Korean intercultural values and communication. Explores and analyzes Korean communication styles and patterns in regard to the relationship between language use in cross-cultural communication, social meaning and cultural motivations. While the main focus is on Korean language, course is conducted in a comparative and interdisciplinary manner on how communicative strategies differ between Korea and other countries (such as China, Japan and the U.S.) due to underlying differences in their cultural values. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & G | Prerequisite(s): minimum 30 hours; Credit is allowed for only KOR 375 or KOR 394 (Intercultural Communication in Korea) or SLC 375 or SLC 394 (Intercultural Communication in Korea) |
| SLC | 380 | Natural Disasters: Environmental and Cultural Resilience in Italy | The Italian peninsula is home to some of the most diverse physical and geological landscapes on earth. Over time, natural disasters such as earthquakes, volcanic eruptions and landslides have transformed Italian culture, creating a distinct, reciprocal and enduring relationship between nature and Italian society. Studies pivotal natural disasters that have occurred throughout Italian history, including the Mt. Vesuvius, Pompeii and Etna volcanic eruptions; the Messina, Belice Valley, Campania, Friuli and L'Aquila earthquakes; and the Vajont landslide. Identifies and measures the physical and geological features of Italy that make it susceptible to natural disasters. Incorporates a variety of sources designed to give students both a theoretical and practical understanding of Italian culture and natural disasters. Uses class discussions, collaborative projects, creative writing, academic texts, personal narratives, films, videos, guest lectures and current articles. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ITA 380 or SLC 380 or HON/ITA/SLC 394 (Natural Disasters: Environmental & Cultural Resilience) OR Visiting University Student |
| SLC | 385 | Cinema and Culture of Spain | Offers a historical and cultural survey of major films from Spain. Studies key works with a focus on their aesthetic, cultural, political and historical context. Trains students to develop the skills to critically view how films are constructed, how films create meanings and values, and how films are connected to the cultural and historical contexts in which they are created and watched. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only SLC 385 or SPA 385 or FMS 394 (Cinema and Culture of Spain) or SLC 394 (Cinema & Culture of Spain) or SPA 394 (Cinema & Culture of Spain) OR Visiting University Student |
| SLC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEL | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| SLC | 401 | Translation Theory and Practice | Translation theories and professional practices and ethics; bibliography, computer technology, and sample texts for natural and social sciences and humanities. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 301; SPA 412; Credit is allowed for only SLC 401 or SPA 440 OR Visiting University Student |
| SLC | 410 | Deaf Culture | Provides students with an overview of issues related to deaf, hard of hearing and comprehensive vision hearing loss (CVHL). Topics include historical, cultural, educational and political issues, technology, arts and literature as it relates to the deaf community. Taught primarily in English. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | C | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ASL 410 or ASL 494 (Deaf Culture) or SHS 410 or SHS 494 (Deaf Culture) or SLC 410 or SLC 494 (Deaf Culture) OR Visiting University Student |

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| SLC | 414 | French and Italian Popular Culture | Popular culture no longer holds the ancillary role traditionally reserved for whatever does not carry the definition of high culture. That popular culture is instead able to provide us with very relevant insights on the identity of a nation and a people is now widely accepted. As a consequence, this class aims at examining popular culture-related artifacts in Italy and France in order to shed a light on crucial issues such as the culture of food and its historical and social significance; the meaning of fashion and design within an urban context, with a special attention to gender roles; the importance of the comics, given in particular the exceptional success the bande dessinée genre is currently enjoying in France throughout the whole age range of the population; the show business with a particular attention to music; and the social function and role of sport with respect to the two dominant sports in both countries (soccer and cycling). | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better OR min 45 hours; Credit is allowed for only FRE 414 or FRE 494 (French & Italian Pop Culture) or ITA 414 or ITA 494 (French & Italian Pop Culture) or SLC 414 or SLC 494 (French & Italian Pop Culture) |
| SLC | 415 | Korean Popular Culture | Examines production, consumption and interpretation of Korean popular culture in the modern historical context from the early twentieth century to the present. Looks at a range of products and fandom of popular culture, including music, drama, fashion, film and game, focusing on their global circulation to and from Korea through radio, television and online social media. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better OR min 45 hours; Credit is allowed for only KOR 415 or KOR 494 (Asian Popular Culture) or SLC 415 or SLC 491 (Asian Popular Culture) or SLC 494 (Asian Popular Culture) OR Visiting University Student |
| SLC | 420 | Emotions Across Languages, Cultures and History | Presents the main academic approaches to emotions that have been developed in the humanities and social sciences. Explores, among other topics: the different notions and constructions of emotions in various languages, societies and time periods; the cross-linguistic and cross-cultural use of metaphorical expressions of emotions; the social functions of emotions; the use of emotions in the formation of identities. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only KOR 420 or SLC 420 or HEB 494/HEB 598/KOR 494/KOR 598/SLC 494/SLC 598 (Emotions Across Language, Culture, & History) OR Visiting University Student |
| SLC | 421 | Japanese Literature in Translation | Readings selected by theme or genre or period from various works of Japanese literature in English translation. May be repeated when topics vary. Graduate students by permission. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| SLC | 423 | Italian Organized Crime in Films and History | Through an analysis of historical, anthropological, literary, political and cinematic texts, explores representations of the Italian organized crime in Italian and American films from the early 20th century to today. Discovers different "Mafias" originating in Italy, but whose reach extends much further, such as the Cosa Nostra in Sicily, the Camorra in Naples, and the 'Ndrangheta in Calabria. Examines the fiction, stereotypes, myths and legends surrounding the mafia through a scrupulous analysis of some of the most important American and Italian films portraying mafia culture. Italians have used the medium of film to address the issue of the mafia, raising awareness about the harsh reality of life in the mafia and the ways in which it reaches into every aspect of Italian politics and society. Explores how Italian mafia films subvert international fascination with the mafioso by disrupting the glamorized myths that are mainly perpetuated by American popular cinema. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better or min 45 hours; Credit for only FMS 423 or ITA 423 or SLC 423 or ITA 494/SLC 494 (Italian Organized Crime in Films & History) or FMS 494/ITA 494/SLC 494 (Mafia & Film) OR Visiting University Student |
| SLC | 425 | Globalization: From Colonialism to Climate Change | Allows students to engage with the broader experience of globalization by examining cultural material in relation to the circumstances and conditions of the globalization process. Organized chronologically and divided into four units: the period before European hegemony, the era of European colonialism and imperialism, the period of decolonization and modernization, and the contemporary context. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| SLC | 428 | Arab Women's Writing | Offers a survey of Middle Eastern women's literary work in English translation. Themes focus on a comprehensive view of women's writing through several lenses, including: gender, religion and socio-political systems to introduce women's writing in modern Arabic literature through the prisms of Arabic literary criticism and feminist theory within historical contexts. Explores different genres, including autobiographical, short stories and novels, and cinematic production. Selective literary texts include leading 20th-century female writers whose works in translation represent a wide range of geographical, ideological and cultural influence. Featured writers include Rajaa al Sania, Latifa Zayyat, Radwa Ashur, Hanan al-Shaykh, Nawal Al Sadawi and others. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ARB 428 or ARB 494 (Arab Women Writing Across Generations/ in Eng) or SLC 428 or SLC 494 (Arab Women Writing Across Generations/ in Eng) OR Visiting University Student |

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| SLC | 429 | Studies in European Literature and Culture | Literary, cultural, and historical issues. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s) with C or better: ENG 101, 105, 107; ENG 200; one ENG 200- or 300-level literature course OR ENG 101, 105, 107; min 45 hours; Credit is allowed for only CEL 429 or ENG 429 or REL 429 or SLC 429 or THE 429 OR Visiting University Student |
| SLC | 430 | Buddhist Meditation in East Asia | Surveys various types of Buddhist meditation in different schools, starting from those of India, and more from East Asia, particularly Japan. Investigates the pragmatic function of each meditative technique, how some of the fine/performing/martial arts were integrated with Buddhist ideas to become "meditation in action." | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only JPN 430 or SLC 430 or JPN 494 (Buddhist Meditation in Asia) or SLC 494 (Buddhist Meditation in Asia) OR Visiting University Student |
| SLC | 439 | Art in Exile: Vladimir Vladimirovich Nabokov | In English. The scandalous success of Lolita (1955) allowed Vladimir Nabokov to retire from teaching at Cornell University and move to Switzerland to devote himself to fiction, translation, criticism and lepidoptery. This was only one of the many metamorphoses that Nabokov, a Russian noble, underwent while in exile, moving from Russia to the Crimea, Cambridge UK, Berlin, Paris, Cambridge MA, Ithaca, Hollywood and finally Montreux. Examines the Russian roots of Nabokov's Russian (in translation) and American novels about exile: his first novel, Mary (1926), The Defense (1929), Glory (1932), and his tribute to 19th-century Russian literature, The Gift (1938), which he considered his greatest Russian novel. These are followed by Lolita (1955), Pnin (1957) and Pale Fire (1962), his memoirs, Speak, Memory (1966), and some essays and short stories. Films include Lolita by Stanley Kubrick (1962) and Adrian Lyne (1997). | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 102 or 105 or 108 with C or better; Credit is allowed for only RUS 439 or SLC 439 or ENG/RUS/SLC 494 (Art in Exile: Vladimir Vladimirovich Nabokov) |
| SLC | 440 | Film Theory and Criticism | Examines the major positions and issues in film theory from an historical perspective. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, ENG 105, ENG 108, or FMS 100 with C or better; Credit is allowed for only FMS 461 or SLC 440 OR Visiting University Student |
| SLC | 441 | Fairy Tales | Foundational fairy tale texts collected by the Brothers Grimm and written by Hans Christian Andersen and their modern permutations reflect basic human desires, fears and aspirations as well as the values of the period in which they are written. These stories and their variants in popular culture across the globe permit students to reflect critically on the functions of fairy tales in both past and present civilizations. Students perceive the ways in which ancient tales can be utilized for various purposes and understand the contemporary theoretical debate on the study of fairy tales and their role in popular culture. Course taught in English. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 102, 105 or 108 with C or better; one other ENG or GER upper-division course with C or better; Credit is allowed for only GER 441 or GER 494 (Fairy Tales), or SLC 441 OR Visiting University Student |
| SLC | 442 | Dracula and Vampire Lore | Vampire stories are not only local phenomena placed in Transylvania, as the common stereotype is incessantly spread. Legends about Dracula and the Count himself may be "untrue," but events that took place during the life and reign of the Wallachian Voevode Vlad Tepes, better known as Vlad the Impaler, are nonfictional. He ruled during the time of the Ottoman Empire extension to Europe and his fight against the Turks give us thought on the altered understanding of Vlad as a vampire figure. Occurring and recurring in continuously changed environments, Count Dracula affects everyone to the same degree, but still remains as secret and elusive as before, pitted against a vision of mysterious spaces that evoke the faraway castles from Whitby, UK (the origin of Stoker's Dracula), from Bran and Poenari Castles in Transylvania as well as the visions of Jules Verne's Castle of the Carpathians. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G & H | Prereq(s): ENG 101, 105 or 107 w/C or better; Credit for only ROM 442 or SLC 442 or SLC 494 (Drac&Vamp Belief in the Wrl'd) or SLC 494 (Drac&Vamp Castles) or SLC 494 (Drac&Vamp Lore) or SLC 494 (Drac:Between Myth&Hist) OR Visiting University Student |
| SLC | 444 | Heroes, Ancient and Modern | Explores the heroic literature of the ancient Greeks and Romans, then traces the classical tradition and reception of the classical hero in medieval and modern texts. Incorporates history, art history and material culture from the relevant societies to supplement study of the texts involved. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only GRK 444, LAT 444, SLC 444 or SLC 494 (Heroes: Ancient and Modern) |
| SLC | 445 | Holocaust, War and German Memory | Examines representations of the Holocaust from across different media (literature, film, architecture, memoir, photography) and from across multiple generations of German engagement with this period in history. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 102, ENG 105, ENG 108, FMS 100, FMS 200, JST 210, or JST 230 with C or better; Credit is allowed for only FMS 445 or GER 445 or JST 445 or SLC 445 OR Visiting University Student |

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| SLC | 446 | Weimar-Era German Film | Examines early film production in Germany during the period of the Weimar Republic. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, ENG 105, ENG 108, FMS 100, or FMS 200 with C or better; Credit is allowed for only FMS 446 or GER 446 or SLC 446 OR Visiting University Student |
| SLC | 447 | German Modernism | Examines examples of modernism in literature, art and film from German-speaking Europe. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GER 447 or SLC 447 |
| SLC | 450 | Experimental Narrative | Examines texts that experiment with form, content and narrative perspective within print, film and digital media. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only ENG 447 or FMS 442 or SLC 450 OR Visiting University Student |
| SLC | 451 | Chinese Cultural History I | China's classics in translation studied both for their intrinsic ideas and for the origins of Chinese thought. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (HU or SB) & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 55 hours; Credit is allowed for only CHI 451, HST 451 or SLC 451 |
| SLC | 452 | Chinese Cultural History II | Evolution of Confucian thought, its synthesis with Taoism and Buddhism, and modern reactions against, and uses of, Confucian traditions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & G & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 55 hours; Credit is allowed for only CHI 452 or HST 452 or SLC 452 |
| SLC | 455 | Berlin: Migration, Arts and Activism | Deals with the culture and politics, arts and activism of migrants in Germany based on the example of Berlin, using historical and contemporary examples. Critically engages with such concepts as migration and identity, transnationalism, assimilation, multilingualism, activism, xenophobia and racism. Examines examples from various art forms, including film and the creative arts, literature, media and social media to help understand the impact of migration and immigrants on Germany and German society and compares it to experiences in other countries, especially the U.S. A focus on Berlin allows an in-depth and focused micro-observation of the differences and commonalities of various immigrant groups and responses of the local communities in a defined urban space. In order for students to reflect on the impact of migration in German society and the migrants themselves, also looks at migration through the lens of movements for social change and justice. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only GER 455 or SLC 455 |
| SLC | 457 | Premodern Korea in a Global Context | Offers a comprehensive outline of the literary and cultural traditions of premodern Korea from historical and crosscultural perspectives. Targets both undergraduate and graduate students. Gives students an opportunity to read a variety of texts ranging from literary works, historical, philosophical and religious documents, diaries and travelogues, to important recent scholarly works in the field. Identifies representative literary works and terms. Discusses important topics and issues on premodern Korean literature and the cultural exchange between Korea and Japan, and Korea and China, bringing to bear students' own thoughts and ideas which are articulated in their final research papers. All readings are available in English translation. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): minimum 45 hours; Credit is allowed for only KOR 457 or SLC 457 or KOR 494 (Pre-modern Korean Literature and Cultural Exchange) or SLC 494 (Pre-modern Korean Literature and Cultural Exchange) OR Visiting University Student |
| SLC | 459 | Latin American Jewish Culture | Focuses on forms of cultural production in Latin America marked by or under the aegis of Jewish diasporic identity from the late nineteenth century to the present. While Jewish immigrants and Latin Americans of Jewish descent may be found in all Latin American societies, cultural production is found concentrated in countries like Argentina, Brazil, Mexico and Chile. Investigates essentially cultural versions of a sociohistorical consciousness, and ranges across a broad spectrum of Latin American Jewish texts in an investigation of what forms of production have emerged to represent this important immigrant component of Latin American national societies. Examines novels and other literary works, along with photography and films, and looks at theme, motifs, characters that can be identified with what might be called a Jewish consciousness or Jewish sensitivity. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only JST 459 or JST 494 (Jewish Latin American Culture) or SLC 459 or SLC 498 (Jewish Latin American Culture) or SPA 459 or SPA 498 (Jewish Latin American Culture) |

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| SLC | 460 | Brazilian Society Through Music | Surveys Brazilian popular music in the 20th and 21st centuries, focusing on one main question: What images of Brazil have been imagined by Brazilian popular music in various socio-political contexts? Working with various genres, discusses how issues pertaining to race, social class, and citizenship have contributed to shape the Brazilian popular music scene and its representations of Brazil both at home and abroad. Taught in English. However, students who have completed POR 202 or POR 321 have the option of completing the assignments in Portuguese. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only POR 460 or POR 494 (Contemporary Brazilian Popular Music) or SLC 460 or SLC 494 (Contemporary Brazilian Popular Music) OR Visiting University Student |
| SLC | 465 | Intercultural Communicative Competence | Focuses on the importance of culture(s) and the ways in which culture(s) effects and interrelates with communication. Communicating across cultures is very important in order for us to be able to function in a globalized, diverse world, e.g., workplace, city. Using our own experiences and discussions as well as the readings, course increases our sensitivity, understanding and awareness of our own culture(s) as well as other culture(s). Approaches the study of intercultural communicative competence in a theoretical and practical way. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only GER 465 or SLC 465 or GER 494 (Intercultural Communicative Competence) or SLC 494 (Intercultural Communicative Competence) |
| SLC | 475 | Latin American Film | Examines the role of film in contemporary Latin American culture; films viewed and analyzed as casebook examples. Focuses on the aesthetics and generic conventions of contemporary Latin American films. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, 108, FMS 100, or SLC 202 with C or better; Credit is allowed for only FMS 475 or SLC 475 or SPA 475 or THE 475 or FMS 494/SLC 494/SPA 494/THE 494 (Latin American Film) OR Visiting University Student |
| SLC | 479 | Introduction to Teaching Foreign Languages | Introduces teaching methodologies, language learning, and current best practice in teaching foreign languages in U.S. middle and high schools. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SLC | 480 | Methods of Teaching Foreign Languages | Teaching foreign languages and literatures at secondary and college levels. Does not meet the The College of Liberal Arts and Sciences General Studies requirement for humanities and fine arts. Required for admission to SED 478. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): SLC 479 with C or better |
| SLC | 481 | Technical and Scientific Translation | Resources, practices, strategies, and lexicon for translation of professional texts in subjects such as engineering, architecture, agriculture, computer technology, electronics, and physical and biological sciences. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 301 with B or better; SPA 412 with B or better; Credit is allowed for only SLC 481 or SPA 441 |
| SLC | 482 | Business and Financial Translation | Resources, practices, strategies, and lexicon for translation of professional texts in subjects such as economics, finance, insurance, management, marketing, accounting, advertising, and real estate. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 301 with B or better; SPA 412 with B or better; Credit is allowed for only SLC 482 or SPA 442 |
| SLC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SLC | 485 | Translation of Legal Texts | Provides guided practice in the successful completion of professional translation tasks in the legal field. Studies the origin and traditions of contrasting legal approaches as each system of governance (Civil Law Tradition and Common Law Tradition) perceives reality and structures its institutions to reflect differing cultural and linguistic norms. Students work with a broad selection of legal texts involving property rights, family law and commercial law. Places particular emphasis on criminal law. Analyzes legal texts from several Latin American countries as well as from Spain for content and translated into English. Similarly analyzes and translates into Spanish specialized texts currently used in Maricopa County Superior Court. | N | LEL | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 301 with B or better; SPA 412 with B or better; Credit is allowed for only SLC 485 or SPA 443 (or SPA 410) OR Visiting University Student |
| SLC | 486 | Medical Translation | Guided practice in the successful completion of professional translation tasks in the medical and scientific domain: medical correspondence, discharge instructions, medical information for patients, general information on topics related to the medical field with a focus on low-literacy issues. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 301 with B or better; SPA 412 with B or better; Credit is allowed for only SLC 486 or SLC 494 (Medical Translation) or SPA 444 |
| SLC | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| SLC | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| SLC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEL | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| SLC | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-7 | | Prerequisite(s): minimum 56 hours |
| SLC | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |

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| SLC | 510 | Computer-Assisted Language Learning Praxis | Offers graduate students an in-depth practical experience in Computer-Assisted Language Learning (CALL) praxis, including tools, approaches to using technology in the language classroom, the techniques and best practices of online instruction, and the development of a teaching portfolio. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Pre- or corequisite(s): APL 557, ENG 557, or SLC 557; Credit is allowed for only APL 558 or SLC 510 |
| SLC | 515 | Second-Language Acquisition | Discusses and applies theories of second-language acquisition. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SLC 515 or SPA 515 |
| SLC | 545 | Concepts of Literary Criticism | Aims and methods of modern literary scholarship. Discusses major theories of literary analysis. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SLC 545 or SPA 545 |
| SLC | 546 | Heritage Language Pedagogy | Sociolinguistic and pedagogical issues around the teaching and learning of heritage languages. Through a close examination of seminal articles in the field of heritage language pedagogy and research, students gain an understanding of the issues that concern these students and the teaching of this population. Defines the field, describes heritage language learners, and discusses the goals and sociolinguistic concerns of HL instruction. Also reviews the most appropriate teaching methodologies and principles for the heritage language classroom, especially in relation to literacy development. Contains a practical component that includes observations together with lesson plan and material development to prepare future teachers for effective classroom experiences and/or language program development. Course requirements include critical essays, online discussions, class observations, lesson plans and a research/applied paper. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SLC 546 or SPA 546 or SPA 598 (Heritage Language Pedagogy) |
| SLC | 547 | Applied Linguistics: Online Learning | Technology has changed the way we teach and learn languages. Examines how online language learning is informed by research and theory; explores how different tools and environments can support online language learning. Familiarizes students with research methods and tools used to examine online language learning. Participants either design and develop the instructional materials for an online course of their choice or design and conduct a research project. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SLC 547 or SPA 547 or SLC 598 (Topics in Applied Linguistics: Online Learning) or SPA 598 (Topics in Applied Linguistics: Online Learning) |
| SLC | 551 | Global Approaches to Translation | Familiarize students with various approaches to translation practice. Examines issues related to the cultural role of translation. Students [re]prepare a translation, justification of translation choices, and discussion of the complexities posed by the translation. Readings address a broad array of translation theories, with most focused on translation as a globally theorized phenomenon in the 20th and 21st centuries. Readings and discussions focus on how one translates, and on translation as a culture-making enterprise inextricably tied to the questions of who translates, in what context, for whom, and to what ends. Students understand translation theories from different eras and cultures; understand how translation is implicated in different forms of intercultural contact (colonialism, commerce, proselytization); gain experience translating texts from a source language into English; and can explain why they translated the way they did. | N | RSC | N | GNA | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SLC | 557 | Computer-Assisted Language Learning | Explores the field of computer-assisted language learning. Traces the development of computer-assisted language learning (CALL) over the last three decades. Focuses on research that explores how computer technology can help facilitate second language development; relies primarily on empirical data to do so. Examine established as well as new research methods in CALL. Participants participate in one research study and apply theoretical and practical aspects of CALL in these projects. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only APL 557 or ENG 557 or LIN 591 (Intro to Computer Assisted Language Learning) or SLC 557 |
| SLC | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SLC | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SLC | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |

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| SLC | 596 | Second Language Methodologies | Provides a solid overview of current methodologies in foreign/second language teaching and learning, including the World-readiness standards for learning languages and the Proficiency Guidelines of the American Council on the Teaching of Foreign Languages (ACTFL). Focuses on current pedagogical trends and theories in several areas of second language acquisition, including grammar and vocabulary, reading, writing, listening and speaking, and intercultural competence. Also provides opportunities to obtain practice in creating and adapting instructional materials, preparing and implementing individual lesson plans, written and oral assignments, and exams. Focuses on discussing student diversity in today's classrooms and differences between heritage and second language learners. Students have the opportunity to research a topic of their interest. Course consists of lectures, discussion, hands-on experience to encourage meaningful and collaborative learning. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking grad stdnt; Credit only allowed for CHI 591 (Lang Teach Mthd & Prin) or CHI 596 or SLC 591 (Lang Teach Mthd & Prin) or SPA 591 (Teach Mthd) or SPA 591 (Lang Teach Mthd & Prin) or SPA 596 |
| SLC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SLC | 602 | Comparative Cultural Theory | Trains SILC Ph.D. students in a range of theories and methods of cultural analysis and comparison, and explores some of the conceptual tools used in the production of comparative studies scholarship. Exposes students to texts by authors from diverse historical and geopolitical contexts and encourages them to reflect upon these various commentaries on the nature and interpretation of culture and cultural production. Discussion centers on the relationship between cultural production and material realities and on the interdependence of cultural production and social, economic and political issues. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SLC | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SLC | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SLC 691 or SPA 691 |
| SLC | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SLC | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-15 | | |
| SLC | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SLC | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SLV | 304 | Digital Humanities for Language Majors | Not limited to language majors (Slavic or otherwise). Students complete course projects using the material of their language of interest (the language they are taking interest in, including English). This course focuses on the following topics in digital humanities: (a) audio-visual representation of the content in humanities, (b) computer-assisted learning and assessment, (c) digitizing printed resources, (d) data and text mining, (e) working textual corpora, (f) statistical analysis, (g) computational lexicography, (h) data extraction and manipulation. While emphasizing hands-on skills, this course also familiarizes its participants with the basic concepts in the fields of digital humanities. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | CS | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only SLC 304 or SLV 304 |

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| SLV | 440 | History of Slavic Languages | Comparative evolution of East Slavic, West Slavic, and South Slavic languages from the earliest record to the standardizing of national languages in the 19th and 20th centuries. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SLV | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SLV | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| SLV | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| SLV | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-7 | | |
| SLV | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| SLV | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SMC | 562 | Advanced Human Factors | In-depth study of the issues, methods, and findings in industrial and organizational psychology. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PSY 562 or SMC 562 |
| SOC | 101 | Introductory Sociology | Fundamentals of sociology, organization of human groups and society, processes of interaction, and social change. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Credit is allowed for only SOC 101 or SOC 301 OR Visiting University Student |
| SOC | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-3 | | Pre-requisites: Freshmen; maximum 25 earned hours |
| SOC | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | |
| SOC | 201 | Careers in Sociology | Introduces students to the program in sociology and aids in career exploration and development for sociology majors and nonmajors who may be interested in declaring this as a major. Students learn what careers and jobs sociologists do and what skills can be translated into practice for a sociological career in different professions. Students learn how to prepare for the job market through the creation of various written materials as well as through professional development and networking opportunities. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1 | | Credit is allowed for only FAS 201 or SOC 201 |
| SOC | 210 | Sociology of Murder | Sociological perspectives on various forms of murder and types of murderers. Also considers forms of punishment for murder. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | Credit is allowed for only FOR 210 or SOC 210 |
| SOC | 220 | Sociology of Sport | Examines sports in American society as a source of socialization and an institution where gender, race/ethnicity, and class interact. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | |
| SOC | 241 | Modern Social Problems | Race relations, poverty, unemployment, and other current issues. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | |
| SOC | 264 | Sociology of Gender | Examines how society influences perceptions of difference and identity within institutions and interactions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & C | Prerequisite(s): ENG 101, 105, 107, or 111 with C or better; Credit is allowed for only FAS 264 or SOC 264 OR Visiting University Student |
| SOC | 270 | Sociology of Race and Ethnicity | Examines how racial, ethnic and cultural identities and structures are related to various social, political and economic institutions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & C | |
| SOC | 290 | Introduction to Social Science Research | Students learn the fundamentals of how social research is conducted and use critical thinking skills to access, analyze, interpret and summarize research. Students gain an appreciation for the value of social research in our everyday lives. Explores both qualitative and quantitative methods. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): CDE 232, FAS 101, or SOC 101 with C or better; Credit is allowed for only FAS 290 or SOC 290 OR Visiting University Student |
| SOC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | |
| SOC | 298 | Honors Directed Study | Independent study or practicum under the supervision of a faculty member. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-6 | | Prerequisite(s): Barrett Honors student |
| SOC | 303 | Transborder Theory | Studies historical, cultural, and economic theories contributing to understanding the emergence of Mexican and Latina/o origin populations in the Americas. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only SOC 303 or TCL 303 OR Visiting University Student |
| SOC | 312 | Adolescence | In-depth examination of the developmental and social processes that help explain modern adolescence. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): CDE 232, PSY 101, SOC 101, or TEL 215 with C or better; minimum 24 hours; Credit is allowed for only CDE 312 or SOC 312 OR Visiting University Student |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-------------------|--|
| SOC | 314 | Transborder Latin American Migration to the U.S. | Historical/contemporary overview of Mexican and other Latin American migration into and within the U.S.; factors affecting population movement, settlement patterns and migrants' incorporation into society. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | (L or SB) & H & C | Prerequisite(s): ENG 101, 105 or 107 with a C or better; minimum 45 hours; Credit is allowed for only SOC 314 or TCL 314 OR Visiting University Student |
| SOC | 315 | Sociology of Dating, Relationships and Marriage | In-depth study of dating, intimate relationships and marriage across different social settings from a sociological perspective. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): FAS 101, PSY 101, or SOC 101 with C or better; minimum 24 hours OR Visiting University Student |
| SOC | 320 | Transborder Community Development and Health | Emphasizes core concepts and practices relevant to regional community development and health, including demographic health indicators, individual, and community models. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only SOC 320 or TCL 321 OR Visiting University Student |
| SOC | 324 | Sociology of Work and Organizations | Historical and comparative examination of changes in the structure and meaning of work and current shifts in people's work lives with a focus on race, ethnicity, gender, social class and social networks. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only FAS 324 or SOC 324 OR Visiting University Student |
| SOC | 325 | Globalization and Socio-Economic Justice | Addresses a trend producing increasing interconnectedness of economies and societies, as well as creating new conflicts and divisions. Provides greater understanding of global forces, as well as the effect of these forces on global economic justice. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; minimum 2.00 GPA; Credit is allowed for only JUS 325 or SGS 325 or SOC 325 OR Visiting University Student |
| SOC | 328 | Migration and Culture | Examines migration and culture embedded in a transnational field of social, economic and political processes. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 340 or SOC 328 OR Visiting University Student |
| SOC | 331 | Environmental Sociology | Analyzes human organizational responses to population growth, technological change, and environmental stressors on both a national and global scale. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & G | Prerequisite(s): minimum 45 hours |
| SOC | 332 | The Modern City | In-depth analysis of the growth, characteristics, and problems of the modern city. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | G | Prerequisite(s): FAS 101, PSY 101, or SOC 101 with C or better; minimum 24 hours OR Visiting University Student |
| SOC | 333 | Population | Global trends in population growth, composition, and distribution; theories, policies, and impact of population trends on environmental quality and development. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & G | |
| SOC | 334 | Technology and Society | Development of technology in relation to society, work, science, the environment, public health, and cultural values related to social change. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | L or SB | Prerequisite(s): ENG 101, 105 or 107 with C or better; minimum 45 hours; Credit is allowed for only ASB 344 or SOC 334 OR Visiting University Student |
| SOC | 339 | Grassroots Social Movements | Explores how groups mobilize collectively to produce social, political, economic and cultural change, with an emphasis on the United States. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ASB 339 or POS 339 or SBS 339 or SOC 339 OR Visiting University Student |
| SOC | 340 | Social Deviance | Sociological analysis of behaviors, identities and groups that are contrary to established social norms. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): SOC 101 OR Visiting University Student |
| SOC | 342 | Mexico-U.S. Borderlands | Contemporary examination of socioeconomic and political dimensions of border communities, and formation of Mexican-origin communities within and outside the Southwest. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & C | Credit is allowed for only ASB, SBS or SOC 342 |
| SOC | 343 | Social Demographics of Latino Populations | Provides an introduction to social demography of Latinos in the U.S. from the 19th century to the present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & C | Prerequisite(s): minimum 45 hours; Credit is allowed for only SOC 343 or TCL 342 |
| SOC | 350 | Inequality and Diversity in Education | Advanced exploration of various dimensions of diversity in relation to educational systems and outcomes. Through sociological and psychological research, case studies and films, students examine how educational inequality is created and reproduced through individual actions and institutional constraints. Also considers the connection between schooling and human rights and ways in which educational inequality may be addressed. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | L & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; AFR 212, APA 200, APA 210, CDE 232, JUS 210, TCL 210, or minimum 24 hours; Credit is allowed for only AFR 350, APA 350, CDE 350, JUS 365, SOC 350, or TCL 360 OR Visiting University Student |
| SOC | 352 | Social Change | Patterns of social change, resistance to change, and change-producing agencies and processes. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & G & H | |
| SOC | 353 | Death and Dying in Cross-Cultural Perspective | Scientific and humanistic approaches to the study of death and dying from the perspective of anthropology and allied disciplines. Uses a global, comparative approach across space and time from the earliest human burials to contemporary funeral events. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3-4 | (HU or SB) & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 353 or SOC 353 OR Visiting University Student |
| SOC | 354 | The Global Politics of Human Rights | Examines political forces that have shaped gradual construction of an international human rights regime and a universal culture of rights, including civil and political rights, as well as economic, social, and cultural rights. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only JUS 352 or SOC 354 |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| SOC | 355 | Human Rights Organizations and Institutions | Investigates the emergence and evolution of the organizations and institutions designed to promote and protect human rights at global, regional and national scales. Explores reasons why it is necessary to institutionalize human rights, the trial and error process that led to postwar international human rights regime, challenges and the future of human rights. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only JUS 355 or SOC 355 OR Visiting University Student |
| SOC | 356 | Central American Studies | Part of the summer ASU study abroad Costa Rica Program, which is a language and social sciences immersion program in the capital city, San Jose. A summer offering permits students to enroll in the program without conflicting with full course loads during the fall or spring semester. However, the course is proposed as a stand-alone course that can be offered in a regular semester as well. May be repeated once for credit. | N | REC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | Credit is allowed for only ASB 356 or GCU 356 or POS 354 or SBS 356 or SOC 356 |
| SOC | 360 | Sociological Psychology | Interaction patterns between the sociocultural order and individuals; socialization process; norms, roles, and statuses; collective behavior. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): SOC 101, PSY 101(PGS 101), FAS 101, or FAS 330 with C or better; Minimum 24 hours |
| SOC | 363 | Men and Masculinity | Sociological analysis of how masculine identity is defined, negotiated, and variously constructed depending upon class, ethnicity, age, and sexual orientation. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): SOC 101 |
| SOC | 364 | Popular Culture and Society | Studies the social approaches to popular culture, focusing on the function of various forms (literature, film, theatre, and music). | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | Prerequisite(s): minimum 45 hours |
| SOC | 365 | Sociology of Mass Communication | Sociological exploration of the major mass media as a communicative process in American society. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | |
| SOC | 366 | Film and Society | Studies the social approaches to film as an art form, mass medium, and ideological construct. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | |
| SOC | 371 | Inequality and Sustainability | Efforts to shift societies onto a sustainable trajectory are facing profound challenges from the degree and dynamics of global inequalities of income, wealth, and life chances. Data and ideas from a spectrum of disciplines are employed to examine, analyze, and criticize the prospects for redressing global inequalities in a sustainable manner. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 371 or ASB 394 (Inequality and Sustainability) or SOC 371 or SOS 371 or SOS 394 (Inequality and Sustainability) |
| SOC | 374 | Cultures and Politics of the Internet | Explores the culture and politics of the Internet in global perspective, including virtual communities, free software, copyleft, blogs, and hacktivism. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | Credit is allowed for only ASB 374, POS 374, SBS 374 or SOC 374 |
| SOC | 378 | Migration and Society | Application of social scientific theories and principles in order to understand the social and ethnic consequences of international migration with a focus on the United States. Students will communicate views formulated from empirical evidence and reasoned analysis. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & C | Prerequisite(s): ASB 102 or SOC 101 with C or better; 45 minimum hours |
| SOC | 389 | Ethnographic Field Lab | Hands-on, guided ethnographic qualitative research and interpretative analysis. | N | LAB | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-6 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 389 or SBS 389 or SOC 389 |
| SOC | 390 | Social Statistics I | Descriptive and inferential statistical methods for analysis of social data. Computer applications. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | CS | Prerequisite(s): MAT 142 or higher with C or better OR Visiting University Student |
| SOC | 391 | Applied Research Methods | Learn how to apply methodological approaches to social research questions. Learn to evaluate, interpret, synthesize, produce and present research. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | L or SB | Prerequisite(s): CDE 232, FAS 101, or SOC 101 with C or better; ENG 101, 105, or 107 with C or better; PSY 230, SBS 304, SOC 390, or STP 226 with C or better; Credit is allowed for only FAS 361 or SOC 391 OR Visiting University Student |
| SOC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | |
| SOC | 399 | Supervised Research Experience | Practical, firsthand experience within current faculty research projects in family studies or child development or sociology. May be repeated for total of 6 hours. | Y | RSC | Y | GNA | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FAS 390 or SOC 399 OR Visiting University Student |
| SOC | 400 | Perspectives on Aging | Broad overview of gerontological issues; e.g., physical aging, retirement, living options, caregiving, theoretical background, death. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | |
| SOC | 410 | Race, Medicine, and the Body | Explores how body and embodiment and race and ethnicity are constructed within and by biomedical sciences and technology development. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only SOC 410 or TCL 410 OR Visiting University Student |
| SOC | 415 | The Family | Family considered from the institutional viewpoint; in-depth look at its historical development and its adaptation to a changing culture; analysis of the family system in many cultures. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): FAS 101, PSY 101, or SOC 101 with C or better; minimum 30 hours OR Visiting University Student |

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| SOC | 418 | Aging and the Life Course | Examines aging as a process of change and adaptation over the lifespan, patterned by social, cultural, and historical forces. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & H | Prerequisite(s): FAS 101, 330, PSY 101 or SOC 101 with C or better; minimum 30 hours; Credit is allowed for only CDE 418 or SOC 418 OR Visiting University Student |
| SOC | 420 | Sociology of Religion | Interrelationship of culture, society, and religion; religion and social stratification; religious, economic, and political institutions; social change and religion. Emphasizes American society and institutions. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| SOC | 421 | Education and Society | Uses contemporary sociological perspectives to examine effects of schools and schooling on individuals and society. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 421 or SOC 421 OR Visiting University Student |
| SOC | 424 | Women and Health | Women as health care workers and an in-depth analysis of issues of health, illness, and health care for women. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): FAS 101, FAS 330, PSY 101, or SOC 101 with C or better; minimum 30 hours OR Visiting University Student |
| SOC | 425 | Women, Work, and Justice | Examines gender inequality in the workplace, including the nature of women's work, theoretical issues, and models for promoting gender justice at work. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | (L or SB) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only JUS 420 or SOC 425 |
| SOC | 426 | Social Inequalities | Examines stability and change in social inequalities based on class, race and gender. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | |
| SOC | 427 | Sociology of Health and Illness | Social aspects of illness and sociological analysis of the healthcare system and its practitioners. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SOC | 432 | Racial Justice | Racial inequality remains a dominant theme in understanding social, legal, and economic justice in the U.S. today. Explores controversial topics surrounding race and justice. Emphasizes current legal, economic, political, and social conceptual frameworks. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only JUS 432 or SOC 432 OR Visiting University Student |
| SOC | 435 | Advanced Marriage and Family Relationships | In-depth examination of research, issues, and trends relating to marriage and family interaction. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; FAS 101, FAS 331, PSY 101, or SOC 101 with C or better; minimum 30 hours; Credit is allowed for only FAS 435 or SOC 435 OR Visiting University Student |
| SOC | 437 | Women, Power, and Politics | The roles and treatment of women within various political contexts. Specific focus may vary with instructor. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | G | Prerequisite(s): minimum 45 hours; Credit is allowed for only POS 437 or SOC 437 OR Visiting University Student |
| SOC | 443 | Sociology of Corporations | Examines corporations as social institutions and the implications of their status as a legal person on politics, culture, and economy. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | |
| SOC | 445 | Globalization, Development, and Resistance | Explores the interconnections among globalization, development, and grassroots movements for social change in Africa, Asia, and Latin America. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | |
| SOC | 448 | Epidemics and Society | How epidemics occur; how they are perceived in society; how epidemics affect society. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & G | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SOC | 451 | Comparative Sociology | Cross-cultural study of basic social institutions; the methodology of cross-cultural research. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & G | |
| SOC | 455 | Human Rights and Sustainability | Addresses the connections between human rights and environmental sustainability. Legal and scholarly approaches linking these areas present new perspectives for addressing some of the greatest challenges of our time, given the important resource dimensions of economic and social rights and the human dimensions of sustainability. Yet human rights demands and environmental concerns are not always in harmony. Explores these tensions and opportunities by examining three substantive areas: urban ecology and human rights, the human right to food, and the human rights implications of extractive industries such as oil and mining. Following an introduction to the key concepts of human rights and sustainability, explores the substantive areas through theoretical and empirical readings on each; grassroots accounts of struggles over environment-related human rights; and selections from literature and film that illustrate the environmental justice issues at stake. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | (L or SB) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only JUS 456 or JUS 497 (Seminar in Human Rights) or SOC 455 or SOS 456 |
| SOC | 456 | Political Sociology | Social factors associated with voting; nature and structure of the electorate and political parties and the nature of national and international power structure. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | |
| SOC | 457 | Global Social Movements | Examines how groups mobilize across borders to pursue social goals, including equality, justice, peace, and salvation in a global context. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| SOC | 460 | Leadership, Research, and Collaboration in Community Change | Advanced understanding of leadership and the development of proposals for innovative plans that enhance the well-being of children, youth and families. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): minimum 60 hours; Credit is allowed for only FAS 460 or FAS 498 (Leadership Research & Collaboration in Change) or SOC 460 |
| SOC | 469 | Multivariate Statistics for Social Sciences | Provides instruction and hands-on experience with statistical methods for examining the effects of multiple variables. Focuses on multivariate techniques and how statistical techniques can lead to a better understanding of substantive issues. As this is an applied course, lectures and coursework focus more on the application and interpretation of multivariate techniques than on the mathematics behind the statistical techniques. Topics typically include data visualization, correlation, simple regression, multiple regression, logistic regression, multinomial regression, ordinal regression, and principal component analysis. Also teaches how to conduct these statistical techniques and undertake basic programming in the R computer program. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): DAT 300, ECN 221, GIS 270, PSY 230, SOC 390, or STP 226 with C or better; Credit is allowed for only CDE 469 or GIS 469 or SOC 469 or CDE 498/GIS 494 (Multivariate Statistics for Social Sciences) OR Visiting University Student |
| SOC | 483 | Sociological Theories | Social issues explored through sociological theories. Ideological factors in theory, philosophical issues, the nature of theory and its relationship with methodology. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; SOC 101 with C or better; minimum 45 hours OR Visiting University Student |
| SOC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | |
| SOC | 486 | Contemporary Theory | Contemporary issues and crises in social theory with major focus on particular theorists. Ideological factors in theory, philosophical issues, the nature of theory and its relationship with methodology. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): SOC 101 or 301 OR Visiting University Student |
| SOC | 490 | Advanced Sociological Research Methods | In-depth investigation of sociological research and its application to social issues. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; PSY 230, SOC 390, or STP 226; SOC 101 with C or better; SOC 290; SOC 483; minimum 45 hours OR Visiting University Student |
| SOC | 491 | Advanced Sociological Perspectives | In this capstone course, students reflect on the knowledge and skills they have gained in their sociology courses, and explore how to apply their sociological training outside of the university as they further their education or join the labor force. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; PSY 230, SOC 390, or STP 226; SOC 290; SOC 483; minimum 45 hours |
| SOC | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-6 | | Prerequisite(s): Barrett Honors student |
| SOC | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| SOC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | RSC | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | |
| SOC | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-6 | | Prerequisite(s): Barrett Honors student |
| SOC | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-7 | | |
| SOC | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-3 | | |
| SOC | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOC | 501 | Social Statistics | Understands and uses statistics for applications in the social sciences. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): Degree- or Nondegree-seeking graduate; Credit is allowed for only CDE 501, SOC 501 or SOC 598 (Statistics for Social Sciences) |
| SOC | 505 | Applied Regression Analysis | Multiple linear regression topics relevant to social science data analysis. Computer applications. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisites: Credit is allowed for only FAS or SOC 505; Graduate students only (degree and non-degree) |
| SOC | 507 | Categorical Data Analysis | Logistic regression and related topics relevant to categorical data analysis in social sciences. Computer applications. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisites: Credit is allowed for only FAS or SOC 507; Graduate students only (degree and non-degree) |
| SOC | 508 | Structural Equation Analysis for the Social Sciences | Theory and application of structural equation modeling. Path analysis and latent variable models such as CFA, multiple group analysis and models for longitudinal data. Projects involve conducting analyses and writing results. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisites: Credit is allowed for only FAS or SOC 508; Graduate students only (degree and non-degree) |
| SOC | 509 | Event History Analysis | Proportional hazards models and other methods for analyzing longitudinal data and establishing hazard rates of events for exploratory variables. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisites: Credit is allowed for only FAS or SOC 509; Graduate students only (degree or non-degree) |

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| SOC | 510 | Bayesian Analyses in the Social Sciences | Discusses principles and practices of Bayesian approaches to statistical inference and modeling. Topics include: philosophical underpinnings of Bayesian inference; associated interpretations of probability; univariate and multivariate models prevalent in the social sciences; Markov chain Monte Carlo estimation; data-model fit; model comparisons procedures; missing data analyses. Course consists of lectures, demonstrations of software, reading assignments, homework assignments and a project. Exposes students to key concepts in Bayesian methods and gains technical foundations necessary to be consumers and contributors to applied and methodological research. Assumes previous knowledge of statistics through multiple regression, and recommends additional topics: multivariate statistics, latent variable modeling, probability theory. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CDE 591 (Bayesian Analyses in the Social Sciences) or CDE 591 (Introduction to Bayesian Analyses) or FAS 510 or SOC 510 |
| SOC | 512 | Secondary Data Analysis | Works with existing data to produce a publishable article. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only FAS or SOC 512 |
| SOC | 515 | Studies of the Family | Current developments in the study of marriage and the family. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOC | 516 | Family Demography | Current developments in the study of family demography. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | |
| SOC | 523 | Social Stratification | Overviews significant themes, issues, and bodies of work in the field of social stratification, a fundamental topic of sociological inquiry. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | |
| SOC | 533 | Demographic Methods | Emphasizes methods and techniques in demographic analyses such as life tables. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | |
| SOC | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOC | 585 | Sociological Theory | Analyzes major sociological theories, from classical to contemporary. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOC | 586 | Capstone I | Professional exploration and goal specification for non-thesis capstone project. | N | PRA | N | GNA | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree-seeking graduate student in the Sanford School of Social and Family Dynamics; Credit is allowed for only FAS 586 or SOC 586 |
| SOC | 587 | Capstone II | Develops professional expertise and area of focused interest. | N | RSC | N | GNA | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): FAS 586 or SOC 586. Credit is allowed for only FAS 587 or SOC 587 |
| SOC | 588 | Capstone III | Applies developed expertise and knowledge to professional goal. | N | PRA | N | GNA | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): CDE 501 or SOC 501; CDE 531 or SOC 585; FAS 500 or SOC 500; FAS 587 or SOC 587; 12 additional graduate-level hours in CDE, FAS, and/or SOC; Credit is allowed for only FAS 588 or SOC 588 |
| SOC | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOC | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOC | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | |
| SOC | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | |
| SOC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOC | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| SOC | 603 | Perspectives in Sociological Inquiry | Provides an overview of core theoretical frameworks and associated analytic approaches in sociology. Taught by faculty members from across the university with sociological training or research interests, providing students with foundational and advanced research tools as well as introducing them to ongoing research at ASU, the distinctive contributions of sociological perspectives to inter- and transdisciplinary projects, and potential opportunities for research residency. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOC | 685 | Applied Social Theory | Overviews main classical and contemporary theoretical paradigms and concepts in sociology and provides advanced training on using them to build empirical analytic models. Students identify theoretical perspectives appropriate for research questions, build corresponding conceptual frameworks, and formulates testable hypotheses. Seminar format and therefore students' active participation is expected. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOC | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | |
| SOC | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOC | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | |
| SOC | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOC | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOC | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 100 | Introduction to Sustainability | Introduces basic concepts, global trends, and local responses, philosophical, ethical, and cultural dimensions. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | G | Prerequisite(s): Non-Sustainability majors or non-Sustainability concentrations OR Visiting University Student |
| SOS | 101 | Introduction to Applied Mathematics for the Life and Social Sciences | Introduces quantitative techniques as applied to problems in the life and social sciences. Includes challenges like understanding the complexities of the human genome or the implications of globalization for infectious disease, human health, and economic stability. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | MA | Prerequisite(s): MAT 117 or higher with C or better or ALEKS score of 61 or higher; Credit is allowed for only AML 100 or SOS 101 OR Visiting University Student |
| SOS | 110 | Sustainable World | Lays the groundwork for understanding the fundamental geological, biological, and social processes that gave rise to the world we live in and continue to maintain its viability for human life. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | SB | |
| SOS | 111 | Sustainable Cities | Introduces technological, social, and cultural principles and innovations for cities under the notion of sustainability and sustainable development within the global, regional, and local contexts. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | (HU or SB) & G | Credit is allowed for only PUP 190 or SOS 111 OR Visiting University Student |
| SOS | 117 | Food System Sustainability | Food systems are particularly important for human societies to sustain and are also particularly vulnerable to multiple threats related to the interconnected sustainability challenges we face. Introduces the concepts and issues involved in food systems sustainability. Divided into four modules, the first three of which address the other systems with which food systems interact--socio-ecological, socio-cultural and socio-technical systems. The final module addresses the future of food systems. Teaches students about the main issues in food system sustainability and allows students to enhance their critical thinking skills by applying them to the many sustainability challenges associated food system activities via solutions-based learning including the social, ecological, economic and institutional dimensions. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|---------------------------|--------------------------|-------|-----------------|---|
| SOS | 171 | The Thread of Energy | Follows the thread of energy through every aspect of our lives. Discusses the technical, social, legal, and policy contexts of all energy resources, including present and unconventional fossil fuels, nuclear power, and renewable resources. Addresses energy use throughout history, the influence of energy on quality of life, the role it plays in political strategies and environmental quality, how it shapes our neighborhoods and cities, its contribution to our personal comfort and national security, and how its importance is reflected in the worlds of business and the humanities. Its dual role is as a stand-alone introduction to energy, and as a first step to more advanced studies of energy in the natural, technical, and social sciences. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | SB & G | Credit is allowed for only GCU 171 or SOS 171 OR Visiting University Student |
| SOS | 181 | Technological, Social, and Sustainable Systems | Introduces the importance and role of technological, social, and sustainable systems in the modern world. Provides a framework for the theory and practice of sustainable engineering. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | HU | Credit is allowed for only SOS, FSE or CEE 181 |
| SOS | 182 | Water Planet | Overview of the processes that control water supply to natural ecosystems and human civilizations. Part I introduces the basic science that helps us understand the water planet, including the hydrologic cycle, glaciers and ice; rivers, oceans, and natural hazards associated with water such as flooding, landsliding and tsunamis. Part II covers some of the management and resource allocation topics that face humanity today, including droughts, groundwater contamination, impacts on fisheries, conflicts over water, patterns of water use, and effects of global climate change on future water supplies. Uses water issues facing Arizona and California as examples. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 4 | SQ | Credit is allowed for only GLG 108 or SOS 182 OR Visiting University Student |
| SOS | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | SEM | Y | OPT | College of Global Futures | School of Sustainability | 1-3 | | |
| SOS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-4 | | |
| SOS | 201 | Introduction to ASU and School of Sustainability for Transfer Students | Introduces all ASU transfer students to the unique elements, culture, challenges and opportunities of the university. | N | LEC | N | YGB | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): Sustainability BA or BS or Sustainable Food Systems BS major; minimum 24 hours OR Visiting University Student |
| SOS | 210 | Society and Environment | Examines the interaction among social processes, key environmental issues, and nature's role as a resource at global and regional scales. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | G | Credit is allowed for only GPH 210 or SOS 210 |
| SOS | 211 | Calculus and Probability for the Life and Social Sciences | Introduces two of the most important and useful mathematical frameworks used to study natural and social phenomena: probability and calculus. Probability is used to describe an attitude of mind toward some proposition whose truth is not certain. Calculus is the branch of mathematics used to study the behavior and dynamics of functions: calculus is the mathematical study of change. Students gain the basic competence needed for applying probability and calculus when thinking about and research problems in sustainability. Focuses on and discusses applications, the meaning of important concepts, the origins of the rules of derivation and integration, and logic behind why the methods work. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | MA | Prerequisite(s): AML 100 or SOS 101 with C or better OR Visiting University Student |
| SOS | 212 | Systems, Dynamics and Sustainability | Introduces the evaluation and construction of mathematical models used in the life and social sciences. Includes the basic steps in developing a model, analyzing it, and testing it with actual data. Covers the first steps concerning how to use formal mathematical techniques including developing equation-based relationships, plotting graphs, linear regression, and solving equations using computer software. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): SOS 211 OR Visiting University Student |
| SOS | 215 | Fundamentals of Sustainable Food Systems | Introductory food course provides students with a panoramic understanding of American agriculture. Explores American-grown food through history, policy, society, business innovation, and environmental sustainability. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | L | Prerequisite(s): ENG 101, 102, 105, 107, or 108 with C or better; Credit is allowed for only AGB 215 or SFS 215 or SOS 215 OR Visiting University Student |
| SOS | 216 | The Sustainable Plate | Introductory food course explores agriculture by subsectors, such as livestock, grains and fruits and vegetables. Students learn how dietary choices affect health, the environment, and the people who produce and process food. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): ENG 101, 102, 105, 107, or 108 with C or better; Credit is allowed for only AGB 216 or SFS 216 or SOS 216 OR Visiting University Student |
| SOS | 220 | Systems Thinking | Introduces systems thinking and complexity science, with an emphasis on analytical relevance for thinking about a myriad of issues involved in sustainability. Hones students' abilities to read critically, articulate their views clearly, and think about the many systems that shape their lives. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): PUP 190 or SOS 111 with C or better; SOS 110 with C or better OR Visiting University Student |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|---------------------------|--------------------------|-------|-----------------|---|
| SOS | 230 | Professional Skills in Sustainability | Builds interpersonal competence, which is a key competence in sustainability. Students work on a small hands-on sustainability project in order to practice professional skills in four domains: teamwork, project management, self-directed and continuous learning, and stakeholder engagement. Students learn how to effectively collaborate in teams, use project management tools to achieve quality products in time, innovate their ways of learning, and create productive dialogue with stakeholders. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): PUP 190 or SOS 111 with C or better; SOS 110 with C or better |
| SOS | 231 | Careers in Sustainability | Aids in career exploration and development for School of Sustainability majors. Explores values, motivations and career options. Students learn how to approach the job search and how to communicate sustainability to employers; also how to prepare a quality résumé, cover letter, and gain a better understanding of the benefits of networking. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): Sustainability BA or BS major or Sustainable Food Systems BS major; PUP 190 or SOS 111 with C or better; SOS 110 with C or better; minimum 45 hours OR Visiting University Student |
| SOS | 232 | Professional Skills in Sustainability Practice | Students learn how to effectively and compassionately communicate, engage in collaborative teamwork, use project management tools to achieve quality products on time, innovate their ways of self-directed and continuous learning, engage with stakeholders on solutions, and ensure mindful self-care. Students work on a sustainability project, practicing this set of professional skills in a real-world context. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; PUP 190 or SOS 111 with C or better OR Visiting University Student |
| SOS | 246 | Exploring Sustainability Research | Introduces diverse research in sustainability, along with research concepts, approaches and career opportunities. Also helps students navigate how to pursue research opportunities as an undergraduate student. | N | RSC | N | Z1 | College of Global Futures | School of Sustainability | 1 | | Credit is allowed for only SOS 246 or SOS 294 (Exploring Sustainability Research) |
| SOS | 272 | Economic Justice | Surveys key environmental justice issues and movements. Uses interdisciplinary social science perspectives to review and analyze U.S. and international case studies. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | SB | Credit is allowed for only ASB 272 or SOS 272 |
| SOS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-4 | | |
| SOS | 300 | Advanced Concepts and Integrated Approaches in Sustainability | Integrates disciplinary contributions to sustainability, teaches advanced concepts in sustainability, and explores methods for identifying sustainability challenges and generating solutions. Focuses on diversity of sustainability research, and integrates specialized approaches in sustainability. Advanced concepts in sustainability, including systems-thinking, complexity, nonlinearity, cascading effects, coupled natural-human systems, governance, future thinking, unintended consequences, normative concerns, transformation, power, participation, and equity. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): SOS 100, 110, 111 or PUP 190 with C or better; minimum 45 hours OR Civil Engineering (Sustainable Engineering) BSE major OR Visiting University Student |
| SOS | 309 | History and Philosophy of Sustainability | Examines sustainability issues in a broadly interdisciplinary way, but with a special emphasis on humanities perspectives, focusing on human ideas, values and institutions as they have evolved over time. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): ENG 102 or 105 or 108 with C or better; minimum 25 hours; Credit is allowed for only HST 308 or PHI 322 or SOS 309 or BIO/HST/PHI/SOS 394 (History & Philosophy of Sustainability) |
| SOS | 310 | Equity, Justice and Sustainability | Introduces the "social justice" aspects of sustainability science and practice. Sustainability problems are a special class of problems arising from a complex set of issues spread across time, space and institutional scales. These problems can threaten underlying social, economic and ecological systems which are highly intertwined and interdependent. Explores these issues through study of both theory and practice. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): PUP 190 or SOS 111 with C or better; SOS 110 with C or better OR Visiting University Student |
| SOS | 311 | Future Thinking and Strategies | Offers a critical introduction to future-oriented theories and methods. Explores anticipation in contemporary society through a series of cases studies that probe real-world sustainability issues and how the future is created and contested. By characterizing and critiquing future-oriented practices across governmental, academic and private sectors, offers a critical perspective on different methodological approaches and the implications of their use. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): PUP 190 or SOS 111 with C or better; SOS 110 with C or better OR Visiting University Student |
| SOS | 314 | Basic Energy Science | Explains the concepts of the science of energy for those without a background in engineering. Allows non-engineering students to better grapple with the issues that surround sustainable energy issues. Covers the most common methods of electricity generation as well as renewable technologies and fuels. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |

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| SOS | 315 | Energy Policy | Examines the regulation of energy production and consumption in the U.S. at the federal, state and local levels. Identifies energy stakeholders in the U.S. and examines how they have shaped U.S. policies around energy. Explains past and current U.S. energy policies and how energy needs have shaped U.S. relations with other countries. Compares U.S. energy policies to that of other countries in the world, as well as how Arizona's energy policies compare to other states within the U.S. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only SGS 315 or SOS 315 OR Visiting University Student |
| SOS | 320 | Society and Sustainability | Establishes an understanding of the human, social, and cultural dimensions of sustainability from multi- and interdisciplinary perspectives and at a variety of spatial and temporal scales. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | L or SB | Prereq(s) with C or better: Sust or Bus (Sust) mjr; ENG 101, 105 or 107; SOS 110; SOS 111 or PUP 190 OR Non-Sust mjr with 2 of the following courses: SOS 100, SOS 110, SOS 111 or PUP 190, SOS 300; ENG 101, 105 or 107 OR Visiting University Student |
| SOS | 321 | Policy and Governance in Sustainable Systems | Explores the wide array of political questions that are raised when we view the Earth's environment as an integrated, global system. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prereqs: Sustainability or Business (Sust) major; SOS 110 & SOS 111 (or PUP 190) w/C or better OR Non-Sustainability major with 2 of the following courses: SOS 100, SOS 110, SOS 111 (or PUP 190), SOS 300 w/C or better OR Visiting University Student |
| SOS | 322 | International Development and Sustainability | Historical roots of the idea of development; economic theories of growth and their implications for sustainability; interrelationship among population growth, food security, poverty, inequality, urbanization, technological change, international trade, and environmental change at local, regional and global scale. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prereqs: Sustainability or Business (Sust) major; SOS 110 & SOS 111 (or PUP 190) w/C or better OR Non-Sustainability major with 2 of the following courses: SOS 100, SOS 110, SOS 111 (or PUP 190), SOS 300 w/C or better OR Visiting University Student |
| SOS | 323 | Sustainable Urban Dynamics | Human and physical processes shaping urban ecologies and environments; human-environment interactions in the context of an urban region; effect of the institution and regulatory framework on the ability of social and urban-ecological systems to be resilient and sustainable; urban design, materials, transport, planning, and regulation. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prereqs: Sustainability or Business (Sust) major; SOS 110 & SOS 111 (or PUP 190) w/C or better OR Non-Sustainability major with 2 of the following courses: SOS 100, SOS 110, SOS 111 (or PUP 190), SOS 300 w/C or better OR Visiting University Student |
| SOS | 324 | Sustainable Energy Technology and Systems | Comprehensive survey of current and future energy systems; thermodynamics and energy analysis; environmental, economic and social impacts; resources, technologies and infrastructure for electricity and transportation. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prereqs: Sust or Business (Sust) mjr; SOS 110 & SOS 111 (or PUP 190) w/C or btr OR Non-Sust mjr w/ 2 courses: SOS 100, SOS 110, SOS 111 (or PUP 190), SOS 300 w/C or btr; Credit is allowed for only EVE 411 or SOS 324 OR Visiting University Student |
| SOS | 325 | The Economics of Sustainability | Applies economic principles to the allocation of environmental goods and services, external environmental effects, and environmental public goods; decision-making under uncertainty, adaptation to and mitigation of environmental change. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prereqs: Sustainability or Business (Sust) major; SOS 110 & SOS 111 (or PUP 190) w/C or better OR Non-Sustainability major with 2 of the following courses: SOS 100, SOS 110, SOS 111 (or PUP 190), SOS 300 w/C or better OR Visiting University Student |
| SOS | 326 | Sustainable Ecosystems | How human activities and management practices alter biodiversity, ecosystem functioning, and the provisioning of ecosystem services; use of economic and other social science perspectives to estimate the value of ecosystem services; evaluation of options for achieving the sustainable flow of services from ecosystems. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prereqs: Sustainability, Sustain Food Syst, or Business (Sust) major; SOS 110; SOS 111 or PUP 190 OR Non-Sustainability major with 2 of the following courses: SOS 100, SOS 110, SOS 111 (or PUP 190), SOS 300 with C or better OR Visiting University Student |
| SOS | 327 | Sustainable Food and Farms | Food systems and sustainability. Theories of food security, rural livelihood sustainability, and food sovereignty. Critically examines the social, ecological, economic, and institutional dimensions of the many sustainability challenges associated food system activities (production, processing, distribution, consumption, waste). Students develop a food system framework and apply knowledge to an assessment of the sustainability of one aspect of the local food system. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prereqs: Sustainability, Sustain Food Syst, or Business (Sust) major; SOS 110; SOS 111 or PUP 190 OR Non-Sustainability major with 2 of the following courses: SOS 100, SOS 110, SOS 111 (or PUP 190), SOS 300 with C or better OR Visiting University Student |

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| SOS | 328 | Sustainability and Enterprise | Examines the evolving interface between sustainability and human enterprise. Explores and reviews key fundamental concepts in the sustainability arena, including economic and scientific drivers and select historical and structural aspects that create the current context for the enterprise and sustainability interface found today. Delves into more specific case studies of attempts by current businesses to become greener and more sustainable, exploring challenges and opportunities that are commonly found as well as how decisions are often made in today's business settings and by whom. Explores alternative enterprise models and examples of businesses that are using the current context to redefine the sustainability and enterprise. Given the emergent nature of this effort, uses timely and real-world examples from current events where possible. Explores and applies an integrated approach to sustainability and enterprise. Readings include popular texts, original research articles and current events. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): Sustainability or Business (Sustainability) major; SOS 110 and 111 (or PUP 190) with C or better; OR Non-Sustainability major with 2 courses: SOS 100, 110, 111 (PUP 190), SOS 300 with C or better OR Visiting University Student |
| SOS | 330 | Sustaining the Commons | Equips students with tools to analyze the conditions in which communities can be successful in managing their common resources such as forest, water and clean air. Students learn the institutional analysis and development framework to evaluate such collective action problems. Applies this approach of analysis to various sustainability topics from irrigation systems and fisheries to climate change and energy systems in urban environments. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| SOS | 343 | Latinas/os and the Environment | Examines the nexus among race/ethnicity, migration, class and the built and natural environment. Explores the proposition that Latina/o and other ethnic minorities and socioeconomically disadvantaged populations bear a disproportionate burden of environmental challenges and its consequences for equality, health and quality of life. Key topics include environmental racism, vulnerability and resilience, climate change, community organizing, and mobilization. Pays considerable attention to community-based efforts to deal with environmental problems affecting the Latina/o population in the U.S. Southwest. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): ENG 101 or 105 or 107 with C or better OR minimum 24 hours; Credit is allowed for only ASB 343 or PUP 343 or SOS 343 or TCL 343 or ASB/PUP/SOS/TCL 394 (Latinos and the Environment) |
| SOS | 344 | Culture and Society Transformation | Uses video documentaries and movies to explore the way in which cultural values, economic background and human interaction impact and transform societies. Societal changes in Central and Eastern Europe make a good case study for contrasting and comparing with other societies and understanding global trends and issues in today's world. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | SB & G | Prereq(s): ENG 101, 105, or 107 with C or better; Credit for only ASB 345 or ASB 394 (Cult & Soc Transform) or JUS 343 or JUS 394(Cult & Soc Transform) or ROM 343 or SLC 343 or SLC 394 (Cult & Soc Transform) or SOS 344 or SOS 394 (Cult & Soc Transform) |
| SOS | 346 | Developing Research Skills | Guides students in developing research skills such as posing questions and hypotheses, collecting and analyzing data, and presenting and communicating research outcomes and their applications to problem solving or solution building. | N | RSC | N | Z1 | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only SOS 346 or SOS 394 (Sustainability Research Design & Practice) OR Visiting University Student |
| SOS | 349 | Nature, Sustainability and Religion | Explores how world religions have conceptualized the natural world, what they have contributed to the current environmental crisis and how they might also serve as inspiration to address the crisis. By focusing on Judaism, Christianity and Islam, the course introduces students to the field of religion and ecology and explores its relationship to other academic disciplines such as environmental philosophy and ethics, justice studies and gender studies. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only HPS 349 or JST 349 or REL 349 or SOS 349 or JST, REL, or SOS 394 (Religion and Ecology) or JST, REL, or SOS 394 (Religion and Environment) |
| SOS | 353 | Perspectives on the Western Diet: Food, Health and Sustainability | Hybrid course covering political, ethical, social and cultural issues inherent in the U.S. food system. Topics include examination of U.S. food guidance; the food system and food environment; the history of food and farm policy; food security and aspects of sustainability in relation to food system impacts on the health of humans, society and the environment. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): minimum 45 hours. Credit is allowed for only NTR 353 or NTR 394 (The Western Diet: Food, Health, & Sustainability) or SOS 353 |

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| SOS | 363 | From Cells to Society: Understanding Complexity | Equips students with concepts and empirical examples they need to understand the role of complexity in the world around them. Complexity science is based on the fundamental principle that entities and phenomena in the world around us are systems composed of many parts that interact to produce their global characteristics. For example, cells interact to produce organs and tissues, which in turn interact to produce physiological processes (i.e., the capacity to metabolize food to produce new compounds and energy) and physical infrastructure (skeletal and muscular structure) which produce organisms. Organisms, (e.g., humans) interact to form groups, villages, cities, nations. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AML/ASB/BIO/SOS 394 (From Cells to Societies) or ASB 363 or BIO 363 or CAS 363 or SOS 363 OR Visiting University Student |
| SOS | 370 | Ethics of Eating | This multidisciplinary course examines the elements of modern food systems and current ethical issues regarding food production, distribution and consumption. Also provides a foundation for investigating the effects of social inequality in food systems and global and local responses to address those challenges. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | L or SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ASB 370 or ASB 394 (Production, People, and Environments) or ASB 394 (Ethics of Eating) or SOC 370 or SOS 370 or SSH 370 |
| SOS | 371 | Inequality and Sustainability | Efforts to shift societies onto a sustainable trajectory are facing profound challenges from the degree and dynamics of global inequalities of income, wealth, and life chances. Data and ideas from a spectrum of disciplines are employed to examine, analyze, and criticize the prospects for redressing global inequalities in a sustainable manner. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ASB 371 or ASB 394 (Inequality and Sustainability) or SOC 371 or SOS 371 or SOS 394 (Inequality and Sustainability) |
| SOS | 372 | Earth Science in Arizona and the Southwest | Place-based application of geology and allied Earth system sciences to explore and interpret the landscapes, rocks, geologic history, climate, resources, and natural hazards of Arizona and the Southwest. Integrates case studies of the interactions of Southwest cultures and societies (past and present) with Earth systems, and inquiry into the future sustainability of Southwestern communities and lifeways. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): ENG 101, 105 or 107 with C or better; GLG 101, 102, 110, GPH 111 or SES 121; MAT 117 or higher; Credit is allowed for only GLG 301 or GLG 394 (Earth Sci in AZ & SW) or SOS 372 OR Visiting University Student |
| SOS | 373 | Minerals, Energy, and Society | Studies the science and technology of the minerals and energy industries, how these industries interact with society, and how these interactions may change in the future. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): ENG 101, ENG 105 or ENG 107 with C or better; GLG 101, GLG 102 or GLG 110 or GPH 111 or SES 121 or Junior standing; Credit is allowed for only GLG 304, GLG 394 (Minerals, Energy & Society) or SOS 373 |
| SOS | 374 | Earth's Critical Zone | The Earth's near surface environment (the "critical zone") supports most life and is the dynamic interface between the solid Earth and its fluid envelopes where much of the geologic record is produced. We now know that we face rapid climate change and the consequences of changes in land use, water resources, and ecosystems. Critical to planning a response to, or mitigation of, environmental change is understanding how the Earth surface works. Focuses on how changes to the environment manifest themselves in the critical zone-- in the form and function of the Earth's surface (landforms, water resources, soils, ecosystems). Offers a quantitative introduction to the form and function of the processes impacting the Earth's critical zone to build an understanding of the interactions of physical, chemical and biotic processes in shaping the surface and determining fluid, solute and sediment fluxes. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s) with C or better: CHM 101 or higher or PHY 101 or higher; both GLG 101 and 103, or both SES 121 and 123, or SES 225; MAT 170, 171, 210, 251, 265, or 270; Credit is allowed for only GLG 327 or SOS 374 OR Visiting University Student |
| SOS | 375 | Humans and the Environment: What's the Connection? | How do diverse human groups across global ecosystems (desert, tropics, arctic, alpine, urban) interact with and adapt to their environments and how are these relationships changing in response to globalization, climate change and other social, historical and political-economic drivers? Cultures situated in landscapes are the basis for an incredible global diversity of worldviews and behaviors that in turn affect how humans experience and "use" their environments. This course will provide an introduction to current and benchmark literature and methods in environmental and ecological anthropology that address people-environment interactions. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | (L or SB) & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ASB 375 or SOS 375 OR Visiting University Student |

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| SOS | 380 | Entrepreneurship for American Indian Sustainability | Concentrates on developing a product or service idea, creating an entrepreneurial model and plan to implement the product or service in the context of an AI sustainable venture (profit and nonprofit). Begins with a review of established AI context with additional focus on tribal economic development throughout the course. The innovation process executed during the semester and the resulting product/service ideas and choices. Students are also encouraged to embark on new venture ideas as well. Students are then introduced to all aspects of venture (profit and non-profit) and entrepreneurial model creation, including strategy, product/service development planning, marketing, operations, alliances, management, finance and investment. In parallel, teams continue refinement and, where possible, further prototyping of the idea they chose from the previous semester and/or creation of new high-impact, high-potential ideas. | N | LEL | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AIS 385 or AIS 394 (Entrepreneurship for American Indian Sustainability) or SOS 380 |
| SOS | 385 | Business and Sustainability I | First of two related courses; provides a general overview of sustainability topics that are important to business today with a focus on consumer products and services and the social and environmental impact of the organizations that provide them. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): SCM 300 or SOS 110 with C or better; minimum 60 hours; Credit is allowed for only SCM 385 or SOS 385 OR Visiting University Student |
| SOS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-4 | | Prereqs: Sustainability or Business (Sust) major; SOS 110 & SOS 111 (or PUP 190) w/C or better OR Non-Sustainability major with 2 of the following courses: SOS 100, SOS 110, SOS 111 (or PUP 190), SOS 300 w/C or better OR Visiting University Student |
| SOS | 412 | Conservation in Practice | Global biodiversity patterns, processes, and conservation; global environmental change; sustainable use of natural resources; emphasizing international approaches to conservation biology. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only BIO 412 or SOS 412 |
| SOS | 414 | Urban and Environmental Health | Integrates theory and practice of social sciences (including anthropology, demography, and human geography) to understand environmental contexts of health, particularly urban. | N | SEM | Y | OPT | College of Global Futures | School of Sustainability | 3 | SB | Prerequisite(s): AML 100, ASB 100, 102, 222, 223, ASM 104, SOS 100, 110, 111 with C or better; minimum 45 hours |
| SOS | 421 | Landscape Ecology | Discusses how landscape heterogeneity interacts with ecological processes, and implications for biodiversity conservation, resource management, and landscape and urban planning. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): BIO 320 with C or better; Credit is allowed for only BIO 421 or BIO 521 or SOS 421 or SOS 521 OR Visiting University Student |
| SOS | 424 | Dynamic Modeling in Social and Ecological Systems | Introduces the development and use of dynamic mathematical models to study social and ecological phenomena. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 4 | | Prerequisite(s): MAT 210, 251, 265, or 270 with C or better; Credit is allowed for only ASM 424 or BIO 424 or SOS 424 OR Visiting University Student |
| SOS | 429 | Human Impacts on Ecosystem Functioning | Explores our current understanding of how humans are impacting the functioning of ecosystems and how changes in ecosystems would affect provisioning of ecosystem services and ultimately human well-being. The two primary drivers of ecosystem change are growth of the human population and increased consumption per capita. These drivers affect the Earth's cycles of carbon, nitrogen and water, as well as regional and global-scale changes in biodiversity and climate. Includes an in-depth discussion of scenarios for the next 50 and 100 years, which articulate costs and benefits of alternative development pathways in terms of climate change, food production, clean water and biodiversity. Scenarios of change in biodiversity lead to the topic of the consequences of biodiversity change for the functioning of ecosystems from the point of view of their productivity and stability. Human activities have disrupted several biogeochemical cycles including nitrogen and carbon cycles. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): BIO 320 (or SOS 326); Credit is allowed for only BIO 429, BIO 528, SOS 429, SOS 528, or SOS 494/598 (Human Impacts on Ecosystem Functioning), or BIO 494/598 (Human Impacts on Ecosystem Functioning) |
| SOS | 433 | Sustainable Water Use | A clustered learning network on the problem of water scarce regions, includes insights from hydrology, engineering, biology, economics and public policy. May be repeated once for credit. | N | SEM | Y | OPT | College of Global Futures | School of Sustainability | 3 | | |
| SOS | 434 | People and Nature: Ecosystem Services | Explores the drivers of biodiversity change and the consequences they have for human wellbeing, taking both an ecological and an economic perspective. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Pre-requisites: MAT 117 or SOS 101; junior standing. Credit is allowed for only BIO 434, SOS 434, or BIO 494 (Ecosys Servcs:People&Nature) |

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| SOS | 435 | U.S. Energy: Pathways to Sustainability | Organized around four mores of energy and environmental policy: energy supply, technology for efficiency, environmental sustainability and infrastructure. Also incorporates the wider context of energy and the environment in the society in which we live, taking into account our historic past and future potential life experience with energy availability and use. Through critical examination and analysis of these mores, students apply knowledge to the creation of a comprehensive energy and environmental policy plan that addresses past conditions, present states and future possibilities. | N | SEM | N | GNA | College of Global Futures | School of Sustainability | 3 | | Credit is allowed for only SOS 435 or SOS 494 (Energy and Environmental Policy) or SOS 494 (US Energy: Pathways to Sustainability) or SOS 555 or SOS 594 (Energy & Environmental Policy) |
| SOS | 441 | Mathematical Concepts and Tools in Sustainability | Explores various mathematical analysis and models pertinent to sustainability science drawn from both social and natural sciences and introduced in a problem-based context. Demonstrates basic concepts from game theory such as pure-strategy and mixed-strategy Nash equilibriums in such classic games as prisoner's dilemma, hawk-dove, coordination. Explores the evolutionary dynamics of these games through the replicator equations. Studies important concepts of stability and regime shift for selected problems. Also discusses some basic solution concepts in cooperative game theory (depending on interest and time). | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s) with C or better: AML 253, or SOS 210(or SOS 294 Intro to Math Tools & Modeling). Credit is allowed for only AML 441 or 494 (Math Concepts & Tools in Sustainability) or SOS 441 or 494 (Mathematical Concepts and Tools in Sustainability) |
| SOS | 442 | Sustainability Indicators | Measures of sustainability (or sustainable development), focusing on sustainability indicators and indices (SIs). Discusses key conceptual and methodological issues on gauging sustainability and examines a wide range of sustainability indicators and indices that have been commonly used at global, regional and local scales. | N | SEM | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): minimum 45 hours. Credit is allowed for only SOS 442, 494 (Sustainability Indicators and Indices), 542 or 598 (Sustainability Indicators and Indices) |
| SOS | 444 | Climate Change, Society and Sustainability | Provides foundational knowledge of climate change science and examines the social, cultural and political intersections of climate change. Examines how climate change impacts different ecosystems and societies and how societal response to climate change has evolved in the U.S. and around the world. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only SOS 444 or SOS 494 (Social Dimensions of Climate Change) or SOS 544 or SOS 598 (Social Dimensions of Climate Change) OR Visiting University Student |
| SOS | 447 | Gender, Culture, and Development | In-depth analysis of gender roles related to health, family, work, education and politics in developing countries. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | (L or SB) & G | Prerequisite(s): ENG 101, 105 or 107 w/ C or better; WST 100 or 300 or minimum 45 hours; Credit is allowed for only SGS 454 or SOS 447 or TCL 447 or WST 447 or TCL 598 (Gender, Culture & Development) OR Visiting University Student |
| SOS | 456 | Human Rights and Sustainability | Addresses the connections between human rights and environmental sustainability. Legal and scholarly approaches linking these areas present new perspectives for addressing some of the greatest challenges of our time, given the important resource dimensions of economic and social rights and the human dimensions of sustainability. Yet human rights demands and environmental concerns are not always in harmony. Explores these tensions and opportunities by examining three substantive areas: urban ecology and human rights, the human right to food, and the human rights implications of extractive industries such as oil and mining. Following an introduction to the key concepts of human rights and sustainability, explores the substantive areas through theoretical and empirical readings on each; grassroots accounts of struggles over environment-related human rights; and selections from literature and film that illustrate the environmental justice issues at stake. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | (L or SB) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only JUS 456 or JUS 497 (Seminar in Human Rights) or SOC 455 or SOS 456 |
| SOS | 463 | Political Ecology of the Border | Examines the political ecology of the human-environment relationship in Mexico and on the U.S.-Mexican border. Through case studies, students learn about the most pressing environmental issues facing human populations and their communities on both sides of the U.S.-Mexican border and the various ways in which these issues are dealt with. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | SB & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 463 or SOS 463 or TCL 443 |
| SOS | 465 | Sustainable Urbanism | Examines the history, practice and core ideas of "sustainable urbanism," including leading thinkers, tools and strategies up to the present day. Topics include codes, metrics, certifications, charters, the Sustainable Development Goals and the New Urban Agenda. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prereq(s) w/C or better: Sustainability major or in a sustainability concentration; SOS 110; SOS 111 or PUP 190; min 45 hours OR non-Sus major, non-sus conc; PUP 301; Credit is allowed for only PUP 465 or PUP 565 or SOS 465 OR Visiting University Student |

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| SOS | 467 | Art and Ecology | Designed for students with advanced independent studio art practices or sustainability studies students who have an interest in the way that their lives and practices engage environments. Through readings, slide presentations, discussions, guest visits, hands-on activities and screenings, explores the work of many contemporary ecological artists engaging with environments and environmental issues from a multitude of angles. Artists engage land remediation, agriculture, socio-ecological justice, sustainable materials, landscape design and much more. As cultural workers must be informed, the course content addresses some basic literacy with regard to environmental concerns and shares examples of realized accessible sustainable solutions. In addition to learning about ecologies and artists, students complete three art or research projects, inspired by assignments. | N | STO | Y | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ART 467 or ART 494 (Art and Ecology) or ART 567 or ART 598 (Art and Ecology) or SOS 467 or SOS 494 (Art and Ecology) or SOS 567 or SOS 598 (Art and Ecology) |
| SOS | 474 | Collaborative Design Development I | Team-based product development course featuring applied projects. Open to senior students from business, engineering, design, and other disciplines. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 5 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ENT 464 (or MGT 464) or GRA 464 or IND 464 or SOS 474 OR Visiting University Student |
| SOS | 475 | Collaborative Design Development II | Team-based product development course featuring applied projects. Open to senior students from business, engineering, design, and other disciplines. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 5 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ENT 465 (MGT 465) or GRA 465 or IND 465 or SOS 475 OR Visiting University Student |
| SOS | 476 | Earth's Past Climates: The Key to our Sustainable Future | Dynamic interactions among the oceans, earth surface and atmosphere that control Earth's climate in its present state, in the context of past climates and projections for future climates. Assesses the factors that affect the trajectory of future climate change, and the sources and measurement of the critical climate parameters that are essential for guiding decisions for a sustainable future. Also considers recent climate science-related controversies, as well as assessments of scientific statements related to these controversies. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only GLG 476 or GLG 576 or SOS 476 or SOS 576 or GLG 494 (Climate Sci Sustain) or GLG 598 (Climate Sci Sustain) or SOS 494 (Climate Sci Sustain) or SOS 598 (Climate Sci Sustain) |
| SOS | 480 | Achieving Career Success in Sustainability | The need for sustainability-minded workers and leaders has never been more important than right now. Yet sustainability as a career track is still very new and means different things to different people. Challenges students to explore their own ambitions and "personal brands," to shape their work personas, to model the behaviors and competencies that build long-term career success, and to uncover the sustainability potential of any job, whether or not "sustainability" is in the job title. | N | SEM | N | GNA | College of Global Futures | School of Sustainability | 3 | | Pre- or corequisite(s): SOS 110, SOS 111, PUP 190 with C or better if completed; Credit is allowed for only SOS 480 or SOS 494 (Achieving Career Success in Sustainability) |
| SOS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Global Futures | School of Sustainability | 1-12 | | Prerequisite(s): School of Sustainability undergraduate student |
| SOS | 485 | Business and Sustainability II | Second of two related courses focusing on the environmental, social and economic dimensions of sustainable technologies and exposes students to a variety of related concepts and theories. Describes technology hotspot analysis, life cycle assessment and a variety of models of technology forecasting and diffusion. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): SCM 385 or SOS 385 with C or better; Credit is allowed for only SCM 485 or SCM 494 (Business and Sustainability II) or SOS 485 |
| SOS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Global Futures | School of Sustainability | 1-6 | | Prerequisite(s): Barrett Honors student |
| SOS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | IND | N | Z1 | College of Global Futures | School of Sustainability | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| SOS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | SEM | Y | OPT | College of Global Futures | School of Sustainability | 1-4 | | Prerequisite(s): Sus or Bus Sus major; SOS 110 w/C or better; SOS 111 or PUP 190 w/C or better OR non-Sus major w/2 of the following courses: PUP 190, SOS 100, SOS 110, SOS 111, SOS 300 w/C or better OR Visiting University Student |
| SOS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-7 | L | Prerequisite(s): School of Sustainability undergraduate student; ENG 101, 105 or 107 with C or better; minimum 9 hours of SOS upper-division courses |

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| SOS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | SEM | Y | Z1 | College of Global Futures | School of Sustainability | 1-3 | | |
| SOS | 501 | Foundations of Sustainability | Provides a knowledge base to help students to succeed in the online MSL program. Supports MSL students in the four learning threads of the program, which include communications and sustainability, global context, strategic sustainability and sustainability leadership. | N | LEC | N | YGB | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 502 | Tools and Techniques for Sustainability | Forthcoming federal legislation and Executive Orders will set new standards for operational efficiencies, energy and water conservation, use of renewable energy sources, and waste minimization in the Army and Army National Guard. Tools and Techniques for Sustainability presents a systems approach to meet those standards by integrating principles of sustainability into existing Army policies, procedures, and reporting systems. The course features the Framework for Sustainable Strategic Development as an organizing framework to analyze systems and develop strategic plans to move toward sustainability. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): Global Sustainability Leadership certificate student; Pre-or co-requisite: SOS 501 |
| SOS | 503 | Operationalizing Sustainability | Sustainability is a means to addressing the significant physical, statutory, and regulatory requirements that affect and can encumber the Army's ability to train Soldiers at ranges and maneuver areas across the United States. With hundreds of imperiled species proposed for federal protection in the next few years, threatened and endangered species and sensitive habitat will continue to be a concern. Participants in Operationalizing Sustainability will explore how innovative training practices, improved land and natural resource management practices, and enhanced community relationships can ensure continued access to the land and water assets needed to maintain readiness and can help to 'win hearts and minds.' Proactive approaches to promoting well-being for soldiers, families, civilians, neighbors, and communities, both at installations and downrange, are stressed. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): Sustainability Leadership certificate student; SOS 501; SOS 502 |
| SOS | 504 | Energy and the Built Environment | Provides practical approaches to applying sustainability principles and practices to public works activities, housing, facilities operations and management, military construction, master planning, and energy management. Presents approaches to implement high-performance sustainable building design, construction, operation and management, maintenance, and deconstruction. Also covers cost-effective, innovative strategies, such as highly reflective and vegetated roofs, to minimize consumption of energy, water, and materials. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): Sustainability Leadership certificate student; SOS 501; SOS 502 |
| SOS | 505 | Sustainable Military Acquisition and Logistics | Sustainable Military Acquisition and Logistics provides practical approaches to applying sustainability principles and practices to all areas of procurement, acquisition, and logistics. Through weapon systems acquisition or procurement of installation goods and services, the Army hopes to drive innovation and promote sustainability while reducing costs. The inclusions of energy and resource efficiency and other sustainability criteria in acquisition and procurement decisions can reduce long-term operation and maintenance costs, conserve resources, and continue to expand innovation throughout the supply chain. This course introduces the application of sustainability principles to procurement and acquisition, transportation, and materiel. The use of life cycle analysis and multicriteria assessment for all 10 classes of supply is also featured significantly in the course. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): Sustainability Leadership certificate student; SOS 501; SOS 502 |
| SOS | 508 | Pathways to Sustainability | Covers the fundamentals of sustainability and sustainability science. Gives beginning graduate students, or prospective graduate students, a broad look at sustainability using global examples that prepare them for future coursework in the field. As such, exposes students to the concepts and competencies, with examples, that are essential for achieving sustainability outcomes. Explains, in detail, the essential competencies a student of sustainability must attain in order to be appropriately equipped for graduate coursework and/or working in the field. Finally, examines sustainability leadership; that is, how to move from the what and the why of sustainability challenges to the how to use knowledge and skills to initiate sustainability solutions in various organizations. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SOS | 509 | Leading Sustainability Transitions | The vast majority of organizations must significantly change their operational models in order to become sustainable. Leaders must determine how to champion this change, generate momentum, and align internal reward systems to facilitate these transitions. Exposes students to different change models that are applicable to private, public and nonprofit organizations. Introduces a variety of practical cases that serve as a foundation to apply different frameworks that help transition organizations toward being sustainable. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 510 | Perspectives on Sustainability | University-wide course covering basic perspectives on sustainability. Uses case studies; faculty and students from engineering, architecture, social sciences, and natural sciences exchange ideas on the major challenges faced in forming a sustainable future at the local, national, and global levels. | N | SEM | Y | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): School of Sustainability graduate student |
| SOS | 511 | Advanced Sustainability Problem Solving | Conveys advanced procedures of how to identify and analyze sustainability problems and how to develop solution visions and strategies that can solve and mitigate sustainability problems. Introduces and facilitates training in how to use an integrated framework for sustainability problem solving, which is applicable to all sustainability-related professions. Prepares students for their applied projects on sustainability solutions. | N | LEC | Y | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): School of Sustainability graduate student |
| SOS | 512 | Environmental and Resource Economics | Microeconomic theory applied to problems of the environment and natural resources, principles of nonmarket valuation of the environment, market failures in the provision of environmental goods and services, dynamic management of natural capital stocks, the economics of sustainable development. | N | SEM | Y | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 513 | Science for Sustainability | Key ideas, concepts and principles of sustainability science that focuses on the dynamic relationship between society and nature. Examines the structure, functioning and dynamics of coupled human-environment systems (CHESs) on local, regional and global scales with a systems perspective. Covers major sustainability science issues including: fundamentals of ecology, energy, agro-food systems, renewable and non-renewable resource systems, economic development and human well-being. | N | SEM | Y | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 514 | Human Dimensions of Sustainability | Concepts and definitions of the human dimensions of sustainability; the role of attitudes and values in shaping sustainability goals, practices, and programs; the diversity of values and socio-cultural contexts relating to sustainability; bottom-up and top-down sustainable policy development, social data collection methodologies. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GCU or SOS 514 |
| SOS | 515 | Industrial Ecology and Design for Sustainability | The conceptual, ethical, and practical challenges in the design, manufacture, and life cycle performance of products; environmental evaluation via materials flow analysis and life cycle assessment; global economic, environmental, cultural, and social aspects of competitive and functional product development and manufacture. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Credit is allowed for only CEE 582 or SOS 515 |
| SOS | 516 | Science, Technology and Public Affairs | Explores the political, economic, cultural, and moral foundations of science and technology policy and governance in democratic society. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only BIO 515 or GLG 547 or HSD 515 or PAF 547 or SOS 516 |
| SOS | 517 | Sustainability and Enterprise | Examines the evolving interface between sustainability and human enterprise. Explores and reviews key fundamental concepts in the sustainability arena, including economic and scientific drivers and select historical and structural aspects that create the current context for the enterprise and sustainability interface found today. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SOS 517 or SOS 591 (Sustainability and Enterprise) |
| SOS | 518 | Uncertainty and Decision Making | Knowledge is always incomplete, yet decisions must be made. Explores uncertainty and its relation to decision making, with a particular focus on the ways that science and science-derived information is applied with the intent of improving decisions. Explores the many meanings and origins of uncertainty, using theoretical and case-based approaches. A central theme is the relation among uncertainty, scientific prediction, and decision making, especially in politically charged issues, for example as related to management of the environment. Ultimately understands how effective decisions can be made in the face of inevitable uncertainties and contested knowledge. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only ASB 517 or BIO 517 or BIO 591 (Uncertainty & Decision Making) or HSD 517 or POS 527 or SOS 518 |

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| SOS | 519 | Research Data Management | Provides foundations of sound research data management. Upon completion of the course, students are aware of tools and approaches to effectively manage research data from project inception through publication of both findings and data. Topics include sound data management principles, version control, database concepts, metadata generation, data management plans, research collaboration, and tools for data processing (e.g., spreadsheets, R). This is a hands-on course in which students perform exercises with sample data and/or their own research data. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SOS 519 or SOS 494 (Research Data Management) or SOS 598 (Research Data Management) |
| SOS | 520 | Research Design and Methods for Sustainability | Provides skills and knowledge that help students design their own research and place it in the context of other disciplines or bodies of work. Not a "methods" class because no specific method is taught in depth. Instead, it is an initial introduction to the research design process and is intended as a platform through which students develop the skills to appreciate and contextualize the approaches taken (and methods used) by others, and during which they can identify the types of specific training they require as they define their own research. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Pre- or corequisite(s): SOS 510; Credit is allowed for only SOS 520 or SOS 598 (Intro Design/Mthds) |
| SOS | 521 | Landscape Ecology | Discusses how landscape heterogeneity interacts with ecological processes, and implications for biodiversity conservation, resource management, and landscape and urban planning. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only BIO 421 or BIO 521 or SOS 421 or SOS 521 |
| SOS | 522 | Qualitative Methods for Sustainability Problems | Theory and application of qualitative methods to sustainability research and practice. Students define and frame a sustainability problem and apply a range of qualitative methods to it, articulate the strengths and weaknesses of these methods, and have a framework for assessing the appropriate use and evaluation of qualitative methods. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SOS 522 or SOS 591 (Qualitative Methods for Sustainability Problems) |
| SOS | 525 | Social-Ecological-Technical Systems (SETS): Domains and interfaces | Guide students in developing an integrated approach and framework for thinking about complex systems in a sustainability context. Presents overviews of content, theories and methods from each of the SETS domains (Social, Ecological and Technical Systems); primarily focuses on how to bring these domains together. Explores the SETS interfaces (intersections) from an integrated perspective and equips students to make those linkages in their research and in subsequent elective courses. Each semester students use a sustainability problem or theme to explore the concepts presented in the course. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 526 | Sustainability Science: Interactions Between Human and Environmental Systems | Addresses core ideas in sustainability science--an emerging field of research dealing with the interactions between human and environmental systems. The problem that motivates the course is the challenge of sustainability: improving the well-being of present and future generations in ways that conserve the planet's life support systems over the long term. Students critically discuss a set of presentations and papers covering the field in a systematic way, drawing on and integrating contemporary research from earth systems science, resource economics, institutional analysis, ecology, geography, development studies, health sciences, engineering, and other disciplines. Covers from the theory of sustainability to its multiple applications in the field and explores the impacts of different value systems on both theory and applications. | N | SEM | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 526 or GCU 526 or SOS 526 or BIO 591 (Sust Sci: Int Btwn Hum &Env Sys) or GCU 591 (Sust Sci: Int Btwn Hum &Env Sys) or SOS 591 (Sust Sci: Int Btwn Hum &EnvSys) |
| SOS | 527 | Environmental Ethics and Policy Goals | Advanced seminar in applied environmental ethics, focusing on the most influential and policy-relevant approaches in the field of environmental ethics. Core topics include the historical and philosophical foundations of alternative understandings of environmental responsibility; the debate over utility and preservation in environmental policy argument; and the interplay of ethical principles, scientific knowledge and societal priorities in environmental decision making. Consideration of the ethical and value dimensions of biodiversity conservation, wilderness protection, environmental valuation, environmental activism, climate change and sustainability, among other challenges. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 527 or SOS 527 or BIO 591 (Environ Ethics & Policy Goals) |

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| SOS | 528 | Human Impacts on Ecosystem Functioning | Explores our current understanding of how humans are impacting the functioning of ecosystems and how changes in ecosystems would affect provisioning of ecosystem services and ultimately human well-being. The two primary drivers of ecosystem change are growth of the human population and increased consumption per capita. These drivers affect the Earth's cycles of carbon, nitrogen and water, as well as regional and global-scale changes in biodiversity and climate. Includes an in-depth discussion of scenarios for the next 50 and 100 years, which articulate costs and benefits of alternative development pathways in terms of climate change, food production, clean water and biodiversity. Scenarios of change in biodiversity lead to the topic of the consequences of biodiversity change for the functioning of ecosystems from the point of view of their productivity and stability. Human activities have disrupted several biogeochemical cycles including nitrogen and carbon cycles. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; Credit is allowed for only BIO 429, BIO 528, SOS 429, SOS 528, or SOS 494/598 (Human Impacts on Ecosystem Functioning), or BIO 494/598 (Human Impacts on Ecosystem Functioning) |
| SOS | 529 | Research Seminar in Environmental and Sustainability Economics | Runs in parallel with the ASU-wide biweekly seminar in Environmental and Resource Economics in that class sessions consist exclusively of these seminar sessions. Research presentations in the seminar are given by graduate students, faculty and visiting speakers. | N | SEM | Y | OPT | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 530 | International Development and Sustainability | Historical roots of the idea of development; economic theories of growth and their implications for sustainability; interrelationship among population growth, food security, poverty, inequality, urbanization, technological change, international trade, and environmental change at local, regional and global scale. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 531 | Achieving Career Success in Sustainability | The need for sustainability-minded workers and leaders has never been more important than right now. Yet sustainability as a career track is still very new and means different things to different people. Students explore their own ambitions and "personal brands," to shape their work personas, to model the behaviors and competencies that build long-term career success, and to uncover the sustainability potential of any job, whether or not "sustainability" is in the job title. | N | SEM | N | GNA | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): SOS 510; Credit is allowed for only SOS 531 or SOS 598: Achieving Career Success in Sustainability |
| SOS | 532 | Sustainable Urban Dynamics | Human and physical processes shaping urban ecologies and environments; human-environment interactions in the context of an urban region; effect of the institution and regulatory framework on the ability of social and urban-ecological systems to be resilient and sustainable; urban design, materials, transport, planning, and regulation. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 533 | Sustainable Water | Hydrological, legal, political, and ecological implications of alternative water management strategies; effect of institutional and regulatory frameworks; changes in water demand and supply due to human (population growth, economic changes) and natural (drought, climate change) factors | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 534 | Sustainable Energy and Material Use | Sustainable engineering; overall energy needs and impacts; thermodynamics, heat transfer, and fluid mechanisms; atmospheric energy systems; field investigation; current and future urban energy systems. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CEE 516 or SOS 534 |
| SOS | 535 | Sustainable Ecosystems | How human activities and management practices alter biodiversity, ecosystem functioning and the provisioning of ecosystem services; use of economic and other social-science perspectives to estimate the value of ecosystem services; evaluation of options for achieving the sustainable flow of services from ecosystems. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only ELS 535 or SOS 535 |
| SOS | 536 | Food System Sustainability | Broad view of food systems and the sustainability of such systems. Concepts, theory, methods and empirical analyses from diverse disciplines, including agro-ecology, agronomy, political science, agricultural economics, geography, anthropology, and food and nutrition studies. Students choose a theme that is a core concern to food system sustainability and pursue that theme in diverse course activities and through engaging in the broader food system we are embedded in as residents in the Phoenix area. Culminates with a term paper/project that synthesizes experience and knowledge, providing a unique perspective on their role in food systems. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SOS | 537 | Disasters as Opportunity for Sustainability | Explores how disasters can give rise to sustainability transitions and sustainability solutions. Disasters are revealing crisis. As hazards roll into disasters they lay bare the underlying conditions of socio-ecological vulnerability and inequities that affect almost all aspects of daily life. They also affect the infrastructures and institutions supporting daily life. This realization stimulates improvisation and ideas for just, green, inclusive and resilient futures. Investigates case studies to reconstruct how people, affected by and surviving a disaster, advanced sustainability transitions and reduced disaster risk. Uses an interdisciplinary perspective to analyze these transitions, drawing on theories of change from sustainability transitions and transformation as well as disaster management research. Moreover, students ground the literature in concrete experiences as shared through guest speakers, professional experiences, documentaries and an applied project. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CPP 537 or SOS 494 (Disasters as Opportunities for Change Towards Sust) or SOS 537 or SOS 598 (Disasters as Opportunities for Change Towards Sust) |
| SOS | 539 | Human Well-Being and Sustainability | Many of us take it for granted that human well-being is the ultimate end of sustainability or sustainable development. But what is a well-being, really? Social scientists collect empirical data and develop indices, indicators and other proxies to represent and measure well-being; but is it the kind of phenomenon that can be explained? In other words, is there a correct theory of human well-being? How does one measure well-being? Moreover, what are we to make of the relationship between well-being and sustainability? Where do these two concepts coincide? Where do they come apart? Does human well-being presuppose a commitment to sustainability? If the ultimate end of sustainability is human well-being, then is sustainability a redundant concept? This interdisciplinary course tackles such questions by critically examining the most prominent philosophical theories of well-being and by considering how they might be reconciled with relevant empirical evidence. Also spends considerable time reflecting on the problems that arise with respect to measuring well-being, particularly in the context of public policy. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HPS/PHI/SOS 591 (Human Well-Being and Sustainability) or PHI 538 or SOS 494 (Human Well-Being and Sustainability) or SOS 539 |
| SOS | 540 | Statistical Modeling for Sustainability | Equips students with sufficient knowledge of statistical theory and methods of applied data analysis to begin conducting empirical analyses in their domains of interest; bring students to a high level of competency in using a cutting-edge statistical software package (Stata) for data management and data analysis tasks; expose students to applications of statistical methods in the economics/policy/social science sustainability literatures in order to develop an understanding for how statistical tools are operationalized in the research world; and develop an appreciation for the careful synthesis of social and natural science theory, knowledge of data and its limitations and command of statistical tools that constitute quality empirical research. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 4 | | Prerequisite(s): degree- or non-degree-seeking graduate student; Credit allowed for only AML, ESS or SOS 540 |
| SOS | 541 | Mathematical Concepts and Tools in Sustainability | Explores various mathematical analysis and models pertinent to sustainability science drawn from both social and natural sciences and introduced in a problem-based context. Demonstrates basic concepts from game theory such as pure-strategy and mixed-strategy Nash equilibriums in such classic games as prisoner's dilemma, hawk-dove, coordination. Explores the evolutionary dynamics of these games through the replicator equations. Studies important concepts of stability and regime shift for selected problems. Also discusses some basic solution concepts in cooperative game theory (depending on interest and time). | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit allowed for only AML 494 (Math Concepts & Tools in Sustainability), AML 541, SOS 494 (Math Concepts & Tools in Sustainability), SOS 541 or SOS 598 (Math Concepts & Tools in Sustainability) |
| SOS | 542 | Sustainability Indicators | Measures of sustainability (or sustainable development), focusing on sustainability indicators and indices (SIIs). Discusses key conceptual and methodological issues on gauging sustainability and examines a wide range of sustainability indicators and indices that have been commonly used at global, regional and local scales. | N | SEM | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only SOS 442, 494 (Sustainability Indicators and Indices), 542 or 598 (Sustainability Indicators and Indices) |
| SOS | 544 | Climate Change, Society and Sustainability | Provides foundational knowledge of climate change science and examines the social, cultural and political intersections of climate change. Examines how climate change impacts different ecosystems and societies and how societal response to climate change has evolved in the U.S. and around the world. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SOS 444 or SOS 494 (Social Dimensions of Climate Change) or SOS 544 or SOS 598 (Social Dimensions of Climate Change) |

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| SOS | 545 | Creating Sustainable Organizations | Sustainability is a strategic concern for managers in all types of organizations: private, public and nonprofit. Forward-thinking managers are redefining their operational strategies to balance economic development, environmental quality and social justice needs. By drawing on practical cases and a real-time project with a local client, students explore these connections through multiple lenses. Topics covered include creating organization change, involving stakeholders, transformational vs. incremental sustainability, sustainability market strategies, strategic alliances, enhancing the organization value from sustainability initiatives, and assessing organization sustainability. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; Credit is allowed for only PAF or SOS 545 |
| SOS | 546 | Life Cycle Assessment for Civil Systems | Covers fundamental and advanced concepts of the life cycle assessment framework exploring products, services, activities and infrastructure systems. Examines key concepts for system boundary selection, functional unit selection, inventorying, impact assessment and interpretation stages with a focus on energy and environmental assessment. Advanced concepts include allocation of effects, problem formulation for assessing footprints versus decisions or policies, and assessment of infrastructure interdependencies and supply chains. Exposes tools and data sources and presents approaches for evaluation of sensitivity and uncertainty of results. Encourages students with broad sustainability interests to enroll and explore how life cycle assessment can aid their work by shifting their views from direct to cradle-to-grave effects. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; Credit is allowed for only CEE 506 or CEE 598 (Lifecycle Assessment) or SOS 546 or SOS 598 (Lifecycle Assessment) |
| SOS | 547 | Urban Infrastructure Anatomy and Sustainable Development | Understanding how built environment infrastructure systems interact with ecosystem services is critical for policies and decisions directing urban sustainability. Brings together students from several disciplines to develop a semester-long research project focused on a particular urban sustainability problem in Phoenix. During the semester, students are given background on how infrastructure systems work and are interdependent, and explore tools and methods for urban sustainability assessment with peers from several disciplines. As a class, students evaluate a particular urban sustainability problem for Phoenix, interact with local policy and decision makers in developing solutions, and present their findings at the end of the semester to the ASU community. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit for only CEE 507 or 598(Urban Infrastruct Anatomy/Sustainable Dev) or PUP553 or 598(Urban Infrastruct Anatomy/Sustainable Dev) or SOS547 or SOS598 (Urban Infrastr Anatomy & Sustain Dev) |
| SOS | 548 | Transformational Sustainability Entrepreneurship | Familiarizes students with concepts and examples of sustainable entrepreneurship models that are radically different from conventional business models. With a focus on small- and medium-sized enterprises, students learn about structure and function of sustainability-oriented benefit corporations (B Corps), cooperatives, business incubators, impact investment companies and other models. Discusses each model in general and then illustrates through one or more business case studies from around the world. Guest speakers (sustainability entrepreneurs) from Arizona, interdisciplinary peer teaching and learning, online elements, a field visit, and review panels provide a diverse and active learning environment. Open to graduate students from across Arizona State University and has included in the past students from as many as 7 different graduate programs. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; Credit is allowed for only SOS 548 or SOS 598 (Transformational Sust Entrepreneurship) |
| SOS | 549 | ESG Reporting and Ethics | Prepares accounting and finance-oriented students to lead organizations. Explores corporate governance topics including sustainability reporting and related ethical issues from the perspectives of accounting and finance professionals. Corporations employ different governance structures each with its strengths, weaknesses and differing ethical norms. Corporate governance is changing quickly now with thousands of companies that are incorporating environmental, social and governance (ESG) issues and metrics into their internal finance and accounting operations and their external reporting. Utilizes cases supplemented with articles (no textbook) along with substantial discussion and writing components. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): Business graduate student; Credit is allowed for only ACC 581 or ACC 591 (Corporate Gov, Ethics & Sustainability Rptg) or SOS 549 |
| SOS | 552 | Advanced Earth Systems Engineering and Management | Advanced introduction to earth systems engineering and management, and the technological, economic and cultural systems underlying the terraformed Earth. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Credit is allowed for only CEE 581 or SOS 552 |

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| SOS | 553 | Changing Human-Nature Relationships | Explores key concepts in Western and non-Western thinking now intersecting in the Anthropocene to influence human interactions with and descriptions of Nature. Humans may protect Nature, but simultaneously use/overuse resources and drive change in social-ecological systems. Examines evolving assumptions about Nature, values/world views, progress, change, uncertainty, rationality, knowledge, tradeoffs and control/management, using a range of theoretical lenses (e.g., environmental/ecological/historical anthropology, culture, geography, ecology, economics, institutions, economic development, complex systems and sustainability science). Also studies a set of iconic Human-Environmental challenges and examines how theories and assumptions explain behaviors and human, ecological and policy outcomes. In turn, focuses on lessons that emerge for interdisciplinary scholarship. Encourages students to apply methods, concepts and theories to their evolving research questions. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASB 530 or SOS 553 |
| SOS | 555 | US Energy: Pathways to Sustainability | Organized around four mores of energy and environmental policy: energy supply, technology for efficiency, environmental sustainability and infrastructure. Also incorporates the wider context of energy and the environment in the society in which we live, taking into account our historic past and future potential life experience with energy availability and use. Through critical examination and analysis of these mores, students apply knowledge to the creation of a comprehensive energy and environmental policy plan that addresses past conditions, present states and future possibilities. | N | SEM | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit for only SOS 435, SOS 494 (Energy & Environ Policy) or SOS 494- US Energy: Pathways-to Sustain or SOS 555 or 594 (US Energy: Pathways to Sustainability) or SOS 594 (Energy & Environmntl Policy) |
| SOS | 557 | Global Sustainability Research Preparation | First part of the project track of the double-degree master's program Global Sustainability Science (GSS). The project track runs from semester 1 to semester 3/4. This course prepares GSS students to develop their research proposal as well as to conduct sustainability research in transnational teams. | N | RSC | N | OPT | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): School of Sustainability graduate student |
| SOS | 558 | Global Sustainability Research Project | Takes a solutions-oriented sustainability learning approach in which students work on real-world sustainability solutions and collaborate in small teams coached by instructors. Trains students in the use of an analytical-evaluative framework for sustainability solutions and applies it to different solution efforts. | N | RSC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SOS 558 or SOS 594 (Global Sustainability Research) |
| SOS | 559 | Global Sustainability Science Perspectives Seminar | Seminar fulfills four functions: (1) students get familiar with sustainability research areas and faculty across ASU, based on the collective interest of the GSS cohort; (2) students receive training on scientific writing; (3) students have the opportunity to participate in a community of sustainability students that supports exchange, bonding and peer-teaching; and (4) students reflect on and provide feedback on the GSS program and their academic development, as well as receive feedback on their pathway through the program and beyond (career opportunities). | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): SOS 557 |
| SOS | 567 | Art and Ecology | Designed for students with advanced independent studio art practices or sustainability studies students who have an interest in the way that their lives and practices engage environments. Through readings, slide presentations, discussions, guest visits, hands-on activities and screenings, explores the work of many contemporary ecological artists engaging with environments and environmental issues from a multitude of angles. Artists engage land remediation, agriculture, socio-ecological justice, sustainable materials, landscape design and much more. As cultural workers must be informed, the course content addresses some basic literacy with regard to environmental concerns and shares examples of realized accessible sustainable solutions. In addition to learning about ecologies and artists, students complete three art or research projects, inspired by assignments. | N | STO | Y | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 467 or ART 494 (Art and Ecology) or ART 567 or ART 598 (Art and Ecology) or SOS 467 or SOS 494 (Art and Ecology) or SOS 567 or SOS 598 (Art and Ecology) |
| SOS | 570 | Fundamentals of CAS Science | Many phenomena of critical relevance to human society are dynamic systems that change over individual and evolutionary time scales, and are highly interactive, both within and between systems. That is, they are complex adaptive systems (CAS), and thus share isomorphic properties like near-decomposability, hierarchical organization, scale-free networks, self-organized criticality, and emergence. Fundamentals of CAS science explores the diverse, interdisciplinary applications of a complex adaptive systems across the social, behavioral, and life sciences. | N | SEM | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASM 570 or BIO 570 or CAS 570 or SOS 570 |

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| SOS | 571 | Sustainable Energy Technologies and Systems | Provides a primer on the scientific, technological and social aspects of energy. Includes three core modules: (1) primer on physical, economic and environmental metrics used to measure energy; (2) a review of power systems and electricity generation technologies; and (3) a review of transportation systems and fuel/vehicle technologies. Focuses on energy technology and also incorporates discussions of the human dimensions of energy systems. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 572 | Sustainable Energy Transitions | A sustainable future requires a transition away from fossil fuels. This process is far more complex than a simple substitution of fuels. Energy transitions are multifaceted and complex social phenomena, involving economic, technological and political processes that unfold across decades. Delves into these processes for past energy transitions, addressing how energy use evolved throughout history, how it influenced urbanization and socioeconomic development, and how technological change facilitates and constrains energy transitions. What do past energy transitions tell us about how easy or hard it will be to undergo another energy transition? | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 573 | Sustainable Energy Policy | Provides a comprehensive survey of energy policies that are shaping the transition to sustainable energy. For context, begins with two views of energy transitions: interdisciplinary socio-technical perspectives and conventional environmental economic perspectives. Next, examines theory and case studies for numerous policies, including carbon pricing, regulatory standards, subsidies, utility regulation, community energy and innovation policies. Lastly, discusses the political drivers and energy system impacts of energy policies. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 574 | Data Analytics for Sustainable Energy | Examines the data sources, methodologies and metrics used to measure sustainable energy and explores how they are used to shape public policy and track progress toward sustainability goals. The metrics, which relate to cost, efficiency and environmental impacts, provide the foundation for assessing the relative merits of energy technologies and systems based on a variety of criteria. In addition to quantitatively evaluating a multiplicity of energy sources and systems, the course builds skills in research methods, data analytics and critical thinking. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 575 | Sustainable Energy Research Seminar | Seminar-based course for sustainable energy Ph.D. students focusing on research skills for interdisciplinary energy research. Taken over two years. Second-year students are expected to take on more of a leadership role in the class and to contribute more developed research presentations in the spring semester. The seminar has a different focus in the fall and spring. In the fall, the course focuses on research methods. In the spring, the course focuses on the process of generating research ideas and writing effective research proposals. | N | SEM | Y | GNA | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 576 | Earth's Past Climates: The Key to our Sustainable Future | Dynamic interactions among the oceans, earth surface and atmosphere that control Earth's climate in its present state, in the context of past climates and projections for future climates. Assesses the factors that affect the trajectory of future climate change, and the sources and measurement of the critical climate parameters that are essential for guiding decisions for a sustainable future. Considers recent climate science-related controversies and assessments of scientific statements related to these controversies. | N | SEM | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GLG 476 or GLG 576 or GLG 494/598 (Climate Science for Sustainability) or SOS 476 or SOS 576 or SOS 494/598 (Climate Science for Sustainability) |
| SOS | 577 | Interdisciplinary Writing Seminar | If you want your work to make a difference in the world, you need to be able to communicate your ideas to diverse audiences in a way that is interesting and accessible. Teaches students to write clearly, persuasively and ethically to people in their disciplines, in other disciplines, and outside academia. Approaches writing as a way to think critically and refine ideas, as well as to communicate them to others. | N | SEM | Y | GNA | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is only allowed for ESS 577 or SOS 577 or SOS 598 (Interdisciplinary Writing) or SOS 598 (Writing Seminar) |
| SOS | 578 | Writing Papers for Publication | Students produce a draft of a research paper for submission to a peer-reviewed journal. Analysis of exemplary published papers and narrative strategies, along with peer review, support the writing process. | N | SEM | N | GNA | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SOS 578 or SOS 598 (Writing Papers for Publication) |
| SOS | 579 | Proposal Writing | Proposal writing and reviewing with a focus on the NSF dissertation improvement grant format. Discusses professional development. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Credit is allowed for only ASM 579 or SOS 579 |

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| SOS | 581 | Synthesis for Sustainability Research | Aimed at students who have already gained training in content areas and are writing their research or projects for publication in peer-reviewed journals or other outlets. Challenges students to link their own research to other disciplines and the broader field of sustainability research. | N | RSC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): SOS 510; SOS 520; SOS 525; Corequisite(s): SOS 596 or 599 |
| SOS | 582 | Project Management for Sustainability | Provides exposure to the tasks and challenges facing project managers, i.e., those people responsible for the vital function of managing complex projects in sustainability in today's environment. Successful project managers have the abilities and skills to simultaneously manage people, schedules, risks, and resources while delivering successful outcomes. This course is a prerequisite for the MSUS culminating experience. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): Graduate Sustainability major; SOS 510. Pre- or corequisite: SOS 511 |
| SOS | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Global Futures | School of Sustainability | 1-12 | | |
| SOS | 589 | Community of Graduate Student Scholars | Provides the opportunity to develop new skills, to foster cohort building, to interact with other students and faculty, and to network and build support with the alumni network. Overseen by a faculty member but is primarily directed by the students. All MA or MS students take this course each semester. Although there is an overall structure as demonstrated in the course schedule, the specific content of the course varies each semester depending on the needs and interests of the students. | N | LEC | Y | YGB | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): School of Sustainability graduate student |
| SOS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Global Futures | School of Sustainability | 1-12 | | |
| SOS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Global Futures | School of Sustainability | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z2 | College of Global Futures | School of Sustainability | 1-12 | | |
| SOS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Global Futures | School of Sustainability | 1-12 | | |
| SOS | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | STO | Y | OPT | College of Global Futures | School of Sustainability | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | LEC | Y | Z3 | College of Global Futures | School of Sustainability | 1 | | |
| SOS | 596 | Capstone: Scientific Paper | MA/MS students are required to devote six hours to conducting research and writing a scientific paper of publishable quality based on the research. The paper topic, the research methodology, and the written format must be approved by the supervisory committee. Students must decide if they will complete the paper on their own or as a group. | N | RSC | Y | GNA | College of Global Futures | School of Sustainability | 1-6 | | Prerequisite(s): Sustainability MA or MS student; SOS 510 |
| SOS | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | SEM | Y | OPT | College of Global Futures | School of Sustainability | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | N | RSC | Y | Z2 | College of Global Futures | School of Sustainability | 1-12 | | |

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| SOS | 656 | Human Rights and Sustainability | Addresses the connections between human rights and environmental sustainability. Legal and scholarly approaches linking these areas present new perspectives for addressing some of the greatest challenges of our time, given the important resource dimensions of economic and social rights and the human dimensions of sustainability. Yet human rights demands and environmental concerns are not always in harmony. Explores these tensions and opportunities by examining three substantive areas: urban ecology and human rights, the human right to food, and the human rights implications of extractive industries such as oil and mining. Following an introduction to the key concepts of human rights and sustainability, explores the substantive areas through theoretical and empirical readings on each; grassroots accounts of struggles over environment-related human rights; and selections from literature and film that illustrate the environmental justice issues at stake. | N | SEM | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only JUS 656 or SOS 656 or JUS 691 (Human Rights & Sustainability) |
| SOS | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Global Futures | School of Sustainability | 1-12 | | |
| SOS | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | College of Global Futures | School of Sustainability | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z2 | College of Global Futures | School of Sustainability | 1-15 | | |
| SOS | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | Y | Z3 | College of Global Futures | School of Sustainability | 1 | | |
| SOS | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Global Futures | School of Sustainability | 1-15 | | |
| SPA | 101 | Elementary Spanish I | Fundamentals of the language. Emphasizes listening, speaking, reading, and writing. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): Spanish Placement Test score of 0-249; Students may not enroll in SPA 101 if credit with C or better earned in SPA 102, 110, 111, 201, 202, 203, 204, 210, 313, 314, 315, 316, 325, or 412 OR Visiting University Student |
| SPA | 102 | Elementary Spanish II | Fundamentals of the language. Emphasizes listening, speaking, reading, and writing. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): SPA 101 w/ C or better OR Spanish Placement Test score of 250-369; Students may not enroll in SPA 102 if credit w/ C or better earned in SPA 110, 111, 201, 202, 203, 204, 210, 313, 314, 315, 316, 325 or 412 OR Visiting University Student |
| SPA | 110 | Intensive Spanish I | First-semester intensive course for students who (1) have never taken Spanish language courses before, or (2) have studied Spanish for one year at the high school level, or (3) have authorization from the Spanish section. This six-hour course meets on Mondays, Tuesdays, Wednesdays and Thursdays for 75 minutes in the classroom. To achieve the maximum level of proficiency, the course focuses on the development of speaking and written skills. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 6-8 | G | Prereq(s): Spanish Placement Test score of 0-249; Students may not enroll in SPA 110 if credit w/ C or better earned in SPA 101 or 102 or 111 or 201 or 202 or 203 or 204 or 210 or 313 or 314 or 315 or 316 or 325 or 412 OR Visiting University Student |
| SPA | 111 | Fundamentals of Spanish | Primarily for students with two years of high school Spanish who need review to enter second-year study. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | Students may not enroll in SPA 111 if credit earned in SPA101, 102, 201, 202, 203, 204, 311, 312, 313, 314, 315, 316, 325, or 412 |
| SPA | 118 | Basic Spanish for Health Care Professionals | Focuses on helping students develop basic oral Spanish skills that allow them to interact with patients in health care settings. Health care-related vocabulary, simple medical scenarios and basic grammar form the majority of the course curriculum. Students are responsible for completing virtual oral dialogues with a partner each week. Requires no prior knowledge of Spanish. | N | LEL | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Spanish Placement Test score of 0-369 OR Visiting University Student |
| SPA | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |

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| SPA | 201 | Intermediate Spanish | Continuation of fundamentals. Emphasizes the development of the skills of reading, listening comprehension, speaking, writing, and culture. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prereq(s): SPA 102, 110, or 111 with C or better OR Spanish Placement Test score of 370-420; Students may not enroll in SPA 201 if credit with C or better earned in SPA 202, 203, 204, 210, 313, 314, 315, 316, 325, or 412 OR Visiting University Student |
| SPA | 202 | Intermediate Spanish | Continuation of fundamentals. Emphasizes the development of the skills of reading, listening comprehension, speaking, writing, and culture. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): SPA 201 or 203 with C or better OR Spanish Placement Test with a score of 421-520; Students may not enroll in SPA 202 if credit with C or better earned in SPA 204, 210, 313, 314, 315, 316, 325, or 412 OR Visiting University Student |
| SPA | 203 | Intermediate Spanish I for Bilinguals | In lieu of SPA 201. For heritage learners who have been exposed to Spanish from the household, relatives or community and who can understand and hold a basic conversation in the language. Builds on the skills students already have in order to expand their written and oral proficiency for real communication in a confidence-building environment. Students also explore their cultural heritage and learn about Hispanic cultures in the United States and the language diversity of its speakers. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | C & G | Prerequisite(s): SPA 102, 110 or 111 w/ C or better OR Espanol Placement test score of 0-369; Students may not enroll in SPA 203 if credit w/ C or better earned in SPA 201, 202, 204, 210, 313, 314, 315, 316, 325 or 412 OR Visiting University Student |
| SPA | 204 | Intermediate Spanish II for Bilinguals | For heritage learners who have been exposed to Spanish from the household, relatives or community and who can understand and hold a conversation in the language. Builds on the Spanish language skills students already have in order to expand their written and oral proficiency in a nurturing environment. Students also learn about Hispanic cultures, traditions and customs in the United States and Latin America and the language diversity of its speakers. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | C & G | Prerequisite(s): SPA 201 or 203 w/ C or better OR Espanol Placement Test score of 370-520; Students may not enroll in SPA 204 if credit w/ C or better earned in SPA 202, 210, 313, 314, 315, 316, 325, or 412 OR Visiting University Student |
| SPA | 210 | Intensive Spanish II | Second-semester intensive course for students who have authorization from the Spanish section. This six-hour course that meets on Mondays, Tuesdays, Wednesdays and Thursdays for 75 minutes in the classroom. To achieve the maximum level of proficiency, the course is focused on the development of speaking and written skills. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 6-8 | G | Prerequisite(s): SPA 102 or SPA 111 with B or better OR SPA 110 with C or better; Credit is allowed for only SPA 201 and SPA 202, or SPA 203 and SPA 204, or SPA 210 |
| SPA | 218 | Intermediate Spanish for Health Care Providers | Intermediate Spanish course that focuses on helping students develop oral Spanish skills that allow them to interact with patients in the health care settings. Health care-related vocabulary, the impact of culture on health care, medical scenarios and intermediate grammar form the majority of the course curriculum. Students are responsible for completing virtual oral dialogues with a partner each week. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): SPA 118 OR Visiting University Student |
| SPA | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| SPA | 313 | Spanish Conversation and Composition | Designed to develop skill and accuracy in spoken and written Spanish. Required of majors; SPA 313 and 314 must be taken in sequence. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): SPA 202, 204, or 210 with C or better OR Spanish placement test score of 521+; Students may not enroll in SPA 313 if credit with C or better earned in SPA 314 or SPA 315 or SPA 316 or SPA 325 or SPA 412 OR Visiting University Student |
| SPA | 314 | Spanish Conversation and Composition | See SPA 313. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): SPA 313 or 315 with C or better; Students may not enroll in SPA 314 if they have received a C or better in SPA 412 OR Visiting University Student |
| SPA | 315 | Advanced Spanish I for Bilinguals | In lieu of SPA 313. For heritage learners who have been exposed to Spanish from the household, relatives or community and who can speak and understand the language. Students strengthen their written and oral language to use them fluently in professional and academic contexts. Provides a rich cultural context to critically examine issues related to language and Spanish speakers in the United States. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | C | Prerequisite(s): SPA 202, 204, or 210 with C or better OR Espanol placement test with score of 521+; Student may not enroll in SPA 315 if credit with C or better earned in SPA 313 or SPA 314 or SPA 316 or SPA 325 or SPA 412 OR Visiting University Student |
| SPA | 316 | Advanced Spanish II for Bilinguals | In lieu of SPA 314. For heritage learners who have been exposed to Spanish from the household, relatives or community and who can read and write in the language. Students continue to strengthen their written and oral language to develop advanced skills for use in professional, educational and academic contexts. Provides a dynamic cultural context to critically examine issues related to Hispanic communities, bilingualism and education in the United States. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L & C | Prerequisite(s): ENG 101, 105 or 107 with C or better; SPA 313 or 315 with C or better; Students may not enroll in SPA 316 if credit with C or better earned in SPA 314 or SPA 412 OR Visiting University Student |

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| SPA | 317 | Spanish for the Professions | Advanced-level course that serves as an introduction to the Spanish for the Professions minor or certificate. Develops oral and written skills that prepares students to use their Spanish in their careers and/or professional fields of interest. Also covers several cultural points that facilitate effective interaction with Spanish speakers in the professional world and global community. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | G | Prerequisite(s): SPA 314 or 316 OR Visiting University Student |
| SPA | 318 | Advanced Spanish for Health Care Professionals | Advanced Spanish course that focuses on helping students develop oral Spanish skills that allow them to interact with patients in the health care settings. Health care-related vocabulary, the impact of culture on health care, medical scenarios and advanced grammatical structures form the majority of the course curriculum. Students are responsible for completing virtual oral dialogues with a partner each week. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Spanish Language Placement Score of 521+ or any upper-division Spanish course OR Visiting University Student |
| SPA | 319 | Business Correspondence and Communication | Organization and presentation of clear, effective business communications; vocabulary applicable to modern business usage. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): SPA 314 or 316 OR Visiting University Student |
| SPA | 325 | Introduction to Hispanic Literature | Critical approach to and analysis of literary types, including poetry, drama, short story, and novel. Required of all majors. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): SPA 313, 314, 315, 316, 412 or 413 with C or better OR Visiting University Student |
| SPA | 371 | Language Hegemony and Culture | Historical and cultural analysis of language and the ideological constructs imposed upon resident populations in the Southwest North American region since 1540. Analyzes the suppositions, ideologies, premises and mechanisms by which Spanish and English became imposed among Native peoples and later national populations of Mexicans during the 19th century and continuing with their descendants and migrating populations crossing the bifurcated border. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 371 or HST 371 or SLC 371 or SPA 371 or TCL 371 or ASB/HST/SLC/SPA/TCL 394 (Language Hegemony & Culture in SW North America) |
| SPA | 382 | Spanish for Biomedical Sciences | Focuses on developing the communicative skills necessary to engage students with the human aspect of health in Spanish. Students develop cultural and linguistically appropriate skills which address the communication needs across the healthcare continuum, to provide culturally competent services. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): SPA 202, 204, or 210 with C or better or Spanish placement test score of 521+; Credit is allowed for only BIO 382 or BIO 394 (Spanish Biomedical Sciences) or SPA 382 or SPA 394 (Spanish Biomedical Sciences) OR Visiting University Student |
| SPA | 385 | Cinema and Culture of Spain | Offers a historical and cultural survey of major films from Spain. Studies key works with a focus on their aesthetic, cultural, political and historical context. Trains students to develop the skills to critically view how films are constructed, how films create meanings and values, and how films are connected to the cultural and historical contexts in which they are created and watched. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only SLC 385 or SPA 385 or FMS 394 (Cinema and Culture of Spain) or SLC 394 (Cinema & Culture of Spain) or SPA 394 (Cinema & Culture of Spain) OR Visiting University Student |
| SPA | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| SPA | 400 | Fundamentals of Spanish Linguistics | Introduces the discipline and methods of linguistics through the study of Spanish data. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & G | Pre- or corequisite(s): SPA 412 or 413; Students who have credit for SPA 400 may not enroll in SPA 539 OR Visiting University Student |
| SPA | 401 | Spanish Oral Communication for the Professions | Explores the process of creating and delivering effective public communication in the Spanish language in the context of serving U.S. Latinx community (e.g., government, nonprofit organizations, schools, media). Topics include the cultural conventions of public speaking in Spanish, perceptions of others, the articulation of verbal and nonverbal messages, and techniques of oral presentation and persuasion. This course is practice-oriented and aims at reducing students' anxiety in public presentations, emphasizing research, design and delivery, and trains students on how to evaluate their performance and that of others. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): SPA 314 or 316 OR Visiting University Student |
| SPA | 402 | Written Communication for the Professions | Students hone their Spanish literacy (reading and writing) skills in the context of serving U.S. Latino clients in the community (e.g., schools, government agencies, social work settings, medical settings) or reporting on issues of interest to the Hispanic community. Students read and understand documents in Spanish that they would come across in the process of assisting monolingual Spanish-speakers in the public sector or doing research on the Hispanic community (e.g., birth certificates, academic transcripts, medical reports, criminology documents, newspaper or magazine articles). Students gain practice in creating written documents in Spanish that would assist their communication with Latino clients in formal (professional) and informal contexts or that would allow them to report intelligently on issues of interest to the Hispanic community. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | C | Prerequisite(s): SPA 314 or 316; Credit is allowed only for SPA 494 (Spanish Written Communication) or SPA 402 OR Visiting University Student |

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| SPA | 403 | Spanish Grammar and Stylistics for the Professions | Students raise their level of awareness of appropriate grammatical, lexical and stylistic forms to use in their oral and written communication with U.S. Latino clients in formal (professional) and informal contexts in the community (e.g., schools, government agencies, social work settings, medical settings) or for reporting on issues of interest to the Hispanic community. Students enhance their analytical skills by analyzing and comparing Spanish oral and written discourse for genre-appropriate features (stylistics), grammaticality, mechanics, coherence and for a logical flow of ideas in public documents and oral discourses meant for a U.S. Latino audience. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): SPA 314 or 316; Credit is allowed for only SPA 494 (Span Gram & Stylistics for Pro) or SPA 403 OR Visiting University Student |
| SPA | 404 | Spanish in U. S. Professional Communities | Students investigate linguistic issues that impact the U.S. Latino community's interaction with professionals (e.g., interaction with service providers in schools, government agencies, social work settings, medical settings; language planning at state and local levels; Spanish spoken in different regions in the U.S.; Spanish language assessment of public sector employees; creation of Spanish for Professional Purposes courses). Students also learn to report on issues of interest to the Hispanic community. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | (L or HU) & C | Prerequisite(s): ENG 101, 105 or 107 with C or better; SPA 314 or 316; Students who have credit for SPA 494 (Spanish in the Community) may not enroll in SPA 404 OR Visiting University Student |
| SPA | 405 | Latino Cultural Perspectives for the Professions | Requires students to investigate the Latino cultural perspectives that underlie and affect communication in the professional world. Students come to understand the historical context that has affected the lives of Latino community in the U.S. and take a critical look at values traditionally associated with Latino culture (e.g., the importance of family ties, fatalism, honor, respecting elders, machismo or marianismo), which provide background information for professionals in the public sector who need to serve the needs of the Hispanic community. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | (L or HU) & C & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; SPA 314 or 316; Credit is only only for SPA 405 or SPA 494 (Latino/a Cultural Perspect Pro) OR Visiting University Student |
| SPA | 406 | Introduction to Spanish/English Medical Interpretation | Provides an introduction to interpretation theory and practice with a specific focus on interpretation for medical fields. Constitutes an academic introduction to the field and does not certify students to be medical interpreters. Students who enroll in this course should have an advanced level of conversational Spanish. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): SPA 314, SPA 316, or SPA 394 (Intro to Spanish for the Professions); Credit is allowed for only SPA 406 or SPA 494 (Interp for Medical/Law Enforcement Personnel) or SPA 494 (Intro to Spanish/English Medical & Legal Interpretation) OR Visiting University Student |
| SPA | 412 | Advanced Conversation and Composition | Oral and written Spanish communication skills, with particular attention given to developing fluency and facility. Required of majors. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): SPA 314, 316, or 413 with C or better; Credit is allowed for only SPA 412 or SPA 416 OR Visiting University Student |
| SPA | 413 | Spanish Grammar in Context | Intensive analysis of the Spanish language. Required of teaching majors. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): SPA 314, 316, or 412 with C or better OR Visiting University Student |
| SPA | 414 | Spanish for Sustainability and Environmental Studies | Provides language skills to engage in meaningful communication and official transactions in sustainability and environmental studies with an intermediate to high level of Spanish speaking, reading and writing competence. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): SPA 314 or 316 with C or better; Credit is allowed for only SPA 394 (Spanish for Sustainability) or SPA 414 |
| SPA | 416 | Advanced Spanish Conversation and Composition for Spanish Heritage Learners | Oral and written Spanish communication skills for Spanish heritage learners to expand and strengthen advanced skills for use in a variety of contexts such as professional, educational and academic. Provides a dynamic cultural context to critically examine topics of culture, history, linguistics and literature from authors from Latin America where students learn to distinguish and write different types of texts such as narrative, descriptive, journalistic, advertising and scientific-technical. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; SPA 314, 316, or 413 with C or better; Credit is allowed for only SPA 412 or SPA 416 OR Visiting University Student |
| SPA | 417 | The Sounds of Spanish | Analyzes the speech sounds of the Spanish language, including articulatory and acoustic phonetics as well as phonology. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | CS or SB | Prerequisite(s): SPA 412 or 413 with C or better OR Visiting University Student |
| SPA | 418 | Architecture of Spanish | Introduces the syntax of the Spanish language by analyzing different word categories, their groupings in phrases, and the structure of both simple and complex sentences. Advanced course that requires some previous knowledge of basic structures of the language and their internal structure. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): SPA 412 or 413 with C or better OR Visiting University Student |
| SPA | 419 | Spanish Around the World | Spanish dialectology and variationist/quantitative sociolinguistics. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | CS & C | Prerequisite(s): SPA 400 with C or better OR Visiting University Student |
| SPA | 420 | Applied Spanish Linguistics | Applies linguistic principles to the teaching of Spanish. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L | Prerequisite(s): ENG 101, 105 or 107 with C or better; SLC 201 or SPA 400 with C or better OR Visiting University Student |
| SPA | 421 | Spanish in the Southwest | Discussion and linguistic analysis of Southwest Spanish. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | C | Prerequisite(s): SPA 412 with C or better |

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| SPA | 425 | Understanding Spain: Literature and Culture Before 1700 | Surveys Spanish literature from its beginning to 1700. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; SPA 325 OR Visiting University Student |
| SPA | 426 | Literature and Society in Modern Spain | Surveys Spanish literature from 1700 to the present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): SPA 325 OR Visiting University Student |
| SPA | 427 | Colonial and Postcolonial Latin American Literature | Surveys major works, figures, and movements from Colonial period to 1880. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105 or 107 with C or better; SPA 325 OR Visiting University Student |
| SPA | 428 | Foundational Texts of Latin American Literature Since Modernismo | Surveys major works, figures, and movements from 1880 to the present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G | Prerequisite(s): ENG 101, 105 or 107 with C or better; SPA 325 OR Visiting University Student |
| SPA | 429 | Writing Mexico: Major Texts | Selected readings from pre-Columbian writers/poets (e.g., Macuilxochitl) through the novel of the Revolution to the present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G | Prerequisite(s): ENG 101, 105 or 107 with C or better; SPA 325 OR Visiting University Student |
| SPA | 434 | Drama of the Golden Age | Dramatic works of Lope de Vega, Calderon de la Barca, and their contemporaries. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): SPA 325 |
| SPA | 440 | Translation Theory and Practice | Translation theories and professional practices and ethics; bibliography, computer technology, and sample texts for natural and social sciences and humanities. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 301; SPA 412; Credit is allowed for only SLC 401 or SPA 440 OR Visiting University Student |
| SPA | 441 | Technical and Scientific Translation | Resources, practices, strategies, and lexicon for translation of professional texts in subjects such as engineering, architecture, agriculture, computer technology, electronics, and physical and biological sciences. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 301 with B or better; SPA 412 with B or better; Credit is allowed for only SLC 481 or SPA 441 |
| SPA | 442 | Business and Financial Translation | Resources, practices, strategies, and lexicon for translation of professional texts in subjects such as economics, finance, insurance, management, marketing, accounting, advertising, and real estate. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 301 with B or better; SPA 412 with B or better; Credit is allowed for only SLC 482 or SPA 442 |
| SPA | 443 | Translation of Legal Texts | Provides guided practice in the successful completion of professional translation tasks in the legal field. Studies the origin and traditions of contrasting legal approaches as each system of governance (Civil Law Tradition and Common Law Tradition) perceives reality and structures its institutions to reflect differing cultural and linguistic norms. Students work with a broad selection of legal texts involving property rights, family law and commercial law. Places particular emphasis on criminal law. Analyzes legal texts from several Latin American countries as well as from Spain for content and translated into English. Similarly analyzes and translates into Spanish specialized texts currently used in Maricopa County Superior Court. | N | LEL | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 301 with B or better; SPA 412 with B or better; Credit is allowed for only SLC 485 or SPA 443 (or SPA 410) OR Visiting University Student |
| SPA | 444 | Medical Translation | Guided practice in the successful completion of professional translation tasks in the medical and scientific domain: medical correspondence, discharge instructions, medical information for patients, general information on topics related to the medical field with a focus on low-literacy issues. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 301 with B or better; SPA 412 with B or better; Credit is allowed for only SLC 486 or SLC 494 (Medical Translation) or SPA 444 |
| SPA | 449 | Latin American Cinema: The Dead and the Disappeared | Studies Latin American politics and culture through film with particular focus on recent periods of Latin American history in which there have been social upheavals, dictatorships and state repression, and dirty wars. Discusses film as an art form with specific aesthetic goals, a tool to effect change within society, a mode of cultural and social expression, and a vehicle for reconciling collective trauma and preserving memory. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | G & H | Prerequisite(s): ENG 102, 105, or 108 w/C or better; Credit allowed for only FOR 449, LAS 449, SPA 449, FOR 494 (Lat Am Cinema: Dead & Disap), LAS 494 (Lat Am Cinema: Dead & Disap), SPA 494 (Lat Am Cinema: Dead & Disap) OR Visiting University Student |
| SPA | 456 | 20th-Century Spanish American Fiction | Major works and movements. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): SPA 325 |
| SPA | 459 | Latin American Jewish Culture | Focuses on forms of cultural production in Latin America marked by or under the aegis of Jewish diasporic identity from the late nineteenth century to the present. While Jewish immigrants and Latin Americans of Jewish descent may be found in all Latin American societies, cultural production is found concentrated in countries like Argentina, Brazil, Mexico and Chile. Investigates essentially cultural versions of a sociohistorical consciousness, and ranges across a broad spectrum of Latin American Jewish texts in an investigation of what forms of production have emerged to represent this important immigrant component of Latin American national societies. Examines novels and other literary works, along with photography and films, and looks at theme, motifs, characters that can be identified with what might be called a Jewish consciousness or Jewish sensitivity. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only JST 459 or JST 494 (Jewish Latin American Culture) or SLC 459 or SLC 498 (Jewish Latin American Culture) or SPA 459 or SPA 498 (Jewish Latin American Culture) |

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| SPA | 464 | Jaitón Works in Chicano/a Literature | Representative literature in Spanish and English by Mexican Americans, emphasizing sociocultural as well as literary values. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (HU or SB) & C | Prerequisite(s): SPA 325 OR Visiting University Student |
| SPA | 470 | Law, Societies and Justice in Latino-America | Reviews justice-related sociological and criminological theories in the target language. Introduces the application of social theories and human right principles to the issues affecting Latino communities both in Latin America and the United States. Students engage in critical inquiries and focused research to develop culturally sensitive and insightful solutions to criminal and justice-related topics that affect Latinos in their communities (physical or virtual). | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & G | Prerequisite(s) with C or better: ENG 102, 105 or 108; SPA 202 or 204 OR Spanish Placement Test score of 421-520 OR Español Placement Test score of 370-520; Credit allowed for JUS 475, SPA 470 or JUS/SPA 494 (Law, Societies & Justice in Latino-America) |
| SPA | 471 | Civilization of the Indohispanomexicano Southwest | Political, intellectual, social, economic, and artistic development of the Spanish-speaking people of the Southwest. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & C | Prerequisite(s): ENG 101, 105 or 107 with C or better; SPA 314 or 316 OR Visiting University Student |
| SPA | 472 | Latin American Society: Five Case Studies | Growth of the institutions and cultures of Spanish American people. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H & G | Prerequisite(s): SPA 314 or 316 |
| SPA | 473 | Old and New Spaniards: Culture and Civilization of Spain | Political, intellectual, social, economic, and artistic development of the Spanish nation from its origin to the present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (HU or SB) & G | Prerequisite(s): SPA 314 or 316 OR Visiting University Student |
| SPA | 474 | Revolutionary Mexico and Postmodern Revisions | Examines diverse aspects of Mexican culture since the 1910 Revolution. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G | Prerequisite(s): ENG 101, 105 or 107 with C or better; SPA 314 or 316 OR Visiting University Student |
| SPA | 475 | Latin American Film | Examines the role of film in contemporary Latin American culture; films viewed and analyzed as casebook examples. Focuses on the aesthetics and generic conventions of contemporary Latin American films. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, 108, FMS 100, or SLC 202 with C or better; Credit is allowed for only FMS 475 or SLC 475 or SPA 475 or THE 475 or FMS 494/SLC 494/SPA 494/THE 494 (Latin American Film) OR Visiting University Student |
| SPA | 481 | Dictatorships and Dirty Wars: Latin American Cinema from Resistance to Reconciliation | Examines aspects of Latin American politics and culture of and through the optic of social unrest. Examines films focusing on the period(s) of recent Latin American history in which there have been social upheavals, dictatorships and state repression, "dirty wars": understood as clandestine wars waged on the citizenry by the government, social movements from below. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only LAS 481 or SPA 481 or ENG 494 (Dictatorships/Dirty Wars:Lat Am Cinema) or SPA 494 (Dictatorships/Dirty Wars:Lat Am Cinema) |
| SPA | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SPA | 485 | Chicano/a Short Story: Espanglish, Barrio y Xicanisma | Critical study of contemporary short stories by Mexican American authors, with emphasis on their Spanish-language writings. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L & C | Prerequisite(s): ENG 101, 105 or 107 with C or better; SPA 325 OR Visiting University Student |
| SPA | 486 | Chicano/a Novel: Última, Rafa y Lala | Social and literary contexts of representative novelists, emphasizing their Spanish-language writings. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): SPA 325 OR Visiting University Student |
| SPA | 487 | Chicano/a Drama: Pachucos, Vendidos y Cerezitas | Representative dramatic works, with emphasis on the history and development of this genre from its regional origins to the present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | C | Prerequisite(s): SPA 325 |
| SPA | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| SPA | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| SPA | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| SPA | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-7 | | |
| SPA | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| SPA | 515 | Second-Language Acquisition | Discusses and applies theories of second-language acquisition. | N | LEL | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SLC 515 or SPA 515 |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| SPA | 520 | Preparing for Professional Careers | Professional training of graduate students who pursue an academic job. Guides these students through their career and provides the tools they need to navigate their new and demanding academic life, not only as current students but also as future faculty. Among others topics, covers the following: research, publishing, surfing the Internet and the library for articles and books, bibliographical matters, conferences and presentations, professional ethics, choosing a dissertation director, writing and publishing the dissertation, first job search, differences among institutions, cover letters, CVs, tenure issues, and balance of personal and professional life. Explores all the practicalities of the academic profession to direct students to the right track from the first day of graduate school. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPA | 536 | Generation of 1898 | Works of Unamuno, Baroja, Azorín, and their contemporaries, studied against the ideological background of the turn of century in Spain. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 537 | Women in Spanish Literature | Major female writers and their texts from Spanish literature (María de Zayas, Ángela Grassi, Concepción Arenal, Emilia Pardo Bazán, Carmen Laforet, Paloma Pedrero) interpreted via current feminist and other critical theories. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 538 | Chicana Writers | Major female figures and works in Spanish or translation by contemporary writers (Zamora, Castillo, Corpi, Anzaldúa, L.D. Cervantes, D. Chávez, Duarte, Cisneros) interpreted via current feminist and other critical theories. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPA | 540 | History of the Spanish Language | Analyzes and discusses the development of Spanish from Vulgar Latin to the present day. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 541 | Spanish Language in America | Discusses and analyzes various regional and social varieties of Spanish in the Americas. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 542 | Studies in the Spanish of the Southwest | Examines bilingualism and the social and regional dialects of Spanish in the Southwest. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 543 | Structure of Spanish | Analyzes and discusses data on selected topics in Spanish morphology, semantics, and syntax. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 544 | Spanish Phonology | Surveys problems of Spanish phonology within the context of recent phonological theory. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 545 | Concepts of Literary Criticism | Aims and methods of modern literary scholarship. Discusses major theories of literary analysis. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SLC 545 or SPA 545 |
| SPA | 546 | Heritage Language Pedagogy | Sociolinguistic and pedagogical issues around the teaching and learning of heritage languages. Through a close examination of seminal articles in the field of heritage language pedagogy and research, students gain an understanding of the issues that concern these students and the teaching of this population. Defines the field, describes heritage language learners, and discusses the goals and sociolinguistic concerns of HL instruction. Also reviews the most appropriate teaching methodologies and principles for the heritage language classroom, especially in relation to literacy development. Contains a practical component that includes observations together with lesson plan and material development to prepare future teachers for effective classroom experiences and/or language program development. Course requirements include critical essays, online discussions, class observations, lesson plans and a research/applied paper. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SLC 546 or SPA 546 or SPA 598 (Heritage Language Pedagogy) |
| SPA | 547 | Applied Linguistics: Online Learning | Technology has changed the way we teach and learn languages. Examines how online language learning is informed by research and theory; explores how different tools and environments can support online language learning. Familiarizes students with research methods and tools used to examine online language learning. Participants either design and develop the instructional materials for an online course of their choice or design and conduct a research project. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SLC 547 or SPA 547 or SLC 598 (Topics in Applied Linguistics: Online Learning) or SPA 598 (Topics in Applied Linguistics: Online Learning) |
| SPA | 550 | Spanish for Reading Knowledge | Teaches nonspeakers of foreign language, or those with only basic notions of the language, how to read in a foreign language at an advanced level. Emphasizes developing reading and translation skills through exposure to a variety of texts (journalistic, historical, literary and scientific). Requires no previous knowledge of Spanish. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SPA 550 or SPA 598 (Spanish for Reading Knowledge) |
| SPA | 552 | Chicano/Chicana Film | Major figures and films by contemporary filmmakers (Sylvia Morales, Cheech Marín, Gregory Nava, Lourdes Portillo, Roberto Rodríguez, Evelina Fernández) interpreted via critical film theory. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SPA | 553 | Latin American Feminist Film | Examines Latin American feminist films in the context of contemporary Latin American culture; films viewed analyzed as casework examples. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): Degree- or Nondegree-seeking graduate; Credit is allowed for only SPA 553 or 583 (Feminist Filmmaking) |
| SPA | 564 | 19th-Century Spanish Prose Fiction | Principal figures and works of realism in the 19th-century novel, with emphasis on Galdós. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 566 | Generation of 1927 | Major poets of the Generation of 1927, with emphasis on works of Lorca, Guillen, Salinas, and Aleixandre. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 567 | Contemporary Spanish Novel | Major works of post-Civil War Spanish fiction. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 568 | Cervantes | Extensive analysis of the prose and theater of Cervantes as a key figure of the Spanish Golden Age. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 569 | Studies in Spanish Film | Examines major figures and films in Spanish cinema. Critically interprets films through current film theory, history, and critical theory. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 572 | Spanish American Drama | Major contributions of Spanish American drama, with emphasis on contemporary dramatists. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 573 | Spanish American Essay | Major works of the essay, within the framework of intellectual history and literary movements. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 576 | Contemporary Spanish American Short Story | Principal short stories of the <i>Nueva Narrativa Hispanoamericana,</i> within the context of contemporary theories of the narrative. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 577 | Regional Spanish American Literature | Figures and works of major national (Peru, Argentina, Chile, and Mexico) and regional (Caribbean) literatures. Topics offered on a rotating basis. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPA | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SPA | 582 | Studies in Latin American Film | Examines the role of film in contemporary Latin American culture; films viewed and analyzed as casebook examples. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 586 | Chicano/Chicana Short Novel | Major novels and figures in Spanish or translation by contemporary Chicano novelists (Hinojosa-S., Méndez, Morales, Cota-Cárdenas, Cisneros) interpreted via current narrative theory. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPA | 587 | Chicano/Chicana Drama | Major works of Chicano/a drama, with emphasis on contemporary playwrights (Valdez, Portillo-T., Morton, Moraga, Gómez-Peña) interpreted via current critical drama theory and other methods. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPA | 588 | Chicano/Chicana Essay | Major figures and essays in Spanish or translation by contemporary essayists (Rendón, Anzaldúa, Villanueva, Rodríguez, Mora, Stavans) interpreted via current critical theory. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPA | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SPA | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SPA | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SPA | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| SPA | 596 | Second Language Methodologies | Provides a solid overview of current methodologies in foreign/second language teaching and learning, including the World-readiness standards for learning languages and the Proficiency Guidelines of the American Council on the Teaching of Foreign Languages (ACTFL). Focuses on current pedagogical trends and theories in several areas of second language acquisition, including grammar and vocabulary, reading, writing, listening and speaking, and intercultural competence. Also provides opportunities to obtain practice in creating and adapting instructional materials, preparing and implementing individual lesson plans, written and oral assignments, and exams. Focuses on discussing student diversity in today's classrooms and differences between heritage and second language learners. Students have the opportunity to research a topic of their interest. Course consists of lectures, discussion, hands-on experience to encourage meaningful and collaborative learning. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking grad stdnt; Credit only allowed for CHI 591 (Lang Teach Mthd & Prin) or CHI 596 or SLC 591 (Lang Teach Mthd & Prin) or SLC 596 or SPA 591 (Teach Mthd) or SPA 591 (Lang Teach Mthd & Prin) or SPA 596 |
| SPA | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPA | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SPA | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SLC 691 or SPA 691 |
| SPA | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SPA | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | |
| SPA | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SPA | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SPA | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-15 | | |
| SPA | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | |
| SPA | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-15 | | |
| SPE | 222 | Orientation to Education of Exceptional Children | Introduces legal aspects of special education and community services to support students with disabilities. Also examines the nature and characteristics of students with disabilities as defined by federal law. Introduces high-leverage practices (HLPs) in special education to promote effective, inclusive practices for K-12 students with disabilities. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | SB & C | |
| SPE | 223 | Intersection of Society, Disabilities and Inclusion | Examines foundational factors affecting the impact of a disability on: equity, inclusion, personality, life circumstances, support systems and members of society. Future educators enhance their knowledge of varied inclusive experiences. Emphasizes the understanding of individual characteristics, cultural differences, civil rights and stereotypes. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|----------------------------------|---|-------|-----------------|---|
| SPE | 317 | Special Education for Culturally and Linguistically Diverse Children and Youth | General issues and practical applications regarding the education of culturally and linguistically diverse students with disabilities. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 30 hours |
| SPE | 321 | Classroom and SPE Assessment | Norm-referenced and criterion-referenced assessment and evaluation of student learning to determine eligibility, plan individualized programs and monitor progress of students with disabilities. Includes academic, language disorders and transition assessments. Emphasizes integration and adaptation of curriculum, instruction and evaluation for all students. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student; minimum 39 hours |
| SPE | 323 | Effective Practices and Behavior Interventions: Supports for Exceptional Students | Create, evaluate and analyze behavioral interventions and strategies for effective management of classroom behavior for all students, including those with learning exceptionalities across all learning environments and settings. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |
| SPE | 325 | Language Literacy 1 in Elementary Schools | Theoretical knowledge and pedagogical skills for implementing a high-quality reading program. Course objectives and topics are aligned to standards for reading and research from the International Reading Association (IRA), Arizona College and Career Ready Standards (ACCRS), Interstate Teacher Assessment and Support Consortium (InTASC) standards, and the National Reading Panel Report (2000). Focuses on emergent literacy, phonemic awareness, phonics, fluency, vocabulary and comprehension. Presents strategies and assessments to support students of a variety of ability levels and cultural backgrounds with a specific focus on the struggling readers and English language learners. For education majors only. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program; Credit is allowed for only RDG 322 or SPE 325 |
| SPE | 365 | Concepts, Principles and Foundations of Behavior Analysis | Focuses on the behavior of organisms (humans, animals and organizations) from an operant learning theory perspective. Students learn the philosophical underpinnings of the field of applied behavior analysis as well as basic concepts and principles that can be used to change behavior. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SPE | 366 | Measurement and Experimental Analysis of Behavior | Covers measurement and experimental design used by behavior analysts in schools, clinics and other community settings. Students gain knowledge and skills in data collection methods commonly used by behavior analysts, learn to graph data to measure improvement, and examine trends and patterns in the data. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SPE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | Prerequisite(s): minimum 45 hours |
| SPE | 396 | Clinical Experience I | Provides opportunities for students to engage as a teacher and learner in a variety of classroom settings that serve students with visual impairments. Fulfills two (2) of six (6) required semester hours of practicum in Special Education: Visual Impairments. Develops knowledge and skills for effective implementation of strategies for teaching skills and adaptations specific to visual impairments. Introduces the TAP instructional rubric, the college professionalism rubric, backwards design of a direct instruction lesson plan, and strategies for co-teaching. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-2 | | Prerequisite(s): admission to the Professional Program |
| SPE | 397 | Clinical Experience II | Develops knowledge and skills for effective classroom management, establishing a positive classroom environment, and effective lesson delivery. Continues use of the TAP instructional rubric, the college professionalism rubric, and strategies for co-teaching. Provides opportunities for students to engage as a teacher and learner in a classroom setting. Emphasizes focused observation; co-planning with a placement teacher; and co-teaching lessons to a whole group, small group and individual students. Successful completion of this course fulfills two (2) of eight (8) required semester hours of practicum as required by SBR R7-2-608 for an Elementary Education Teaching Certificate or two (2) of eight (8) required semester hours of practicum as required by SBR R7-2-602 for a Special Education Teaching Certificate. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2 | | Prerequisite(s): admission to the Professional Program; Credit is allowed for only EED 397 or SPE 397 |

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| SPE | 400 | Language Development and Disorders | Language development course for the general education or special education teacher candidate. Covers how language develops and disorders from infancy through adulthood. Topics include the receptive and expressive language (prelinguistic communication, phonology, morphology, syntax, semantics, pragmatics) in speaking, listening, reading and writing for infants through adults with and without related disabilities. Students also understand the principles of prevention, assessment and intervention within the school environment and across multiple ecologies through transdisciplinary practices. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours |
| SPE | 404 | Instructional Design for Culturally and Linguistically Diverse Students | Provides a foundation in instructional design to meet the academic and linguistic needs of culturally and linguistically diverse students, with a focus on English language learners. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours; Credit is allowed for only BLE 404 or ELL 504 or SPE 404 |
| SPE | 410 | Mathematics in Elementary Schools | Methods of teaching mathematics to all students at the K-8 level, instructional planning and assessment. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours; Credit is allowed for only EED 412 or MTE 412 or SPE 410 |
| SPE | 411 | Special Education History and Law | Emphasizes historical and current state and federal laws impacting students with disabilities and ethical processes and procedures for instruction and services. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student; minimum 39 hours |
| SPE | 416 | Quality Practices in the Collaborative Classroom | Develops skills, strategies, and a knowledge base for preservice teachers in building collaborative partnerships with special educators. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-3 | | Prerequisite(s): admission to the Professional Program |
| SPE | 417 | Inclusion Practices at the Secondary Level | Applies curricular practice and how preservice teachers work with students with special needs in middle and secondary levels. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| SPE | 423 | Evidence-Based Practices for Students with Exceptional Needs | Focuses on implementing evidence-based methods and instructional supports, in a variety of settings, for students with mild to moderate disabilities in K-12 schools. Candidates utilize data from a variety of assessments to develop educational plans and support resources. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |
| SPE | 424 | Evidence-Based Practices for Students with Intensive Exceptional Needs | Foundational special education methods course provides aspiring teachers the opportunity to develop evidence-based practices by analyzing data from a variety of sources to inform instructional decision-making processes including assessment, environment and transition to support students with intensive exceptional needs in a goal-oriented educational community. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |
| SPE | 430 | Professional Practices, Foundations, and Collaborative Teaching in Special Education | Methods and issues in cooperative teaching for students with disabilities in the general education classrooms. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | L | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; ENG 101, 105, or 107 with C or better; minimum 56 hours |
| SPE | 431 | Collaborative Teaching Methods for General Education Classroom Environments | Methods and issues in cooperative teaching for special education students in general education classrooms. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| SPE | 441 | Reading and Writing Braille | Provides future teachers of students with visual impairments with the knowledge and skills for reading and writing braille that enable mastery of the literacy braille code. Students produce braille using a variety of methods, research resources for braille materials and electronic devices that support the braille teacher and student, and explore methods for teaching braille to readers of all ages. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours |
| SPE | 442 | Teaching Methodologies for Students with Visual Impairments | Provides a foundation for understanding the education of students with visual impairments (VI) with past and current practices and philosophies situated in the context of special education. Begins with a brief history of VI education, legislation and educational philosophies, including the prevalence of visual impairment in society and an overview of the visual system. Prospective teachers of students with VI learn to assess, plan and implement strategies that support students in accessing academic content, career objectives and activities of everyday living across the lifespan. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours |

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| SPE | 443 | Foundations of Instruction for Students with Visual Impairments | Principles of curricular and instructional design for children with visual impairments with respect to licensure (pre-K-12). Emphasizes selecting, developing and adapting curricular and instructional units/themes/lessons so that they are appropriate for children within the licensure range. Students demonstrate knowledge of basic terminology related to the function of the human vision system and the implications for teaching and learning. Also discusses adaptations and modifications, especially of the general education curriculum. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SPE | 444 | Diagnostic and Assessment: Procedures for the Visually Impaired | Future teachers of the visually impaired learn to interpret medical records, conduct assessment, establish meaningful and measurable goals for an ISFP or IEP, and make recommendations for classroom accommodations, modifications and goals. Examines the impact of strategies with dual sensory loss and deaf-blindness for students in the classroom. Following an overview of the senses of hearing, touch, taste, smell as well as the vestibular and proprioceptive senses, the course examines how each sensory system supports access to information. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours |
| SPE | 445 | Orientation and Mobility for Teachers of the Visually Impaired | Leads future teachers of the visually impaired (TVIs) to become familiar with the philosophy and history of orientation and mobility. Explores the skills taught in orientation and mobility and experiences techniques taught to demonstrate those skills including concepts, protective techniques, sighted guide, pre-cane techniques, guide dogs and electronic aids in order to be a confident and efficient traveler. Emphasizes early concept development and mobility for students with visual impairment and multiple disabilities. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SPE | 446 | Modes of Communication | Explores multimodal teaching methods (i.e., braille, typing, script, note-taking, sound reproduction systems, listening skills, electronic reading devices and calculation) to support students who are blind or have visual impairments with communication. Students participate in laboratory experiences, so students can develop and demonstrate competencies in the skill of reading, producing and teaching braille as well as the skill of identifying and using assistive technology. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): SPE 441 |
| SPE | 447 | Student Teaching for Teachers of the Visually Impaired | Student teaching in preK-12 school classrooms is a synthesized experience in curriculum, instruction and classroom management. Successful completion fulfills six (6) required semester hours of education courses, including practicum in grades prekindergarten-12, which teach knowledge and skills such as learning theory, classroom management, methods and assessment, as required by the Standard Visually Impaired Special Education Certificate. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-12 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |
| SPE | 448 | Assessing and Improving Challenging Behavior in Schools and Clinics | Prepares future educators and clinicians to assess and determine the function of challenging behaviors among individuals of varying ages and skill levels. Students gain knowledge and experience with development of function-based interventions designed to increase socially significant skills and reduce maladaptive behaviors. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Behavior Analysis minor OR Visiting University Student |
| SPE | 449 | Assessment and Program Planning for Diverse Learning Needs | Provides guided opportunities for future educators and clinicians to conduct skills assessments, create socially significant instructional plans, and design educational programming that is individualized and focused on maintenance and generalization of skills taught. Students explore the use of applied behavior analysis to improve and increase socially significant behaviors and skills for individuals with a variety of learning needs. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Behavior Analysis minor OR Visiting University Student |
| SPE | 450 | Professional and Ethical Practice in Behavior Analysis Service and Supervision | Provides a comprehensive overview of the Behavior Analyst Certification Board (BACB) Ethics Code for behavior analysts, emphasizing responsible conduct of a behavior analyst, respect for client dignity, confidentiality and ethics in supervision. Students examine common ethical dilemmas and research the history, trends and issues within human services fields. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Behavior Analysis minor OR Visiting University Student |
| SPE | 478 | Student Teaching: Special Education (Grades K-12) | Student teaching in special education classrooms grades K-12: synthesized experience in curriculum, instruction, assessment and classroom management. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 8 | | Prerequisite(s): admission to the Professional Program |

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| SPE | 496 | Clinical Experience III | Applies course content in an instructional setting serving students with visual impairments. Emphasizes observation, pupil management, assessment, planning and delivering instruction to students with visual impairments. Continues use of the TAP instructional rubric, the college professionalism rubric, and strategies for co-teaching. Emphasizes focused observation; co-planning with a placement teacher; and co-teaching lessons. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; minimum 56 hours |
| SPE | 501 | Introduction to Research and Evaluation in Education | Overview of educational inquiry from controlled, quantitative to qualitative, naturalistic. Emphasizes locating and critically interpreting published research. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only COE 501 or ECD 503 or PPE 501 or SPE 501 or TEL 501 |
| SPE | 502 | Language and Communication Methods and Assessment | Theory and practice of language and communication development from infancy through adolescence. Explores language and communication disorders in children with and without disabilities and children who are culturally linguistically diverse speakers. Includes phonological processing, syntactical rules and pragmatics/social communication embedded in culture; and how to use formal and informal assessment data for intervention and differentiation of instruction. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 503 | Collaboration, Consultation and Family-Centered Practices | Provides definitions, models, activities and exploration in the various roles in collaboration, consultation and teamwork in the field of special education. Explores connections in depth with families, professionals and support personnel across disciplines and agencies. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SPE 503 or SPE 540 or SPE 541 |
| SPE | 504 | Elementary Methods in Content Areas | Advanced level of development of knowledge and skills of instructional planning and methods of teaching and evaluating in elementary schools. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 550 or SPE 504 |
| SPE | 505 | Collaborative Transition Planning for Students with Moderate to Severe Support Needs | Provides an introduction to transition planning for students with moderate to severe disabilities, focusing on person-centered planning and collaborative practices with families and interagency professionals. Places primary emphasis on understanding employment resources, community participation, collaborative practices, family systems and person-centered planning. Emphasizes understanding diversity in values, beliefs and traditions. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 506 | Advanced Methods Assessment, Curriculum Planning and Instructional Strategies in Moderate/Severe | Prepares teachers with the skills to effectively work with children and young adults with moderate to severe/profound disabilities (i.e., intensive support needs). Topics focus on assessment, curriculum planning and instructional strategies using evidence-based practices. Activities include direct observation and assessment techniques in inclusive environments; designing curriculum within multiple contexts with a focus on access to the general education in inclusive environments; selecting and implementing behavioral, communicative and instructional strategies; collaborative practices; and supporting across the educational lifespan of students. Emphasizes current research-based evidence to support students with intensive support needs. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): TEL 510 or degree- or nondegree-seeking graduate student |
| SPE | 507 | Augmentative and Alternative Communication for Students with Intensive Support Needs | Focuses on issues and strategies for teaching communication to individuals with intensive support needs (i.e., students with moderate to severe/profound disabilities such as intellectual disability, autism or multiple disabilities). This terminology is reflective of a support-based model of disability rather than a deficits-based model. Discusses specific assessment and intervention strategies as they relate to augmentative and alternative communication systems. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 508 | Serving Students with Moderate to Severe Disabilities | Provides an overview of the characteristics of individuals with moderate to severe disabilities (intellectual disabilities, multiple disabilities, sensory impairment and physical disabilities); characteristics of this population; and the associated support needs in inclusive environments. Topics focus on the historical and legal contexts that influence services for this population; supports-based assessment and instruction; and key issues related to person-centered, collaborative planning for children, youth and adults with moderate to severe disabilities. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SPE | 509 | Individualized Positive Behavior Supports for Students with Intensive Support Needs | Knowledge and skills to assess, implement and evaluate positive behavior supports for students with intensive support needs (moderate to severe/profound intellectual disability, autism spectrum disorder, multiple disabilities), terminology reflective of a support-based model of disability rather than a deficits-based model. Students learn and apply the foundations of positive behavior supports, understanding the function of behavior and developing replacement behaviors, and implementing plans from a person-centered perspective that reflects the cultural needs of individuals and their families while drawing on interdisciplinary team members' expertise. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 510 | Assistive Technology Supports for Students with Intensive Support Needs | Focuses on specialized health care needs, policies and procedures for working with students with intensive support needs (i.e., students with moderate to severe/profound disabilities such as intellectual disability, autism or multiple disabilities). This terminology is reflective of a support-based model of disability rather than a deficits-based model. Provides an overview of methods for accommodating students including task or environmental modifications, assistive technology and adaptive equipment options. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 512 | Individuals with Intellectual Disability | Etiology, diagnosis and management of individuals with intellectual disability. Current trends in prevention, programming and teacher preparation. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): graduate student (degree seeking or nondegree seeking). Credit is allowed for only SPE 312 or SPE 512 |
| SPE | 513 | Instruction and Assessment for Learners with Exceptionalities I | Focuses on methods, instruction and assessment in special education for K-12 students with mild and moderate disabilities, emphasizing assessment terminology, procedures and ethical principles, reading, writing, behavior and social-emotional learning. Also focuses on collaboration, co-teaching and partnering with families. Builds a foundation for methods and assessment in special education to build toward the subsequent course work. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 520 | Verbal Behavior | Based on the theories of B. F. Skinner, this course increases student knowledge and understanding of the role of verbal behavior in learning and communication. Students gain experience recognizing the function of communication, applying standardized assessment measures to assess and develop targeted interventions to address communication challenges. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 521 | Foundations of Autism Spectrum Disorders | Increases the understanding of characteristics of individuals with autism. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 522 | Instruction and Assessment for Learners with Exceptionalities II | Focuses on methods, instruction and assessment in special education for K-12 students with mild and moderate disabilities, emphasizing mathematics, writing, content area learning, social skills, transition, strategy instruction, and self-determination. Extends and builds upon the methods and assessment concepts in previous course work. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): SPE 513 |
| SPE | 524 | Effective Classroom Behavior Management | Addresses behavioral management techniques for children with special needs, including the organization and delivery of instruction and functional behavioral analysis. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 525 | Measurement, Data Display, Interpretation and Experimental Design | Examines data collection techniques, design methodologies, visual analysis and interpretation approaches. Students gain expertise and practical experience in the interpretation and application of experimental design to inform decision making. Focuses on evaluation of the effectiveness of interventions through use of behavior analytic technologies in clinical and applied settings. Students learn to interpret and describe behavior in behavior analytic terms and explain concepts and approaches in everyday language. Students research and evaluate skill assessment approaches through strategic review of the behavior analytic literature. Course addresses single-subject methodologies to inform design and delivery of effective instruction and clinical interventions. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 526 | Concepts and Principles of Applied Behavior Analysis | Provides an overview of and introduction to the basic concepts and principles of applied behavior analysis. Students gain understanding of behavior analytic process and terminology, defining and providing examples of concepts and principles and applying to a range of situations. Applied behavior analysis is the process of systematically applying interventions based upon the principles of learning theory to improve socially significant behaviors to a meaningful degree, and to demonstrate that the interventions employed are responsible for the improvement in behavior. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SPE | 527 | Behavior Analytic Assessment | Focuses on assessment procedures of applied behavior analysis. Students learn to determine the need for behavior-analytic services; identify, design and prioritize socially significant behavior change goals; conduct assessments of relevant skill strengths and deficits; conduct preference assessments; describe the common functions of problem behavior; conduct a descriptive assessment of problem behavior; conduct a functional analysis of problem behavior and interpret functional assessment data. Critically evaluates environmental variables in order to make informed recommendations for behavior change. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 531 | Methods of Applied Behavior Analysis for Exceptional Populations | Methods based on the principles and concepts of applied behavior analysis. Students learn to operationally define problem behavior, conduct functional behavior assessment and generate recommendations for the development of behavior analytic interventions. Students gain knowledge and understanding of specific scientifically valid behavior change procedures. Discusses and applies their corresponding literature base. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 534 | Assessment and Evaluation for Children with Special Needs | Norm-referenced and criterion-referenced assessment and evaluation of student learning to determine eligibility, plan individualized programs, and monitor progress of students with disabilities. Includes assessments in academic areas, language disorders and transition. Emphasizes integration and adaptation of curriculum, instruction and evaluation for all students. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 535 | Curricula, Methods, Technology, and Adaptations in Special Education | Develops strategies for effective adaptation of special education and general education curriculum through use of technology. Includes methods for addressing special needs in reading, math and language disorders. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 536 | Characteristics of Children with Behavioral Disorders | Variables contributing to behavior patterns of behaviorally disordered children. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 538 | Language and Literacy I | Focuses on the theoretical knowledge and pedagogical skills necessary to equip future teachers to plan and implement high-quality reading and writing instruction in a classroom setting. Course objectives and topics are aligned to standards for reading and research from the International Reading Association (IRA), Arizona College and Career Ready Standards (ACCRS), Interstate Teacher Assessment and Support Consortium (InTASC) standards, and the National Reading Panel Report (2000). Focuses on reading readiness, language development, phonemic awareness, phonics, fluency, vocabulary and comprehension. Presents strategies and assessments to support struggling readers as well as a variety of ability levels and cultural and linguistic backgrounds to include English language learners. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): Teachers College graduate student; Credit is allowed for only RDG 531 or SPE 538 |
| SPE | 540 | Family-Centered Practices | Provides definitions, models, activities and exploration in the various roles in collaboration, consultation and teamwork in the field of special education. In-depth exploration of connections with families, professionals and support personnel across disciplines and agencies. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 541 | Consultation Frameworks and Issues | Models, activities, and roles of educational consultants working with families, professionals, and support personnel across disciplines and agencies. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 548 | Cross-Categorical Foundations: LD, ED, MR, & PI/OHI | Foundations course compares cognitive, motor, and affective developmental and educational issues across LD, ED, MR, and PI/OHI. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 555 | Inclusive Practices for Diverse Learners | Adapting instruction and assessment to meet the needs of all learners in inclusive settings. Includes the creation of plans to address challenging classroom behaviors. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 556 | Internship I | Develops knowledge and skills for effective classroom management, establishing a positive classroom environment, and examining K-12 learner behavior. Provides opportunities for students to engage as a teacher and learner in a classroom setting. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-8 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 557 or SED 557 or SPE 556 |
| SPE | 558 | Special Education Foundations: Law, IEPs, Assessment and Ethical Practice | Provides special education professionals with knowledge and skills to improve the academic achievement and functional performance of children with disabilities, including the use of scientifically based instructional practices, to the maximum extent possible. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SPE | 559 | Methods for Teaching Diverse Learners | Apprentice teachers select a specific population, based on placement (mild to moderate or moderate to severe), for individualized investigation. Utilizes practical strategies for curriculum development and IEP implementation. Gains a deeper understanding of their practice by analyzing and reflecting for the purposes of monitoring and adjusting instruction. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Pre-requisite: MEd Special Education (Teacher Certification) major |
| SPE | 560 | Behavior Change Procedures: Implementing Interventions in Behavior Analysis | Examines scientifically validated behavior change procedures. Students gain experience critically analyzing and selecting interventions informed by measurement, data display and interpretation. Students gain experience in application of knowledge by conducting a behavior change project, analyzing, interpreting and presenting results. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 561 | Characteristics/Diagnosis of Learning Disabilities | Theories related to learning disabilities, including identification and characteristics. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 562 | Personnel Supervision and Organizational Behavior Management in Educational Settings | Focuses on the use of data informed procedures for training, management, supervision and support of behavior health practitioners in educational settings. Students gain experience and develop expertise with organizational behavior management (OBM) techniques. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 563 | Philosophical Foundations of Applied Behavior Analysis in Educational Settings | Reviews the history and foundations of the field of applied behavior analysis in educational settings. Interprets the impact and utility of radical behaviorism and experimental analysis of behavior in classrooms, clinics, homes and community settings. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 564 | Controversial Therapies; Science, Fad and Pseudoscience in Educational Settings | Investigates the role and impact of fads, pseudoscience, false beliefs, dubious assumptions and spurious reasoning on treatment decisions of professionals, politicians, educators, parents and clients in educational settings. Interprets philosophical positions and traditions that influence and inform consumers in selection of treatments. Examines and designs responsible evaluation and strategies for effective communication. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 565 | Behavior Change Systems | Focuses on applied behavior analysis-based behavior change systems and procedures. Students learn to identify, implement, manage and supervise interventions based on fundamental elements of behavior change. Addresses behavior change considerations, including ethical use of behavior change systems and ongoing data collection for fidelity and progress monitoring. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): SPE 531; SPE 566; degree- or nondegree-seeking graduate |
| SPE | 566 | Applied Behavior Analysis in Inclusive Settings | Examines definitions, characteristics, assumptions and basic principles of applied behavior analysis. Describes and applies fundamental elements of behavior change, including reinforcement schedules, modeling, shaping, chaining and other behavior change procedures. Activities center on the design and delivery of social skill interventions with individuals with special needs in inclusive settings. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 567 | Ethics of Applied Behavior Analysis | Addresses knowledge and application of the Behavior Analyst Certification Board Guidelines for Responsible Conduct for Behavior Analysts. Examines and resolves ethical dilemmas which may be encountered by behavior analysts. Addresses roles and responsibilities of members of a multidisciplinary treatment team comprised of educators, behavior analysts, parents, learners and other professionals. Students conduct risk-benefit analysis of evidence-based treatment approaches and develop declarations of professional practices and procedures for behavior analysts. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 568 | Behavior Assessment | Focuses on critical aspects of applied behavior analysis, experimental design and the identification and implementation of effective assessment methodologies. Addresses client-centered responsibilities of the behavior analyst including problem identification, measurement, assessment, data collection and analysis. Students gain experience conducting functional behavior assessment and stimulus preference assessment to inform intervention design. Emphasizes measuring and ensuring treatment integrity. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): SPE 531; SPE 566; degree- or nondegree-seeking graduate. Credit is allowed for only SPE 568 or SPE 598 (Behavioral Assessment) |

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| SPE | 569 | Research Methods in Applied Behavior Analysis | Students gain expertise and practical experience in the interpretation and application of experimental design to inform decision making. Focuses on evaluation of the effectiveness of interventions through use of behavior analytic technologies in clinical and applied settings. Students learn to interpret and describe behavior in behavior analytic terms and explain concepts and approaches in everyday language. Students research and evaluate skill assessment approaches through strategic review of the behavior analytic literature. Course addresses single-subject methodologies to inform design and delivery of effective instruction and clinical interventions. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; SPE 531; SPE 566 |
| SPE | 570 | Internship II | Develops knowledge and skills for effective classroom management, establishing a positive classroom environment and effective lesson delivery. Reinforces the application and evaluation of the NIET Aspiring Teacher Rubric. Provides opportunities for students to engage as a teacher and learner in a classroom setting. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-8 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 567 or SED 567 or SPE 570 |
| SPE | 571 | Apprentice Teaching I | Semester one of apprentice teaching in an elementary (EED)/secondary (SED)/special education (SPE) setting for students who are currently working as the teacher of record. Introduces classroom management, curriculum, instruction and assessment supervised and reinforced by a clinical instructor. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 571 or SED 571 or SPE 571 |
| SPE | 572 | Testing and Measurement in Gifted Education: Methods | Covers current and historical aspects of testing and measurement in the field of gifted education. Topics include: the history and purposes of IQ testing, definitions of various types of tests, purposes of testing for gifted education services, ability tests and achievement measures, how tests are used in Arizona in programs for gifted learners. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SPE 572 or SPE 591 (Testing&Measurement Gifted Ed) |
| SPE | 573 | Differentiating Instruction for Gifted Learners: Teaching Methods | Explores the design of differentiated curriculum and instruction for gifted learners in elementary and secondary education | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only SPE 573 or SPE 591 (Diff Curriculum Gifted Child) |
| SPE | 574 | Apprentice Teaching II | Semester two of apprentice teaching in an elementary (EED)/secondary (SED)/special education (SPE) setting for students who are currently working as the teacher of record. Reinforced application of developing proficiency in classroom management, curriculum, instruction and assessment occurs through supervision and individualized support by a clinical instructor. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 574 or SED 574 or SPE 574 |
| SPE | 575 | Survey, Issues, and Foundations for the Exceptional Student | Explores the foundations of special education through characteristics and eligibility of exceptional students. Analyzes historical, political, social, and legal factors impacting special education services for exceptional students. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 576 | Internship III | Develops knowledge and skills for creating learning experiences for a range of learners, executing instructional cycles, using assessment methods, and reflecting on best teaching practices. Provides opportunities for pre-service educators to engage as a teacher and learner in a classroom. | Y | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-8 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 576 or SED 576 or SPE 576 |
| SPE | 578 | Residency/Student Teaching in Special Education | Student teaching in special education school classrooms. Synthesized experience in curriculum, instruction and classroom management. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 579 | Apprentice Teaching III | Semester three of apprentice teaching in an elementary (EED)/secondary (SED)/special education (SPE) setting for students who are currently working as the teacher of record and enrolled in the masters plus certification program. Continued development toward proficiency in classroom management, curriculum, instruction and assessment. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 579 or SED 579 or SPE 579 |
| SPE | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 581 | Dual Certification Residency | This eight-week residency experience meets the special education (SPE) requirement for dual certification in elementary and special education. Includes practicum-based experiences and supervision in curriculum, instruction and classroom management. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-8 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|----------------------------------|---|-------|-----------------|--|
| SPE | 585 | Creativity: Foundations of Research and Development in Gifted Education | Explores nature of creativity in terms of philosophical underpinnings, empirical evidence, human development, self-actualization, and the ecology surrounding the creative event. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 586 | Advising the Gifted Learner: Social and Emotional Needs | Focuses on educational planning and guidance, social and emotional development, and family problem solving regarding needs of gifted children. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 587 | Special Populations in Gifted Education | In-depth analysis of major controversies in educating the gifted, including nature/nurture, the role of mental tests, and sex differences. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 588 | The Gifted Learner: Foundations of Identification, Education and Development | Gifted children's characteristics, identification, needs, school and home environments, definitions, and misunderstandings. Research by Pressey, Stanley, Terman, and others. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 589 | Gifted Education Programming: Models, Methods and Services | Approaches for designing and implementing optimal and comprehensive gifted education services in a broad range of educational settings. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Special Education Graduate student |
| SPE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 593 or SED 593 or SPE 593 |
| SPE | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Special Education Graduate student |
| SPE | 596 | Residency/Student Teaching | Student teaching in elementary (EED), secondary (SED), or special education school classrooms. Synthesized experience in curriculum, instruction and classroom management. | Y | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-8 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 596 or SED 596 or SPE 596 |
| SPE | 597 | Capstone | Applies theoretical and practical information presented through coursework in a real-world setting. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Special Education Graduate student |
| SPE | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Special Education Graduate student |
| SPE | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SPE | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Pre-requisite: Special Education Doctoral student |
| SPF | 301 | Culture and Schooling | For the professional teacher preparation program. Overview of the cultural, social, and political milieus in which formal schooling takes place in the United States. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| SPF | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-12 | | |
| SPF | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| SPF | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Pre Requisite: Must be Post Bacc UG, Non Degree Graduate or Degree Graduate |
| SPF | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Pre Requisite: Must be Post Bacc UG, Non Degree Graduate or Degree Graduate |
| SSH | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | |
| SSH | 300 | Food and Culture | Uses the case of food to explore how culture shapes human well-being, including the impact of political-economic systems on what we have and chose to eat. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (L or SB) & C | Pre-requisite: ENG 101, 105, 107, or ENG 111; Credit is allowed for only ASB or SSH 300 |
| SSH | 301 | Global History of Health | Examines disease and health transitions in broadest context of human history, from primate ancestors to hunter-gatherers, to transcontinental contact, colonialism, industrialization, urbanization. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 301 or HST 301 or SSH 301 OR Visiting University Student |
| SSH | 314 | HIV/AIDS: Science, Behavior, and Society | Overview of the basic biological, behavioral, and psychosocial aspects of HIV disease and AIDS. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only MIC 314 or SSH 314 OR Visiting University Student |
| SSH | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | |
| SSH | 402 | Community Partnerships for Global Health | Supervised community-based activities relevant to a global perspective on contemporary U.S. health. Addresses community-identified issues using appropriate methodologies. | N | PRA | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3-9 | SB | Prerequisite(s): ASB 100; minimum 45 hours; Credit is allowed for only ASB 452 or SSH 402 OR Visiting University Student |
| SSH | 403 | Cross-Cultural Studies in Global Health | Direct investigations of society, ecology, and health in international settings. | N | PRA | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3-6 | (L or SB) & G | Prerequisite(s): ASB 100; ENG 101, 105, or 107 with C or better; Credit is allowed for only ASB 443 or SSH 403 OR Visiting University Student |
| SSH | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | |
| SSH | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SSH | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRA | Y | Z1 | The College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | |
| SSP | 142 | Sports Performance Practical Training | Introduces protocols used when preparing athletes to perform at the highest intensity levels. Practical experience enables better appreciation of science and precise detail required to deliver effective sports performance programs and recognition of differences in training protocols among populations. | N | LEL | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |

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| SSP | 242 | Resistance Training Foundations for Performance | Applied course that reviews the fundamental science behind resistance training and provides the student with opportunities to improve execution and learn appropriate coaching strategies for the foundational lifts used in a sports performance setting. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Pre- or corequisite(s): SSP 142 with C or better if completed OR Visiting University Student |
| SSP | 275 | Experiential Seminar for Sports Science | Experiential course designed to introduce students to the various career opportunities in the field of sports performance training or sports science. Students review current research, training concepts, discuss evidence-based practice in sports performance. Explores guest speaker and peer discussions on current trends in the field. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 101; Pre- or corequisite(s): SSP 242 OR Visiting University Student |
| SSP | 315 | Exercise and Sport Physiology | Develops an understanding of the body's abilities to perform various types and intensities of exercise and sport, to adapt to stressful situations, and to improve its physiological capacities. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BIO 160 or 201 with C or better; Corequisite(s): SSP 316 (EXW 316) OR Visiting University Student |
| SSP | 316 | Exercise and Sport Physiology Laboratory | Allows for exploration and application of exercise physiology theories in controlled experiments measuring performance capacities. | N | LAB | N | GNA | College of Health Solutions | College of Health Solutions | 1 | | Prereq(s): BIO 160 or 201 w/C or better; Coreq(s): non-Exercise & Wellness BS or non-Kinesiology BS maj: SSP 315 (EXW 315); Pre- or coreq(s): Exercise & Wellness BS or Kinesiology BS maj: KIN 340 w/C or better if completed OR Visiting University Student |
| SSP | 320 | Coaching Leadership, Performance Team and Facility Management | Discusses leadership traits and philosophies necessary to be an impactful coach and team leader. Reviews management details necessary to successfully operate a performance center and meets the business acumen competencies for the NSCA Certified Strength and Conditioning Specialist (CSCS) examination. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only EXW 320 or SSP 320 OR Visiting University Student |
| SSP | 325 | Applied Anatomy and Biomechanics of Sport and Movement | Provides a detailed introduction into the mechanics of motion and the underlying anatomy that provides the structure for that motion. Students learn to appreciate the consequences of external forces, how the body generates internal forces to maintain position, the consequences on the structure of handling the forces and an applied knowledge of how the result of these forces is motion. Emphasizes applying biomechanical principles to analysis of human performance and understanding the background for movement optimization science and the reduction of injury potential through movement correction. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): BIO 201 with C or better; KIN 101 with C or better OR Visiting University Student |
| SSP | 423 | Performance Testing and Technology | A detailed presentation of laboratory and field-based methods used to evaluate athletic performance and measure effectiveness and progress of sports performance training routines. Students are shown the skills to evaluate the most effective tools, techniques and technologies available to carry out individual and team based assessments. Students are exposed to the best practices of performance testing and the wide range of available methods to determine different performance measures, allowing them to make the most effective and cost-efficient choice when asked to make those decisions in the field. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): SSP 315 (EXW 315); SSP 316 (EXW 316); SSP 325 OR Visiting University Student |
| SSP | 434 | Plyometrics, Sports Movement and Conditioning | Applied course providing students with experience and knowledge in plyometric exercise, sprint technique, sports movement skills and sport conditioning program design. Information applies to professionals working with individuals in whom a major goal of their physical activity program is to maximize human performance potential either for personal fitness goals or success in specific sports or for applications in occupational athletes (military, fire and police). Guides students in development of techniques and skills critical to safe, effective and motivating instruction of advanced speed, agility and conditioning exercises and programs for varying individuals and teams. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): SSP 325; Pre- or corequisite(s): SSP 315 (EXW 315); Credit is allowed for only EXW 534 or SSP 434 (or EXW 434) OR Visiting University Student |
| SSP | 460 | Resistance Training Application and Theory | Covers advanced resistance training and performance programming methodologies. Applies to professionals working with individuals in whom a major goal of their physical activity program is to maximize human performance potential either for personal fitness goals or success in specific sports or for applications in occupational athletes (military, fire and police). Guides students in development of techniques and skills critical to safe, effective and motivating instruction of advanced resistance training exercises and programs for varying individuals and teams. Addresses a significant number of core competencies identified for the NSCA Certified Strength and Conditioning Specialist (CSCS) examination. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 215, EXW 216, or SSP 242 with C or better; minimum 60 hours; Credit is allowed for only SSP 530 (or EXW 530) or SSP 460 (or EXW 460) OR Visiting University Student |

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| SSP | 461 | Performance Programming Components and Periodization | Culminating course allows students to construct complete performance training programs using all of the performance activity components (power, conditioning and strength) learned throughout the degree program. Students select how to apply correct periodization models to their program designs based on athlete or client needs and experience. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s) with C or better: EXW 330, KIN 335, or SSP 325; KIN 340 or SSP 315 (EXW 315); Credit allowed for only SSP 461 or EXW 494/598 (Plyometrics & Power Transfer Exercise) or EXW 598 (Plyometrics & Power Training) OR Visiting University Student |
| SSP | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): SSP 242; SSP 275; SSP 434 |
| SSP | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SSP | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-3 | | |
| SSP | 501 | Data Collection, Analysis and Interpretation in Strength and Conditioning | Discusses the use of evidence-based practice and scientific principles to assess athletes, analyze the results and interpret the data for application. Provides a comprehensive understanding of the theories and methods which provide the framework for implementing strength and conditioning programs. Explores research methods and examines ethical and cross-cultural considerations when collecting testing data. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SSP | 530 | Advanced Performance Programming | Covers the application of periodization principles to the design of a comprehensive performance-based training program including appropriate assessment and recovery strategies. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 530; KIN 540 |
| SSP | 534 | Measurement and Monitoring in Sport and Fitness | Sports and/or tactical performance coaching involves the integration of athlete monitoring and readiness techniques. Presents the student with the assessment knowledge necessary to provide feedback for the sport coach and athlete to utilize in planning their performance. Covers information regarding the theory behind quantitative analysis techniques, proper equipment usage, data processing, and the connection of all of the above to exercise science principles. Students also gain experience utilizing advanced equipment and technologies common in the performance field. Additionally, students make recommendations and assign exercises to correct impaired movement, when appropriate. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 540 |
| SSP | 560 | Performance Sports Coaching | Discusses the use of evidence-based practice and scientific principles to design the optimal training session for athletes. Application of lessons learned from motor learning, skill acquisition and sport psychology shift the focus of training sessions to learning rather than performance outcomes. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Strength and Conditioning MS student |
| SSP | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | PRA | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SSP | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SSP | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SSP | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SSP | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SST | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-3 | | |
| SST | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| SST | 220 | Introduction to Social Transformation | Introduces key concepts in the study of social change, social innovation, and social transformation. Studies examples of social movements, social activism, community organizing, and coalition building and how such efforts have transformed society and culture. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Credit is allowed for only APA 220 or JUS 220 or SST 220 |

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| SST | 235 | Disability, Justice and Advocacy | Overarching history of the disability rights movement and how it is similar to and different from other civil and rights movements. Examines how policies and activism are interconnected within this movement, in addition to looking at other human categories related to disabilities such as gender, sexuality, race and socioeconomic status. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | C | Credit is allowed for only COM 235 or JUS 235 or SST 235 or WST 235 OR Visiting University Student |
| SST | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| SST | 301 | Mixed Research Methods for American Communities | Provides a foundation in the concepts and tools of community-based participatory research for studying American cultures, including how to identify and utilize appropriate quantitative and qualitative research methods for working with diverse American communities. Students learn to take part in participant observation, conduct surveys, interviews and focus groups as well as explore existing data sets to conduct secondary data analysis and utilize visual and narrative means of data collection and presentation. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; MAT 117, 142, 170 or completion of MA General Studies course; minimum 2.00 GPA; minimum 24 hours |
| SST | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| SST | 428 | Critical Race Theory | In-depth analysis of the ways in which race has been historically utilized, constructed, and contested in American civil society. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only AFR 428, APA 428, JUS 428 or SST 428 OR Visiting University Student |
| SST | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| SST | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-6 | | Prerequisite(s): Barrett Honors student |
| SST | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-6 | | Prerequisite(s): Barrett Honors student |
| SST | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| SST | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-7 | | |
| SST | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-3 | | |
| SST | 501 | Foundations of Social Transformation | Introduces the foundations of social transformation and social change. Looks at social transformation through an interdisciplinary lens and explores the connections between the objective and subjective factors that enable or inhibit social transformation in different contexts. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SST | 510 | Social and Cultural Pedagogy: Theoretical and Practical Issues | Engages students with the academic literature and scholarly debates on social and cultural pedagogy, reviews practical lessons from the field, and provides an overview of different areas of intervention and professional practice. Considers the historical, local, and international dimensions of social and cultural pedagogy, illustrating them with selected case studies. Encourages the study of social and cultural pedagogy using a critical and interdisciplinary perspective. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SST | 520 | Learning Technologies in Native Education | As the Internet and digital devices become more accessible in Indian country, educators are increasingly developing digital systems for formal and informal learning environments. From distance learning systems to digital language learning and apps for informal learning, this course reviews types of educational technologies in different American Indian and Indigenous educational settings, highlighting the relationship among technical affordances, pedagogical approaches, and social impacts. Students (1) understand how technical affordances shape learning in face-to-face and online environments; (2) describe the relationship between digital learning tools and curricular and programmatic objectives; and (3) describe and propose the basic limitations and possibilities of types of educational technologies for specific American Indian and Indigenous educational settings. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|-------------------------|--|-------------------|-------------------|-----------------|---------------|--|---------------------------------|-------|-----------------|---|
| SST | 530 | Culture and Education | Examines the relationship between local cultures, local knowledge and education. Drawing from comparative and international education and paying particular attention to the world's most marginalized populations--Indigenous peoples. Additionally, explores historical trajectories of education, the global expansion of schooling, state and international education and language policies, as well as notions of local/Indigenous resistance, agency, response and educational innovation. Three major sections comprise the course: (1) patterns in education and language policy for historically underrepresented and underserved populations; (2) the role of families, communities and local and place-based pedagogies; and (3) alternative models of education toward social transformation. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SST 530 or SST 591 (Culture and Education) |
| SST | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| SST | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| SST | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| SST | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| SST | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| SST | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| SST | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| SST | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | Y | Z3 | The College of Liberal Arts and Sciences | School of Social Transformation | 1 | | |
| SST | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| SST | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | IND | Y | Z2 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| SST | 604 | Sexuality Studies | Examines the social construction of sexuality, sexual identities and cultures, including LGBT people and other non-normative gender and sexual formations not captured by modern LGBTQ categories. Studies genders and sexualities that both pre-date current LGBT subjectivities and community formations, as well as develops theoretical and analytic tools to examine future gender and sexual possibilities. Interrogates forms of heterosexuality, heteronormativity and homonormativity, from an intersectional perspective. Examines issues and institutions that impact and are impacted by sexuality as a vector of power, such as sexual stratification, carceral genders and sexualities, reproductive rights/justice, sexual health and justice, HIV/AIDS and disease, sex work, the state and legal system, and transnational and diasporic sexualities, just to name a few. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SST | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| SST | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| SST | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| SST | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-15 | | |
| STC | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 501 | Theories of Data and Society | Surveys the development of social theory with regard to structures of knowledge and data exchange. Prepares students to engage in theory building and deploy theoretical frameworks that inform and support their social research. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 505 | Theories of Social Technology | Examines key theories of social technologies from social and behavioral perspectives. Examines the political dimensions of technologies; technology's role in constructing social structures; and how mobile technologies encourage, structure and delimit social interaction. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 510 | Data Wrangling | Provides a technical grounding in the processes of extracting, processing and combining data for the purposes of understanding social and institutional changes. Introduces structures of the Web, programming for the extraction of data, storing data effectively, and basic tools for manipulating, visualizing, summarizing and transforming collected data. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 512 | Data, Places, People and Things | While the Web continues to be our front door to networked data, the fastest growing segment of internet traffic is produced and consumed by sensors and embedded systems. Examines the ways in which these data may be acquired and used, and how new locative technologies may be prototyped to help understand their social impact. | N | LEL | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only STC 512 or STC 598 (Mobile & IoT Systems) |
| STC | 520 | Advocacy and Social Technology | Examines the potential for social technology in advocating for social change. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 525 | Politics and Social Technology | Concerns the political implications of social technology. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 527 | Ethics and Policies of Social Data | Explores the applied ethics of data, and how this relates to public policy, both from a social and an institutional perspective. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 528 | Communicating Data Science | Making use of data means more than just designing algorithms that work consistently. Big data is useless if it cannot be effectively communicated to those who need it, whether that is policy makers, managers or the public at large. Participants acquire techniques that allow them to effectively communicate complex data in writing, verbally, visually and through interfaces. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 530 | Algorithmic Society | Examines perspectives on the algorithmic turn, including the emergence of software studies, big data, platformed sociability and automation. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 535 | Networked Social Technology | Surveys human and social behaviors from the perspective of networks, with an emphasis on social technology. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 536 | Networked Publics | Traces the move from mass society to networked society and the changes this has led to in the public sphere, political participation and systems of governance. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 537 | Technologies of Community | Examines the ways in which communities form, manage themselves, and improve through the use of networked technologies. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 539 | Social Search and Filtering | Traces the role of search (and search engines) in the development of networked knowledge; how this biases social access to information; and the technologies of filtering, ranking and sorting that increasingly affect social access to information. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only STC 539 or STC 598 (Search, Algorithms, and Society) |
| STC | 540 | Critical/Cultural Approaches to Social Technology | Examines critical and cultural studies approaches to social technologies. Explains a critical/cultural studies approach to social issues and the cultural and social dimensions of technologies. Explores how social technologies both shape and are shaped by power and how cultural understandings of technology contribute to the shaping of everyday life. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| STC | 545 | Games as Social Technology | Explores how games as networked and collaborative technologies facilitate community formation, interaction and development. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 547 | Political Economy of Social Technologies | Examines the economic, political and material structures of contemporary social and participatory media. Considers patterns of ownership, regulatory policy, corporate ideology and practice, intellectual property, the nature of labor in the information economy, and more, all with an eye toward understanding how social technologies are developed, distributed and deployed. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 550 | Computational Social Methods I | Provides a foundation in the structure of scholarly inquiry and research design in the context of data and society. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 551 | Computational Social Methods II | Extends exposure to advanced computational methods in the practice of social science. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 570 | Social Data Projects | Participants collaborate on a substantial project relating to social use of data. In the process they bring to bear their theoretical and technical skills and demonstrate professional interaction and communication skills. Participants also produce a public portfolio of their work during their graduate program. | N | PRA | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | REC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1 | | Prerequisite(s): Social Technologies MA student |
| STC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 599 | Thesis | Supervised research focused on preparation of a thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STM | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1-12 | | |
| STP | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| STP | 226 | Elements of Statistics | Basic concepts and methods of statistics, including descriptive statistics, significance tests, estimation, sampling, and correlation. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | CS | Prerequisite(s): MAT 117 or 142 or other course meeting General Studies MA requirement with C or better or ALEKS score of 61 or higher OR Visiting University Student |
| STP | 231 | Statistics for Life Science | Concepts and methods of statistics; display and summary of data, interval estimation, hypothesis testing, correlation, regression. Applications to biological sciences. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | CS | Prerequisite(s): MAT 117 or 142 or higher with C or better or ALEKS score of 61 or higher OR Visiting University Student |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|--|
| STP | 280 | Probability and Statistics for Researchers | Methods for data summary, numerical summary measures, probability concepts, discrete and continuous probability distributions, expected values, statistics, sampling distributions, point estimation, and introduction to statistical inference for a single parameter. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | CS | Prerequisite(s): MAT 251, 265, or 270 with C or better OR Visiting University Student |
| STP | 281 | Statistical Analysis for Researchers | Confidence intervals, hypothesis testing, one- and two-factor analysis of variance, simple linear regression, multiple regression, chi-square tests, and introduction to statistical quality control. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): MAT 266 or 271 with C or better; STP 280 with C or better OR Visiting University Student |
| STP | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| STP | 298 | Honors Directed Study | Independent study or practicum under the supervision of a faculty member. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| STP | 310 | Design and Analysis of Experiments | Factorial and nested designs, randomized designs, randomized complete block designs, Latin squares, fixed and random effects, expected mean squares, multiple comparisons, and analysis of covariance. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): STP 281 or 420 with C or better OR Visiting University Student |
| STP | 311 | Regression and Time Series Analyses | Simple linear regression, multiple linear regression, indicator variables, influence diagnostics, stepwise selection, logistic regression, introduction to time series models, autocorrelation, and some ARIMA models. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): STP 281 or 420 with C or better OR Visiting University Student |
| STP | 315 | Statistical Computing | Statistical techniques using a professional statistical programming language (e.g., SAS, R). Emphasizes correct methods, writing and presentation of results | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 320 with C or better; STP 226 with C or better OR STP 280, 310, or 311 with C or better OR Visiting University Student |
| STP | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | |
| STP | 420 | Introductory Applied Statistics | Introductory probability, descriptive statistics, sampling distributions, parameter estimation, tests of hypotheses, chi-square tests, regression analysis, analysis of variance, and nonparametric tests. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | CS | Prerequisite(s): MAT 210, 251, 265, or 270 with C or better OR Visiting University Student |
| STP | 421 | Probability | Laws of probability, combinatorial analysis, random variables, probability distributions, expectations, moment-generating functions, transformations of random variables, and central limit theorem. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 267 or 272 with C or better; Credit is allowed for only ACT 415 or ACT 515 or STP 326 or STP 421 or Visiting University Student |
| STP | 425 | Stochastic Processes | Markov chains, stationary distributions, pure jump processes, 2-D order processes, and other topics in stochastic processes. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 342 or 343 with C or better; MAT 371 with C or better; STP 421 with C or better OR Visiting University Student |
| STP | 427 | Mathematical Statistics | Limiting distributions, interval estimation, point estimation, sufficient statistics, and tests of hypotheses. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ACT 415 or STP 421 with C or better; STP 281 or 420 with C or better OR Visiting University Student |
| STP | 429 | Applied Regression | Statistical inference for controlled experimentation. Multiple regression, correlation, analysis of variance, multiple comparisons, and nonparametric procedures. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | CS | Prerequisite(s): STP 420 with C or better OR Visiting University Student |
| STP | 450 | Nonparametric Statistics | Rank- and order-based tests and estimation procedures for 1 sample and 2 or more related or independent samples, measures of correlation, and introduction to resampling methods, including bootstrap and randomization tests. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): STP 311 with C or better OR Visiting University Student |
| STP | 451 | Quality Improvement | In-depth concentration on statistical process control for attribute and variables data, process capability analysis and measurement systems analysis. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): STP 310 with C or better OR Visiting University Student |
| STP | 452 | Multivariate Statistics | Statistical analysis of multivariate data including methods for preparation and presentation of multivariate data, MANOVA, discriminant analysis, principal component analysis, factor analysis, cluster analysis, random forests and classification trees. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): MAT 343 with C or better; STP 311 with C or better OR Visiting University Student |
| STP | 460 | Categorical Data Analysis | Statistical methods for the analysis of categorical (discrete, count) data. Topics include exact and approximate tests and confidence intervals for one- and two-binomial proportions, contingency tables, generalized linear models, logistic regression and loglinear models. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 272 with C or better; STP 310 with C or better; STP 311 with C or better OR Visiting University Student |
| STP | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z2 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | |
| STP | 485 | Statistics Capstone | Students work in a team and partner with a client to solve a real-world problem requiring statistical analyses. Emphasizes problem development, integration of technical skills, teamwork and communication among the students and with the client. Requires regular meetings and presentations with team, client and faculty advisor. | N | LEL | N | YGB | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Pre-requisite: Senior standing; STP 310, 311, 6 additional hours of upper-division STP excluding STP 492, 493, 498, 499 |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| STP | 486 | Peer Mentoring in STEM | Advanced students learn and apply mentoring skills in science classes or teaching labs. | Y | SEM | Y | YGB | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ACO 486 or BIO 486 or LSC 486 or MAT 486 or PTX 486 or STP 486 OR Visiting University Student |
| STP | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| STP | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| STP | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| STP | 495 | Undergraduate Research | Supervised research in statistical or probability studies. | N | RSC | Y | GNA | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | Prerequisite(s): minimum 45 hours. Credit is allowed for only MAT 494 (UG Research in Math) or STP 495 |
| STP | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-7 | | |
| STP | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-3 | | |
| STP | 501 | Theory of Statistics I: Distribution Theory 3 | Introduces rigorous probability theory, including distributions and expectations of random variables, transformations of random variables and order statistics, generating functions and basic limit concepts. Supplements the understanding of applied statistics with a firm grasp of the probabilistic underpinnings of theoretical statistics. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): graduate student (degree seeking or nondegree seeking); Credit is allowed for only STP 501 or STP 598, Theory of Statistics I |
| STP | 502 | Theory of Statistics II: Inference | Presents techniques and basic results of mathematical statistics at a rigorous level. Develops the structure of statistical inference procedures, including the principles of data reduction, theory of estimation, confidence sets, hypothesis testing, and prediction for common parametric models. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): STP 501 with B- or better; Credit is allowed for only STP 502 or STP 598, Theory of Statistics II |
| STP | 505 | Bayesian Statistics | Provides knowledge of Bayesian statistical methods. Covers the essential conceptual ideas for Bayesian analysis and discusses a variety of computational ideas that facilitate a Bayesian analysis in real-world applications. Assumes a mathematical and statistical maturity that is required for admission as a graduate student in statistics, including exposure to mathematical proof, linear algebra, multiple semesters of calculus, exposure to coding and a basic course in statistical concepts and methods. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only STP 505 or STP 598 (Bayesian Statistics) |
| STP | 526 | Theory of Statistical Linear Models | Multinormal distribution, distribution of quadratic forms, full and nonfull rank models, generalized inverses, unbalanced data, variance components, and the large sample theory. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 527 | Statistical Large Sample Theory | Types of convergence, central limit theorems, theory of maximum likelihood estimation, efficiency, robustness, influence functions, theory of bootstrap methods. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 530 | Applied Regression Analysis | Method of least squares, simple and multiple linear regression, polynomial regression, analysis of residuals, dummy variables, and model building. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 531 | Applied Analysis of Variance | Factorial designs, balanced and unbalanced data, fixed and random effects, randomized blocks, Latin squares, analysis of covariance, and multiple comparisons. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 532 | Applied Nonparametric Statistics | One-sample test, tests of 2 or more related or independent samples, measures of correlation, and tests of trend and dependence. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 533 | Applied Multivariate Analysis | Discriminant analysis, principal components, factor analysis, cluster analysis, and canonical correlation. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 535 | Applied Sampling Methodology | Simple random, stratified, cluster sampling; variance estimation in complex surveys; nonparametric superpopulation approaches; nonresponse models; computational methods. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| STP | 540 | Computational Statistics | Presents computational tools for statistical inference and data analysis. Uses R software (the lingua franca of statistics) in a wide variety of examples. Emphasizes simulation of random variables, Monte Carlo experiments, evaluation of statistical models via cross-validation, construction of confidence intervals via bootstrap and hypothesis testing via permutations. Focuses on the numerical solution of least squares problems, on stepwise methods for model building and on estimation of regression models for high-dimensional data. Presents computational tools for maximum likelihood estimation with an emphasis on estimation of logistic regression models. Assumes a mathematical and statistical maturity that is required for admission as a graduate student in statistics, including mathematical proofs, linear algebra, multiple semesters of calculus, coding and statistical concepts. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only STP 540 or STP 598 (Computational Statistics) |
| STP | 550 | Statistical Machine Learning | Modern computing power has enabled the development of powerful tools for uncovering complex high-dimensional relationships in data. These tools form the basic components of the broad interrelated areas known as statistics, machine learning, big data, artificial intelligence and data science. Covers the methods which are most important in applications of statistical machine learning. Focuses on developing an intuitive understanding of these methods and their practical application. Useful background knowledge includes basic computing skills (e.g., R or python), linear algebra and calculus (preferable some exposure to multivariate calculus). | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only STP 550 or STP 598 (Machine Learning / Statistical Learning) |
| STP | 560 | Experimental Statistics in Biology | Principles of experimental design, hypothesis testing and advanced data analysis in the biological sciences using statistical software (R and/or SAS). Applies statistical topics to biological data and emphasizes the identification of the appropriate statistical methodology. Topics include exploratory data analysis with visualization, experimental design, categorical data analysis, generalized linear modelling, survival analysis, CART methods and power analysis. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; BIO 614 |
| STP | 581 | Statistical Consulting Clinic | Provides practical experience in the application of statistical theory and methods to problems from a wide variety of disciplines, exposing students to a diverse range of data types and clients. Develops nontechnical consulting skills, for example explaining statistical concepts to non-statisticians, writing reports, and making oral presentations. | N | PRA | Y | GNA | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): STP 530 with B or better; STP 531 with B or better; Credit is allowed for only STP 581 or STP 598 (Statistical Consulting) |
| STP | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| STP | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | |
| STP | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-15 | | |
| STP | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1 | | |
| STP | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-15 | | |
| STS | 101 | Introduction to Science, Technology and Society | Overview of the basic issues, definitions and literature involved in the study of science, technology and human systems. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Credit is allowed for only STS 101 or STS 304 OR Visiting University Student |
| STS | 110 | Global Technology and Development | Introduces awareness and understanding of how technology, processes of globalization, and society influence one another. Credit is given for only STS 317 or 110. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB & G | Credit is allowed for only STS 110 or 317 |
| STS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| STS | 235 | Technology and Urban Systems | Focuses on the relationship between technology and urbanization, especially on how technological innovation and change impact all aspects of urban systems, including urban social and economic development, sustainability, governance, environmental, and community change. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| STS | 260 | Politics of Science and Technology | Explores the relationship among government, politics, science, and technology, especially the interdependence of public policy and science and technological pursuits. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | |
| STS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| STS | 301 | Research in Science and Technology Studies | Examines methods of inquiry in the social sciences with emphasis on STS, including both qualitative and quantitative approaches, philosophy of science, and scientific revolutions. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | |
| STS | 302 | Philosophy of Science and Technology | Focuses on the nature and implications of science as a body of knowledge, set of practices, specific methods, and how these differ from other human enterprises and activities. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| STS | 303 | History of Science and Technology | Examines the history of technology within social, cultural, political, and economic contexts and the critical relationship between society and technology. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | H | Prerequisite(s): minimum 45 hours |
| STS | 304 | Science, Technology and Society | Overview of the major issues associated with the study of science, technology, and human systems, including theoretical approaches. Credit is given for only STS 304 or 101. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only STS 101 or STS 304 OR Visiting University Student |
| STS | 305 | Science and Social Theory | Explores the different theoretical traditions that inform social interpretations of science, including awareness of the historical traditions that define these interpretations. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | |
| STS | 306 | Social Effects of Science and Technology | Examines the effects of science and technology on social life and the contexts in which those effects manifest. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | |
| STS | 317 | Science, Technology, and Global Engagement | Overview of international issues associated with both the development and deployment of technologies, including matters concerning international relations. Credit is given for only STS 317 or 110. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB & G | Credit is allowed for only STS 110 or 317 |
| STS | 318 | Science, Technology, and Government | Examines the foundations of the interrelationship of science, technology, and democratic governance, with emphasis on the American political system. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | |
| STS | 325 | Science, Technology, and Public Policy | Examines the interaction of science and technology with American domestic policy. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | |
| STS | 328 | Science, Technology, and Culture | Overview of technology and international cultures, including cultural definitions of science and technology. May intersect issues of culture and religion. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | |
| STS | 329 | Technology in Developing Countries | Covers specific issues relating to building technological capability in newly industrializing countries. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB & G | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| STS | 330 | Information Technology and Globalization | Examines the intersection of advances in information technology and globalization and the impact of these processes on human systems. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB & G | |
| STS | 331 | Ethical Issues in Science and Technology | Examines the interconnections between values and science and technology by examining such topics as computers and privacy, medical malpractice, reproductive technologies, patents, and hazardous facilities. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | |

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| STS | 332 | Global Issues in Science and Technology | Examines contemporary international debates in science and technology and how those issues impact globalization. | N | SEM | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | |
| STS | 364 | Science, Technology, and National Security | Examines how changing technologies impact all aspects of national security policy in the United States. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| STS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| STS | 401 | Statistics in Science and Technology Studies | Introduces statistical techniques for the social sciences, including the role and rationale of statistics, descriptive measures, associational measures, and inferential statistics. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | CS | Prerequisite(s): General Studies MA requirement satisfied OR Visiting University Student |
| STS | 425 | Law, Values, Science and Technology | Examines the interconnections of law, values, and science and technology with a view to establishing their reciprocal relationships. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| STS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | |
| STS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | | Prerequisite(s): Barrett Honors student |
| STS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | | Prerequisite(s): Barrett Honors student |
| STS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| STS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-7 | | |
| STS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-3 | | |
| SWG | 501 | Human Behavior and the Social Environment I | Human behavior in the social environment, focusing on conception through middle childhood, analyzing theories of human development within an integrative multidimensional framework. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 502 | Human Behavior and the Social Environment II | Human behavior in the social environment, focusing on adolescence to end of life and systems-level influences. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 510 | Foundation Practice I | Basic social work methods with emphasis on the problem-solving process as it pertains to individuals, families, and small groups. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work MSW student; Pre- or corequisite(s): SWG 501 with C or better if completed |
| SWG | 511 | Foundation Practice II | Theory and methods of direct practice with groups and selected practice models. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Master or Doctor Social Work student; SWG 510 with C or better |
| SWG | 514 | Bridge Seminar I | Professional social work practice at the master's level. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work - Advanced Standing - Advanced Generalist or Social Work - Advanced Standing - Direct Practice or Social Work - Advanced Standing (Planning, Administration and Community Practice) MSW student |
| SWG | 515 | Bridge Seminar II | Generalist practice problem-solving skills with diverse individuals, groups, families and systems at the master's level. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Pre- or corequisite(s): SWG 514 |
| SWG | 516 | Social Work Skills Seminar | Focuses on the acquisition of practice skills for advanced interaction with individuals, families, groups and communities. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Corequisite(s): SWG 514; SWG 515 |
| SWG | 519 | Research Methods in Social Work | Conceptual foundations and methods of nomothetic research in social work. Includes problem identification, hypothesis formulation, measurement, sampling, and experimental design. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 526 | Mental Health for Sentencing | Helps justice system professionals understand existing mental health diagnoses, the DSM-5, and how specific DSM-5 categories are associated with specific types of crime. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 527 | Mitigation of Death and Life Cases | Issues and skills for practicing as a mitigation specialist in cases of death and life without parole. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 528 | Presentence Investigations | Examines the functions and objectives of presentence investigation reports and prepares students to perform different types of investigations for limited and general jurisdiction courts for local, state and federal courts. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 529 | Alternatives Penal Sanctions | Prepares individuals to practice as sentencing advocates on defense teams, as consultants to problem-solving courts, or as private presentence investigators hired by the defense to advocate for alternatives to incarceration. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 531 | Social Policy and Services | Conceptual, analytical, and historical perspectives on the social welfare institution. Emphasizes poverty and inequality. Principles of policy analysis. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SWG | 533 | Diversity, Oppression and Social Justice in Social Work | Explores issues of social inequality related to disability, ethnicity, gender, race, and sexual orientation. Emphasizes populations of the Southwest. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 540 | Professional Experience I: Introduction to the Profession | Explains the historical origins of the social work profession, discusses the values and ethics unique to the profession, and familiarizes students with resources available at the school and the university for students enrolled in the MSW online program. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work - Standard Program MSW student; Credit is allowed for only SWG 540 or SWG 598 (Professional Seminar I) |
| SWG | 541 | Field Practicum I | With SWG 542, two consecutive semesters (480 hours) of supervised social work practice in an approved placement. | N | PRA | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work MSW or PhD student; Pre- or corequisite(s): SWG 510 with C or better if completed |
| SWG | 542 | Field Practicum II | See SWG 541 | N | PRA | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work MSW or PhD student; SWG 510 with C or better; SWG 541 with a Y grade; Pre- or corequisite(s): SWG 511 with C or better if completed |
| SWG | 545 | Domestic Violence and National AmeriCorps Service | Provides students with basic domestic violence education and training in preparation for working with domestic violence survivors in the community, as well as support throughout their first semester of internship placement. Provides training in evidence-based interventions, including the implementation of an evidence-based safety decision aid, a tool to enhance risk assessment, safety planning, and referral to additional community resources. Also emphasizes the unique mission of AmeriCorps members through the Corporation for National & Community Service. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWU 416 or SWU 494 (Domestic Violence Americorp Serv Practicum) or SWG 545 |
| SWG | 546 | Approaches to Teen Dating Violence Prevention | Covers theoretical and practice frameworks for understanding and preventing teen dating violence. Specifically, provides an overview of intimate partner violence in the adolescent developmental context, considers risk factors and impacts of victimizations and investigates methods of assessing and preventing dating violence in multiple contexts. Students critically engage with how practitioners and researchers might engage in dating violence risk reduction and prevention throughout the course, building up to a final project in which they develop their own prevention program. Focuses on issues of gender throughout the semester, and highlights the importance of community-based and culturally-responsive prevention and intervention. Students have the opportunity to think critically about the current understanding of dating violence, explore their own attitudes, and develop ideas for effective intervention and prevention | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 554 | Overview of Addictions | Addictions and their impact upon society including alcohol, legal and illegal drugs, gambling, the Internet, sex and pornography. Focuses on the etiology of addictions that impact our society on a micro, mezzo and macro level. Provides an ecological perspective to view human behavior across the life span as it relates to addictive behaviors. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWG 554 or SWG 591 (Overview of Addictions) or SWU 454 or SWU 498 (Overview of Addictions) |
| SWG | 556 | Immigrants and Refugees | Provides basic conceptual approach to understanding immigrant and refugee issues and how these factors influence social work practice with immigrant and refugee populations. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWU 456 or SWG 556 or SWG 591 (Immigrants and Refugees) |
| SWG | 557 | Southwest Borderland Immigration Issues | Reviews immigration history, trends, policies, and legislation. Focuses on immigrant experience from economic, educational, social, political, familial perspectives in Southwestern U.S. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWG 557 or SWU 457 |
| SWG | 558 | Introduction to Behavioral Health Services | Explores mental health. Develops a basic understanding of mental health and co-occurring conditions. Gains an understanding of public- and employer-financed contemporary behavioral health services with a focus on Arizona models. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWU 458 or SWG 558 or SWG 591 (Introduction to Behavioral Health Services) |
| SWG | 559 | Spirituality and the Helping Professions | Provides a framework for spiritually and culturally competent practice with diverse populations. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWU 459 or SWG 559 or SWG 591 (Spirituality & Helping Profession) or SWG 598 (Spirituality and the Helping Professions) |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|---|-----------------------|-------|-----------------|--|
| SWG | 560 | Legal Issues in Social Work | How the law relates to social work practice, administration and policy. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student, Credit is allowed for only SWU 460 or SWG 560 or SWG 591 (Legal Issues in Social Work) |
| SWG | 561 | Lesbian, Gay, Bisexual, Transgender and Queer Issues | Historical, socio-cultural introduction to lesbian, gay, bisexual and transgender communities and their resilience to challenges and barriers. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWU 461 or SWG 561 or SWG 591 (Lesbian and Gay Issues) |
| SWG | 562 | Global Social Welfare | Analyzes social work's response to international social issues and human need from the perspectives of globalization, development and human rights. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWG 562 or SWG 591 (International Social Work) or SWU 462 or SWU 498 (International Social Work) |
| SWG | 563 | Multicultural Perspectives on Community Development | Analyzes solutions to contemporary social and economic problems from a global perspective. Focuses on local community issues; helps community members from diverse ethnic and cultural backgrounds understand differences and their impact on social behavior. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWU 463 or SWG 563 or CRD 494, CRD 598, NLM 494, PAF 494, PAF 591, SOS 494, SSH 494, SWG 591, or SWU 498 (Multicultural Perspective on Community Development) |
| SWG | 570 | Aging in Perspective | Biopsychosocialspiritual perspectives on aging, including intergenerational matters, international trends, policies, programs, services and issues unique to populations of the Southwest. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWG 570 or SWG 591 (Aging Soc Wk Perspective) |
| SWG | 571 | Mental Health Aspects of Aging | Older adult mental health assessment, treatment, planning, policy and service delivery from a cross-cultural, interprofessional, intergenerational, international and continuum-of-care perspective. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWG 571 or SWG 591 (Mental Health & Aging) |
| SWG | 572 | Interprofessional Approaches to Healthy Aging | In-depth examination of healthy aging, interprofessional practice and interprofessional practice approaches designed to foster healthy aging for older adults. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 573 | Policies to Promote Healthy Aging | Age-based policy process and various social policies/programs that address financial, medical and psychosocial needs of older Americans. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 576 | War and Disaster | Covers traumatic and stressful aspects of natural and mass disaster and war for individuals, families and communities and implications for working with those affected. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWG 576 or SWG 591 (War and Disaster) |
| SWG | 577 | Traumatic Death: Theory, Counseling and Practice | Explores the various experiences of grief, trauma and bereavement through a phenomenological perspective and using creativity, art, literature, poetry, indigenous wisdom and evidence-based research. Practice techniques and psychosocial care to the traumatically bereaved. Examines the micro, mezzo and macro aspects of death and grief in contemporary society. Theory, philosophy and direct practice with individuals, families and groups experiencing traumatic death and grief. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Pre-requisite: Degree- or Nondegree-seeking graduate; Credit is allowed for only SWG 577, 591 (Trauma & Death Counseling) or 598 (Trauma&Death: Counseling, Theory, &Practice Issues) |
| SWG | 579 | Critical Incident Stress Management | Theory and research behind coping strategies and mechanisms commonly experienced by Emergency Management Teams (EMT) and DHS. Explores topics of stress, trauma, vicarious trauma and mass trauma as experienced by the individual and large populations. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | IND | Y | Z1 | Watts College of Public Service and Community Solutions | School of Social Work | 1-12 | | Prerequisite(s): Master or Doctor Social Work student |
| SWG | 585 | Macro Social Work Practice | Examines communities and human service organizations as social systems. Introduces strategies for initiating planned change. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | IND | Y | Z1 | Watts College of Public Service and Community Solutions | School of Social Work | 1-12 | | Prerequisite(s): Master or Doctor Social Work student |

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| SWG | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Social Work | 1-12 | | Prerequisite(s): SWG 606, 610, 623, or 645 with C or better; Pre- or corequisite(s): SWG 614 with C or better if completed; SWG 632 with C or better if completed; SWG 646 with C or better if completed |
| SWG | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 1-4 | | Prerequisite(s): Master of Social Work student |
| SWG | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | IND | Y | Z2 | Watts College of Public Service and Community Solutions | School of Social Work | 1-12 | | |
| SWG | 603 | Social Work Practice in Health/Behavioral Health Settings | Advanced social work practice in health and behavioral health settings, focusing on enhancement of client functioning and quality of life. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWG 542 with grade of Y or MSW Social Work (Advanced Direct Practice) or MSW Social Work (Planning, Administration and Community Practice) major |
| SWG | 604 | Advanced Social Work Practice in Health | Addresses the crucial social work practice issues of health and healthcare in the new millennium. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWG 603 with C or better |
| SWG | 606 | Assessment of Mental Disorders | Theories and concepts of mental health and illness. Attention to classification systems and nomenclature used in assessing mental disorders. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work (Advanced Direct Practice) MSW or Social Work (Planning, Administration and Community Practice) MSW student; SWG 511 with C or better; SWG 542 with Y grade |
| SWG | 608 | Ecological Approach to Practice with Children, Youth, and Families | Provides a theoretical and practical orientation to working with children, youth, and families from an ecological strengths perspective. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Pre-requisites: SWG 542 with Y or MSW Social Work (Advanced Direct Practice) or MSW Social Work (Planning, Administration and Community Practice) major |
| SWG | 609 | Advanced Child Welfare Practice with Children, Youth and Families | Furtheres the acquisition of advanced practice skills and strategies for promoting the safety, permanency and well-being of children and families in the context of child welfare social work. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work MSW student; SWG 542 with Y grade or Social Work (Advanced Direct Practice) MSW or Social Work (Policy, Administration and Community Practice) MSW student |
| SWG | 610 | Advanced Social Work Practice III | Knowledge and skills for advanced practice with individual and families. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work - Advanced Standing - Advanced Generalist MSW student OR SWG 542 with Y grade; Pre- or corequisite(s): SWG 640 with C or better if completed |
| SWG | 611 | Family Therapy | Prepares students to develop and practice essential skills to provide family therapy in an ethically and culturally appropriate manner. Students learn to work with diverse family structures such as grandparents raising grandchildren, LGBTQ+ families, single parent families, adoptive families, multigenerational families and refugee families. Applies all topics to families living in Arizona communities. Derives skills from the following theories: Bowenian family therapy, structural family therapy, experiential family therapy, CBT with families, solution-focused approach to family therapy and narrative family therapy. Role plays include: essential skills needed for initial sessions; the dynamics of roles and boundaries within families; intervening with families in the child welfare system; intervening with families experiencing illness or trauma; and significant family issues such as incest, transgenerational trauma, deportation and substance misuse. Prepares students to conduct family therapy in a wide variety of settings and with relevant topics facing families today. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work (Advanced Direct Practice) MSW or Social Work (Policy, Administration and Community Practice) MSW student or SWG 542 with Y grade |
| SWG | 612 | Social Work with Groups | Practices applications of knowledge and skill to social work with groups. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Pre-requisite: SWG 542 with grade of Y or MSW Social Work (Advanced Direct Practice) or MSW Social Work (Planning, Administration and Community Practice) major |
| SWG | 613 | Advanced Social Work Practice in Behavioral Health | This advanced direct practice course builds on the knowledge and skills established in foundation courses by expanding clinical application and skills using selected practice frameworks with corresponding interventions. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work MSW student; SWG 542 with Y grade or Social Work (Advanced Direct Practice) MSW or Social Work (Policy, Administration and Community Practice) MSW student |

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| SWG | 614 | Advanced Generalist Social Work Practice IV | Knowledge and skills for advanced practice with groups and communities. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWG 640 with C or better |
| SWG | 617 | Advanced Social Work Practice with Children and Adolescents | Theory, research, and intervention that focus on children and adolescents. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work MSW student; SWG 542 with Y grade or Social Work (Advanced Direct Practice) MSW or Social Work (Policy, Administration and Community Practice) MSW student |
| SWG | 618 | Advanced Practice in Domestic Violence | Theory, research, intervention, and prevention strategies relevant to child maltreatment, partner abuse, and elder abuse. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWG 542 with grade of Y or MSW Social Work (Advanced Direct Practice) or MSW Social Work (Planning, Administration and Community Practice) major |
| SWG | 619 | Practice-Oriented Research | Accelerated course in application of scholarly and scientific principles to field practice, problem formulation, interventional procedures, and impact assessment. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWG 519 with C or better or MSW Social Work (Advanced Direct Practice) or MSW Social Work (Planning, Administration and Community Practice) major |
| SWG | 621 | Integrative Seminar | Explores the fit between theoretical frameworks and practice with clients. Requires presentation of empirical studies with clients. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWG 606 with C or better; SWG 619 with C or better; SWG 641 with Y; Pre- or coreq(s): SWG 613 with C or better if completed OR SWG 617 with C or better if completed OR SWG 661 with C or better if completed; SWG 642 with Y if completed |
| SWG | 623 | Program Evaluation | Research design techniques and data collection in human service agencies and communities. Analysis for program evaluation and needs assessment. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work (Advanced Direct Practice) MSW or Social Work (Planning, Administration and Community Practice) or Social Work (Advanced Generalist) MSW major OR SWG 519 with C or better; SWG 542 with Y grade |
| SWG | 626 | Crisis Intervention and Short-Term Treatment | Comprehensive analysis of crisis and solution-focused brief intervention strategies and approaches used in advanced social work practice. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 630 | Brief Social Work Intervention | Concepts and techniques of solution-focused, systematic, and strategic approaches to therapy in the context of brief therapy. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWG 542 with grade of Y or MSW Social Work (Advanced Direct Practice) or Social Work (Planning, Administration and Community Practice) major |
| SWG | 632 | Policy Practice | Develops advanced knowledge and skills in social welfare policy analysis, policy formulation, and advocacy and intervention for policy change. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work (Advanced Direct Practice) MSW, Social Work (Advanced Generalist) MSW, Social Work (Planning, Administration and Community Practice) MSW student OR SWG 531 with C or better; SWG 542 with Y grade |
| SWG | 633 | Child Welfare Policy and Programs | Explores the issues and processes shaping child welfare policy and practice to formulate, analyze, implement, evaluate and disseminate evidence-informed policies and interventions at all system levels. Examines state and federal functions associated with oversight, leadership and system redesign in public child welfare. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work (Advanced Direct Practice) MSW or Social Work (Policy, Administration and Community Practice) MSW student or SWG 542 with Y grade |
| SWG | 640 | Professional Seminar II: Applying Theory to Advanced Generalist Social Work Practice | Applies social work's knowledge base to advanced generalist social work. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work - Advanced Standing - Advanced Generalist MSW major OR SWG 542; Credit is allowed for only SWG 640 or SWG 598 (Professional Seminar II) |
| SWG | 641 | Advanced Practicum: Direct Practice I | With SWG 642, two consecutive semesters (480 hours) of supervised social work practice in an approved placement related to the student's career goal. | N | PRA | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work (Advanced Direct Practice) MSW student OR SWG 542 with Y grade; minimum 3.00 GPA |
| SWG | 642 | Advanced Practicum: Direct Practice II | With SWG 641, two consecutive semesters (480 hours) of supervised social work practice in an approved placement related to the student's career goal. | N | PRA | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWG 641 with Y grade; minimum 3.00 GPA |

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| SWG | 643 | Advanced Practicum: Planning, Social Work Administration, and Community Practice I | With SWG 644, two consecutive semesters (480 hours) in social work practice in an approved placement related to the student's career goal. | N | PRA | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prereq(s): Social Work Adv Standing (Policy, Admin & Community Prac) MSW student OR SWG 542 with Y grade; min 3.00 GPA; Pre- or coreq(s): SWG 681 with C or better if completed; SWG 682 with C or better if completed; SWG 685 with C or better if completed |
| SWG | 644 | Advanced Practicum: Planning, Social Work Administration, and Community Practice II | With SWG 643, two consecutive semesters (480 hours) in social work practice in an approved placement related to the student's career goal. | N | PRA | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWG 681 with C or better; SWG 682 with C or better; SWG 685 with C or better; SWG 643 with Y grade; minimum 3.00 GPA; Pre- or corequisite(s): SWG 623 with C or better if completed; SWG 632 with C or better if completed |
| SWG | 645 | The Professional Experience III | With SWG 646, two consecutive semesters (480 hours) of supervised social work practice in an approved placement related to the student's career goal. | N | PRA | N | YGB | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work - Advanced Standing - Advanced Generalist MSW student OR SWG 542 with Y grade; SWG 640 with C or better; Pre- or corequisite(s): SWG 610 |
| SWG | 646 | The Professional Experience IV | With SWG 645, two consecutive semesters (480 hours) of supervised social work practice in an approved placement related to the student's career goal. | N | PRA | N | YGB | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWG 610 with C or better; SWG 645 with Y grade; minimum 3.00 GPA; Pre- or corequisite(s): SWG 614 |
| SWG | 647 | The Domestic Violence Movement: An Intersectional Framework | Provides training and education in preparation for political and community advocacy to address domestic violence and sexual assault from a macro social work perspective. Provides education in the history of the domestic violence movement, including its roots in the feminist perspective and the rape crisis movement. Furthermore, students critically analyze the domestic violence movement, examining the role of marginalized populations within the movement as well as unintended consequences of the movement. Concludes by planning for the future of the domestic violence movement, including next steps in policy advocacy, programming and community engagement. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 648 | Intimate Partner Violence Risk Assessment | Examines the use of intimate partner violence (IPV, aka, domestic violence) risk assessment in social work practice with survivors of IPV. Examines theories and research that explain, define and describe IPV risk assessment; the intended uses and predictive value of the various available IPV risk assessment instruments; and the use of IPV risk assessment instruments in social work practice interventions, including within risk informed collaborative interventions (e.g., the Lethality Assessment Program). Presents an evidence-based practice framework for the use of risk assessment in social work practice. Encourages students to think critically about the use of risk assessment across social work practice settings. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 654 | Introduction to Sexual Abuse | Develops general knowledge and skills for working with persons who have been impacted by sexual abuse. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 655 | Quality of Life, Mastering Mindfulness | The alchemy of a mindfulness practice blends with key elements of a balanced lifestyle to create health and wellbeing. Explores stress reduction, self-care and factors that contribute to quality of life. Through Socratic inquiry and a critical thinking lens, addresses the challenge of making sustainable lifestyle changes toward wellbeing and provides evidence-based practice and skills to support health at every level--physical, mental and emotional. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Assessment of Integrative Health Modalities (certificate) or degree-seeking graduate student |
| SWG | 656 | Treating the Whole Person | Treating the "whole person" is curated through the lens of science, positive psychology, cognitive behavioral therapy and the practice of mindfulness. Through actionable tools, intervention, treatment planning and experiential learning this course balances practice and research with real-world application. The "whole person" is viewed through an ecological perspective which utilizes a person's own cognitive resilience in developing long-term prevention tools to sustain change that takes into account multicultural practices and client preferences. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Assessment of Integrative Health Modalities (certificate) or degree-seeking graduate student |

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| SWG | 657 | Holistic Therapies for Modern Times | We are becoming a global community in regard to health and patient care. Evidence-based practice in North America is just one point of view. Over the past several decades consumers and health care providers have been increasingly curious about seeking information, knowledge and treatment regarding alternative modalities. Health professionals are broadening their viewpoints to integrate other healing traditions in the course of patient treatment. Explores ecopsychology, transpersonal healing, expressive arts, indigenous and traditional healing practices, contemplative and somatic practices. Offers learning opportunities to understand and explore how these teachings can be partnered with allopathic/Western medicine. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Assessment of Integrative Health Modalities (certificate) or degree-seeking graduate student |
| SWG | 661 | Cognitive Behavioral Models and Interventions | Knowledge and skills to understand and apply cognitive-behavioral approaches to treatment (CBT), including diagnostic information and empirically supported interventions targeted to individuals, families and groups across the lifespan. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work (Advanced Direct Practice) MSW student OR Pre- or corequisite(s): SWG 542 with Y grade |
| SWG | 662 | Social Work Practice With Adolescents | Advanced elective focuses on working with adolescents in a variety of intervention settings (e.g., mental health agencies and schools). | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Pre-requisite: SWG 542 with grade of Y OR MSW Social Work (Advanced Direct Practice) or Social Work (Planning, Administration and Community Practice) major; Credit is allowed for only SWG 591 (Social Work Practice With Adolescents) or 662 |
| SWG | 663 | Clinical Trauma Treatment | Explores the assessment and treatment of PTSD in people throughout the lifespan. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Pre-requisite: SWG 542 with grade of Y OR MSW Social Work (Advanced Direct Practice) or Social Work (Planning, Administration and Community Practice) major; Credit is allowed for only SWG 591 (Clinical Trauma Treatment) or 663 |
| SWG | 664 | Evidence-Based Approaches to Treatment of Substance Use Disorders | Knowledge and skills to understand substance abuse disorders, including diagnostic information and evidence-based interventions targeted to individuals, families and groups. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Pre-requisite: SWG 542 with grade of Y OR MSW Social Work (Advanced Direct Practice) or Social Work (Planning, Administration and Community Practice) major; Credit is allowed for only SWG 591 (Treatment Substance Use Disorders) or 664 |
| SWG | 681 | Social Work Administration | Administrative skill building and theory application within human service nonprofit social work settings. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work Advanced Standing (Advanced Direct Practice) MSW or Social Work Advanced Standing (Policy, Administration and Community Practice) MSW student OR SWG 542 with Y grade |
| SWG | 682 | Community Participation Strategies | Reviews strategies to involve citizens and the consumers of social and human services in community decision-making systems. Participation is viewed as a means to facilitate the empowerment of oppressed peoples. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work Advanced Standing (Advanced Direct Practice) MSW or Social Work Advanced Standing (Policy, Administration and Community Practice) MSW student OR SWG 542 with Y grade |
| SWG | 685 | Program Planning in Social Services | Social services planning process; includes needs assessment, goals and objectives, program design, budgeting, management information systems, and program evaluation. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work (Advanced Direct Practice) MSW or Social Work (Planning, Administration and Community Practice) MSW student OR SWG 542 with Y grade; SWG 585 with C or better |
| SWG | 686 | Developing Grants and Fund Raising | Identifies potential funding sources, technical and interpersonal/political aspects of proposal development and fund raising. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 687 | Public Policy and Advocacy | Covers public policy at the federal level, including administrative, legislative and judicial policy. Students understand how to develop congressional policy and methods to engage in advocacy at the federal level to impact macro social work practice. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWG 687 or SWG 591 (Advocacy and Public Policy) |
| SWG | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Watts College of Public Service and Community Solutions | School of Social Work | 1-12 | | Prerequisite(s): Master or Doctor Social Work student |

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| SWG | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 1-12 | | Pre-requisites: MSW or MSW Advanced Standing student |
| SWG | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | SEM | Y | Z1 | Watts College of Public Service and Community Solutions | School of Social Work | 1-12 | | Prereq(s): SWG 606 w/ C or better; SWG 610 w/ C or better; SWG 623 w/ C or better; SWG 640 w/ C or better; SWG 645 w/ Y grade; Pre- or coreq(s): SWG 614 w/ C or better if completed; SWG 632 w/ C or better if completed; SWG 646 w/ Y grade if completed |
| SWG | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | IND | Y | Z3 | Watts College of Public Service and Community Solutions | School of Social Work | 1 | | Pre-requisites: MSW, MSW Adv Standing, or PhD student |
| SWG | 718 | Critical Qualitative Research Methods | Provides a comprehensive overview of critical qualitative research methods in social work and other related disciplines that challenge social inequities and strive for social justice. Students independently design a critical qualitative research project from start to finish. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): doctoral student |
| SWG | 719 | Quantitative Research Methods | Provides the tools for independently designing and conducting methodologically sound, ethical, quantitative research that advances social work and social welfare knowledge. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Pre-requisite: Doctoral student |
| SWG | 720 | Philosophy of Science Issues in Social Work | Critical examination of social science, social work practice, and policy in terms of philosophical assumptions and varying frames of reference. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Pre-requisite: Master or Doctor Social Work student. |
| SWG | 721 | Statistics | Logic and application of statistical methods for analyzing social welfare-based data pertaining to social work. Includes ethical issues concerning the appropriate application, interpretation and use of social research, as well as the potential limitations and biases of applications that fail to adequately consider issues of population diversity. Students learn to independently design a research project from start to finish employing statistical analysis of primary data. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Pre-requisite: doctoral major |
| SWG | 722 | Pedagogy in Social Work | Prepares doctoral students to teach for the profession of social work. Provides an opportunity for students to develop or enhance their philosophy of teaching, their attitudes toward learning, teaching and students, and the knowledge and skills necessary to teach effectively. Explores teaching to the diverse students present in social work programs, the challenges that teaching presents and the responsibilities that come with social work education. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Doctoral student; Credit is allowed for only SWG 722 or SWG 791 (Pedagogy in Social Work) |
| SWG | 723 | Proposal Development | Provides an opportunity for doctoral students to formulate a dissertation proposal or a research plan for a three-paper option. Provides a forum for presenting ideas, receiving feedback and defending one's proposal. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Pre-requisite: Doctoral student; Credit is allowed for only SWG 723 or 791 (Proposal Development) |
| SWG | 731 | Welfare State | Examines the evolution of the welfare state as a problem of political economy. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Pre-requisite: Doctoral student; Credit is allowed for only SWG 731 or 791 (Welfare State) |
| SWG | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 1-12 | | Pre-requisite: Master or Doctor Social Work student. |
| SWG | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 1-12 | | Pre-requisite: Master or Doctor Social Work student. |
| SWG | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Social Work | 1-15 | | Pre-requisite: Master or Doctor Social Work student. |
| SWG | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | IND | Y | Z3 | Watts College of Public Service and Community Solutions | School of Social Work | 1 | | |
| SWG | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | IND | Y | Z2 | Watts College of Public Service and Community Solutions | School of Social Work | 1-15 | | Pre-requisite: Master or Doctor Social Work student. |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|---|-----------------------|-------|-----------------|---|
| SWU | 171 | Introduction to Social Work | Descriptive and historical perspectives of social problems, social justice issues and society's response to them. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | SB & H | |
| SWU | 180 | Introduction to Lesbian, Gay, Bisexual and Transgender (LGBT) Studies | A historical, socio-cultural introduction to lesbian, gay, bisexual, transgender, transsexual, and intersexed communities and their resilience to challenges and barriers. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | SB & C | Credit is allowed for only SWU 180 or SWU 194 (Introduction to LGBT Studies) OR Visiting University Student |
| SWU | 181 | Economics: A Social Issues Perspective | Introduces economic principles through the lens of contemporary social issues for social work and related fields. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Credit is allowed for only SWU 181 or SWU 194 (Economic and Social Issues in Perspective) OR Visiting University Student |
| SWU | 182 | Social Services Perspective of Government | Explores levels of government and policy practice in advancing social and economic justice and effective social services within the Southwest. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | SB | Credit is allowed for only SWU 182 or SWU 194 (AZ/National Government: Social Work Perspective) OR Visiting University Student |
| SWU | 183 | Introductory Ethics: A Social Issues Perspectives | Introductory exploration of ethics from a historical and multicultural perspective viewed through the lens of contemporary social issues. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | HU | Credit is allowed for only SWU 183 or SWU 194 (Intro Ethics: Social Issues Perspective) OR Visiting University Student |
| SWU | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 1-4 | | |
| SWU | 250 | Stress Management Tools I | Helps students develop an understanding and behaviors to create a healthy balance in their lives by studying the bio/psycho/social aspects of wellness. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | SB | |
| SWU | 291 | Social Service Delivery Systems | Federal, state, private not-for-profit and for-profit social service delivery system's purpose, structure, and professional roles. Includes 40 volunteer hours. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): PSY 101 or SOC 101; Pre- or corequisite(s): SWU 171 with C or better if completed OR Visiting University Student |
| SWU | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 1-4 | | |
| SWU | 295 | Foundations of Social Work Practice | Theoretical foundation and skill base for effective culturally competent communication and interviewing with individuals, families, small groups, and larger systems. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | SB & C | Prerequisite(s): PSY 101 or SOC 101; Pre- or corequisite(s): SWU 171 with C or better if completed OR Visiting University Student |
| SWU | 302 | Human Biology for Social Workers | Overview of human anatomy and physiology, and the reciprocal relationship between physical and social environments. May be repeated for credit. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | |
| SWU | 303 | Micro Human Behavior and the Social Environment | Human behavior in the social environment throughout the life cycle, analyzing theories of human development within an integrative multidimensional framework. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | L or SB | Prerequisite(s): Comm Advoc & Soc Pol BA major; ENG 101, 105 or 107 with C or better OR ENG 101, 105 or 107 with C or better; PSY 101 or SOC 101; SWU 171 with C or better; SWU 291 with C or better; SWU 295 with C or better OR Visiting University Student |
| SWU | 306 | Ethics in Social Services | Focuses on following the NASW Code of Ethics in making ethical decisions in social service settings. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; PHI 101, PHI 105, or SWU 183; SWU 171 with C or better; SWU 291 with C or better; SWU 295 with C or better OR Community Advocacy and Social Policy BA major OR Visiting University Student |
| SWU | 310 | Social Work Practice I | Introduces social work methods, emphasizing the following skills: relationship development, cross-cultural interviewing, communication patterns, and case-recording. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWU 171 or SWU 271 with C or better; SWU 291 with C or better; SWU 295 with C or better; Pre- or corequisite(s): SWU 303 with C or better if completed |
| SWU | 311 | Integrative Social Work Practice | Social work practice skills emphasizing cross-cultural interviewing, assessment and professional recording. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWU 171 with C or better; SWU 291 with C or better; SWU 295 with C or better; Pre- or corequisite(s): SWU 306; Corequisite(s): SWU 312 OR Visiting University Student |
| SWU | 312 | Integrative Social Work Practice Skills | Applies social work content from SWU 311 focusing on practice skills and professional behavior. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWU 171 with C or better; SWU 291 with C or better; SWU 295 with C or better; Pre- or corequisite(s): SWU 306; Corequisite(s): SWU 311 OR Visiting University Student |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|---|-----------------------|-------|-----------------|---|
| SWU | 320 | Research Methods in Social Work | Applies scientific principles to field practice, problem formulation, intervention procedures, and impact assessment in social work. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Pre- or corequisite(s): SWU 311 with C or better if completed; SWU 312 with C or better if completed OR Community Advocacy and Social Policy BA major OR Visiting University Student |
| SWU | 321 | Statistics for Social Workers | Teaches social work students how to use and interpret descriptive and inferential statistics in social work practice. May be repeated for credit. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | CS | Prerequisite(s): MAT 142 or an MA general studies course OR Visiting University Student |
| SWU | 332 | Social Policy and Advocacy | Contemporary social, political and economic issues. Special emphasis on advocating for oppressed populations. Analysis and development of social welfare policies and programs. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Community Advocacy and Social Policy major or Public Service and Social Policy major; POS 110 or POS 310 or SWU 182 OR Visiting University Student |
| SWU | 340 | Macro Human Behavior and the Social Environment | Human behavior in the social environment, focusing on groups, organizations and communities and examining theoretical perspectives in a macro context. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | SB | Pre- or corequisite(s): Community Advocacy and Social Policy BA major OR SWU 303 with C or better if completed OR Visiting University Student |
| SWU | 349 | Stress Management Tools II | Developing mindful strategies toward managing stress, developing instinct awareness; healthy decisions in nutrition, relationship with self, others and creating a personal carbon footprint. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | SB | Credit is allowed for only SWU 349 or SWU 294 (Stress Management Tools II) OR Visiting University Student |
| SWU | 350 | Whole Person Health Across the Lifespan | Development of mindful strategies toward managing stress and identification, implementation and integration of skills and knowledge for well-being across the lifespan. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| SWU | 351 | Sustainable Living, Mindful Eating | Addresses issues related to foods we eat, how we eat, and impacts of choices on health, the environment, locally and globally. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| SWU | 374 | Diversity and Oppression in a Social Work Context | Issues of social inequality related to race, ethnicity, gender, sexual orientation, and disability. Emphasizes populations of the Southwest. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | C | Prerequisite(s): Community Advocacy and Social Policy BA major or Social Work BSW major OR Visiting University Student |
| SWU | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SWU | 410 | Social Work Practice II | Knowledge and skills in social work practice with individuals and families. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work BSW major; PHI 101 or PHI 105 or PHI 306 or SWU 183; SWU 311 with C or better; SWU 312 with C or better; Corequisite(s): SWU 412; SWU 413 OR Visiting University Student |
| SWU | 411 | Social Work Practice III | Knowledge and skills in social work practice with groups, communities, and organizations. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work BSW major; SWU 410, 412, or 413 with C or better; Corequisite(s): SWU 414; SWU 415 OR Visiting University Student |
| SWU | 412 | Field Instruction I | 16 hours a week of supervised practice in an approved placement. "Y/E" grade only. | N | PRA | N | YGB | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work BSW major; SWU 311 with C or better; SWU 312 with C or better; minimum 2.00 GPA; Corequisite(s): SWU 410; SWU 413 OR Visiting University Student |
| SWU | 413 | Field Instruction Seminar | Field-focused seminar, including practice evaluation. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work BSW major; SWU 311 with C or better; SWU 312 with C or better; Corequisite(s): SWU 410; SWU 412 OR Visiting University Student |
| SWU | 414 | Field Instruction II | 16 hours a week of supervised practice in an approved placement. Y/E grade only. | N | PRA | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work BSW major; SWU 410 with C or better; SWU 412 with Y grade; SWU 413 with C or better; minimum 2.00 GPA; Corequisite(s): SWU 411; SWU 415 OR Visiting University Student |
| SWU | 415 | Integrative Field Seminar | Field-focused seminar to help students integrate practice and theory. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work BSW major; SWU 410 with C or better; SWU 412 with C or better; SWU 413 with C or better; Corequisite(s): SWU 411; SWU 414 OR Visiting University Student |
| SWU | 416 | Domestic Violence and National AmeriCorps Service | Prepares students for working with domestic violence survivors in the community and to implement evidence-based practices in domestic violence services. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only SWU 416 or SWU 494 (Domestic Violence Americorp Serv Practicum) or SWG 545 OR Visiting University Student |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|---|-----------------------|-------|-----------------|--|
| SWU | 417 | Technology, Interpersonal Relationships and Abuse | Examines the influence, impact and role of information communication technologies within interpersonal relationships. Draws from theoretical concepts, current events and student experiences to understand the risks and benefits to incorporating mediated communications into personal relationships. Also examines ways that technology can further abuse and mistreatment of marginalized groups by reviewing research about online harassment, cyberbullying, cyberstalking, monitoring, surveillance, and other forms of online exploitation. Students use readings, lectures and assignments to understand ethical implications when incorporating technology into our social lives. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): minimum 45 hours |
| SWU | 418 | Global Violence Against Women | Examines experiences of and responses to violence against women (VAW) from global perspectives. Throughout the semester students explore drivers and consequences of violence against women across geographic and practice contexts. Examines critical approaches and evidence-based practice modalities. While the focus of the course is on women's experiences of violence, students have opportunities to explore a wide range of identities related to gender, sexual orientation, race, social status and differing abilities. Draws from local expertise in the practice community and offers integration of classroom content with contemporary issues related to both policy and practice at the local, state, national and international levels. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): minimum 45 hours |
| SWU | 432 | Social Policy and Services | Contemporary social, political, and economic issues. Special emphasis on poverty and inequality in the Southwest. Analysis and development of social welfare policies and programs. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work BSW major; ECN 211 or SWU 181; POS 110, POS 310, or SWU 182; SWU 311 with C or better; SWU 312 with C or better; Corequisite(s): SWU 410; SWU 412; SWU 413 OR Visiting University Student |
| SWU | 442 | Child Welfare Practice | Focuses on the characteristics, strengths, and service needs of families and children in the Child Welfare System. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work BSW major; SWU 410 with C or better; SWU 412 with C or better; SWU 413 with C or better OR Visiting University Student |
| SWU | 450 | Mastering Mindfulness | Facilitates mastering mindfulness practice. Students teach a lesson and develop a training proposal that will be implemented and evaluated. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWU 250; SWU 349 |
| SWU | 454 | Overview of Addictions | Addictions and their impact upon society including alcohol, legal and illegal drugs, gambling, the Internet, sex and pornography. Focuses on the etiology of addictions that impact our society on a micro, mezzo and macro level. Provides an ecological perspective to view human behavior across the life span as it relates to addictive behaviors. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only SWU 454 or SWU 498 (Overview of Addictions) or SWG 554 |
| SWU | 456 | Immigrants and Refugees | Provides basic conceptual approach to understanding immigrant and refugee issues and how these factors influence social work practice with immigrant and refugee populations. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | C | Prerequisite(s): minimum junior standing; Credit is allowed for only SWU 456 or SWU 498 (Immigrants & Refugees) or SWG 556 OR Visiting University Student |
| SWU | 457 | Southwest Borderland Immigration Issues | Reviews immigration history, trends, policies, and legislation. Focuses on immigrant experience from economic, educational, social, political, familial perspectives in Southwestern U.S. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | C | Credit is allowed for only SWU 457 or SWG 557 OR Visiting University Student |
| SWU | 458 | Behavioral Health Services | Behavioral health conditions; their impact on the individual, family and community; and historical and contemporary service models. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only SWU 458 or SWU 498 (Behavioral Health Services) or SWG 558 OR Visiting University Student |
| SWU | 459 | Spirituality and the Helping Professions | Provides a framework for spiritually and culturally competent practice with diverse populations. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only SWU 459 or SWU 494 (Spirituality and the Helping Professions) or SWU 498 (Spirituality & Helping Profession) or SWG 559 |
| SWU | 460 | Legal Issues in Social Work | How the law relates to social work practice, administration and policy. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only SWU 460 or SWU 498 (Legal Issues in Social Work) or SWG 560 OR Visiting University Student |

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| SWU | 461 | Lesbian, Gay, Bisexual, Transgender, and Queer Issues | Historical, socio-cultural introduction to lesbian, gay, bisexual and transgender communities and their resilience to challenges and barriers. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | C | Prerequisite(s): minimum junior standing; Credit is allowed for only SWU 461 or SWU 498 (Lesbian/Gay Issues) or SWG 561 OR Visiting University Student |
| SWU | 462 | Global Social Welfare | Analyzes social work's response to international social issues and human need from the perspectives of globalization, development and human rights. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | G | Prerequisite(s): minimum junior standing; Credit is allowed for only SWG 562 or SWU 498 (International Social Work) or SWU 462 |
| SWU | 463 | Multicultural Perspectives on Community Development | Analyzes solutions to contemporary social and economic problems from a global perspective. Focuses on local community issues; helps community members from diverse ethnic and cultural backgrounds understand differences and their impact on social behavior. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): junior standing; Credit is allowed for only SWU 463 or SWG 563 or CRD 494, CRD 598, NLM 494, PAF 494, PAF 591, SOS 494, SSH 494, SWG 591, or SWU 498 (Multicultural Perspective on Community Development) |
| SWU | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | LEC | N | Z1 | Watts College of Public Service and Community Solutions | School of Social Work | 1-12 | | |
| SWU | 488 | Advocacy Strategies | Comprehensive advocacy approach that spans administrative, legislative and community strategies. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWU 303; SWU 306; SWU 320; SWU 340; SWU 350; SWU 374; senior standing OR Visiting University Student |
| SWU | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Social Work | 1-6 | | Prerequisite(s): Barrett Honors student |
| SWU | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | IND | N | Z1 | Watts College of Public Service and Community Solutions | School of Social Work | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| SWU | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 1-4 | | |
| SWU | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | N | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| SWU | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Watts College of Public Service and Community Solutions | School of Social Work | 1-3 | | Pre-requisite: Bachelor of Social Work student |
| TAM | 505 | Navigating Global and Regional Business Environments | Globalization has dramatically expanded opportunities for international trade, investment and economic development, but potential trade disputes, international financial crises, political risks, international environmental regulations and ethical dilemmas in global business have also emerged. Develops analytical tools for understanding the rapidly changing and dynamic global business environment, especially in the era of 4th Industrial Revolution. With these tools, managers are better prepared to manage risks and take advantage of opportunities in the global economy. Deals with the regional business environment. Begins with a brief geographical, demographic and cultural overview of the region, and develops tools for analysis useful to assessing the Latin American business environment. While the emphasis is Latin America, the same tools could be applied to any region of the world. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TAM | 511 | Global Accounting: Managing with Numbers | Covers the fundamentals of financial accounting and managerial accounting in a global environment. Financial accounting focuses on providing useful information to users for external decision making. By understanding the structure and process of preparing a balance sheet, income statement and statement of cash flows, students learn how to interpret, analyze and evaluate domestic and international companies. Managerial accounting focuses on providing useful information for internal decision making. By identifying and understanding different types of cost information, students learn how to utilize and prepare cost-volume profit analysis, relevant cost analysis, activity-based costing and performance evaluation within global organizations. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TAM | 521 | Financial Value Creation for Leaders | Covers fundamental concepts and practices of modern financial management within a market-oriented framework. Develops analytical skills for sound financial decision making and management. Emphasizes practical applications and equips learners with tools necessary to make investment and financing decisions in a global setting. Achieves learning via problem solving, video lectures, case analysis and discussions. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|--|
| TAM | 530 | Data Analytics and Digital Transformation in a Global World | Leaders must harness the data revolution and engender digital transformation in their organizations to be successful within and across societies in the 21st century. Provides knowledge and skillsets in the ever broadening range of types, forms and uses of data, data tools, data technologies and platforms for dynamic decision making. Provides learners with critical skillsets in visualizations and dash-boarding that transform mere data into information and insights. Provides knowledge on how organizations benefit from a fourth industrial revolution technologies including sensors (IoT), Blockchain, artificial intelligence (AI), and augmented reality (AR) that move data-driven insights from the front-lines to the boardroom. Also examines implications for stakeholder relationship management, privacy, security and regulations that are shaping and are shaped by the data revolution and digital transformation. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TAM | 531 | Project and Operations Leadership | Strategies and challenges associated with leading projects and designing and improving service and manufacturing processes. Topics include project management, value-chain structures, supplier partnerships, logistics, risk management and value-stream mapping. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TAM | 534 | Global Venture Creation | Covers the most essential topics for first-timer startup founders. Teaches how to quickly identify and test new business ideas, and how to launch a new venture when an idea worth pursuing is found. Provides a good understanding of the entrepreneurial journey and what is involved when launching a new business. Students develop a new business idea, build and test business model and deliver a professional business pitch at the end of the course. Highly experiential and involves a great deal of customer interactions. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TAM 511; TAM 541 |
| TAM | 541 | Strategy in a Competitive World | Focuses on choices that have an impact on the performance of the entire organization or business start up. Includes the problems faced by, and the decisions made by, executive leaders who have to balance the needs and expectations of stakeholders including customers, shareholders and employees with the requirements of local country practices and government regulations. Analyzes problems and decisions from the point of view of the founder, general manager or chief executive who has responsibility for the welfare of the entire organization. By focusing on policy decisions, concerns the choice of goals as well as the organization; management and deployment of scarce resources to pursue these goals within the context of an imperfect, changing and competitive world. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TAM | 542 | Global Leadership and Personal Development | Personal leadership development is optimized by grounded reflection, self knowledge and continuous learning as we interact with others. Therefore, the personal development part of this course cultivates introspective and skill-building competencies that include conceptual grounding that is based in an experiential learning focus. Discusses self- and other-awareness and engages in group/team interaction, as well as conducts individual self-assessments and individual feedback. In addition to developing ourselves at the personal level, developing ourselves as leaders at the organizational level is imperative to sustainability of the company. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird graduate student |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|--|
| TAM | 557 | Customer Experience and Digital Marketing in a Global World | The customer experience is being transformed across the world due to technological transformations but continues to vary across societies and regions. Leaders need to be fluent with the marketing mix (4Ps), namely pricing, product, promotion and place, and how these tools could be used to add value to firms in national and international settings, and how they could be effectively applied to create, price, communicate and deliver value to customers and important stakeholders using quantitative and qualitative analysis. Leaders and managers need to be knowledgeable about macro issues such as market orientation, segmentation, targeting and positioning and their strategic implications for customer, competitor and context analysis to be successful. Leaders need to utilize decision tools to create competitive advantage, and understand the similarities and differences in domestic and global marketing. Leaders must also be able to harness digital transformation and broader tools of the 4th industrial revolution (e.g., e-commerce, wearables and the emerging metaverse) to design powerful customer experiences and marketing in today's globalized and technological world. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TAM | 582 | Communicating and Negotiating in a Dynamic Global World | Improves global mindset and negotiation skills by focusing on cross-cultural issues, communication issues and negotiation in cross-cultural environments. Provides an in-depth examination of culture, its managerial implications and negotiation. Explores various methodologies to understand and measure national cultures. Embarks on a rigorous and practical journey to examine the impact of national culture, no matter how it is measured, on communication dynamics in a cross-cultural environment and focuses on specific skill sets to help students succeed in such situations. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TAM | 589 | Global Field Seminar | Businesses confront significant differences among countries in regard to industry structures as well as economic, political, societal and cultural forces, especially in the new era of Industry 4.0. These differences create new challenges and opportunities for businesses that extend their activities internationally. Given the tremendous diversity and rapidly changing business environment across the globe, it is important to address (1) the forces impacting a country's business environment, (2) the implications of these factors for business strategies. Provides a framework and an analytical approach to study the dynamics of business environment in a particular region. Conducted on the ground in country, focuses on-site visits to companies and/or government entities, and interactive discussions with speakers. Emphasizes contemporary issues relevant to understanding the business environment. | Y | SEM | Y | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TAM | 597 | Integrative Project | Integrates business subjects covered in the program online. Helps students fine tune their business plans and prepare presentations for potential fund raising. Provides tools for effective presentation, preparing pitch deck for fund raising and successful negotiation of the term sheets. Learning is achieved via lectures, discussions, presentations and role play as negotiators. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | Prerequisite(s): TAM 511; TAM 521; TAM 534; TAM 541; TGM 505; TGM 540; TGM 551; TGM 579 |
| TCL | 101 | Latinas/os in the U.S. | Historical and contemporary issues in Latina/o communities in the U.S.; focuses on the diverse economic, sociological, cultural and political status. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | HU & C | |
| TCL | 111 | Latinx Cultural Studies | Interdisciplinary analysis of customs, values, belief systems, and cultural symbols; special attention is given to cultural continuity and change. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | HU & C | |
| TCL | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 1-3 | | |
| TCL | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 1-4 | | |
| TCL | 201 | Transborder Society and Culture I: Interdisciplinary Approaches | Intensive overview of Mexican origin and Latina/o populations through various sociological, historical, anthropological, economic, political, cultural, literary, and analytical lenses. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | HU & C | |
| TCL | 202 | Transborder Society and Culture II: Contemporary Issues | Examines contemporary transborder culture; issues of health, gender, class, race, sexuality, family, colonialism, community development, migration and well being, within a transnational context. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB & C | |
| TCL | 210 | Introduction to Ethnic Studies in the U.S. | Covers diversity of experiences and relations among racial and ethnic groups in the United States. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | C | Credit is allowed for only AFR 212 or APA 210 or JUS 210 or TCL 210 OR Visiting University Student |

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| TCL | 211 | Latinx Poetics | Writing seminar on Latina, Latino and Latinx poetics; intensive creative writing workshop. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | HU & C | |
| TCL | 220 | Transborder Latina/o Expressive Culture | Examines media, literature, performance, and visual art grounded in the historical experiences of transborder Latina/o communities. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | (L or HU or SB) & C | Prerequisite(s): ENG 101, 105, or 107 with C or better or minimum 24 hours OR Visiting University Student |
| TCL | 230 | The Expressive Culture of Latin America and the Caribbean: A Transborder Perspective | Interdisciplinary social science introduction to various forms of cultural expressions found throughout Latin America and the Caribbean region and in Latina/o communities within the United States. Uses a transborder perspective to examine how migration, race, ethnicity, gender, power, history and identity shape and influence different aspects of Latina/o culture and identity. Focuses on the study of a wide array of expressive practices including music, dance, verbal arts, myths and folktales, festivals, sports and food in Mexico, the Spanish Caribbean and their counterpart Latina/o communities in the United States. Class lectures and readings introduce basic concepts such as ethnography, ethno-musicology, culture, representation and globalization. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | (L or HU or SB) & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ASB 220 or TCL 230 OR Visiting University Student |
| TCL | 275 | Culture, Language and Learning | Examines the dynamic and complex interplay of language, culture and learning within and across individuals, groups, institutions and cultures in diverse multicultural, multilingual and transborder contexts. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB & C | Credit is allowed for only ASB 275 or TCL 275 |
| TCL | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 1-4 | | |
| TCL | 303 | Transborder Theory | Studies historical, cultural, and economic theories contributing to understanding the emergence of Mexican and Latina/o origin populations in the Americas. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only SOC 303 or TCL 303 OR Visiting University Student |
| TCL | 304 | Transborder Research Methods | Emphasizes critical skills: quantitative/qualitative, spatial, archival, and reflexive methodologies, including ethnographic, biographical, historical, and mapping. | N | RSC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB & C | Prerequisite(s): minimum 45 hours |
| TCL | 305 | Transborder Practicum and Field Research | Field work with faculty incorporating practical experience while honing research skills and ability. | N | PRA | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Pre- or corequisite(s): TCL 303 with C or better if completed; TCL 304 with C or better if completed |
| TCL | 310 | Folklore of the Southwest | Analyzes the folk beliefs, practices and expression of Mexican-origin and other Latinx populations. Focus includes art, music, performance and every day practices. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | HU & C | Prerequisite(s): ENG 101, 105, or 107 with C or better or minimum 24 hours |
| TCL | 314 | Transborder Latin American Migration to the U.S. | Historical/contemporary overview of Mexican and other Latin American migration into and within the U.S.; factors affecting population movement, settlement patterns and migrants' incorporation into society. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | (L or SB) & H & C | Prerequisite(s): ENG 101, 105 or 107 with C or better; minimum 45 hours; Credit is allowed for only SOC 314 or TCL 314 OR Visiting University Student |
| TCL | 315 | Latinx Family Structures | Traditional and changing family relationships of Mexican-origin and Latinx populations; emphasizes gender and intergenerational relations and impact of modern society on traditional family values. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB | Prerequisite(s): ENG 101, 105, or 107 with C or better or minimum 24 hours |
| TCL | 321 | Transborder Community Development and Health | Emphasizes core concepts and practices relevant to regional community development and health, including demographic health indicators, individual, and community models. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only SOC 320 or TCL 321 OR Visiting University Student |
| TCL | 323 | Latina/o Health Issues | Health issues among U.S. Latina/o populations; interplay among political economy, health, family, culture and community. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB & C | Prerequisite(s): ENG 101, 105, or 107 with C or better or minimum 24 hours OR Visiting University Student |
| TCL | 326 | Health of Chicanas and Latinas | Examines gender, ethnicity, and health; critical issues affecting health status of Chicanas and Latinas. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB & C | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| TCL | 327 | Health and Migration | Focuses on health status among various immigrants; health trajectories following migrations, adaptive behaviors, health practices, and the role of policy. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better or minimum 24 hours |
| TCL | 328 | Hispanic Religion, Culture and Healing | U.S. Hispanic and Latin American religious history with special attention to what are mestizo hybrid cultures and their healing methods. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | HU & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only REL 326 or TCL 328 OR Visiting University Student |
| TCL | 331 | Mexican American History to 1900 | Mexican American history from pre-Hispanic origins to frontier journeys north through 19th-century life in the U.S. Southwest. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB & H & C | Prerequisite(s): ENG 102, 105 or 108 with a C or better; minimum 30 hours; Credit is allowed for only HST 331 or TCL 331 OR Visiting University Student |
| TCL | 332 | Mexican American History Since 1900 | Traces the formation of Mexican American communities across the rural and urban U.S. and examines 20th-century immigration from Mexico. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB & H & C | Prerequisite(s): ENG 102, 105 or 108 with a C or better; minimum 30 hours; Credit is allowed for only HST 332 or TCL 332 OR Visiting University Student |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--|-------------------------------|-------|-----------------|--|
| TCL | 335 | Historical Studies in Race, Crime, and the Law | Studies the historical relationship between the criminal justice system in the United States and a segment of society that has traditionally faced official and unofficial discrimination: American racial minorities. Focuses on the experiences of Mexican Americans and Africans Americans with the criminal justice system. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): ENG 101 with C or better; ENG 102 with C or better; Credit is allowed for only AFR 335 or HST 323 or TCL 335 OR Visiting University Student |
| TCL | 340 | Chicana/o and Latina/o Politics and Policy | Historical/contemporary analysis of Chicana and Chicano political ideologies, attitudes, strategies, and movements; relations with governmental agencies; and public policy issues. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | L & C | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| TCL | 341 | Latinas/os and the City | Examines major contemporary issues affecting Latina/o communities in U.S. cities. Explores elements and trends in the urban social fabric and landscape associated with a growing Latino presence and its connection with ethnic diversity, transnationalism, cultural resistance and resilience. Pays particular attention to the political economy and planning of Latino communities in the Southwest with selected comparison drawn from other U.S. cities. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | C | Prerequisite(s): ENG 101, 105, or 107 with C or better OR minimum 24 hours OR Visiting University Student |
| TCL | 342 | Social Demographics of Latino Populations | Provides an introduction to social demography of Latinos in the U.S. from the 19th century to the present. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB & C | Prerequisite(s): minimum 45 hours; Credit is allowed for only SOC 343 or TCL 342 |
| TCL | 343 | Latinas/os and the Environment | Examines the nexus among race/ethnicity, migration, class and the built and natural environment. Explores the proposition that Latina/o and other ethnic minorities and socioeconomically disadvantaged populations bear a disproportionate burden of environmental challenges and its consequences for equality, health and quality of life. Key topics include environmental racism, vulnerability and resilience, climate change, community organizing, and mobilization. Pays considerable attention to community-based efforts to deal with environmental problems affecting the Latina/o population in the U.S. Southwest. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): ENG 101 or 105 or 107 with C or better OR minimum 24 hours; Credit is allowed for only ASB 343 or PUP 343 or SOS 343 or TCL 343 or ASB/PUP/SOS/TCL 394 (Latinos and the Environment) |
| TCL | 348 | The Borders of Language | In-depth focus on language use, multilingualism and social life in borderlands contexts, in and out of school. Explores the historical and contemporary dimensions of language use in the borderlands, including Indigenous languages, English and Spanish, and hybrid forms. Also introduces theories and methods in the field of linguistic anthropology. Students conduct research on everyday linguistic practice and connect it to broader sociopolitical realities. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | L | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only ASB 348 or ASB 394 (The Borders of Language) or ENG 348 or ENG 394 (The Borders of Language) or TCL 348 or TCL 394 (The Borders of Language) |
| TCL | 350 | Mexican and Chicana/o Artistic Production | Overview of Mexican and Chicana/o artistic production from colonial times to present; emphasizes religious and folk art. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | HU & C & G | Prerequisite(s): ENG 101, 105, or 107 with C or better or minimum 24 hours |
| TCL | 351 | Chicana/o and Latina/o Art | Intensive analysis of contemporary Chicana/o and Latina/o art movement as appraised within the context of contemporary American art and the art of Mexico. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | HU & C | Prerequisite(s): ENG 101, 105, or 107 with C or better or minimum 24 hours |
| TCL | 352 | Chicana/o Film | Explores how Chicano and Chicana filmmakers have interpreted the Chicano experience through the medium of film. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | C | Credit is allowed for only FMS 352 or TCL 352 |
| TCL | 355 | Transborder Digital Media Making | Covers digital media-making with a focus on issues relating to the U.S.-Mexico border region, specifically within the Phoenix community. | N | LEL | N | GNA | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FMP 355 or TCL 355 or FMP 394 (Intro to Transborder Digital Media Making) or TCL 394 (Intro to Transborder Digital Media Making) |
| TCL | 360 | Inequality and Diversity in Education | Advanced exploration of various dimensions of diversity in relation to educational systems and outcomes. Through sociological and psychological research, case studies and films, students examine how educational inequality is created and reproduced through individual actions and institutional constraints. Also considers the connection between schooling and human rights and ways in which educational inequality may be addressed. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | L & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; AFR 212, APA 200, APA 210, CDE 232, JUS 210, TCL 210, or minimum 24 hours; Credit is allowed for only AFR 350, APA 350, CDE 350, JUS 365, SOC 350, or TCL 360 OR Visiting University Student |
| TCL | 362 | Urban Communication: Reinventing the Latinx City | Explores and reflects on the impact of mediated representations of Latinx ethnic enclaves in the configuration of notions of community, citizenship and sense of belonging. Also looks at the role of media in identity formation as a way of engaging and challenging cultural, social and political ideologies and struggles in urban contexts. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only COM 362 or COM 394 (Urban Communication: Reinventing the Latinx City) or TCL 362 or TCL 394 (Urban Communication: Reinventing the Latinx City) OR Visiting University Student |
| TCL | 363 | Transborder Mexican and Chicano/a Literature of Southwest North America | Development of Chicana and Chicano literature; study of genres and themes; attention to literary antecedents. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 363 or TCL 363 OR Visiting University Student |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--|-------------------------------|-------|-----------------|---|
| TCL | 370 | Signs of Aliens: Semiotics of Film and Popular Culture | Introduces semiotics and cultural studies; looks at various meanings ascribed to the sign of the alien. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | HU | Credit is allowed for only FMS 370 or TCL 370 |
| TCL | 371 | Language Hegemony and Culture | Historical and cultural analysis of language and the ideological constructs imposed upon resident populations in the Southwest North American region since 1540. Analyzes the suppositions, ideologies, premises and mechanisms by which Spanish and English became imposed among Native peoples and later national populations of Mexicans during the 19th century and continuing with their descendants and migrating populations crossing the bifurcated border. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 371 or HST 371 or SLC 371 or SPA 371 or TCL 371 or ASB/HST/SLC/SPA/TCL 394 (Language Hegemony & Culture in SW North America) |
| TCL | 373 | Latina/Chicana Issues | Critical examination of the roles Mexican American, Chicana, and/or Latina immigrant women play historically, socially, and politically in the United States and along the border. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB & C | Prerequisite(s): WST 100 (or WST 300) with C or better or minimum 30 hours; Credit is allowed for only TCL 373 or WST 373 OR Visiting University Student |
| TCL | 377 | Arizona, Immigration, Latinos and Politics | Contemporary immigration and its related issues have generated significant debates, reforms and responses by government officials, businesses and private citizens, to name but a few in this country. This course provides a much-needed framework for understanding some of the immigration issues in Arizona and the country generally. It also focuses on some of the political responses by Latinos and their significant mobilization at the local, state and federal levels. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only JUS 377 or POS 377 or SGS 377 or TCL 377 or JUS/HST/POS/SGS/TCL 394 (Arizona, Immigration, Latinos and Politics) OR Visiting University Student |
| TCL | 378 | Globalization: Migration, Mass Media, McDonald's | Explores the impact of globalization on local societies and cultures by focusing on the international migration of peoples, the global expansion of capitalism and global mass media and popular culture. Examines both the socioeconomic causes and consequences of globalization, as well as how local peoples around the world have been affected by, participated in and resisted the forces of globalization. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | (L or SB) & C | Prerequisite(s): ENG 101, 105, 107, or 111 with C or better; Credit is allowed for only ASB 378 or TCL 378 |
| TCL | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 1-4 | | |
| TCL | 410 | Race, Medicine, and the Body | Explores how body and embodiment and race and ethnicity are constructed within and by biomedical sciences and technology development. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only SOC 410 or TCL 410 OR Visiting University Student |
| TCL | 422 | U.S.-Mexico Border Health | Focuses on identifying health issues affecting Latino/Mexican families in the U.S.-Mexico borderlands using basic epidemiological techniques to analyze regional data. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): TCL 321 with C or better |
| TCL | 424 | Theory and Practice of Community Development and Health | Foundations of methodology of community mapping and establishment of community diagnosis, media literacy and advocacy applications for community-based public health. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB | Prerequisite(s): TCL 321 with C or better |
| TCL | 443 | Political Ecology of the Border | Examines the political ecology of the human-environment relationship in Mexico and on the U.S.-Mexican border. Through case studies, students learn about the most pressing environmental issues facing human populations and their communities on both sides of the U.S.-Mexican border and the various ways in which these issues are dealt with. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 463 or SOS 463 or TCL 443 |
| TCL | 444 | The Ethnography of Mexico and the Borderlands | Students learn basic principles of ethnographic research and obtain a better understanding of the social, ecological, cultural, political and economic processes affecting people in Mexico and in the U.S.-Mexico borderlands. Through case studies, students become aware of the variety of issues shaping the lives of those living in these regions. Focuses on contemporary issues such as migration, economy, gender, labor, health and the environment. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 464 or TCL 444 or TCL 598 (The Ethnography of Mexico and the Borderlands) OR Visiting University Student |
| TCL | 447 | Gender, Culture, and Development | In-depth analysis of gender roles related to health, family, work, education and politics in developing countries. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | (L or SB) & G | Prerequisite(s): ENG 101, 105 or 107 w/ C or better; WST 100 or 300 or minimum 45 hours; Credit is allowed for only SGS 454 or SOS 447 or TCL 447 or WST 447 or TCL 598 (Gender, Culture & Development) OR Visiting University Student |
| TCL | 448 | Teaching Chicana and Chicano Studies in the Schools | Approaches/techniques for infusion of transborder studies content into elementary and secondary curriculum; designed for teachers who work with Mexican and Latino origin students. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): minimum 45 hours |
| TCL | 464 | Latina/o Literature | Development of Latina/o literature. Study of genres and themes; attention to literary antecedents of the new U.S.-based Latina literature. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | (L or HU) & C | Prerequisite(s) with C or better: ENG 101, 105, or 107; ENG 200; one ENG 200- or 300-level literature course OR ENG 101, 105, or 107; min 45 hours; Credit is allowed for only ENG 458 or FMS 464 or TCL 464 OR Visiting University Student |

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| TCL | 471 | Latinos In Hollywood | Studies representations of Latinos in film; stereotyping, politics of metaphor, allegory, star discourse, self-representation, resistance, and independent film. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | HU & C | Credit is allowed for only FMS 471 or TCL 471 |
| TCL | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | |
| TCL | 485 | Chicana and Latina Writers | Critical reading of Mexican American women authors; emphasis on contemporary (post-1970) poetry, novels, short stories, and essays. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours OR Visiting University Student |
| TCL | 490 | Transborder Queer Performativity | Explores a rich and diverse body of border-crossing performative expression created by queer and/or Latina/o artists. Course readings and discussions include solo and collaborative works with an emphasis on solo autobiographical performance scripts as well as performer interviews and performance scholarship. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | HU & C | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 45 hours; Credit is allowed for only TCL or WST 490 |
| TCL | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Transborder Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| TCL | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | The College of Liberal Arts and Sciences | School of Transborder Studies | 1-6 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| TCL | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 1-4 | | |
| TCL | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 1-7 | | Prerequisite(s): Transborder Chicana/o and Latina/o Studies BA major; minimum 56 hours |
| TCL | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | N | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Transborder Studies | 1-3 | | |
| TCL | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TDM | 205 | Introduction to Travel and Tourism | Provides an overview of tourism and its impacts on communities, cultures, economies and environmental systems. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | G | |
| TDM | 225 | Introduction to Resort and Hotel Management | Introduces local, national and international lodging and food service industries. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | |
| TDM | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |
| TDM | 345 | Meeting and Convention Planning | Basic aspects and skills in planning meetings and conventions. Industry and market overview of certified meeting planners. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): TDM 205 or RTM 373 with C or better OR Visiting University Student |
| TDM | 350 | Tourism, Recreation and Sports Marketing | Critical examination of marketing principles in leisure and related industries in diverse settings, including local, national, and international. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 210, CSM 201 or TDM 205; ENG 102, 105 or 108 with C or better; MAT 142 or higher with C or better; minimum 45 hours; Credit is allowed for only CRD 350 or CSM 350 or PRM 350 or TDM 350 OR Visiting University Student |
| TDM | 372 | Tourism Planning | Applies economic and regional development concepts and theories to destination product development. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; MAT 142 or higher with C or better; TDM 205 with C or better; minimum 2.50 GPA; minimum 45 hours OR Visiting University Student |
| TDM | 386 | Convention Sales and Management | The role of convention and visitors bureaus or resort managers, including economic impacts of markets, structure, governance, membership, and advertising. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | |
| TDM | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |
| TDM | 401 | Tourism Management | Basic principles of administration and their application in successful administrative situations. Analyzes administrative function, structure, and policies. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 210 or PRM 210 or TDM 210 with C or better; CRD 301 or PRM 301 or TDM 301 with C or better; PRM 303 or TDM 372 with C or better OR Visiting University Student |
| TDM | 402 | Assessment and Evaluation of Community Services | Introduces applied leisure research with emphasis on program evaluation, research design, data collection techniques, and data analysis. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 210 or PRM 210; Credit is allowed for only CRD 402 or CSM 402 or NLM 402 or PRM 402 or TDM 402 OR Visiting University Student |

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| TDM | 415 | Tourism Transportation Systems | Examines the role of various modes of transportation in domestic and international tourism development. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): TDM 205 or RTM 373 with C or better |
| TDM | 448 | Heritage and Cultural Tourism | Provides a solid conceptual understanding of the issues, problems, and management implications associated with heritage and cultural tourism. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): TDM 205 with C or better; Credit is allowed for only TDM 448 or CRD 598 (Heritage and Cultural Tourism) OR Visiting University Student |
| TDM | 458 | International Tourism | Global examination of international tourism and its significance as a vehicle for social and economic development. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | G | |
| TDM | 463 | Senior Internship | Supervised guided experience in selected agencies. | N | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3-12 | | Prerequisite(s): CRD 403 or PRM 413 with C or better; Credit is allowed for only CRD 463 or CSM 463 or NLM 463 or PRM 463 or TDM 463 |
| TDM | 475 | Entrepreneurial Recreation and Tourism | Explores basic business principles and innovative processes involved in starting a small business in the commercial recreation and tourism industry. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only PRM 475 or TDM 475 OR Visiting University Student |
| TDM | 480 | Sustainable Tourism | Tourism has a multitude of impacts, both positive and negative, on people's lives and on the environment. Critically analyzes the environmental, economic, and socio-cultural aspects of tourism development, and strategies to attain balance among these three dimensions to guarantee its long-term sustainability. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): PRM 120 or TDM 205 or minimum 60 hours OR Visiting University Student |
| TDM | 481 | Sustainable Food Management in Tourism | Focuses on the fundamentals of sustainability, sustainable food systems, relationships between food and tourism, and the applications of sustainable food practices in different types of global tourism. Defines sustainable development, explains the importance of sustainable food systems, recognizes the relationship between local food systems and global food challenges. Connects the challenges of creating and maintaining sustainable food systems with the needs of tourists and tourism destinations; defines leakage in reference to tourism and food. Creates and applies sustainability assessment criteria to food systems in a variety of different tourism spaces. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Pre-requisite: Junior standing; Minimum 60 hours |
| TDM | 482 | Sustainable Revenue Management | Introduces the fundamental economic principles that underlie revenue management and the practical application of new analytical technological services in the hotel and resort industry. Uses experienced revenue managers from local resorts and hotels as regular guest speakers and IdeaS system (a revenue management analytics subsidiary of SAS). | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Pre-requisites: MAT 142 or higher; Minimum 72 hours |
| TDM | 483 | Sports Tourism | Examines the relationship between sports and tourism, and the role of recreation and amateur sports as an economic and community development strategy. Also considers the motives, behaviors and experiences of sport tourists; the impacts of sport tourism; and trends in sports tourism. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CSM 483 or PRM 483 or TDM 483 OR visiting University Student |
| TDM | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | |
| TDM | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-6 | | Prerequisite(s): Barrett Honors student |
| TDM | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-6 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| TDM | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |
| TDM | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| TDM | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-3 | | |
| TDM | 520 | Sustainable Thinking in Tourism I | First in a series of two courses introducing students to the basic concepts of sustainability and their application and implications for tourism. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TDM | 521 | Sustainable Thinking in Tourism II | Second in a series of two courses focusing on how to measure, assess, and plan for sustainability in the tourism industry. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): TDM 520 with C or better |

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| TDM | 530 | Sustainable Tourism Destination Planning and Management I | Applies sustainable economic and regional development concepts and theories to destination planning and management. Students learn the fundamentals of sustainable planning, including stakeholder involvement and meeting community needs. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TDM | 531 | Sustainable Tourism Destination Planning and Management II | Applies sustainable economic and regional development concepts and theories to destination planning and management. Students learn the fundamentals of sustainable planning, including stakeholder involvement and meeting community needs. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): TDM 530 |
| TDM | 540 | Sustainable Food Management in Tourism | Focuses on the fundamentals of sustainability, sustainable food systems, relationships between food and tourism, and the applications of sustainable food practices in different types of global tourism. Students learn to define sustainable development; explain the importance of sustainable food systems, recognize the relationship between local food systems and global food challenges; connect the challenges of creating and maintaining sustainable food systems with the needs of tourists and tourism destinations; define leakage in reference to tourism and food; and create and apply sustainability assessment criteria to food systems in a variety of different tourism spaces. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TDM | 550 | Managing the Sustainable Tourism Business | Through case study analysis, students learn how sustainability impacts business operations, how successful sustainable businesses identify and assess alternative resource management techniques, and evaluate operational models for embedding sustainability practices into their business models. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TDM | 561 | Best Practices Workshop Preparation | First in a series of two courses investigating and sharing best practices in sustainable tourism. Provides an overview of best practices and innovative actions in tourism. A destination or business is identified to be used as a case study. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1 | | Pre- or corequisite(s): TDM 521 with C or better |
| TDM | 562 | Best Practices Workshop Presentation | Second in a series of two courses investigating and sharing best practices in sustainable tourism. Provides an overview of best practices and innovative actions in tourism. A presentation of a best practices case study is conducted for the class. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1 | | Prerequisite(s): TDM 561 with C or better |
| TDM | 570 | Sustainable Tourism | Critically examines the environmental, economic, and socio-cultural aspects of tourism development, and strategies to attain balance among these three dimensions to guarantee its long-term sustainability. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TDM | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TDM | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TDM | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 101 | Professional Educator Series: The Student Experience | Introduces all new first-time Mary Lou Fulton Teachers College students to the unique elements, culture, challenges and opportunities of their university. Introduces future educators to the professional educator series and the themes that underpin the series, to include design-thinking, principled innovation, professional identity and legacy-minded thinking and actions. | N | SEM | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): Mary Lou Fulton Teachers College freshmen OR Visiting University Student |
| TEL | 102 | Professional Educator Series: Community Contexts | Explores the community context that impacts children and youths with specific focus on issues of diversity and social justice. Includes a service-learning component addressing a community-identified concern. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): Teachers College student |
| TEL | 111 | Exploration of Education | Education as an instrument in the development of the individual and society and its significance as an American Institution. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | SB | |
| TEL | 171 | Professional Educator Series: Equity in Education | Analyzes educational issues that are limiting equitable education experiences for children, youth and adults in educational systems birth-college and proposes solutions to meet those needs. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | |
| TEL | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |

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| TEL | 200 | Social Embeddedness of Educational Endeavors | Serves as a pathway toward self discovery and professional identity. Course readings, reflections and self assessments help students develop personal and professional goals and goal-setting strategies. Course assignments provide students with a greater level of understanding regarding the reciprocal influences among community and culture and the student's life experiences. Students have an opportunity to clearly define themselves and share topics they are passionate about, as well as locate how they might fit into and contribute to their community. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | |
| TEL | 201 | Professional Educator Series: My Community Footprint | Explores the community context that impacts children and youths with specific focus on issues of diversity and social justice. Future educators enhance their knowledge, skills and attitudes of the professional educator series themes of design-thinking, character and moral development, professional identity, and legacy-minded thinking and actions. | Y | LEC | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): Teachers College student |
| TEL | 202 | Professional Educator Series: My Impact | Advances future educators' knowledge and skills as they apply the professional educator series themes of design-thinking, character and moral development, professional identity, and legacy-minded thinking and actions to become master learners and change agents for civic engagement and toward their personal and professional growth and fulfillment. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): Teachers College student |
| TEL | 203 | Collaborating, Planning and Implementing Instruction in Diverse Contexts | Prepares future educators to work with participants in a variety of learning environments and diverse contexts. Emphasizes innovative outcome-based and learner-centered approaches to planning and implementing instructional activities constructed using collaborative design-thinking. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | |
| TEL | 208 | Literacy in a Changing World | Examines literacy in the social context and the changing nature of literacy in the 21st century. Areas of inquiry include how students' cultural backgrounds and identities can serve as resources for literacy learning, linguistic diversity, media literacies, multi-modal literacies, and critical literacies. Explores issues of equity and social justice including the role of literacy to empower people into making positive changes in their lives and society. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | HU | |
| TEL | 212 | Understanding the Culturally Diverse Learner | Surveys cultural and linguistic diversity in American education, including education equity, pluralism, learning styles, and roles of schools in a multiethnic society. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | HU & C | |
| TEL | 215 | Introduction to Child and Adolescent Development | Emphasizes the cognitive, social-emotional, and physical domains of child and adolescent development. From a knowledge base of theory, research, and current issues, students apply learning to developmentally appropriate principles and practices that guide relationships and learning experiences for all children. Uses available technologies; emphasizes the complex ecosystem of culture, ethnicity, family, and school. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | SB | |
| TEL | 270 | Professional Educator Series: Connecting Research to Practice | Assists students in shifting from a student perspective of education to a teacher perspective of education as they explore what it means to be a professional educator. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | |
| TEL | 271 | Professional Educator Series: Inclusivity in Practice | Students continue shifting from a student perspective of education to a teacher perspective of education by connecting newly expanding knowledge with experiences in the field to assist them in preparing for a career as an educator with specific focus on inclusivity and supporting students with a range of learner assets, abilities and needs. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | |
| TEL | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| TEL | 300 | Community, Family, and Education | Addresses education in a community and family context. Analyzes education and identifies education-focused community challenges in a broad variety of settings and across multiple times and places. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): TEL 200 OR Visiting University Student |
| TEL | 310 | Instructional Thought and Action: Instructional Design and Planning | Compares and contrasts theories of learning as well as how to identify and apply instruction based on these theories to foster rich student learning. Addresses a diversity of learners and perspectives, in differentiated contexts, across all specific professional educator pathways. Teaches aspects of instructional design and planning as prospective educators design instruction to meet student needs. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; TEL 203 or minimum 39 hours |
| TEL | 311 | Instruction and Management in the Inclusive Classroom | Planning and delivering instruction, organizing and managing classrooms, and making adaptations for English language learners and students with special needs. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |

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| TEL | 313 | Technology in an Educational Setting | Focuses on using technology in an education setting and addresses the integration of technology in curricular areas for all students. Students receive a broad-based introduction to using and integrating technology into many different educational settings. | N | LEL | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): General Studies CS course OR Visiting University Student |
| TEL | 315 | Child and Adolescent Development | Physical, cognitive, social, and emotional development during childhood and adolescence; developmentally appropriate principles and practices to facilitate development for all students. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| TEL | 316 | Teaching, Imagination, and Creativity | Engages students in critical thinking and the complex terrain of aesthetic theory and intellectual, academic work and teaching practice. Students apply aesthetic consciousness teaching by teachers developing imagination, creativity, and intuition as tools to use every day in their classrooms. Emphasis on how teachers can integrate the arts into the curriculum, use the arts to support academic content, and develop aesthetic consciousness as a way of becoming attuned to the teaching environment as well as to learners' diverse cultures, talents, and needs. The arts will also be studied as multi-cultural and socio-cultural phenomena, aiding teachers to become consciously attuned to the culturally diverse learner within the larger society.consciousness as a way of becoming attuned to the teaching environment as well as to learners' diverse cultures, talents, and needs. Also studies the arts as multicultural and sociocultural phenomena in support of these ends, aiding teachers to become consciously attuned to the culturally diverse learner within the larger society. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Pre-requisites: Education majors; Minimum junior standing |
| TEL | 317 | Instructional Thought and Action: Learning Environment and Management | Develops and implements strategies and intervention for effective management of the classroom to promote the learning of students with and without disabilities. Creates plans for maintaining a positive, productive and culturally relevant classroom environment. Incorporates age-appropriate techniques addressing individual, social and academic competence. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; TEL 203 or minimum 39 hours |
| TEL | 318 | Instructional Thought and Action: Assessment for Learning | Prospective educators examine theories of assessments exploring why we assess, how we assess, and the ways assessments are interpreted in classroom settings. Emphasizes designing, selecting, implementing, and/or evaluating appropriate assessments specific to pathways and for students with diverse educational needs across all grade levels. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; TEL 203 or minimum 39 hours |
| TEL | 320 | Introduction to Gifted Education | Overview of a variety of issues related to gifted students from preschool through high school. Provides background in order to create an optimal experience for students, parents and teachers when working with gifted students. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| TEL | 331 | Foundations of Literacy: The Science of Reading | In this educator core course, prospective educators gain a foundation in literacy development and instruction, including the science of reading, phonological awareness, vocabulary development, reading fluency, reading comprehension, and written and oral expression, with a specific emphasis on phonics. Content focuses on understanding the reading process, language development, the sequence of learning to read across a developmental continuum, the essential components of reading instruction, and an introduction to scientifically based approaches to teaching reading. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student; minimum 39 hours |
| TEL | 332 | Disciplinary Literacy Methods | Prospective educators identify the specific literacy practices and challenges students face within their academic discipline and apply research-based instructional strategies for delivering differentiated instruction. Content focuses on instructional and assessment strategies in order to develop essential academic vocabulary, comprehension and critical thinking within each academic discipline. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| TEL | 340 | Families, Communities and Cultures: Cultivating Networks of Culturally Responsive Relationships | Helps prospective educators develop an understanding of the role that families and communities play in schooling practices and the skills to cultivate culturally responsive practices. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | SB | Prerequisite(s): minimum junior standing OR Visiting University Student |
| TEL | 355 | Internship: Initial | Initial professional experience provides aspiring teachers with supervised opportunities to integrate theory and practice and apply knowledge and skills while working collaboratively with educators and peers in classrooms and other field settings. | Y | LEL | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-5 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; minimum 39 hours |
| TEL | 366 | Internship: Intermediate | Intermediate professional experience provides aspiring teachers with supervised opportunities to integrate theory and practice and apply knowledge and skills while working collaboratively with educators and peers in classrooms and other field settings. | Y | LEL | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-5 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; minimum 56 hours |

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| TEL | 370 | Professional Educator Series: Building a Professional Network | Engages prospective educators in collaborative experiences to examine their profession in relation to educational systems. Students develop skills and practices needed to work effectively as a professional educator. Emphasizes the importance of a well-developed professional network and student advocacy. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student; minimum 39 hours |
| TEL | 371 | Professional Educator Series: Educational Policies | Engages prospective educators in collaborative experiences to examine their profession in relation to educational policies. Exposes students to pressing educational issues with an emphasis on the importance of understanding the influence of policies, procedures and regulations as they relate to the education system. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| TEL | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| TEL | 400 | Innovation in Educational Endeavors | Pursues innovative solutions to social problems with the courage and ability to impact change in individuals, communities and organizations. Reviews community problems, challenges or areas of improvement; learns underlying principles of social enterprise; and develops innovative methods that empower individuals and support educational initiatives. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): TEL 200; TEL 300 OR Visiting University Student |
| TEL | 404 | Current Issues in Education and Policy Reform in the United States | Specialized topics related to current issues in education with a focus on education reform efforts from the late 20th century into the 21st century. Explores current reform efforts in education as part of the larger public policy agenda in the United States, analyzing how external influences shape present education systems. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only TEL 404 or TEL 494 (Current Issues in Education & Policy Reform in US) |
| TEL | 405 | History of Education and Policy Reform in the United States | Specialized topics in education history with a focus on education reform efforts from pre-Revolutionary War time to the end of the 20th century. Explores the past reform efforts in education as part of what was happening historically in the United States, analyzing how those efforts have shaped the present education systems. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only TEL 405 or TEL 494 (History of Education & Policy Reform in the US) |
| TEL | 410 | Leadership and Advocacy in Educational Endeavors | Educators who take an active stance through advocacy and leadership are well-equipped to create societal change. Students learn about styles of leadership that are fitting for this need, study advocacy techniques, then position themselves as advocates and leaders as they create a plan, with goals, to address an identified community problem, challenge or area of improvement. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): TEL 200; TEL 300; TEL 400 OR Visiting University Student |
| TEL | 420 | Curriculum Strategies for Gifted Learners | Overview of a variety of ways in which to create and adapt curriculum for gifted students from preschool through high school. Provides a broad range of resources for classroom teachers to use in order to help gifted students work to their full potential in a heterogeneously grouped classroom. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| TEL | 430 | Learning Outside of School | Studies and methods from a variety of nonschool environments for learning and development. Teaches knowledge and skills such as methods of identifying and evaluating free-choice learning that occurs through museum going, hobbies, family learning, media, community programs, sports, public health campaigns, and more. Covers career opportunities for educators in key creative environments besides classrooms. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only TEL 430 or TEL 494 (Learning Outside of School) OR Visiting University Student |
| TEL | 431 | Learning in Workplaces | School isn't the only place where people learn! Once you get a job, most of what you learn will occur as you do your job, and that kind of learning is crucial to the development of competence and expertise. Surprisingly, seventy to eighty percent of this important learning takes place outside of formal training. Studying learning in workplaces illuminates how learning happens universally, and helps teachers and trainers design effective educational programs. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only TEL 431 or TEL 494 (Learning in Workplaces) OR Visiting University Student |
| TEL | 470 | Professional Educator Series: Career Growth and Planning | Engages prospective educators in collaborative experiences to explore career paths within education, develop career plans, and consider routines for continuous professional growth. Exposes students to pressing educational issues with an emphasis on career planning, development and growth. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| TEL | 471 | Professional Educator Series: The Principled Educator | Prepares prospective educators to examine their professional role as an advocate for themselves, their students and families, and their profession. Emphasizes the importance of understanding their professional influence as principled educators on educational practices and systems through advocacy efforts. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): minimum junior standing OR Visiting University Student |

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| TEL | 477 | Internship: Advanced | Advanced professional experience provides aspiring teachers with supervised opportunities to integrate theory and practice, and apply knowledge and skills while working collaboratively with educators and peers in classrooms and other field settings. | Y | LEL | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-5 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; minimum 56 hours |
| TEL | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-12 | | |
| TEL | 488 | Student Teaching | Student teaching in preK-12 classroom setting. Synthesized experience in curriculum, instruction and classroom management. | Y | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 6-12 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; minimum 56 hours |
| TEL | 489 | Undergraduate Projects and Research in Education | Topics include history of educational research, literature reviews, research methodology, resources, individual project ideas and the creation of a research prospectus. Students may also work in teams to complete theses or projects if their interests intersect. Open to all students; however, Honors and Scholar's Academy students will be planning and/or implementing theses or creative projects. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only TEL 489 or TEL 494 (Undergrad Projects & Research in ED) |
| TEL | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-6 | | Prerequisite(s): Barrett Honors student |
| TEL | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| TEL | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| TEL | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-3 | | |
| TEL | 501 | Introduction to Research and Evaluation in Education | Overview of educational inquiry from controlled, quantitative to qualitative, naturalistic. Emphasizes locating and critically interpreting published research. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only COE 501 or ECD 503 or PPE 501 or SPE 501 or TEL 501 |
| TEL | 502 | Exploration of Education: Child/Adolescent Development and Foundations of Special Education | Provides a general pedagogical framework in the cognitive, social-emotional and physical domains of child and adolescent development and how to apply that knowledge to the learning programs for neurotypical and exceptional learners. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 504 | Learning and Instruction | Introduces psychology of learning and instruction. Includes the foundations of learning theories and their application to educational practice. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ECD 504 or TEL 504 |
| TEL | 505 | American Educational Policy | Political, social, historical, and philosophical analyses of American education at all levels. Examines primary sources, legal findings, and case studies. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 510 | Instructional Design, Planning and Assessment | Covers learning theories, instructional design, planning and assessment. Students plan a developmentally appropriate instruction that differentiates instruction and experiences for all learners. Explores formal and informal assessments and how they can be used to identify learners' strengths and needs and accordingly adjust instruction. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 511 | Research and Evaluation in Education | Overview of educational inquiry from controlled, quantitative to qualitative, naturalistic. Emphasizes locating and critically interpreting published research and foundation for future research. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 517 | Creating Equitable Learning Environment: Decision Making and Action | Researches, develops and implements strategies and intervention for effective management of classroom behavior for students with and without disabilities. Creates plans for maintaining a positive, productive and culturally relevant classroom environment. Incorporates age-appropriate techniques addressing individual, social and academic competence. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 531 | Foundations of Literacy: The Science of Reading | First of two required literacy courses for teacher certification. Focuses on the foundations of literacy development and examines the sequence of learning to read with an emphasis on systematic phonics instruction. Introduces, examines and practices designing and delivering early and advanced literacy instruction using scientifically based approaches, assessment and remediation. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| TEL | 532 | Literacy Across the Disciplines | Prospective educators identify the specific literacy practices and challenges students face within their academic discipline and apply research-based instructional strategies for delivering differentiated instruction. Content focuses on instructional and assessment strategies in order to develop essential academic vocabulary, comprehension and critical thinking within each academic discipline including face to face and digital learning environments. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 540 | Cultivating Networks of Culturally Responsive Relationships Among Families, Communities & Cultures | Helps educators develop an understanding of the role that families and communities play in schooling practices and the skills to cultivate culturally responsive practices. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 570 | Educator Scholar Community I | Pre-service and apprentice teachers examine a relevant challenge in an educational context and support a K-12 learner with navigating complex challenges in classroom contexts. This is the first course in a three-part series. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 571 | Educator Scholar Community II | Pre-service and apprentice teachers engage in an applied experience with creative curricula by designing and implementing a creative learning activity for K-12 learners. This is the second course in a three-part series. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 572 | Educator Scholar Community III | Pre-service and apprentice teachers design and implement a legacy project in a K-12 classroom that requires learners to tackle an actionable challenge, take action, and make a positive difference by thinking and acting in new ways. This is the third course in a three-part series. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 683 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| TEL | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 701 | Quantitative Methods in Action Research | Quantitative methods of inquiry for action research: data collection, analysis, interpretation, complementarity analysis, evaluation and data-informed decision making. | N | LEL | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student; Credit is allowed for only EDA 701 or TEL 701 |
| TEL | 702 | Dynamic Contexts of Education | Explores current ethical issues influencing leadership decisions with a focus on real problems in the educational setting. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student; Credit is allowed for only EDA 702 or TEL 702 |
| TEL | 703 | Innovation in Teaching and Learning | Development and psychological processes of human cognition, motivation, and performance applied to cognitively diverse, English language learners, adult professional development. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student; Credit is allowed for only EDA 703 or TEL 703 |
| TEL | 704 | Leadership for Organizational Change | Develops understanding of dynamic and systemic nature of organizations, with emphasis on leadership for building organizational capacity and learning. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student; Credit is allowed for only EDA 704 or TEL 704 |
| TEL | 705 | Systems Change and Leadership | Focuses on theoretical foundations of systems literature with a focus on education. Examines literature and scholarship that builds knowledge of educational theory on systems, and applies important related concepts to real-world problems of practice as they appear in students' current work context. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student |
| TEL | 706 | Action Research in Doctoral Studies | Prepares doctoral students for success, focusing on communities of practice, the action research process, and investigating problems of practice. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student |
| TEL | 707 | Reading the Research | Interprets and analyzes qualitative and quantitative research literature, as well as how to integrate information in professional scientific writing. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student |
| TEL | 708 | Collaborative Approaches to Data-Informed Decision Making | Examines data-informed decision making in educational learning communities, by focusing on data collection, analysis and interpretation, as well as the impact of collaborative learning communities. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student; Credit is allowed for only TEL 708 or TEL 791 (Collab approaches data-informed decision-making) |

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| TEL | 709 | Directed Field-Based Study | Under the supervision of a faculty member and with the assistance of a mentor, students understand and develop their leadership, innovation and research skills. Provides an opportunity to (1) work with and learn from a leader outside students' normal spheres; (2) develop students' capacity to learn independently--to study, reflect, assess and expand their abilities as leaders, innovators and agents of change; and (3) extend and enrich student knowledge through reading and writing. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student; Credit is allowed for only TEL 709 or TEL 792 (Directed Field Based Study) |
| TEL | 710 | Innovations In Disseminating Research | Provides graduate students with the opportunity to develop a post-degree impact plan related to the scholarship and innovations they developed through the EdD program. A post-degree impact plan enlists research and practices related to the idea of knowledge mobilization in order to optimize access to and engagement with scholarly insights and innovations. Enables students to develop strategies and resources to extend the reach and enhance the impact of their scholarship, innovations and resources among relevant stakeholder groups. | N | SEM | N | YGB | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 2 | | Prerequisite(s): Leadership and Innovation EdD student; Credit is allowed for only TEL 710 or TEL 791 (Innovations in Disseminating Research) |
| TEL | 711 | Strategies for Inquiry | Develops knowledge and skills for research and program evaluation that foster innovation in education that leads to improved student learning. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student |
| TEL | 712 | Mixed Methods in Action Research | Uses qualitative and quantitative inquiry methods in action research including concept and skill application, data collection, analysis and interpretation. | N | SEM | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student; TEL 703; TEL 705; TEL 706; TEL 707; TEL 711 |
| TEL | 713 | Qualitative Methods in Action Research | Qualitative methods situated in action research: history, design, data collection, analysis and interpretation. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student |
| TEL | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 783 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | N | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEM | 100 | Seminar in Entrepreneurship | Exposes students to careers in entrepreneurship by inviting diverse entrepreneurs to discuss their businesses and backgrounds and share their stories on starting and growing their ventures. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1 | | |
| TEM | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-4 | | |
| TEM | 200 | My Technology Venture | Introduces the concept of entrepreneurship through venture practice and self-reflection to help students understand their potential roles in a technology-driven marketplace. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | |
| TEM | 201 | Applied Social Entrepreneurship I | Introduces the concepts and the different organizational models for social entrepreneurship ventures. Explores how to: address social problems, connect stakeholders, establish self-sustained financing approach, and measure and grow the social impact in the community or society. Students develop a social business model for a social cause. Examines the social enterprise's role and impact in society. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Credit is allowed for only TEM 201 or TEM 294 (Social Entrepreneurship I) |
| TEM | 230 | Creativity and Business Innovation | Introduces concepts, models and techniques of creativity and innovation. Exposes processes related to developing creative skills and habits with an emphasis on problem solving and design. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only OMT 230 or TEM 230 OR Visiting University Student |

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| TEM | 250 | Design Methodology | Outlines product design method and provides opportunity to apply it to a design project including identifying needs, setting target specifications, generating and selecting concepts, prototyping and testing. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| TEM | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-4 | | |
| TEM | 300 | Career Management for Entrepreneurs and Innovators | Career-focused seminar in preparation for students' post-graduation plans, including venture startup, job search or graduate school acceptance. Focuses on career relationship-building techniques, job-readiness skills and the development of a professional portfolio. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1 | | Prerequisite(s): minimum junior standing OR Visiting University Student |
| TEM | 301 | Applied Social Entrepreneurship II | Students explore and learn about social entrepreneurship as applied to a real-world, hands-on experience. Emphasizes innovation and the use of technology as an approach to tackling real-world social challenges and issues. Teamwork, leadership and communication skills are an important part of the student experience. Students form social entrepreneurship project teams and/or work on individual projects to assess the feasibility and sustainability of their proposed plans for long-term projects that solve problems, benefit the customer, and often, the larger community. Project work often centers on the engineering, technology, computing, sustainability, business and other needs of a not-for-profit community partner. Interdisciplinary team interaction is an integral element for project success. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only TEM 301 or TEM 394 (Social Entrepreneurship II) OR Visiting University Student |
| TEM | 311 | Opportunity Analysis | The key to making sound business decisions involves the careful analysis of the situation, intelligent use of research, and successful practice. Entails the research and implementation of strategy to determine consumer expectations utilizing the skills especially important in today's competitive and turbulent market. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): TEM 200 or TMC 110 with C or better; Credit is allowed for only OMT 311 or TEM 311 OR Visiting University Student |
| TEM | 330 | Systems Innovation | Systems thinking course that investigates how innovators can incorporate the knowledge of complex systems into the processes of technology development, product/service innovation and venture development. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only OMT 330 or TEM 330 OR Visiting University Student |
| TEM | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-4 | | |
| TEM | 400 | Technology Entrepreneurship | Explores the fundamentals and principles of entrepreneurship suitable for both undergraduate business and technology students. Instructs students on the strategic path through entrepreneurship: ideation, validation, market selection, intellectual property, fundraising, launch and profitability. Also explores the impact and implications of technology. Through this course, students have the knowledge and skills to cultivate their ideas into businesses. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s) with C or better: ENG 102, 105, or 108; Business (Tech) BA major or ENT 305 or TEM 200; Credit is allowed for only TEM 400 or TEM 501 or TEM 598 (Tech Entrepreneur) or TEM 598 (Tech Innov & Entrepreneur) OR Visiting University Student |
| TEM | 407 | Venture Digital Data Analytics | Instructs students on how to develop a digital promotion and marketing plan. Reviews and examines the basic concepts of Web (SEO, SEM, clickstream, e-mail); social (Facebook, Google+); and mobile marketing (Instagram, Snapchat) and analytics to measure effectiveness. Also reviews content, influencer, video and blog marketing. Focuses on inbound marketing. Students design, test and improve by feedback a marketing project of their own design or in support of a business. Through this course, students develop the skills to digitally promote. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): MKT 300 or TMC 330; Credit is allowed for only TEM 407 or TEM 494 (Digital Promotion and Analytics) or TEM 507 or TEM 598 (Digital Promotion and Analytics) OR Visiting University Student |
| TEM | 431 | Innovation Management | Focuses on execution challenges that innovation initiatives face, including: (a) Resources: Where do the resources for innovation initiatives come from? (b) Organization: How should innovation initiatives be organized? (c) Planning: How should plans for innovation initiatives be written and through what kind of process should they be revised? Explores the processes of innovation management for various sizes of companies utilizing smaller scale, local processes to large scale, globally dispersed innovation processes and teams. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; TMC 110 with C or better; Credit is allowed for only OMT 431 or TEM 431 or TEM 531 OR Visiting University Student |
| TEM | 450 | Design for the Developing World | Provides sustainable solutions to social problems that will improve the lives of residents in lower socio-economic communities through the integration of technology and social entrepreneurship. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): junior, senior, or graduate standing |

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| TEM | 455 | Global Impact Entrepreneurship | Increases awareness and understanding of the complex nature of global poverty. Students think comprehensively about sustainable ways to address by focusing on business ventures and product design, which take advantage of local resources, networks and institutions. Students design and refine technologies and services that address the needs of communities in the developing world. Examines piloted technological innovations by ASU students in the west African nation of Ghana, India, and Latin American countries such as Mexico and Peru. Analyzes technological initiatives that have been piloted in Ghana and Peru, and attempts to create sustainable business ventures for them. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prereq(s) w/C or better: Business (Tech) BA major; ENG 102, 105, or 108; min junior standing OR ENG 102, 105, or 108; TMC 110; min junior standing; Credit is allowed for only TEM 455 or TEM 598 (Global Impact Entrepreneur) OR Visiting University Student |
| TEM | 481 | Consulting Project | Students learn about technology entrepreneurship through consulting with leaders and owners of businesses, not-for-profit organizations and government agencies. Requires both out-of-class consulting projects and in-class instructional sessions focused on technology entrepreneurship and business strategy, including financing, promoting, leading and growing the venture and consulting skills. | N | PRA | Y | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): minimum junior standing OR Visiting University Student |
| TEM | 482 | Startup Workshop | Students launch their own technology-related ventures with collaboration and mentorship from colleagues and faculty. This class centers on hands-on learning and is appropriate for beginning as well as maturing start-ups. Students build their entrepreneurial networks and engage with stakeholders related to their business (customers, industry partners and investors). Explores the tactical challenges that come with developing an enterprise and forms strategies and methodologies to advance the venture. | N | PRA | Y | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): FSE 301 with C or better; senior standing; Credit is allowed for only TEM 482 or TEM 598 (Startup Workshop) OR Visiting University Student |
| TEM | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-12 | | |
| TEM | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-6 | | Prerequisite(s): Barrett Honors student |
| TEM | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| TEM | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-4 | | |
| TEM | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-3 | | |
| TEM | 501 | Technological Innovation and Entrepreneurship | Presents opportunities and challenges that accompany starting and operating a technology entrepreneurial venture by exploring the fundamentals and principles of entrepreneurship suitable for graduate business and technology students. Reviews engaging with innovation and developing the mentality of entrepreneurs. Reviews the path through entrepreneurship and developing the techniques of an innovative mindset. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TEM 400 or TEM 501 or TEM 598 (Technological Entrepreneurship) or TEM 598 (Technological Innovation & Entrepreneurship) |
| TEM | 505 | Data-Driven Decision Making | Addresses the challenge of making choices under uncertainty. Data-driven decision making impacts a wide variety of fields, from apps to driverless cars. Covers the methodologies related to data-driven thinking including: applied statistics, behavioral economics, scenario planning, optimization, algorithms, risk and game theory. Applications to all venture developments as well as innovation. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TEM 405 or TEM 494 (Data Driven Decision Making) or TEM 505 or TEM 598 (Data Driven Decision Making) |
| TEM | 507 | Venture Digital Data Analytics | Instructs students on how to develop a digital promotion and marketing plan. Reviews and examines the basic concepts of Web (SEO, SEM, clickstream, e-mail); social (Facebook, Google+); and mobile marketing (Instagram, Snapchat) and analytics to measure effectiveness. Also reviews content, influencer, video and blog marketing. Focuses on inbound marketing. Students design, test and improve by feedback a marketing project of their own design or in support of a business. Through this course, students develop the skills to digitally promote. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TEM 407 or TEM 494 (Digital Promotion and Analytics) or TEM 507 or TEM 598 (Digital Promotion and Analytics) |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|---|--|-------|-----------------|---|
| TEM | 508 | Crowdfunding, Currency and Blockchain Innovations | Focuses on the evolving process of crowdfunding and the opportunities and implications of digital innovations. Initially reviews traditional crowdfunding and the laws that have enabled a new class of investors. Topics progress to the blockchain technology-based currencies (cryptocurrencies), their structure and applications. Finally, the course broadens the conversation to smart contracts, non-currency applications and start-up opportunities in this space. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TEM 408 or TEM 494 (Crowdfunding, Currency, & Blockchain Innovations) or TEM 508 or TEM 598 (Crowdfunding, Currency, & Blockchain Innovations) |
| TEM | 511 | Technological Opportunity Evaluation | Covers methodologies to evaluate business decisions as entrepreneurs and intrapreneurs. Addresses analysis of the situation, intelligent use of research, and successful practice to help industry transfer knowledge into products and processes that benefit society. Entails the research and implementation of strategy to determine consumer expectations utilizing the skills especially important in today's competitive and turbulent market. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TEM 511 or TEM 598 (Opportunity Evaluation) |
| TEM | 530 | Statistics Bootcamp for Industry | Provides foundational coverage of topics such as probability theory, descriptive statistics, sampling distributions, parameter estimation, tests of hypotheses, chi-square tests, and simple linear regression analysis, appropriate for first-year graduate students. Additionally, provides a fundamental understanding of probability theory and statistics as used in typical industrial applications. Presents and discusses illustrative problems from technology, entrepreneurship, aviation and psychology. Where possible, explores problems from the student's discipline to insure that the principles of statistics and probability are studied in the context of the student's chosen field. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Pre-requisite: Degree- or Nondegree-seeking graduate; Credit is allowed for only TEM 530 or 598 (Statistics Bootcamp for Industry) |
| TEM | 531 | Disruptive Innovation and Technological Evolution | Focuses on the processes of innovation management of various sizes of companies utilizing smaller scale, local processes to large scale, globally dispersed innovation processes and teams, with an emphasis on disruptive innovation and the evolution and forecasting of technology. Provides a survey of innovation management concepts and various technological forecasting and prediction approaches, both mathematical and nonmathematical, in conjunction with a study of the evolution of selected technologies and the management problems associated with emerging technologies. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only OMT 431 or TEM 431 or TEM 531 |
| TEM | 532 | Advanced Analysis of Systems | Introductory course in systems analysis and modeling. Develops basic competence in formulating and solving models of systems to aid decision making. Topics include: introduction to systems and systems modeling; a simple what-if analysis; overview and review of linear algebra and matrices; problem formulation and model development in optimization; linear programming (LP), economic interpretation and sensitivity analysis; introduction to integer programming (IP); special linear programs; project schedule network development and computations; overview of heuristic algorithms. Uses selected software in examples, short problems and in a project. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEM | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 101 | Principles of Global Management | Provides the basic concepts of management with particular emphasis on the functions of management in a global environment. Examines the antecedents of globalization; the role of global environments in shaping organization structure, strategy and processes, as well as the basic principles of managing in complex cross-cultural settings. Emphasizes global institutional arrangements and macroeconomic issues. Serves as an introductory course that provides a quick snapshot of key issues facing global corporations today with each of the major themes explored more fully in the set of advanced courses that follow. Applies global business concepts in understanding global political economics, legal systems and socio-cultural environments. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | G | |
| TGM | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | Prerequisite(s): maximum 25 hours OR Visiting University Student |
| TGM | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-4 | | |

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| TGM | 200 | Principles of Accounting for Global Organizations | Focuses on financial and managerial accounting and examines how outsiders evaluate businesses, nonprofits and governmental operations and how economic events are reflected in a firm's financial statements, including balance sheets and cash flow statements. Examines key accounting methods that impact a company's financial statements and how they are used by shareholders, creditors, employees and customers to make credit decisions and/or value a firm's equity securities. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management undergraduate student OR Visiting University Student |
| TGM | 204 | Principles of Marketing for Global Organizations | Explores the ways in which global marketing strategies reflect a deep understanding of markets and create valuable offerings for customers globally. Broadly speaking, marketing strategy making is comprised of segmentation, targeting and positioning. Segmentation is the process by which we segregate a relatively heterogeneous mass market into relatively homogeneous market segments. Targeting is the process by which we analyze opportunities and identify those customers where our business has the greatest prospects for success. Positioning is the process of assembling the "total offering" (product, service, distribution and price) and communicating the benefits of this "total offering" to the members of our target market. Challenges students to think critically about global competition. As such, rote learning of terms and concepts is not sufficient to prepare students to manage a business in global markets. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management undergraduate major, Global Management certificate, or International Trade certificate student OR Visiting University Student |
| TGM | 268 | Intercultural Communication for Global Management | In a dynamic and interactive format, this course presents a framework of models and skills for building communication performance in competitive global business settings. Assists in implementing strategies for mastering interpersonal encounters, including conflict resolution, in multicultural environments. Examines theories of communication (the basic concepts, principles and skills vital for understanding and improving communication across racial, ethnic and cultural differences). Places students in experiential situations in order to develop valuable global management skills. Using cases, self-assessment questionnaires, multicultural team exercises and simulations, equips the global manager with the ability to solve problems and take advantage of opportunities in a multicultural world. Explores in depth intercultural theories from the TGM three regional areas--China, Latin America and the Middle East. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management undergraduate student |
| TGM | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-4 | | |
| TGM | 300 | Principles of Finance for Global Organizations | Equips students with the tools necessary to make strategic financing and investment decisions for value creation in a competitive global environment. Topics addressed include financial analysis and projections; working capital management; and investment management (derivation of cash flows, cost of capital, discounted cash flow valuation and capital budgeting decisions). | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management undergraduate major, Global Management certificate, or International Trade certificate student OR Visiting University Student |
| TGM | 310 | Supply Chain Operations for Global Organizations | Studies the major elements of supply chain management. Students learn how to design an integrated supply chain and evaluate the fit with the business strategy. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management undergraduate major, Global Management certificate, or International Trade certificate student OR Visiting University Student |
| TGM | 312 | Big Data in the Global Economy | Understands how multinational organizations make strategic use of Big Data to gain a competitive advantage in the global economy. Covers the important aspects of Big Data from a managerial viewpoint. Delves into the understanding of global data and how this data must be standardized to account for differences in collection methods, legal constraints and cultural interpretation to create a reliable platform for evaluation. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prereq(s): Thunderbird School of Global Management undergraduate major, Global Management certificate, or International Trade certificate student; Pre- or corequisite(s): ECN 221 or STP 226 with C or better if completed OR Visiting University Student |
| TGM | 353 | Regional Management Environment | Provides future global managers with the analytical tools and frameworks for understanding the political, social, cultural and economic contexts within which business activities take place in various countries and regions throughout the world. | N | LEC | Y | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | G | Prerequisite(s): Thunderbird School of Global Management undergraduate major, Global Management certificate, or International Trade certificate student OR Visiting University Student |
| TGM | 391 | Global Business and Professional Development Skills | Required for all continuing and transfer Thunderbird students that enhances critical thinking, communication, presentations and networking skills desired for success in upper-division TGM-specific classes as well as for international internships, study abroad and post-graduation work experiences. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1 | | Prerequisite(s): Thunderbird School of Global Management undergraduate student OR Visiting University Student |

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| TGM | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-4 | | |
| TGM | 400 | Advanced Topics in Global Management | Focuses on advanced topics in global management designed to synthesize knowledge acquired from global business, language and cultural coursework. | N | LEC | Y | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management undergraduate student; minimum 60 hours |
| TGM | 410 | Data Structures and Algorithms | Advanced data structures and algorithms, including stacks, queues, trees (B, B+, AVL), and graphs. Searching for graphs, hashing, external sorting. | N | LEC | N | OPT | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prereqs w/min C: Comp Math Sci, Comp Sci, Comp Sys Egr, Data Sci, Dig Cult(Media Proc), Egr Mgt, Geo Info Sci or Informatics major; CSE 220 or 240; MAT 243 or 300 OR BMI/CEN/CS/Gbl Mgt Data Sci grad; Credit for CSE 310 or TGM 410 OR Visiting University Student |
| TGM | 430 | International Trade and Regional Economic Agreements | Explores recent trends in global finance and trade and in regional trade agreements (GFTAREAs), especially as they appertain to national business environments and the global political economy. Also explores how globalization and regionalism impact business decision making and policy making at the national level and in the global political economy. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management undergraduate major, Global Management certificate, or International Trade certificate student OR Visiting University Student |
| TGM | 460 | Global Risk Assessment and Management | Covers concept of regional and country risk as it affects foreign businesses and investors, and develops participants' abilities to identify, analyze and design management strategies for mitigating such risk. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management undergraduate major, Global Management certificate, or International Trade certificate student |
| TGM | 468 | States and Markets in a Global Economy | Global managers operate in an international economy that presents tremendous opportunities as well as risks. Globalization has dramatically expanded opportunities for international trade, investment and economic development. At the same time, global managers have to deal with the prospect of trade wars, international financial crises and intensified competition over markets and resources. In addition, international organizations such as the International Monetary Fund, World Trade Organization and World Bank Group have a direct impact on international business operations. Develops analytical tools for understanding the rapidly changing and dynamic global political. With these tools, managers are better prepared to anticipate the risks and take advantage of opportunities in the global economy. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | SB & G | Prerequisite(s): Thunderbird School of Global Management undergraduate major, Global Management certificate, or International Trade certificate student OR Visiting University Student |
| TGM | 478 | Cross-Cultural Communication and Negotiation | This two-part course begins by focusing on cross-cultural communication with the ultimate purpose of helping improve global mindset. In the second part, focusing on cross-cultural negotiation helps students understand the theory and processes of global negotiation so that they can negotiate successfully in a variety of settings. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management undergraduate major, Global Management certificate, or International Trade certificate student |
| TGM | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-12 | | |
| TGM | 487 | Global Entrepreneurship | Deals with entrepreneurship and new venture creation that takes place in international and global settings. As such, it integrates many of the ideas, concepts and frameworks of international business and global management with those of traditional entrepreneurship. Starts at the firm level, looking at basic ideas of how entrepreneurs start and launch new ventures. It then expands to the industry level, looking at the role of business models in new venture creation, industry analysis, and scaling promising ideas. Focuses on the international and global levels, on topics such as cross-national comparative entrepreneurship, born-global new ventures, entrepreneurship in emerging and developing countries, and the global venture capital market. Also includes a number of special topics in global entrepreneurship, such as social entrepreneurship and family business. Finally, students have the opportunity to apply theory. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management undergraduate major, Global Management certificate, or International Trade certificate student OR Visiting University Student |
| TGM | 489 | Multinational Organizational Leadership | Explores multinational organizational management strategies, organizational practices/systems, and related managerial skills which are an essential part of global competitiveness. Develops skills to understand the application of analytical tools and frameworks, executes complex strategy, and builds and leads competitive teams and people. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management undergraduate major, Global Management certificate, or International Trade certificate student OR Visiting University Student |
| TGM | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-6 | | Prerequisite(s): Barrett Honors student |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|--|
| TGM | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| TGM | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-4 | | |
| TGM | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| TGM | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | |
| TGM | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-12 | | |
| TGM | 501 | Global Accounting | Focuses on two aspects of accounting: financial and managerial accounting. Financial accounting is about how outsiders view and evaluate an organization such as a business, a not-for-profit entity or a governmental operation. It focuses on how economic events are reflected in a firm's financial statements including a balance sheet, an income statement and a statement of cash flows. It also focuses on how financial statement information is used by various stakeholders such as shareholders, creditors, employees and customers in making decisions with regard to the firm, including credit decisions and/or valuing a firm's equity securities. Analysis and equity management accounting involves providing information, both financial and non-financial, to management and employees to aid in planning, organizing activities, and monitoring and controlling business performance. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 502 | Financial Management for Global Value Creation | Equips students with the tools necessary to make strategic financing and investment decisions for value creation in a competitive global environment. Topics addressed include financial analysis and projections; working capital management; and investment management (derivation of cash flows, cost of capital, discounted cash flow valuation, and capital budgeting decisions). | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 503 | Global Marketing | Provides a managerial orientation to the topic of global marketing in today's complex, rapidly changing international business environment. A key focus is developing competitive advantage by creating customer value. Course participants gain a fundamental understanding of marketing strategy and marketing analysis (i.e., customer, competitor and company analysis) as well as an appreciation of the basic strategic issues involved in market segmentation, market targeting and market positioning in the international arena. Also examines the major tactics/tools used by global marketers to facilitate the management of their international marketing plans (i.e., product development, pricing strategies, marketing communications, distribution management). Emphasizes developing skills for entering new markets and sustaining or growing current markets. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 504 | Managing Organizations from a Global Perspective | Covers two key aspects of successfully managing an organization in a global environment. The first component covers the strategic direction of the organization, and the second component discusses how to harness the power of people in the organization to build teams and lead people to execute the strategy. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 505 | States and Markets in a Global Economy | Global managers operate in an international economy that presents tremendous opportunities as well as risks. Globalization has dramatically expanded opportunities for international trade, investment and economic development. At the same time, global managers have to deal with the prospect of trade wars, international financial crises and intensified competition over markets and resources. In addition, international organizations such as the International Monetary Fund, World Trade Organization and World Bank Group have a direct impact on international business operations. Develops analytical tools for understanding the rapidly changing and dynamic global political. With these tools, managers are better prepared to anticipate the risks and take advantage of the opportunities they will encounter in the global economy. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 2-3 | | Prerequisite(s): Thunderbird School of Global Management graduate student |

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| TGM | 506 | Communicating and Negotiating Across Cultures | This dynamic and interactive course provides managers with an effective framework for achieving their goals in global management settings. Assists students to prepare for and execute time-tested strategies for achieving communication competence with persons from different cultures. Also covers negotiating in the global context. Not only examines theories of culture and communications, but also places students in an experiential situation to gain valuable skills for overcoming obstacles in global management environments. Through use of cases, multicultural team exercises, student negotiation exercises and simulations, equips the global manager with tools to solve problems and take advantage of opportunities in a multicultural world. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 507 | Global Organizational Consulting | Consulting course provides an overview of the field of consulting and the role of the management consultant. Familiarizes students with the tools and techniques used during a consulting engagement, including project entry, problem definition, intervention planning, data collection, problem solving, alternative generation, feedback, project exit, client relations skills and project management. Requires students to work in project teams to solve business problems in organizations through the application and expansion of technical skills acquired in other classes. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 2-3 | | Prerequisite(s): TAM 541 OR TGM 517; TGM 545; TGM 557 |
| TGM | 508 | Regional Business Environment I: Emerging Markets | As an extension of states and markets in a global economy, provides an analysis of contextual factors that influence dynamic business environments by employing frameworks that integrate political, economic, geographic, and sociocultural factors in a specific regional area. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | Prerequisite(s): Thunderbird School of Global Management graduate student; TGM 505 or 515 |
| TGM | 509 | Regional Business Environment II: Developed Economies | Provides future global managers with the analytical tools and frameworks for understanding the developed markets business environment. Also provides a broad understanding of those economies in order to be successful therein. In order to succeed as managers in the environment, requires knowledge of political, social, cultural, economic, business and economic factors, both across the developed markets landscape and within individual countries. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | Prerequisite(s): TGM 505 or 515 |
| TGM | 510 | Strategies in Global Development | The nuances and challenges of development in the less-developed countries (LDCs) and in the transition economies of the world. Analyzes the economic, social, political, cultural and other challenges that LDCs and transition economies face, and the strategies they are employing in their quest for development. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 515 |
| TGM | 511 | Global Financial Accounting | Accrual accounting concepts, teaching students how to prepare and understand the content of traditional financial statements. Topics include the recognition and measurement of accounting events; preparation and analysis of income statements, balance sheets and statements of cash flows; and the measurement of revenue, expenses, assets, liabilities and stockholders' equity, including both U.S. and international principles. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 512 | Managerial Accounting and Decision Making in a Global Environment | Teach students how to use accounting information to help organizations succeed in a rapidly changing global environment. Introduce a variety of tools and techniques such as cost allocation, cost-volume-profit, relevant costing, performance evaluation, budgeting, transfer pricing, customer profitability analysis, nonfinancial performance evaluation, and/or sustainability reporting. By applying these tools and techniques to different types of global organizations, students learn how to use accounting information to make effective decisions. Throughout the course, emphasizes integrating other subject areas such as strategy, data analytics, entrepreneurship, corporate social responsibility, and/or behavioral economics into the decision analysis process. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | Prerequisite(s): Thunderbird School of Global Management graduate student; TGM 501, 511 or 517 |

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| TGM | 515 | Navigating Global and Regional Business Environments | Globalization has dramatically expanded opportunities for international trade, investment and economic development, but potential trade disputes, international financial crises, political risks, international environmental regulations and ethical dilemmas in global business have also emerged. The first part of the course develops analytical tools for understanding the rapidly changing and dynamic global business environment, especially in the era of 4th Industrial Revolution. With these tools, managers are better prepared to manage risks and take advantage of opportunities in the global economy. The second part deals with the regional business environment. This part begins with a brief geographical, demographic and cultural overview of the region, and develops tools for analysis useful to assessing the business environment. While the emphasis is on a specific region, the same tools could be applied to any region of the world. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 517 | Global Accounting and Financial Management | Two-part course covering global accounting and global financial management. The first section covers financial accounting from a global perspective. Students have an opportunity to learn how to develop and use financial accounting information for external decision-making purposes. The second section equips students with the tools necessary to make strategic financing and investment decisions for value creation in a competitive global environment. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 518 | International Finance and Trade | Covers the two major areas of international economics: international trade and international finance. Offers a detailed look at the foreign exchange market, instruments and practices, as well as related theories and government policies. Also places a significant focus on the macroeconomy and its relationship to capital flows and economic relations with other countries. Also examines the flows of goods and services in international trade and the policies that relate to this trade. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 519 | Derivatives and Risk Management: Strategies and Applications | Focuses on developing students' ability to strategize and apply financial and statistical methods to design creative solutions for risk management. Students develop (1) an understanding of derivative securities such as options, futures, forwards and swaps, and their pricing; (2) a familiarity with derivative trading strategies such as straddles, spreads, synthetics; (3) the skills to apply these derivative assets and strategies to manage diverse sources of risk, including market risk, interest rate risk, foreign exchange risk and commodity price risk; (4) the ability to manage the interest rate and default risk in fixed-income securities (requires an understanding of duration, convexity, credit default swaps); (5) a knowledge of important financial disasters and appreciation of the role played by speculators, hedge funds, arbitrage and liquidity in financial markets. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 517 |
| TGM | 521 | Managing for Global Value Creation | Equips students with the tools necessary to make strategic financing and investment decisions for value creation in a competitive global environment. Topics addressed include financial analysis and projections; working capital management and investment management (derivation of cash flows, cost of capital, discounted cash flow valuation, and capital budgeting decisions). | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 522 | Global Financial Decisions | Covers modern practices of financial decision-making and management in a market-oriented multinational framework. Topics include financial technology, cryptocurrencies, capital structure decisions, risk management involving financial derivatives and currency hedging, cross-border investment decisions, subsidiary management, and cross-border merger and acquisitions. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 2-3 | | Prerequisite(s): Thunderbird School of Global Management graduate student; TGM 517 or 521 |
| TGM | 523 | Global Investments | Surveys the investment management landscape and delivers the theory and technology attendant to intellectual and/or career pursuit in this domain. Topics explored include the domestic and international aspects of portfolio optimization; emerging markets and global asset allocation; security analysis and selection; stock sorting and screening algorithms; mutual fund performance decomposition and benchmarking; fixed income analytics and metrics; earnings quality; the franchise factor; distress prediction and credit scoring models; the behavioral finance salient; and financial derivatives from a portfolio management perspective, inter alia. A respectable floor of numeracy is advisable; a CFA® emphasis prevails. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 517 |

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| TGM | 524 | Valuation of the Private Firm | Provides a practical and theoretical understanding of the valuation of non-trading private enterprises. Basic theory, methodology and application of modern financial concepts as they relate to the valuation of these types of business organizations. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 517 |
| TGM | 525 | Global Financing and Forecasting for the Private Firm | Focuses on finance concepts as applied in the real work by entrepreneurs. From the firm perspective, covers topics relevant to entrepreneurial finance, including financial statements, funding plans and venture capital. Prepares prospective general managers of entrepreneurial companies on how to make the financial decisions involved with building high-risk, high-growth new enterprises. Prepares business-minded students for careers focused on entrepreneurship and corporate entrepreneurship. Through the use of excel-based modeling, combined with lectures and readings from assigned sources, students understand aspects in finance that are critical to the entrepreneurial venture. Prepares students to deal with the various financing resources available to these same enterprises, including venture capitalists, angel investors, investment bankers and other financial stakeholders. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 517 |
| TGM | 526 | Global Portfolio Management | Develops (1) an understanding of the pricing of derivative securities such as options, futures, forwards and swaps; (2) an understanding of derivative strategies, such as straddles, spreads, synthetics; (3) the ability to use these derivative assets and strategies to manage diverse sources of risk, including market risk, interest rate risk, foreign exchange risk and commodity price risk; (4) the ability to manage the interest rate and default risk in fixed-income securities (requires an understanding of duration, convexity, credit default swaps); (5) a broad understanding of the role played by hedge funds, arbitrage and liquidity in financial markets. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 517 |
| TGM | 527 | Global Private Equity | Overview of the private equity industry globally, its role in economy, its participants, its operations and its recent development. Covers different phases of the private equity investment process and the players involved at each stage. Phases include: setting up a fund, selection and screening of investments, exploring valuation techniques, managing and exiting investments. Emphasizes the practical aspects of private equity transactions through case studies and interactions with private equity professionals. Recommended for students interested in private equity investing, investment management, investment banking, entrepreneurship and entrepreneurial finance. Does not require previous experience in private equity or financial skills beyond those taught in the finance core classes. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 517 |
| TGM | 528 | Business Intelligence | Examines the role that business intelligence--the systematic collection, synthesis and analysis of information on the external operating environment--should play in strengthening corporate strategies and decision making. Through lectures and client-sponsored competitive assessment projects, the course has two goals: to help students understand this management tool and to train them to be able to utilize it for competitive advantage. Also addresses the related issues of corporate/industrial espionage and information security. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 545 |
| TGM | 529 | Multinational Corporate Finance (FORAD) | Applies the theories of managerial and international finance to the problems of multinational treasury management. Topics include issues and techniques in multinational funds transfers; identifying and measuring foreign exchange and interest rate risk; multinational tax planning; managing foreign exchange and interest rate risk; hedging instruments, including forward contracts, options and swaps; and financially engineered synthetics. Students also manage the financial functions of a computer-simulated multinational corporation, construct a biennial report summarizing their management results and present oral reports to a board of directors consisting of professors and invited business professionals. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 517 |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|---|
| TGM | 530 | Big Data in the Age of the Global Economy | Creating a sustainable IT-dependent competitive advantage is a major goal for forward-thinking multinational organizations. Understands how multinational organizations make strategic use of Big Data to gain a competitive advantage in the global economy. Covers the important technological aspects of big data from a managerial viewpoint. Delves into the understanding of global data and how this data must be standardized to account for differences in collection methods, legal constraints and cultural interpretation to create a reliable platform for evaluation. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | Prerequisite(s): TGM 557 |
| TGM | 531 | Multinational Value Chain | Exposes students to the strategies and challenges associated with moving goods, services, information and associated payments across complex, globally dispersed value chains to end customers. Topics include value-chain structures, supplier partnerships, cross-cultural issues, technology, data networks, global logistics, risk management and value-chain mapping. A field project provides students with an opportunity to work in teams applying the course concepts to increase customer value in a real value chain. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 532 | Leading Global Projects | Provides an overview of the global context of project leadership. Global project leaders work at the intersection of project management, leadership in a project context and cross-cultural effectiveness. Exposes students to key project leadership approaches including stakeholder management, methods for increasing inclusion on global project teams and building high-performing global project teams. Uses case studies, a simulation, several exercises and interactive discussions. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 536 | Global Trade Risk Assessment and Mitigation | Firms of all kinds are attempting to improve their competitive positions by strategically managing the flow of services, raw materials, work-in-process inventories and finished goods on a global basis. Global managers must be concerned with the ever-increasing number of diverse risks to their businesses posed by political, social, physical and financial forces at work globally and in specific regions and countries. Centered on state-of-the-art assessment models used by businesses and foreign investors. Issues include methods of measuring, assessing and forecasting risk, and methods of mitigating risk. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 515 |
| TGM | 537 | State Power, Business Interests and Multinational Trade Agreements | Explores the political economy of trade and multinational trade agreements, especially as they pertain to national business environments and the global economy. Covers the domestic and international politics of trade, the formation and composition of multinational trade agreements, and the implications for national and multinational companies. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 505 or 515 |
| TGM | 538 | Corporate Partners | Experiential consulting practicum involving a highly visible, rapidly growing or start-up company or entity. Engages client in a specific activity such as strategic planning, opportunity assessment, policy or procedure redesign or competitive assessment. Requires the student team to integrate various skills encountered in Thunderbird's fundamental core courses to produce the desired deliverable. Students interact directly with the client during the semester to gain insights into the client's circumstances. The project results in complex deliverables and culminates in the presentation and recommendation to the client of suggested operational options or strategic directions. | N | PRA | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 517; TGM 545; TGM 557 |
| TGM | 540 | Managing People from a Global Perspective | Explores the mix of organizational practices and people that can be the basis of sustainable competitive advantage in the contemporary global business environment. Topics covered include cross-cultural issues in managing people, traditional and emerging models of organizations, organizational culture, leadership, employee skills and motivation, reward systems and change management. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-2 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 541 | Competitive Strategy from a Global Perspective | Focuses on choices that impact the performance of the entire organization. Examines central questions: Why are some industries and firms more profitable than others? How do firms create competitive advantage? How does the choice of strategy drive organizational performance? How do firms manage scarce resources in the pursuit of strategic objectives? How do firms create unique and sustainable industry positions? | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-2 | | Prerequisite(s): Thunderbird School of Global Management graduate student |

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| TGM | 545 | Global Leadership and Strategy | Creating value in modern organizations comprises the strategy that the organization deploys and the way in which its leaders execute the strategy to achieve superior economic returns. Thus, this course covers two distinct but interconnected domains dealing with competitive strategy and leadership. The strategy segment focuses on how organizations choose their strategic position, build sources of competitive advantage, and design their value proposition and business models. The leadership segment illustrates the integral role that leaders play in helping an organization realize its strategic potential and focus on what it means to compete through people in a way that produces positive results for individuals, teams and organizations. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 546 | Regional Industrial Analysis | Builds on concepts introduced in competitive strategy, global strategy and regional business environment. Focuses on the analysis of the strategies adopted by competing players and their impact on the global strategies pursued by the parent organization in the context of regional industry dynamics. Covers a spectrum of topics ranging from industry cluster formation, country-specific advantage, industry versus industry ecosystem analysis, the government's role in industry and regional development including national innovation systems, demand and supply chains in regions, and emerging market challengers. Applies multiple decision-making tools and frameworks to understand the Information and Communications Technology (ICT) industry in Asia Pacific--the fastest growing region in the world. Tools and frameworks learned in this course are applicable to other regions and other industries. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 2-3 | | Prerequisite(s): TGM 545 |
| TGM | 547 | Leading Change and Transformation in a Global Environment | Increases understanding of the nature of organizational change (through conceptual frameworks, readings and discussions). Specifies skills needed for managing change. Enhances sensitivity to the contribution and consequences of the human element as related to change. Helps student's own capacity to "thrive on change." | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | Prerequisite(s): TGM 545 |
| TGM | 548 | Global Strategy | Focuses on how global firms create value. Covers topics ranging from country-specific competitive advantage and the notion of distance to alternative global strategy archetypes and sources of competitive advantage for emerging market multinationals. The approach applies multiple decision-making tools and frameworks to untangle the complexities of managing in a global corporation. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | Prerequisite(s): TGM 545 |
| TGM | 549 | Global Leadership | Explores the concept of effective leadership within and across a variety of organizations and global contexts. Definitions of "leadership" and strategies for becoming an accomplished leader abound. Rather than attempt to narrowly focus our attention on definitions, leadership styles, and supposedly "definitive" theories of leadership, focuses on the demands of and competencies associated with excellent leadership. Most importantly, examines how leaders sense the need for and then manage organizational change. Given the increasingly complex world we live in and the ongoing and rapid rate of change, change management has become one of the most critical of leadership skills. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 551 | Global Marketing Strategy | Covers the major concepts involved in creating and sustaining customer value, analyzing the firm's macro environment, choosing whether or not to enter a foreign market, how to evaluate different foreign markets, the best methods for entering different markets, the market research design process, understanding consumer and B2B customer behavior, and ethical issues encountered in global marketing. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 2 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 552 | Global Marketing Management | Covers the functional aspects of marketing including decisions relating to segmentation, targeting, branding, product development, pricing, distribution and advertising/promotion. Students integrate their knowledge of these topics through the creation of an international marketing plan based on a product or service and in a country approved by the instructor. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 2-3 | | Prerequisite(s): TGM 557 |

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| TGM | 553 | Global Customer Decision Making | Both theoretical and applied, the backbone and foundation of the course draws heavily from behavioral economics, consumer psychology and consumer information processing. Equips students with a comprehensive understanding of how and why consumers make decisions the way they do in the market (B2C). Although consumers desire to make rational decisions that maximize their utility, in reality, more often than not, they tend to make irrational and suboptimal choices. Offers why such phenomena occur and how consumers can improve their quality of decision making. Offers a richer appreciation of the heuristics and decision-making rules that consumers use and biases that affect consumer decision making. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 557 |
| TGM | 554 | Global Marketing Research | Focuses on the marketing research process from start to finish. Marketing research techniques provide competitive advantage in a global business context. Develops the necessary skills to plan a research project, collect data, analyze the data (include key statistical techniques) and report findings. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 557; TGM 558 |
| TGM | 555 | Global Product Development and Pricing | Combines global product development (GPD) and global pricing (GP). GPD examines how an organization can identify, develop and manage products for global markets. Pays special attention to issues such as the product development cycle, innovation charter, barriers to product development and effectively organizing for product development. GP provides in-depth knowledge of the field of global pricing, covering the psychology, economics and tactics of pricing for a business enterprise, product or service. Better pricing knowledge usually converts to better bottom-line results. Students learn pricing theory and tactics as well as develop hands-on pricing skills, all aimed at improving profitability. These skills can be applied across the full range of professional contexts--as entrepreneurs, brand managers, business unit managers, management and M&A consultants. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 557 |
| TGM | 556 | Global Strategic Services Marketing | Services have come to dominate our economy. Yet there remains a naïve belief that services marketing and management is a simple adaptation of goods marketing and management. Unlike physical goods, services are co-produced with customers at a time, and in a place, of the customer's choosing. This co-production directly involves an organization's front-line employees. As a result, it is more difficult for services to be inventoried and checked for quality assurance. Provides a thorough understanding of the management and continuous improvement of service operations, including a thorough understanding of the role of customers in service operations such that service firms can design effective service experience so as to minimize service failure. Provides students with an end-to-end hands-on customer experience management (e.g., customer satisfaction and loyalty), project that involves survey design, customer experience model development, data collection, data analysis, and recommendations. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 557 |
| TGM | 557 | Global Marketing and Data Analytics | Global companies are embracing digital technologies to better understand their customers' journey and subsequent word-of-mouth discussions consumers have about their product online. This course is about understanding how multinational organizations make strategic use of Big Data to gain a competitive advantage in the global economy. It delves into the understanding of global data, choosing whether to enter a foreign market, how to evaluate different foreign markets, the best methods for entering different markets, the market research design process, understanding consumer and B2B customer behavior, and ethical issues encountered in global marketing. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 558 | Global Data Analysis for Strategic Marketing | Provides an understanding of the key statistical techniques to improve business decision making. Course complements other quantitative courses by adopting a hands-on and software- (SPSS) based approach to strategic decision making. A combination of lectures and discussions, analyses of data-based cases and software usage facilitate understanding of the material. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 557 |

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| TGM | 559 | Global Brand Management | Provides a managerial orientation to the topic of global brand management. Prepares participants for a career either in the role of the "traditional brand manager" or in the role of a "manager with brand-related responsibilities." A major portion of the course is working on a global brand field project to develop a brand management/marketing plan for a brand and brand challenge of student (and team) choosing. Emphasizes the ethical dimension of global brand management; focuses on an individual brand ethics project. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 557 |
| TGM | 572 | Global Import Export Management | Requires understanding theoretic, strategic, finance and practical business principles complicated by the differences in business practices, culture, laws and currency regulations of multiple countries and regions. Focuses on important pragmatic aspects of selling and acquiring goods and services to and from trading partners in foreign markets. Today's global marketplace, while dynamic with opportunity, contains rapidly changing physical, fiscal, technological and regulatory considerations for those who manage such activities. Important concepts to be learned include establishing strategic direction, identifying and managing a multitude of risks, protecting company assets, lowering the cost of finance, building winning business relationships and profitably expanding business into new markets. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 573 | Country Risk Management | Global managers must be concerned with potential risks to their businesses posed by political, social and financial forces at work globally and in specific regions and countries. This course centers around state-of-the-art assessment models used by businesses and foreign investors. Issues include methods of measuring and forecasting risk and mitigating risk. Recommended for students interested in business risk forecasting as a function in and of itself, and in operations, marketing, and any arena in which business investors must be able to anticipate and manage risks. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 575 | Global Affairs | Examines major theories and concepts in global affairs including different schools of international relations thought and levels-of-analysis determinants of foreign policy. These theories and concepts provide key insights on contemporary global affairs issues, and are applied to real-world events and case studies. Covers the role of political economy in the separate course on states and markets in the global political economy. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 576 | Global Affairs Methods | Covers research methodologies and analytical techniques used to investigate global issues. Topics include research design, quantitative methods, qualitative methods, policy analysis and database resources. These tools are used in government, in intergovernmental organizations, in nongovernmental organizations, and in the private sector. They are applied to key issues in global affairs such as democratization and human rights, income inequality and development, political violence and international security, and political risks to foreign investors. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 515 |
| TGM | 577 | International Organizations | Examines the role of international organizations in global affairs particularly in the areas of international peace, security, humanitarian and environmental issues. Focuses on intergovernmental organizations such as the United Nations and International Criminal Court as well as regional organizations such as the North Atlantic Treaty Organization and the African Union. Also focuses on international nongovernmental organizations such as Amnesty International and International Red Cross. Examines the impact of as well as the constraints on international organizations in real-world events and case studies. Covers major economic intergovernmental organizations in the separate course on states and markets in the global political economy. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 515 |
| TGM | 579 | Communicating in a Global Context | In a dynamic and interactive format, presents a framework of models and skills for building communication performance in competitive global business settings. Assists in implementing strategies for mastering interpersonal encounters, including conflict resolution, in multicultural environments. Not only examines theories of communication, but places students in experiential situations in which they develop valuable global management skills. Using cases, self-assessment questionnaires, multicultural team exercises and simulations, equips the global manager with the ability to solve problems and take advantage of opportunities in a multicultural world. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-2 | | Prerequisite(s): Thunderbird School of Global Management graduate student |

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| TGM | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-12 | | |
| TGM | 581 | Negotiating in a Global Context | Provide students with knowledge, skills, insights and experience necessary to be a competent negotiator. Covers theories of cross-cultural negotiation and how these impact business interactions. Students gain insight into personal and cultural underpinnings that influences cognitive, affective and negotiation behavioral processes. Expands skills in achieving communication and negotiating competence through the understanding and practice of increased appropriateness, flexibility and adaptability. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 2-3 | | Prerequisite(s): TGM 506 |
| TGM | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-12 | | |
| TGM | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-12 | | |
| TGM | 585 | Corporate Social Responsibility in a Global Context | Provides knowledge, skills, insights and experience necessary to be a competent negotiator. Covers theories of cross-cultural negotiation and how these impact business interactions. Students gain insight into personal and cultural underpinnings that influences cognitive, affective and negotiation behavioral processes. Expands skills in achieving communication and negotiating competence through the understanding and practice of increased appropriateness, flexibility and adaptability. Corporate Social Responsibility (CSR) has become essential for corporations seeking to succeed in an intensely competitive global economy. Provides an in-depth understanding of what CSR is, how to apply it effectively in an international context and how to manage it well. Using a case-based approach, focuses on actual experiences of corporations that have used CSR strategies successfully--and unsuccessfully--to draw practical lessons for international managers. Incorporates several guest lectures from executives who share their firsthand experiences with CSR in various regions of the world. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | Prerequisite(s): TGM 586 |
| TGM | 586 | Global Entrepreneurship and Sustainable Business | Presents an overview of entrepreneurship and sustainable business. Involves acquiring a basic understanding of both the global entrepreneurship space and the sustainable business space. Students become familiar with the definitions applicable to these two topics, the basic place and role of these two domains in the global economy, and the significance of the two domains in the creation of jobs and sustainable economic activity. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-12 | | |
| TGM | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | LEC | Y | OPT | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-12 | | |
| TGM | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-12 | | |
| TGM | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-12 | | |
| TGM | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-12 | | |
| TGM | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | RSC | Y | Z3 | Thunderbird School of Global Management | Thunderbird School of Global Management | 1 | | |

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| TGM | 596 | Thunderbird Experiential Practicum | Capstone course offering students an opportunity to apply the full range of professional skills they have acquired during graduate business and management studies. Consists of participation in a consulting project for a client system in an emerging market country, including Central America, Latin America, the Middle East, Africa, central and eastern Europe, and the whole of Asia apart from Hong Kong, Japan, Singapore, Australia and New Zealand. Serves all sectors: public/governmental, private and NGO/nonprofit. | Y | PRA | Y | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-6 | | Prerequisite(s): TGM 506; TGM 517; TGM 545; TGM 557 |
| TGM | 597 | Thunderbird Personal Leadership Development | Capstone course designed to equip students with the skills to transition from students to global managers in the 4th industrial revolution. Students create and continuously update their Career Development Plan. This plan requires them to research career options, commit to a career focus, devise a strategy, implement a networking plan, create career documents such as resumes and cover letter, prepare for interviews. Students also create their own Personal Leadership Development plan. | N | LEL | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-4 | | |
| TGM | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-12 | | |
| TGM | 601 | Megatrends: Understanding Future Drivers and Their Influences | Provides broad exposure to emerging and future transdisciplinary drivers and their influences. The lead professor for this Phoenix-based course partners with faculty from ASU colleges including the Ira A. Fulton Schools of Engineering, the Walter Cronkite School of Journalism and Mass Communication, the School of Public Affairs, and the Sandra Day O'Connor College of Law (and possibly other ASU schools or units). Representative topics span from crisis management in an era of hypercompetition and mass communications to the global legal implications of digitalization (e.g., Industry 4.0) and the emerging role of NGOs in partnering with private companies to seek shared value and sustainability. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 5 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 602 | Sustainable Futures: Building, Tapping and Creating Shared Value in a Changing World | Provides broad exposure to emerging and future transdisciplinary environmental drivers and their influences on business, nonprofit organizations and governments. Focuses on four interwoven themes. First, how do global firms create, experience and leverage shared value creation to drive innovation and growth. Second, exploration and application of contemporary models for mapping and understanding today's complex, dynamic systems, ecosystem development and cluster formation. Third, by delving into the function of multilateral agencies such as the WTO, WHO, UNHRC, UNCTAD and WBCSD in shaping and driving environmental influence on organizations, and understanding the public policy value chain. And, fourth, unbundling the impact of environment on innovation and growth success drivers in "next generation" manufacturing industries such as pharmaceuticals or precision engineering; on service industries such as banking or nonprofit organizations; on governments; and on NGOs. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 5 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 603 | Shaping Markets: Market Entry and Winning Strategies | Provides broad exposure to emerging and future transdisciplinary drivers and their influences. Primarily focuses on how global firms create value and thus covers a spectrum of topics ranging from country-specific competitive advantage and the notion of distance, to alternative global strategy archetypes, and sources of competitive advantage for emerging market multinationals. Integrative approach that seeks to apply multiple decision-making tools and frameworks to untangle the complexities of managing in a global corporation. Anchors the experiential segment of the course module in an emerging market setting to provide students a hands-on view of the dynamics shaping the growth markets of today and tomorrow. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 5 | | Prerequisite(s): Thunderbird School of Global Management graduate student |

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| TGM | 604 | Capturing Dividends: Finding, Fostering and Exploiting New Insights | Provides broad exposure to emerging and future transdisciplinary drivers and their influences with respect to innovation, technology and creativity. The lead professor for this module partners with thought and practice leaders from Thunderbird/ASU colleges and beyond. Representative topics span from understanding technology trends and their drivers to structuring for innovation and creativity success, and the leader's role and relevant skillset therein. From input to process to output, this module provides access to leading-edge best practices for seeing what others miss (successfully finding and developing valuable innovation), effectively assessing, prototyping, and validating, and winning adoption for new ideas and insights (and fostering these skills in others). | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 5 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 605 | Delivering Results I: Resourcing and Influencing to Maximize Impact | Provides broad exposure to emerging and future transdisciplinary drivers and their influences on strategy formation in global organizations. Primarily focuses on how global firms create value and thus covers a spectrum of topics ranging from country-specific competitive advantage and the notion of distance, to alternative global strategy archetypes, and sources of competitive advantage for emerging market multinationals. The approach will be integrative in that it seeks to apply multiple decision-making tools and frameworks to untangle the complexities of managing in a global corporation. Anchors the experiential segment of the course module in an emerging market setting to provide students a hands-on view of the dynamics shaping the growth markets of today and tomorrow. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 5 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 606 | Delivering Results II: Peak Dynamism Execution and Comprehensive Debrief | Provides broad exposure to emerging and future transdisciplinary drivers and their influences with respect to execution of strategy on global and local levels. The lead professor for this module partners with thought and practice leaders from Thunderbird/ASU colleges and beyond. Representative topics span from implementing global strategy, evaluating and responding to regional dynamics in fast expanding markets, bridging potential headquarter and field chasms, and executing in peak dynamism. This module provides access to leading-edge best practices for implementing strategy in fast expanding, emerging markets. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 5 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 705 | Philosophies, Theories and Methods of Research | Provides the necessary background in the philosophy of science to better prepare students in conducting high quality productive research. Develops the process of reorienting the student's thinking from the receptive mode of thinking that occurs in traditional graduate classes to the critical mode of thinking necessary for doctoral research. Addresses key content elements including the problem of appropriately defining concepts for global management and leadership research, the problem of providing evidence in support of a claim, and the problem of identifying both philosophical assumptions in social science research as well as the epistemological and methodological constraints that those assumptions imply. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 710 | Shaping the Future: The Fourth Industrial Revolution and Digital Transformation in a Global Economy | Addresses the Fourth Industrial Revolution (4IR) and how it differs from previous industrial revolutions, as well as the drivers, enablers, opportunities and challenges. Examines the relation between the state and market in the global economy and discusses implications of 4IR globally. Beyond the 4IR, looks at the relations between politics and economics and how they affect local, national and global outcomes. Students study how technology impacts, changes and profoundly transforms societies. Investigates human-centered technology and the response from our institutions, technology governance and the reach of Artificial Intelligence. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 715 | States and Markets in the 4th Industrial Revolution Global Economy: Applications for Global Leaders | Provides global managers and leaders with an in-depth assessment of the field of global political economy through the lens of the Fourth Industrial Revolution (4IR). Students develop the ability to critique and apply relevant concepts from 4IR to explain trends and developments in the global economy. They also use these concepts to help companies, governments and nonprofit organizations manage challenges and seize opportunities in operating in the global economy during the 4IR. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| TGM | 720 | Qualitative Analysis for Systems Thinkers: Learning from the Field | Seminar in qualitative research methods including conceptualization, research design, tool choices and data collection processes with a focus on understanding and addressing leadership and management challenges applied to the student's research project. Familiarizes students with the selection and application of qualitative research methods that address real-world challenges in private and public organizations. Helps students gain a deep understanding of the rationale for and nature of field research in organizations that guide selection of the best tools to answer research questions. With an emphasis on global and 4th Industrial Revolution contexts, topics presented include an overview of qualitative research, research questions and how qualitative research may apply when conducting qualitative studies, ethics in qualitative research, and a variety of tools--interviews, focus groups, participant observation, document and artifact analysis, data synthesis and case study research method. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 730 | Systems Change and Transformation in the Anthropocene | Transnational hyper-connectivity is an essential feature of our time. Yet in government, business and civil society, our approaches to power, leadership and organization remain locked in the competition-based frameworks of the 20th century. To understand these all too common problems, we need to move beyond linear models--based on a fairly detailed knowledge of the present situation and supposed to be able to make reasonable forecasts of the future--which underlie much formal policy analysis and design. Understanding the implications of strategic behavior, nonlinear feedbacks and heterogeneous actors on policies is needed. Equally we need to understand the impact of policies at multiple scales and across a wide range of stakeholders. Assesses these topics through systems change and how this has led to transformation in the Anthropocene. The foundational premise of this course is that the traditional discipline for achieving objectives in global affairs--statecraft--is necessary but not sufficient for the networked age. New tools and strategies are needed to understand and influence a world based on connectivity. Network theory provides a starting point. Covers basic principles of network theory and helps understand their relevance to the design, development and management of fit-for-purpose networks involving business, civic organizations and nonprofits, and government. Examines case studies of different global problems--from health to human rights, war to economic renewal, the environment to terrorism. Much progress has been made in the scientific understanding of the kinds of systems--under the name of complexity. Explores the consequence of these new insights for policy. Discusses salient policy and management implications of a complex adaptive system frame. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 740 | Leading and Managing Global Organizations: Advanced Topics | Organizations, private (business) and public (government, nonprofit and hybrid), all face chronic management and leadership problems that pose significant challenges to them. Organizations are complex and problematic entities, which is especially true for government organizations. These problems include the difficulty of designing organizations capable of coping with highly dynamic and rapidly changing environments, the challenge of developing strategies and structures for hypercompetitive conditions, and the greater complexity of managing global enterprises. Further issues addressed are the difficult task of shaping a corporate culture, managing politics and conflict between individuals and organizational units, and motivating employees who are more mobile than ever. Students learn to design incentive systems, as well as lead teams effectively. Covers how leaders of these organizations deal with these challenges. Helps students gain a deeper understanding of the nature of organizational change and the complexities that underlie them (through conceptual frameworks, organizational structure and design, the interaction of organizations with their environments and the behavior of individuals and groups within organizations; readings; and; discussions). Illuminates skills needed for managing change. Enhances sensitivity to the contribution and consequences of the human element as related to change. Helps students think about how to "thrive on and in change." | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| TGM | 745 | Data Analysis for Global Leaders | Provides the quantitative tools used to conduct research in global leadership. Students study three overarching topics: (1) research design, with attention to forming hypotheses, matching appropriate research methods to those hypotheses, and operationalizing variables; (2) data structure and data sources; (3) specific quantitative techniques, including t-tests, chi-squared tests and multiple regressions. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 750 | Problem Identification and Research Design: Directed Study | Students engage in their identification of their research problem, formulation of the research objectives and design of the action plan for their project. | N | RSC | N | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 755 | Review of Literature: Directed Study | Students engage in the review of literature of their research problem or project, exploring deep functional knowledge in managing and leading in the 4IR. | N | RSC | N | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 760 | Project Impact Assessment: Directed Study | Students engage in the assessment of the project impact, exploring deep functional knowledge in managing and leading in the 4IR. | N | RSC | N | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 765 | Independent Applied Field Research: Directed Study | Students engage in independent applied field research related to their project exploring deep functional knowledge in managing and leading in the 4IR. | N | RSC | N | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 770 | Final Project Draft: Directed Study | Students engage in developing the draft of the final draft of the applied research project, exploring deep functional knowledge of their topic of study. | N | RSC | N | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 775 | Research Project Draft Refinement: Directed Study | Students engage in the refinement of the research project draft, exploring deep functional knowledge in managing and leading in the 4IR. | N | RSC | N | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRO | Y | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| THE | 100 | Introduction to Theatre | Surveys theatre production from the Greeks to contemporary theatre. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s): non-Theatre and non-Film students only |
| THE | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| THE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| THE | 320 | History of the Theatre I | Centers on the historiography of world theatre as art, as a medium of cultural expression and as a social institution. Involves, along with the reading of plays, advanced methodological approaches to studying the creation of theatre within cultural and political contexts. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & H | Prerequisite(s): Theatre or Performance and Movement BA major; THF 220 OR New College student; junior or senior standing OR Visiting University Student |
| THE | 321 | History of the Theatre II | Traces major developments in theatre production from the 17th century to modern times. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & H | Prerequisite(s): Theatre BA major; THF 220 with C or better OR New College student; minimum junior standing |
| THE | 322 | Theatre History and Culture | Critically examines major developments in theatre history, historiography, and dramatic literature. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & H | Prerequisite(s): non-Theatre major OR Visiting University Student |
| THE | 325 | Play Reading for Educational Theatre | Assigned independent readings in plays for secondary school play production. | N | RSC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Theatre student OR Visiting University Student |
| THE | 359 | Comics, Cons, and Cosplay Phenomena | Creates an awareness and appreciation for the evolution of the comic, con and cosplay industries and related popular art forms primarily through the presentation of events that celebrate the historic and continuing contribution of the industries to art and culture. Organized in a historic timeline, beginning with ancient gods and myths, to the development of superheroes and science fiction characters beginning in the 1930s, to the impact that world conflict and social unrest and shifts had on the art form in the 1940s through 1990s, to the character reinvention and evolution during this century and fandom's impact on fashion and culture. | N | LEC | N | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only THE 359 or THE 494 (Comics, Cons and Cosplay Phenomena) or THP 494 (Comics, Cons and Cosplay Phenomena) OR Visiting University Student |
| THE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| THE | 406 | American Multicultural Film | Examines Native, African, Asian, and Latina and Latino American films and film artists in cinema history and production. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & C | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| THE | 420 | Theatre in America | Examines the major movements and pivotal moments in the history of American theatre from the 1700s to its current state, particularly its efforts to establish an identity that reflects the unique and changing citizenry of the United States. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s): minimum 40 hours. Credit is allowed for only AMS 420 or IAP 420 or THE 420 |
| THE | 421 | Shakespeare: Stage and Film | Examines Shakespeare's plays as written texts, stage performances, and film productions. Focuses on play reading, performance analysis, and film critique. Online course. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| THE | 422 | Latinx Theatre and Film | Explores issues of cultural identity through critical analysis of theatre and film by Latinx artists in the United States. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & C | Prerequisite(s): ENG 102, 105 or 108 with C or better OR Theatre Masters students |
| THE | 423 | African American Theatre | Readings, discussion, video of the history and dramatic literature of African American playwrights and theatre companies in the United States. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | C | Prerequisite(s): ENG 102, 105 or 108 with C or better, or Masters student |

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| THE | 425 | Chekhov and Russian Drama | An in-depth study of Chekhov's major works, representative short stories and major plays, including "The Cherry Orchard" and "Three Sisters". Taught in English. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | L or HU | Prerequisite(s): ENG 102, 105 or 108 with C or better; Credit is allowed for only RUS or THE 425 |
| THE | 426 | Pre-Columbian Theatre of the Americas | Selected studies in pre-Columbian theatre forms and texts of the Aztecs, Mayans, Caribbean islands, and North American Indians. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): ENG 102, 105 or 108 with C or better, or Masters Theatre student |
| THE | 429 | Studies in European Literature and Culture | Literary, cultural, and historical issues. | N | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s) with C or better: ENG 101, 105, 107; ENG 200; one ENG 200- or 300-level literature course OR ENG 101, 105, 107; min 45 hours; Credit is allowed for only CEL 429 or ENG 429 or REL 429 or SLC 429 or THE 429 OR Visiting University Student |
| THE | 430 | History of Fashion I | Fashion is rarely set but rather evolves with eras of upheaval between one generation and the next. Clothes express the personality and rank of the individual creating an instantaneous and lasting impression. Introduces over 400 years of Western fashion history drawing parallels between the fashion and the period in which it existed. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s): minimum sophomore standing OR Visiting University Student |
| THE | 431 | History of Fashion II: 20th-Century Fashion | A century of fashion history, drawing parallels between the fashion and the period in which it existed. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only THE 431 or THE 494 (History of Fashion II) |
| THE | 440 | Experimental Theatre and Performance | An inquiry into avant-garde and experimental theatre/performance from the 19th century to the present. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | L | Prerequisite(s): Theatre undergraduate student; ENG 101, 105, or 107 with C or better; THE 320 or 321 with C or better; THF 220 with C or better OR Visiting University Student |
| THE | 475 | Latin American Film | Examines the role of film in contemporary Latin American culture; films viewed and analyzed as casebook examples. Focuses on the aesthetics and generic conventions of contemporary Latin American films. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, 108, FMS 100, or SLC 202 with C or better; Credit is allowed for only FMS 475 or SLC 475 or SPA 475 or THE 475 or FMS 494/SLC 494/SPA 494/THE 494 (Latin American Film) OR Visiting University Student |
| THE | 480 | Methods of Teaching Theatre | Applies materials, techniques and theories for theatre with students, grades 6 through 12. Emphasizes curriculum development and praxis. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 4 | | Prerequisite(s): THP 311 with B or better or graduate student; Credit is allowed for only THE 480 or THE 581 OR Visiting University Student |
| THE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | |
| THE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | | Pre-requisites: Barrett Honors Theatre or Film student |
| THE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | L | Prerequisite(s): Barrett Honors Theatre or Film student; ENG 101, 105 or 107 with C or better |
| THE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| THE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | |
| THE | 500 | Research Methods | Course on research methods in a specific discipline. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): graduate School of Film, Dance and Theatre major |
| THE | 504 | Studies in Dramatic Theory and Criticism | Surveys dramatic theory, criticism, and aesthetics as they relate to contemporary performance. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisites: Theatre student |
| THE | 505 | Critical Theory and Performance | Surveys contemporary theories of culture as they apply to theatre and performance studies. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisites: Theatre graduate student |
| THE | 510 | Studies in Literature | Assigned individual reading program in standard sources and masterpieces in theatre literature. May be repeated for credit. | N | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| THE | 520 | Theatre History and Literature | Surveys historiographical issues and dramatic literature related to key periods in theatre history. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisites: Theatre student |
| THE | 524 | Advanced Studies in Theatre for Youth | In-depth study of the history, literature, and contemporary practice of theatre for young audiences. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Theatre Education or Theatre for Youth student |
| THE | 525 | Advanced Studies in Theatre for Youth II | Project-oriented explorations of theory and practice of contemporary theatre for youth audiences. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THE 524 with B or better |
| THE | 562 | Dramaturgy Workshop | Advanced dramaturgical technique for the contemporary theatre, including trends in new play development, festivals and productions throughout the United States. Participation in Arizona Playwriting Competition. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| THE | 581 | Methods of Teaching Theatre | Applies materials, techniques and theories for theatre with students, grades 6 through 12. Emphasizes curriculum development and praxis. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only THE 480 or THE 581 |
| THE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisites: Theatre student |
| THE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | N | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisites: Theatre student |
| THE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisites: Theatre student |
| THE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| THE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisites: Master of Art Theatre student |
| THE | 600 | Research Methods | Course on research methods in a specific discipline. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | |
| THE | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisites: Theatre student |
| THE | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisites: Theatre student |
| THE | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | |
| THE | 700 | Research Methods | Course on research methods in a specific discipline. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre-requisite: Must be a Theatre Education or Theatre for Youth student or have instructor approval. |
| THE | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisites: Theatre student |
| THE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-15 | | |
| THE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-15 | | |
| THF | 101 | Acting Introduction | Introduces basic principles of acting. Topics include terminology, scene and character analysis, exercises and improvisation, audition preparation. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): non-Theatre student OR Visiting University Student |
| THF | 125 | Orientation to Film, Dance and Theatre | Orientation to university and school resources and procedures. Academic success strategies, mentorship, goal setting. Community-building exercises. | N | REC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prereq(s): Film (Film & Media Prod) BA, Film (Filmmaking Practices) BA, Film and Media Prod BFA, Perform & Movement BA, Theatre (Acting) BA, Theatre (Design & Prod) BA, or Theatre (Theatre Expl) BA major; freshman standing OR Visiting University Student |
| THF | 126 | Professional Development: Communication and Collaboration | Foundational course brings together students in several collaborative art forms to create original works and build community within the Herberger Institute. Provides introductions to the creative process and several key creative career skills: effective communication, conflict resolution, project management, building mentoring relationships, and creating equitable and inclusive project teams. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Herberger Institute for Design and the Arts student OR Visiting University Student |

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| THF | 160 | Introduction to Storytelling | Introduces the nature, structure, and operations of story, as well as the functions of narrative in societies and cultures. Several modules introduce a different mode of storytelling. Students learn to create their own stories utilizing several of the approaches introduced in the modules. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | |
| THF | 215 | Design and Composition for Theatre and Film | Introduces the aesthetic principles and practices employed by designers/artists of the stage and screen, including: basic knowledge of the elements and principles of design; conceptualization of design for theatre and film; director/designer collaboration models; methods and modes of visual communication for theatre and film (storyboards, renderings, models, etc.). | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | |
| THF | 220 | Principles of Dramatic Analysis | Analysis, evaluation and interpretation of dramatic literature for theatrical and cinematic production. Emphasizes the traditional canon of dramatic literature, the language of narrative film, and traditional structures and forms of drama for stages and screens. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | L or HU | Prerequisite(s): Sidney Poitier New American Film School major or School of Music, Dance and Theatre major; ENG 101, 105, or 107 with C or better; Pre- or corequisite(s): THF 126 with C or better if completed OR Visiting University Student |
| THF | 370 | Seminar: Acting Concentration for Stage and Screen | Designed for a student's continued growth as a preprofessional acting student. Provides a series of master workshops focused on craft. In addition, under the guidance of the faculty facilitator, students receive career guidance and information to strengthen connections to the institute, the school and the university. | N | SEM | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): admitted to Theatre (Acting) BA concentration; Credit is allowed for only THF 370 or THP 394 (Acting Concentration Seminar) OR Visiting University Student |
| THF | 397 | Professional Development Seminar | Preparatory course for senior projects. Students research and create senior project proposals while formalizing faculty mentorships. | Y | SEM | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Film BA or Performance and Movement BA or Theatre BA major; minimum 56 hours OR Visiting University Student |
| THF | 429 | Astrobiological Arts | Is there life "out there"? Students investigate the science of astrobiology through a blend of research and creative processes. Utilizing exploration learning methods, students pursue inquiries into life in the universe and develop collaborative creative projects from initial idea to completion. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only THF 429 or HDA 494/HDA 598/SES 494/SES 598/THF 494/THF 598 (Life, the Universe & Creating: Astrobiological Art) OR Visiting University Student |
| THF | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| THF | 497 | Senior Project | Mentored practicum for culminating capstone projects. | Y | PRA | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | | Prerequisite(s): Film BA, Film and Media Production BFA, Performance and Movement BA, or Theatre BA major; FMP 385, FMP 398, or THF 397 with C or better; minimum 56 hours |
| THF | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| THP | 102 | Acting I: Fundamentals | Explores and applies basic principles of acting. Topics include terminology, scene and character analysis, exercises and improvisation, audition preparation. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Performance (Music Theatre) BM major or Performance and Movement BA major or Theatre BA major OR Visiting University Student |
| THP | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| THP | 201 | Theatre Production Crew | Participation in university mainstage theatre production backstage and board operations. | Y | LAB | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | |
| THP | 202 | Acting II: Scene Study | Theatre techniques using improvisation and emotional truth. Rehearsal techniques and application of action to dramatic text. Multiple approaches. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THF 101 or THP 102 with C or better; THP 272 with C or better; THP 277 with C or better; Pre- or corequisite(s): THF 220 with C or better if completed OR Visiting University Student |
| THP | 212 | Puppetry with Children | Construction and manipulation of puppets; practice in performance skills. Emphasizes educational and recreational uses of puppetry by and with children. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | |
| THP | 213 | Introduction to Technical Theatre | Procedures of technical theatre production and demonstration. Topics include design and construction of scenery, lighting, and properties. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 4 | | Prerequisite(s): Herberger Institute for Design and the Arts student OR Visiting University Student |
| THP | 214 | Introduction to Costuming | A survey of costume design and construction for performance. Cultivates basic sewing and crafting skills through hands-on projects. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 4 | | Prerequisite(s): Herberger Institute for Design and the Arts student OR Visiting University Student |

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| THP | 216 | Stage Technology | Explores fundamentals and practical applications of lighting, sound and media equipment and technology for live events. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): BA in The Arts, Digital Culture (Theatre) BA, Film and Media Production BFA, Performance and Movement BA, or Theatre BA major; Credit is allowed for only THP 216 or THP 494 (Stage Technology) OR Visiting University Student |
| THP | 218 | Directing I: Introduction to Directing | Overview of emergence and practice of the director's craft. Explores director's role and responsibilities, play selection, conceptualizing, ground plans, blocking. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Film and Media Production BFA, Theatre BA, Theatre (Acting) BA, or Theatre (Design & Production) BA, or Theatre (Exploratory) major; THF 220 with C or better; THP 102 with C or better OR Visiting University Student |
| THP | 251 | Student Production Board I | Performing arts entrepreneurship taught through the experience of operating a student-produced theatre company. Credit is available for acting, directing, design and technology. | N | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | |
| THP | 260 | Introduction to Dramatic Writing | Introduces writing for performance for stage, media and other forms. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| THP | 272 | Introduction to Stage Movement | Movement vocabulary and physical training in relaxation, alignment, conditioning, and stage presence. Application to performance. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THF 101 or THP 102 with C or better OR Visiting University Student |
| THP | 277 | Acting: Introduction to Voice | Exercises and techniques to free the voice and improve quality and projection. Application to performance. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THF 101 or THP 102 with C or better OR Visiting University Student |
| THP | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| THP | 301 | Theatre Production | Participation in university mainstage theatre productions (e.g., acting, construction, stage management). | Y | LAB | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | Prerequisite(s): THP 213 or 214 with C or better OR Visiting University Student |
| THP | 302 | Acting III: Advanced Techniques | Advanced practice in methods, skills, and research for rehearsal and performance. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THF 101 or THP 102 with C or better; THF 220 with C or better; THP 202 with C or better; THP 272 with C or better; THP 277 with C or better; minimum junior standing |
| THP | 307 | Acting: Ten-Minute Plays | Acting in theatre projects, productions, or collaborative performances in directing classes. | N | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | Prerequisite(s): THF 101 or THP 102 with C or better OR Visiting University Student |
| THP | 311 | Creative Drama with Youth | Theories, materials, and techniques for facilitating improvisational drama with children and youth in classroom and community settings. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 25 hours OR Visiting University Student |
| THP | 317 | Stage Management | Readings in stage management and participation as a stage manager in a university theatre production. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Herberger Institute for Design and the Arts student OR Visiting University Student |
| THP | 318 | Directing II: Intermediate Directing | Explores approaches to staging and composition. Studio work culminates in presentation of a fully rehearsed ten-minute play. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 218 with C or better; THP 213 or THP 214 with C or better |
| THP | 330 | Costume Design | Explores the elements of design, taking abstract ideas and formulating them into concrete forms. Encourages the student to experiment with different ideas and mediums. Emphasizes design basics, research, figure drawing, and beginning rendering techniques. Uses projects that involve complex script and character analysis to promote the student's ability to effectively communicate. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THF 215 with C or better OR Visiting University Student |
| THP | 331 | Costume Construction | Students learn the basics of clothing construction for performance, guided through sewing and finishing techniques. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): FSH 202 or THP 214 with C or better OR Visiting University Student |
| THP | 332 | Makeup | Practical guide to the theory and practice of theatrical makeup. Basic principles of stage makeup design and application. Develops and increases skills in the application and design of the medium through a combination of reading assignments, lecture, demonstration and supervised practice sessions. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Theatre (Design and Production) major or minimum 45 hours; Credit is allowed for only THP 332 or 494 (Makeup/Advanced Makeup) |
| THP | 333 | Costume Crafts | Exposes students to ancillary crafts within costume construction. The first half of the course explores dying and painting fabric for the stage and screen. The second half of the course covers millinery by making both a buckram hat and a stretched felt hat. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): FSH 202 or THP 214 with C or better; Credit is allowed for only THP 333 or THP 494 (Costume Crafts) OR Visiting University Student |
| THP | 335 | Stagecraft | Explores theatrical construction techniques and processes, developing skills through hands-on projects. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 213 with C or better or THP 301 with B or better; minimum sophomore standing OR Visiting University Student |

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| THP | 340 | Scene Design | Studio projects in designing scenery for contemporary stages. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): BA in The Arts, Digital Culture (Theatre) BA, or Film and Media Production BFA major or THF 215 with C or better OR Visiting University Student |
| THP | 344 | Hand Drafting for the Live Entertainment | Explores the fundamentals and practices of technical drawing for the entertainment industry. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Herberger Institute for Design and the Arts student OR Visiting University Student |
| THP | 345 | Lighting Design | Explores principles, theories and practices of lighting design for entertainment industries. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THF 215 with C or better OR Visiting University Student |
| THP | 350 | Sound Design | Investigates the use of sound as an element of theatrical design. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| THP | 351 | Arts Management | Management, organizational behavior and human behavior in the arts; marketing, financing and budgeting for the arts. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Herberger Institute for Design and the Arts student or minimum 45 hours OR Visiting University Student |
| THP | 352 | Everyday Audio Editing | Teaches the basics of editing and mixing in the Digital Audio Workstation REAPER. Employs plugins including EQ, compression (and other dynamics processing), as well as reverb (and other time-based effects), to craft a mix. Also includes an overview of editing audio to video, automation, MIDI implementation and the relationship between REAPER and other DAWs (e.g., Pro Tools, Logic). | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only THP 352 or THP 494 (Audio Editing) OR Visiting University Student |
| THP | 355 | Media Design for Performance | Introduces the fundamental skills, practices and theories for media and projection design for live performance, building on traditional areas of design for the theatre. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): BA in The Arts, Digital Culture (Theatre) BA, or Film and Media Production BFA major or THF 215 with C or better OR Visiting University Student |
| THP | 360 | Intermediate Playwriting | Continued development of skills in playwriting through specific exercises and completion of a full-length play. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre- or corequisite: THP 260 with C or better or Prerequisite(s): ENG 210 |
| THP | 372 | Acting: Advanced Movement | Movement techniques for the classical and nonrealistic theatre. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 272 with B or better; minimum junior standing OR Visiting University Student |
| THP | 377 | Acting: Voice and Speech | Introduces phonetic alphabet, exercises, and techniques for voice and speech improvement. Application to performance. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 277 with B or better; minimum junior standing OR Visiting University Student |
| THP | 385 | Acting: Shakespeare and the Spanish Golden Age | Rehearsal and performance of Shakespeare and other classical playwrights. Emphasizes understanding poetic language, vocal and physical skills. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THF 101 or THP 102 with B- or better; THP 277 with B- or better |
| THP | 387 | Screen Acting | Professional film acting techniques, terminology and on-camera experience. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Filmmaking Practices BA major, Performance and Movement BA major, Theatre major or minor; THF 101 or THP 102 with C or better OR Film and Media Production major or minor OR Visiting University Student |
| THP | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| THP | 401 | Theatre Practicum | Production assignments for advanced students of technical production, stage and business management and design. | N | LAB | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | Prerequisite(s): THP 213 with C or better or THP 301 (Production) with B or better OR Visiting University Student |
| THP | 411 | Methods of Teaching Drama | Applies materials, techniques and theories with youth, grades pre-K-5. Emphasizes curriculum development and praxis. Regular participation with children. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 4 | | Prerequisite(s): THP 311 with A- or better or graduate student; Credit is allowed for only THP 411 or THP 511 OR Visiting University Student |
| THP | 418 | Directing III: Advanced Directing | Studio work building on skills learned in intermediate directing, culminating in the presentation of a fully rehearsed one-act play. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 318 with C or better or Herberger Master of Art or Master of Fine Arts student OR Visiting University Student |
| THP | 420 | Acting: Solo and Collaborative Performance | Creation and development of original performance art works combining text, movement, multimedia, visual art; the actor as writer, designer, performer. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THF 101 or THP 102; minimum junior standing |
| THP | 428 | Theatre Capstone/Senior Project | Senior projects course that includes a culminating creative synthesis of student's knowledge. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THF 397 with C or better |
| THP | 430 | Rigging for the Stage | Develops a hands-on knowledge of methods and principles of theatrical rigging. Focuses on safety and utilizes industry-standard equipment to assemble standard and custom rigging systems. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Herberger Institute for Design and the Arts student; Credit is allowed for only THP 430 or THP 494 (Rigging for the Stage) OR Visiting University Student |
| THP | 431 | Advanced Costume Construction | Focuses on period garments, especially corset silhouettes and the specific sewing techniques required. | N | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 331 with C or better OR Visiting University Student |

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| THP | 435 | Technical Direction | Seminar in fundamental principles and practices of technical directors as managers, engineers and artisans in theatre production. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 213 with B or better; THP 301 (Theatrical Construction) with B or better; minimum junior standing OR THP 301 (Production) with B or better; minimum junior standing OR Visiting University Student |
| THP | 440 | Advanced Scene Design | Advanced studio projects in designing scenery for a variety of stage forms. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 340 with C or better or Theatre (Performance Design) MFA student OR Visiting University Student |
| THP | 441 | Scene Painting | Studio projects in painting stage scenery. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 213 with C or better OR Visiting University Student |
| THP | 442 | Rendering for Design and Production | Techniques in drawing and rendering for scenic, costume, and lighting design. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prereq(s): BA in The Arts (Entertain Design or Fash Design), Dig Cltre (Theatre) BA, Film (Film & Media Prod) BA, Film (Filmmaking Practices) BA, Film & Media Prod BFA, Film & Media Prod minor, Theatre BA, or Theatre minor OR Visiting University Student |
| THP | 445 | Advanced Lighting Design | Specialized techniques in stage lighting. Advanced application of design process, graphic techniques of design presentation, and use of qualities of light. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 344 with C or better; THP 345 with C or better OR Visiting University Student |
| THP | 447 | Vectorworks for Live Entertainment | Explores CAD drafting fundamentals and practices for the entertainment industry through Vectorworks. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): BA in The Arts, Digital Culture (Theatre) BA, or Film and Media Production BFA major or THP 213 with C or better; Credit is allowed for only THP 447 or THP 494 (CAD Drafting) or THP 494 (Vectorworks) OR Visiting University Student |
| THP | 448 | AutoCAD for Live Entertainment | CAD drafting fundamentals and practices for the entertainment industry through AutoCAD. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): BA in The Arts, Digital Culture (Theatre) BA, or Film and Media Production BFA major, or THP 213 with C or better OR Visiting University Student |
| THP | 449 | AutoCAD 3D for Live Entertainment | Comprehension and practice of 3D drafting and rendering techniques in AutoCAD. Focuses on applications in live entertainment. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 448 with C or better; Credit is allowed for only THP 449 or 494 (AutoCAD 3D) |
| THP | 450 | Theatre Organization and Management | Overview of nonprofit arts: organizational design, strategic planning, financial management, and leadership. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Herberger Institute for Design and the Arts student |
| THP | 451 | Student Production Board II | Performing arts entrepreneurship taught through the experience of operating a student-produced theatre company. Credit is available for the binary officers and administrators only. | N | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre- or corequisite(s): THP 450 OR Visiting University Student |
| THP | 452 | Arts Entrepreneurship Seminar | Challenges students to learn how individuals have used their creative skills to create new arts business models. Case studies examine how creativity can spur new opportunities in the arts industry. Students complete their own project proposals. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): HDA 252 with B or better |
| THP | 453 | Sound System Design and Engineering | Covers the design of sound systems, focusing on an understanding of the technical principles and the implications they have for design decisions. Also covers specialized topics in audio engineering including console programming, RF (wireless) coordination and the Dante protocol. Considers larger and more complicated systems by breaking them down into their more manageable component parts. With regard to loudspeaker deployment, focuses on achieving even coverage for systems, and not on the creative implications associated with consideration of imaging. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre- or corequisite(s): THP 216 or 350 with C or better if completed; Credit is allowed for only THP 453 or THP 494 (Sound System Design & Engineering) OR Visiting University Student |
| THP | 455 | Advanced Media Design | Explores advanced skills, practices and theories for media and projection design for live performance. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance, Film, Theatre, or The Arts BA major; THP 355 with C or better; Credit is allowed for only THP 455 or THP 555 OR Visiting University Student |
| THP | 457 | Digital Portfolio | Cross-disciplinary exploration of methods, technologies and aesthetics of portfolio presentation for professional designers and artists. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): The Arts (Fashion Design) or Theatre (Design and Production) major; minimum 56 hours; Credit is allowed for only THP 457 or THP 494 (Digital Portfolio) |
| THP | 482 | Theatre for Social Change | Interactive theatre techniques (e.g., Boal, drama therapy, playback theatre) to examine and combat institutional, social, cultural, interpersonal, and personal oppressions. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | C | Prerequisite: Minimum sophomore standing |

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| THP | 483 | Acting: Viewpoints and Composition | Training in Anne Bogart's viewpoints and composition techniques; application to rehearsal and performance, and creating new work. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 202 with C or better; minimum junior standing or Performance and Movement major or MFA major |
| THP | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): Theatre or Film student |
| THP | 487 | Advanced Screen Acting | Builds on basic principles of on-camera acting to develop a range of acting styles in different formats on movie, television, computer and mobile device screens. Practical production includes a web series and community-based public service announcements. | N | SEM | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 387; Credit is allowed for only THP 487 or THP 494 (Acting: TV and Film II) |
| THP | 489 | Acting: Audition Techniques and Career Development | Familiarization with the business of performance: preparation and techniques for auditioning; self-promotion and marketing strategies; grant resources, interviews, and unions. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 102 or THF 101 with B or better; THF 220 with B or better; minimum junior standing OR Visiting University Student |
| THP | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| THP | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-7 | | Prerequisites: Theatre Design & Production student |
| THP | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | |
| THP | 500 | Research Methods | Course on research methods in a specific discipline. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| THP | 501 | Performance: Solo Performance | Students begin to define their mission in art. Emphasizes the actor as a solo storyteller, speaking as herself or himself. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-8 | | Prerequisites: Master of Arts or Master of Fine Arts Theatre student |
| THP | 505 | Graduate Colloquium | Orientation to graduate study of theatrical practice; cohort development, introduction to the advanced literature and media in the art form. | N | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre-requisites: Master of Fine Art Theatre student |
| THP | 511 | Methods of Teaching Drama | Applies materials, techniques and theories with youth, grades pre-K-5. Emphasizes curriculum development and praxis. Regular participation with children. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only THP 411 or THP 511 |
| THP | 512 | Puppetry Workshop | Surveys puppetry in education, puppetry as an art form in design and performance. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Graduate student |
| THP | 513 | Touring Theatre | Provides an understanding of the theories and aesthetics of touring theatre and a practice in its conceptualization, creation, administration, and production. Examines a variety of styles and methods of creating "movable" theatrical material, focusing on forms that require minimal scenic and design support. Focuses on process and working toward a quality product. | N | LEL | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Fine Arts Graduate student; Credit is allowed for only THP 513 or 598 (Touring Theatre) |
| THP | 514 | Projects in Community-Based Theatre | Theories and techniques of improvisational theatre with emphasis on youth. Stresses professional development through projects combining research, theory, and practice. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite: Master in Arts, Master in Fine Arts or PHD Theatre major |
| THP | 517 | Stage Management | Advanced study of the principles and practices of stage management in the professional theatre. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Graduate student in the Herberger Institute for Design and the Arts, the School of Community Resources and Development, or the W.P. Carey School of Business |
| THP | 518 | Advanced Directing Lab | Active discovery of directing concepts through practical exercises and collaboration; deconstruction of contemporary/classic literature. Explores director as primary artist. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisites: Master of Arts, Master of Fine Arts, or PhD Theatre student |
| THP | 519 | Directing: Works in Progress | Advanced projects in directing concentrating on a collaborative process among director, playwright, actors, and designers. Focuses primarily on new scripts or adaptations of literature. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Master of Arts, Master of Fine Arts, or PhD Theatre student |
| THP | 520 | Directing the New Play | Advanced methods and studies in directing, focusing on new play development. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Master of Fine Arts Theatre student |
| THP | 521 | Performance I: Acting and Movement | Advanced studio work in the performer's body, voice, emotion, and imagination; emphasizes physical diagnostics and development. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Master of Fine Arts Theatre student |
| THP | 522 | Performance I: Acting and Voice | Advanced studio work in the performer's voice; emphasizes physical awareness, vocal anatomy, training, and interpretation of texts. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Master of Fine Arts Theatre student |
| THP | 523 | Performance II: Acting and Movement | Advanced studio work in the performer's body, voice, emotion, and imagination. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Master of Fine Arts Theatre student |
| THP | 524 | Performance II: Acting and Voice | Advanced studio work in the performer's voice. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Master of Fine Arts Theatre student |
| THP | 525 | Design I: Conceptualization and Collaboration | Conceptual structures of the design process in theatre; development of creativity, flexibility, and communication in the collaborative process. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Master of Fine Arts Theatre student |
| THP | 526 | Design I: Drawing and Rendering | Development of drawing and rendering skills, techniques, and evaluation in the presentation, realization, and communication of performance design. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Master of Fine Arts Theatre student |

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| THP | 527 | Design II: Conceptualization and Collaboration | Offers students the chance to develop advanced skills in creating fully realized design ideas, particularly in working with new and experimental forms. Through the coursework, readings, and projects, students develop new methods and systems of thought for dealing with challenging dramatic works. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Master of Fine Arts Theatre major |
| THP | 528 | Design II: Visualization and Presentation | Advanced skills and techniques in rendering, visualizing and presenting design ideas and materials for performance. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Master of Fine Arts Theatre student |
| THP | 529 | Viewpoints and Composition | Training in Anne Bogart's viewpoints and composition techniques; application to rehearsal, performance and creating new work. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): School of Film, Dance and Theatre MFA or PhD student |
| THP | 540 | Scene Design Applications | Conceptual and practical application of the design process including graphic and sculptural projects. Practical design problems investigated in a lab. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisites: Master of Art or Master of Fine Art Theatre student |
| THP | 545 | Lighting Design Applications | Advanced studio projects in stage lighting design. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisites: Master of Fine Arts Theatre student |
| THP | 550 | Theatre Organization and Management | Overview of nonprofit arts: organizational design, strategic planning, financial management, and leadership. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: MFA Theatre student |
| THP | 551 | Arts Management | Advanced study of the principles and practices of arts management in the nonprofit and for-profit sectors. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Graduate student in the Herberger Institute for Design and the Arts, the School of Community Resources and Development, or the W.P. Carey School of Business |
| THP | 552 | Arts Entrepreneurship | Project-based course in new venture creation for the arts. | N | SEM | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Graduate student in the Herberger Institute for Design and the Arts, the School of Community Resources and Development, or the W.P. Carey School of Business |
| THP | 555 | Advanced Media Design | Advanced applications for skills and practices in media design for live performance, including content creation, systems design, and playback. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Theatre MFA student; Credit is allowed for only THP 455 or THP 555 |
| THP | 556 | Performance Technology | Examines issues surrounding the integration of live performance and digital media. Students study the work of contemporary practitioners and theorists and experiment with creating their own works of digital art. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Graduate Theatre major |
| THP | 557 | The Digital Portfolio | Crossdisciplinary exploration of methods, technologies, and aesthetics for portfolio presentation for professional designers and artists. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Herberger Institute of Design and the Arts Graduate student |
| THP | 560 | Dramatic Writer's Workshop | Practice and study of creating characters, dialogue, scenes, plays, and monologues for the stage. | N | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisites: Theatre Master of Arts or Master of Fine Arts student |
| THP | 561 | Scripts in Progress | Studio work with the instructor centered on revisions of original plays. | N | IND | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisites: Theatre student |
| THP | 571 | Devising I: Concept, Collaboration and Authorship | Includes five primary objectives: (1) To understand the continuum between leadership and authorship; (2) To analyze collaboration through collaborative projects; (3) To learn strategies for developing a hunch and creating a source book; (4) To conceptualize a devising project starting from three distinct prompts: visual images, literary adaptations, and site-specific space; (5) To develop a blueprint for a devising process on paper that articulates time lines, budgets, development process, methods and conceptual design. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| THP | 572 | Devising II: Methods | Introduces three devising methodologies: (1) Moment Work by Tectonic Theatre Project; (2) Frantic Assembly; and (3) site-specific/immersive theatre and audience participation. Divided into three units that introduces the vocabulary of each methodology and an autocours (student-devised work) using that specific methodology. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 571 |
| THP | 573 | Devising III: Projects | Culmination of previous coursework where students form groups for the entire semester and determine (1) their leadership/authorship structure; (2) their "hunch" or idea; (3) their preferred devising method(s); and (4) their collaborative process. Over the course of the semester, each group begins developing a 30-minute original devised work to be showcased at the end of the semester for graduate faculty and an invited audience. The pieces can occur in a FAC space or site-specific location. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 571; THP 572 |
| THP | 574 | Devising IV: Projects | Culmination of previous coursework where students continue to work on their culminating applied project. Each weekly seminar, a student presents a work in progress of his or her original, devised work and receives mentorship, peer review and feedback. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 571; THP 572; THP 573 |
| THP | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | |

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| THP | 582 | Theatre for Social Change | Advanced, interactive theatre techniques (e.g., Boal, drama therapy, playback theatre) to examine and combat institutional, social, cultural, interpersonal, and personal oppressions. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Graduate or Doctoral student |
| THP | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre-requisites: Theatre student |
| THP | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | |
| THP | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisites: Master of Arts, Master of Fine Arts, or PhD Theatre student |
| THP | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisites: Theatre Master of Arts of Master of Fine Arts student |
| THP | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre-requisites: Fine Arts Graduate student |
| THP | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): Fine Arts graduate student |
| THP | 611 | Sites of Inquiry in Performance | Examines scholarly, artistic and pedagogical pursuits in fieldwork and site-based studies in theatre, drama and performance. Requires development and execution of a research project. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Pre- or corequisite(s): THE 500 or 700 |
| THP | 618 | Theatre for Youth Practicum | Practical experience in theatre for youth projects: improvisation, education, production. | N | PRA | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2-3 | | Prerequisites: Master of Fine Arts or PhD Theatre for Youth student |
| THP | 649 | Design Studio | Projects include design of scenery, costume, lighting, or sound for lab or mainstage productions. | N | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | Prerequisites: Master of Fine Arts Theatre student |
| THP | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | |
| THP | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisites: Master of Fine Arts or PhD Theatre student |
| THP | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | |
| THP | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite: Master of Arts, Master of Fine Arts, or PhD Theatre student |
| THP | 700 | Research Methods | Course on research methods in a specific discipline. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| THP | 783 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite: Master of Arts, Master of Fine Arts, or PhD Theatre student |
| TMC | 110 | Understanding the Enterprise | Introduces essential functions required in technology-based and innovative enterprises and viewed in the context of their relationship to each other; examines the enterprise's role in society. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | |
| TMC | 310 | Promotion of the Enterprise | Whether they are entrepreneurial ventures or established companies, effectively promoting products is key to enterprise performance. Focuses on how to promote products from ideation to launch to growth. Covers understanding customers (values, behavioral economics); formulating strategies (landscape, segmentation, positioning); tactics (4P's); networks and data; digital promotion and growth. Also reviews quantitative techniques (conjoint, DOE, optimization). Applies concepts to market challenges and derives optimal solutions through analysis, strategy and tactics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; TMC 110 with C or better OR Visiting University Student |

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| TMC | 320 | Funding the Enterprise | Focuses on financial resource management techniques utilized by U.S. domestic companies and covers the unique aspects of revenue accounting and its application to company operations. Concepts covered include: data capture of requisite information from various computer systems; determination of revenues generated from sales of products and services to customers; in-depth analysis of operational expenses; preparation of accounting and financial data; monthly accounting requirements; account reconciliation; monthly/quarterly/annual reporting; development and analysis of financial reports and billing. Emphasizes accounting, planning and valuation concerns, as well as financial trends and industry prospects. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| TMC | 330 | Leading the Enterprise | Comprehensive overview of leadership strategies and development as it applies to individuals, organizations and events. Applies leadership development to workplace dynamics such as technology management, entrepreneurship and globalization. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): TMC 110 with C or better or non-Technological Entrepreneurship and Management BS major OR Visiting University Student |
| TMC | 331 | Quality Assurance | Instrumentation and methodologies for materials testing and quality control in various manufacturing processes. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ABS 350, ECN 221, ECN 231, EGR 280, HSE 230, IEE 380, PSY 230, STP 226, STP 420, or STS 401; MGT 300 or TMC 330 with C or better OR Visiting University Student |
| TMC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-4 | | |
| TMC | 410 | Enterprise Operations | Emphasizes basic principles of enterprise operations management, including productivity, strategic management, global environment, forecasting, capacity planning, new technologies, location and layout strategies, supply-chain management, inventory control and scheduling. Uses common decision-making issues and related qualitative and quantitative techniques. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ABS 350, ECN 221, ECN 231, EGR 280, HSE 230, IEE 380, PSY 230, STP 226, STP 420, or STS 401; MGT 300 or TMC 330 with C or better OR Visiting University Student |
| TMC | 430 | Enterprise Strategy and Innovation | Enterprise strategic plan development and implementation, concepts of open innovation; vision, mission, steps of strategic plan development; strategic goals, objectives, tasks, schedule, resource considerations; organization's strengths and weaknesses; environmental opportunities and threats; strategy implementation, impact assessment and refinement, organizational- and management considerations, theory and practice of open innovation. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): MGT 300 or TMC 330 with C or better OR Visiting University Student |
| TMC | 470 | Enterprise Planning and Implementation | Investigates and tests tools and techniques for effective design and management of enterprise projects and programs using computer applications. Develops and demonstrates teambuilding and leadership skills in course projects. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ABS 350, ECN 221, ECN 231, EGR 280, HSE 230, IEE 380, PSY 230, STP 226, STP 420, or STS 401; MGT 300 or TMC 330 with C or better; Credit is allowed for only OMT 570 or TMC 470 OR Visiting University Student |
| TMC | 480 | Senior Project | Capstone project experience refining skills in communication, research and information retrieval, critical analysis and criticism, and demonstrating technical competence in each student's area of study. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; TMC 430 with C or better; senior standing |
| TMC | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-7 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| TMC | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-12 | | Pre Requisites: Graduate or Non Degree Students Only |
| TMC | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-12 | | Pre Requisites: Graduate or Non Degree Students Only |
| TMC | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-12 | | Pre Requisites: Graduate or Non Degree Students Only |
| TMC | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-12 | | Pre Requisites: Graduate or Non Degree Students Only |

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| TMC | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1 | | Pre Requisites: Graduate or Non Degree Students Only |
| TMC | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-12 | | Pre Requisites: Graduate or Non Degree Students Only |
| TSS | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 501 | A Deep History of the United States/Mexico Borderlands I | Using a comparative and relational approach, the seminar explores various layers of development starting with economic structures and culture and their impact on various aspects of transborder society including politics, social organization, demography, and cultural practice. Focuses on the period from pre-contact times to the Mexican American War. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 502 | Foundations of Transborder Studies | Using a comparative and relational approach, explores various layers of development starting with economic structures and culture and their impact on various aspects of transborder society including politics, social organization, demography, and cultural practice. Focuses on the period from the Mexican American War to the recent past. Centers on comparative economic growth and development of Mexico and the United States, the impact of unequal development on the border region and its people, and the development of a transnational society in the U.S./Mexico borderlands. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 503 | Epistemologies and Transborder Thought | Examines different approaches to the production and critique of knowledge relevant to transborder social, political, economic, cultural, and institutional structures and processes. The complexity of these structures and processes require transdisciplinary methods of inquiry that go beyond a single set of disciplinary assumptions. Explores the transdisciplinary articulation of theory and method, and considers the strengths and limitations of various approaches and critiques. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 504 | Theories and Methods for Transborder Research | Focuses on the selection of theories and methods appropriate for transborder research. Considers the pitfalls of conducting monodisciplinary research in a stratified, differentiated and multicausal world; the most robust methods used in various approaches; the main methodological obstacles to transdisciplinary research; and the challenges of using mixed methodology. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 505 | Theories and Methods of Migration, Health & Applied Social Policy in a Transborder Context | Divided conceptually in three broad analytical areas: (1) migration with an emphasis on demography, (2) health with an emphasis on epidemiology, and (3) public policy analysis. Provides basic training in the application and interpretation of quantitative and qualitative methods and techniques commonly used in researching these areas. Applies these techniques to issues that are specific to the reality of transborder and/or transnational contexts. Students are required to apply and present an analysis in their field of interest which demonstrates their grasp of theory and method. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 506 | Theory and Methods of Transborder Media and Expressive Culture | Overview of the interdisciplinary theories and methods employed to research and analyze media and creative cultural production. Objects of analysis include literature, film, live performance, theater, Web-based media, popular culture production, and visual arts. Required readings elucidate strengths, limitations, and applicability of particular theories and methods to different types of creative expression and media production as well as to their historical and political contexts. Students engage with, critique, and contribute to the theories and methods presented in the course. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 507 | Theory and Methods of Transborder Cultural Acquisition, Language Development, and Learning | This course familiarizes graduate students with literature on relationship between culture, language, and learning, and their theoretical and methodological underpinnings within a transborder context. | N | LEC | N | Z1 | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--|-------------------------------|-------|-----------------|--|
| TSS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 596 | Transborder Studies Capstone | Culminating capstone experience of the Masters of Advanced Study degree in Transborder Studies, allowing students to develop a project tailored to their interests, needs and goals. Each student has a minimum of one faculty member to support the capstone project. | N | RSC | N | GNA | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): Transborder Studies MAS student |
| TSS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 599 | Thesis | Supervised research focused on preparation of a thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 600 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 601 | Internship in Transborder Studies | Academic internship helps students become full participants in globalized, transnational contexts through a combination of practical experiences in community organizations, readings about transnational life in globalized contexts, reflection, and discussion. | N | PRA | Y | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 607 | Colloquium in Transborder Studies | Provide students the opportunity to present their skills, learning, research, and topical interests before an open forum of faculty and students at the beginning of their third year and prior to their dissertation research. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 608 | Transmitting Transborder Studies to Publics and Institutions | Provides students with the most recent advancements in presenting the underlying theory, methods, and techniques in transborder analysis and application. Designed to enter multiple audiences in public, professional, academic, and school settings, course takes advantage of the latest developments in multimedia, print, and electronic technology, film, and print in order to provide systematic and detailed learning opportunities. Provides the basis of developing capacities to create and develop learning modules, and programs on issues of transborder political ecology, economic transformations, cultural development and emergence, literary constructions and projections, and issues of identity, class, and gender. Course is conducted bilingually and makes use of Spanish- and English-language resources. For this reason, it is advisable, but not required, that students are at least conversationally proficient with Spanish and English. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 609 | Prospectus Design in Transborder Studies | Provides doctoral students with the necessary tools to prepare a research proposal that could be submitted as a dissertation prospectus or to a funding agency. Students bring a well-formulated idea of the kind of research they wish to pursue for their dissertation. They also bring a clear idea of the relevant concepts, literature and methods, required to complete the proposal. | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 611 | Comparative and Transborder Perspectives on Learning | This small class emphasizes discussion, presentations by students, and written research papers. Surveys theoretical and methodological aspects related to the use of comparative and transborder perspectives to the study of education. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 612 | The Political Culture of Learning & Change in Transborder Context | Examines a variety of development and learning issues confronting linguistically and culturally diverse groups with an emphasis on immigrant children and families. Includes such topics as: (1) Theoretical foundations and their related impact on organizing interventions for learning and socialization. (2) The intersection of the development of language, culture, and learning in context of linguistic diversity and immigration. (3) The influence and impact of public policy on language minority groups of immigrant backgrounds. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 614 | Bilingualism in Diverse Acquisition and Practicing Contexts | Examines bilingualism, language in society, and languages in contact in transborder contexts and bilingual schooling. | N | SEM | N | GNA | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): PhD student |
| TSS | 615 | Dialectical Inquiry in Transborder Contexts | Introduces the application of dialectical inquiry in value-relevant grounded research methods as a complementary approach to value-free scientific inquiry into practical problems in transborder cultural acquisition, language development, and learning. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 683 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| TSS | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | Y | Z3 | The College of Liberal Arts and Sciences | School of Transborder Studies | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 783 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Transborder Studies | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | Y | Z3 | The College of Liberal Arts and Sciences | School of Transborder Studies | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Transborder Studies | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TWC | 104 | Critical Inquiry in Engineering | Critical thinking. Systematic evaluation of information as input to well-informed decision making. Close reading and substantive writing in a technical setting. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Pre- or corequisite(s): ENG 102, 105, or 108 with C or better if completed; Credit is allowed for only EGR 104 or TWC 104 OR Visiting University Student |
| TWC | 214 | Storytelling with Data | Students read and discuss theories of data visualization as well as produce a wide range of visualizations using a variety of data sets. Students learn how to process data to discover what's important about the data, and how to use data to tell visual stories that attempt to persuade, inform and engage audiences. Students learn basic principles of design and narrative to help them develop visually engaging data visualizations in narrative patterns that tell interesting and persuasive stories. And, they use a variety of software tools to construct data visuals and how to make choices in visualization style. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | |
| TWC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| TWC | 301 | Fundamentals of Writing for Digital Media | Foundational concepts and technologies of writing for a variety of digital media. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours OR Visiting University Student |
| TWC | 312 | Introduction to Visual Culture | Visual information surrounds us. We engage with it to navigate the world, to act in our personal lives, to make decisions as members of society. And, the ways that we engage--the ways we look, see and interpret visual information--are social practices. Introduces visual culture, to the ways in which images wield power, shape our views of ourselves and others, and impact our perceptions of public issues. Develops awareness, understanding and the ability to think critically about visual culture. Explores the role of images and visual representation in a range of areas such as science and medicine, the environment and conflict. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only TWC 312 or TWC 394 (Introduction to Visual Culture) OR Visiting University Student |

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| TWC | 314 | Data Visualization Tools and Techniques | Covers the latest tools and techniques needed to visualize data in a range of contexts. Students practice visualizing data and learn how to assess which tools and techniques are best suited to which communication goals. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| TWC | 347 | Written Communication for Managers | Strategies, techniques and genres for developing and presenting information intended for business and other workplace audiences. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours OR Visiting University Student |
| TWC | 361 | Writing for Health Care Management | Strategies, formats, and techniques for effective writing and presentation of information for nursing professionals. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): RN-BSN student; ENG 102, 105, or 108 with C or better; Credit is allowed for only TWC 361 or TWC 362 OR Visiting University Student |
| TWC | 362 | Writing in Health Professions | Focuses on effective communication practices in health-related fields, emphasizing communicating professionally with both scholarly and workplace audiences. In addition to providing a foundation in workplace communication, emphasizes information and technology literacy to help students become proficient in collecting, analyzing, interpreting and synthesizing information using appropriate tools, sources and styles. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): ENG 102 or 105 or 108 with C or better; Medical Studies major or Edson Nursing and Health Innovation student; Credit is allowed for only TWC 361 or TWC 362 OR Visiting University Student |
| TWC | 371 | The Science of Science Communication | Aims to teach science students how to effectively communicate across a range of audiences about why science matters, how it works and its relevance to the way we live our lives. Students learn to communicate effectively in a digital age where content is easily accessed, but understanding that content is harder to achieve. They also learn how to measure the effectiveness of their communication of science. | N | LEC | Y | NSW | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| TWC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| TWC | 401 | Fundamentals of Technical Communication | Basic information design principles for producing effective technical communication, including rhetorical and audience analysis, as well as common workplace genres and technical communication tools. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only TWC 401 or TWC 501 OR Visiting University Student |
| TWC | 403 | Writing for Professional Publication | Analyzes the market and examines the publication process, including the roles of the author, editor, and reviewer. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 45 hours |
| TWC | 411 | Principles of Visual Communication | Principles and tools of visual communication in print and electronic media, with an emphasis on document design, including typography and color. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only TWC 411 or TWC 511 OR Visiting University Student |
| TWC | 413 | Managing and Analyzing Data | Develops the critical thinking skills students need to manage and make sense of the unending streams of data now available in the workplace and in modern life. Students learn the common formats and organizational structures of data, as well as how data are generated, inspected, queried, cleaned and modeled. Additionally, provides instruction for common tools used to accomplish these tasks. Covers basic statistical analysis as it relates to data forecasting and correlation. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| TWC | 414 | Visualizing Data and Information | Covers how to process data and information in ways that help discover what's important about the information and what the clearest way is to communicate that information. Covers how to manage data and use a variety of software tools to communicate patterns and tell visual stories, as well as how to make choices in visualization style in ways that will assist an audience to effectively interact with and process the information. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only TWC 414 or TWC 494 (Visualizing Information or Information Visualization) or TWC 514 or TWC 598 (Visualizing Information or Information Visualization) OR Visiting University Student |
| TWC | 421 | Principles of Web Authoring | Principles of writing for the Web, including information architecture, accessibility, usability and responsive design. Explores basics of markup language and content management. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only TWC 421 or TWC 521 OR Visiting University Student |
| TWC | 422 | Social Media in the Workplace | Analyzes different social media platforms and develops strategies and techniques for effective and appropriate use of social media in the workplace. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only TWC 422 or TWC 494 (Social Media in the Workplace) or TWC 522 OR Visiting University Student |
| TWC | 431 | Principles of Technical Editing | Principles and techniques of technical editing for print and electronic media, including standards, styles, copyediting, comprehensive editing and project management. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only TWC 431 or TWC 531 OR Visiting University Student |

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| TWC | 435 | Global Issues in Technical Communication | Helps students understand issues that shape workplace communication in a global environment. Technical communicators are expected to be specialists who interact effectively with a broad range of audiences. Given the global nature of today's workplace, those audiences typically include people from many cultures and countries. Through readings, written assignments, and analysis of case studies, documents, and websites, explores ways in which culture and language shape professional interactions. Also examines other critical issues such as translation, localization, technology and distributed work teams that impact writing and designing documents in a globalized work environment. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | G | Prerequisite(s): minimum 45 hours; Credit is allowed for only TWC 435 or TWC 535 OR Visiting University Student |
| TWC | 436 | Project Management in Technical Communication | Effective project management processes are central to technical communication in the workplace, and project management figures prominently in job descriptions for technical communicators at all levels. Introduces the literature, tools and techniques of project management within technical communication. Focuses on learning effective project management best practices during the life cycle of technical communication projects, which may include documentation or training projects. Uses case studies and Web pages, group discussion, presentations and individual and team projects to aid in understanding and application of project management for technical communication. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only TWC 436 or TWC 494 (Project Management in Technical Communication) or TWC 536 or TWC 598 (Project Management in Technical Communication) OR Visiting University Student |
| TWC | 443 | Grant & Proposal Writing | Develops persuasive strategies and approaches for researching and writing professional funding proposals and grant applications. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only TWC 443 or TWC 543 OR Visiting University Student |
| TWC | 444 | User Experience | Explores principles, techniques and tools of user experience (UX), including user and task analysis, user-centered design and usability testing. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only TWC 444 or TWC 544 OR Visiting University Student |
| TWC | 445 | Content Strategy | Explores concepts, techniques, strategies and technologies for authoring, managing, and publishing re-usable content in online documentation, help files and other types of technical communication. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only TWC 445 or TWC 545 OR Visiting University Student |
| TWC | 446 | Technical and Scientific Reports | Explores strategies and techniques for developing informational and analytical reports in a range of genres and for a variety of audiences in scientific and technical fields. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only TWC 446 or TWC 546 OR Visiting University Student |
| TWC | 451 | Copyright and Intellectual Property in the Electronic Age | Explores issues related to copyright and intellectual property laws, with emphasis on electronic environment. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only TWC 451 or TWC 551 OR Visiting University Student |
| TWC | 452 | Information in the Digital Age | Explores the creation, organization, dissemination, and use of information; the impact of technologies; and surrounding economic, legal, and social issues. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only TWC 452 or TWC 552 OR Visiting University Student |
| TWC | 453 | Information and Communications Technology in American History | Explores the historical development of information and related technologies in the United States from colonial times to the present. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only TWC 453 or TWC 553 OR Visiting University Student |
| TWC | 454 | Information Technology and Culture | Explores the historical impact and intersection of communications technology and culture in America. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only TWC 454 or TWC 554 OR Visiting University Student |
| TWC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | |
| TWC | 490 | Capstone | Development of a professional portfolio, creation of a culminating document, and synthesis of undergraduate experience. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 87 hours |
| TWC | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | | Prerequisite(s): Barrett Honors student |

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| TWC | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| TWC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| TWC | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-3 | | |
| TWC | 501 | Fundamentals of Technical Communication | Basic information design principles for producing effective technical communication, including rhetorical and audience analysis, as well as common workplace genres and technical communication tools. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only TWC 401 or TWC 501 |
| TWC | 504 | Applied Rhetoric and Technical Communication | Foundation in applied and technical communication. Covers the emergence and development of technical communication as a profession and field; rhetorical concepts and their application to technical and applied communication, ethical issues; and the impact of internationalization. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Technical Communication MS student |
| TWC | 505 | Research in Technical and Applied Communication | Explores the research process and methods appropriate for technical and professional communication. Provides a foundation for understanding the research process; designing and planning valid research within the context of technical and professional communication; collecting and interpreting information, ethical issues related to research; and reporting results. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Technical Communication MS student; TWC 504 |
| TWC | 506 | Research Design and Development | Focuses on the research process, including the development of research questions, selection of appropriate methods, preparation of a literature review, and design of research projects. Prepares students to design the research for their applied project or thesis. Students apply their knowledge of research methods and the research process by preparing a fully developed proposal at the conclusion of the course. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Technical Communication MS student; TWC 505; minimum 24 graduate TWC hours |
| TWC | 511 | Principles of Visual Communication | Principles and tools of visual communication in print and electronic media, with an emphasis on document design, including typography and color. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only TWC 411 or 511 |
| TWC | 514 | Visualizing Data and Information | Covers how to process data and information in ways that help discover what's important about the information and what the clearest way is to communicate that information. Covers how to manage data and use a variety of software tools to communicate patterns and tell visual stories, as well as how to make choices in visualization style in ways that will assist an audience to effectively interact with and process the information. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only TWC 414 or TWC 494 (Information Visualization or Visualizing Information) or TWC 514 or TWC 598 (Information Visualization or Visualizing Information) |
| TWC | 521 | Principles of Web Authoring | Principles of writing for the Web, including information architecture, accessibility, usability and responsive design. Explores basics of markup language and content management. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only TWC 421 or TWC 521 |
| TWC | 522 | Social Media in the Workplace | Analyzes different social media platforms and develops strategies and techniques for effective and appropriate use of social media in the workplace. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TWC 422 or TWC 522 |
| TWC | 531 | Principles of Technical Editing | Principles and techniques of technical editing for print and electronic media, including standards, styles, copyediting, comprehensive editing and project management. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only TWC 431 or TWC 531 |
| TWC | 535 | Global Issues in Technical Communication | Helps students understand issues that shape workplace communication in a global environment. Technical communicators are expected to be specialists who interact effectively with a broad range of audiences. Given the global nature of today's workplace, those audiences typically include people from many cultures and countries. Through readings, written assignments, and analysis of case studies, documents and Websites, explores ways in which culture and language shape professional interactions. Also examines other critical issues such as translation, localization, technology and distributed work teams that impact writing and designing documents in a globalized work environment. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TWC 435 or TWC 535 |

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| TWC | 536 | Project Management in Technical Communication | Effective project management processes are central to technical communication in the workplace, and project management figures prominently in job descriptions for technical communicators at all levels. Introduces the literature, tools, and techniques of project management within technical communication. Focuses on learning effective project management best practices during the life-cycle of technical communication projects, which may include documentation or training projects. Uses case studies and Web pages, group discussion, presentations, and individual and team projects to aid in understanding and application of project management for technical communication. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TWC 436 or TWC 494 (Project Management in Technical Communication) or TWC 536 or TWC 598 (Project Management in Technical Communication) |
| TWC | 543 | Grant & Proposal Writing | Develops persuasive strategies and approaches for researching and writing professional funding proposals and grant applications. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only TWC 443 or TWC 543 |
| TWC | 544 | User Experience | Explores principles, techniques and tools of user experience (UX), including user and task analysis, user-centered design and usability testing. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only TWC 444 or TWC 544 |
| TWC | 545 | Content Strategy | Explores concepts, techniques, strategies and technologies for authoring, managing and publishing re-usable content in online documentation, help files and other types of technical communication. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only TWC 445 or TWC 545 |
| TWC | 546 | Technical and Scientific Reports | Explores strategies and techniques for developing informational and analytical reports in a range of genres and for a variety of audiences in scientific and technical fields. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only TWC 446 or TWC 546 |
| TWC | 551 | Copyright and Intellectual Property in the Electronic Age | Explores issues related to copyright and intellectual property laws; emphasizes electronic environment. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TWC 451 or TWC 551 |
| TWC | 552 | Information in the Digital Age | Explores the creation, organization, dissemination, and use of information; the impact of technologies; and surrounding economic, legal, and social issues. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TWC 452 or TWC 552 |
| TWC | 553 | Information and Communications Technology in American History | Explores the historical development of information and related technologies in the United States from colonial times to the present. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TWC 453 or TWC 553 |
| TWC | 554 | Information Technology and Culture | Explores the historical impact and intersection of communications technology and culture in America. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TWC 454 or TWC 554 |
| TWC | 560 | Capstone | Hands-on project in user experience. Requires a report based on research or applied work as a culminating experience. | N | SEM | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): User Experience MS student; Credit is allowed for only GIT 560 or HSE 560 or TWC 560 |
| TWC | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TWC | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TWC | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TWC | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TWC | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TWC | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TWC | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| TWC | 596 | Technical Communication Capstone | Synthesizes and applies the concepts, skills, strategies and techniques learned in courses completed for the program. Also reflects upon that work, analyzing their strengths as a technical communicator and identifying areas for growth. Demonstrates ability to respond to the needs of specific audiences and communication situations by selecting from their work to craft a substantive professional dossier that presents a compelling story of their technical communication abilities, along with a reflective statement that discusses their work in relation to program outcomes. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Technical Communication MS student |
| TWC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TWC | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| UET | 305 | Introduction to Microelectronics | Quantifies the role of microelectronics technology and its associated skills as drivers for electronics systems development. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite: Academic Level greater than or equal to Junior |
| UET | 331 | Electronic Materials | Physical, chemical, electromagnetic, and mechanical properties of electronic materials. Solid-state device characteristics and their material properties. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: EST 210; CHM 113; PHY 112 OR Applied Science (Electronic Energy Systems) BAS student |
| UNI | 110 | Critical Reading and Thinking | Prepares students to be successful in college-level academics and helps them improve their critical reading and critical thinking skills. | N | LEC | N | OPT | University College | Dean, University College | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| UNI | 120 | Academic Success | Assists students in creating strategies for success in their academic lives. Students explore personal and academic strengths and barriers that impact success, identify and utilize university resources available to support success at ASU, acquire and enhance academic skills necessary for success in the university, and discover ways to stay on course to meet academic goals. | N | SEM | N | GNA | University College | Dean, University College | 1 | | Credit is allowed for only ASU 120 (or ASU 150) or UNI 120 OR Visiting University Student |
| UNI | 150 | Future by Design: Major and Career Exploration | Encourages self-exploration and narrative-based learning as learners discover their interests, values, personality and skills. Learners focus on their unique qualities to determine next steps in their personal and professional futures. Learning outcomes focus on futures thinking and design thinking as mindsets to "find their own voice" and determine their numerous future pathways. | N | SEM | N | OPT | University College | Dean, University College | 1 | | |
| UNI | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | University College | Dean, University College | 1-4 | | |
| UNI | 220 | Mindset Connections | Explores how students' strengths and barriers influence success (i.e., how mindset, perception and beliefs influence behavior) and discovers methods for staying focused and meeting academic, personal and professional goals. Students acquire and enhance emotional intelligence skills for success in and out of the classroom. | N | SEM | N | GNA | University College | Dean, University College | 1 | | |
| UNI | 225 | Emotional Intelligence: Leadership and Success | Develops understanding of emotional intelligence and the influence it has on leadership, success and relationships. Focuses on basic theories of emotional intelligence and applies these concepts to real-world examples. Discussion and application-based course focuses on the development of self-awareness in our daily lives. | N | SEM | N | GNA | University College | Dean, University College | 1 | | Credit is allowed for only UNI 225 or UNI 294 (Emotional Intelligence: Leadership and Success) or UNI 294 (Researching Emotional Intelligence) |
| UNI | 240 | Researching Mindfulness | Explores mindfulness and the impact it has on success as a student, an individual and in the future. Therefore, students research instructor-approved topics within the subjects of psychology, emotional regulation and mindfulness in order to deepen their understanding of how the brain and the mind influence beliefs, choices, behaviors and learning. Students develop skills that support their academic, personal and professional goals, using tools such as Dweck's Mindset Theory and Rock's SCARF Model. Develops critical thinking skills, and how to apply research to their daily lives. | N | LEC | N | GNA | University College | Dean, University College | 1 | | Credit is allowed for only UNI 240 or UNI 294 (Mastering Mindsets) |
| UNI | 250 | ASU by Design: Choosing a Major | An engaging and inclusive course that encourages learners to create new ideas related to their identities, experiences and goals at ASU and beyond. Using futures thinking and design thinking, learners consider self-knowledge to explore potential majors, minors and certificates and co-curricular activities to thrive academically, socially and professionally. Highlights various ASU resources targeted to assist learners with personal and professional growth. Finally, learners assess types of experiential learning opportunities that fit best with their long-term goals. | N | SEM | N | OPT | University College | Dean, University College | 1 | | |

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| UNI | 270 | Work by Design: Preparing for a Career | Using futures thinking and design thinking, learners explore work futures through the use of reflection, research, evaluation and practice. Learners gain self-efficacy and confidence in vital work preparation skills including exploring internships, building a resume and cover letter, practicing interviewing skills and establishing a professional online presence. Showcases various job options related to degree programs of interest. | N | SEM | N | GNA | University College | Dean, University College | 1 | | |
| UNI | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | University College | Dean, University College | 1-4 | | |
| UNI | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | University College | Dean, University College | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| UNI | 400 | Society and the Individual | Various social institutions, how they shape the socialization process of a group and individual and give a community meaning, values and a set of norms. Focuses on Arizona as a case study for student research inquiries. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): Bachelor of General Studies major; ENG 101, 105 or 107 with C or better; minimum 2.00 GPA; minimum 90 hours; Credit is allowed for only UNI 400 or COM 494 (Society and the Individual) OR Visiting University Student |
| UNI | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | University College | Dean, University College | 1-4 | | |
| URB | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-4 | | |
| URB | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-12 | | |
| URB | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| URB | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-4 | | |
| USL | 210 | Service Learning: Intro to Diverse Community Issues | Correlates academic coursework with community service and provides reflection opportunities that examine community needs, the importance of civic engagement and an introduction to the effects of social injustice affecting ethnic minorities and other marginalized populations in contemporary American society. Students dedicate 70 hours at a preapproved site (including Title I K-12 schools, youth programs, health services, social services, environmental programs, government agencies) directly serving a population in need or supporting activities that contribute to the greater good of our community. Weekly seminar, course readings, discussions, and reflection assignments facilitate critical thinking and a deeper understanding of cultural diversity, citizenship, and how to contribute to positive social change in our community. Provides "real-world" experiences that exercise academic skills and knowledge applicable to each student's program of study and career goals. | N | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | L & C | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| USL | 216 | Service Learning: For Educators | Examines the effects of social justice issues on student achievement. Correlates academic coursework with required community service to analyze community needs, the importance of civic engagement and community issues affecting ethnic minorities and marginalized populations in contemporary American society, particularly how it applies to our education system. Students dedicate a minimum of 70 hours at a preapproved site (including Title I K-12 schools, youth programs, health services, social services) directly serving high-needs youth or adults. Weekly seminar, course readings, discussions and reflection assignments facilitate critical thinking and a deeper understanding of cultural diversity, citizenship and social injustices, and how to utilize this knowledge in the teaching profession to better serve all students. Provides "real-world" experiences that exercise academic skills and knowledge applicable to each student's program of study and career goals. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | L & C | Prerequisite(s): Mary Lou Fulton Teachers College major; ENG 101, 105 or 107 with C or better OR Visiting University Student |

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| USL | 402 | Service Learning: Education & Youth | Correlates academic coursework with community service and provides reflection opportunities that examine community needs, the importance of civic engagement, and an in-depth study of the effects of social injustice affecting ethnic minorities and other marginalized populations in contemporary American society as they apply to education in Arizona and the United States (policy, student achievement, teacher and administration effectiveness and parental involvement). Students dedicate 100 service hours at a preapproved site (including Title I K-12 schools, youth programs, health services, social services, environmental programs, government agencies), directly serving high-needs youth. Weekly seminar, course readings, discussions and reflection assignments facilitate critical thinking and a deeper understanding of cultural diversity, citizenship and the importance of civic engagement particularly how it applies to the education system. Provides real-world experiences that exercise advanced academic skills and knowledge applicable to each student's program of study and career goals. | N | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours OR Visiting University Student |
| USL | 410 | Service Learning: Diverse Community Issues | Correlates academic coursework with community service and provides reflection opportunities that examine community needs, the importance of civic engagement and an introduction to the effects of social injustice affecting ethnic minorities and other marginalized populations in contemporary American society. Students dedicate 100 hours at a preapproved site (including Title I K-12 schools, youth programs, health services, social services, environmental programs, government agencies) directly serving a population in need or supporting activities that contribute to the greater good of our community. Weekly seminar, course readings, discussions and reflection assignments facilitate critical thinking and a deeper understanding of cultural diversity, citizenship and how to contribute to positive social change in our community. Provides "real-world" experiences that exercise academic skills and knowledge applicable to each student's program of study and career goals. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | L & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours OR Visiting University Student |
| USL | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-12 | | |
| USL | 496 | Service-Learning Capstone | Graded internship that allows students to integrate coursework with a hands-on service-learning experience. Applies theory from service-learning pedagogy and educational studies to real-world application and academic success. Provides field experience for students to exercise academic knowledge and skills applicable to career experience and program studies. Students must (a) successfully assess a community need in education that correlates to current research and (b) collectively plan a sustainable service project that benefits high-needs children. The student-directed service project addresses social justice issues in education related to corresponding research. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): USL 402 or 410 |
| USL | 497 | Service-Learning Capstone Project | Graded internship that allows students to integrate coursework with a hands-on service-learning experience. Implements a sustainable service project addressing social justice issues in education. Student-directed project corresponds to research and planning completed during the previous semester. Provides field experiences for students to implement academic knowledge and skills acquired through the Educational Studies program and to create realistic solutions to national and local community issues that impact student achievement. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): USL 496 |
| VIP | 194-CSE | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-4 | | |
| VIP | 294-CSE | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-4 | | |
| VIP | 394-CSE | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-4 | | |
| VIP | 494-CSE | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-4 | | |
| VTN | 101 | Elementary Vietnamese I | Basic skills in modern conversational Vietnamese and development of basic reading and writing skills, with special emphasis on tones. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | |
| VTN | 102 | Elementary Vietnamese II | Basic skills in modern conversational Vietnamese and development of basic reading and writing skills, with special emphasis on tones. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): VTN 101 with C or better |

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| VTN | 201 | Intermediate Vietnamese I | Improves speaking, listening, reading, and writing competence through dialogues, reading passages, pattern drill, and grammar and communicative exercises. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): VTN 102 with C or better OR Visiting University Student |
| VTN | 202 | Intermediate Vietnamese II | Improves speaking, listening, reading, and writing competence through dialogues, reading passages, pattern drill, and grammar and communicative exercises. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): VTN 201 with C or better |
| VTN | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| VTN | 321 | Advanced Vietnamese and Literature I | Readings from modern, contemporary, and folk literatures as well as current periodicals. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): VTN 202 OR Visiting University Student |
| VTN | 322 | Advanced Vietnamese and Literature II | Continuation of VTN 321. Readings from modern, contemporary, and folk literatures as well as current periodicals. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Pre-requisite: VTN 321 |
| VTN | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| VTS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| VTS | 301 | Experience of America's Modern Wars | Surveys the history of America's wars, military and veterans from the American Revolution through today. Also exposes how American society has understood the role of the military and those who served, both during and after their service in American wars. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only HST 300 or VTS 301 or HST 394 (Veterans, Society and Service: Core I) OR Visiting University Student |
| VTS | 302 | Representations and Self-Representations of Veterans in the Media and the Arts | Surveys the cultural history of veterans' representations from the early mythical verses about the Trojan War produced by Homer in the Odyssey (800 BC) to contemporary self-representations in social media platforms such as YouTube. Examines the various motives societies have for promoting specific kinds of representations of veterans, the veteran culture and their experiences. This course does not presume to offer a singular vision of the veteran experience. Instead, it seeks to expose students to the diversity of ways in which veterans are represented and self-represented. Readings and assignments provide an intersectional understanding of the veteran community, and the veteran and military cultures. By looking at the axis of race, gender, sexuality and class, students examine why specific modes of representations persist over time and encourage them to use this course as a starting point for future studies in any number of disciplines. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | H & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only COM 302 or VTS 302 OR Visiting University Student |
| VTS | 376 | Writing a Personal History | Interdisciplinary writing course emphasizing theories, methodologies, and issues of composing personal histories. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 376 or VTS 376 OR Visiting University Student |
| VTS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| VTS | 395 | Combat in Film | Interdisciplinary approach to and qualitative method for analyzing war movies and military dramas as both historical and cinematic narratives that represent the experiences of infantry marines and soldiers in 20th- and 21st-century U.S. wars. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 394 (Combat in Film) or ENG 395 or FMP 395 or HST 306 (Combat in Film) or HST 395 or VTS 395 OR Visiting University Student |
| VTS | 402 | Undergraduate Research | Students learn about various research tools and methodologies of use in developing individual or group research projects in the veteran studies field. Completed projects may include bibliographies, literature reviews or articles for publication. | N | RSC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): VTS 301; VTS 302 |
| VTS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | |
| VTS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| VTS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-7 | | |
| VTS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-3 | | |
| WAC | 101 | Introduction to Academic Writing | Combines classroom and supplemental instruction to teach academic genres of writing, including definition, summary, and analysis. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | |
| WAC | 107 | Introduction to Academic Writing | For students for whom English is not the native language. Combines classroom and supplemental instruction to teach academic genres of writing, including definition, summary and analysis. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | Department of English | 3 | | |
| WAC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------|--------------------|-------|-----------------|--|
| WPC | 101 | Student Success in Business | Introduces students to resources that help them to succeed in the W. P. Carey School of Business. | N | LEC | N | OPT | W. P. Carey School of Business | Prebusiness Office | 1 | | Credit is allowed for only ASU 101 (or equivalent) or WPC 101 or WPC 201 or WPC 194 (Business Student Development) OR Visiting University Student |
| WPC | 148 | First-Year Introduction to Career Development | Building career skills, interests and strengths as a college student. | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 0.25 | | Prerequisite(s): Business major; minimum 12 hours; Pre- or corequisite(s): ACC 101 or WPC 101; Credit is allowed for only WPC 148 or WPC 301 or WPC 347 OR Visiting University Student |
| WPC | 150 | Business and Society | Introduces the role and purpose of business in society, specifically how we can be a force of good in people's lives, in our environment, in our community and in the world. Students learn about the different core functions in business such as accounting, economics, finance, information systems, marketing, management and supply chain management as well as how each makes decisions that impact our society. | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 3 | | |
| WPC | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | N | LEC | N | OPT | W. P. Carey School of Business | Prebusiness Office | 1-4 | | |
| WPC | 248 | Sophomore Career Narrative Design | Research methods and strategic thinking for finding internships. | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 0.25 | | Prerequisite(s): Business major; WPC 148 with C or better; minimum 30 hours; Credit is allowed for only WPC 248 or WPC 301 or WPC 347 OR Visiting University Student |
| WPC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Prebusiness Office | 1-4 | | |
| WPC | 300 | Problem Solving and Actionable Analytics | Provides foundational skills for exploring unstructured business problems. Covers techniques to approach decision making in a systematic manner, enabling students to become more comfortable in handling tasks or projects that are not initially well defined. Methods include exercises in brainstorming and iterating as well as use of more traditional analytical tools (such as spreadsheets and visualization software). | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 3 | | Prereq(s) w/min C: WPC maj; ACC 231,232,261; ECN 212,214; ECN 221,231; MAT 210,270 OR TechLdrshp BS or minor; min 30hrs; AME 230,CSE 110,SES 230; STP 226 OR DataSci BS; CIS 235; Pre/coreq(s) w/minC: WPC maj; ACC 241,242,271 OR Visiting University Student |
| WPC | 301 | Business Forum | Provides professional program business students with information on careers, interviewing, job hunting, and résumé skills. Must be taken in the first semester of the professional program for business students. | N | LEC | N | OPT | W. P. Carey School of Business | Prebusiness Office | 1 | | Prerequisite(s): Business BA or BS major; Credit is allowed for only WPC 148 or WPC 248 or WPC 301 or WPC 347 or WPC 348 or WPC 448 or WPC 449 OR Visiting University Student |
| WPC | 347 | Intermediate Career Management | Skills for transfer students for balancing career preparation with academic success as they transition to the W.P. Carey School of Business. | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 0.5 | | Prerequisite(s): Business major; Credit is allowed for only WPC 148 or WPC 248 or WPC 301 or WPC 347 OR Visiting University Student |
| WPC | 348 | Junior Networking Foundations | Career relationship-building techniques and full-time, job-readiness skills. | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 0.25 | | Prerequisite(s): Business major; WPC 248 or 347 with C or better; minimum 60 hours; Credit is allowed for only WPC 301 or WPC 348 OR Visiting University Student |
| WPC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Prebusiness Office | 1-4 | | Prerequisite(s): minimum 2.00 GPA; minimum 56 hours OR Visiting University Student |
| WPC | 448 | Senior Career Transition Management | Intensive application of the job search cycle and processes for students still seeking post-graduation employment. | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 0.25 | | Prerequisite(s): Business major; WPC 348 with C or better; minimum 90 hours; Credit is allowed for only WPC 301 or WPC 448 or WPC 449 OR Visiting University Student |
| WPC | 449 | Campus to Career | Transitional skills for workplace success for students who have obtained post-graduation, full-time, college-level positions or graduate school acceptance. | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 0.25 | | Prerequisite(s): Business major; WPC 348 with C or better; minimum 90 hours; Credit is allowed for only WPC 301 or WPC 448 or WPC 449 |

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| WPC | 470 | Business Administration Capstone | Develops a general manager's or business owner's perspective on how organizations can create value. Creating long-run value by repeatedly producing goods and services that customers buy at prices that cover the costs of producing them is the key to success for business organizations. The starting point for thinking about how an organization might create value and gain sustainable competitive advantage is analyzing current and future environments to understand threats and opportunities in various institutional settings around the world. Evaluates the impact of institutional settings in different countries and ethical values on decision making. Students learn how to successfully manage relations with key stakeholders including customers, employees, suppliers of capital as well as other component goods and services, and stakeholders from various levels of government in different countries. | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 3 | | Prereq(s) w/C or better: W.P. Carey (Bus Admin or Health Care) BA major; FIN 300, 302 or 303; LES 305; MGT 300 or 303 or HCD 302; MKT 300, 302 or 303; SCM 300 or 303; WPC 300; Int'l Bus course; senior standing; Credit is allowed for only WPC 470 or 480 |
| WPC | 480 | W. P. Carey Capstone Course | Develops a general manager's or business owner's perspective on how organizations can create value. Creating long-run value by repeatedly producing goods and services that customers will buy at prices that cover the costs of producing them is the key to success for business organizations. Analyzing current and future environments to understand threats and opportunities in various institutional settings around the world is the starting point for thinking about how an organization might create value and gain sustainable competitive advantage. Evaluates the impact of institutional settings in different countries and ethical values on decision making. Students learn how to successfully manage relations with key stakeholders including customers, employees, suppliers of capital as well as other component goods and services, and stakeholders from various levels of government in different countries. | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 3 | L | Prereq(s) w/ C or btr: WPC BS mjr; ENG 101, 105 or 107; FIN 300, 302, or 303 or IEE 300 if Engr Mgmt mjr; LES 305; MGT 300 or 303; MKT 300, 302, or 303; SCM 300 or 303; WPC 300; Int'l Bus course; senior stndg; Crdit is allwd for only WPC 470 or WPC 480 |
| WPC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | W. P. Carey School of Business | Prebusiness Office | 1-12 | | |
| WPC | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | W. P. Carey School of Business | Prebusiness Office | 1-6 | | Prerequisite(s): Barrett Honors student |
| WPC | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | W. P. Carey School of Business | Prebusiness Office | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| WPC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Prebusiness Office | 1-4 | | Prerequisite(s): W. P. Carey BS or BA major; minimum junior standing OR Visiting University Student |
| WPC | 501 | Statistics for Business | Fundamentals of statistical analysis to aid management decision making. | N | LEC | N | OPT | W. P. Carey School of Business | Prebusiness Office | 2-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| WPC | 502 | Career Coaching | Prepares students to navigate the challenging MBA world of work. Applies theories and best practices of career management and job search to help students make informed career choices, to obtain an internship between year one and year two of the program, and to obtain a full-time position upon graduation. | N | LEC | N | OPT | W. P. Carey School of Business | Prebusiness Office | 0-4 | | Prerequisite(s): W.P. Carey MBA degree major; Credit is allowed for only WPC 502 or MGT 594 (Career Leadership) |
| WPC | 503 | Managerial Communications | Provides opportunity to develop and enhance all aspects of business communications including presentation skills, business writing, informal business communication and giving feedback. Students (1) use PowerPoint or other presentation tools to deliver an effective team presentation; (2) write an effective memo proposing a course of action to solve a business problem; (3) deliver effective feedback to peers to enable them to improve their communications skills; and (4) communicate effectively in a team problem solving setting. | N | LEC | N | OPT | W. P. Carey School of Business | Prebusiness Office | 0-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only WPC 503 or MGT 594 (Leadership Communication) |
| WPC | 504 | Fundamentals of Statistics for Managers | Provides conceptual introduction to the field of statistics and its many applications. Designed for students with limited business experience and without an undergraduate business degree. | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 3 | | Prerequisite(s): degree-seeking graduate student |
| WPC | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | W. P. Carey School of Business | Prebusiness Office | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| WPC | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | N | LEC | N | OPT | W. P. Carey School of Business | Prebusiness Office | 0-12 | | |

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| WPC | 585 | Future Forward Leadership | Today organizations operate in a world that is globally and economically connected, complex and rapidly changing. Rapid technological change and start-up disrupting companies are changing the speed and nature of work. The evolving nature of work requires leaders who know how to contextualize and understand ambiguous, uncertain problems, to discover innovative and creative solutions. Future Forward Leadership develops the cognitive and leadership capabilities for this changing arena. The course builds on the knowledge gained in all of the prior courses in the MBA curriculum and applies it to ambiguous and volatile problems and issues. Team taught by faculty from across ASU and WP Carey using simulations and scenarios and hot evolving cases covering the following topics: design thinking, improvisation, super-flexibility, uncertainty, sense-making, execution through experimentation and recalibration. | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 2.5 | | Prerequisite(s): W.P. Carey MBA major |
| WPC | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | LEC | Y | OPT | W. P. Carey School of Business | Prebusiness Office | 1-12 | | |
| WPC | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | W. P. Carey School of Business | Prebusiness Office | 1-12 | | |
| WPC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | W. P. Carey School of Business | Prebusiness Office | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| WST | 100 | Women, Gender, and Society | Interdisciplinary introduction examining critical issues in women's studies. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Credit is allowed for only WST 100 or WST 300 OR Visiting University Student |
| WST | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-3 | | Pre-requisites: Must be a freshman with 25 or less total earned hours |
| WST | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| WST | 220 | Gender, Media and Culture | Introduction to gender and the media including magazines, films, advertising, new media, and other popular culture forms. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & C | Credit is allowed for only ENG 220 or WST 220 |
| WST | 235 | Disability, Justice and Advocacy | Overarching history of the disability rights movement and how it is similar to and different from other civil and rights movements. Examines how policies and activism are interconnected within this movement, in addition to looking at other human categories related to disabilities such as gender, sexuality, race and socioeconomic status. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | C | Credit is allowed for only COM 235 or JUS 235 or SST 235 or WST 235 OR Visiting University Student |
| WST | 270 | Global Perspectives on Women | Through lectures, creative class activities and discussions, presents a comprehensive overview of gender and globalization with special emphasis on lived realities of women worldwide. Understands women's lives and gendered experiences through the issues of work, identities (nationality, race, class, age, ability), bodies and embodiment, belief systems, political economy and difference. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Credit is allowed for only WST 270 or WST 294 (Global Perspective on Women) |
| WST | 276 | U.S. Women's Movements | Historical survey of sources influential in the development of the feminist movement in the United States. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | H & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AMS 276 or WST 276 OR Visiting University Student |
| WST | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| WST | 300 | Women and Gender in Contemporary Society | Advanced interdisciplinary examination of such topics as gender, intersectionality, media and representations, sexuality, politics, health, violence and feminism. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): minimum 30 hours; Credit is allowed for only WST 100 or WST 300 OR Visiting University Student |
| WST | 302 | History of Black Women in America | Advanced examination of the challenges that black women have faced historically in America and how they have responded to those challenges socially, politically, economically, and culturally. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & H | Prerequisite(s): AFR 200, WST 100, WST 300, or minimum 45 hours; Credit is allowed for only AFR 302 or HST 335 or WST 302 OR Visiting University Student |
| WST | 313 | Women and Sexuality | Explores U.S. women's sexuality in social context, including how women's sexuality is portrayed in popular media, medicine and education; how girls learn to think about sexuality; and how public policies address women's sexuality. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): WST 100 or WST 300 or minimum 30 hours OR Visiting University Student |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| WST | 320 | Gender, Drugs and Alcohol | Drug and alcohol use have multiple and diverse meanings shaped by their historical, social and cultural context. Examines how and why alcohol and drug use have been identified as social problems and the role of gender in shaping this process. Reviews multiple social and cultural aspects of gender, drug and alcohol use, as well as the emergence of gender-based health disparities within this context. Fulfills a science and society requirement. Basic scientific principles such as the formulation of research questions, data collection and analysis, have been used to develop our understanding of gender, drugs and alcohol. How society influences the nature of those questions, the perceived value attached to particular scientific studies over others, and how to critically evaluate law and policy around drugs and alcohol in light of those studies. | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): WST 100 or WST 300 or minimum 30 hours; Credit is allowed for only WST 320 or WST 394 (Gender, Drugs and Alcohol) OR Visiting University Student |
| WST | 330 | Women, Film and Culture | Critical examination of the way films can reflect, reinforce or challenge mainstream cultural ideas about women. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 336 or WST 330 OR Visiting University Student |
| WST | 331 | Asian Pacific American Genders and Sexualities | In-depth exploration of gender and sexuality issues as they relate to Asian Pacific American experiences, including interracial relationships, stereotypes, feminism, queer theory. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or SB) & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; APA 200 or APA 210 or minimum 24 hours; Credit is allowed for only APA 330 or WST 331 OR Visiting University Student |
| WST | 333 | Critical Perspectives on Sexuality | Examines critical theories of sexuality, including history, commerce, pleasure, LGBT issues, identity, medicalization of sexuality, disorders, sex crime, and pornography. | N | SEM | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| WST | 334 | Class in America | Explores social class and inequality in the U.S. including history, culture, work, politics, globalization and intersections of gender, race, ethnicity and place. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only AMS 334 or ETH 333 or WST 334 OR Visiting University Student |
| WST | 335 | Lost in Space: Gender, Race, and Sexuality in Science Fiction | Surveys the complex interrelationships of biomedical research and discourses of biological difference as reflected in science fiction. Explores such questions as: How have biological scientists explained human differences along axes of gender, race, class, sexuality? In what ways have these scientific discussions manifested themselves in science fiction? | N | LEC | N | GNA | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): WST 100 or WST 300 or minimum 30 hours; Credit is allowed for only APA 394 (Science Fiction Adventures Race/Gender) or WST 335 or WST 394 (Lost in Space: Gender, Race, & Sexuality in Sci Fi) OR Visiting University Student |
| WST | 340 | Gender, Science, and Technology | In-depth examination of the complex interrelationships of gender, science, technology, and society in a number of different contexts. Looks at the participation of women in scientific and technical fields both historically and cross-culturally, and addresses such topics as: gender segregation by status and discipline, feminist theories of gender and science, the conditions under which women have succeeded in the sciences, gender and biological determinism. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): WST 100 or 300 or minimum 30 hours OR Visiting University Student |
| WST | 341 | Latin American Women Writers | In the 20th and 21st centuries, Latin America has seen a proliferation of literature published by women authors. While this explosion of the written word owes in part to changing socioeconomic factors and the opening of the international markets, Latin American women's literary history is often ignored in the canon. Examines the concepts of feminism through a Mexican framework, starting from the point of view of Mexican women theorizing about their own. This is not a history of feminism, but it does aim to highlight certain fundamental texts and key concepts of Mexico's history from the position of women writers, including feminism's critique of social structures beyond the bounds of gender relations. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only LAS 340 or WST 341 |
| WST | 345 | Gender, Religion, and Global Violence | In-depth study of forms of gendered violence in which religion plays a key role in either the practice or perpetuation of that form of violence in a myriad of cultures and contexts. Analyzes current responses and proposes new approaches to combating or redefining these forms of violence, emphasizing the need to understand and respect the religious and cultural contexts in which these actions occur. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G | Pre-requisites: WST 100, 300 or minimum 30 hours |
| WST | 351 | Gender and Hip Hop | Interrogates the history and global proliferation of hip hop as a set of cultural and consumer practices including music, dance, art, fashion, language and entrepreneurialism. Uses an intersectional approach to unpack hip hop's contributions to larger social discourses around race, gender, gender expression, sexuality, sexual identity and sexual expression, and youth culture. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AFR 351 or AFR 394 (Gender and Hip Hop) or JUS 351 or JUS 394 (Gender and Hip Hop) or WST 351 or WST 394 (Gender and Hip Hop) OR Visiting University Student |
| WST | 360 | Women as Healers | Advanced examination of the role of women as caregivers, healers, physicians, midwives, and nurses in different cultures and historical periods. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G | Prerequisite(s): WST 100 (or WST 300) or minimum 30 hours |

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| WST | 364 | Unruly Voices: Black Women and Cultural Narratives | In-depth study of African American women writers and how they (re)define female identities and engage a critical cross-cultural dialogue within the context of cultural history in the United States. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & C | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 earned hours; Credit is allowed for only AFR 365 (or AFH364) or WST 364 |
| WST | 365 | Women and International Health | Advanced study of gender-based disparities and global health, including impact of poverty, gender discrimination, political economy, and culture. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | G | Prerequisite(s): WST 100 (or WST 300) or minimum 30 hours |
| WST | 370 | Chronicling Women's Lives | Explores the lives of a selected group of American women as a point of departure for the chronicling of contemporary women's lives. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & C | Prerequisite(s): WST 100 or 300 with C or better OR Visiting University Student |
| WST | 371 | Sex and the City: Women, Sexuality, and Popular Culture | An in-depth study of the changing media representations of young, sexually autonomous women in the city. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & C | Prerequisite(s): WST 100 or WST 300 or minimum 30 hours OR Visiting University Student |
| WST | 373 | Latina/Chicana Issues | Critical examination of the roles Mexican American, Chicana, and/or Latina immigrant women play historically, socially, and politically in the United States and along the border. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): WST 100 (or WST 300) with C or better or minimum 30 hours. Credit is allowed for only TCL 373 or WST 373 OR Visiting University Student |
| WST | 374 | Desperate Housewives | In-depth examination of the representations of women as wives and/or mothers in the popular discourse from the 20th century to current day through an analysis of various forms of popular culture such as film, magazines, popular writing and television. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Pre-requisites: Minimum 30 hours; Credit is allowed for only WST 374 or 394 (Desp Housewives: Gender, Family & Pop Culture) |
| WST | 375 | Women and Social Change | In-depth course on feminist activism and social change. Combines research and theory on a contemporary social problem with a community action experience. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): WST 100 (or WST 300) or minimum 30 hours |
| WST | 376 | Feminist Theory | Explores feminist theories and the intersection of gender, race, ethnicity, and class through critical analyses. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | H & C | Prerequisite(s): WST 100 or 300 with C or better OR Visiting University Student |
| WST | 377 | History of American Feminist Thought | Critical analysis of the origins and development of American feminist thought and political movements. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | H & C | Prerequisite(s): WST 100 or WST 300 or minimum 30 hours OR Visiting University Student |
| WST | 378 | Global Feminist Theory | In-depth studies of global feminist theories and exploration of the intersections of gender, race, ethnicity, class, and nation through critical analysis. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | L & G | Prerequisite(s): ENG 101, 105 or 107 with C or better; WST 100 or 300 or minimum 30 hours OR Visiting University Student |
| WST | 380 | Race, Gender, and Class | In-depth examination of how social inequalities are reproduced and perpetuated. Explores the intersections of race, class and gender in culture and society. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): WST 100 or WST 300 or minimum 30 hours; Credit is allowed for only AMS 380 or ETH 380 or WST 380 OR Visiting University Student |
| WST | 382 | American Indian Women | Investigate the economic, political and ideological factors contributing to American Indian women's intellectual and creative activities. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | C | Prerequisite(s): minimum 30 hours; Pre- or corequisite(s): AIS 180 or WST 100 or WST 300 with a C or better; Credit is allowed for only AIS 381 or WST 382 |
| WST | 390 | Women, Gender and Religion | Examines the role of women and the construction and practice of gender identities across religious traditions and cultures. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only REL 390 or WST 390 OR Visiting University Student |
| WST | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| WST | 407 | Utopia/Dystopia: Science Fiction and Media | Five science fiction novels by female authors, along with many science fiction films, provide the lens through which students examine the socio-political, artistic and scientific contexts/concepts of utopian and dystopian novels and cinema. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only IAP 407 or WST 407 or IAP 394 (Utopia/Dystopia: Science Fiction and Media) |
| WST | 408 | Gender, Sexualities and Literacies | Presents diverse perspectives on gender, sexualities and literacies from preschool to adulthood. Focuses on race, ethnicities, sexual orientation and gender identities to provide overviews of current research on gender, sexualities and ethnicities and examines how these subjectivities are expressed in multiple modes of communication. Explores representations and performances of gender and sexualities through literacy practices in sociocultural and educational contexts. Explores related issues through textbook readings, videos, websites, activities, online discussions and projects. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): min 45 hrs; Crdit is allwd for only ENG 408 or WST 408 or ENG 494 (Gndr, Sexualities, & Lit) or ENG 598 (Gndr, Sexualities, & Li) or MAS 598 (Gndr, Sexualities, & Li) or WST 494 (Gndr, Sexualities, & Lit) OR Visiting University Student |
| WST | 413 | Queer Studies | In depth exploration of lesbian, gay, bisexual, transgender, and queer experiences in the U.S. and globally, from an interdisciplinary perspective. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & C | Prerequisite(s): WST 100 or 300 with C or better or minimum 45 hours |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| WST | 415 | Gender, Culture and Literacy | Explores the interactions and influences of gender and culture on literacy development and practice. Literacy is defined broadly as including the new literacies (e.g., blogs, wikis, zines or self publications) and multiliteracies (e.g., communication through oral, lyrical, visual, digital or written texts) within a broad view of what counts as text. Addresses varying feminist theories and perspectives on masculinities and gender in relation to literacy in home, school, community and work place settings. Participants explore their own written, digital and oral language practices through readings, videos, Web sites, Blackboard discussions, self-reflections, thought papers and action research essays. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 36 hours; Credit for only ENG 443 or ENG 494(Gender, Culture & Literacy) or MAS 598 (Gender, Culture & Literacy) or WST 415 or WST 494 (Gender, Culture & Literacy) OR Visiting University Student |
| WST | 417 | Masculinities, Femininities and Literacies | Explores perspectives on and representations of masculinities and femininities in literacy development and practice. Addresses, beginning with adolescence, a time of identity exploration, feminist and gender perspectives in relation to oral language, reading, writing and electronic communications in home, school, community, education and work settings. Examines gender performance as a local/global issue. Explores the influence of gender on written, digital and oral language practices through textbook readings, videos, websites, self-reflections, thought papers and/or alternative format responses to weekly questions on the course materials, and Blackboard discussions. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 36 hours; Credit is allowed for only ENG 449 or ENG 494 (Masculinities, Femininities, and Literacies) or MAS 598 (Masculinities, Femininities, and Literacies) or WST 417 or WST 494 (Masculinities, Femininities, and Literacies) |
| WST | 420 | Women of Color in Film | An in-depth analysis of the history and representations of women of color in film and the film industry through the intersections of gender, race, sexuality, class, and nationalism. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & C | Prerequisite(s): WST 100 or WST 300 or minimum 45 hours; Credit is allowed for only AFR 418 or WST 420 |
| WST | 421 | Girlhood and Adolescence | Critical analysis of the changing construction of girlhood and female adolescence through history, memoir, fiction, myth, music, and media. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & C | Prerequisite(s): WST 100 or 300 or minimum 30 hours OR Visiting University Student |
| WST | 422 | Women, Law, and Social Control | Examines social, economic, and legal factors that are relevant to mechanisms of social control of women, including formal legal control and informal control through violence. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only JUS 422 or WST 422 |
| WST | 428 | Gender, Madness and Justice | Interrogates the interplay among gender, madness and justice; that is, the treatment of women and men within psychological discourses both individually and within the culture at large. Utilizes a feminist and social justice perspective to interrogate a variety of subjects related to the psychology of women and gender, including histories of madness, socialization, childhood, adolescence, intelligence, eating behavior, sexuality, queerness, violence, depression, therapy and activism. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB | Prerequisite(s): WST 100 or 300 with C or better OR Visiting University Student |
| WST | 430 | Gender on the Borderlands | Examines women's status in the U.S.-Mexico borderlands through key issues such as migration, labor, violence, education, and culture. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR WST 100 or 300 with C or better; Credit is allowed for only ETH 430 or LAS 430 or WST 430 or JHR 598 (Gender on the Borderlands) OR Visiting University Student |
| WST | 433 | Race and Sexualities in Social Justice Movements | Investigates queer communities, social control and political resistance. Topics include collective responses to trauma/violence, heteronormativity, and variants of institutionalized racism and sexism. Gives special attention to race and sexuality intersections as well as the politics of coming out, LGBT activism, antiracist movements, the role of allies, and social movement strategies. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prereq(s): ETH 100, HRC 200, or WST 100 w/C or better OR ENG 102, 105, or 108 w/C or better; minimum 36 hours; Credit is allowed for only ETH 433 or JHR 433 or WST 433 or ETH/WST 494 (Race, Sexuality, & Soc Justice Mvmts) OR Visiting University Student |
| WST | 440 | Politics of Women's Health | In-depth and interdisciplinary exploration of how women's social, cultural, and economic position affect their health and health care. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): WST 100, WST 300, or minimum 45 hours OR Visiting University Student |
| WST | 444 | Gender, Health, and Bodies | Explores gender and health from a feminist perspective, including critical analyses of medicine, science, and popular culture. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB | Prerequisite(s): WST 100 or 300 with C or better; Credit is allowed for only MAS 598 (Gender, Health, and Bodies) or WST 444 |
| WST | 447 | Gender, Culture, and Development | In-depth analysis of gender roles related to health, family, work, education and politics in developing countries. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or SB) & G | Prerequisite(s): ENG 101, 105 or 107 w/ C or better; WST 100 or 300 or minimum 45 hours; Credit is allowed for only SGS 454 or SOS 447 or TCL 447 or WST 447 or TCL 598 (Gender, Culture & Development) OR Visiting University Student |

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| WST | 449 | Hate Speech, Manifestos, and Radical Writings | Examines writings, speeches and texts that provoke radical or even revolutionary social change. At its core, this course asks: What is the radical and what does it do? How do radical writings function as texts, speech acts, inspirational documents, testimonies, accounts of madness, frightening moments, calls to arms, peacekeeping entities or speaking truth to power? Examines injurious speech and provocative writings that span a range of social movements and topics, including radical feminism, radical queer, Black power, indigenous rights, art and performance, anti-technology, animal rights, violence, madness and revolutionary resistance. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): minimum 35 hours; minimum 2.50 GPA; Credit is allowed for only AMS 449 or ETH 449 or WST 449 OR Visiting University Student |
| WST | 454 | Gender and Literature | Focuses on the representation of gender in literature. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ENG 454 or WST 454 OR Visiting University Student |
| WST | 457 | Women, Cultures, and Societies | Examines issues such as poverty, dependency, interdependency, race, class, and gender in different societies of the world. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & G | Prerequisite(s): WST 100 or 300 with C or better OR Visiting University Student |
| WST | 460 | Women and the Body | In-depth analysis of the cultural construction of the gendered body and societal prescriptions about beauty, body image, and size. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): WST 100 or 300 or minimum 45 hours OR Visiting University Student |
| WST | 467 | Ethnic Women Writers | Concentrates on selected women writers of the U.S. who are Native American, African American, Latina, and Asian-American. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & C | Prerequisite(s): WST 100 (or WST 300) with C or better; Credit is allowed for only ENG 460 or WST 467 |
| WST | 469 | Abject Bodies and the Politics of Trash | Examines the possibilities inherent in "theorizing from the gutter"; looking at the world not from a lofty "Ivory Tower" but from the slime, the muck, the dumpster, the trash heap, the wasteland, the discarded and the downtrodden. Takes its theoretical framework from a radical 1960s manifesto called SCUM Manifesto by Valerie Solanas and from the French feminist philosophies of Julia Kristeva, who theorized the abject as a relationship with the grotesque that reveals the deep-seated fear of death. Uses these theoretical positions to examine trash, both abstractly and literally. Works through a variety of concepts ranging from actual trash, garbage, waste, toxic sludge, pollution and dirt, and tackles more abstract notions of trash such as the knowledge produced on the fringe in circuses, amusement parks, "trailer trash" zones, freak shows and the bodies of those marked as "Other" or different. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only AMS 469 or ETH 469 or JHR/MAS 598 (Abject Bodies and the Politics of Trash) or WST 469 OR Visiting University Student |
| WST | 470 | Gender and Popular Culture | Advanced interdisciplinary examination of how gender is constructed in various popular cultural forms such as film, television, magazines, and music. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & C | Pre-requisites: WST 100 or WST 300 or minimum 45 hours |
| WST | 471 | Women's International Human Rights | In-depth study of the core themes of a global movement for women's international human rights. Analyzes the historical evolution of the development of international human rights and women's rights within the United Nations and regional human rights systems. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): WST 100, WST 300, or minimum 45 hours; Credit is allowed for only AFR 470 or AFR 598 (Women's International Human Rights) or WST 471 OR Visiting University Student |
| WST | 473 | Indigenous and Latina/Chicana Representation | Examines from an interdisciplinary perspective contemporary issues experienced by Indigenous and Chicana/Latina women in the U.S. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only ETH 473 or LAS 473 or WST 473 |
| WST | 477 | Gender and Violence | Critical examination of gender-based violence from societal, institutional and individual levels using intersectional and interdisciplinary perspectives. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): WST 100 or 300 or minimum 45 hours OR Visiting University Student |
| WST | 483 | Women Writers Across Cultures | Comparative approach to contemporary writings by women from around the world. | N | SEM | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & G | Prerequisite(s): WST 100 or 300 with C or better OR Visiting University Student |
| WST | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | GNA | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| WST | 485 | Women, Gender, and Leadership | Explores the gendered nature of leadership and studies strategies that enable women to lead successfully in areas such as business, education, and public service. | N | SEM | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): WST 100 or 300 with C or better OR Visiting University Student |
| WST | 490 | Transborder Queer Performativity | Explores a rich and diverse body of border-crossing performative expression created by queer and/or Latina/o artists. Course readings and discussions include solo and collaborative works with an emphasis on solo autobiographical performance scripts as well as performer interviews and performance scholarship. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & C | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 45 hours; Credit is allowed for only TCL 490 or WST 490 |
| WST | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-6 | | Prerequisite(s): Barrett Honors student |

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| WST | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| WST | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| WST | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-7 | L | Prerequisite(s): Gender, Women and Sexuality Studies major; ENG 101, 105, or 107 with C or better; WST 100 or 300 with C or better |
| WST | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | GNA | The College of Liberal Arts and Sciences | School of Social Transformation | 1-3 | | |
| WST | 501 | Foundations of Feminist Thought | Provides key concepts and theories that have shaped the field of women and gender studies. Also provides overview of resources for research in women's studies scholarship at ASU and prepares students to participate in the field. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only WST 501 or WST 691 (Foundations of Fem Thought) |
| WST | 502 | Interdisciplinary Gender Research Methodologies | Describes the ways in which feminist scholars conceptualize and design their research. Explores the decisions scholars make in their research including the choice of research topics, applications of feminist theories and methodologies, the choice of methods and how and why feminist scholars have increasingly incorporated interdisciplinary methods, and what is at stake in these decisions for the research design and research outcomes. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| WST | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| WST | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisites: degree-seeking graduate students only |
| WST | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| WST | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| WST | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | The College of Liberal Arts and Sciences | School of Social Transformation | 1 | | |
| WST | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| WST | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | N | LEC | N | Z2 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| WST | 601 | Critical Concepts of Gender | Key concepts, theoretical frameworks, disciplinary and interdisciplinary approaches, and the critical debates that have shaped the field of gender studies. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Pre-requisites: degree-seeking graduate students only |
| WST | 602 | Mapping the Intersections of Gender | Theoretical concepts, metaphors, and frameworks employed by feminist scholars to understand the way gender articulates with other categories of difference. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Pre-requisites: Degree-seeking graduate students only |
| WST | 603 | Engendering Methodology | Focuses on the methodologies, epistemologies, and ethical dilemmas of researching gender. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Pre-requisites: Degree-seeking graduate students only |
| WST | 615 | Masculinities | Explores the theoretical concepts, frameworks and disciplinary and interdisciplinary approaches that have accompanied the emerging analysis of masculinity studies as a field. Interrogates the ways in which masculinities have been defined in relation to femininities and other institutionalized constructions of difference, and how these definitions have contributed to material conditions and specific socio-historical contexts in which gendered bodies are included or excluded, privileged or disadvantaged, taken for granted or contested. Considers the articulations and contestations of diverse masculinities as expressed through gender, race, sex, ethnicity, sexuality, kinship, politics, popular culture, economics, nationalism, science and medicine, and violence. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only WST 615 or WST 691 (Masculinities) |

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| WST | 620 | Advanced Feminist Theory in a Transnational Context | Concentrates on transnational feminist theory and its intersections with queer theory, postcolonial theory, and critical race theory. Also looks at the ways in which (or indeed, whether) academic discourses have anything useful to say about the worlds in which we live. Among the questions we'll need to have constantly in our minds are: In what ways has feminist theorizing changed over time? Does transnational feminist theory challenge or even undermine previous feminist theoretical discussions or the perspectives you might be familiar with from your undergraduate days? What kinds of engagements do our authors have with theorists in other areas (queer studies, postcolonial studies, critical race theory)? Can you discern any sort of new feminist grand narrative emerging from these works? In what ways might our authors' perspectives help you conceptualize and contextualize your own work? | N | SEM | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only WST 620 or WST 691 (Feminist Theory) or WST 791 (Feminist Theory) |
| WST | 640 | Visual and Narrative Culture | Feminist analysis of gender representations in visual and narrative culture, including film, dramatic literature, fiction, and autobiography. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Pre-requisites: Degree-seeking graduate students only |
| WST | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| WST | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree-seeking graduate student |
| WST | 701 | Research Design and Proposal Development in Gender Studies | Prepares students for careers in gender studies by developing skills in research design, proposal writing, and identifying funding outlets. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Pre-requisites: Degree-seeking graduate students only |
| WST | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| WST | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisites: Degree-seeking graduate students only |
| WST | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-15 | | |
| WST | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | IND | Y | Z3 | The College of Liberal Arts and Sciences | School of Social Transformation | 1 | | |
| WST | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | The College of Liberal Arts and Sciences | School of Social Transformation | 1-15 | | |
| WWS | 460 | World War II | Explores the causes, conduct and consequences of World War II. When did World War II start? How was it fought, and what did that mean for soldiers, the homefront and millions of civilians in Japanese or German occupied regions? What did the world that emerged in its wake look like? The course explores these fundamental questions with an emphasis on multiple explanations of the causes of the war in Asia and Europe and the contingency of Allied victory. Explores the war as both a total and a global war in which perceptions of race, class and gender shaped the experience of combatants and noncombatants, many of whom died in indiscriminate bombing campaigns. Racial ideologies also led to the brutalization of soldiers, which in turn fueled the violence against civilians, as exemplified by the Holocaust and Japanese war crimes. Finally, the course turns to the global order emerging after the war and the different narratives that emerged from it. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only HST 460 or HST 494 (Introduction to World War II Studies) or HST 494 (World War II Studies) or JST 460 or WWS 460 OR Visiting University Student |
| WWS | 561 | Decision Points I | In-depth analysis of the origins, impact and controversies over the key decisions related to the beginning and early years of World War II, with an emphasis on the contingent nature of historical events. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| WWS | 562 | Decision Points II | In-depth analysis of the origin, impact and controversies over the key decisions related to the later years and the ending of World War II, with an emphasis on the contingent nature of historical events. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| WWS | 563 | The Lived Experience of World War II | Using the vast oral history collection of the National World War II Museum in New Orleans, Louisiana, this course examines how individuals experienced the war. A number of factors shaped how people experienced the war--whether one was a soldier, non-combatant, resistor or collaborator. Focuses on how ordinary people made sense of their experiences during the war. In addition, students explore the theory and practice of collecting and using oral histories. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): WWS 561; WWS 562 |
| WWS | 564 | The Global War | Examines the global dimensions of World War II with particular focus on those regions which have been deemphasized in Western historical discourse. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): WWS 561; WWS 562 |
| WWS | 566 | World War II Today | Analyzes the impact and legacy of World War II, with an emphasis on the roots of contemporary problems and issues. A global conflict that impacted millions of people, World War II fundamentally reshaped the political and cultural landscape of our planet. Explores the new global order that emerged after the end of World War II in 1945. While the war had immediate impacts in the postwar era, the legacy of the war continues to inform current conflicts across the globe and resonates in the current social and political order. This is especially apparent in how contemporary narratives situate, remember and memorialize the war. Uses themes to help us think historically and uncover the historical roots of the present order. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): WWS 561; WWS 562 |
| WWS | 567 | World War II in Film | Offers a comprehensive survey of how film has represented the Second World War. Using a transdisciplinary approach, studies how films from the time of the Second World War to the present have portrayed that conflict. Compares different perspectives on the causes and results of the war, as well as engage in analysis of how important issues such as international political and economic relationships, religion, gender, ethnicity, class, race, technology and the psychological effects of violence get shown in movies about World War II. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ENG 567 or FMS 567 or WWS 567 |
| WWS | 568 | World War II in Literature | Explores the topic of World War II across fiction, non-fiction, film and other film genres. Focus areas and topics of literature covered in the course may vary from semester to semester, depending upon instructor preference. | N | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ENG 568 or WWS 568 |
| WWS | 569 | Memory and Monuments | Focuses on the historical memory of World War II by examining the processes of commemoration, monument building, and memorialization. Through theoretical texts and case studies, students explore how societies remember and forget and how they create collective memory. | N | LEC | N | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| WWS | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| WWS | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| WWS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| WWS | 597 | Capstone | Students draw on the experiences, skills and competencies they developed throughout the WWII Studies MA program to generate a digital portfolio that showcases the breadth and depth of their MA experience. Students refine and extend work they produced in previous WWS courses and also develop reflective essays that critically assess their performance in the program, as well as essays that articulate the transferable value of the degree to potential employers or admissions committee members. Through required components in the portfolio students demonstrate competency in source analysis, comparative analysis and argumentation, as well as the ability to effectively communicate to scholarly and public audiences. | N | LEL | N | GNA | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): 21 hours of 500-level courses with C or better including WWS 561; WWS 562; WWS 563; WWS 566 |
| WWS | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | The College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| ABS | 100 | Discovering the Professions | Focuses on learning and engaging with information and tools that provide the basis for successful life/career planning decisions. Also designed to assist students in balancing career preparation with academic success. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1 | | |
| ABS | 130 | Introduction to Environmental Science | Introduces the interconnected nature of Earth's hydrosphere, lithosphere (soils and rocks), atmosphere, and biosphere. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 4 | SQ | Credit is allowed for only ABS 130 or BIO 130 or ENV 130 OR Visiting University Student |
| ABS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| ABS | 200 | Building Your Professional Self | Focuses on developing a professional narrative, prepares students for the expectations of upper-division coursework and covers how to effectively use online resources resulting in developing the professional self. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 0.5 | | Prerequisite(s): ABS 100 or 272 OR Visiting University Student |
| ABS | 207 | Applied Plant Taxonomy | Introduces identification of vascular plants emphasizing seed plants. Surveys seed plant families. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): BIO 182 or BIO 282 |
| ABS | 225 | Soils | Fundamental physical, chemical and biological properties of soils as related to sustainable natural resource management. Both ABS 225 and ABS 226 must be taken to secure General Studies SQ credit. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SQ | Prerequisite(s): CHM 101 or 113 OR Visiting University Student |
| ABS | 226 | Soils Laboratory | Selected exercises to broaden the background and understanding of basic soil principles. Both ABS 225 and ABS 226 must be taken to secure General Studies SQ credit. | N | LAB | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1 | SQ | Pre- or corequisite(s): ABS 225 OR Visiting University Student |
| ABS | 260 | Fundamentals of Sustainable Horticulture | Principles and practices of horticulture, emphasizing development, growth, and propagation of horticultural plants and environmental factors that affect these processes. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 4 | SG | |
| ABS | 270 | Sustainable Biological Systems | Ecological foundations of sustainable biological systems, anthropogenic impacts on ecosystem structure and function, and ecological risk assessment. Examines climate change, water scarcity, deforestation, soil degradation, and human displacement on global ecosystem functions and utilization of natural resources. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | |
| ABS | 271 | Veterinary Medicine Today | Introduces the role of the veterinarian as related to the fields of food supply and veterinary medicine. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | |
| ABS | 272 | Discovering Dentistry | Dentistry is a vital component of whole person health care, as oral health directly impacts systemic health. Explores dentistry as a surgical specialty, as well as an introduction to dental terminology and anatomy. Briefly reviews the process for applying to dental school, as well as preparatory efforts to build a resume. Provides an opportunity to learn about life after dental school, which involves a wide variety of specialties, practice options and organizations that directly impact a career as an oral health care provider. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Credit is allowed for only ABS 272 or ABS 294 (Discovering Dentistry) |
| ABS | 274 | Introduction to Wildlife Management | Fundamentals of wildlife conservation and management through lectures, guest speakers and lab activities. Divided into three parts: (1) introduction to conservation, management and the scientific method; (2) themes of earth, water, fire and air; and (3) wildlife techniques and field methods. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 4 | | Prerequisite(s): BIO 182 or 282 OR Visiting University Student |
| ABS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| ABS | 300 | Career Competencies and Skills | Builds on skills developed in previous coursework. Focuses on ensuring students can articulate and give examples of their knowledge and experience in applied biological science core competencies as well as career readiness skills such as leadership, teamwork, communication, professionalism and technology. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 0.5 | | Prerequisite(s): ABS 200 OR Visiting University Student |
| ABS | 302 | Ethical and Policy Issues in Biology | Policy environment and ethics in the practice of biology. Covers ethical reasoning, policy formulation, and regulatory agencies with examples from biotechnology and the environment. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ABS | 311 | Molecular and Cellular Biology | Overview of the biology of the cell; emphasizes structure and function of biomolecules within the cell and their applications associated with recombinant DNA technology, genetic engineering, plant and agriculture biotechnology, and human pharmaceutical development. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): BIO 181 or 281 with C or better OR Visiting University Student |
| ABS | 312 | Structure and Function | Surveys structural and functional attributes of plant and animals of particular importance in the applied biological sciences. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): BIO 182 or 282 with C or better OR Visiting University Student |
| ABS | 314 | Applied Plant Physiology | Understanding control of plant growth and developmental processes through innovated technologies. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): BIO 182 or 282 OR Visiting University Student |

| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| ABS | 318 | Unseen Life on Earth | Develops an understanding of how microbes exist in the context of both their environment and the organisms they come in contact with. Focuses on how the microbial interactions with the environment play a vital role in the multitude of biological processes that support the Earth system. Studies a myriad of extreme environments that host microbial systems, such as cloud, hydrothermal vent, acid-mine drainage and gut microbiomes. Utilizes a synthesis-driven approach where students apply their knowledge on microbial systems to discern whether life is possible on other planets. Also pays attention to the tools used to evaluate microbial diversity and function, applications of microbial ecology, and how microbes can be harnessed to improve life on Earth. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ABS 318 or ABS 394 (Unseen Life on Earth) OR Visiting University Student |
| ABS | 321 | Sexually Transmitted Infections | There are many infectious organisms that can be transmitted primarily through sexual activity. Covers sexually transmitted infections, their mode of transmission, prevention and treatment. Aims to educate students on the scientific side of these infections and their treatments. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ABS 321 or ABS 394 (Sexually Transmitted Infections) OR Visiting University Student |
| ABS | 350 | Applied Statistics | Statistical methods with applications in the biological sciences and natural resource management. Uses computers and the Internet. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | CS | Prerequisite(s): one course meeting General Studies MA requirement with C or better OR Visiting University Student |
| ABS | 355 | Ecology and Adaptations of Vertebrates | Evolution, systematics, diversity, zoology, conservation and anatomical and physiological adaptations and specializations of the vertebrates. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): BIO 182 or 282 OR Visiting University Student |
| ABS | 360 | Southwest Home Gardening | Multimedia course for nonmajors surveying contemporary topics in Southwest home horticulture, including landscaping, flower and vegetable gardening, citriculture, interiorscaping, and others. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 2 | | |
| ABS | 362 | Landscape Plants | Identification, design, and use of plants in urban landscapes. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 4 | | Prerequisite(s): minimum 45 hours |
| ABS | 363 | Sustainable Landscape Practice | Landscape technologies and practices including landscape design theory, job costing and bidding, sprinkler and drip irrigation design, landscape installation, landscape valuation techniques, landscape ordinances, and maintenance practices of commercial and residential landscapes. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 4 | | Prerequisite(s): ABS 260 |
| ABS | 364 | Urban Forestry | Care, maintenance, and valuation of the urban forest, including public and private landscape codes. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Pre-requisite: ABS 260 |
| ABS | 365 | Future of Agriculture: Vertical Farming | Examines vertical farming in today's agricultural market. Students study the applied innovative technologies, suitable plants, operation management, and the future of vertical farming in modern agriculture. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ABS 365 or ABS 394 (Future of Agriculture: Vertical Farming) OR Visiting University Student |
| ABS | 368 | Plant Propagation | Theory and application of sexual and asexual propagation techniques. Considers plant materials used both for urban horticulture and ecological restoration applications. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | |
| ABS | 369 | Hydroponic Food Crop Production | Covers the principles and practices of hydroponic systems and their applications for indoor vertical farming and greenhouse production. Covers fundamental topics of crop production in hydroponic systems, including plant nutrition, nutrient solution, growing media, soilless cultures, system applications and planting methods. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ABS | 370 | Ecology | Interactions between organisms and their environments; structure and dynamics of populations, communities, ecosystems, and landscapes, with emphasis on vegetation. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): BIO 182 or 282 OR Visiting University Student |
| ABS | 371 | Small Animal Veterinary Topics | Introduces students to entry-level veterinary clinic knowledge. Covers basic terminology and small animal anatomy, basic small animal behavior and safe animal handling, as well as case studies to review simple triage vitals assessments. Helps students better understand small animal and clinic personnel safety while creating a basic understanding of how a veterinary clinic works in medical record language and day-to-day tasks. Encourages research into the field of small animal veterinary medicine through projects and assignments. Students learn about important topics within veterinary medicine today including individual mental well-being, animal disease surveillance, client education and alternative medicine modalities. Related careers are roles in veterinary practice management, as a veterinarian, veterinary technician or assistant, or as an animal pharmaceutical representative and nonprofit animal work. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ABS 271; Credit is allowed for only ABS 371 or ABS 394 (Small Animal Veterinary Topics) OR Visiting University Student |

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|---------|----------------|-------------------------------------|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| ABS | 372 | Captive Animal Behavior Management | Natural animal behaviors during captive animal management including wild and domestic animal training and enrichment, exhibit design, husbandry, and livestock management. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): BIO 182 or 282 with C or better; Credit is allowed for only ABS 372 or ABS 394 (Applied Animal Behavior) OR Visiting University Student |
| ABS | 375 | Equine Science | Gives a scientific understanding of horses necessary for success in equine care and management. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ABS 375 or ABS 394 (Introduction to Equine Science) OR Visiting University Student |
| ABS | 376 | Wildlife Ecology | Explores population biology, conservation genetics, habitat ecology, ecological communities, competition, invasive species, habitat fragmentation and connectivity, and other related topics. Students work in small groups to design, implement, and complete a field-based research project on the ASU Polytechnic campus. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Pre- or corequisite(s): ABS 274; ABS 370 |
| ABS | 377 | International Wildlife Conservation | Studies wildlife around the world including biogeography, biodiversity, conservation topics and the complexity of conserving wildlife in both developed and developing nations. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): BIO 182 or 282; Credit is allowed for only ABS 377 or ABS 494 (International Wildlife Conservation) OR Visiting University Student |
| ABS | 378 | Animal Nutrition | Principles of nutrient metabolism in animal species; emphasizes understanding the interaction of animals with their environment. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Pre-requisites: BIO 181 or BIO 182; CHM 101 or CHM 113 |
| ABS | 379 | Animal Anatomy | Essential concepts in animal anatomy including structure and function of the bones, muscles, tissues and organs of common primarily, but not exclusively, domestic animals presented by organ system. Also covers basic comparative anatomy with farm and equine animals. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ABS 379 or ABS 394 (Animal Anatomy) OR Visiting University Student |
| ABS | 380 | Restoration and Wildlife Plants | Important wildland plants, including invasive and endangered species, wildlife food species, and species used for ecosystem restoration such as rangeland revegetation and seeding. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ABS 207 OR Visiting University Student |
| ABS | 381 | Natural Resources Policy | Policies and regulations affecting management of natural resources, with emphases on wildlife, rangeland and ecological restoration. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours |
| ABS | 384 | Natural Resources Measurements | Inventory, sampling and monitoring techniques of natural resources. Data evaluation and interpretation as related to management, restoration and conservation needs of natural resources. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ABS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| ABS | 414 | Plant Pathology | Identification and control of biotic and abiotic factors that cause common disease problems to plants. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): BIO 181 with C or better; BIO 182 or PLB 200 with C or better; ENG 101, 105 or 107 with C or better OR BIO 281 with C or better; BIO 282 with C or better; ENG 101, 105 or 107 with C or better |
| ABS | 417 | Comparative Immunology | Examines unique but also shared immunological characteristics of animals with the goal of understanding how different animals respond to microorganisms such as viruses, bacteria, fungi and parasites. Presentation of material is guided by hierarchy of structural organization, using molecules, organelles, cells, tissues, organs, organ systems, whole animals and even ecosystems and the environment to convey important concepts related to our relationships with pathogens. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ABS 417 or ABS 394 (Comparative Immunology) OR Visiting University Student |
| ABS | 419 | Microbiota in Health and Disease | Explores various aspects related to our microbiota, and its functional interactions between our own bodies in healthy and diseased states. Emphasizes the human microbiota. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): MIC 205; Credit is allowed for only ABS 419 or ABS 494 (Microbiota in Health and Disease) or ABS 598 (Microbiota in Health and Disease) OR Visiting University Student |
| ABS | 422 | Head and Neck Anatomy | Students acquire clinical problem solving skills through a basic understanding of the gross anatomy and related physiology of the head and neck region of human anatomy. Topics include skeletal system, muscular system, temporomandibular joint and glandular tissue, vascular and lymphatic system, and nervous system, all as they relate to the regional anatomy and physiology of the head and neck. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): BIO 160 or 201; Credit is allowed for only ABS 422 or ABS 494 (Head and Neck Anatomy) OR Visiting University Student |
| ABS | 430 | Watershed Management | Hydrologic, physical, biological, and ecological principles applied to watershed management. Impact of ecosystem manipulations on water yield and quality. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| ABS | 434 | Soil Ecology | Soils viewed in an ecosystem context, soil-plant relationships, nutrient budgets, and abiotic factors that influence soil processes. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Pre-requisites: ABS 370 or BIO 320; Credit is allowed for only ABS 434 or BIO 418 |
| ABS | 435 | Applied Systems Ecology | Simulation modeling as a tool to study ecological processes and human impact on ecosystems and organisms. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Pre-requisites: ABS 370, ABS 350 (or STP 420) |
| ABS | 440 | Ecological Restoration Techniques | Techniques for ecological restoration, riparian and wetland restoration, and monitoring restoration success. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ABS 370 |
| ABS | 441 | Ecological Restoration Practicum | Field experience in the evaluation and monitoring of implemented ecological restoration projects. | N | LEL | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1 | | Pre/Co-requisite: ABS 440 |
| ABS | 452 | Commercial Applications of Fermentation | Biochemical applications and technologies of fermentation including use of fungi and bacteria in fermentation to improve human health and immunity, and produce pharmaceutical drug supplements and medicines, foods, beverages, and alternative fuels. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): BIO 181 or 281 with C or better; Credit is allowed for only ABS 452 or ABS 494 (Commercial Applications of Fermentation) OR Visiting University Student |
| ABS | 460 | Organic Gardening | Applies principles and practices of organic gardening in the low desert, including environmental impacts of modern food production. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 2 | | |
| ABS | 462 | Greenhouse/Nursery Management | Greenhouse structures, environment, and nursery operations. Includes irrigation, nutrition, and other principles relative to production of nursery crops. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 4 | | Pre-requisite: ABS 260 |
| ABS | 464 | Desert Horticulture | Students learn about and practice the principles of sustainable horticulture in an arid climate. Includes capstone projects on sustainability issues related to horticultural practice in arid environments. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ABS 260; Credit is allowed for only ABS 464 or ABS 494 (Sustainable Desert Horticulture) or ABS 498 (Desert Horticulture) OR Visiting University Student |
| ABS | 470 | Life History of Mammals | Evolution, classification, environmental, anatomical and physiological adaptations, ecology, and conservation of mammals worldwide. Emphasis on the identification, habitat relationships, conservation, and management techniques of Arizona and select North American mammals. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ABS 355 or BIO 370 |
| ABS | 472 | Applied Herpetology | Systematics, evolution, ecology and life history of amphibians and reptiles emphasizing wildlife management methodologies. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ABS 355 or BIO 370 OR Visiting University Student |
| ABS | 473 | Applied Ornithology | Evolution, ecology, classification and life history of birds, emphasizing wildlife management methodologies. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ABS 355 or BIO 370; Credit is allowed for only ABS 473 or ABS 494 (Applied Ornithology) |
| ABS | 474 | Riparian Ecosystem Management | Management principles of riparian ecosystems based on fluvial geomorphological and ecological concepts. Discusses human impacts to riparian ecosystems. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours |
| ABS | 475 | Habitat Management for Small Wildlife | Habitat management considerations and practices for small game and nongame wildlife species in North America. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ABS 370 or BIO 320 |
| ABS | 476 | Big Game Habitat Management | Conservation and management issues focused on large mammals in North America. Topics include habitat ecology, nutrition, migration, predator-prey dynamics, trophic cascades, habitat management and restoration of populations. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ABS 370 or BIO 320 OR Visiting University Student |
| ABS | 479 | Ecosystem Management and Planning | Principles of ecosystem management, with emphasis on economic and policy constraints on the planning process. Risk assessment and management. Includes the process of complying with NEPA while developing rangeland management plans. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): ENG 101, 105 or 107 with C or better; minimum senior standing OR Visiting University Student |
| ABS | 481 | Riparian and Wetland Restoration | Principles and problems in the restoration of degraded riparian and wetland ecosystems. Construction of wetlands. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ABS 370 |
| ABS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | |
| ABS | 485 | GIS in Natural Resources | Principles of Geographic Information Systems (GIS) utilized in natural resource management. Use of computers for spatial inventory and analysis of natural resources. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ABS | 486 | Introduction to Remote Sensing | Remote sensing is an important source of environmental information that can support a deeper understanding of trends and clarify management strategies in a wide range of ecological application. Focuses on the application of satellite and aerial/drone remote sensing in environmental science and management. With this basic background, course participants use remote sensing data to make spatial decision. Presents the concepts of biodiversity and wildlife management parallel to the remote sensing information. Image processing instruction and exercises begin with an analysis of digital imagery and proceed through the three broad classes of processing techniques: preprocessing, enhancement and information extraction. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 4 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ABS 486 or ABS 598 (Integration of Remote Sensing) or ABS 598 (Introduction to Remote Sensing) |
| ABS | 489 | Undergraduate Research | Undergraduate research under the supervision of an applied biological sciences faculty member. | N | RSC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-3 | | Prerequisite(s): Junior or senior standing OR Visiting University Student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| ABS | 490 | Applied Biological Sciences Seminar | Current literature and significant developments related to applications of the biological sciences. May be repeated for credit. | N | SEM | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1 | | Prerequisite(s): Senior standing OR Visiting University Student |
| ABS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | | Prerequisite(s): Barrett Honors student |
| ABS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ABS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| ABS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-3 | | |
| ABS | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | |
| ABS | 541 | Advanced Rangeland Ecosystem Management | Combines the principles of ecology, planning and restoration in the application of rangeland ecosystem management. Studies fundamental topics such as range plant physiology, range plant ecology, rangeland stocking-rates and grazing systems in considering management practices for rangeland ecosystems. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ABS | 542 | Management of Fire Adapted Ecosystems | Fire adapted ecosystems which evolved with high-frequency and low-intensity fires now support a range of regimes from no fire to uncharacteristically large and intense fires, causing a concern about the current and future role of wildland fire as well as forest and rangeland health. Explores management considerations and techniques for reintroducing fire to these ecosystems. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ABS | 550 | Vegetation Dynamics | Dynamics of vegetation linking physiological, population, and community ecology. Collection and analysis of vegetation data. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ABS | 555 | Wildlife Dynamics | Teaches advanced concepts and analytical skills in population and habitat ecology and applies this knowledge to answer contemporary questions in wildlife conservation. Consists of lectures, class discussions about scientific papers and active learning exercises. Students work with a diversity of real-world data sets, including from wildlife cameras, acoustic bat monitors, GPS telemetry and other field methods, for a range of different species. The statistical program R is an integral component of the class; a familiarity with R is desirable, but not required to enroll. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ABS | 560 | Ecological Modeling | Mathematical modeling of animal populations, food-web structural and ecological processes in space and time. May use modeling tools on computer clusters. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ABS | 570 | Advanced Animal Nutrition | Metabolic and physiological interactions of nutrients in wild and domesticated animals consuming natural feeds. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ABS | 586 | Remote Sensing in Environmental Resources | Principles and application of remote sensing technologies in natural resource management using computerized data from aerial photography and satellite imagery. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ABS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ABS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ABS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ABS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): ABS 592 |
| ABS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| ABS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ABS | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ABS | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACC | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | School of Accountancy | 1-4 | | |
| ACC | 231 | Uses of Accounting Information I | Introduces the uses of accounting information focusing on the evolution of the business cycle and how accounting information is used for internal and external purposes. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): CIS 105 or 236 with C or better; min 25 hours OR Technological Entrepreneurship Management major: EDT 180; min 25 hours OR Pre- or corequisite(s): Engineering Management major: CSE 205; min 25 hours OR Visiting University Student |
| ACC | 232 | Financial Accounting I | Develops an understanding of the theory, concepts, principles and practices underlying preparation, interpretation, and use of external financial reports. Emphasizes interpreting the economic substance of events and transactions and their association with contemporaneous and prospective events, relationships, and outcomes. Gains understanding of the accounting information model and develops an ability to analyze and record business transactions and analyze basic financial statements. Meant for prospective accounting and finance majors (and students who plan current majors in these areas) and develops skills and abilities facilitating success in higher-level accounting courses. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): Accountancy or Finance majors; CIS 105, 220 or 236 with C or better OR Visiting University Student |
| ACC | 241 | Uses of Accounting Information II | Introduces the uses of accounting information focusing on the evolution of the business cycle and how accounting information is used for internal and external purposes. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): ACC 231, 261, or 303 with C or better OR Visiting University Student |
| ACC | 242 | Managerial Accounting I | Develops an understanding of the theory, concepts, principles, and practices underlying managerial accounting. Emphasizes three functions managers must perform within their organizations: plan operations, control activities, and make decisions. Explains what accounting information is necessary, how to collect it, and how to interpret it. Meant for prospective accounting and finance majors and students who plan current majors in these areas and develop skills and abilities facilitating success in higher-level accounting courses. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey Accountancy and Finance majors, and others with School of Accountancy approval; ACC 231, 232, 261, or 303 with C or better OR Visiting University Student |
| ACC | 261 | Honors Fundamentals of Financial Accounting | Covers basic financial accounting concepts and applications. Develops an understanding of the environment in which financial reporting choices are made. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey School of Business Honors student; CIS 105 or CIS 220 or CIS 236 with C or better |
| ACC | 271 | Honors Fundamentals of Managerial Accounting | Covers basic managerial accounting concepts and applications. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey Business major; Barrett Honors student; ACC 231, 232, or 261 with C or better |
| ACC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | School of Accountancy | 1-4 | | |
| ACC | 310 | Intermediate Accounting for Corporate Accountants | Intermediate-level financial accounting course with in-depth focus on asset, liability and owner's equity measurement, revenue determination, investments accounting, lease accounting, financial statement preparation, presentation and analysis. Emphasizes the statement of cash flows and interpreting footnote disclosures. Where appropriate, compares International Financial Reporting Standards and U.S. GAAP (Generally Accepted Accounting Principles). | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey Business (Corporate Accounting) BA major; ACC 241, 242, or 271 with C or better; ECN 221 or 231 with C or better; MAT 210, 251, 265, or 270 with C or better OR Visiting University Student |
| ACC | 320 | Management Accounting for Corporate Accountants I | Covers internal reporting systems for planning, control, and decision making. Deals with conceptually and computationally understanding the various accounting, economic and/or business models, frameworks and methods in order to be more knowledgeable and literate in these areas while building overall stronger decision-making skills. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey Business (Corporate Accounting) BA major; ACC 241, 242, or 271 with C or better; ECN 221 or 231 with C or better; MAT 210, 251, 265, or 270 with C or better OR Visiting University Student |
| ACC | 330 | Data Analytics in Accounting | Explores accounting concepts through the application of data analytics. Focuses on developing an analytics mindset and learning how to use big data analytical tools to examine and analyze data, and then effectively interpreting results to make business decisions. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s) w/C or better: WPC Accountancy or Finance BS major; ACC 241, 242 or 271; ECN 221 or 231; MAT 211, 266 or 271; Credit allowed for only ACC 330 or ACC 494 (Accounting Analytics or Data Analytics in Accounting) OR Visiting University Student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------|-----------------------|-------|-----------------|--|
| ACC | 340 | External Reporting I | Financial accounting theory and practice related to external reporting. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W.P. Carey Accountancy or Finance BS major; ACC 241, 242, or 271 with C or better; ECN 221 or 231 with C or better; MAT 211, 266, or 271 with C or better OR Visiting University Student |
| ACC | 350 | Internal Reporting | Internal reporting systems for planning, control, and decision making. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey Accountancy BS or Finance BS major; ACC 241, 242, or 271 with C or better; ECN 221 or 231 with C or better OR Visiting University Student |
| ACC | 354 | Governance, Risk, Compliance Internal Controls and Ethics | Equips students to understand, evaluate and participate in corporate governance. Surveys best practices in corporate governance including internal controls, enterprise risk management (ERM), fraud deterrence, and ethical organizational culture. Emphasizes the Committee of Sponsoring Organizations (COSO) framework. Provides the necessary background and understanding of key internal control and ERM concepts and tools for corporate accountants. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey Business (Corporate Accounting) BA major; ACC 310 with C or better; ACC 320 with C or better OR Visiting University Student |
| ACC | 382 | Accounting and Financial Analysis | Introduces financial accounting concepts related to operating, financing, investing, and ethical decisions. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 3 | | Prereqs:AppBus&TechSol BA, EntrprLdrs BA, Logstcs(Maritime) AS or non-Bus maj; min 2.0GPA; min 30hr OR nondeg stdt; min 2.0GPA OR grad stdt; Stdts may not take ACC 382 if min C earned in ACC 231,232,241,242,261,271, BUA 381 OR Visiting University Student |
| ACC | 410 | Financial Statement Analysis | Focuses on core knowledge and skills essential to financial statement analysis. Topics covered include strategic ratio analysis, cash flow analysis, forecasting, pro-forma financial statements and firm valuation. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey Business (Corporate Accounting) BA major; ACC 310 with C or better OR Visiting University Student |
| ACC | 420 | Management Accounting for Corporate Accountants II | Covers the higher-level managerial accounting topics and uses of accounting data to assist corporate accountants in their plans and decisions regarding complex resource allocation, organizational control, and performance evaluation issues. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey Business (Corporate Accounting) BA major; ACC 320 with C or better OR Visiting University Student |
| ACC | 430 | Taxes and Business Decisions | Federal income taxation of sole proprietors, partnerships, corporations, fiduciaries, and individuals with an emphasis on tax consequences of business and investment decisions. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey Accountancy BS student; ACC 340 with C or better; LES 305 with C or better OR Visiting University Student |
| ACC | 435 | Personal Tax Management and Planning | Strategies used by financial planners to help clients achieve greater tax efficiency. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): Business (Financial Planning) BA or Finance BS major; FIN 302, 303, or 380 with C or better OR Visiting University Student |
| ACC | 440 | External Reporting II | Continuation of ACC 340 with emphasis on the recognition, research, and resolution of financial reporting issues. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey Accountancy BS or Finance BS student; ACC 340 with C or better OR Visiting University Student |
| ACC | 444 | Enterprise Process Analysis and Design | Focuses on the flow of data through ERP systems and discusses the difference between several types of data and the flow of data from various transactions through the database. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s) with C or better: Accountancy BS major; ACC 241, 242, or 271; ECN 221 or 231 OR Computer Information Systems BS major; ACC 241, 242, or 271; CIS 235 or 236; ECN 221 or 231 OR Visiting University Student |
| ACC | 450 | Principles of Auditing | Standards and procedures in auditing. Planning, evidence gathering and accumulation, and reporting. Ethical and legal considerations. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W.P. Carey Accountancy BS major; ACC 340 with C or better OR Master of Taxation student OR Visiting University Student |
| ACC | 454 | Taxes for Corporate Accountants | Integrates tax compliance, tax planning, accounting, economics and finance. Examines current tax rules while developing the ability to think about taxes in a way that is not specific to the current federal system. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey Business (Corporate Accounting) BA major; ACC 310 with C or better; ACC 320 with C or better OR Visiting University Student |
| ACC | 460 | Ethics for Professional Accountants | Addresses ethical obligations and responsibilities of professional accountants. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey Accountancy BS major; ACC 241, 242, or 271 with C or better; ECN 221 or 231 with C or better; MAT 211, 266, or 271 with C or better OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------|-----------------------|-------|-----------------|---|
| ACC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | W. P. Carey School of Business | School of Accountancy | 1-12 | | Prerequisite(s): W. P. Carey BS Accountancy major; ACC 340 with C or better; ACC 350 with C or better; ACC 430 with C or better; ACC 440 with C or better; ACC 450 with C or better; minimum 3.50 GPA; minimum 72 hours |
| ACC | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | W. P. Carey School of Business | School of Accountancy | 1-6 | | Prerequisite(s): Barrett Honors student |
| ACC | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | W. P. Carey School of Business | School of Accountancy | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ACC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | W. P. Carey School of Business | School of Accountancy | 1-4 | | Prerequisite(s): Accountancy BS major OR Visiting University Student |
| ACC | 501 | Fundamentals of Financial Accounting | Covers contemporary financial accounting and reporting systems; emphasizes the interpretation and evaluation of a company's external financial reports. Designed for students with limited business experience and without an undergraduate business degree. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 1.5 | | Prerequisite(s): degree-seeking graduate student |
| ACC | 502 | Financial Accounting | Contemporary financial accounting and reporting systems; emphasizes the interpretation and evaluation of a company's external financial reports. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 1-4 | | Prerequisite(s): W. P. Carey Finance MS or MBA student |
| ACC | 503 | Managerial Accounting | Managerial accounting concepts and procedures for internal reporting applied to the decision making activities of the professional managers. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 1-4 | | Prerequisite(s): W. P. Carey MBA student; ACC 502 with C or better |
| ACC | 504 | Fundamentals of Managerial Accounting | Covers managerial accounting concepts and procedures for internal reporting applied to the decision-making activities of the professional managers. Designed for students with limited business experience and without an undergraduate business degree. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 1.5 | | Prerequisite(s): ASU degree-seeking graduate student; Pre- or corequisite(s): ACC 501 with C or better if completed |
| ACC | 509 | Statistics for Accounting Analytics | Addresses theories of probability and uncertainty through the use of statistics including descriptive, predictive and prescriptive analyses as well as regression and other models to support audit decisions and conclusions. This heavily quantitative course starts with a realization that probability and uncertainty can be alleviated (or compounded) with different statistical decision making and so starts with theories of probability and uncertainty to properly understand these concepts. Once these concepts are grounded, this class focuses on data, techniques and technologies that can aid in appropriate decision making with accounting. Emphasizes formulating real-world models--driven by descriptive, predictive and prescriptive statistics--to represent complex real-world accounting decision problems and on using a variety of tools to gain better insight into properly addressing these problems. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): Master of Accountancy student |
| ACC | 510 | Internal Controls Audit and Fraud Prevention and Detection | Addresses internal control frameworks and U.S. Generally Accepted Auditing Standards (GAAS) related to an auditor's consideration of internal controls for purposes of financial statement audits and audits of internal control over financial reporting. Covers various schemes pertaining to misappropriation of assets, corruption and fraudulent financial reporting. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): Accountancy MACC student; Credit is allowed only for ACC 510 and ACC 591 (Int Contrls Audit, & Fraud Prevention & Detection) |
| ACC | 511 | Accounting for Income Taxes | Primarily the comprehensive study of financial accounting for income taxes. The core content focuses on ASC740, including preparation, review and audit of a corporate tax provision. Course is particularly valuable for students interested in a career in either audit or tax. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 1-4 | | Prerequisite(s): Business graduate student |
| ACC | 512 | Advanced Auditing | Builds on the skills obtained in the beginning auditing (assurance) course and focuses on audit planning, risk assessment, evidence, and reporting procedures and fraud. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 3 | | Pre-requisite: Master of Accounting student |
| ACC | 513 | Advanced Financial Accounting | Focuses on advanced financial accounting topics along with their application in the financial reporting process. Topical coverage includes consolidations, mergers and acquisitions, derivatives, foreign currency translation, fair value accounting, and equity-based compensation. Addresses the implications of these topics for earnings management and earnings quality. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): Business graduate student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------|-----------------------|-------|-----------------|--|
| ACC | 520 | Statistics and Coding for Accounting Analytics | Addresses analytics in accounting, auditing and tax contexts. Focuses on the introduction of methods and techniques to analyze data sets while also making it easier to interpret, present and utilize the results for financial decision making. Presents frameworks and approaches to equip students to recognize and interpret patterns in data and models and recommend actions. Teaches multiple concepts to improve decision making related to accounting data. Also serves as a practical introduction to the extraction, cleaning and transformation of data for accounting applications. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): Accountancy MACC student; Credit is allowed for ACC 520 or ACC 591 (Accounting Analytics) |
| ACC | 521 | Accounting Analytics Concepts and Tools | Addresses analytics in accounting, auditing and tax contexts. Focuses on the methods and techniques to analyze data sets while also making it easier to interpret, present and utilize the results for financial decision making. Presents additional frameworks and approaches to equip students to recognize and interpret patterns in data and models and recommend actions. Students learn multiple concepts to improve decision making related to accounting data. Also serves as a continuation of the extraction, cleaning and transformation of data for accounting applications. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): Master of Accountancy student |
| ACC | 522 | Innovations with Auditing Technologies | Focuses on understanding the role of technology-related innovations on audits and auditing performance. Looks at both capturing data from recent innovations in technologies for audit applications (e.g., IoT) as well as examining the roles of these recent technology innovations for audit performance (e.g., cognitive computing). | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): Master of Accountancy student |
| ACC | 560 | Ethics for Professional Accountants | Reviews ethics in business, fiduciary responsibility, ethical issues, codes of conduct in the field of accounting. Individualized instruction. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): Master of Accountancy or Master of Taxation student; Credit is allowed for only ACC 560 or ACC 591 (Ethics for Professional Accountants II) |
| ACC | 571 | Taxation of Corporations and Shareholders | Tax aspects of the formation, operation, reorganization, and liquidation of corporations and the impact on shareholders. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 1-4 | | Prerequisite(s): W. P. Carey Taxation student |
| ACC | 573 | Taxation of Pass-Through Entities | Tax aspects of the definition, formation, operation, liquidation, and termination of a partnership. Emphasizes tax planning. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 1-4 | | Prerequisite(s): Taxation MTax student |
| ACC | 575 | Family Financial, Tax and Wealth Transfer Planning | Provides an understanding of family financial planning, individual income tax, taxation of wealth transfers during life (gifts) and at death (estate) with emphasis on identifying planning techniques to maximize family wealth and financial security for individuals and their families. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 1-4 | | Prerequisite(s): Business graduate student |
| ACC | 577 | Tax Research, Professional Responsibilities & Property Transactions | Federal tax issues and consequences, tax authority, property transactions and tax consequences of acquiring, holding and disposing of property. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): Master of Taxation major. Credit is allowed for only ACC 577 or ACC 591 (Tax Research, Professional Responsibilities & Property Transactions) |
| ACC | 581 | ESG Reporting and Ethics | Prepares accounting and finance-oriented students to lead organizations. Explores corporate governance topics including sustainability reporting and related ethical issues from the perspectives of accounting and finance professionals. Corporations employ different governance structures each with its strengths, weaknesses and differing ethical norms. Corporate governance is changing quickly now with thousands of companies that are incorporating environmental, social and governance (ESG) issues and metrics into their internal finance and accounting operations and their external reporting. Utilizes cases supplemented with articles (no textbook) along with substantial discussion and writing components. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): Business graduate student; Credit is allowed for only ACC 581 or ACC 591 (Corporate Gov, Ethics & Sustainability Rptg) or SOS 549 |
| ACC | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | W. P. Carey School of Business | School of Accountancy | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACC | 585 | Performance Measurement and Advanced Managerial Accounting | Covers advanced topics in strategic implementation and control, stressing their application to real-world settings. Topics include performance measurement, the design of compensation plans, and the design of information-based control systems to build winning organizations. Utilizes case studies drawn from a wide range of firms in various industries and countries, emphasizing the use of critical thinking to interpret data for solving managerial problems. Should be of interest to anyone thinking of a career in a corporate setting, consulting and private equity. Should also be useful for those interested in public accounting to develop an understanding of client organizations. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): Business graduate student |
| ACC | 586 | Shareholder Value Creation and Financial Statement Analysis | Develops skills necessary to exploit financial reporting information in a business environment and appreciation of reporting issues faced by management. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 1-4 | | Prerequisite(s): ACC 502; FIN 502 |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|--|
| ACC | 587 | State and Local Taxation | Multistate taxation and interplay between multistate tax issues and federal and state constitutional limitations. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W.P. Carey Master of Taxation student |
| ACC | 588 | Professional Accounting Research | Applies the technical knowledge of accounting theory and principles developed in other academic courses through the use of "real life" case studies, where such knowledge and professional judgment is applied in resolving advanced accounting problems and issues. | N | RSC | N | OPT | W. P. Carey School of Business | School of Accountancy | 3 | | Pre-requisite: W. P. Carey Master of Accountancy student |
| ACC | 589 | International Taxation | Addresses the U.S. taxation of U.S. individuals and businesses that do business outside the U.S. as well as the U.S. taxation of foreign persons and tax treaties, allocation of income, foreign tax credits, and transfer pricing. Emphasizes planning related to some of the tax issues that commonly arise in cross-border businesses. | N | RSC | N | OPT | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey Master of Taxation student |
| ACC | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | W. P. Carey School of Business | School of Accountancy | 1-12 | | Prerequisite(s): specific Business graduate students |
| ACC | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | W. P. Carey School of Business | School of Accountancy | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACC | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | W. P. Carey School of Business | School of Accountancy | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACC | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | W. P. Carey School of Business | School of Accountancy | 1-12 | | Pre-requisite: Business Administration (Accountancy) PHD student |
| ACC | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | W. P. Carey School of Business | School of Accountancy | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACC | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | W. P. Carey School of Business | School of Accountancy | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACC | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | W. P. Carey School of Business | School of Accountancy | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACC | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | W. P. Carey School of Business | School of Accountancy | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACO | 100 | All About Data: Design, Query, and Visualization | Data modeling and design, spreadsheets, relational databases and querying, visualization and XML. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | CS | |
| ACO | 101 | Introduction to Computer Science | Concepts of problem solving, structured and object-oriented programming in Java, fundamental algorithms, computer system concepts. Social and ethical responsibilities. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | CS | |
| ACO | 102 | Object-Oriented Programming | Object-oriented programming using introductory algorithms and data structures. Overview of concepts in computer science. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | CS | Prerequisite(s): ACO 101 with C or better; Credit is allowed for only ACO 102 or CSE 205 or CST 200 OR Visiting University Student |
| ACO | 131 | Global Cybersecurity | Introduces the basic concepts and tenets of cybersecurity from a global and cultural perspective, instead of a technical perspective. Explores how various nation-states view and employ cybersecurity in order to achieve their national strategic imperatives. Students articulate and understand fundamental cybersecurity concepts and principles rooted in U.S. and other national policy, compare and contrast various nation-state approaches to national security, the monitoring of other nations and foreign citizens, and how these relate to cybersecurity policies and practices. Students identify and describe cultural and political philosophies regarding personal data and personal privacy and their influence on national security policy and objectives. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | G | Credit is allowed for only ACO 131 or ACO 194 (Global Cybersecurity) |
| ACO | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|--|
| ACO | 201 | Data Structures and Algorithms | Static and dynamic data structures, recursive and iterative sorting and searching, object-oriented design and programming, software design models and implementation/testing strategies, professional responsibilities. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | CS | Prerequisite(s): ACO 102 with C or better; MAT 210 or higher with C or better OR Visiting University Student |
| ACO | 240 | Introduction to Programming Languages | Introduces the procedural, object-oriented, functional and declarative languages. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 102 with C or better OR CSE 205 with C or better OR GIS major with GIS 222 with C or better OR Software Engineering graduate student; Credit is allowed for only ACO 240 or CSE 240 |
| ACO | 320 | Database Systems | Entity-relationship and relational data models. Database design theory. Relational algebra, calculus and SQL query languages. Query optimization. XML fundamentals. Transactions, recovery and concurrency control. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 201 with C or better; MAT 243 or 300 with C or better; Credit is allowed for only ACO 220 or ACO 320 or CSE 412 or IFT 300 (or IFT 433) or SER 322 OR Visiting University Student |
| ACO | 321 | Database Development & Applications | Stored procedures and triggers. Security and authorization. Call-level interface. Database Web applications. Advanced topics. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 320 with C or better; Credit is allowed for only ACO 321 or CSE 414 or IFT 458 or IFT 554 or IFT 598 (Middleware Programming & Database Security) OR Visiting University Student |
| ACO | 330 | Computer Networks | Network architecture and protocols, principles of network applications, socket programming, flow and congestion control, switching and routing, link-layer technologies, traffic capture and analysis, security. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 201 or CIS 325 with C or better; Credit is allowed for only ACO 330 or CSE 434 OR Visiting University Student |
| ACO | 331 | Network Forensics Analysis | Fundamental principles of network forensics and traffic analysis, evidence acquisition, network intrusion detection and analysis, anomaly detection and analysis, malicious activity detection, network tunneling, and malware forensics. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 330 with C or better; STP 226 or 280 with C or better; Credit is allowed for only ACO 331 or IFT 482 or IFT 523 or IFT 598 (Network Forensics) OR Visiting University Student |
| ACO | 350 | Systems Programming | Introduces operating systems as resource managers, processes, threads, memory allocation, file systems, protection, system calls, application program interfaces. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | CS | Prerequisite(s): ACO 201 with C or better; Credit is allowed for only ACO 350 or CSE 330 |
| ACO | 351 | Governance, Risk and Compliance | Broad requirements for effective cybersecurity governance, the elements required to develop an appropriate governance strategy, and the actions required to implement it. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 201 or CIS 235 with C or better |
| ACO | 361 | Secure Coding Concepts | Secure software development process including designing secure applications, writing secure code that can withstand attacks, and security testing and auditing. Focuses on the security issues a developer faces, common security vulnerabilities and flaws, and security threats. Explains security principles, strategies, coding techniques and tools that can help make code more resistant to attacks. Students write and analyze code that demonstrates specific security development techniques. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 201, ACO 240, or CIS 325 with C or better |
| ACO | 386 | STEAM Service Learning | Guided process in which students deepen their understanding of their STEAM content area through knowledge-based problem solving that provides a service to others in the community. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ACO 386 or ENV 386 or FOR 386 or LSC 386 or PTX 386 or LSC 494 (Service Learning in the Life Sciences) |
| ACO | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | |
| ACO | 399 | Supervised Research | Experience within the context of current faculty research projects. Student is assigned responsibility depending on qualifications. | N | RSC | Y | YGB | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-3 | | Prerequisite(s): ACO 102 with C or better; minimum 30 hours OR Visiting University Student |
| ACO | 401 | Managing Cyber Risks in Enterprise Business Processes | Covers the activities, decisions, risks and controls associated with enterprise business processes. Specific focus on the activities in the sales-to-cash (revenue cycle) and purchase-to-pay (expenditure cycle) processes. Students understand how IT enables performing those processes more efficiently and effectively. In addition to identifying internal controls necessary for accurate, complete performance of processes, also covers the fundamentals of cybersecurity. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 320 or CIS 235 or CIS 236 or CSE 310 or IEE 305 with C or better; Credit is allowed for only ACO 401 or CIS 401 OR Visiting University Student |
| ACO | 402 | Privacy, Ethics and Compliance Issues | Covers the activities, mechanisms and challenges associated with implementing the principles of privacy into corporate structures. Also provides an overview of the privacy regulatory landscapes as well as emerging challenges with privacy. Specific focus areas include the Generally Accepted Privacy Principles framework and the implementation of privacy controls via the use of process and technology. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 401, CIS 401, or CSE 465 with C or better; Credit is allowed for only ACO 402 or CIS 402 OR Visiting University Student |

| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---------------------------------------|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|--|
| ACO | 420 | Big Data Systems | Modern technologies to manage, process and analyze big data. Data processing of large data sets with Map/Reduce. NoSQL data stores. NewSQL databases. Data visualization. Applications. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 320 with C or better |
| ACO | 421 | Data Mining and Warehousing | Introduces data mining from a database perspective, including classification, clustering, and association rules. Data warehousing methodologies. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 320 with C or better; STP 226 or 281 with C or better; Credit is allowed for only ACO 421 or CSE 478 or CSE 494 (Foundations of Data Visualization) OR Visiting University Student |
| ACO | 422 | XML and Databases | XML data model, schema specification and validation, querying, storage, indexing, and current research topics. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 320 with C or better |
| ACO | 423 | Data Science | Computational and machine learning methods to extract insights from data: data collection, data cleaning and transformation, exploratory data analysis, data visualization, and machine learning (supervised and unsupervised) algorithms. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 240 with C or better; ACO 320 with C or better; STP 226 or 280 with C or better OR Visiting University Student |
| ACO | 430 | Wireless Networks and Security | Comprehensive course on wireless networks and security covering current industry standards, protocols, research and future trends. Topics include fundamentals of wireless communications, wireless LAN configuration and analysis, wireless security and cellular networks. Sets the groundwork for students to acquire professional certifications such as CWNA, CWAP and CWSP. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 330 with C or better OR Visiting University Student |
| ACO | 431 | Network Security | Digital threats and attacks, cryptography, confidentiality, authentication protocols, message integrity, security in network applications, intrusion detection, malicious software countermeasures, firewalls. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 330 with C or better OR Visiting University Student |
| ACO | 432 | Distributed Systems | Distributed system models, distributed programming technique, clock synchronization, distributed snapshot, distributed mutual exclusion, concurrency control, fault tolerance, security, recent advances. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 330 with C or better OR Visiting University Student |
| ACO | 461 | Security Operations | How organizations monitor and manage the security of their infrastructures in the real world. Explains architecture principles, the use of monitoring tools and technologies, how to interpret different security data sources, as well as how to identify and respond to various security threats within a complex infrastructure. Requires students to utilize security toolsets within a laboratory setting to demonstrate their understanding of the technologies as well as course concepts. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 330 with C or better OR Visiting University Student |
| ACO | 482 | Design Thinking for National Security | Project-driven course teaches problem solving, creative thinking and solution development. Provides a menu of problems to solve, with each problem being sourced directly from a sponsor within the Department of Defense (DoD). Working directly with DoD personnel, class mentors and other experts, students spend the semester crafting and refining solutions that can be adopted in short order. Students' work and solutions have real-world impact. | N | PRO | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prereqs w/min C: App Comp or App Comp (Cybersec) BS; ACO 240; ACO 320; ACO 330; ACO 350; MAT 210; STP 226 OR non-App Comp BS major; sr stndg; Crdt for ACO 482 or LSC 482 or ACO/ENT/FSE/IVD/LSC/SES/STP 494/598(Hack for Dfns) OR Visiting University Student |
| ACO | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | IND | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): ACO 240 with C or better; ACO 320 with C or better; ACO 330 with C or better; ACO 350 with C or better; MAT 210 with C or better; STP 226 with C or better |
| ACO | 486 | Peer Mentoring in STEM | Advanced students learn and apply mentoring skills in science classes or teaching labs. | Y | SEM | Y | YGB | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ACO 486 or BIO 486 or LSC 486 or MAT 486 or PTX 486 or STP 486 OR Visiting University Student |
| ACO | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | IND | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| ACO | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | IND | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ACO | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | |
| ACO | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-3 | | Prerequisite(s): ACO 240 with C or better; ACO 320 with C or better; ACO 330 with C or better; ACO 350 with C or better; MAT 210 with C or better; STP 226 with C or better |

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| Subject | CatalogNbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|------------|--|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| ACO | 500 | Research Methods | Course on research methods in a specific discipline. | Y | RSC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACO | 501 | Database Systems and Problem Solving in Python | Design and implementation of databases for scientific applications. Defining and querying database systems using the SQL industry standard language. Data exchange using XML. Programming in Python to solve realistic problems using scientific data. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACO | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACO | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACO | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACO | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACO | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACO | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACO | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACO | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACO | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACO | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACO | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACT | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| ACT | 201 | Introduction to Elements and Techniques of Actuarial Science | Introduces important aspects of actuarial work. Exposes the development of actuarial techniques in the context of life insurance, casualty and property insurance, superannuation and investment. Develops problem-solving skills and gives basic tools for risk management and financial modeling, including the use of Excel spreadsheets for both, calculations and simulations. Shows how studies in related disciplines (such as accounting, demography, economics, statistics, computing and mathematics) are essential to the education of an actuary. Guest speakers from the industry share their knowledge and insight on how to become a successful actuary. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 265 or 270 with B or better OR Visiting University Student |
| ACT | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|--|
| ACT | 301 | Risk Management and Insurance | Provides an introduction to the different types of risks faced by individuals, businesses and society along with ways in which they make an assessment of, control and transfer of different types of risks including property risk, liability risk, personal risks and speculative risks such as financial risks. Covers risk management techniques including risk control and risk financing with a focus on insurance policies, and also presents other major topics in personal financial planning, social insurance, insurance operations and regulations, and reinsurance. Also gives attention to contemporary issues and challenges in risk management and insurance. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | SB | Prerequisite(s): MAT 210, 265, or 270; DAT 401, ECN 221, STP 226, or STP 420 OR Visiting University Student |
| ACT | 302 | Fundamentals of Enterprise Risk Management | Examines in detail the Enterprise Risk Management (ERM) as a decision support system that helps organizations understand risk and assure the achievement of their goals. Provides understanding of what risk is and what an ERM process looks like for organizations, including some common challenges and pitfalls of institutionalizing an ERM culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ACT 301 OR Visiting University Student |
| ACT | 320 | Property and Casualty Insurance | Examines the fundamental principles and uses of property and casualty insurance. Also includes detailed examination of contracts, rating, underwriting, regulation and financial strength of insurers. In particular, devotes attention to the role of property and casualty insurance in addressing the economic and social problems encountered by businesses. Furthermore, also assists in the preparation to take the State of Arizona's Department of Insurance Property & Casualty exam. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ACT 301 |
| ACT | 330 | Life and Health Insurance | Develops an understanding of life and health insurance and the place of those products in the risk management plans of individuals and businesses. In particular, devotes attention to the role of life and health insurance in addressing the economic and social problems encountered by individuals and businesses. Furthermore, prepares the students to take the State of Arizona's Department of Insurance Life and Health Insurance exam. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ACT 301 |
| ACT | 370 | Software Tools for Business Analytics | Data analysis has become a core aspect of actuarial science. Course focuses on using three important software applications (Excel, R and Python) to conduct data acquisition and cleaning, preparing data for analysis, exploratory data analysis, basic statistical model building (linear regression), and data visualization. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 266 or 271 with C or better; Credit is allowed for only ACT 370 or DAT 301 or STP 494 (Exploring Data in R and Python) OR Visiting University Student |
| ACT | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| ACT | 410 | Mathematics of Finance | Prepares potential actuaries to master national exams. Provides an understanding of the fundamental concepts of financial mathematics and how those concepts are applied in calculating present and accumulated values for various streams of cash flows as a basis for future use in: reserving, valuation, pricing, asset/liability management, investment income, capital budgeting and valuing contingent cash flows. Topics include: mathematics of compound interest including annuities certain, amortization schedules, yields curves, sinking funds and bonds. Gives an introduction to financial instruments including derivatives and the concept of no-arbitrage as it relates to financial mathematics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ACT 201 with C or better; MAT 265 or 270 with B or better; Credit is allowed only for ACT 410 or ACT 510 OR Visiting University Student |
| ACT | 415 | Probability for Risk Management | Prepares potential actuaries to master national exams. Develops knowledge of the fundamental probability tools for quantitatively assessing risk. Topics include: introduction to probability concepts including definition of probability, independence, conditional probability, random variables, specific discrete and continuous probability distributions, multivariate random variables, moments and moment generating functions, functions of random variables, sampling distributions and central limit theorem. Emphasizes the application of these tools to problems encountered in actuarial science. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 267 or 272 with B or better; Credit is allowed for only ACT 415 or ACT 515 or STP 326 or STP 421 OR Visiting University Student |
| ACT | 420 | Ratemaking and Reserving | Utilizes information on property and casualty ratemaking and reserving techniques, from an actuarial perspective. Ratemaking and loss reserving are the two fundamental functions performed by actuaries, and are necessary for satisfying an organization's strategic, operational and regulatory goals and requirements. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ACT 301; ACT 370 or DAT 301; Credit is allowed for only ACT 420 or ACT 520 OR Visiting University Student |

| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--------------------------------------|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|---|
| ACT | 430 | Mathematics of Financial Derivatives | Prepares potential actuaries to master the national exams. Develops knowledge of the theoretical basis of certain actuarial models and the application of those models to insurance and other financial risks. Topics include: option pricing, Black-Scholes formula, delta hedging, exotic options, Brownian motion, interest rate models and simulations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ACT 410 (ACT 310); ACT 415 or STP 421; Credit is allowed for only ACT 430 or ACT 530 OR Visiting University Student |
| ACT | 435 | Statistics for Risk Modeling | Statistical techniques in business forecasting such as: simple linear regression, multiple linear regression, hypothesis testing and confidence intervals in linear regression models, testing of models, data analysis and appropriateness of models, linear time series models, moving average, regression-based and/or ARIMA models, estimation, data analysis and forecasting with time series models, forecast errors and confidence intervals, classification, clustering and tree-based methods. Emphasizes analysis of various types of real data using R. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ACT 370 or DAT 301; STP 427; Credit is allowed for only ACT 435 or ACT 535 OR Visiting University Student |
| ACT | 440 | Single Life Mortality | Develops an understanding of the key features of long-term insurance coverages (life, health and general); annuities and retirement benefits (pensions, retiree health care, etc.). Students accumulate knowledge of the theoretical basis of actuarial models and the application of those models to long-term insurance and other financial risks. Topics include: life tables, present value determination for life insurances and annuities and premium calculations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ACT 410; ACT 415 or STP 421; Credit is allowed for only ACT 440 or ACT 540 OR Visiting University Student |
| ACT | 441 | Long-Term Actuarial Mathematics | Focuses on reserving for insurances and annuities for long-term actuarial models including multiple lives and/or multiple decrement models. Expose students to different reserving types as well as interpretation of common profit measures. Other topics include applications of the long-term models to pension plans and retirement benefits. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ACT 440 with C or better; MAT 343 with C or better; Credit is allowed for only ACT 441 or ACT 541 OR Visiting University Student |
| ACT | 450 | Actuarial Models | Provides detailed understanding of the actuarial models and how to apply these models in solving business problems. Students analyze data from an application in a business context, determine a suitable model including parameter values and provide measures of confidence for decision making based on the model. Covers construction and inference for the severity, frequency and aggregate models and their modifications. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ACT 415 or STP 421; STP 427; Credit is allowed for only ACT 450 or ACT 550 OR Visiting University Student |
| ACT | 451 | Short-Term Actuarial Mathematics | Helps the student understand the steps involved in the modeling process and how to carry out these steps in solving business problems. Also enhances students' understanding in actuarial models. Topics include: selection of parametric models, Bayesian estimation, limited fluctuation credibility, Bayesian credibility, Buhlmann and Buhlmann-Straub models, empirical Bayesian methods, simulation techniques in actuarial science, bootstrapping algorithm, Markov Chain Monte Carlo method (MCMC). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ACT 450 with C or better; Credit is allowed for only ACT 451 or ACT 551 OR Visiting University Student |
| ACT | 455 | Quantitative Risk Management | Quantitative risk management is a quantitative science that uses mathematics in general, and probability and statistics in particular to describe, model and manage various types of risks. Provides an introduction to a set of fundamental concepts, quantitative methods and tools for modern financial risk management. Some topics include: coherent risk measures, financial time series, multivariate distributions, linear and rank correlations, copulas and extreme value theory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ECN 221, STP 226, or STP 420; Credit is allowed for only ACT 455 or ACT 494 (Quantitative Risk Measures) or ACT 555 or ACT 598 (Quantitative Risk Measures) OR Visiting University Student |
| ACT | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | |
| ACT | 490 | Emerging Risks | Focuses on the development of students' written communication skills employed in a professional business setting by analyzing emerging issues in insurance. Emerging risks such as cyber, drones, driverless cars, climate change and pandemics aren't just trends and may affect insurers in the years to come. Understanding the impacts of such risks on business operations by performing relevant research, assessing credibility of sources, and then effectively communicating them to stakeholders helps prepare students to be successful young professionals as they transition to the workforce. Much of the course is conducted in a workshop format. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ACT 301; Credit is allowed for only ACT 490 or ACT 494 (Emerging Risks) OR Visiting University Student |
| ACT | 491 | Actuarial Exam Preparation Seminar | Provides potential actuaries with review and practice for an actuarial examination. | N | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1 | | Pre- or corequisite(s): ACT 410 (ACT 310) or 415 with B or better if completed OR Visiting University Student |
| ACT | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|--|
| ACT | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-3 | | |
| ACT | 505 | Actuarial Models for Enterprise Risk Management | Actuarial modeling methods used in enterprise risk management. These methods are useful for the quantification of many types of risks faced by businesses and other organizations. Furthermore, these methods look at the correlation between risks that can create unexpectedly large exposures. Students build risk models for an actual enterprise. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACT | 510 | Mathematics of Finance | Provides an understanding of the fundamental concepts of financial mathematics, and how those concepts are applied in calculating present and accumulated values for various streams of cash flows as a basis for future use in: reserving, valuation, pricing, asset/liability management, investment income, capital budgeting and valuing contingent cash flows. Topics include: mathematics of compound interest, including annuities certain, amortization schedules, yields curves, sinking funds and bonds. Introduces financial instruments including derivatives, and the concept of no-arbitrage as it relates to financial mathematics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; Credit is allowed only for ACT 410 or ACT 510 |
| ACT | 515 | Probability for Risk Management | Develops knowledge of the fundamental probability tools for quantitatively assessing risk. Topics include: introduction to probability concepts including definition of probability, independence, conditional probability, random variables, specific discrete and continuous probability distributions, multivariate random variables, moments and moment generating functions, functions of random variables, sampling distributions and central limit theorem. Emphasizes the application of these tools to problems encountered in actuarial science. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ACT 415 or ACT 515 |
| ACT | 520 | Ratemaking and Reserving | Provides knowledge of property and casualty ratemaking and reserving techniques from an actuarial perspective. Ratemaking and loss reserving are the two fundamental functions performed by actuaries and are necessary for satisfying an organization's strategic, operational and regulatory goals and requirements. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ACT 420 or ACT 520 |
| ACT | 530 | Mathematics of Financial Derivatives | Develops knowledge of the theoretical basis of certain actuarial models and the application of those models to insurance and other financial risks. Topics include: option pricing, Black-Scholes formula, delta hedging, exotic options, Brownian motion, interest rate models and simulations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ACT 430 or ACT 530 |
| ACT | 535 | Statistics for Risk Modeling | Uses statistical techniques in business forecasting such as: simple linear regression, multiple linear regression, hypothesis testing and confidence intervals in linear regression models, testing of models, data analysis and appropriateness of models, linear time series models, moving average, regression based and/or ARIMA models, estimation, data analysis and forecasting with time series models, forecast errors and confidence intervals. Emphasizes analysis of various types of real data using R. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ACT 435 or ACT 535 |
| ACT | 540 | Single Life Mortality | Develops an understanding of the key features of long-term insurance coverages (life, health and general); annuities and retirement benefits (pensions, retiree health care). Students accumulate knowledge of the theoretical basis of actuarial models and the application of those models to long-term insurance and other financial risks. Topics include: life tables, present value determination for life insurances and annuities and premium calculations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ACT 440 or ACT 540 |
| ACT | 541 | Long-Term Actuarial Mathematics | Focuses on reserving for insurances and annuities for long-term actuarial models including multiple lives and/or multiple decrement models. Exposes students to different reserving types as well as interpretation of common profit measures. Other topics include applications of the long-term models to pension plans and retirement benefits. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; ACT 540; Credit is allowed for only ACT 441 or ACT 541 |
| ACT | 550 | Actuarial Models | Provides detailed understanding of the actuarial models and how to apply these models in solving business problems. Students analyze data from an application in a business context, determine a suitable model including parameter values and provide measures of confidence for decision making based on the model. Covers construction and inference for the severity, frequency and aggregate models and their modifications. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ACT 450 or ACT 550 |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|---|
| ACT | 551 | Short-Term Actuarial Mathematics | Helps the student understand the steps involved in the modeling process and how to carry out these steps in solving business problems. Also enhances students' understanding in actuarial models. Topics include: selection of parametric models, Bayesian estimation, limited fluctuation credibility, Bayesian credibility, Buhlmann and Buhlmann-Straub models, empirical Bayesian methods, simulation techniques in actuarial science, bootstrapping algorithm, Markov Chain Monte Carlo method (MCMC). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; ACT 550; Credit is allowed for only ACT 451 or ACT 551 |
| ACT | 555 | Quantitative Risk Management | Quantitative risk management is a quantitative science that uses mathematics in general, and probability and statistics in particular to describe, model and manage various types of risks. Provides an introduction to a set of fundamental concepts, quantitative methods and tools for modern financial risk management. Some topics include: coherent risk measures, financial time series, multivariate distributions, linear and rank correlations, copulas and extreme value theory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ACT 455 or ACT 494 (Quantitative Risk Measures) or ACT 555 or ACT 598 (Quantitative Risk Measures) |
| ACT | 560 | Regression Modeling In Insurance | Introduces advanced applications of regression modeling methods for solving actuarial problems. The generalized linear models are important and frequently used modeling approaches in the insurance industry for traditional actuarial pricing and reserving problems and marketing and operational problems. Prepares students to understand these problems and gain experience in analyzing them through projects involving real-world data. Covered topics include linear models, categorical dependent variables, count dependent variables, generalized linear models, frequency and severity models and others. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACT | 561 | Machine Learning and Risk Management Applications | Exposes students to a wide variety of machine learning techniques applicable to data types and problems that are routinely found within the insurance industry. Application of machine learning is rapidly growing in insurance industry; this course creates a long-term knowledge base for students to remain empowered, and in time, master and use more sophisticated emerging techniques. Chapters covered include neural networks, spatial models, generalized additive models, discriminant analysis, mixture model-based approaches, and others. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACT | 565 | Regulation and Financial Reporting in P&C | Provides an overview of insurance regulation with regard to property and casualty coverages, ratemaking, pricing and solvency, and U.S. tort law as it affects the property and casualty business. Further identifies major U.S. insurance programs administered by government agencies and insurance industry organizations such as: automobile plans; crop insurance; flood insurance; government backstops; guaranty funds; residential markets (auto, workers comp, property); workers compensation (including interaction with Medicare). While addressing financial reporting, solvency and taxation issues, students evaluate the financial health of an insurance entity by completing specific schedules and exhibits. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACT | 570 | Stochastic Calculus for Finance | Uses stochastic calculus as a foundation for advanced mathematics of financial derivatives. Topics covered include: stochastic calculus, martingales and arbitrage, Black-Scholes equation and pricing derivative securities, and fundamental theorems of asset pricing. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACT | 571 | Advanced Mathematics of Financial Derivatives | Applies stochastic calculus to advanced topics in mathematics of financial derivatives. Topics include: term structure models, pricing derivative securities, fundamental theorems of asset pricing, models of equity and fixed income markets, and exotic options. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACT | 575 | Portfolio Theory and Risk Management | Provides an overview of measurement and management of risk and enables students to master the methods and concepts of portfolio theory. Those models and concepts include risk aversion, utility functions as a representation of preferences, efficient frontiers, Markowitz Portfolio theory, the Capital Asset Pricing model, security market line, value at risk and expected shortfall, as well as concepts of coherent risk measures. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACT | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|--|
| ACT | 585 | Advanced Mortality Modeling and Management of Longevity Risk | Exposes students to a wide variety of advanced models for forecasting human mortality. Explains the relevant repositories of mortality data in the context of application of most-used advanced mortality forecasting models. Presents both discrete time as well as continuous time stochastic mortality models. Students also learn about approaches for managing longevity risk via natural hedging, reinsurance and mortality-linked derivatives as well as pricing of basic insurance products in the context of advanced mortality models. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACT | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | |
| ACT | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACT | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACT | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ADE | 321 | Architectural Studio I | Introductory building design problems. Emphasizes design process, communication methods, aesthetics, construction, and technology. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Architecture BSD major; ALA 226 with C or better OR Visiting University Student |
| ADE | 322 | Architectural Studio II | Site and building design problems. Emphasizes programmatic and environmental determinants and building in natural and urban contexts. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Pre-requisites: Architectural Studies student; ADE 321 with C or better |
| ADE | 421 | Architectural Studio III | Topical design problems of intermediate complexity, including interdisciplinary problems. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): ADE 322 with C or better OR Visiting University Student |
| ADE | 422 | Architectural Studio IV | Topical design problems of advanced complexity, including interdisciplinary problems. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Architectural Studies BSD major; ADE 421 with C or better |
| ADE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | | Prerequisite(s): Barrett Honors student |
| ADE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ADE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| ADE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-3 | | |
| ADE | 510 | Foundation Architectural Studio | Fundamentals of architectural design, methodology, visualization, and representation. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 6 | | Pre-requisites: Master of Architecture student; Co-requisite: ATE 553 and ATE 563 |
| ADE | 511 | Core Architectural Studio I | Applies design fundamentals in architectural problems, including construction, technology, programmatic and environmental determinants. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 6 | | Pre-requisites: Master of Architecture student; ADE 510 with C or better |
| ADE | 512 | Core Architectural Studio II | Applies architectural design fundamentals to increasingly complex problems, including specific sites and activities. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 6 | | Pre-requisites: Master of Architecture student; ADE 511 with C or better |
| ADE | 521 | Advanced Architectural Studio I | Design problems emphasizing theory, aesthetics, and tectonics as influences on architectural form. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Pre-requisites: Master of Architecture student; Co-requisite: ATE 553 and ATE 563 |
| ADE | 522 | Advanced Architectural Studio II | Design problems emphasizing the comprehensive integration of building systems and technologies as influences on architectural form. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Pre-requisites: Master of Architecture student; ADE 521 with a C or better; Co-requisites: APH 505 and ATE 556 |
| ADE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Herberger Institute of Design and the Arts Graduate student |
| ADE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Herberger Institute of Design and the Arts Graduate student |
| ADE | 621 | Advanced Architectural Studio III | Design problems emphasizing the urban context, planning issues, and urban design theory as influences on architectural form. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Pre-requisites: Master of Architecture student; ADE 522 with a C or better; Co-requisite: APH 515 OR Bldg Des(Energy Perform/Bldgs) MS student |

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| ADE | 622 | Advanced Architectural Studio IV | Individual, student-initiated project reflecting a culminating synthesis of architectural ideas. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): ADE 621 with C or better; Master of Architecture student; Corequisite(s): APH 515 or Built Environment (Energy Perf/Climate Responsive Arch) MS student |
| AEE | 313 | Aircraft Dynamics and Control | Aircraft static stability; equations of motion; dynamic modes and stability; stability derivatives; response to controls; introduces automatic control of aircraft. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering major; AEE 360 with C or better; MAE 318 with C or better |
| AEE | 325 | Aerospace Structures and Materials | Applies structural analysis to aircraft and spacecraft structures. Loads on aerospace structures, buckling and stability, stiffened panels, primary wing and launch-vehicle structure, vibration of large structures, properties and selection of aerospace structural materials. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 4 | | Prerequisite(s): Aerospace Engineering major; MAE 202 with C or better; MAE 213 with C or better; MAE 384 with C or better; MAT 267 or 272 with C or better; Credit is allowed for only AEE 325 or MEE 322 OR Visiting University Student |
| AEE | 344 | Fundamentals of Aircraft Design | Aircraft performance, RFP's, Federal Aviation Regulations, aircraft sizing. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering major; AEE 360 with C or better; MAE 202 with C or better; MAE 214 with C or better; MAE 384 with C or better; Pre- or corequisite(s): AEE 325 with C or better if completed |
| AEE | 360 | Aerodynamics | Airfoils and wings in ideal flow. Potential flow solutions, thin airfoil theory, finite wings, lifting line theory. Laminar and turbulent boundary layers, Falkner-Skan solution, viscous drag. AEE 360, AEE 361 and AEE 362 must all be taken to secure L General Studies credit. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | L | Prereq(s) w/C or better:Aero Engr or Mech Engr BSE major; ENG 102, 105 or 108; MAE 242; MAE 384; MAT 267 or 272; Pre- or coreq(s):MAE 301 w/C or better if completed; Credit allowed for only AEE 360 or AEE 394 (Aerodynms I) OR Visiting University Student |
| AEE | 361 | Aerodynamics Laboratory | Flow measurement. Wind-tunnel testing. Engineering laboratory reports. AEE 360, AEE 361, and AEE 362 must all be taken to secure L General Studies credit. | N | LAB | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1 | L | Prerequisite(s) with C or better: ENG 102, 105, or 108; MAE 242; MAE 384; Pre- or corequisite(s) with C or better if completed: AEE 360; MAE 301; Credit is allowed for only AEE 361 or AEE 394 (Aerodynamics I Lab) OR Visiting University Student |
| AEE | 362 | High-Speed Aerodynamics | Compressible flow at subsonic and supersonic speeds; ducts, nozzles and diffusers; normal and oblique shocks, transonic flow, numerical solutions; experimental applications. AEE 360, AEE 361 and AEE 362 must all be taken to secure L General Studies credit. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 4 | L | Prerequisite(s): Aerospace Engineering BSE major; AEE 360 with C or better; AEE 361 with C or better; ENG 101, 105, or 107 with C or better; MAE 241 with C or better; MAE 301 with C or better OR Visiting University Student |
| AEE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-4 | | |
| AEE | 415 | Vibration Analysis | Free and forced response of single and multiple degree of freedom systems, continuous systems; applications in mechanical and aerospace systems numerical methods. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; MAE 213 with C or better; MAE 318 with C or better; MAE 384 with C or better; Credit is allowed for only AEE 415 or MAE 514 OR Visiting University Student |
| AEE | 426 | Design of Aerospace Structures | Flight vehicle loads, design of semimonocoque structures, local buckling and crippling, fatigue, aerospace materials, composites, joints, and finite element applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Aerospace Engineering BSE major; AEE 325 with C or better; Credit is allowed for only AEE 426 or MAE 526 |
| AEE | 445 | Fundamentals of Spacecraft Design | Spacecraft subsystems. Systems engineering, space mission design, space environment. Cost analysis. Risk and reliability analysis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Aerospace Engr (Astronautics) BSE major; AEE 325 w/ C or better; AEE 462 w/C or better; MAE 214 w/ C or better; MAE 318 w/ C or better; Pre- or corequisite(s): AEE 465 w/ C or better if completed; EEE 350 w/ C or better if completed |
| AEE | 462 | Space Vehicle Dynamics and Control | Attitude dynamics and control, orbital mechanics, orbital transfer/rendezvous, spacecraft control systems design. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; MAE 301 with C or better; MAE 318 with C or better |
| AEE | 463 | Aircraft Propulsion | Fundamentals of gas-turbine engines. Analysis and design of components. Alternative aircraft propulsion systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; AEE 362 with C or better; MAE 384 with C or better; Credit is allowed for only AEE 463 or MAE 563 OR Visiting University Student |

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| AEE | 465 | Rocket Propulsion | Rocket flight performance; nozzle design; combustion of liquid and solid propellants; component design; advanced propulsion systems; interplanetary missions; testing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Aerospace or Mechanical Engineering major; AEE 362 with C or better; AEE 462 with C or better; Credit is allowed for only AEE 465 or MAE 565 OR Visiting University Student |
| AEE | 466 | Rotary Wing Aerodynamics and Performance | Introduces helicopter and propeller analysis techniques. Momentum and blade-element, helicopter trim. Hover and forward flight. Ground effect, autorotation and compressibility effects. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering major; AEE 360 with C or better; Credit is allowed for only AEE 466 or MAE 566 |
| AEE | 468 | Aircraft Systems Design | Group projects related to aircraft vehicle design, working from mission definition and continuing through preliminary design. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Aerospace Engineering (Aeronautics) BSE major; AEE 313 with C or better; AEE 325 with C or better; AEE 344 with C or better; Pre- or corequisite(s): AEE 463 with C or better if completed |
| AEE | 471 | Computational Fluid Dynamics | Numerical solutions for selected problems in fluid mechanics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering major; AEE 360 or MEE 340 with C or better; MAE 384 with C or better; Credit is allowed for only AEE 471 or MAE 561 |
| AEE | 478 | Fundamentals of Autonomous Aircraft Systems | First of a two-semester capstone sequence. Introduces autonomous aircraft performance and operations, aircraft performance prediction, ground control and support, sensors, communications and telemetry, aerospace ethics and law, design methods. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Aerospace Engineering (Autonomous Vehicle Systems) BSE major; AEE 313 with C or better; AEE 325 with C or better; AEE 360 with C or better; AEE 362 with C or better; MAE 214 with C or better |
| AEE | 479 | Design of Autonomous Aircraft Systems | Second of a two-semester capstone sequence. Autonomous aircraft design project. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): MAE 400 with C or better; AEE 478 with C or better |
| AEE | 480 | Space Systems Design | Group projects related to space systems design, working from mission definition and continuing through conceptual design. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Aerospace Engineering (Aeronautics) BSE major; AEE 445 with C or better; AEE 465 (or MAE 465) with C or better; EEE 350 with C or better; MAE 214 with C or better |
| AEP | 501 | Practical and Professional Ethics | Acquaints students with practical and professional ethics. Assumes no prior experience in ethics, and provides practicable knowledge as well as theoretical knowledge. The first in a series of courses for the MA program in Applied Ethics and the Professions, the course is primarily intended to prepare students in that degree program for their subsequent courses. However, it has been designed to be useful to all graduate students who are interested in learning about practical and professional ethics. The beginning of the course is devoted to the more general subjects of practical ("everyday") ethics and professional ethics, while the remaining weeks are spent focusing on the ethical issues that occur in the context of specific professions, with particular emphasis given to those professions that seem most relevant to the aspirations and interests of the students enrolled in the course. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): graduate student or Barrett Honors student |
| AEP | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AEP | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AEP | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AEP | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRA | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AEP | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Global Futures | School for the Future of Innovation in Society | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------|-------|-----------------|---|
| AES | 101 | Heritage and Values I | Survey course introduces students and cadets to the Department of the Air Force (DAF) and the Air Force Reserve Officer Training Corps (AFROTC). Allows students and cadets to examine general aspects of the DAF, leadership fundamentals, service benefits and opportunities for officers. Also lays the foundation for becoming an Airman or Guardian by outlining our heritage and values. As a foundational course, provides a historical perspective such as lessons on war and U.S. military, DAF operations, principles of war and air power. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Aerospace Studies | 2 | | |
| AES | 102 | Leadership Laboratory | Dynamic and integrated grouping of leadership developmental activities designed to meet the needs and expectations of prospective Air Force second lieutenants and complement the AFROTC academic program. Emphasizes common Air Force customs and courtesies, drill and ceremonies, health and physical fitness through group participation. | N | LAB | Y | YGB | College of Liberal Arts and Sciences | Department of Aerospace Studies | 0 | | Corequisite(s): AES 101 OR Visiting University Student |
| AES | 103 | Heritage and Values II | Survey course continues introducing students to the Department of the Air Force (DAF), providing an overview of the basic characteristics, missions, communications and organization of the Air and Space Forces. Topics covered: What is War?, DAF Social Media, The Evolution of the Air Force, Principles of War and Tenets of Airpower, Department of the Air Force, Decision Making, What the Department of the Air Force Brings to the Fight and United States Air Force MAJCOMs. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Aerospace Studies | 2 | | |
| AES | 104 | Leadership Laboratory | Dynamic and integrated grouping of leadership developmental activities designed to meet the needs and expectations of prospective Air Force second lieutenants and complement the AFROTC academic program. Emphasizes learning the environments and dynamics of an Air Force officer. | N | LAB | Y | YGB | College of Liberal Arts and Sciences | Department of Aerospace Studies | 0 | | Co-requisite: AES 103 |
| AES | 201 | Team and Leadership Fundamentals I | Survey course provides a fundamental understanding of both leadership and team building. Students and cadets learn that there are many layers to leadership, including aspects that do not always come to mind. Such things include listening, understanding themselves, being a good follower and efficiently problem solving. Students and cadets apply these leadership perspectives when completing team building activities and discussing things like conflict management. Students and cadets should demonstrate basic verbal and written communication skills. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Aerospace Studies | 2 | | |
| AES | 202 | Leadership Laboratory | Dynamic and integrated grouping of leadership developmental activities designed to meet the needs and expectations of prospective Air Force second lieutenants and complement the AFROTC academic program. Provides application of advanced drill and ceremonies; issuing commands; knowing flag etiquette; and developing, directing, and evaluating skills to lead others. | N | LAB | Y | YGB | College of Liberal Arts and Sciences | Department of Aerospace Studies | 0 | | Corequisite(s): AES 201 OR Visiting University Student |
| AES | 203 | Team and Leadership Fundamentals II | Survey course continues providing a fundamental understanding of both leadership and team building. Students and cadets learn that there are many layers to leadership, including aspects that are not always apparent. Such things include listening, understanding themselves, being a good follower and efficiently problem solving. Students and cadets apply these leadership perspectives when completing team-building activities and discussing things like conflict management. Students and cadets should demonstrate basic verbal and written communication skills. Covers the following topics: team building, human relations, conflict management, stress management and resiliency, financial future, leadership capstone and communication skills. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Aerospace Studies | 2 | | |
| AES | 204 | Leadership Lab | Dynamic and integrated grouping of leadership developmental activities designed to meet the needs and expectations of prospective Air Force second lieutenants and complement the AFROTC academic program. Emphasizes preparation for field training. | N | LAB | Y | YGB | College of Liberal Arts and Sciences | Department of Aerospace Studies | 0 | | Co-requisite: AES 203 |
| AES | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Aerospace Studies | 1-4 | | |
| AES | 301 | Leading People and Effective Communication I | Survey course studies leadership, management fundamentals, professional knowledge and communication skills required of an Air Force junior officer. Uses lecture, text, case studies and class discussion to examine all aspects of leadership including counseling, mentoring, empowering, problem solving, accountability and authority. Students and cadets develop upon basic written and oral communications skills primarily through written assignments and oral presentations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Aerospace Studies | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------|-------|-----------------|--|
| AES | 302 | Leadership Laboratory | Dynamic and integrated grouping of leadership developmental activities designed to meet the needs and expectations of prospective Air Force second lieutenants and complement the AFROTC academic program. Advanced leadership experiences applying leadership and management principles to motivate and enhance the performance of other cadets. | N | LAB | Y | YGB | College of Liberal Arts and Sciences | Department of Aerospace Studies | 0 | | Corequisite(s): AES 301 OR Visiting University Student |
| AES | 303 | Leading People and Effective Communication II | Survey course studies leadership, management fundamentals, professional knowledge and communication skills required of an Air Force junior officer. Uses lecture, text, case studies and class discussion to examine all aspects of leadership including counseling, mentoring, empowering, problem solving, accountability and authority. Students and cadets develop upon basic written and oral communications skills primarily through written assignments and oral presentations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Aerospace Studies | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| AES | 304 | Leadership Laboratory | Dynamic and integrated grouping of leadership developmental activities designed to meet the needs and expectations of prospective Air Force second lieutenants and complement the AFROTC academic program. Emphasizes planning the military activities of the cadet corps and applying advanced leadership methods. | N | LAB | Y | YGB | College of Liberal Arts and Sciences | Department of Aerospace Studies | 0 | | Co-requisite: AES 303 |
| AES | 401 | National Security, Leadership Responsibilities and Commissioning Preparation I | Addresses the basic elements of national security policy and process. Cadets and students comprehend the air and space power operations as well as understand selected roles of the military in society and current domestic and international issues affecting the military profession. Students and cadets develop upon basic written and oral communications skills primarily through written assignments and oral presentations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Aerospace Studies | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| AES | 402 | Leadership Laboratory | Dynamic and integrated grouping of leadership developmental activities designed to meet the needs and expectations of prospective Air Force second lieutenants and complement the AFROTC academic program. Advanced leadership experience demonstrating learned skills in planning and controlling the military activities of the corps. | N | LAB | Y | GNA | College of Liberal Arts and Sciences | Department of Aerospace Studies | 0 | | Corequisite(s): AES 401 OR Visiting University Student |
| AES | 403 | National Security, Leadership Responsibilities and Commissioning Preparation II | Addresses the basic elements of national security policy and process. Cadets and students comprehend the air and space power operations as well as understand selected roles of the military in society and current domestic and international issues affecting the military profession. Students and cadets develop upon basic written and oral communications skills primarily through written assignments and oral presentations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Aerospace Studies | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| AES | 404 | Leadership Lab | Continuation of AES 402 with emphasis on preparation for transition from civilian to military life. | N | LAB | N | OPT | College of Liberal Arts and Sciences | Department of Aerospace Studies | 0 | | |
| AET | 210 | Measurements and Testing | Measurement systems, components, system response, and the characteristics of experimental data. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): PHY 112; Pre/Corequisite(s): MAT 266 |
| AET | 215 | Aircraft Systems | Principles and design features of aircraft structures, systems, and materials. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 2 | | |
| AET | 300 | Aircraft Design I | Applied aerodynamics, standard atmosphere, speed measurement, infinite and finite wings, airplane performance. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: AET 215; MET 211, ECE 210, or MAE 212 |
| AET | 415 | Gas Dynamics and Propulsion | Introduces compressible flow, internal and external flow, and aerothermodynamic analysis of propulsion systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): AET 300; MET 340 or MAE 340 or Fulton Schools of Engineering graduate student |
| AET | 417 | Aerospace Structures | Analysis and design of aircraft and aerospace structures. Shear flow. Semimonocoque structures. Effects of dynamic loading. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): MET 213, MET 313 (or ECE 313); MET 212, AET 312 (or ECE 312); AET 300 |
| AET | 420 | Experimental Aerodynamics and Wind Tunnels | Experimental applied aerodynamics related to aeronautical and mechanical design. Wind tunnel design and testing. Low speed flows. | N | LAB | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1 | | Pre-requisites: AET 300; MET 340 |
| AET | 524 | Application of Heat Transfer | Energy conservation, steady-state and transient conduction, convection transfer, free and forced convection Reynolds analogy, blackbody and environmental radiation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 432 or MAE 340; Credit is allowed for only AET 524 or AET 432 |
| AET | 560 | Numerical Methods in Engineering Technology | Analyzes problems in physical sciences, models physical problems, perturbation techniques, curvefitting, data analysis, numerical solutions, ordinary and partial differential equations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Fulton Engineering students; Senior or higher academic level |
| AFR | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| AFR | 200 | Introduction to Africana Studies | Introduces the study of African and African-descended peoples; theory, themes, and perspectives. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G & H | |
| AFR | 202 | Immigration and Ethnic Relations in the U.S. | The ethnic and social consequences of international migration with a focus on the United States. Examines the impact of immigration on both American society and immigrant ethnic minorities over time. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Credit is allowed for only AFR 202 (or AFS 202) or ASB 202 |
| AFR | 210 | Introduction to African American Studies | Examines the political, historical, and cultural origins of African American studies as an academic discipline. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | C | |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------|-------|-----------------|--|
| AFR | 212 | Introduction to Ethnic Studies in the U.S. | Covers diversity of experiences and relations among racial and ethnic groups in the United States. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | C | Credit is allowed for only AFR 212 or APA 210 or JUS 210 or TCL 210 OR Visiting University Student |
| AFR | 215 | Bob Marley and Reggae: Lyrics of Resistance | Studies political content, influence and impact of Caribbean popular music, in particular the music of Bob Marley. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & G | Credit is allowed for only AFR 215 or JUS 215 |
| AFR | 225 | Black Movements in America | Survey course on the historical and political development of mass movements by African Americans and Black resistance in the United States. Traces nearly 400 years of Black resistance against injustices and mass struggles for equality and liberation. Topics include the anti-slavery movement, anti-lynching campaign, the Civil Rights movement, the Black Power movement, prison abolitionism, the reproductive justice movement, and movements for economic justice. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Credit is allowed for only AFR 225 or JUS 200 (Black Movements in America) |
| AFR | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| AFR | 300 | Precolonial Africa | In-depth course study of contemporary Africa, providing thorough examination of the continent's pre-colonial history, particularly before 1900. The course will study the continent and its people, the way the history of the continent has been interpreted by non-Africans, how the continent's anatomy has affected historical development, and the methodology and interdisciplinary scholarship in the study of Africa | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G & H | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours; Credit is allowed for only AFR 300 (or AFH 300) or ASB 310 |
| AFR | 301 | Race and Racism in Africa/African Diaspora | Advanced study of the concepts of race and racism and how they manifest themselves in the USA, the Caribbean, and Africa. Examines the construction of race, racism, and race relations in Africa and the African Diaspora as well as practices to challenge ethnicity, racism, and racial oppression. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours; Credit is allowed for only AFR 301 (or AFS 301) or JUS 300 |
| AFR | 302 | History of Black Women in America | Advanced examination of the challenges that black women have faced historically in America and how they have responded to those challenges socially, politically, economically, and culturally. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & H | Prerequisite(s): AFR 200, WST 100, WST 300, or minimum 45 hours; Credit is allowed for only AFR 302 or HST 335 or WST 302 OR Visiting University Student |
| AFR | 304 | Islands of Globalization: Caribbean Politics and Political Economy | In-depth study of the complexities of contemporary Caribbean politics and political economy. Examines the countries that constitute the Caribbean community and common market and the Caribbean Latin American countries such as Cuba and the Dominican Republic and analyzes the historical evolution of the region's political and economic systems and the impact of globalization. Traces the development of the region's political economy from the colonial period to the present; looks at the impact of globalization on contemporary politics, economics, and culture and the region's response. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G & H | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours; Credit is allowed for only AFR 304 (or AFS 304) or JUS 304 |
| AFR | 305 | The Global History of the Trans-Atlantic Slave Trade | Reading- and writing-intensive course that employs critical thought to look at the origins, development, abolition, and impact of Atlantic slave trade as a global economic enterprise and great human tragedy; slavery experience. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & H | Prerequisite(s): AFR 200 or HST 109 or minimum 45 hours; Credit is allowed for only AFR 305 (or AFH 305) or HST 326 OR Visiting University Student |
| AFR | 317 | Genes, Race and Society | An in-depth examination of the biological and social construction of race in western societies. Special emphasis is placed on examining these constructs from a historical perspective. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & H & C | Prerequisite(s): AFR 200 or minimum 30 hours; Credit is allowed for only AFR 317 or JUS 317 |
| AFR | 318 | African and African Diaspora Women Writers | Intersection of race, class, gender, and ethnicity in black women's fiction from the United States, the Caribbean, and Africa. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & G | Prerequisite(s): AFR 200 or WST 100 or WST 300 or minimum 45 hours |
| AFR | 320 | Africa: Politics, Environment, and Development | An in-depth analysis of the African experience as a way to understand the consequences of human environment relationships, wealth and power differentials, and individual and global citizenship. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours |
| AFR | 325 | Music as Political Discourse: Reggae, Calypso, and Hip Hop | This is a reading and writing intensive course that employs critical thought that explores African Diaspora popular music as a medium of social and political expression. It examines the political content of Reggae, Calypso and Hip Hop and their role in triggering and influencing popular discourse in the Caribbean and the USA. Course material will analyze the interrelationships among the musical forms and their role in fostering Black and Pan African Cultural Identity, Political Consciousness and World Peace. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & H & G | Prerequisite(s): AFR 200 (or AFS 200); minimum 45 hours; Credit is allowed for only AFR 325 (or AFS 325) or JUS 326 |
| AFR | 330 | Survey of African American Politics | In-depth study of the dynamics of the African American political experience. Examines the historical development of African American politics from the anti-slavery era to the Civil Rights breakthrough of the 1960's through the present political climate. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & H | Prerequisite(s): AFR 200 or minimum 45 hours; Credit is allowed for only AFR 330 or JUS 330 OR Visiting University Student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------|-------|-----------------|--|
| AFR | 335 | Historical Studies in Race, Crime, and the Law | Studies the historical relationship between the criminal justice system in the United States and a segment of society that has traditionally faced official and unofficial discrimination: American racial minorities. Focuses on the experiences of Mexican Americans and Africans Americans with the criminal justice system. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AFR 335 or HST 323 or TCL 335 OR Visiting University Student |
| AFR | 336 | African Art | Anthropological perspective of ancient visual art traditions of Africa. In-depth studies focus on several important themes and case studies that are pivotal to the understanding of the rich and diverse artistic heritage of the African continent. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & G | Prerequisite(s): AFR 200 (or AFS 200) or ASB 102 or minimum 45 hours; Credit is allowed for only AFR 336 (or AFH 336) or ASB 336 |
| AFR | 340 | The Making of Modern Africa | Advanced study of the events and processes leading up to the colonization of Africa and the subsequent changes in African societies under colonial rule and independence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G & H | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours OR Visiting University Student |
| AFR | 345 | Peoples and Cultures of the Caribbean | Traces the socio-political history of the wider Caribbean from the 15th century to the present. Focuses on the following broad areas: the early years of European settlement and colonization; the construction of slavery and plantation society; and the transition from colonization to political independence. Critically examines the origins and building blocks of Caribbean society as well as analyzes the linkages between the region and the rest of the African diaspora. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G & H | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours; Credit is allowed for only AFR 345 (or AFS 345) or JUS 345 |
| AFR | 350 | Inequality and Diversity in Education | Advanced exploration of various dimensions of diversity in relation to educational systems and outcomes. Through sociological and psychological research, case studies and films, students examine how educational inequality is created and reproduced through individual actions and institutional constraints. Also considers the connection between schooling and human rights and ways in which educational inequality may be addressed. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | L & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; AFR 212, APA 200, APA 210, CDE 232, JUS 210, TCL 210, or minimum 24 hours; Credit is allowed for only AFR 350, APA 350, CDE 350, JUS 365, SOC 350, or TCL 360 OR Visiting University Student |
| AFR | 351 | Gender and Hip Hop | Interrogates the history and global proliferation of hip hop as a set of cultural and consumer practices including music, dance, art, fashion, language and entrepreneurialism. Uses an intersectional approach to unpack hip hop's contributions to larger social discourses around race, gender, gender expression, sexuality, sexual identity and sexual expression, and youth culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AFR 351 or AFR 394 (Gender and Hip Hop) or JUS 351 or JUS 394 (Gender and Hip Hop) or WST 351 or WST 394 (Gender and Hip Hop) OR Visiting University Student |
| AFR | 352 | Borders, Prisons and Suburbs | Explores how the relationship between race and space has been important to the development of broad patterns of social inequality in the United States. Through a variety of readings, films and other material, examines how ideas of race and space have been important to the making and maintenance of national boundaries, citizenship, regional histories and spatial typologies such as border, ghetto, suburb and prison. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): minimum 24 hours; Credit is allowed for only AFR 352 (or AFS 352) or APA 352 or JUS 353 or TCL 353 |
| AFR | 353 | African American Literature: Beginnings through the Harlem Renaissance | Focuses on the history of African American literature through the Harlem Renaissance, as exemplified in selected slave narratives, poems, and fiction. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AFR 353 (or AFH 353) or AMS 353 or ENG 353 or ETH 353 |
| AFR | 354 | African American Literature: Harlem Renaissance to the Present | Examines the literary productions of African Americans from the Harlem Renaissance (about 1920) to the present focusing on fiction, poetry, drama, and essays. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AFR 354 (or AFH 354) or AMS 354 or ENG 354 or ETH 354 OR Visiting University Student |
| AFR | 355 | Democracy and Civil Society in Africa | Advanced examination of contending perspectives on the state and civil society of Africa. Course will specifically analyze the democratic struggles in sub-Saharan Africa. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours |
| AFR | 358 | The Yoruba and the Atlantic World | The Yoruba in the African diaspora is how Africans, separated from their home country and scattered in a new land, managed to retain their traditions and reform their identities. The slave trade led to the spreading of African culture, religion, dance, art and music from one hemisphere to another and contributed to the cultural diversity of the New World. Allows students to trace the experiences of one African cultural group throughout the cycle of the slave experience in the Americas. Utilizes different sources or approaches (e.g., anthropology, archaeology, written document, oral tradition) to provide an understanding of how the Yoruba were integrated into the Atlantic world, the transformations of Yoruba identities and culture, and the strategies for resistance employed by the Yoruba in the New World. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): minimum 30 hours; Credit is allowed for only AFR 358 or ASB 358 or AFS 394/ASB 394/HST 394/SGS 394 (Yoruba in the African Diaspora World) OR Visiting University Student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------|-------|--------------------|---|
| AFR | 360 | Black Families in the Diaspora: U.S. and Caribbean | Within a historical, cultural, social-economic, and international context, the institution of Black families begins with their lives in Africa, South America, and the Caribbean and follows the cultural continuities and adaptations impacting the structure and functioning of contemporary African America families. Theoretical models provide focus to studying voluntary and involuntary migration, family labor force involvement, gender roles, marital relations, parenting, kinship and community networks. Throughout the course attention is given to the role of social policies in shaping the well-being of Black families. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): AFR 200 or FAS 101; Credit is allowed for only AFR 360 or FAS 360 |
| AFR | 363 | African American History to 1865 | In-depth examination of African Americans' roles in American history, thought, and culture from slavery to 1865. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & H & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only AFR 363 or HST 333 OR Visiting University Student |
| AFR | 364 | African American History Since 1865 | In-depth examination of African Americans' role in American history, thought, and culture from 1865 to present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | (HU or SB) & C & H | Prerequisite(s): ENG 102 or 105 or 108 with C or better; minimum 30 hours; Credit is allowed for only AFR 364 or HST 334 OR Visiting University Student |
| AFR | 365 | Unruly Voices: Black Women and Cultural Narratives | In-depth study of African American women writers and how they (re)define female identities and engage a critical cross-cultural dialogue within the context of cultural history in the United States. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & C | Prerequisite(s): AFR 200 or minimum 45 hours; Credit is allowed for only AFR 365 or WST 364 OR Visiting University Student |
| AFR | 366 | African Archaeology: Precolonial Urban Culture | In-depth analysis of African civilization from the last 10,000 years up to 1850 via archaeological, documentary, and oral data. Places special study on the evidence relating to dynamics of civilizations in ancient Africa, their foundation, growth, and failure, which spans a period of two million years. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & H | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours; Credit is allowed for only AFR 366 (or AFS 366) or ASB 366 |
| AFR | 368 | Black Religion: Sex, Power and Eroticism | Explores sexuality and eroticism in the context of the religion, more specifically, the religion of the African Diaspora and Black religious experience in the Americas. Takes an interdisciplinary journey into the intersections of race, sexual norms and mores, and gender dynamics as it pertains to religious praxis, identity and embodied faith. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; min 24 hrs; Credit is allowed for only AFR 368 or AFR 394 (Black Religion: Sex, Power, and Eroticism) or AFS 394 (Religion:Sex,Power,Eroticism) or REL 389 or WST 394 (Religion, Sex, Power, Eroticism) |
| AFR | 370 | Family Ethnic and Cultural Diversity | Integrative approach to understanding historical and current issues related to the structure and internal dynamics of diverse American families. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Credit is allowed for only AFR 370 or FAS 370 |
| AFR | 372 | Islam and Islamic Societies in Africa: Social and Political History | An in-depth study of the fundamental principles of Islam. Course will examine various forms of development of Muslim societies and institutions in Africa through time. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | G | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours; Credit is allowed for only AFR 372 (or AFS 372) or REL 362 or SGS 366 or AFS 394/REL 394/SGS 394 (Islam and Islamic Societies in Africa: Social and Political History) |
| AFR | 373 | Islam and World Affairs | Advanced examination of complex trends to construct the roles of Islam as a belief, its institutions, leaders and ordinary believers in contemporary world affairs. Studies different developments, including the rise of (political Islam) fundamentalism, to subsequent changes in the Muslim world, challenges Muslims face, and domestic and international conflicts. Challenges students to reconceptualize and broaden their understanding of the powerful presence of religion in this era of globalization. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | G | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours. Credit is allowed for only AFR 373 (or AFS 373) or REL 363 |
| AFR | 375 | Race, Gender and Sport | Advanced and interdisciplinary examination of the social concepts of race and gender and their economic impact on sports in America. In-depth studies will focus on the role of regulatory agencies, the impact of these regulatory agencies have on sport as well as multiple legal issues surrounding athletics | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): AFR 200 or minimum 45 hours OR Visiting University Student |
| AFR | 383 | Blacks in Science, Medicine and Public Health | In-depth study of Blacks who have made significant contributions to science and medicine in the U.S. Begins with a critical examination of ancient African scientific contributions. Highlights specific individuals, analyzing their life's path to their respective careers. Also discusses the role of racism and discrimination and their efforts to overcome these. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours. Credit is allowed for only AFR 383 (or AFS 383) or AFS 394 (Blacks in Science, Medicine, and Public Health) |
| AFR | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| AFR | 418 | Women of Color in Film | An in-depth analysis of the history and representations of women of color in film and the film industry through the intersections of gender, race, sexuality, class, and nationalism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & C | Prerequisite(s): WST 100, WST 300, or minimum 45 hours; Credit is allowed for only AFR 418 or WST 420 OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------|-------|-----------------|--|
| AFR | 420 | Race Ethnicity and Politics in the African Diaspora | Reading and writing intensive course that employs critical thought to look at the competition for political power among different ethnic groups in Africa, the Caribbean and the USA and the implications for political stability, economic development, democratic governance, democratization, nationhood and the empowerment of African and African Diasporan populations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G | Prerequisite(s): AFR 200 (or AFS 200) and minimum junior standing OR minimum 9 upper-division hours in any classes with the following prefix: AFH, AFS, AFR, APA, JUS, POS, SGS, SOC, WST; Credit is allowed for only AFR 420 or JUS 421 |
| AFR | 428 | Critical Race Theory | In-depth analysis of the ways in which race has been historically utilized, constructed, and contested in American civil society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only AFR 428, APA 428, JUS 428 or SST 428 OR Visiting University Student |
| AFR | 459 | Studies in African American/Caribbean Literatures | Studies in African American or Caribbean literatures according to genre, period, theory, or selected authors. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or HU) & G | Prerequisite(s) with C or better: ENG 101, 105, or 107; ENG 200; one ENG 200- or 300-level literature course OR ENG 101, 105, or 107; minimum 45 hours; Credit is allowed for only AFR 459 or ENG 459 OR Visiting University Student |
| AFR | 460 | Race, Gender, and Media | Readings seminar designed to give students a probing examination of the interface between AHANA Americans and the mass media in the United States. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | C | Prerequisite(s): minimum 2.00 GPA; Credit is allowed for only AFR 460 or MCO 460 OR Visiting University Student |
| AFR | 465 | Harlem Renaissance: a Cultural History: 1877-1945 | Socio-political, historical contexts and worldwide ramifications of the cultural productions (theater, music, visual arts, and literature) of the Harlem Renaissance. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | |
| AFR | 466 | Peoples and Cultures of Africa | An in-depth study of the diversity of African people and culture from an interdisciplinary perspective. Emphasizes social, political, and economic relations, as well as inequality, art, gender roles, slavery, and slave trade. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G | Prerequisite(s): AFR 200 or minimum 45 hours; Credit is allowed for only AFR 466 or ASB 466 OR Visiting University Student |
| AFR | 470 | Women's International Human Rights | In-depth study of the core themes of a global movement for women's international human rights. Analyzes the historical evolution of the development of international human rights and women's rights within the United Nations and regional human rights systems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): WST 100, WST 300, or minimum 45 hours; Credit is allowed for only AFR 470 or AFR 598 (Women's International Human Rights) or WST 471 OR Visiting University Student |
| AFR | 480 | Different Voices Within Contemporary Islamic Discourse | Examines modern Muslim discourse on major contemporary issues such as Shari'a, Jihad, secularism, gender, civil rights, democracy, extremism, religious violence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102 or 105 or 108 with C or better; Credit is allowed for only AFR 480 (or AFS 480) or REL 461 or SGS 442 |
| AFR | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| AFR | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-6 | | Prerequisite(s): Barrett Honors student |
| AFR | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| AFR | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| AFR | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; 9 upper-division hours OR AFR 200; ENG 101, 105, or 107 with C or better; minimum junior standing |
| AFR | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-3 | | |
| AFR | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AFR | 502 | Africa and African Diaspora World | Combines lecture, critical discussion of readings, guest speakers, student presentations and individual research projects. Drawing on various sources (written, oral, archaeology), explores themes linking peoples of Africa and African heritage in Africa, the United States, the West Indies and Latin America, and Europe, the processes of cultural transformations in Africa and the evolution of African cultures and survival in the New World. Explores topics including transatlantic slave trade, comparative slavery, African-American and Latin America emigration to Africa, African immigration to the New World and the Pan-African movement. Emphasizes links between blacks in Africa, the West Indies and the United States, the cultural and political influences they had on each other and the legacy that remains in these areas today. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AFR 500 (Africa and the Diaspora World) or AFR 502 |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------|-------|-----------------|---|
| AFR | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AFR | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AFR | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AFR | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AFR | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AFR | 600 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 100 | Introduction to Agribusiness | Overview of agribusiness industries and career opportunities. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | |
| AGB | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 1-3 | | |
| AGB | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 1-4 | | |
| AGB | 215 | Fundamentals of Sustainable Food Systems | Introductory food course provides students with a panoramic understanding of American agriculture. Explores American-grown food through history, policy, society, business innovation, and environmental sustainability. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | L | Prerequisite(s): ENG 101, 102, 105, 107, or 108 with C or better; Credit is allowed for only AGB 215 or SFS 215 or SOS 215 OR Visiting University Student |
| AGB | 216 | The Sustainable Plate | Introductory food course explores agriculture by subsectors, such as livestock, grains and fruits and vegetables. Students learn how dietary choices affect health, the environment, and the people who produce and process food. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): ENG 101, 102, 105, 107, or 108 with C or better; Credit is allowed for only AGB 216 or SFS 216 or SOS 216 OR Visiting University Student |
| AGB | 250 | Economics of Resource Allocation: Food and Agriculture | Beginning class that focuses on the specific microeconomic principles that are needed to understand the food industry, agricultural production, food safety and production of renewable natural resources. Focuses extensively on the detailed information that students need to understand the nuances of specific issues associated with the food, agriculture and renewable natural resources, including a keen understanding of monopolistic competition, the economic rationale for governmental regulation, effects of property rights on renewable resources, agricultural price supports, prospect theory and behavioral economics. | N | LEC | N | GNA | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Credit is allowed for only AGB 250 or AGB 294 (Economics of Resource Allocation) OR Visiting University Student |
| AGB | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 1-4 | | |
| AGB | 302 | International Management and Agribusiness | Management and agribusiness issues in the transition of developing countries from subsistence to global operations and competition. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | G | Prerequisite(s): minimum 56 hours OR Visiting University Student |
| AGB | 321 | Agribusiness Marketing | Focuses on food and consumer products marketing at an intermediate level. Covers strategic concepts such as situational analysis, planning and objectives, and target marketing and positioning. Illustrates both the theory and application of strategic decision making through case analysis. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): minimum 56 hours OR Visiting University Student |
| AGB | 333 | Agribusiness Finance | Examines the markets, institutions and current issues important to financing firms in the food and agribusiness sector. Topics include cost of capital, specialized lending institutions (farm credit system), credit decisions, vendor financing, private equity, institutional ownership, cooperatives and risk management. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): minimum 56 hours |
| AGB | 340 | Food Processing | Introduces processed food quality assurance, statistical sampling, and inspection procedures. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | |
| AGB | 360 | Agribusiness Statistics | Statistical methods with applications in agribusiness and resource management. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | CS | |
| AGB | 366 | Agribusiness Production Technologies | Examines methods for managing diverse crop and livestock enterprises with an emphasis on growth, development, marketing, and loss prevention. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | |
| AGB | 367 | Agribusiness Processing Technologies | Biotechnology and other methods used in the production, processing, and distribution of food. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------|---------------------------------|-------|-----------------|---|
| AGB | 370 | Food Retailing Strategy Development and Case Competition | Students develop an action plan to address a real-world problem facing food retailers. The National Grocers Association (NGA) provides the case-study question. The NGA is a trade organization representing independent food retailers, as well as wholesalers and suppliers that support these businesses. The course culminates with the student team presenting their recommendations to the case-study question at the NGA's Collegiate Case-Study Competition. Students develop skills in market research, strategy development, communication and presentation. Cash prizes are awarded to the finalist teams. Prospective students are encouraged to contact the professor to learn the case question for the current term. | N | PRO | Y | GNA | W. P. Carey School of Business | Morrison School of Agribusiness | 1-3 | | Prerequisite(s): MKT 300 or 390 with C or better; Credit is allowed for only AGB 370 or AGB 394 (Current Topics in Food Retailing) OR Visiting University Student |
| AGB | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 1-4 | | |
| AGB | 410 | Agribusiness Management | Business operations and human resource management principles applied to real-world problems faced by firms across the food and agribusiness value chain, with emphasis given to the formulation, implementation and evaluation of competitive strategies. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): minimum 56 hours OR Visiting University Student |
| AGB | 414 | Food and Agribusiness Policy Issues | Analysis of agribusiness firm decisions in the ecological, economic, social, and political environments. Special emphasis on ethical issues surrounding food production and consumption. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 56 hours OR Visiting University Student |
| AGB | 420 | Food Advertising and Promotion | Focuses on advertising and promotional strategies in the food industry, with emphasis on consumer packaged goods. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): minimum 56 hours |
| AGB | 425 | Food Supply Networks | Information, methods and resources used in the management of global food supply networks. Emphasizes systems of food marketing and distribution from the farm to the consumer. | N | LEC | N | GNA | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): minimum 56 hours OR Visiting University Student |
| AGB | 429 | Marketing Communications in the Food and Agribusiness Industries | Focuses on written and oral communication in the food and agribusiness industries. Through real-world projects and collegiate marketing competitions, students address current issues in the food and agribusiness industries. Students learn how to effectively communicate strategic visions. Also entails research in the food and agribusiness industries to support strategic plans. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): AGB 321 or MKT 300, 302, 303, or 390 or minimum 56 hours |
| AGB | 431 | Agribusiness Financial Management | Comprehensive treatment of topics in financial management of agribusiness: capital structure, dividend policy, asset valuation, mergers and acquisitions, risk management. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): AGB 321, FIN 300 or TMC 320 |
| AGB | 433 | Agribusiness Financial Markets | Role and function of agribusiness in U.S. financial system. Topics include rural banking, farm credit system, monetary policy, and federal reserve. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): AGB 333 or FIN 300 |
| AGB | 435 | Commodity Futures and Options Markets | Provides an understanding of how to use futures and options markets in a risk management and pricing context, especially as it pertains to the marketing and procurement of agricultural commodities by grain and livestock merchandisers, food manufacturers, and producers/distributors/consumers of natural resources. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): minimum 56 hours OR Visiting University Student |
| AGB | 440 | Food Safety | Control, prevention, and prediction of microbial and chemical food-borne diseases. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | |
| AGB | 445 | Food Retailing | Critical examination of trends, problems and management functions of food retail managers across various retail institutions. Emphasizes the biological nature of food products and the dietary preferences of consumers. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): AGB 321 or MKT 300 or MKT 302 or MKT 303 or MKT 390 OR Visiting University Student |
| AGB | 452 | Global Food and Agricultural Trade | Applies international trade theory to analyze the effects of government policies and trade agreements on the global food and agribusiness sector. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): minimum 45 hours |
| AGB | 456 | Food Product Innovation and Development | The food product development process and how it interfaces with food technology and packaging concepts. Emphasizes the team approach, which is prevalent in the food industry. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): minimum 56 hours OR Visiting University Student |
| AGB | 481 | Strategic Pricing in Food Markets | By applying the basic concepts of microeconomics to real-world data, this course allows the student to not only gain a book-oriented understanding of how businesses in the food industry behave, but practical, hands-on experience that lasts far beyond the classroom. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): minimum 56 hours |
| AGB | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Morrison School of Agribusiness | 1-12 | | |
| AGB | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | W. P. Carey School of Business | Morrison School of Agribusiness | 1-6 | | Prerequisite(s): Barrett Honors student |
| AGB | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | W. P. Carey School of Business | Morrison School of Agribusiness | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |

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| AGB | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 1-4 | | |
| AGB | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 1-7 | | |
| AGB | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Morrison School of Agribusiness | 1-3 | | |
| AGB | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 1-12 | | |
| AGB | 511 | Advanced Agribusiness Management | Analysis of organization behavior, change, and resource requirements within agribusiness systems. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 514 | Advanced Agribusiness Analysis | Vertical integration and differentiation in food and agricultural industries. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 528 | Advanced Agribusiness Marketing | Theory and analysis of marketing strategy related to food and fiber products. Covers concepts of strategic market planning (e.g., segmenting, targeting and positioning), with application of these concepts at an advanced level. Also examines the broad social, cultural, political and economic issues that impact marketing. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 529 | Advanced Agribusiness Marketing Channels | Analyzes agribusiness market channel systems. Formulation of marketing strategies. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 532 | Advanced Agribusiness Finance | Financial management of agribusiness firms; agribusiness financial analysis, investment analysis, agricultural risk management, and introduction to agricultural financial intermediaries. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 535 | Commodity Analysis | Analysis of commodity markets. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 552 | International Agricultural Policy | Uses international trade theory to analyze the effects of government policies, trade agreements, and exchange rates on agribusiness. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 554 | Advanced International Trade | Advanced international practices in trading of agribusiness, technology, and resource products and services. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 560 | Advanced Agribusiness Management Systems | Development and use of decision support systems for agribusiness management decision making. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 561 | Applied Econometrics | Uses model building, hypothesis testing, and empirical analysis in solving agribusiness problems. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 570 | Managerial Economics for Agribusiness | Concepts in micro- and macroeconomics applied to agribusiness management environments: price formation, market structure, information economics, fiscal and monetary policy. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Morrison School of Agribusiness | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 589 | Agribusiness Capstone | Strategic management of organizations focusing on developing value-creating strategies in dynamic environments. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Morrison School of Agribusiness | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Morrison School of Agribusiness | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Morrison School of Agribusiness | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | W. P. Carey School of Business | Morrison School of Agribusiness | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------|-------|-----------------|---|
| AGB | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | W. P. Carey School of Business | Morrison School of Agribusiness | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 600 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 701 | Advanced Agribusiness I: Advanced Agribusiness Analysis | Advanced topics include benefit-cost analysis, input-output analysis, consumer demand, agricultural policy, international trade, welfare economics and applied mathematical economics. | N | LEL | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 702 | Advanced Agribusiness II: Applied Econometrics | Econometric analysis techniques applied to multinomial and count models, welfare economics, demand models and maximum likelihood estimation using STATA. | N | LEL | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 703 | Advanced Agribusiness III: Advanced Empirical Models | Microeconomics applied to empirical models involving agribusiness including consumer and producer theory, empirical industrial organization, strategic choice and price behavior. | N | SEM | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Morrison School of Agribusiness | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | W. P. Carey School of Business | Morrison School of Agribusiness | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | RSC | Y | Z3 | W. P. Carey School of Business | Morrison School of Agribusiness | 1 | | |
| AGB | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | W. P. Carey School of Business | Morrison School of Agribusiness | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 101 | Beginning Navajo I | Designed for non-Navajo speakers to develop basic skills in speaking, reading and writing in the Navajo language. Specifically focuses on pronunciation, sounds, basic vocabulary and simple conversation. First of four levels of the Navajo language. | N | LEL | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 4 | | Credit is allowed for only AIS 101 or AIS 194 (Beginning Navajo I) or SLC 103 or SLC 194 (Beginning Navajo I) OR Visiting University Student |
| AIS | 102 | Beginning Navajo II | Designed for non-Navajo speakers to continue basic skills in speaking, reading and writing in the Navajo language. Emphasizes a continued focus on pronunciation, sounds, basic vocabulary and simple conversation. Second of four levels of the Navajo language. | N | LEL | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 4 | | Prerequisite(s): AIS 101 or SLC 103; Credit is allowed for only AIS 102 or AIS 194 (Beginning Navajo II) or SLC 104 OR Visiting University Student |
| AIS | 180 | Introduction to American Indian Studies | Introduces the study of American Indian justice issues from an interdisciplinary perspective. Primary topics include sovereignty, law, and culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | C | |
| AIS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | American Indian Studies Program | 1-4 | | |
| AIS | 201 | Intermediate Navajo I | Designed for those who have some comprehension of the Navajo language, and have a beginner's level speaking ability. Continuation of Beginning Navajo; aimed to develop skills in speaking, reading, and writing in Navajo by focusing on pronunciation, vocabulary, conversational studies, and verb conjugation. Third of four levels of the Navajo language. | N | LEL | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 4 | | Prerequisite(s): AIS 101 or SLC 103; AIS 102 or SLC 104; Credit is allowed for only AIS 201 or AIS 394 (Intermediate Navajo I) or SLC 203 OR Visiting University Student |
| AIS | 202 | Intermediate Navajo II | Designed for those who have some understanding of the Navajo language and can speak some Navajo. Continuation of previous coursework; develops skills in speaking, reading and writing in Navajo by focusing on pronunciation, vocabulary, conversational studies and verb conjugation. Fourth and final level of Navajo. | N | LEL | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 4 | | Prerequisite(s): AIS 101 or SLC 103; AIS 102 or SLC 104; AIS 201 or SLC 203; Credit is allowed for only AIS 202 or AIS 394 (Intermediate Navajo II) or SLC 204 OR Visiting University Student |
| AIS | 280 | American Indian Sovereignty and the Courts | Examines the sovereign status of American Indians and legal relationships between the tribes and the U.S. government. | N | LEC | N | OPT | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | H & C | |
| AIS | 285 | Federal Indian Policy | Examines the sovereign status of American Indians and legal relationships between the tribes and the U.S. government. | N | LEC | N | OPT | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | H & C | |
| AIS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | American Indian Studies Program | 1-4 | | |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------|-------|-----------------|---|
| AIS | 320 | American Indian Philosophies and World Views | Does it make sense to speak about American Indian intellectuals, thinkers or philosophers? Not only have Indians been thinking and thinking deeply for generations, but they have also produced a body of written works that have formed the foundation of contemporary American Indian studies. Covers some of the major figures, their works, and the ideas and opinions (many of which were controversial) that shaped their thinking. | N | LEC | N | OPT | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | HU & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; junior standing; Credit is allowed for only AIS 320 or AIS 394 (American Indian Philosophical/World Views) OR Visiting University Student |
| AIS | 360 | Issues in Urban Indian Country | In-depth examination of the historical, social, economic, and political implications of indigenous migrations to urban areas. Over 50% of Native people are living in cities. What are they doing? Why are they there? Are they still under the federal trust relationship? Evaluates the social, political, and economic structures built by American Indians living in the urban environment. | N | LEC | N | OPT | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum junior standing OR Visiting University Student |
| AIS | 365 | American Indian and Indigenous Film | Introduces and surveys contemporary American Indian and Indigenous narrative film from the rise of the first "Native blockbuster feature film" to the Native indie film "boom" of the 2000s and beyond. Begins with a baseline of the silent era in which American Indian/Native actors and filmmakers plied their craft to some acclaim, into the so-called "war paint years" of genre films, typecasting and tropes, to resistance and mold-breaking beginning in the 1970s. The course does not concern itself primarily with representations, rather it centers the creative work of Native film directors, screenwriters and actors, themselves while seeking to answer "what is an American Indian and Indigenous film?" | N | LEC | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AIS 365 or AIS 394 (American Indian & Indigenous Film) OR Visiting University Student |
| AIS | 370 | American Indian Languages and Cultures | Emphasizes understanding of Indian language families and the relationship of oral traditions to culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | C | Prerequisite(s): AIS 180 with C or better |
| AIS | 375 | Innovation for American Indian Sustainability | American Indian tribes are poised at an historic opportunity to accelerate innovation within their communities. Many tribal leaders have stated that to create true sustainability, tribes need to practice innovation and sustainable development in a manner that is a cultural match to their traditions and values. Examines topics directly associated with creating tribal economies with innovation, entrepreneurial and sustainability in an American Indian context as key factors. Consists of class lectures, guest speakers, student discussion, individual and group teamwork, and presentations. Participants form into teams to identify, develop and define an innovative product or service idea that addresses a significant need in Indian Country that can be addressed through innovation. | N | LEC | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AIS 375 or AIS 394 (Innovation for American Indian Sustainability) |
| AIS | 380 | Contemporary Issues of American Indian Nations | Surveys legal, socioeconomic, political, and educational state of contemporary reservation and urban Indians. | N | LEC | N | OPT | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | C | |
| AIS | 381 | American Indian Women | Draws from a diverse range of Indigenous critical traditions to examine discourses of gender, identity, and sexuality as sites of cultural revitalization and conflict and theorizes the meaning of each of these categories from diverse Indigenous communities. Considers contemporary and traditional works by Indigenous women with a special emphasis on the historical, socio-cultural, and legal contexts of each work. | N | LEC | N | OPT | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | C | Prerequisite(s): WST 100, 300, or AIS 180 with C or better OR Corequisite(s) if completed 30 hours or more: AIS 180, or WST 100 or 300; Credit is allowed for only AIS 381 or WST 382 |
| AIS | 385 | Entrepreneurship for American Indian Sustainability | Concentrates on developing a product or service idea, creating an entrepreneurial model and plan to implement the product or service in the context of an AI sustainable venture (profit and nonprofit). Begins with a review of established AI context with additional focus on tribal economic development throughout the course. The innovation process executed during the semester and the resulting product/service ideas and choices. Students are also encouraged to embark on new venture ideas as well. Students are then introduced to all aspects of venture (profit and non-profit) and entrepreneurial model creation, including strategy, product/service development planning, marketing, operations, alliances, management, finance and investment. In parallel, teams continue refinement and, where possible, further prototyping of the idea they chose from the previous semester and/or creation of new high-impact, high-potential ideas. | N | LEL | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AIS 385 or AIS 394 (Entrepreneurship for American Indian Sustainability) or SOS 380 |
| AIS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | American Indian Studies Program | 1-4 | | |
| AIS | 420 | American Indian Studies Research Methods | Surveys diverse research methods, including statistical, historical, interpretative, and narrative approaches. | N | LEC | N | OPT | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | L | Prerequisite(s): AIS 180 with C or better; ENG 101, 105, or 107 with C or better OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------|-------|-----------------|--|
| AIS | 430 | Contemporary Indigenous Spirituality | Why do so many indigenous people across North America want to revitalize their traditional ways when there is supposedly so much opportunity awaiting them in all segments of American society? What are the benefits of such an endeavor and what might be the consequences if this objective is not pursued? This course is premised on the hypothesis that indigenous customs and beliefs contain knowledge that is not only vital to the well-being of the communities in which this native wisdom is found, but also to those communities seeking a more sustainable way of living in the land they call home. After delving into a critique of the religious principles that went into the settling of America, complete with notions of manifest destiny, a way is opened for a more native-oriented discourse on community, nature, economy, and politics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum junior standing OR Visiting University Student |
| AIS | 440 | Cultural Professionalism | Emphasizes professional and leadership skills to prepare students for academic and career endeavors after undergraduate degree completion. Explores indigenous perspectives on communication, research, professional and leadership skills. Research focuses on addressing the needs of Arizona Indian Nations and Tribes and culminates in a research paper, in-class presentation and community development poster presentation. Showcases research posters in a research symposium in which guests vote on the most innovative and practical poster proposal. | N | LEC | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | C | Prerequisite(s): minimum junior standing; Credit is allowed for only AIS 440 or AIS 494 (Cultural Professionalism) |
| AIS | 445 | American Indian Leadership and Resistance | Examines the modern challenges that leaders face in American Indian communities with a foundation in indigenous concepts of leadership, sovereignty and nationhood. Topics include pre-contact leadership principles and systems of governance, tribal sovereignty, nation-building, politics, governing systems, leadership styles, military leadership, internal disputes and conflict resolution, activism, mobilization, community leadership, political/elected leadership, and other leadership-related topics. | N | LEC | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | SB & H & C | Prerequisite(s): minimum junior standing or 3 hours of an AIS course; Credit is allowed for only AIS 445 or AIS 521 OR Visiting University Student |
| AIS | 450 | Indigenous Food Systems and Sovereignty | Allows students to understand the differences between Indigenous food systems, food justice and food sovereignty from an American Indian studies and Indigenous perspective. Explores the interconnections between Indigenous knowledge, food, food systems, ecology and culture. Examines how U.S. colonialism has affected American Indian foods, food systems and health and explores the ways Indigenous peoples and nations are reviving traditional foods and food systems or developing new markets, policies and opportunities for Indigenous food sovereignty. | N | LEC | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AIS 450 or AIS 494 (American Indian Food Justice and Sovereignty) OR Visiting University Student |
| AIS | 455 | Human Rights and Cultural Resource Laws | Examines how U.S. laws, policies, executive orders, and court decisions have affected Indian nations and peoples in matters of cultural resources and burial rights. Considers the protests, legal battles, and political campaigns Indians have waged to reaffirm their fundamental human rights in the areas of repatriation and sacred sites protection. Examines the ways in which filmmakers and the media present these issues to the public. Assesses the present status of Indian religious rights and cultural resource laws. Sovereignty and its relationship to Indian spirituality is a theme that permeates the course. | N | LEC | N | OPT | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum junior standing OR Visiting University Student |
| AIS | 470 | Tribal Governance | Critical and historical examination of Indigenous governance and leadership. Includes a survey of historical policy developments and political change that laid the foundation for contemporary Indian government and an assessment of the effectiveness of modern tribal administrations and decision-making bodies. Explores the diverse approaches to tribal governance, community-based political strategy and local interpretations and assertions of sovereignty and self-governance. Project work facilitates focused student learning on the challenges and opportunities in government for a specific Indian nation. Case work and consultation with practitioners in Indian government complement textbook reading in law, history and policy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Pre-requisite: AIS 285; Credit is allowed for only AIS 470 or AIS 494, Tribal Governance |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------|-------|-----------------|--|
| AIS | 480 | Actualizing Decolonization | Provides an in-depth investigation of the theory and concepts of colonization, decolonization, and Indigenous peoples in America, with brief comparisons with global Indigenous peoples and experiences. Covers classic scholarly works on colonization and decolonization to understand the frameworks in which colonization and decolonization develops, expands, and impacts Indigenous peoples. Through that theoretical understanding, examines and formulates ways in which decolonization can impact and be integrated into Indigenous lives and communities. Students shift from theory to praxis by writing and presenting on an informal grant proposal for a decolonizing project that can be implemented in an Indigenous or non-Indigenous community. | N | LEC | N | OPT | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | HU & C & G | Prerequisite(s): ENG 101; ENG 102; junior standing; Credit is allowed for only AIS 480 or AIS 494 (Readings-Decolonization) OR Visiting University Student |
| AIS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | American Indian Studies Program | 1-12 | | |
| AIS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | American Indian Studies Program | 1-6 | | Prerequisite(s): Barrett Honors student |
| AIS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Liberal Arts and Sciences | American Indian Studies Program | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| AIS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | American Indian Studies Program | 1-4 | | |
| AIS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | American Indian Studies Program | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| AIS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | American Indian Studies Program | 1-3 | | |
| AIS | 501 | American Indian Studies Paradigms | American Indian Studies emerged as an academic discipline in the late 1960s in part because of increasing dissatisfaction among Indians about the works of historians, anthropologists, and other scholars that was very often marred by methodological and conceptual flaws. Course provides an overview of ways of "doing" Indian studies from an American Indian Studies paradigm(s) through a critical examination of some of the most significant works emanating from this growing body of literature. Critiques paradigms that selected scholars have employed in the researching and writing of their topics. Seminar format allows students to take the lead in discussing each week's readings. Covers a range of scholarship dealing with American Indian issues; explores the development of American Indian Studies as an academic discipline; probes paradigms that Indigenous scholars have developed; and considers how those paradigms differ from those used by other disciplines. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 502 | American Indian Studies Research Methods | Prepares students for thesis research, writing, and completion. Surveys graduate research methods in the field of American Indian Studies including historical, interpretative, and narrative approaches. Focuses on methodological issues specific but not limited to American Indian and Indigenous Studies. Focuses on Indian-centered methodological approaches to research that are essential to qualitative writing of the various topics in Indian country and other issues. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 503 | Contemporary Issues of American Indian Nations | Provides an overview of the current status of American Indian Nations with regard to sovereignty, policy, politics, economy, and society. An exploration of current issues illustrates the unique challenges and innovative solutions put forth by Indian communities. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 504 | American Indian Film and Activism | Examines the American Indian film and activism with emphases on American Indian production, directing, editing, investigative journalism, documentary film, entertainment, and research. Exposes students to the development of activism in film and how film has been utilized to educate, inspire, and contribute to the challenges in Indian Country. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------|-------|-----------------|---|
| AIS | 505 | Contemporary Visual Arts of American Indians | Focuses on a critical analysis of art, film, and media as they intersect with shaping the image and sustaining the culture of American Indians in North America. Examines the persistent and inappropriate stereotypes of American Indians as portrayed in film and media, including explanations for the persistence of negative stereotypes drawing on various aspects of critical race theory including power, politics, and race. Also introduces the scope and diversity of American Indian art and artists and highlights how native artists portray their views and culture through contemporary image making and representations. Stresses the interplay of art with sovereignty, identity, and politics. Emphasizes the powerful and significant connection between contemporary American Indian art and the persistence of indigenous cultures. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 506 | Indigenous American Literature and the Tribal Community | Teaches Indigenous (Indian, Native American, First Nations) literature's role in Indigenous history, cultural history, philosophy, society, culture, and developing cultural traditions. Students learn how tribal communities articulate themselves intellectually and artistically through literature and its development locally, nationally, and internationally. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 508 | Revitalizing Indigenous Languages | Critically examines Indigenous languages, their decline and revitalization from a language ecology and a self-determination perspective. Includes historical, sociopolitical, educational, linguistic, sociolinguistic, and cultural issues that have had and continue to impact Indigenous peoples and their languages worldwide and their reclamation efforts. Also examines various epistemologies, theories, ideologies, and practices of Indigenous people (including American Indian, Indigenous Alaskan, Hawaiian, Maori, Quechua). Topics include: language policy and planning, language acquisition, child language socialization, identity development, bilingual education, Indigenous language pedagogy, and current models and approaches for Indigenous language maintenance and revitalization (ILMR). | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 509 | American Indian and Indigenous Rights | Examines the rights of American Indian peoples with an emphasis on asserting indigenous rights in national as well as international forums. Challenges students to address issues related, but limited to: treaty rights, land rights, water rights, self-determination, rights to a distinct culture, religion, language, spiritual practices, customs, ceremonies, nationhood, autonomy, to seek redress and justice, rights to education, rights to protect from destruction and violence, rights to economic development, rights to protect lands from military, ecological, cultural, and environmental threats, and other rights that may effect the lives of American Indian people. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; Credit is allowed for only AIS 509 or AIS 494 (American Indian and Indigenous Rights) |
| AIS | 510 | Social Change in American Indian Communities | Committed to the preservation of political autonomy and cultural identity, American Indian communities are increasingly gaining rule over the effects of social change impinged upon them. Recapturing their histories and redefining colonial relationships, they are forging a preferred future grounded in their own traditional institutions of community, religions, and strengthening of self-determination. Provides students with: (1) an understanding of the enduring struggle of American Indian communities to resist the movement of collective assimilation and retain the right of self-determination; (2) an examination over time of social changes in American Indian communities' social structures and their political and social movements towards the establishment of environmental, economic, and social justice; and (3) knowledge of strategies and tactic for achieving social change within American Indian communities that support Indian self-determination and self-governance. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 511 | Genders and Sexualities in American Indian Societies | Grounds students in the theory and concepts of American Indian genders and sexualities. In American Indian societies, there were more than two genders. With colonization through laws, boarding schools, and loss of culture, language, and land, these different genders were attacked and made to disappear. Examine the concepts of gender and sexuality from Native perspectives and theory, and through western imperial views. Also covers the ways in which decolonization plays a role in understanding indigenous genders and sexualities. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------|-------|-----------------|--|
| AIS | 512 | Historical Trauma, Healing, and Decolonization | In recent years, scholars have begun to explore the prevalence of historical trauma among American Indian communities. This research argues that the genocide, violence, breakdown of customary cultures through external coercion; and oppression that Indians continue to face at the hands of foreign colonizers has left Indians with harmed with intergenerational self-destructive behavior, domestic violence, suicide, anxiety, depression, low self-esteem, and anger. As a result of this violence and oppression, they have developed models of recovering healthy nations while challenging violations of their human rights in the domestic and international arenas. This history has given rise to a widespread cultural revitalization movement often referred to as decolonization. Scholars from an array of academic disciplines are producing a growing body of literature about decolonization. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 513 | Urban Indian Issues | According to the 2010 Census, 64.1% of the American Indian/Alaskan Native population resides in a place outside of tribal areas. Cities such as Los Angeles, New York, and Phoenix have historically counted more than 25,000 American Indian residents. What draws Indigenous families to urban areas? How does an urban address impact the federal trust relationship with nonreservation Indians? What are the social, political, and economic implications for a family who lives off the reservation and away from tribal homeland? Course explores these issues and dynamics and challenges the student to examine the unique identity and contributions of urban Indians. Students learn the history of Indigenous migrations to the city and assess current needs and concerns through consultation work coordinated with Phoenix area Indian Centers and nonprofit organizations. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 514 | American Indian Intellectuals | Does it make sense to speak about American Indian "intellectuals," "thinkers," or "philosophers"? Not only have Indians been thinking and thinking deeply for generations, but they have produced a body of written works that have formed the foundation of contemporary American Indian studies. Course covers some of the major figures, their works, and the ideas and opinions (many of which were controversial) that shaped their thinking. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 515 | The Work and Legacy of Vine Deloria, Jr | Vine Deloria, Jr, Standing Rock Sioux (1933-2005) has often been referred to as "Uncle Vine" for his role in the intellectual development of innumerable scholars, as well as legal and political figures, all of whom have striven along side Deloria at making the world a better and more just place for indigenous communities. As such, Deloria has also been labeled "the Dean of American Indian Studies" because of his work at shaping the intellectual and political agenda, which began in 1969 with the seminal publication of Custer Died for Your Sins: An Indian Manifesto and continued posthumously with works on the medicine man traditions throughout North America and a reflection on Carl Gustav Jung's analyses of American Indian customs and beliefs. this seminar, the first of its kind, takes a comprehensive look at Deloria's philosophical and legalistic legacy by examining his major works and analyzing, in addition to critiquing, the ideas and opinions that shaped his intellectual career. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 516 | Concepts of Power and Indigeneity | Grounds students in the theory and concepts of power and indigeneity with comparisons with global Indigenous peoples and experiences. Through that theoretical understanding, examines and understands ways in which these concepts impact Indigenous communities and formulates ways in which to develop practical ways to address these issues. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 517 | Customary Tribal Law and Governance | Examines traditional governance systems, institutions, and cultures of American Indians, with emphasis on customary law, justice, and government. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 518 | Tribal Jurisdiction | Examines traditional governance systems, institutions, and cultures of American Indians, with emphasis on customary law, justice, and government. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| AIS | 519 | Burial Rights, Repatriation, and Sacred Places Matters | Probes U.S. laws and policies, court cases, and Indian struggles for dignity, burial rights, repatriation, and religious freedom from the late 1800s to the present. Examines developments in the United Nations and international arena pertaining to Indigenous human rights, religious freedom, repatriation, and sacred places protection. U.S. policies, laws, practices, court decisions, land developers, pot hunters, and archaeologists have restricted the human rights of American Indians in term of burial rights and religious freedom. Congress has enacted cultural resource and environmental protection laws, religious freedom, and reburial laws that aim to regulate the use and abuse of cultural resources and Indian rights. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 521 | American Indian Leadership and Resistance | Examines the modern leadership struggles in American Indian communities with a foundation of traditional concepts of leadership. Topics include leadership qualities and systems pre-contact, federal-tribal relations, state-tribal relations, tribal politics, internal disputes, activism, mobilization, cultural continuity, social change, community leadership, political/elected leadership, diplomacy, political agendas, and other topics related to American Indian leadership and resistance. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AIS 445 or AIS 521 |
| AIS | 522 | Tribal Governance | Explores American Indian leadership, political ideology, and the history and current state of tribal government. What makes tribal governments tick? Examines past and present challenges faced by leaders and members of indigenous communities. Brainstorms potential strategies for the further enhancement, protection, and assertion of this indigenous "brand" of governance. How do politics, policy development and the ever-changing face of indigenous sovereignty impact the way we think about governance? How can we educate and inspire tribal communities to have greater ownership and interest in government? Students engage with the current research, debate the issues, and learn from people who provide governance to indigenous communities. Case studies focus on specific issues in local communities. Individual portfolio project work facilitates learning and the articulation of leadership and governance as practiced by one particular tribe of your choice. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 523 | Community Development with American Indian Communities | Tribal community development is more complicated than large urban population centers or even rural communities because tribal communities continue to struggle with years of colonial, paternalistic, and assimilationist federal policies that have impeded their efforts to become self-determined and self-governing nations. Provides students with the knowledge and skills they need to support community development in American Indian communities within a self-determined and self-governing context. Content includes: (1) a framework for review of current economic, political, social, and cultural issues facing American Indian communities; (2) an overview of community development theories, of the underlying values behind those ideas, and of the linkages between theory and practice in American Indian and other Indigenous communities; and (3) a sampling of intervention strategies and tactics for effective community development in American Indian communities. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 524 | Indian Control of Indian Education: Tribal Colleges and Universities | Examines American Indian control of education from a tribal college and university perspective. Focuses on the tribal college movement, including the historical and contemporary political, policy, research, and best practices that have influenced and sustained tribal colleges and universities. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | American Indian Studies Program | 1-12 | | |
| AIS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | American Indian Studies Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| AIS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | American Indian Studies Program | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | American Indian Studies Program | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | American Indian Studies Program | 1-12 | | |
| ALA | 100 | Introduction to Environmental Design | Surveys environmental design: includes historic examples and the theoretical, social, technical, and environmental forces that shape them. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU & H & G | Credit is allowed for only ALA 100 or PUP 100 OR Visiting University Student |
| ALA | 102 | Landscapes and Sustainability | Surveys ideas relating to landscapes and sustainability and the role of landscape architecture in the creation of humanized environments. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU & G | |
| ALA | 121 | Design Fundamentals I | Development of visual literacy. Introduces drawing and graphic representation as methods of seeing and problem solving. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Architectural Studies, Environmental Design, Interior Design, or Landscape Architecture major; Credit is allowed for only ALA 121 or INT 120 OR Visiting University Student |
| ALA | 122 | Design Fundamentals II | Exercises in basic design, stressing creative problem-solving methods, principles of composition, and aesthetic evaluation. Development of vocabulary for environmental design. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): ALA 121 with C or better; Architecture, Environmental Design or Landscape Architecture major. Corequisite(s): ALA 124 |
| ALA | 124 | Design Fundamentals II Lecture | Theory and applications of basic design principles, history and theory of how architecture, interior design and landscape architecture design is impacted by basic design. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): Architectural Studies BSD or Environmental Design BS or Interior Design BSD or Landscape Architecture BSLA major; Corequisite(s): ALA 122 or INT 122; Credit is allowed for only ALA 124 or INT 124 |
| ALA | 225 | Design Fundamentals III | Applies history and theory of design fundamentals with an emphasis on architectural and landscape architectural design issues. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 4 | | Prerequisite(s): Architectural Studies major; ALA 122 with C or better; passed Architectural Studies milestone; Corequisite(s): ALA 235 OR Visiting University Student |
| ALA | 226 | Design Fundamentals IV | Basic design, stressing creative problem-solving methods, principles of composition, and aesthetic evaluation. Development of vocabulary for environmental design. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 4 | | Prerequisite(s): ALA 225 with C or better |
| ALA | 235 | Introduction to Computer Modeling | Fundamentals of computer operation, geographic information systems, geometric modeling of 3-D forms and rendering of light, mathematical modeling of processes using spreadsheets. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | CS | Prerequisite(s): Architectural Studies BSD major; Corequisite(s): ALA 225 OR Environmental Design BS major; Pre- or corequisite(s): EDS 223 OR Landscape Architecture BSLA major; Corequisite(s): LDE 261 OR Visiting University Student |
| ALA | 240 | Sustainable Design in Built Environment | Reviews the physical principles used in the design of sustainable buildings, landscapes, and urban environments. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| ALA | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| ALA | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| ALD | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Aging and Lifespan Development | 1-4 | | |
| ALT | 405 | Power Conditioning | Fundamentals of power electronics; DC-DC converters and DC-AC inverters; battery charge controllers. Lab experience. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: EST 310; Credit is allowed for only ALT 405 or 505 |
| ALT | 412 | Village Energy Systems | The role of energy resources in economic development. The need for and use of energy at the Base of the Economic Pyramid (BoP). Individual Problem Based Learning (PBL) investigations of potential solutions to energy-poverty at the BoP. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Senior Standing in Engineering, Engineering Technology, Mathematics or another Science-based curriculum. Credit is allowed for only ALT 412 or ALT 494 (Village Energy Systems) |
| ALT | 420 | Electrochemical Energy Technologies | Thermodynamic and electrochemical principles of fuel cells. Hands-on experience on fabrication and testing of fuel cells; problem solving skills. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: CHM 113; ALT 360 |
| ALT | 435 | Applied Photovoltaics | Overview of solar radiation, operating principles of photovoltaics, qualitative analysis on influencing parameters. market trends, basics of PV systems. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: ALT 360; ALT 410 (not required for BAS students); Credit is allowed for only ALT 435 or 535 |

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| ALT | 445 | Automotive and Stationary Fuel Cell Systems | Practical overview of fuel cell systems for stationary, residential, and transportation applications based on load and duty cycle requirement of specific application. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: ALT 360; CHM 113; Credit is allowed for only ALT 445 or 545 |
| ALT | 502 | Batteries for Portable Electronics | Theoretical and practical overview of primary, secondary, and lithium batteries. Key performance characteristics, construction materials, typical applications, recycling, and disposal. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ALT | 505 | Power Conditioning | Fundamentals of power electronics, DC-DC converters and DC-AC inverters, battery charge controllers. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Credit is allowed for only ALT 405 or 505 |
| ALT | 507 | Evaluations of Photovoltaic and Fuel Cell Systems | Field testing, data collection, and evaluation of real-world photovoltaic and fuel cell systems available on campus and data analysis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ALT | 512 | Village Energy Systems | Establishes leadership in the development of energy resources at the Base of the Economic Pyramid (BoP). Individual Problem-Based Learning (PBL) investigations of potential solutions to energy-poverty at the BoP. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Graduate Standing in Engineering, Engineering Technology, Mathematics or another Science-based curriculum; Credit allowed for only ALT 512 or ALT 598 (Village Energy Systems) |
| ALT | 515 | Alternative Energy Reliability and Standards | Alternative energy systems and their reliability issues, accelerated life and safety testing, standards and codes, regulatory requirements. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ALT | 535 | Applied Photovoltaics | Term projects, overview of solar radiation, operating principles, qualitative analysis on influencing parameters, market trends, basics of PV systems. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: Graduate status; Credit is allowed for only ALT 435 or 535 |
| ALT | 545 | Automotive and Stationary Fuel Cell Systems | Practical overview of fuel cell systems for stationary, residential, and transportation applications based on load and duty cycle requirement of specific applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: Graduate status. Credit is allowed for only ALT 445 or 545 |
| AME | 101 | ASU Media Arts and Sciences Experience | Orientation to the Media Arts and Sciences program with emphasis on resources for academic success. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1 | | Prerequisite(s): Media Arts and Sciences major OR Visiting University Student |
| AME | 111 | Introduction to Digital Culture | Examines the effects of digital technology on the way we live, communicate, learn, and create. Proposes that we are moving towards a hybrid (physical-digital) existence and culture. Traces that evolution, looks at current examples of hybrid cultural processes and outcomes, and discusses possible future trends. Discusses how these changes are influencing the work and career possibilities of people involved in all aspects of human culture. Comprises diverse readings, media products, class interaction, group discussion and hands-on collaborative projects exploring concepts covered in class. Also includes a number of guest lectures from ASU faculty. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | CS | |
| AME | 112 | Computational Thinking for Media Arts | Introduces fundamental concepts relevant for understanding computation. What are algorithms and how can computer code express them? Basics of how real-world signals are captured, encoded, recorded, retrieved and decoded. Designed for students with little or no background in programming. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | |
| AME | 120 | Digital Culture Studio | Provides advice on career preparation and industry skills through a series of guest lectures. Sample topics include resumes, personal Websites and portfolios, how to pitch a project idea, and topics chosen by guest industry presenters. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1 | | Credit is allowed for only AME 120 or AME 194 (Digital Culture Studio) |
| AME | 130 | Prototyping Dreams | How do you build your dreams? Explores speculative design and inspirational prototyping as a way to imagine and organize worlds. These prototypes do not have to be functional or material, but they must be functional stories, effectively communicating the creator's vision with others. Surveys a number of creative paradigms for imagining alternative worlds that are more ethical and sustainable, and experiments with techniques for physical, digital, literary and artistic prototyping. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only AME 130 or ENG 130 OR Visiting University Student |
| AME | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-4 | | |
| AME | 210 | Media Editing | Introduces the fundamental principles of media editing including form, composition, structure, pattern, sequence and rhythm. Using a combination of open source, commercial and custom-designed tools and platforms, students design, construct, communicate and interpret rich media messages. Through creating and critiquing visual compositions, audiovisual artifacts, spatial narratives or generated graphs, students explore the practice of media editing as a spatial, temporal and dynamic process. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Credit is allowed for only AME 210 or AME 294 (Media Editing) or DSC 294 (Media Editing) |
| AME | 220 | Programming for the Web | Introduces contemporary Web technologies and the front-end technologies needed to code particularly in contemporary interactive Web applications. Deepens knowledge in the emergence and evolution of Web technologies and standards. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | CS | Prerequisite(s): AME 230 or CSE 110 OR Visiting University Student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|---|---------------------------------------|-------|-----------------|--|
| AME | 230 | Programming for the Media Arts | Introductory-level course in practical aspects of programming systems for media arts. Explores techniques in programming in the context of images, sounds, interaction, networking and data visualization. Uses the processing programming language, an accessible yet powerful environment for learning how to program. Students create images, animations and interactive programs, and learn how to use images, movies, sound files, microphones and cameras in their programs. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | CS | Credit is allowed for only AME 230 or AME 294 (Programming for Media Arts) |
| AME | 240 | Introduction to Physical Computing | Students learn the basic skills required to build physical-computing systems through a series of practical tutorials and design challenges. These skills include basic fabrication with hand and CNC tools, electronic design fundamentals, circuit construction techniques, introductory microcontroller programming and the use of simple sensors and actuators. The primary difference between this introductory-level course and the advanced course is that students in this course are not expected to invent original projects. Projects with clear engineering and design challenges are assigned. Within the scope of these projects there are significant opportunities for creativity but the emphasis is on learning basic skills. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | |
| AME | 244 | Introduction to Interactive Environments | Introduces software programming in the context of real-time interactivity. Builds the skills and develops the confidence needed to produce interactive audiovisual environments. Primarily uses the Max 7 (cycling74.com) programming language to write code for manipulating digital images, sounds and video in real time. For these systems to be interactive (respond to human activity), uses the tools and techniques for gathering and processing real-time input from sensors such as microphones, electronics, cameras and interface devices. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Credit is allowed for only AME 244 or ART 244 or AME 294 (Introduction to Interactive Environments) or ART 294 (Introduction to Interactive Environments) |
| AME | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-4 | | |
| AME | 310 | Media Literacies and Composition | When we integrate computational systems into the core of our cultural and social practices, we reinvent how we tell stories. The roles of creators, critics and audiences are blurring at the same time that digital tools allow us to infinitely reproduce and remix narratives, radically changing what we mean by the "work" or "text." These new media platforms empower us to create, share and respond to cultural narratives that defy traditional notions of how stories operate, demanding new literacies. Explores our powers and responsibilities as readers, writers and creators of new cultural languages, including new forms such as games, digital video, electronic literature and social media. Students study relevant media narratives and cultural ecosystems from the 20th and 21st centuries, acquiring a set of literacies that they hone through practices of authorship, critique and collaboration, culminating in the presentation of their own digital media narratives. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): ENG 101, 105, or 107; minimum 45 hours; Credit is allowed for only AME 310 or AME 394 (Media Literacies & Composition) |
| AME | 320 | Motion Capture for Integrative Systems | Presents the broad principles and techniques for movement study in oneself and others that includes applied, dynamic anatomy. Also presents the functional techniques for motion capture with a special emphasis on the capture of human movement from visual sensors. Students understand the technology behind motion capture; a high-level understanding of movement and anatomical systems; the ability to perform motion capture and customize it to suit the requirements of specific creative applications in animation, sound and live performance as well as applications in movement rehabilitation and education. Looks at the technology behind various modern motion capture systems based on markers, inertial sensors, accelerometers, and depth sensors, so the student appreciates the technical capabilities and limitations of each technique. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AME 320 or AME 394 (Motion Capture for Integrative Systems) |
| AME | 325 | Technical Lives | Traces the myriad intersections of "life" and "technology" in the history of Western thought and practice—from Ancient Greece to contemporary technoscience. Students investigate these convergences in philosophical works (by Plato, Descartes, Heidegger, Foucault, Gilbert Simondon, and others), in art and design practices (film, architecture, bioart, literature), and in modern technoscientific fields such as biotechnology, artificial life and synthetic biology. Gives students a broad framework for examining the many interwoven histories, philosophies and practices that draw "life" and "technology" together to generate profound ontological, political and economic consequences in the history of the Western world. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only AME 325 or AME 394 (Technical Lives) OR Visiting University Student |

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| AME | 330 | Digital-Physical Systems | Hands-on course where students explore digital-physical systems by working with the fundamental building blocks of interactive technologies and examining exemplar works of media art. Basics of electronics, circuit design, sensors, actuators, simple mechanical design, the iterative design process and microcontroller programming. Emphasizes media and arts applications such as real-time interactive performance, robotic installations and tangible computer interfaces. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): AME 240; minimum 45 hours; Credit is allowed for only AME 330 or AME 394 (How to Build a Digital-Physical System) OR Visiting University Student |
| AME | 333 | Improvising Cyborgs | This experiential and practice-based course provides a multidisciplinary platform for students to work collaboratively to accomplish set creative challenges. Open to anyone with experience working with technology who wants to explore improvisation and performance, not only as art forms, but also to inform their making process, and translate these skills to other areas. Encourages sound/music, dance and visual practitioners to work together. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AME 333 or AME 394 (Improvising Cyborgs) OR Visiting University Student |
| AME | 340 | Compositional and Computational Principles for Media Arts | In much of today's contemporary art practice there is a tight coupling of compositional form, content and underlying computational mechanisms. This integration holds the potential to yield new modes of expression and wholly new art experiences as is evident in emerging forms of real-time generative art, network-based art, game-based art, and interactive performance. As both practitioners and participants, we must develop a critical understanding of the relevant expositional and computational principles that frame this work. Students study relevant media art works from the 20th and 21st century, develop a working understanding of fundamental compositional and computational principles, and apply their understanding through the realization of exploratory media artworks that are presented at the end of the semester. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): minimum 45 hours |
| AME | 360 | Designing Mixed-Reality Experiences | Augmented reality and virtual reality games, advertisements, installations and other media integrate virtual objects with real-world environments in an emerging computing paradigm called mixed reality. Students learn skills to creatively develop interactive mixed-reality objects and environments. Covers principles behind object-to-object access patterns, virtual physics and interactions, camera-projection coordinate systems, and programming for augmented reality/mixed reality. Although the mixed reality and object-oriented principles transcend programming language and environment, students use C# programming in the Unity Game Engine. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): AME 230 or CSE 110; Credit is allowed for only AME 360 or AME 394 (Designing & Implementing Mixed-Reality Experiences) OR Visiting University Student |
| AME | 365 | People at Play | What is the social and cultural significance of play, games and toys? How is playfulness embedded into media, design and art--and more importantly, why? This course centers these questions and more by exploring the multiple dimensions of play in its many forms. Topics include: how age and other issues relate to identity shape play, games and toys; the many genres of games, including board games, video games, role-playing games and so on; the design of games and toys and how they reflect various cultural values; the role of play in education, industry and everyday life. Students can expect to read and write about, play with and create games using both analog and digital technologies. No experience in game play or design needed. Curiosity required. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AME 365 or AME 394 (People at Play: The Cultural Sig Play/Games/Toys) OR Visiting University Student |
| AME | 385 | Collaborative Projects and Research I | Project-based class for experience in collaborative design principles, project pitching and research. Includes readings and small projects with teams formed at the outset of the class. Over the course, teams develop their own project along with a schedule for realization. Project themes vary, yet all projects must explore relationships of digital technologies and cultural products or processes. Includes presentations, discussion and analysis of team projects. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): BA in The Arts, Design Studies BA, or Digital Culture major; minimum 45 hours OR Visiting University Student |
| AME | 386 | Collaborative Projects and Research II | Project-based class for experience in collaborative design principles, project pitching and research. Includes readings and small projects with teams formed at the outset of the class. Over the course, teams develop their own project along with a schedule for realization. Project themes vary, yet all projects must explore relationships of digital technologies and cultural products or processes. Includes presentations, discussion and analysis of team projects. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): AME 385 OR Visiting University Student |
| AME | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-4 | | |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---------------------------------|---|-------------------|-------------------|-----------------|---------------|---|---------------------------------------|-------|-----------------|---|
| AME | 400 | Minds and Machines | Introduces the broad area of artificial intelligence and its intersections with various domains including cognitive science, symbolic logic and reasoning, philosophy of mind, science fiction literature and data science. Students develop and prototype AI algorithms ranging from computer vision, natural language processing, reinforcement learning/control theory and signal/data processing, as well as learning broader sociocultural issues surrounding AI including its history, theories of machine and human intelligence and ethics. Primarily uses Python as its main programming language for development. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AME 400 or AME 494 (Minds and Machines) or AME 598 (Minds and Machines) OR Visiting University Student |
| AME | 410 | Interactive Materials | Focuses on embedding computation into the physical world and envisioning the future of tangible interactive media. Students make, tinker and experiment with high-tech and low-tech materials ranging from electronics (microcontrollers, sensors and actuators) to softer components including textiles, paper, paints, food and organic/living systems. Grounds hands-on, materially oriented work in theoretical concepts from HCI (Human Computer Interaction), speculative design and design fiction. Students build interactive prototypes as artifacts that exist in fictional worlds to explore emerging dialogues around desirable and undesirable futures. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): AME 330 |
| AME | 411 | Advanced Interactive Sound | Explores the development of interactive music systems. Covers a variety of sound synthesis methods with particular emphasis as to how they can be used in real-time sound creation. Covers techniques for sensing such as computer vision, sound analysis, tangible interfaces and 3D sensing. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AME 411 or AME 511 or MDC 411 or MDC 511 OR Visiting University Student |
| AME | 430 | Mac Development for Media Arts | Explores native application development for OS X (Macintosh) for use in the domain of media arts. Project-based course covers the native Xcode development environment and the C and Objective-C programming languages. Native applications are able to achieve the highest levels of performance; they leverage the unique technologies built for a platform and they are able to participate in the native user experience (look and feel) that all users of a popular platform expect. To understand native apps for OS X, the course examines a number of code frameworks provided for developers by Apple (the core of which are often called Cocoa), including Foundation, AppKit, AV Foundation, Core Animation and SpriteKit. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): AME 230; Credit is allowed for only AME 430 or AME 494 (Mac Development for Media Arts) OR Visiting University Student |
| AME | 434 | Machine Learning for Media Arts | Provides an interdisciplinary introduction to machine learning techniques from the classical to the contemporary. Discusses methods and implementations of machine learning in creative outcomes including image, video and sound synthesis, with both real-time and non real-time approaches. Also discusses issues of representation, bias and ethics in machine learning that help students frame their projects with critical awareness. Preferred incoming skills include programming, system building or integrative skills using Max/MSP or Python and/or expertise in signal processing or composition and/or technical skills and/or sensor development. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AME 434 or AME 494 (Machine Learning for Media Arts) or AME 534 or AME 598 (Machine Learning for Media Arts) OR Visiting University Student |
| AME | 435 | Mobile Development | Explores native application development for iOS for use in the domain of media arts. Project-based course covers the native Xcode development environment, and the Swift programming language. Native applications are able to achieve the highest levels of performance, they leverage the unique technologies built for a platform, and they are able to participate in the native user experience (look and feel) that all users of a popular platform expect. Examines a variety of frameworks such as UIKit, CoreMotion, CoreLocation, MapKit, AVFoundation AVKit, and SpriteKit to understand native apps for iOS. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): AME 430 or AME 494 (Mac Development for Media Arts); Credit is allowed for only AME 435 or AME 535 or AME 494 (Mobile Development) or AME 598 (Mobile Development) |
| AME | 444 | Media Installations | Investigates historical and contemporary instances of the media installation, not only as a form of art but as a cultural artifact that appears in a variety of contexts. Students design and build media installations by learning to gather, manipulate and present many different kinds of media using a variety of high- and low-tech tools and techniques. Advanced skills with the tools and techniques for creating and manipulating digital images, sounds, graphics and video. Students learn how to make installations interactive by integrating sensors, input devices and computer vision systems. Design, build and refine media installations, and learn to document these installations at a high level using the latest video editing tools. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): AME 244 or AME 294 (Introduction to Interactive Environments); Credit is allowed for only AME 444 or AME 494 (Media Installations) or AME 544 or AME 598 (Media Installations) |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|---|---------------------------------------|-------|-----------------|---|
| AME | 470 | Programming for Social and Interactive Media | Web sites, desktop applications connected to the "cloud" and mobile applications depend on services supplied by server-based software that is the invisible center of users' networked experiences. Applications and data servered over the Web are at the core of popular software from social applications such as Facebook, Twitter or Instagram to networked media like iTunes, Netflix or Hulu. Investigates the development of Web applications and services. Creates modern dynamic Web applications using open source technologies. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): AME 220; minimum 45 hours; Credit is allowed for only AME 470 or AME 570 |
| AME | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-12 | | |
| AME | 485 | Media Arts and Sciences Capstone I | Senior capstone projects are interdisciplinary team projects that offer experience in diverse collaborations for solving complex problems, a proficiency widely demanded by employers. Students integrate, extend and apply information, principles, theories and/or methods learned in previous courses while supervised by the instructor. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): Media Arts and Sciences student; minimum 70 hours |
| AME | 486 | Media Arts and Sciences Capstone II | Senior capstone projects are interdisciplinary team projects that offer experience in diverse collaborations for solving complex problems, a proficiency widely demanded by employers. Students integrate, extend and apply information, principles, theories and/or methods learned in previous courses while supervised by the instructor. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): AME 485 |
| AME | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-6 | | Prerequisite(s): Barrett Honors student |
| AME | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| AME | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-4 | | |
| AME | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| AME | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-3 | | |
| AME | 511 | Advanced Interactive Sound | Explores the development of interactive music systems. Covers a variety of sound synthesis methods with particular emphasis as to how they can be used in real-time sound creation. Covers techniques for sensing such as computer vision, sound analysis, tangible interfaces and 3D sensing. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AME 411 or AME 511 or MDC 411 or MDC 511 |
| AME | 515 | Machine Vision and Pattern Recognition | Covers the field of computer vision, whose broad goal is to create algorithms and systems for processing of visual signals (e.g., images, videos) for low-level, mid-level, and high-level perceptual tasks. Presents the broad principles and techniques for devising computer vision algorithms starting from understanding the imaging process for a pin-hole camera; understanding lenses, image-statistics such as gradients and edges, 3D structure estimation, motion estimation, illumination modeling to perceptual tasks such as shape recognition, texture modeling, face recognition, activity recognition, and scene recognition. The class is a mixture of in-class lectures and discussions, and individual and group projects. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student; Credit allowed for only AME 515 or EEE 515 or EEE 598 (Computational Image Understanding & Pattern Analysis) |
| AME | 516 | Physics-Based Computer Vision | Covers topics in physics-based computer vision and graphics. Includes work on visual computing systems including computational cameras, illumination systems, 3D scanners, rendering/animation and displays. Starting with the basics of traditional photography and the imaging pipeline, proceeds to explore new ways to capture visual information by co-designing camera hardware and software algorithms. Topics covered include plenoptic or multi-modal imaging, coded and compressive sensing, light transport and rendering, programmable illumination, and computational displays. Focuses on understanding and evaluating new imaging technology for specific applications including autonomous vehicles, entertainment and graphics, computer vision and visual recognition, and robotics. Course content delivered via lectures along with written and programming assignments as well as a final project. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): Herberger Arts, Media and Engineering grad student or Fulton Engineering grad student; Credit is allowed for only AME 516 or AME 598 (Comp Cam, Ltg & Disp) or EEE 516 or EEE 598 (Comp Cam, Ltg & Disp) or EEE 598 (Phys-based Comp Vision) |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---------------------------------|--|-------------------|-------------------|-----------------|---------------|---|---------------------------------------|-------|-----------------|---|
| AME | 520 | Movement and Computing | Focuses on computational and humanistic underpinnings for describing human activities for interactive systems. Obtains a holistic understanding of both the computational models, as well as somatic approaches, and enables their translation into meaningful interactive systems for a variety of applications. Project-driven course encourages students to work individually and collaboratively to generate movement to interface with appropriate sensing, analysis and feedback systems with applications in health and well being, creative practices and games. Transdisciplinary course; therefore, expectations for skills and outcomes are multiple and varied, with students expected to work with students and ideas from other disciplines. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 530 | Philosophy of Media Technology | Focuses on media arts and sciences in the 20th and 21st centuries, discussing issues surrounding the evolution of media art research and creation practices, methods of criticism and analysis, transdisciplinary work and research, collaboration and current trends. Emphasizes the methodology, theory and history behind the experimental study of experience via experiential systems. Directed toward those interested in researching, designing, building or critiquing experiential media systems that are culturally or technoscientifically provocative and socially meaningful. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 531 | Experimental Media Philosophy | Engages students in the theory and practice of designing and evaluating experiential media systems. Introduces advanced topics building on ideas and concepts explored in the companion introductory course. Based on furnished examples as well as their own experience, students create and critique a variety of integrated media systems demonstrating technical competence, aesthetic knowledge, analytic rigor and theoretical relevance. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 532 | Creating Interactive Media | Focuses on creation of media of all kinds using computation. Using algorithms it is possible to create complex media that is difficult or impossible by traditional methods. Some techniques can capture the unpredictable evolutionary and emergent behavior found in nature. Investigates influential algorithmic methods including stochastic processes and Markov chains, Perlin noise, cellular automata, fractals, L-systems and genetic algorithms. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 533 | Design for Media Arts | Invites students to observe, think and make. Together, students reflect on patterns, systems, objects and narratives that define world, ask how things could be different and design alternative futures. Covers a breadth of design thinking and Human Computer Interaction (HCI) methods including field observation, co-design/participatory design with stakeholders, concept development, rapid prototyping, deployment/study with users, data analysis and synthesis of findings. Students draw on these methods to iterate through a full design cycle of researching, developing, and deploying a provocative socio-technical intervention. Consists of seminar discussions and critical reflection grounded in weekly hands-on work with high-tech and low-tech materials as well as observation activities situated in the physical world. Culminates in a final project where students turn their ideas into design interventions that challenge rethinking patterns and envisioning new systems (big and small) that transform our world for the better. | N | LEL | N | OP3 | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AME 533 or AME 598 (Design for Media Arts) |
| AME | 534 | Machine Learning for Media Arts | Provides an interdisciplinary introduction to machine learning techniques from the classical to the contemporary. Discusses methods and implementations of machine learning in creative outcomes including image, video and sound synthesis, with both real-time and non-real time approaches. Also discusses issues of representation, bias and ethics in machine learning that help students frame their projects with critical awareness. Preferred incoming skills include programming, system building or integrative skills using Max/MSP or Python and/or expertise in signal processing or composition and/or technical skills and/or sensor development. | N | LEL | N | OP3 | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AME 434 or AME 494 (Machine Learning for Media Arts) or AME 534 or AME 598 (Machine Learning for Media Arts) |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|---|---------------------------------------|-------|-----------------|---|
| AME | 535 | Mobile Development | Explores native application development for iOS for use in the domain of media arts. Project-based course covers the native Xcode development environment, and the Swift programming language. Native applications are able to achieve the highest levels of performance, they leverage the unique technologies built for a platform, and they are able to participate in the native user experience (look and feel) that all users of a popular platform expect. Examines a variety of frameworks such as UIKit, CoreMotion, CoreLocation, MapKit, AVFoundation AVKit, and SpriteKit to understand native apps for iOS. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AME 435 or AME 535 or AME 494 (Mobile Development) or AME 598 (Mobile Development) |
| AME | 544 | Media Installations | Investigates historical and contemporary instances of the media installation, not only as a form of art but as a cultural artifact that appears in a variety of contexts. Students design and build media installations by learning to gather, manipulate and present many different kinds of media using a variety of high- and low-tech tools and techniques. Advanced skills with the tools and techniques for creating and manipulating digital images, sounds, graphics and video. Students learn how to make installations interactive by integrating sensors, input devices and computer vision systems. Design, build and refine media installations, and learn to document these installations at a high level using the latest video editing tools. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AME 444 or AME 544 or AME 598 (Media Installations) |
| AME | 550 | Prototyping Futures | In this project-based course, students work in interdisciplinary teams to explore and envision the future of communities, industries, technologies and other elements of our society. In this process, students develop their understanding of the application of extended reality technologies, practices and methodologies for design, and tools for applying research to constructing prototypical scenarios for the future, in addition to gaining experience in effective collaboration. This course is about critical, methodological and narrative skills--the ability to move fluidly through domains, create low-fidelity prototypes, and devise creative solutions to complex problems by envisioning new realities. The development of deep technical skills in a chosen field follows in each program. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AME 550 or DSC 550 or HSD 550 |
| AME | 551 | Designing Extended-Reality Experiences | Augmented reality and virtual reality games, advertisements, installations and other media integrate virtual objects with real-world environments in an emerging computing paradigm called extended reality (XR). Students learn skills to creatively develop interactive mixed-reality objects and environments. Expects a basic understanding of Unity. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 570 | Programming for Social and Interactive Media | Web sites, desktop applications connected to the "cloud" and mobile applications depend on services supplied by server-based software that is the invisible center of users' networked experiences. Applications and data servered over the Web are at the core of popular software from social applications such as Facebook, Twitter or Instagram to networked media like iTunes, Netflix or Hulu. Investigates the development of Web applications and services. Creates modern dynamic Web applications using open source technologies. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AME 470 or AME 570 |
| AME | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 590 | Reading And Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | N | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|---|---------------------------------------|-------|-----------------|---|
| AME | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 691 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | YGB | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AML | 100 | Introduction to Applied Mathematics for the Life and Social Sciences | Introduces quantitative techniques as applied to problems in the life and social sciences. Includes challenges like understanding the complexities of the human genome or the implications of globalization for infectious disease, human health, and economic stability. | N | LEC | N | OPT | College of Global Futures | School of Complex Adaptive Systems | 3 | MA | Prerequisite(s): MAT 117 or higher with C or better or ALEKS score of 61 or higher; Credit is allowed for only AML 100 or SOS 101 OR Visiting University Student |
| AML | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-4 | | |
| AML | 253 | Introduction to Mathematical Tools and Modeling for the Life and Social Sciences | Introduces the evaluation and construction of mathematical models used in the life and social sciences. Includes the basic steps in developing a model, analyzing it, and testing it with actual data. Covers the first steps concerning how to use formal mathematical techniques including developing equation-based relationships, plotting graphs, linear regression, and solving equations using computer software. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): AML 100 or SOS 101 with C or better; MAT 117 with C or better or ALEKS score of 61 or higher; Credit is allowed for only AML 253 or CAS 253 OR Visiting University Student |
| AML | 254 | Introduction to Dynamics and Control in the Biological and Social Sciences | Includes three fundamental topics in dynamics of populations, each topic motivated by a biological example. Covers mathematical tools, both analytic and computational, to solve the problem. Students have a small group project on each topic. | N | LEC | N | OPT | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): AML 253; MAT 210, 251, 265, or 270; MAT 266 or 271; Credit is allowed for only AML 254 or AML 294 (Continuous Models for the Life and Social Sciences) or CAS 254 OR Visiting University Student |
| AML | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-4 | | |
| AML | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-4 | | |
| AML | 406 | Directed Reading and Research in Applied Mathematics for the Life and Social Sciences | Collaborative, practice-oriented course where students produce individual or team-initiated research project reports on pertinent topics in the life and social sciences. Students select topics, design, identify and formulate effective research ideas, and then translate them into clear and effective research plans. | N | SEM | N | OPT | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): AML 100; MAT 342 (or MAT 343); 86 minimum hours OR Visiting University Student |
| AML | 441 | Mathematical Concepts and Tools in Sustainability | Explores various mathematical analysis and models pertinent to sustainability science drawn from both social and natural sciences and introduced in a problem-based context. Demonstrates basic concepts from game theory such as pure-strategy and mixed-strategy Nash equilibria in such classic games as prisoner's dilemma, hawk-dove, coordination. Explores the evolutionary dynamics of these games through the replicator equations. Studies important concepts of stability and regime shift for selected problems. Also discusses some basic solution concepts in cooperative game theory (depending on interest and time). | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s) with C or better: AML 253, or SOS 210(or SOS 294 Intro to Math Tools & Modeling). Credit is allowed for only AML 441 or 494 (Math Concepts & Tools in Sustainability) or SOS 441 or 494 (Mathematical Concepts and Tools in Sustainability) |
| AML | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-4 | | |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|---------------------------|------------------------------------|-------|-----------------|---|
| AML | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-3 | | |
| AML | 520 | Agent-Based Modeling | Introduces agent-based modeling to simulate social and social-ecological systems. Topics include design, analysis, and empirical grounding of agent-based models to a variety of application domains including collective action, diffusion processes, resource use, health, and complex societies. | N | SEM | N | OPT | College of Global Futures | School of Complex Adaptive Systems | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AML | 540 | Statistical Modeling for Sustainability | Equips students with sufficient knowledge of statistical theory and methods of applied data analysis to begin conducting empirical analyses in their domains of interest; bring students to a high level of competency in using a cutting-edge statistical software package (Stata) for data management and data analysis tasks; expose students to applications of statistical methods in the economics/policy/social science sustainability literatures in order to develop an understanding for how statistical tools are operationalized in the research world; and develop an appreciation for the careful synthesis of social and natural science theory, knowledge of data and its limitations and command of statistical tools that constitute quality empirical research. | N | LEC | N | OPT | College of Global Futures | School of Complex Adaptive Systems | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AML, ESS or SOS 540 |
| AML | 541 | Mathematical Concepts and Tools in Sustainability | Explores various mathematical analysis and models pertinent to sustainability science drawn from both social and natural sciences and introduced in a problem-based context. Demonstrates basic concepts from game theory such as pure-strategy and mixed-strategy Nash equilibria in such classic games as prisoner's dilemma, hawk-dove, coordination. Explores the evolutionary dynamics of these games through the replicator equations. Studies important concepts of stability and regime shift for selected problems. Also discusses some basic solution concepts in cooperative game theory (depending on interest and time). | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit allowed for only AML 494 (Math Concepts & Tools in Sustainability), AML 541, SOS 494 (Math Concepts & Tools in Sustainability), SOS 541 or SOS 598 (Math Concepts & Tools in Sustainability) |
| AML | 560 | Theory and Archaeology | Applies social theory to archaeological study of societies of the past. Includes practice theory, hierarchy, space and place, material culture. | N | SEM | N | OPT | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AML 560 or ASB 560 |
| AML | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AML | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AML | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AML | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | College of Global Futures | School of Complex Adaptive Systems | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AML | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AML | 610 | Topics in Applied Mathematics for the Life and Social Sciences | Introductory course in applied mathematics for the life and social sciences, combined with the first semester of a two-semester course in mathematical biology. Provides a solid introduction to the modeling of biological and social processes as well as to some of the mathematical approaches involved in their analysis and simulation. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AML | 612 | Applied Mathematics for the Life and Social Sciences Modeling Seminar | Presents and applies mathematical modeling principles and techniques for representing the structure and operation of complex life and social systems and processes. Helps students identify potential problems in the life and social sciences and the corresponding mathematical and statistical methods that can be used for their study. | Y | SEM | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| AML | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AML | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AML | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AML | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | College of Global Futures | School of Complex Adaptive Systems | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AML | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Global Futures | School of Complex Adaptive Systems | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AMS | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-3 | | |
| AMS | 201 | Introduction to American Studies | Provides an intellectual foundation for the interdisciplinary study of American culture, history, and society. Introduces students to ideas, methods, tools, and theories in the vibrant field of American studies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | L & C | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| AMS | 276 | U.S. Women's Movements | Historical survey of sources influential in the development of the feminist movement in the United States. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | H & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AMS 276 or WST 276 OR Visiting University Student |
| AMS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| AMS | 326 | Popular Culture | Topics in American popular culture, including theories of popular culture; the history and analysis of mass media, including television, film, and the music industry; and vernacular art and the folk tradition. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| AMS | 330 | American Lives | Examines American society through the study of autobiography and ethnography. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & C | Prerequisite(s): minimum 30 hours OR Visiting University Student |
| AMS | 332 | Studies in Race and Ethnicity | Topics relating to issues of race and ethnicity in American life. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| AMS | 334 | Class in America | Explores social class and inequality in the U.S. including history, culture, work, politics, globalization and intersections of gender, race, ethnicity and place. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only AMS 334 or ETH 333 OR Visiting University Student |
| AMS | 336 | The American Southwest in Literature and Film | Evaluates literary texts and films addressing the diverse literatures and cultures of the American Southwest. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AMS 336 or ENG 334 or ETH 334 OR Visiting University Student |
| AMS | 353 | African American Literature: Beginnings through the Harlem Renaissance | Focuses on the history of African American literature through the Harlem Renaissance, as exemplified in selected slave narratives, poems, and fiction. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AFR 353 (or AFH 353) or AMS 353 or ENG 353 or ETH 353 |
| AMS | 354 | African American Literature: Harlem Renaissance to the Present | Examines the literary productions of African Americans from the Harlem Renaissance (about 1920) to the present focusing on fiction, poetry, drama, and essays. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AFR 354 (or AFH 354) or AMS 354 or ENG 354 or ETH 354 OR Visiting University Student |
| AMS | 380 | Race, Gender, and Class | In-depth examination of how social inequalities are reproduced and perpetuated. Explores the intersections of race, class and gender in culture and society. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): WST 100 or WST 300 or minimum 30 hours; Credit is allowed for only AMS 380 or ETH 380 or WST 380 OR Visiting University Student |
| AMS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| AMS | 412 | Studies in American Politics and Law | Topics in American political and legal systems, including social movements in the United States and women and the law. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | H | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| AMS | 417 | Religious Traditions of the American Southwest | Examines the sacred traditions that have evolved within the North American Southwest context. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |

| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| AMS | 420 | Theatre in America | Examines the major movements and pivotal moments in the history of American theatre from the 1700s to its current state, particularly its efforts to establish an identity that reflects the unique and changing citizenry of the United States. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): minimum 40 hours. Credit is allowed for only AMS 420 or IAP 420 or THE 420 |
| AMS | 428 | Peoples and Cultures of the American West, to 1848 | Provides an integrated understanding of change over time within and between the native, Mexican, Anglo, Asian and African American communities of the region by looking into the major formative historical forces affecting these populations individually and collectively. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only AMS 428 or ETH 428 or LAS 428 or MAS 598 (Chicano Cultures in Southwest) OR Visiting University Student |
| AMS | 429 | Interdisciplinary Topics | Senior-level seminar that examines issues relevant to two or more American cultures' fields. Topics may include Southwest/border Hispanic folklore, Southwestern corridors, American art and the city, and the West of the imagination. May be repeated for credit when topics vary. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| AMS | 449 | Hate Speech, Manifestos, and Radical Writings | Examines writings, speeches and texts that provoke radical or even revolutionary social change. At its core, this course asks: What is the radical and what does it do? How do radical writings function as texts, speech acts, inspirational documents, testimonies, accounts of madness, frightening moments, calls to arms, peacekeeping entities or speaking truth to power? Examines injurious speech and provocative writings that span a range of social movements and topics, including radical feminism, radical queer, Black power, indigenous rights, art and performance, anti-technology, animal rights, violence, madness and revolutionary resistance. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): minimum 35 hours; minimum 2.50 GPA; Credit is allowed for only AMS 449 or ETH 449 or WST 449 OR Visiting University Student |
| AMS | 450 | Latina/os, Schooling and Social Inequality | Advanced interdisciplinary understanding of the issues facing Chicano, Mexican American and Latino communities in relation to K-16 schooling in the southwestern United States. Examines various schools of thought that have shaped social discourse and policies, develops a critical perspective on the social and political issues affecting education, and identifies issues--both historical and contemporary--affecting Chicanos in public education. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | C | Prerequisite(s): minimum 45 hours; Credit is allowed for only AMS 450 or ETH 450 or LAS 450 or AMS 429 (Latino/a School & Social Inequity) |
| AMS | 469 | Abject Bodies and the Politics of Trash | Examines the possibilities inherent in "theorizing from the gutter"; looking at the world not from a lofty "Ivory Tower" but from the slime, the muck, the dumpster, the trash heap, the wasteland, the discarded and the downtrodden. Takes its theoretical framework from a radical 1960s manifesto called SCUM Manifesto by Valerie Solanas and from the French feminist philosophies of Julia Kristeva, who theorized the abject as a relationship with the grotesque that reveals the deep-seated fear of death. Uses these theoretical positions to examine trash, both abstractly and literally. Works through a variety of concepts ranging from actual trash, garbage, waste, toxic sludge, pollution and dirt, and tackles more abstract notions of trash such as the knowledge produced on the fringe in circuses, amusement parks, "trailer trash" zones, freak shows and the bodies of those marked as "Other" or different. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only AMS 469 or ETH 469 or JHR/MAS 598 (Abject Bodies and the Politics of Trash) or WST 469 OR Visiting University Student |
| AMS | 490 | Writing Certificate Portfolio | Preparing a portfolio demonstrating advanced writing skills. Limited to and required of students in the Writing certificate program. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1 | | Prerequisite(s): New College Writing certificate student; Credit is allowed for only AMS 490 or ENG 495 OR Visiting University Student |
| AMS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-6 | | Prerequisite(s): Barrett Honors student |
| AMS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| AMS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| AMS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-7 | L | Prerequisite(s): AMS 201 with C or better; ENG 101, 105, or 107 with C or better |
| AMS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-3 | | |
| AMS | 500 | Research Methods | Course on research methods in a specific discipline. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| AMS | 502 | American Studies: Theory and Method | Explores some of the major themes in American studies scholarship by considering American cultural formation and change over the last two centuries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): American Studies MA student |
| AMS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------|-------|-----------------|--|
| AMS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| AMS | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AMT | 101 | Introduction to Aeronautical Management Technology | Facilitates entry into aeronautical management technology programs. Emphasizes General Catalog; major and concentration requirements, registration, careers, and Polytechnic campus resources. Introduces various learning styles and strategies that assist students in becoming successful learners. Emphasizes time management techniques and academic integrity. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | |
| AMT | 105 | Flight Operations and Safety I | Supervised private pilot operations, flight instruction, flight safety briefings and recurrent aviation subjects appropriate for private pilots. Flight instruction is considered to be the laboratory for this academic class. Course completion requirements are based on completion of lessons and FAA Practical Exam(s) within the appropriate flight training syllabus and satisfactorily completing all academic requirements. Flight instruction costs are not included in university tuition and fees. Students following the single engine flight training track earn their Single Engine Private Pilot certificate. Students following the multiengine flight training track earn their Single Engine Private Pilot Certificate and their Multiengine Private Pilot certificate. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) major; approved Secondary Flight application; Pre- or corequisite(s): AMT 182 with C or better if completed; AMT 220 with C or better if completed |
| AMT | 110 | Flight Operations and Safety II | Concludes supervised private pilot operations and flight training and introduces students to supervised commercial pilot operations, flight training, flight safety briefings, and recurrent aviation subjects appropriate for private and commercial pilots. Flight instruction costs are not included in university tuition and fees. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) major; AMT 105 with C or better |
| AMT | 150 | Flight Operations and Safety III | Introduces the tasks of commercial and instrument pilot flight operations. Flight instruction, lecture, quizzes and discussion of the current flight syllabus topics, AMT Student Information Handbook & ATP Student Handbook as well as safety and other informational briefings are primary activities. Students must maintain enrollment in the appropriate Flight Operations and Safety course while engaging in flight training activities. The flight training is considered to be the laboratory for this academic class. Course completion requirements are based on completion of lessons within the appropriate FAA-approved Part 141 training syllabus and satisfactorily completing all academic requirements. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) major; AMT 110 with C or better; Credit is allowed for only AMT 150 or AMT 151 |
| AMT | 151 | Flight Operations and Safety III.a | Introduces the tasks of commercial and instrument pilot flight operations. Flight instruction, lecture, quizzes and discussion of the current flight syllabus topics, AMT Student Information Handbook & ATP Student Handbook as well as safety and other informational briefings are primary activities. Students must maintain enrollment in the appropriate Flight Operations and Safety course while engaging in flight training activities. The flight training is considered to be the laboratory for this academic class. Course completion requirements are based on completion of lessons within the appropriate FAA-approved Part 141 training syllabus and satisfactorily completing all academic requirements. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) major; AMT 110 with C or better; Credit is allowed for only AMT 150 or AMT 151 |
| AMT | 170 | Introduction to Unmanned Aircraft Systems | Introduces the history of unmanned aircraft systems and current and future developments in civil and military operations. Specific blocks deal with elements that form an unmanned aircraft system: unmanned vehicles, communication, navigation, launch and recovery, control stations, payloads, and support equipment. Explores other current issues in unmanned aircraft operations: aviation regulatory system and integration, safety and human factors, ethical and legal issues, and the future unmanned aircraft systems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | |
| AMT | 182 | Private Pilot Ground School | Ground school preparation for Private Pilot Certificate. Aerodynamics, navigation, performance, and regulations. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | |
| AMT | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-4 | | |

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| Subject | CatalogNbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|------------|-----------------------------------|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|-------------------|-------|-----------------|--|
| AMT | 201 | Air Traffic Control | Ground and air operations; weather services communications and routing; flight plans, IFR operations, departures and arrivals; and airport conditions and emergencies. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology (Air Traffic Management or Air Transportation Management or Professional Flight or Unmanned Aerial Systems) BS or Applied Science (Aviation) BAS major |
| AMT | 205 | Flight Operations and Safety IV | Continues the tasks of commercial and instrument pilot flight operations. Flight instruction, lecture, quizzes and discussion of the current flight syllabus topics, AMT Student Information Handbook & ATP Student Handbook as well as safety and other informational briefings are primary activities. Students must maintain enrollment in the appropriate Flight Operations and Safety course while engaging in flight training activities. The flight training is considered to be the laboratory for this academic class. Course completion requirements are based on completion of lessons within the appropriate FAA-approved Part 141 training syllabus and satisfactorily completing all academic requirements. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) BS major; AMT 150 with C or better; Credit is allowed for only AMT 205 or AMT 206 |
| AMT | 206 | Flight Operations and Safety IV.a | Continues the tasks of commercial and instrument pilot flight operations. Flight instruction, lecture, quizzes and discussion of the current flight syllabus topics, AMT Student Information Handbook & ATP Student Handbook as well as safety and other informational briefings are primary activities. Students must maintain enrollment in the appropriate Flight Operations and Safety course while engaging in flight training activities. The flight training is considered to be the laboratory for this academic class. Course completion requirements are based on completion of lessons within the appropriate FAA-approved Part 141 training syllabus and satisfactorily completing all academic requirements. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) major; AMT 151 with C or better; Credit is allowed for only AMT 205 or AMT 206 |
| AMT | 210 | Flight Operations and Safety V | Continues the tasks of commercial and instrument pilot flight operations. Flight instruction, lecture, quizzes and discussion of the current flight syllabus topics, AMT Student Information Handbook & ATP Student Handbook as well as safety and other informational briefings are primary activities. Students must maintain enrollment in the appropriate Flight Operations and Safety course while engaging in flight training activities. The flight training is considered to be the laboratory for this academic class. Course completion requirements are based on completion of lessons within the appropriate FAA-approved Part 141 training syllabus and satisfactorily completing all academic requirements. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) BS major; AMT 205 with C or better; Credit is allowed for only AMT 210 or AMT 211 |
| AMT | 211 | Flight Operations and Safety V.a | Continues the tasks of commercial and instrument pilot flight operations. Flight instruction, lecture, quizzes and discussion of the current flight syllabus topics, AMT Student Information Handbook & ATP Student Handbook as well as safety and other informational briefings are primary activities. Students must maintain enrollment in the appropriate Flight Operations and Safety course while engaging in flight training activities. The flight training is considered to be the laboratory for this academic class. Course completion requirements are based on completion of lessons within the appropriate FAA-approved Part 141 training syllabus and satisfactorily completing all academic requirements. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) major; AMT 206 with C or better; Credit is allowed for only AMT 210 or AMT 211 |
| AMT | 214 | Commercial Pilot Ground School | Ground school leading to FAA Instrument Pilot Rating/Commercial Pilot Certificate (part 1 of 2). 10 hours ground trainer included. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology (Air Traffic Management) BS major; AMT 182 with C or better; AMT 220 with C or better OR Pre- or corequisite(s): AMT 205 with C or better if completed |
| AMT | 220 | Aviation Meteorology | Evaluation, analysis, and interpretation of atmospheric phenomena. Low- and high-altitude weather from the pilot's viewpoint. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | |
| AMT | 222 | Instrument Pilot Ground School | Ground school leading to FAA Instrument Pilot Rating/Commercial Pilot Certificate (part 2 of 2). 10 hours ground trainer included. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) BS major; AMT 110 with C or better OR other Aeronautical Management Technology major; AMT 182 with C or better; AMT 220 with C or better |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|-------------------|-------|-----------------|--|
| AMT | 250 | Flight Operations and Safety VI | Introduces the tasks of commercial multiengine pilot flight operations. Flight instruction, lecture, quizzes and discussion of the current flight syllabus topics, AMT Student Information Handbook & ATP Student Handbook as well as safety and other informational briefings are primary activities. Students must maintain enrollment in the appropriate Flight Operations and Safety course while engaging in flight training activities. The flight training is considered to be the laboratory for this academic class. Course completion requirements are based on completion of lessons within the appropriate FAA-approved Part 141 training syllabus and satisfactorily completing all academic requirements. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) BS major; AMT 210 with C or better; Credit is allowed for only AMT 250 or AMT 251 |
| AMT | 251 | Flight Operations and Safety VI.a | Introduces the tasks of commercial multiengine pilot flight operations. Flight instruction, lecture, quizzes and discussion of the current flight syllabus topics, AMT Student Information Handbook & ATP Student Handbook as well as safety and other informational briefings are primary activities. Students must maintain enrollment in the appropriate Flight Operations and Safety course while engaging in flight training activities. The flight training is considered to be the laboratory for this academic class. Course completion requirements are based on completion of lessons within the appropriate FAA-approved Part 141 training syllabus and satisfactorily completing all academic requirements. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) major; AMT 211 with C or better; Credit is allowed for only AMT 250 or AMT 251 |
| AMT | 270 | Unmanned Aircraft | Introduces elements comprising the unmanned aircraft system (UAS). Includes review of UAS, Unmanned Aerial Vehicle (UAV); system development and certification, selection and design, aerodynamics and airframe configurations, characteristics of vehicle types, design standards and regulatory aspects, airframe design, payload types, and control and stability. Students apply concepts acquired in classroom sessions and construct various unmanned aircraft, train to operate using existing simulators, and conduct flight-testing. The final course project is the design, development and construction of a group 1 unmanned aircraft, serving as the core unmanned vehicle used in subsequent UAS courses. Incorporates UAS data collection and analysis throughout the course. Course concepts enable UAS student pilots to become knowledgeable of aerodynamic aspects of UAV to ensure safety of flight and improved maneuverability. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Pre- or corequisite(s): AMT 170 with C or better if completed |
| AMT | 280 | Aerospace Structures, Materials and Systems | Basic aerodynamics, incompressible/compressible airflow, wind tunnel testing, wing theory; analysis of aircraft structures; properties and applications of materials, and aircraft systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 4 | | Prerequisite(s): Aeronautical Management Technology BS major; Pre- or corequisite(s): PHY 111 with C or better if completed; PHY 113 with C or better if completed OR PHY 121 with C or better if completed; PHY 122 with C or better if completed |
| AMT | 285 | Flight Instructor Ground School | Ground school in preparation for the FAA Flight Instructor Certificate. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) BS major; Pre- or corequisite(s): AMT 210 with C or better if completed |
| AMT | 286 | Multiengine Pilot Ground School | Ground school preparation for the FAA Multiengine Rating. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) BS major; Pre- or corequisite(s): AMT 205 with C or better if completed |
| AMT | 287 | Aircraft Powerplants | Theory and performance analysis of gas turbine and reciprocating aircraft engines. Engine accessories, systems, and environmental control. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 4 | | Prerequisite(s): Aeronautical Management Technology BS major; Pre- or corequisite(s): PHY 111 with C or better if completed; PHY 113 with C or better if completed OR PHY 121 with C or better if completed; PHY 122 with C or better if completed |
| AMT | 292 | Flight Instructor Instrument Ground School | Ground school preparation for the FAA Instrument Flight Instructor Rating. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): AMT 210 with C or better; AMT 285 with C or better |
| AMT | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-4 | | |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|-------------------|-------|-----------------|--|
| AMT | 305 | Flight Operations and Safety VII | Concludes the tasks of commercial single and multi-engine pilot flight operations. Flight instruction, lecture, quizzes and discussion of the current flight syllabus topics, AMT Student Information Handbook & ATP Student Handbook as well as safety and other informational briefings are primary activities. Students must maintain enrollment in the appropriate Flight Operations and Safety course while engaging in flight training activities. The flight training is considered to be the laboratory for this academic class. Course completion requirements are based on completion of lessons within the appropriate FAA-approved Part 141 training syllabus and satisfactorily completing all academic requirements. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): AMT 250 with C or better; Credit is allowed for only AMT 305 or AMT 306 |
| AMT | 306 | Flight Operations and Safety VII.a | Concludes the tasks of commercial single and multi-engine pilot flight operations. Flight instruction, lecture, quizzes and discussion of the current flight syllabus topics, AMT Student Information Handbook & ATP Student Handbook as well as safety and other informational briefings are primary activities. Students must maintain enrollment in the appropriate Flight Operations and Safety course while engaging in flight training activities. The flight training is considered to be the laboratory for this academic class. Course completion requirements are based on completion of lessons within the appropriate FAA-approved Part 141 training syllabus and satisfactorily completing all academic requirements. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): AMT 251 with C or better; Credit is allowed for only AMT 305 or AMT 306 |
| AMT | 308 | Air Transportation | Studies the historical and international development of air transportation and its social, political, and economic impact upon global interrelationships. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | G | Pre-requisite: Minimum 50 hours |
| AMT | 310 | Flight Operations and Safety VIII | Flight instructor operations for single and multiengine instrument operations. Flight instruction, lecture, quizzes and discussion of the current flight syllabus topics, AMT Student Information Handbook & ATP Student Handbook as well as safety and other informational briefings are primary activities. Students must maintain enrollment in the appropriate Flight Operations and Safety course while engaging in flight training activities. The flight training is considered to be the laboratory for this academic class. Course completion requirements are based on completion of lessons within the appropriate FAA-approved Part 141 training syllabus and satisfactorily completing all academic requirements. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): AMT 305 with C or better; Credit is allowed for only AMT 310 or AMT 311 |
| AMT | 311 | Flight Operations and Safety VIII.a | Flight instructor operations for single and multiengine instrument operations. Flight instruction, lecture, quizzes and discussion of the current flight syllabus topics, AMT Student Information Handbook & ATP Student Handbook as well as safety and other informational briefings are primary activities. Students must maintain enrollment in the appropriate Flight Operations and Safety course while engaging in flight training activities. The flight training is considered to be the laboratory for this academic class. Course completion requirements are based on completion of lessons within the appropriate FAA-approved Part 141 training syllabus and satisfactorily completing all academic requirements. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): AMT 306 with C or better; Credit is allowed for only AMT 310 or AMT 311 |
| AMT | 350 | Aircraft Design and Logistics Management | Fundamental aircraft design principles, including performance factors associated with mission profiles and the identification of basic logistical support requirements. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 4 | | Prerequisite(s): Applied Sci (Aviation) BAS or Aeronautical Mgmt Tech BS major; Pre- or corequisite(s): PHY 111 w/ C or better if completed; PHY 113 w/ C or better if completed OR PHY 121 w/ C or better if completed; PHY 122 w/ C or better if completed |
| AMT | 360 | Aircraft Dispatch Ground School | Aeronautical knowledge areas required for Aircraft Dispatch certification, as well as preparation for the Aircraft Dispatch knowledge examination. Regulations, aerodynamics, emergencies, flight physiology, weight and balance, navigation, aircraft performance, meteorology, and flight operations. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): AMT 214 with C or better; AMT 220 with C or better; AMT 222 with C or better |

| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|-------------------|-------|-----------------|--|
| AMT | 370 | Unmanned Aircraft Systems | Students build upon gained knowledge, skills and experience by exploring unmanned aircraft avionics, autopilot systems, first person video (FPV), on-screen displays (OSD), communication systems, command and control (C2), ground control stations (GCS), flight software, and UAV launch and recovery systems. Students continue flight training and gain proficiency in unmanned aircraft operation using simulators and hands-on flight-testing. Students demonstrate their abilities to upgrade and modify their previously constructed unmanned aircraft in order to operate and conduct actual flight-testing. Incorporates UAS data collection and analysis throughout the course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): AMT 270 with C or better; Pre- or corequisite(s): AMT 170 with C or better if completed |
| AMT | 382 | Air Navigation | Theory and application of modern advanced navigation and flight instrument systems. Introduces crew resource management in multiplace cockpits. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) BS major; AMT 210 with C or better |
| AMT | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-4 | | |
| AMT | 396 | Aviation Professional | Career focus for management and flight students, including internships, writing, interviews, and employment search in aviation industry. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): Applied Science (Aviation) BAS or Aeronautical Management Technology BS major; minimum 50 hours |
| AMT | 408 | National Aviation Policy | Examines aviation and airspace policies and policy process, including agencies involved in formulation, implementation, and evaluation of aviation policy. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology BS or Applied Science (Aviation) BAS major; minimum 50 hours |
| AMT | 410 | Aviation Safety and Human Factors | Aviation accident prevention, human factors, life support, fire prevention, accident investigation, and crash survivability. Development and analysis of aviation safety programs. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology BS or Applied Science (Aviation) BAS major; minimum 50 hours |
| AMT | 442 | Aviation Law and Regulations | Aviation within context of U.S. Common Law system. Public law, administrative rule making, sovereignty, enforcement, and case law analysis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology BS or Applied Science (Aviation) BAS major; minimum 50 hours |
| AMT | 444 | Airport Management and Planning | Orientation to administration and management of modern public airports, including overview of planning, funding, and development of airport facilities. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology BS or Applied Science (Aviation) BAS major; minimum 50 hours |
| AMT | 456 | Organized Labor in Aviation | Explores topics of labor relations, unions, federations, collective bargaining, grievances and labor legislation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology BS or Applied Science (Aviation) BAS major; minimum 50 hours |
| AMT | 460 | Aircraft Dispatch Capstone | Capstone for aircraft dispatch whereby students are engaged in practical applications of regulations, aerodynamics, emergencies, flight physiology, weight and balance, navigation, aircraft performance, meteorology and flight operations. Uses various scenarios in which students can employ the strategies and procedures necessary for safe flight. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): AMT 360 with C or better |
| AMT | 470 | Unmanned Aircraft Payloads, Sensors, and Control Stations | Builds on previously gained knowledge and experience. Student pilots utilize long-range communication and data links, UAS sensors, geospatial data collection, and still-imaging mosaicking. Students continue flight training using existing simulators and flight-tests during the course. Students apply concepts acquired during classroom sessions and construct a ground control station, modify and upgrade existing unmanned aircraft with payloads/sensors, train to operate sensors using existing simulators, and conduct flight-testing. Incorporates UAS data collection and analysis throughout the course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): AMT 370 with C or better; Pre- or corequisite(s): AMT 170 with C or better if completed |
| AMT | 482 | Airline Instrument Procedures | Advanced instrument flight using airline instrument procedures and airline crew and cockpit resource management. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) BS major; AMT 382 with C or better |
| AMT | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-12 | | Prerequisite(s): minimum junior standing |
| AMT | 486 | Regional Jet Aircraft Systems | Regional jet airline aircraft systems and flight procedures. Includes theoretical education for regional jet commercial passenger aircraft. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) major; AMT 382 with C or better |
| AMT | 488 | Regional Jet Aircraft Systems II | Regional jet systems, with emphasis on air navigation systems, including Flight Management System (FMS), Selective Calling (SELCAL), and flight profiles. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Pre-requisite(s): Aeronautical Management Technology (Professional Flight) student; AMT 382 with C or better |

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| Subject | CatalogNbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|------------|--------------------------------------|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|-------------------|-------|-----------------|---|
| AMT | 489 | Airline Administration | Administrative organizations, economics of airline administration, operational structure, and relationship with federal government agencies. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology BS or Applied Science (Aviation) BAS major; minimum 50 hours |
| AMT | 490 | Regional Jet Operations Capstone | Regional jet aircraft operations and flight procedures. Includes theoretical education for RJ aircraft, FTD and full-motion simulator time. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) BS major; AMT 305 with C or better; AMT 486 with C or better |
| AMT | 491 | Aviation Management Capstone | Integrated group project with industry partner to address current problems in either air carrier or airport management focus area. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Pre- or corequisite(s): AMT 489 with C or better if completed |
| AMT | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-6 | | Prerequisite(s): Barrett Honors student |
| AMT | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| AMT | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-4 | | Prerequisite(s): minimum 45 hours |
| AMT | 495 | Unmanned Aircraft Systems Operations | Capstone course applies student pilots' knowledge and skills gained in previous UAS courses to safely deploy a UAS in response to real-world situation or research. Students collaborate with other university departments, state or federal agencies, and other organizations and conduct actual or simulated missions in geospatial data collection, search and rescue, and near-space operations. Course blocks include flight planning and preparation, aircraft preflight and maintenance, launch and recovery operations, payload operations, normal and emergency procedures, and mission planning and execution. Students continue flight training using existing simulators and flight-tests. Students use real-world situations which require deployment of equipment and systems developed during previous course. Places specific emphasis on aircraft and payload selection based upon proposed mission analysis. Incorporates UAS data collection and analysis throughout the course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): AMT 470 with C or better |
| AMT | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-3 | | |
| AMT | 522 | Aviation Law | Examines the U.S. legal system with a focus on the aviation perspective, administrative agencies, FAA enforcement, and case law. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AMT | 523 | Intermodal Transportation Management | Systems theory applied to intermodal transportation networks. Surveys air and ground transportation infrastructure, institutional frameworks, and intermediaries promoting connections between modes. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking) OR Senior in Fulton Schools of Engineering with a University Cum GPA 3.0 or greater |
| AMT | 525 | Airport Planning and Design | Completion of various phases of airport master planning process. Provides guidance for logical and timely development of airports. Project work groups assigned. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AMT | 526 | Aviation Labor Relations | Investigates labor-management relations in the aviation industry, including laws, unionism, collective bargaining, public sector relationships, grievance procedures, and conflict. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AMT | 527 | Airline Management Strategies | Since deregulation, airlines have undergone profound changes through mergers, consolidation, and acquisition. In-depth look at airline management strategies for the 21st century. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AMT | 533 | Aviation Systems and Psychology | Provides an overview of various aviation learning/training situations and how to develop and evaluate instruction appropriate for the situation and the learner. Focuses on determining the most effective instructional strategy for the situation and how to ensure learner preparedness and mastery of the concepts and skills. Considers topics: information processing, memory, instructional design methodologies, learning strategies, expert/novice differences, individual learner differences including generational differences, evaluation of instruction, transfer of knowledge and skills to unique settings. Discussions focus on research findings in these areas and practical application and implementation to improve learning and performance. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|-------------------|-------|-----------------|--|
| AMT | 534 | Airline Pricing and Yield Management | Focuses on the fundamentals of airline economics and the volatility of industry performance at the operating level. Topics include the structure of the airline industry and the various historical and current operational strategies; demand, traffic, price and yield; operating revenues and operating costs. The airline industry is affected by various economic, environmental, political and regulatory conditions. Reviews the implications of these conditions on airline pricing, capacity, fleet selection and scheduling. Analyzes current and predicted future conditions to develop potential strategies for successful revenue management within the industry. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AMT | 541 | Aviation Physiology | Surveys human physiology and human performance principles related to modern aircraft and aircraft systems operating in multiple environments. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AMT | 546 | Crew Resource Management/Line-Oriented Flight Training | Evaluates in-depth, multicrew coordination issues for commercial aviation pilots. Stresses importance of critical thinking, decision making, integrated resource utilization. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AMT | 565 | Safety in Complex Systems | Evaluates human error in aerospace systems. Discusses different theories of error and taxonomies as well as safety management systems to help identify hazards and risks and then help mitigate and/or eliminate them. Extensively uses case studies to highlight human failures as well as demonstrate organizational changes that resulted in safe and successful operations. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AMT | 570 | Unmanned Aerial Systems | Examines the system design, operations and employment of unmanned aerial systems (UAS), beginning with an overview of the system and human factors and specific issues involved with UAS design and operations. Communication, remote operations, operator display interface, and situational awareness and teamwork required for successful employment. Evaluates accident data to understand technology and human error concerns. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AMT | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-12 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking) OR Fulton Polytechnic School student |
| AMT | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-12 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking) OR Fulton Polytechnic School student |
| AMT | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-12 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking) OR Fulton Polytechnic School student |
| AMT | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-12 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking) OR Fulton Polytechnic School student |
| AMT | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-12 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking) OR Fulton Polytechnic School student |
| AMT | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-12 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking) OR Fulton Polytechnic School student |
| AMT | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AMT | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking) OR Fulton Polytechnic School student |
| AMT | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-4 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking) OR Fulton Polytechnic School student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|---|-------------------------|-------|-----------------|--|
| AMT | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-12 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking) OR Fulton Polytechnic School student |
| ANB | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ANB | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ANB | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ANB | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ANB | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ANB | 601 | Research Strategies in Animal Behavior | Using hands-on experiences, teaches key concepts underlying the control and function of animal behaviors and contemporary methods for measuring, analyzing, and reporting animal behaviors. Combines introductory classroom lectures on concepts and methods with direct application in observations and experiments on animal behavior in the field and the lab. Topics include communication, mating behavior and systems, parental care, kin selection, cooperation and competition, migration and dispersal, foraging, and anti-predator strategies. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Pre-requisites: Animal Behavior PhD student |
| ANB | 602 | Current Issues In Animal Behavior | Student-led seminar course centers on discussions of contemporary literature in the field of animal behavior. Takes a student-driven approach, with course participants selecting a target theme for the semester, selecting individual papers to discuss each week, and leading discussions about relevant merits and shortcomings of each article. Additional topics may include: conceptual frameworks and results from the dissertation projects of participating students, career options and strategies in the behavioral sciences, responsible research conduct in the field, and tactics in manuscript publication and grantsmanship. | N | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Pre-requisites: Animal Behavior PhD student |
| ANB | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ANB | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ANB | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ANB | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ANP | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| ANP | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|---|---------------------------------|-------|-----------------|--|
| ANP | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APA | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-3 | | Pre-requisite: Freshman status |
| APA | 200 | Introduction to Asian Pacific American Studies | Examines historical and contemporary issues facing Asian Americans and Pacific Islanders in the United States. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | (HU or SB) & C | |
| APA | 210 | Introduction to Ethnic Studies in the U.S. | Covers diversity of experiences and relations among racial and ethnic groups in the United States. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | C | Credit is allowed for only AFR 212 or APA 210 or JUS 210 or TCL 210 OR Visiting University Student |
| APA | 220 | Introduction to Social Transformation | Introduces key concepts in the study of social change, social innovation, and social transformation. Studies examples of social movements, social activism, community organizing, and coalition building and how such efforts have transformed society and culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Credit is allowed for only APA 220 or JUS 220 or SST 220 |
| APA | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| APA | 310 | Asian Pacific American Arts and Cultures | In-depth exploration of Asian Pacific American cultural expression in art, literature, film, theatre, dance, and music. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & C | Prerequisite(s): APA 200 or APA 210 or minimum 24 hours |
| APA | 315 | Asian Pacific American Literature | In-depth exploration of the literary history, critical reception, and major theories in Asian Pacific American poetry, fiction, and prose. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & C | Prerequisite(s): APA 200 or APA 210 or minimum 24 hours |
| APA | 330 | Asian Pacific American Genders and Sexualities | In-depth exploration of gender and sexuality issues as they relate to Asian Pacific American experiences, including interracial relationships, stereotypes, feminism, queer theory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or SB) & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; APA 200 or APA 210 or minimum 24 hours; Credit is allowed for only APA 330 or WST 331 OR Visiting University Student |
| APA | 340 | Asian Pacific Americans and Media | Advanced study of the social construction of Asian Pacific American media images and resistance to those images in various historical contexts. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & C | Prerequisite(s): APA 200 or APA 210 or minimum 24 hours |
| APA | 345 | Asian Pacific Americans and Film | In-depth examination of the representations of Asian Pacific Americans in narrative, popular, experimental, and documentary film. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & C & H | Prerequisite(s): APA 200, APA 210, FMS 100, or minimum 24 hours; Credit is allowed for only APA 345 or FMS 345 OR Visiting University Student |
| APA | 347 | Immigration, Education and the Family | Cultural processes related to immigration and their impact on the social construction of the immigrant family and the education of other children. Immigration theories, immigration debates and discourses, the immigration landscape of the 21st century, conceptualizations of the family, and the methodological challenges family researchers face. Topics include issues pertaining to education and the family and globalization. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only APA 347 or JUS 347 OR Visiting University Student |
| APA | 350 | Inequality and Diversity in Education | Advanced exploration of various dimensions of diversity in relation to educational systems and outcomes. Through sociological and psychological research, case studies and films, students examine how educational inequality is created and reproduced through individual actions and institutional constraints. Also considers the connection between schooling and human rights and ways in which educational inequality may be addressed. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | L & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; AFR 212, APA 200, APA 210, CDE 232, JUS 210, TCL 210, or minimum 24 hours; Credit is allowed for only AFR 350, APA 350, CDE 350, JUS 365, SOC 350, or TCL 360 OR Visiting University Student |
| APA | 352 | Borders, Prisons and Suburbs | Explores how the relationship between race and space has been important to the development of broad patterns of social inequality in the United States. Through a variety of readings, films and other material, examines how ideas of race and space have been important to the making and maintenance of national boundaries, citizenship, regional histories and spatial typologies such as border, ghetto, suburb and prison. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): minimum 24 hours; Credit is allowed for only AFR 352 (or AFS 352) or APA 352 or JUS 353 or TCL 353 |
| APA | 355 | Asian American Psychology | Reviews the current research and literature about the psychological experiences of Asian Americans, with the appreciation for the historical, sociopolitical and cultural contexts that invariably shape the behavior and well-being of individuals in this diverse population group. Using psychological theory and research as a guiding framework, explores family relationships, identity development, sexuality, model minority stereotypes, racism and discrimination, media images, dating/marriage, race relations, mental health, and other issues affecting Asian American lives. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only APA 355 or APA 360 (Asian Pacific American Psychology) |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|---|---------------------------------|-------|-----------------|---|
| APA | 356 | Race and Child Development | Reviews the current research and literature about the particular role of race in child development. Even though race is not a valid biological construct, it has significant social implications as it shapes how children interact and are treated by others. Through primarily class discussions/activities, presentations and papers, addresses: (1) What are the research and theoretical issues in studying race? (2) What does race and racism mean? (3) How does race influence developmental processes? | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): APA 200, APA 210, or minimum 30 hours; Credit is allowed for only APA 356 or CDE 356 OR Visiting University Student |
| APA | 360 | Asian Pacific American Experience | Advanced study of the historical and contemporary experiences of Asian Pacific American racial/ethnic groups in the United States. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): APA 200 or APA 210 or minimum 24 hours OR Visiting University Student |
| APA | 370 | Indigeneity, Race and Ethnic Relations in Hawaii | Examines Native Hawaiian history, culture and worldviews prior to contact with Europe and the United States. Using colonialism, race and racism as the analytical lens, provides a deeper understanding to how racial ideologies and colonialism impacted the cultural, economic, political, environmental and social well-being of the island's indigenous population; the predominately nonwhite immigrant groups that were recruited to work in Hawaii's agricultural industries; the various institutions (e.g., tourism and the military) that continue to maintain structures of inequality and oppression of Kanaka Maoli (Native Hawaiians) and other racial and ethnic groups on the islands; and the ways Native Hawaiians and locals in Hawaii have resisted these efforts. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | H & C | Prerequisite(s): minimum 45 hours; Credit is allowed for only APA 370 or APA 394 (Race and Ethnic Relations in Hawaii) OR Visiting University Student |
| APA | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | Prerequisite(s): APA 200 or APA 210 or minimum 24 hours OR Visiting University Student |
| APA | 428 | Critical Race Theory | In-depth analysis of the ways in which race has been historically utilized, constructed, and contested in American civil society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only AFR 428, APA 428, JUS 428 or SST 428 OR Visiting University Student |
| APA | 450 | Asian Pacific American Contemporary Issues | Advanced study of the issues shaping Asian Pacific American communities, including immigration, politics, education, health, family, gender, youth, interracial relations, and other contemporary topics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): APA 200 or APA 210 or minimum 36 hours OR Visiting University Student |
| APA | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| APA | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-6 | | Prerequisite(s): Barrett Honors student |
| APA | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| APA | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | Pre-requisite: APA 200 or APA 210 or minimum 45 hours |
| APA | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| APA | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-3 | | |
| APH | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| APH | 212 | Culture of Place | Explores contemporary conditions in the built environment as they are shaped by cultural phenomena. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU | |
| APH | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| APH | 336 | 20th-Century Architecture I | Architecture in Europe and America from the foundations of the modern movement to the culmination of the international style. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU | Pre-requisites: Minimum Junior standing or Digital Culture: Design major |
| APH | 337 | 20th-Century Architecture II | Developments in architecture since the international style. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU | Pre-requisite: APH 336 |
| APH | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| APH | 421 | First Concepts: What is... The Writing, Philosophy, and Culture of Architecture | Examines the major writings and concepts that surround the history of architecture. Focuses on (but not exclusively) work in the 20th century. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | L or HU | Prerequisite(s): Architectural Studies BSD or Environmental Design BS major; APH 313 with C or better; APH 314 with C or better; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| APH | 441 | Ancient Arch | Architecture of the ancient Mediterranean world with selective emphasis on major historical complexes and monumental sites. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|---|-----------------------|-------|-----------------|--|
| APH | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | | Prerequisite(s): Barrett Honors student |
| APH | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| APH | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| APH | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-3 | | |
| APH | 505 | Foundation Theory Seminar | Foundation of conceptual architectural inquiry, stressing the reciprocal and interdependent relationship between design and theory. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisite: Master of Architecture student; Co-requisites: ADE 522; ATE 556 |
| APH | 509 | Foundation Seminar | Historical, technical, theoretical, environmental, and professional issues in architecture. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisite: Master of Architecture; Co-requisite: ADE 510 |
| APH | 515 | Current Issues and Topics | Critical examination of current architectural issues, topics, and discourse. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisites: APH 505 with a C or better; Co-requisite: ADE 621 |
| APH | 581 | Contemporary Urban Design | Explores contemporary city and urban design issues related to contemporary cities. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Herberger Institute of Design and the Arts Graduate student |
| APH | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Herberger Institute of Design and the Arts Graduate student |
| APH | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Herberger Institute of Design and the Arts Graduate student |
| APH | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Herberger Institute of Design and the Arts Graduate student |
| APH | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 518 | Englishes in the Global Context | Examines the implications of the global spread of English, including its diverse forms and functions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only APL 518 or APL 591 (World Englishes) or APL 691 (World Englishes) |
| APL | 555 | Disciplinary Discourses | Professional and disciplinary issues in linguistics and applied linguistics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 557 | Computer-Assisted Language Learning | Explores the field of computer-assisted language learning. Traces the development of computer-assisted language learning (CALL) over the last three decades. Focuses on research that explores how computer technology can help facilitate second language development; relies primarily on empirical data to do so. Examine established as well as new research methods in CALL. Participants participate in one research study and apply theoretical and practical aspects of CALL in these projects. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only APL 557 or ENG 557 or SLC 557 |
| APL | 558 | Computer-Assisted Language Learning Praxis | Offers graduate students an in-depth practical experience in Computer-Assisted Language Learning (CALL) praxis, including tools, approaches to using technology in the language classroom, the techniques and best practices of online instruction, and the development of a teaching portfolio. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Pre- or corequisite(s): APL 557, ENG 557, or SLC 557; Credit is allowed for only APL 558 or SLC 510 |
| APL | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Pre-requisite: Applied Linguistics Ph.D. student |
| APL | 588 | Spanish Language Acquisition | Examines Spanish language acquisition in children and adults in the context of monolingual and bilingual language acquisition. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate |
| APL | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|-------------------------------------|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|-----------------------|-------|-----------------|--|
| APL | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Pre-requisite: Applied Linguistics Ph.D. student |
| APL | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | Department of English | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 601 | Introduction to Applied Linguistics | Overview of the field of applied linguistics. Applies linguistic knowledge to the resolution of language-related issues facing multilingual societies (e.g., second language acquisition and ultimate attainment, literacy, language assessment, bilingualism, heritage and indigenous languages, language attitudes, language planning and policy, language and politics, world Englishes). | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 683 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | Department of English | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 783 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|--|
| APL | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | Department of English | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | Department of English | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 501 | Differential Equations I | Linear and nonlinear ordinary differential equations. Existence and uniqueness of solutions, limit sets, stability, Lyapunov functions, linear systems with constant coefficients. Geometry of behavior in two and three dimensions, including Poincare-Bendixson theorem, Lorenz equations, linearization, sensitive dependence on initial conditions, bifurcations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 502 | Differential Equations II | Partial differential equations, including classification, method of characteristics, separation of variables, boundary value and initial value problems, Green's functions, maximum principle, distributions, and weak solutions. Students must have already taken or be concurrently enrolled in Differential Equations 1. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 503 | Applied Analysis | Convergence sequences and series of functions; metric space topology, compactness, completeness and the Ascoli-Arzelà Theorem; Contraction Mapping Principle, Implicit Function Theorem; intro to Lebesgue integration leading to L^p -spaces; properties of Hilbert spaces, Fourier transform. Students should have knowledge of linear algebra, multivariable calculus, and analysis at the undergraduate level. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 504 | Applied Probability and Stochastic Processes | Markov chains, Martingales, probability measures, SDE, Brownian motion, Monte Carlo methods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 505 | Applied Linear Algebra | Fundamentals of linear algebra and numerical linear algebra, including decompositions (LU, QR, SVD), Eigen values, spectral theory, least squares problems. Programming with MATLAB. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 506 | Computational Methods | Covers interpolation, solution of nonlinear equations and systems, numerical differentiation, numerical integration, numerical solution of ordinary and partial differential equations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 520 | Advanced Numerical Linear Algebra | Extends topics of APM 505. Introduces essential iterative methods, Gauss-Seidel, conjugate gradients. Methods for SVD, total least squares and root-finding applications in image analysis. Students should have basic knowledge of numerical linear algebra and a programming language. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 522 | Numerical Methods for Partial Differential Equations | Numerical methods for parabolic, elliptic, and hyperbolic partial differential equations, including finite difference/volume, finite element, and spectral methods. Mathematical concepts of stability, consistency, and convergence. Applications to scientific, biomedical, and industrial problems. Students should have a basic knowledge of PDE's and a programming language. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 523 | Optimization | Building on a fundamental undergraduate background in linear algebra and calculus, covers continuous optimization, constrained/unconstrained and linear/nonlinear, as well as selected topics in discrete optimization. Some programming experience is needed for course projects. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 524 | Spectral Methods | Extends approximation theory to global methods, including Fourier and orthogonal polynomial expansions. Applications to imaging and hyperbolic, parabolic, and elliptic partial differential equations. Students should have previous graduate courses in ordinary and partial differential equations, basic programming skills. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| APM | 525 | High-Performance Computing | Supercomputer architectures, parallel programming environments, languages, libraries, and algorithms for high-performance numerical simulations. Instructor/Department approval is required for this course. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only APM 525, MAE 494 (High-Performance Computing) or MAE 598 (High-Performance Computing) |
| APM | 526 | Advanced Numerical Methods for Partial Differential Equations | Partial content will vary from semester to semester, but may include hyperbolic conservation laws, finite element methods, multigrid methods, and parallel algorithms for partial differential equations. Applications to scientific, biomedical, and industrial problems. Students should have basic knowledge of PDE's and a programming language. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 530 | Mathematical Cell Physiology. | Mathematical modeling of dynamical aspects of cell physiology. Diffusion, membrane transport, intracellular calcium channel kinetics, calcium oscillations and waves. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 531 | Mathematical Neuroscience I | Mathematical modeling of electrochemical processes in nerve cells. Dendritic modeling, dendritic spines and synaptic plasticity, bifurcation analysis of excitable membrane models, deterministic and stochastic methods for threshold dynamics and bursting, relaxation oscillations. Students should have had a previous graduate-level PDE course. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 533 | Mathematical Population Biology I | Selectively covers population biology models in the forms of systems of difference equations or ordinary differential equations. Focuses on mathematical analysis of population models as well as model formulation and simulation. Students should have a previous graduate-level course in ODE. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 534 | Mathematical Population Biology II | Selectively covers population biology models in the form of partial differential equations and systems. Focuses on mathematical analysis of population models as well as model formulation and simulation. Students should have a previous basic graduate-level course in ODE and PDE. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 535 | Mathematical Models in Medicine | Mathematical models for the etiology, epidemiology, pathogenesis, morphology and treatment of disease. Covers dynamical models of cancer and viral infections. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 541 | Stochastic Modeling in Biology | Markov processes, random walks, martingales, branching processes, logistic growth model, Wright-Fisher model, Kingman's coalescent, bound and site percolations, contact processes, voter models. Students should have previously taken course work in probability and/or stochastic processes (or have a recommendation from their advisor). Recommendation from advisor is typically for students in biology or physics that have not taken statistics courses but have a good background in mathematics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 560 | Applied Dynamical Systems | Bifurcations, normal forms, pattern formations, mixing, Lagrangian chaos, and applications to fluid dynamics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 570 | Applied Linear Operators | Bounded linear and compact operators on Hilbert spaces. Linear integral equations, Fredholm and Hilbert-Schmidt theory, and approximate methods. Distributions. Completion of a course in Applied Analysis is strongly recommended prior to enrollment in this course. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 575 | Perturbation Methods in Applied Mathematics | Regular and singular perturbation methods for ordinary and partial differential equations, Boundary layer theory, matched asymptotic expansions, multiple-scale, homogenization, and WKB methods. Application to nonlinear oscillations, bifurcation and stability problems. Completion of a course in Differential Equations II or Partial Differential Equations in Engineering is strongly recommended prior to enrollment in this course. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Pre-requisites: APM 502 or MAE 502; Credit is allowed for only APM 575 or MAE 505 |
| APM | 576 | Theory of Partial Differential Equations I | Existence and uniqueness theorems, boundary value and initial value problems, characteristics, Green's functions, maximum principle, distributions, and weak solutions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 577 | Theory of Partial Differential Equations II | Continuation of existence and uniqueness theorems, boundary value and initial value problems, characteristics, Green's functions, maximum principle, distributions, and weak solutions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): APM 576 |
| APM | 581 | Geometry and Control of Dynamical Systems I | Manifolds, tangent and cotangent bundle, Lie theory, integrability and controllability, and feedback control. Students should have previously taken coursework in differential equations, applied analysis, applied probability, and stochastic processes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 582 | Geometry and Control of Dynamical Systems II | Variational principles, Euler-Lagrange equations, Hamiltonian systems, optimal control, connections and curvature. Students should have previously taken coursework in differential equations, applied analysis, applied probability, and stochastic processes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|---|
| APM | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OP4 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARA | 101 | ASU: The Art Experience | Introduces the culture, challenges and opportunities of the School of Art. Addresses essentials for academic and personal success within the university. | N | REC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 1 | | |
| ARA | 110 | Sculpture Safety | Introduces safety and environmental health in the sculpture studios. Pre- or corequisite for all sculpture classes. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Art | 1 | | |
| ARA | 195 | Art in My World | Basic concepts and fundamental questions that provide insights into art making and that affect one's understanding and appreciation of art. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | |
| ARA | 202 | Understanding Photographs | Slide lecture course in understanding photography as a fine art form. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | |
| ARA | 209 | Photography Now | Explores contemporary practice through lectures, readings, exhibition visits, screenings and discussions. Explores work created within the past thirty years up to the present. Students act as a collective "ear to the ground" for the medium, engaging in first-hand experiences and research and being responsible to share those experiences with the class as active agents of discovery. Requires reading current periodicals, attending and discussing photographic lectures and exhibitions both in-class and beyond within the local community. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| ARA | 240 | Encounters with Contemporary Art | Provides an open environment for dialogue and discovery of what it means to be a successful artist, and allows students to explore their own academic and career goals. Exposes students to new ideas and people, and familiarizes them with the School of Art and ASU resources designed specifically for them. Includes an intense focus on professional practices in the fine arts and provides the tools to help students succeed personally and professionally. An acknowledgment of ongoing rigorous studio practice plays a fundamental role in the course, and students expand their abilities to think critically and to communicate articulately about their own work and the work of others through in- and out-of-class projects, discussions and critiques that encourage consideration of their own work in the context of current opportunities and directions in the visual arts. In addition, students have the opportunity to engage with and learn from industry professionals. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | |
| ARA | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ARA | 311 | Art Appreciation and Human Development | Foundations of art for children and young adults. Emphasizes learning, development, and understanding art in historical and cultural contexts. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Prerequisite(s): non-ART student; ENG 101; ENG 102; minimum junior standing |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|---|---------------|-------|-----------------|---|
| ARA | 330 | Issues in Expanded Arts | Critical survey of recent theory and practice in expanded arts. Created specifically to provide a common historical and theoretical framework for students majoring in the expanded arts area, as well as to anyone seeking to broaden his or her understanding of non-traditional media, performance, installation, computer art, video, social practice, Web-art and interactivity and their relationship to contemporary society and discourse. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 216 or minimum 45 hours OR Visiting University Student |
| ARA | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ARA | 396 | Professional Practices for Design and the Arts | Prepares young artists, designers and individuals in other creative fields to successfully enter the professional world of art and culture beyond the support system of the university. Through examining contemporary artists' models of practice and creative entrepreneurship; developing real life materials to promote their practice; engaging with guest artists, designers and other creative professionals; exploring best practices for arts-based businesses; and the array of continuing opportunities, student artists learn how they can shape their lives to sustain their artistic practice once they graduate. Best suited for students who are prepared to seriously contemplate the continuation of their specific practice beyond graduation. Students should enter this course with a collection of work samples that demonstrate their experience in their chosen discipline. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 56 hours; Credit is allowed for only ARA 396 or ARA 394 (Professional Practices for Artist) OR Visiting University Student |
| ARA | 460 | Gallery Exhibitions | Practical experience in all phases of department gallery operations and preparation of gallery publications. | N | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only ARA 460 or 560 |
| ARA | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | |
| ARA | 489 | Writing Art and Design Criticism | Arts writing workshop designed to help develop critical voice in written form. During the course of the semester, students learn about art and design criticism by reading work in a variety of contexts, looking at examples of art and design in person and discussing them, and writing and revising their own pieces of criticism. | N | SEM | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 2.00 GPA; minimum 45 hours OR Visiting University Student |
| ARA | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ARA | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| ARA | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-3 | | |
| ARA | 522 | Studio Art Pedagogy | Principles of learning and instruction for teaching assistants assigned to foundation-level studio art courses and other grad-level students with an interest in studio art pedagogy. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ARA 522 or ARA 598 (Princpl-Core Art Instructio) |
| ARA | 560 | Gallery Exhibitions | Provides practical experience in all phases of art gallery operations. Students learn professional art gallery practices through hands-on experience in the School of Art Student Galleries including Harry Wood, Step, and Gallery 100. Class members assist BFA and MFA candidate students in many phases of exhibition preparation and execution as well as assist with the curation and design of group exhibitions. | N | LEL | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only ARA 460, 560 or 598 (Gallery Exhibitions) |
| ARA | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARA | 589 | Writing Art and Design Criticism | Arts writing workshop designed to help develop critical voice in written form. During the course of the semester, students learn about art and design criticism by reading work in a variety of contexts, looking at examples of art and design in person, analyzing and discussing them, and writing and revising their own pieces of criticism. | N | SEM | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisite: Graduate student (degree seeking or non-degree seeking). Credit is allowed for only ARA 489 or ARA 589 or ARA 598 (Writing Art & Design Criticism) |
| ARA | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|---|--|-------|-----------------|--|
| ARA | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARA | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARB | 101 | Elementary Arabic I | Introduces the basic skills of speaking, listening, reading and writing of Modern Standard Arabic (MSA) for the purpose of communicative goals. Incorporates Arabic cultural knowledge as it is an important element in real-life communication. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Credit is allowed for only ARB 101 or MSA 101 |
| ARB | 102 | Elementary Arabic II | Reading, writing, speaking, and understanding basic Arabic. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): ARB 101 or MSA 101 with C or better; Credit is allowed for only ARB 102 or MSA 102 OR Visiting University Student |
| ARB | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| ARB | 201 | Intermediate Arabic I | Starts with a review of the basics learned in previous coursework. Expands vocabulary and grammar structures. Addresses all four communication skills: reading, writing, listening and speaking in Modern Standard Arabic. Also introduces aspects of the culture of the Arab world. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): ARB 102 or MSA 102 with C or better; Credit is allowed for only ARB 201 or MSA 201 OR Visiting University Student |
| ARB | 202 | Intermediate Arabic II | Expands vocabulary and grammar structures and continues to develop communicative skills in Modern Standard Arabic. Enables students to attain an advanced level of proficiency in all Arabic language skills: reading, writing, listening and speaking. Also introduces aspects of the culture of the Arab world. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): ARB 201 or MSA 201 with C or better; Credit is allowed for only ARB 202 or MSA 202 OR Visiting University Student |
| ARB | 250 | Middle East Culture in a Global Perspective | Introduces a broader view and examination of Arab culture in a global perspective. Increases students' knowledge of Arab culture, promotes awareness and understanding of Arab customs, values, attitudes and cultural diversity. Using an interdisciplinary thematic approach, students explore and analyze cultural differences, misunderstandings, stereotypes, and be able to explain how they contribute to Islamophobia and other misconceptions about Arabic culture. Thematic areas of emphasis include the Arab family, fine art/music, food, gender identities, religious life, political conflict and war, Islamic tradition and exile and immigration. Taught in English and requires no knowledge of Arabic. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ARB 250 or ARB 294 (Arab Cultures in a Global Perspective) or SLC 250 or SLC 294 (Arab Cultures in a Global Perspective) OR Visiting University Student |
| ARB | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| ARB | 311 | Advanced Arabic Skills I | Focuses on developing all four skills of the Arabic language acquisition: reading, writing, listening, and speaking. Aims to help students acquire an advanced proficiency in Arabic. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ARB 202 with C or better OR Visiting University Student |
| ARB | 315 | Advanced Arabic for Heritage Speakers | Provides an advanced ability to read, understand, write and communicate in Arabic. Covers important topics such as advanced descriptions of one's country, city, university, home and family. Also concentrates on studying advanced questions and answers in the present, past and future tenses. Uses the communicative approach in adopting different pedagogical approaches centered on the communicative method, such as group practice, role play and situational dialogues. Introduces and explains detailed and advanced knowledge of Arabic grammar, structures of Arabic sentences; and the deep connotations of important Arabic vocabulary. Emphasizes building up more vocabulary and grammatical knowledge for communication purposes, introducing cultural, intellectual, business and political contents and terminology in Arabic; and expressing in advanced Arabic one's daily activities, past life and futuristic plans. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Credit is allowed for only ARB 101 or ARB 102 or ARB 201 or ARB 202 or ARB 315 or ARB 394 (Advanced Arabic for Heritage Speakers I) or ARB 394 (Advanced Arabic for Heritage Speakers II) OR Visiting University Student |
| ARB | 321 | Arabic Conversation I | Emphasizes spoken Arabic and conversation skills. Simultaneously develops communicative skills, vocabulary, and cultural awareness. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| ARB | 331 | Arabic/Islamic Culture and Literature | General introduction to the Middle East that synthesizes cultural, social, and literary information. Focuses on the experiences of ordinary Middle Eastern people to convey a grassroots sense of the Middle East. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ARB 331 or SLC 331 OR Visiting University Student |
| ARB | 335 | Arabic Culture and Islam | Develops awareness of Arabic culture and Islam. Covers a variety of cultural topics, including family, status of women, food, music, and Islam. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | |

| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
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| ARB | 336 | Introduction to the Qur'an | Introduces the Qur'an and examines the historical, contextual, religious and interpretive dimensions wherein the Qur'an developed. Deals with the structure of the Qur'an, the different sections, suras (Qur'anic chapters), and some of the verses. Also includes an introduction to the idea of revelation, its history, the content and some of the different themes of the Qur'an, and discusses aspects of the Qur'an as a source of law. Taught in English; requires no knowledge of Arabic or Islam. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ARB 336 or ARB 394 (Introduction to the Qur'an) OR Visiting University Student |
| ARB | 337 | Hadith and Prophetic Tradition | Considers the Hadith as a literary text and as the prophetic tradition in Islam. Focuses on the development of the Hadith as a vast subject in Arabic literature, its collection methodology, Hadith science, and its contents. Gives special attention to the relationship of the Hadith as the second source, after the Qur'an, of Islamic knowledge, Islamic theology, Islamic philosophy and Islamic law. Explores the various ways and approaches in which Muslims employ the Hadith along with the Qur'an in their search for meaning, identity and knowledge. All readings are in English; requires no prior knowledge of Arabic language. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ARB 337 or ARB 394 (Arabic Hadith and Prophetic Tradition) OR Visiting University Student |
| ARB | 340 | Arabic Translation | Covers the fundamentals of English-Arabic and Arabic-English translation including basic techniques of translation through exploring the essential theories and concepts adopted in the process of translation. Also addresses the areas of difficulty aroused during the process of translation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ARB 311 or 315 with C or better; ENG 102, 105, or 108 with C or better; Credit is allowed for only ARB 340 or ARB 394 (Introduction to Arabic Translation) OR Visiting University Student |
| ARB | 341 | Quran Text and Women | Addresses Muslim women scholars' argument that it is not the religion but the patriarchal interpretation of the Quran that have kept Muslim women oppressed. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | |
| ARB | 351 | Classical Arabic Literature | Provides a survey in classical Arabic literature. Focuses on the development of classical Arabic poetry and prose since their interceptions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| ARB | 352 | Modern Arabic Literature in Translation | Surveys the major trends, themes and genres of modern Arabic literature in translation. Provides a foundational knowledge of modern literature in the Arabic language. Focuses on continuity and change, cultural diversity and multiplicity in the Middle East, and the social, religious and historical aspects of modern Arab culture. No knowledge of Arabic language is required for this course. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, ENG 105 or ENG 107 with C or better; Credit is allowed for only ARB 352 or ARB 394 (Introduction to Modern Arabic Literature) |
| ARB | 360 | Islamic Philosophical Literature | Covers the most important Muslim philosophers and their contributions to philosophy. Concentrates on presenting and analyzing the main Islamic theories in philosophy, such as the different theories of creation, the role of reason and rationalism versus traditionalism. In addition, provides detailed information about the Islamic philosophical theories of language and meaning, and how these theories influenced the development of many distinct philosophical and literary works in the Arab-Islamic world. Also portrays Arabic language as a philosopher which provides philosophical definitions and analyses of many important concepts. Some of the famous philosophers which this course covers are the following: Al-Farabi, Ibn Sina, Al-Ghazali and Ibn Rushd. Those philosophers and their theories are still highly influential today in the Arab-Islamic culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ARB 360 or ARB 394 (Islamic Philosophy) |
| ARB | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| ARB | 411 | Advanced Arabic Skills II | Focuses on developing all four skills of the Arabic language acquisition: reading, writing, listening, and speaking. Aims to help students acquire an advanced proficiency in Arabic. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): ARB 311 with C or better |
| ARB | 421 | Arabic Conversation II | Focuses on developing all four skills of the Arabic language acquisition: reading, writing, listening, and speaking. Aims to help students acquire an advanced proficiency in Arabic. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| ARB | 422 | Advanced Arabic Media | Advanced language course designed to improve students' reading, writing, listening, speaking and debating skills. Exposes students to Arabic language used in the media. Incorporates news items from print and electronic media sources, including print and online news articles, television news and YouTube videos, among other materials. The purpose of using many sources is to enable the students to have an advanced experience reading diverse media materials. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): ARB 311 or 315 OR Visiting University Student |

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| ARB | 427 | Arabic Prose: Reading the Arabian Nights | Surveys Arabic prose treasures such as Maqama, Hikaya, Khabar, Risala and Drama. Pays particular attention to the collection of folklore tales known as The Arabian Nights (The Thousand and One Nights), using them as one of the most fascinating "world" texts, loaded with fairy tales, fables, romances, farces, legends and folk stories. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ARB 202 or 315 with C or better; Credit is allowed for only ARB 427 or ARB 494 (Modern Arabic Prose) |
| ARB | 428 | Arab Women's Writing | Offers a survey of Middle Eastern women's literary work in English translation. Themes focus on a comprehensive view of women's writing through several lenses, including: gender, religion and socio-political systems to introduce women's writing in modern Arabic literature through the prisms of Arabic literary criticism and feminist theory within historical contexts. Explores different genres, including autobiographical, short stories and novels, and cinematic production. Selective literary texts include leading 20th-century female writers whose works in translation represent a wide range of geographical, ideological and cultural influence. Featured writers include Rajaa al Sania, Latifa Zayyat, Radwa Ashur, Hanan al-Shaykh, Nawal Al Sadawi and others. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ARB 428 or ARB 494 (Arab Women Writing Across Generations/ in Eng) or SLC 428 or SLC 494 (Arab Women Writing Across Generations/ in Eng) OR Visiting University Student |
| ARB | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| ARB | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| ARB | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ARB | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| ARB | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| ARB | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARB | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARC | 101 | Architecture Project I | Project-based studio to introduce beginning concepts of architectural thinking. Students work collaboratively and individually on a semester-long design project. Introduces and guides students through an iterative design process leading to a public exhibition of their work. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| ARC | 102 | Architecture Project II | Project-based studio to enhance beginning concepts of architectural thinking. Students work collaboratively and individually on a semester-long design project. Introduces and guides students through an iterative design process leading to a public exhibition of their work. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| ARC | 111 | Architecture of Architecture I | Introduces the nature of architecture. Students work individually and collectively to document the built environment that surrounds us all, developing new ways of seeing and thinking and documenting their discoveries in a wiki. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| ARC | 112 | Architecture of Architecture II | Introduces the history and discourse of global architecture. Students work individually and collectively to document the built environment that has shaped our collective histories, developing new ways of seeing and thinking and documenting their discoveries in a wiki. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| ARC | 201 | Architecture Project III | Project-based studio to develop models of architectural thinking. Students work collaboratively and individually on a semester-long design project, developing an iterative design process leading to a public exhibition of their work. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| ARC | 202 | Architecture Project IV | Project-based studio to further develop concepts of architectural thinking. Students work collaboratively and individually on a semester-long design project, developing an iterative design process leading to a public exhibition of work. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| ARC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| ARC | 301 | Architecture Project V | Project-based studio to master concepts of architectural thinking. Students work collaboratively and individually on a semester-long design project, mastering an iterative design process leading to a public exhibition of work. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |

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| ARC | 302 | Architecture Project VI | Project-based studio to master concepts of architectural thinking. Students work collaboratively and individually on a semester-long design project, mastering an iterative design process leading to a public exhibition of work. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ARC | 330 | World and Western Architecture for Nonmajors | Historical and contemporary built environments of Western civilizations: Mediterranean, Europe, and the Americas as manifestations of cultural history and responses to environmental determinants. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU & H & G | Prerequisite(s): non-Architectural Studies BSD major; Credit is allowed for only ARC 330 (APH 300) or ARC 331 (APH 313) OR Visiting University Student |
| ARC | 331 | World and Western Architecture I | Intensive study of history of architecture from earliest traces to 1300. Examines cultures from around the world. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | (L or HU) & G & H | Prerequisite(s): ARC 111 or 112 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only ARC 330 (APH 300) or ARC 331 (APH 313) OR Visiting University Student |
| ARC | 332 | World and Western Architecture II | The history of architecture is the history of ideas in built form. This is the second part of an illustrated lecture course about the history of world and western major architectural achievements from pre-history to modern times. Architecture as a cultural product is best understood through the societies in which it was produced. Cultural interaction and exchange, transmission of architectural knowledge, architectural patronage, conceptions of space, and the role of physical settings (natural and man-made), technology, materials, and design paradigms will be addressed. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | (L or HU) & G & H | Prerequisite(s): ARC 331 (APH 313) with C or better; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| ARC | 351 | Architecture of Collaboration | Covers models of collaboration. Students learn tactics and strategies to work in teams and to collaborate on projects. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ARC | 352 | Architecture of Leadership | Covers models of leadership. Students learn tactics and strategies to work in teams and to collaborate on projects. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ARC | 353 | Architecture of Presentation | Covers models of oral and written communication. Students learn tactics and strategies to present their work. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ARC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| ARC | 401 | Architecture Studio I | Project-based studio introducing an iterative design process. Students work individually and collectively on a semester-long design project leading to a public exhibition of work. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 6 | | Prerequisite(s): ARC 301 with C or better; minimum 3.00 GPA OR Visiting University Student |
| ARC | 402 | Architecture Studio II | Project-based studio further enhancing the iterative design process. Students work individually and collectively on a semester-long design project leading to a public exhibition of work. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 6 | | Prerequisite(s): ARC 401 with C or better OR Visiting University Student |
| ARC | 421 | Architecture Technology I | Covers conventions in architectural technology. First principles of structural forces and thermodynamics. Material and methods of construction. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): minimum 45 hours; Pre- or corequisite(s): ARC 401 OR Visiting University Student |
| ARC | 422 | Architecture Technology II | Covers conventions of building systems in architectural technology, including integration of construction, tectonics and energy systems. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): ARC 421 with C or better; Pre- or corequisite(s): ARC 402; ARC 432 OR Visiting University Student |
| ARC | 431 | Contemporary Architecture and Urbanism 1970 to the Present | Addresses issues of global architecture and urbanism in the late 20th and early 21st centuries. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU & H | Prerequisite(s): ARC 111 or 112 with C or better OR minimum 56 hours OR Visiting University Student |
| ARC | 432 | Architecture History | Survey of global history and theory of architecture and design spanning a chronological period from prehistory to the 17th century. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): minimum 56 hours; Pre- or corequisite(s): ARC 402 OR Visiting University Student |
| ARC | 434 | Great Cities | Historical survey of great cities from antiquity to the present. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | (L or HU) & H | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 56 hours; Credit is allowed for only ARC 434 (APH 414) or MUD 598 (Great Cities) OR Visiting University Student |
| ARC | 436 | Charles and Ray Eames | Survey of American designers Charles and Ray Eames, their innovation design thinking and masterworks. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | HU | Prerequisite(s): minimum 56 hours OR Visiting University Student |
| ARC | 441 | Architecture Representation | Covers the history and conventions of architectural drawings, models, diagrams and other forms of representation. Applies contemporary techniques and tools to representation architectural works. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): minimum 45 hours; Pre- or corequisite(s): ARC 401; ARC 421 OR Visiting University Student |
| ARC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): minimum 56 hours; Pre- or corequisite(s): ARC 301 |
| ARC | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | | Prerequisite(s): Barrett Honors student |
| ARC | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | | Prerequisite(s): Barrett Honors student |
| ARC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |

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| ARC | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-7 | | |
| ARC | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARC | 501 | Advanced Architecture Studio I | Project-based studio introducing an integrative design process. Students work individually and collectively on a semester-long design project leading to a public exhibition of work. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 6 | | Prerequisite(s): Architecture MArch student |
| ARC | 502 | Advanced Architecture Studio II | Project-based studio further enhancing the integrative design process. Students work individually and collectively on a semester-long design project, developing their understanding leading to a public exhibition of work. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 6 | | Prerequisite(s): Architecture MArch student; ARC 501 with C or better |
| ARC | 522 | Advanced Architecture Technology I | Covers integration of building systems and regulations in applied architectural technology. Project-based synthesis of building construction, tectonics and energy systems. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Architecture MArch student |
| ARC | 531 | Advanced Architecture History | Survey of global history and theory of architecture and design spanning a chronological period from the 17th century to present. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Architecture MArch student |
| ARC | 532 | Architectural Theory I | Foundation of conceptual architectural inquiry, stressing the reciprocal and interdependent relationship between design and theory. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Architecture MArch student |
| ARC | 541 | Advanced Architecture Representation | Explores and analyzes advancing techniques in architectural drawings, models, animation, virtual and augmented reality. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Architecture MArch student |
| ARC | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARC | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARC | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARC | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARC | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARC | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARC | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARC | 599 | Thesis | Supervised research focused on preparation of a thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARC | 601 | Advanced Architecture Studio III | Design problems emphasizing advancement of the discipline of architecture through topical research in conjunction with faculty. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 6 | | Prerequisite(s): Architecture MArch student; ARC 502 with C or better |
| ARC | 602 | Advanced Architecture Studio IV | Individual, student-initiated project reflecting a culminating synthesis of architectural ideas. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 6 | | Prerequisite(s): Architecture MArch student; ARC 601 with C or better |
| ARC | 622 | Advanced Architecture Technology II | Advancing innovations in architectural technology. Research-based explorations focused on emerging developments in building construction, tectonics and comfort systems. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Architecture MArch student |
| ARC | 631 | Architectural Theory II | Advanced architectural theory course that explores contemporary topics. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Architecture MArch student |
| ARC | 651 | Architecture Research | Critical examination and implementation of architectural research methods--historical, qualitative, simulation and modeling, case study, experimental, correlational, logic and argumentation. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Architecture MArch student |
| ARC | 662 | Architecture Practice | Critical examination of organizational modes and missions of contemporary architectural practice, including the business of architecture, stakeholders, ethics, and legal and professional responsibilities. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Architecture MArch student |

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| ARC | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARC | 799 | Dissertation | Supervised research focused on preparation of a dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | The Design School | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARE | 250 | Teaching Inquiry in Art | Issues in teaching and learning through directed, guided, and independent inquiry about artworks and through art making. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ARS 101 or 102; 6 hours (2 classes) from ART 111, 112, 113, or 115 with C or better OR Visiting University Student |
| ARE | 301 | Studio Art and Human Development | Study of human development in studio art from early childhood to adult years. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | |
| ARE | 370 | Teaching Visual Culture | Explores issues and applications of everyday aesthetics that contain powerful technological, social, and economic factors. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ARE 250 with C or better OR Visiting University Student |
| ARE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ARE | 446 | Multicultural Issues in Art Education | Explores multicultural issues, ethnicity and cultures related to art and education. Discussion course on facts and sometimes controversial interdisciplinary materials draws upon knowledge from various disciplines. Emphasizes art educational issues and teaching. Also explores international and global issues concerning multiculturalism. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ARE 446 or ARE 494 (Multicultural Issues in Art Education) or ARE 546 or ARE 598 (Multicultural Art Education) OR Visiting University Student |
| ARE | 482 | Teaching Art Processes | Art traditions of the 20th century as a basis for studio and art history instruction. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ARE 250 with C or better; minimum 45 hours OR Visiting University Student |
| ARE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | |
| ARE | 486 | Art Education: Strategies and Applications | Implementation and evaluation of art instruction for K-12 population. Includes teaching of Saturday classes in the Children's Art Workshop. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ARE 482 with C or better OR Visiting University Student |
| ARE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-6 | | Prerequisite(s): Barrett Honors student |
| ARE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ARE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ARE | 496 | Methods and Assessment of Learning in Art | Individual or group research on the assessment of art learning incorporating theory and practice. Meets art postbaccalaureate certification requirement. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ARE 250 with B- or better |
| ARE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-3 | | Prerequisite(s): minimum 90 hours |
| ARE | 510 | Visual Culture Research | Research on instruction of everyday aesthetics and related issues that contain powerful technological, social, and economic factors. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 520 | Issues in Teaching Inquiry in Art | Issues in teaching and learning focused both on inquiry about artworks and on inquiry through art making. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 525 | Research on Art Instruction | Research methods and assessment of learning in art. Pilot studies on the effects of instruction on learning. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 530 | Issues in Teaching Studio Art | Critical examination of issues concerning teaching multicultural art to different populations of students. Historical and philosophical foundations reviewed. Recommended to be taken before ARE 535. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 535 | Research on Teaching Studio Art | Review of empirical and historical research methods, learning theory, and assessment of learning in studio art, including developmental studies and their limitations. Pilot studies on the effects of instruction upon learning. Recommended to be taken after ARE 530. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |

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| ARE | 540 | Teaching Art in Cultural Contexts | Relationship of multicultural perspectives to teaching/learning art criticism, aesthetics, studio art, and art history. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 546 | Multicultural Issues in Art Education | Explores multicultural issues, ethnicity and cultures related to art and education. Discussion course on facts and sometimes controversial interdisciplinary materials draws upon knowledge from various disciplines. Emphasizes art educational issues and teaching. Also explores and analyzes international and global issues concerning multiculturalism. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Degree- or Nondegree-seeking graduate; Credit is allowed for only ARE 446, 494 (Multicultural Issues in Art Education), 546 or 598 (Multicultural Art Education) |
| ARE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | School of Art | 1 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARE | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARE | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | School of Art | 1 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-15 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |

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| ARE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | School of Art | 1 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Art | 1-15 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARP | 451 | Architecture Field Studies | Organized field study of architecture in specified national and international locations. Credit/no credit. May be repeated for credit with director approval. | N | PRA | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-6 | | |
| ARP | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): ADE 322 with C or better; Corequisite(s): ADE 421 |
| ARP | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Pre-requisites: Master of Architecture student; ADE 522 with a C or better |
| ARP | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OP3 | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Prerequisite(s): Herberger Institute for Design and the Arts graduate student |
| ARS | 100 | Introduction to Art | Provides an introduction to the understanding and enjoyment of art through the study of painting, sculpture, design, photography, and the decorative arts. Students gain an awareness of meaning, functions, and significance of art, while learning an art-related vocabulary and a set of analytical tools for discussing and understanding art from around the world. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Prerequisite(s): Non-Art majors; Credit is allowed for only ARS 100 or ARS 300 OR Visiting University Student |
| ARS | 101 | Art from Prehistory Through Middle Ages | History of Western art from the Paleolithic period through the Middle Ages. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & H | |
| ARS | 102 | Art from Renaissance to Modernism | Introduces art history through a study of visual art, architecture and material cultures from the 15th century to the present. Develops an understanding of artistic terms and process within the framework of a chronological, and at times thematic, survey. Includes the political, cultural, social, economic and religious changes throughout history that are depicted in art. Provides an opportunity for students to reflect on how art was and is used as a vehicle to communicate, reflect, inspire and provide evidence of cultural shifts, changes and shared human experiences. Art history is comprised of various classes with different focuses on time, place or theme; these courses all work to teach human history through a visual approach. The focus on visual literacy, historical contextualization and an image-based framework directs the instruction toward a student-centered dynamic; students work directly in engaging their own understanding by learning how to interpret art works from lectures and texts. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & H | |
| ARS | 120 | Introduction to Global Museum Studies | Exposes the broad scope of what museums do by exploring their history and the critical issues they face today. Acquaints students with the historical and contemporary function of museums and the concepts they currently engage with, such as authorship, authenticity, identity, education, interpretation, storytelling, technology, ethics, cultural heritage, public engagement and diversity. Enhances reading materials with talks by museum professionals, films and discussion boards. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only ARS 120 (ARS 350) or ARS 394 (Introduction to Museums) |
| ARS | 121 | Introduction to Global Heritage Studies | Heritage is something that can be passed from one generation to the next, something that can be conserved or inherited, and something that has historic or cultural value. For instance, there are 1121 physical sites across the globe that the United Nations has designated as World Heritage, ranging from the Grand Canyon National Park to Stonehenge and the Alhambra, from Auschwitz Birkenau and Machu Pichu to the Great Barrier Reef. Heritage can be a physical site like these places, but it can also be intangible, as in language, culture, popular song, food, literature or dress. Focuses on key concepts, definitions, theories and debates central to understanding what heritage is, and on heritage studies as a field of inquiry. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only ARS 121 or ARS 494 (Intro to Global Heritage Studies) or SGS 494 (Intro to Global Heritage Studies) |
| ARS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ARS | 201 | Art of Asia | History of the art of the Asian cultures, with emphasis on China, Japan, and India. Meets non-Western art history requirement. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & H & G | |

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| ARS | 202 | Art of Africa, Oceania, and the Americas | History of art of Africa, Oceania, and the New World. Meets non-Western art history requirement. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & H & G | |
| ARS | 221 | Museum and Heritage Histories, Theories and Debates | Establishes the theoretical foundation for students interested in pursuing future work and studies in museums and/or heritage institutions across the globe. Through readings and discussions, explores a broad range of topics, including the history and philosophy of museums; intangible versus tangible heritage; cultural patrimony and repatriation; the social, economic and political contexts that shape museums; the influence of the digital age on these institutions; and the main functions of museums and historic sites--collection and care of objects, exhibits, interpretation, education and governance. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only ARS 221 or ARS 494 (Museum Histories, Theories, And Debates) |
| ARS | 223 | Introduction to Museums and Social Justice | A recent spate of scandals and protests have forced some of the world's greatest museums and heritage institutions to face up to some difficult ethical issues. These include reassessments of their board-vetting procedures to avoid reputational controversies, a more thorough review of corporate sponsors vis-a-vis a museum's mission, the development of action plans to address the legacy of colonial theft and Nazi looting. Nonprofit organizations and heritage institutions are also reassessing staffing demographics, salary differentials, and discussing ways to address racial and gender diversity in acquisition policies, permanent collection displays and exhibition schedules. Examines past and current controversies and investigates the ways in which these unprecedented events are fundamentally changing the definition of what constitutes arts and heritage institutions in the twenty-first century. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ARS 120 (ARS 350); Credit is allowed for only ARS 223 or ARS 494 (Museums in Global Contexts) OR Visiting University Student |
| ARS | 250 | History of Photography | History of photography from the 19th century to the present. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | |
| ARS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ARS | 300 | Introduction to Art | Parallels ARS 100 course content but requires a higher level of accomplishment and comprehension. Introduces visual culture, the purpose of art, and the relationship between art and visual culture. Students learn how visual culture pervades our everyday lives and how understanding visual literacy can help us participate more fully in the world around us. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Prerequisite(s): Non-Art majors; minimum 2.00 GPA; minimum 55 hours; Credit is allowed for only ARS 100 or ARS 300 OR Visiting University Student |
| ARS | 310 | The Renaissance in Tuscany | Course taught in Florence, Italy. History of arts in Tuscany with focus on city of Florence from 14th through 16th centuries. Completion of ARS 101 and 102 suggested. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | |
| ARS | 323 | Curatorial Activism | Current art world statistics demonstrate that the fight for gender and race equality in the art world is far from over: only 14% of the work displayed at MoMA in 2016 was by non-white artists; only a third of artists represented by U.S. galleries are female, but over two-thirds of students enrolled in art and art-history programs are young women. However, there are many curators working worldwide to offset these racial and gender disparities. Arranged in thematic sections focusing on feminism, race and sexuality, this course examines and illustrates pioneering examples of exhibitions that have broken down boundaries and demonstrated that new approaches to curating are possible, from Linda Nochlin's "Women Artists" at LACMA in the mid-1970s to the Whitney Biennial of 2019. This course profiles key exhibitions by pioneering curators, including Okwui Enwezor, Nan Goldin, Marcia Tucker, Catherine de Zegher, Fred Wilson, Jonathan Katz, and other curators who understand that institutions must be a driving force in this area and a vital source of inspiration for today's expanding new generation of curators. | N | LEC | N | Z1 | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ARS 323 or ARS 494 (Curatorial Activism) OR Visiting University Student |
| ARS | 330 | The Portrait | Examines the history and production of portraits in contexts of social hierarchies, historical events, gender, politics, class, morality and aesthetics with a focus on the 15th to the 21st centuries in painting, sculpture and photography. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Prerequisite(s): one 100-level course in APH, ARS, ASB, ENG, FMS, HST, MHL, MUS or SLC with B- or better; Credit is allowed for only ARS 330 or ARS 394 (Genre: Portraits) OR Visiting University Student |

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| ARS | 331 | 18th- and 19th-Century European Jewelry Design | The 18th century was defined by stylish sociability that included beautiful dress, sumptuous interiors and exquisite, fashionable jewelry. Who were the influencers for jewelry design during this period? How was society defined by these ornaments? What were the rules of engagement? Did these opulent ornaments affect social strategies? How did jewelry materials evolve into more modern and recognizable forms? All of these questions are answered in this course. The cultural history of jewelry design mirrors the historical and collective customs of society from the established aristocracy, to the rising middle classes, to the expansion of cultural awareness among every world citizen when travel became widely available. So much so, that upon the turn of the 19th century, jewelry design shifted from appearing as solely a status of power and wealth to an eloquent symbol of worldly knowledge and cultural awareness. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ARS 331 or FSH 331 or ARS 394 (18th & 19th Century European Jewelry Design) OR Visiting University Student |
| ARS | 335 | Fashion and Dress in Art | Explores fashion and dress from the Renaissance to the modern period and considers dress as commenting on society, gender, race and current events. Explores case studies of art works and of selected decades in European history. Looks at dress in paintings for women, men and children in the context of the ways in which dress variously defined gender, race and class identities, social life and economic wealth in different periods of history. Considers issues of style; changes in clothing production (such as brocades, cotton, silk, furs); and the function of accessories in defining identities in art. Examines fashion magazines, historical events and social change and dress as distinct from fashion. Finally, seeks to understand how art serves to heighten the meaning, display and performance of fashion in terms of the portrait subjects and the intended spectators. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ARS 335 or ARS 394 (Fashion and Dress in Art, Ren. to 20th Century) or FSH 335 or FSH 394 (Fashion and Dress in Art, Ren. to 20th Century) OR Visiting University Student |
| ARS | 340 | Art in America | American art from colonial times through the Second World War. Not available to students who have completed ARS 542. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & H | Prerequisite(s): Art BA or BFA major: ARS 101 with C or better; ARS 102 with C or better OR Studio Art minor or BIS Studio Art concentration: ARS 101 with C or better; Credit is allowed for only ARS 340 or ARS 542 |
| ARS | 345 | Art and Television | Critical introduction to the interrelation of technology and visual art using the tools of art history and media/cultural studies. Students read theorists of the relation between visual art and the mass media, and use them to analyze early presentations of visual art and art history on television of the 1960s and 1970s. Examines the contemporaneous and parallel development of video art--an artistic medium appropriated from television technology--through the study of key video artworks. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 2.00 GPA; minimum 45 earned hours |
| ARS | 362 | Survey of Aztec, Maya and Inka Art | Art history of the Aztecs, Maya, Inka and their ancestors before the arrival of Europeans. Covers their prolific artistic production starting with their earthworks in the deserts of Peru and ending with their stone pyramids and painted codices of Guatemala and Mexico. Meets non-Western Art History Requirement. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Prerequisite(s): minimum 45 hours |
| ARS | 369 | Mexican Art | Critically examines how Mexico and its people have represented themselves and been represented by others from ancient times to the 20th century. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Prerequisite(s): minimum 30 hours; Credit is allowed for only ARS 369 (ARS 469) or ARS 394 (Mexican Art) OR Visiting University Student |
| ARS | 370 | The Art of the Comic | Examines popular culture art forms of comics, comic books and graphic novels as they relate to the art of the west as well as their greater global context. Explores the various genres of comics and investigates a variety of themes found in comics, including war, gender construction, and the impact of globalization on western culture and society. Students become familiar with some of the most important comic artists, and the studio processes for the creation of comics. Concludes with an investigation of the impact of comic art on fine art around the world and on live-action films. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ARS 370 or ARS 394 (The Art of the Comic) |
| ARS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ARS | 402 | Art of Ancient Egypt | Aesthetic, philosophical, and cultural basis of Egyptian art from pre-Dynastic period through New Kingdom. Emphasis on sculpture and architectural monuments. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & H | Prerequisite(s): ARS 101 or 102 with C or better; Credit is allowed for only ARS 402 or ARS 502 OR Visiting University Student |

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| ARS | 403 | Art of the Aztec Empire | Provides a greater knowledge of the art and architecture of the Nahuatl-speaking Aztecs of Central Mexico from the time of their first appearance in the archaeological record until the Spanish invasion of Central Mexico in 1521. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 30 hours; Credit is allowed for only ARS 403 or ARS 503 or ARS 494 (Art of the Aztec Empire) or ARS 598 (Art of the Aztec Empire) |
| ARS | 404 | Greek Art | History of art, architecture of Aegean civilizations (Cycladic, Minoan, Mycenaean) and of Greece to end of Hellenistic period. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & H | Prerequisite(s): ARS 101 with C or better; Credit is allowed for only ARS 404 or ARS 504 |
| ARS | 406 | Roman Art | Art and architecture of Etruria, the Roman Republic, and the Roman Empire. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & H | Prerequisite(s): Art BA or BFA major; ARS 101 with C or better; ARS 102 with C or better OR Studio Art minor or BIS Studio Art concentration: ARS 101 with C or better |
| ARS | 414 | Monasteries, Madonnas and Manuscripts | Sculpture, painting, architecture and minor arts in western Europe, ca. 1030-1200, considered within religious, economic and social contexts. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only ARS 414 or ARS 514 |
| ARS | 418 | German Renaissance and Reformation Art | Graphics, painting, sculpture, and architecture, ca. 1450-1550. Reformation themes and Renaissance style considered within religious, political, social, and economic contexts. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Prerequisite(s): ARS 101 or ARS 102 OR any 200-level or higher course in ASB, ENG, FRE, GER, HST, ITA or REL with B- or better; Credit is allowed for only ARS 418 or ARS 598 (German Renaissance and Reformation Art) |
| ARS | 422 | Italian High Renaissance Art and Mannerism | History of Italian art during the 16th century, including the achievements and influence of Leonardo da Vinci, Raphael, and Michelangelo. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Pre-requisites: ARS 101; ARS 102; Credit is allowed for only ARS 422 or 522 |
| ARS | 424 | Italian Baroque Art | Italian painting, sculpture, and architecture of the 17th century. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & H | Pre-requisites: ARS 101; ARS 102 |
| ARS | 434 | Revolution to Impressionism in 19th-Century Art | Between 1770 and 1900, a period called the long 19th century, Europeans experienced rapid and extensive changes in politics, culture, social and economic structures, scientific methods, and technology. The Industrial and French Revolutions reflected rapid developments rooted in the 16th-17th century Scientific Revolution and rising nationhood. Considers how in this period European art reflected and shaped historical events in content, style, representational strategies and new roles for art and artists. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & H | Prerequisite(s): any 200-level course or higher in APH, ARS, ENG, FMS, HST, or MHL with B or better; Credit is allowed for only ARS 434 or ARS 534 |
| ARS | 435 | The Pre-Raphaelites | Visual and literary works by Victorian Pre-Raphaelites as works in themselves and through relations between images and texts. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): any 200-level or higher course in APH, ARS, ENG, FMS, HST, or MHL with B or better; Credit is allowed for only ARS 435 or ARS 533 or ENG 428 |
| ARS | 438 | Art of the 20th Century I | Developments and directions in art between 1900 and World War II. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & H | Prerequisite(s): ARS 102 with B- or better or one course in ARS, ENG or HST at 200 level or higher with B or better OR Visiting University Student |
| ARS | 439 | Art of the 20th Century II | Art since World War II, with consideration of new concepts and experimentation with media and modes of presentation. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & H | Prerequisite(s): ARS 102 or 438 with B- or better; Credit is allowed for only ARS 439 or ARS 539 |
| ARS | 440 | Identity and World Film | Examines how films around the world represent gender, race, ethnicity, and sexual orientation through the lens of genres and their variations and how genres reinforce or critique stereotypes. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | C | Prerequisite(s): any 200-level or higher course in APH, ARS, ENG, FMS, HST, or MHL with B or better; Credit is allowed for only ARS 440 or ENG 465 or FMS 427 OR Visiting University Student |
| ARS | 441 | Public Art | Explores the lively field of contemporary public art, particularly as defined by percent-for-art programs established through city ordinances during the last forty years. Also considers historical precedents, including Civil War monuments and the City Beautiful Movement. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Minimum 50 hours; Minimum 2.00 GPA; Credit is allowed for only ARS 441, 498 (Public Art), 541 or 591 (Public Art) |
| ARS | 442 | Critical Issues in American Painting | Explores issues of national identity and western expansion, Manifest Destiny, through images of race and violence in western American painting from 1800 to the early 20th century. Includes "claiming and settling the wilderness," cultures in conflict, the cowboy, and visions of an enchanted land. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Prerequisite(s): ARS 101; ARS 102 OR Visiting University Student |
| ARS | 443 | Artists in Film: Artists' Biopics | Examines artists' "biopics," biographical films about artists, chronologically from the subgenre's first appearance in 1936 to recent films. Explores relationships between film and history and between film and myths of creativity; major directors' attraction to artists' biopics; stereotypes of artists (e.g., genius, deviant); and how notions of creativity are inflected by gender, race and national identity. Assignments include weekly readings and film viewings and one short paper; optional documentaries and films are also available. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): any 200-level or higher course in APH, ARS, ENG, FMS, HST, or MHL with B or better; Credit is allowed for only ARS 443 or FMS 430 |

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|---------|----------------|-----------------------------|---|-------------------|-------------------|-----------------|---------------|---|---------------|-------|-----------------|---|
| ARS | 444 | Films of India | Examines classic, Bollywood and diasporic films of India from 1950 to the present. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): any 200-level or higher course in APH, ARS, ENG, FMS, HST, or MHL with B or better; Credit is allowed for only ARS 444 or ARS 544 or FMS 426 or ARS 494 (Films of India) or ARS 494 (South Asian Cinema) |
| ARS | 445 | History of Animation | Covers popular art forms of animated films as they relate to the art of the west as well as their greater global context. Begins with a brief look at the importance of storytelling in human culture before turning to the roots of animation; the invention of moving animated pictures in the early 20th century; the rise of major animation studios like Walt Disney, Fleischer Studios and Warner Bros.; television animation; foreign animation classics; and the recent work of independent animators. Students become familiar with some of the most important animation directors and the studio processors for the creation of animated films. Concludes with an investigation of the impact of animation on fine art and live-action films. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 60 hours; Credit is allowed for only ARS 445 or ARS 494 (History of Animation) OR Visiting University Student |
| ARS | 456 | Introduction to Museums | Broad scope of what museums do by exploring their history and the critical issues they face. Acquaints students with the basic functions of specific museum departments and staff, including the role of director, curator, registrar, preparator, as well as fund raising, marketing, audience development, education, exhibitions, conservation, ethics, cultural/heritage tourism and public art. Guest speakers and field trips enhance classroom material. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ARS 101 or ARS 102 OR any 200-, 300- or 400-level course in ASB, ENG or HST with B- or better |
| ARS | 460 | Art Now | Critical overview of major issues and controversies of the last 10 years within the global, national, and local art scene. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ARS 101 or 102 with B- or better or one course in ARS, ENG, or HST at the 200 level or higher with B or better, OR Digital Culture major |
| ARS | 465 | Native Art of North America | Native American art forms of the United States and Canada from prehistoric times to the present. Meets non-Western art history requirement. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & C & H | Prerequisite(s): minimum 45 hours; minimum 2.00 GPA; Credit is allowed for only ARS 465 or ARS 565 OR Visiting University Student |
| ARS | 472 | Art of China | Study of major forms in Chinese art: ritual bronze, sculpture, ceramic, calligraphy, painting, and architecture. Meets non-Western art history requirement. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Prerequisite(s): minimum 50 hours; minimum 2.00 GPA OR Visiting University Student |
| ARS | 473 | Art of Japan | Japanese art from the Joman period to the present. Meets non-Western art history requirement. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Prerequisite(s): minimum 55 hours; Credit is allowed for only ARS 473 or ARS 574 OR Visiting University Student |
| ARS | 475 | Chinese Painting | From Ku K'ai-chin to Ch'i Pai-shih. Major artists, styles, and movements in Chinese painting. Meets non-Western art history requirement. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Pre-requisites: Minimum 50 hours; Minimum 2.00 GPA; Credit is allowed for only ARS 475 or 575 |
| ARS | 480 | Research Methods | Methodology and resource material for art historical research. Techniques of scholarly and critical writing and evaluation of bibliographic sources. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | L | Prerequisite(s): Art (Museum Studies) BA or Art (Art History) BA major; ARS 101 with C or better; ARS 102 with C or better; ENG 101, 105, or 107 with C or better; minimum 56 hours OR Visiting University Student |
| ARS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | |
| ARS | 485 | Women in the Visual Arts | Historical study of art by women in various media; related social, political, educational issues; representation of women in art. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | L | Prerequisite(s): ARS 101; ARS 102; ENG 101, 105, or 107 with C or better; Credit is allowed for only ARS 485 or ARS 585 OR Visiting University Student |
| ARS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-6 | | Prerequisite(s): Barrett Honors student |
| ARS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ARS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ARS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| ARS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-3 | | Pre-requisite: Minimum 90 hours |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|---|---------------|-------|-----------------|---|
| ARS | 501 | Methodologies and Art History | History of the discipline and an exploration of various methodologies, critical theory, and bibliographies used by art historians. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARS | 502 | Critical Studies in Egyptian Art | Egyptian art from pre-Dynastic to New Kingdom periods. Focus on aesthetic, philosophical, and cultural contexts. Research paper and readings required. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only ARS 402 or 502 |
| ARS | 503 | Art of the Aztec Empire | Provides a greater knowledge of the art and architecture of the Nahuatl-speaking Aztecs of Central Mexico from the time of their first appearance in the archaeological record until the Spanish invasion of Central Mexico in 1521. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ARS 403 or ARS 503 or ARS 494 (Art of the Aztec Empire) or ARS 598 (Art of the Aztec Empire) |
| ARS | 504 | Critical Approaches to Greek Art | Art and architecture of Aegean civilizations (Cycladic, Minoan, Mycenaean) and of Greece to end of Hellenistic period. Research paper and readings required. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only ARS 404 or 504 |
| ARS | 506 | Critical Studies in Roman Art | Art and architecture of Etruria, the Roman Republic, and the Roman Empire. Research paper and/or supplemental readings required. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARS | 514 | Monasteries, Madonnas and Manuscripts | Sculpture, painting, architecture and minor arts in western Europe, ca. 1030-1200, considered within religious, economic and social contexts. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ARS 414 or ARS 514 |
| ARS | 533 | The Pre-Raphaelites | Explores Pre-Raphaelite culture, both literature and art, and relevant social history, from the Pre-Raphaelite Brotherhood through Aestheticism and early twentieth century, focusing on interactions between images and texts. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only ARS 435 or ARS 533 or ENG 428 |
| ARS | 534 | Revolution to Impressionism in 19th-Century Art | Critical study of visual arts using primary source material from mid-19th century to WWI within philosophical, socioeconomic, and economic contexts. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ARS 434 or 534 |
| ARS | 538 | Art of the 20th Century I | Charts how the avant-garde in the early 20th century developed different strands of modern art as it sometimes grew closer to, and at other times veered away from, radical politics. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only ARS 438, 538 or 598 (Art of 20th Century I) |
| ARS | 539 | Art of the 20th Century II | General introduction to major trends and issues of Euro-American art created between 1955 to around the turn of the 21st century. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): graduate student (degree seeking or nondegree seeking). Credit is allowed for either ARS 439 or ARS 539 or ARS 598, Art of 20th C |
| ARS | 540 | Identity and World Film | Examines how films around the world represent gender, race, ethnicity, and sexual orientation through the lens of genres and their variations and how genres reinforce or critiques stereotypes. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only ARS 540, FMS 527 or (ARS 494, ENG 465, FMS 494 or ARS 598 Identity and World Film) |
| ARS | 541 | Public Art | Explores the lively field of contemporary public art, particularly as defined by percent-for-art programs established through city ordinances during the last forty years. Considers historical precedents including Civil War monuments and the City Beautiful Movement. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only ARS 441, 498 (Public Art), 541 or 591 (Public Art) |
| ARS | 543 | Artists in Film: Artists' Biopics | Examines artists' "biopics," biographical films about artists, chronologically from the subgenre's first appearance in 1936 to recent films. Explores relationships between film and history and between film and myths of creativity; major directors' attraction to artists' biopics; stereotypes of artists (genius, deviant, etc.); and how notions of creativity are inflected by gender, race and national identity. Assignments include weekly readings and film viewings and one short paper; optional documentaries and films are also available. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ARS 443 or ARS 543 or FMS 430 or FMS 543 or ARS 598 (Artists in Film: Biopics) |
| ARS | 544 | Films of India | Examines classic, Bollywood and diasporic films of India from 1950 to the present. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking). Credit is allowed for only ARS 444, ARS 544, ARS 598 (Films of India) or FMS 426 |

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|---------|----------------|--------------------------------|---|-------------------|-------------------|-----------------|---------------|---|---------------|-------|-----------------|--|
| ARS | 555 | Museums and Social Justice | A recent spate of scandals, protests and a global pandemic have forced museums and heritage institutions to face up to some difficult ethical and financial issues. In the wake of the Black Lives Matter protests, these include reassessments of staffing demographics, salary differentials, and discussions of how best to address racial and gender diversity in acquisition policies, permanent collection displays and exhibition schedules. The #MeToo movement has resulted in difficult conversations about sexual harassment and gender discrimination in museums as well. Other recent public controversies have demanded reevaluations of board vetting procedures to avoid reputational controversies, a more thorough review of corporate sponsors vis-a-vis a museum's mission, and the development of action plans to address the legacy of colonial theft and Nazi looting. Covid-19 has also greatly affected museums--attendance, annual budgets--and has resulted in mass layoffs and organizational restructurings, as museums are left to wonder about their financial viability moving forward. Also discusses whether museums have a moral responsibility to respond to and become engaged with compelling social justice issues like race, immigration, health care, climate change--or whether they should remain neutral. Indeed, the question of museums and social justice has plagued the museum world's preeminent professional organization, the International Council of Museums (ICOM), which, since 2017, has been attempting to redefine the museum as a site for public discourse on urgent topics; amidst debate and turmoil, a possible redefinition of museums of the 21st century as sites for social justice. Examines these current controversies and events. Each module focuses on one issue, with specific case studies in some instances. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARS | 574 | Art of Japan | Critical examination of the nature and history of Japanese art, its rich heritage and its indebtedness to foreign sources. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ARS 473 or ARS 574 |
| ARS | 575 | Approaches to Chinese Painting | Critical history of Chinese painting from Eastern Chou to 1911. Emphasis on masters, regional developments, and conceptual underpinnings. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Minimum 108 hours; Senior or Postbaccalaureate Undergraduate or Graduate; Credit is allowed for only ARS 475 or 575 |
| ARS | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARS | 585 | Women in the Visual Arts | Historical study of art by women in various media; related social, political, educational issues; representation of women in art. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only ARS 485 or 585 |
| ARS | 586 | Theories of Contemporary Art | Upper-level introduction to a variety of issues in contemporary art theory. Over the course of the semester, students travel through a different thematic segment each week. Topics covered include globalization, activism, relational aesthetics, art and ecology, as well as other themes that have found increased relevance as new art forms, media and theory proliferate in the 21st century. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ARS 586 or ARS 591 (Theories of Contemporary Art) |
| ARS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|---------------------------------|--|-------------------|-------------------|-----------------|---------------|---|---------------|-------|-----------------|--|
| ARS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | School of Art | 1 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR senior or postbaccalaureate undergraduate student; minimum 108 hours |
| ARS | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARS | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARS | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARS | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARS | 710 | Current Research in Art History | Review and critical evaluation of contemporary literature and research in art history. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Design, Environment and the Arts PhD student |
| ARS | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARS | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | School of Art | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARS | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Art | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ART | 107 | Photography as Experience | Introduces photography as both a social phenomenon and a creative expression. Explores personal and cultural relationships to photography and investigates the role that images play in our everyday experiences. Through readings, lectures, shooting assignments, peer critiques and discussions, students practice making images as well as interpreting photographs as a visual language. Introduces photography basics of vision, light, composition, camera controls and digital workflow. Class readings and lectures address contemporary and historical photographers and various philosophical and technical approaches to the medium. Encourages students to use whatever cameras they have access to and likely already use on a regular basis, be it a DSLR or an iPhone. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only ART 107 or ART 194 (Photography as Experience) |
| ART | 108 | Digital Literacy for the Arts | Effective, efficient, practical and innovative computer-aided visual communication has become essential for business in the contemporary art market. Serves as an introduction to computing in art and design fields. Students use computers to create, design, analyze and problem solve through the exploration of visual design software, fundamental elements of computer-aided design, and peer feedback. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | CS | Credit is allowed for only ART 108 or ART 194 (Digital Literacy for the Arts) or FSH 108 or FSH 194 (Digital Literacy for the Arts) |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|---|---------------|-------|-----------------|---|
| ART | 109 | Making as Seeing and Thinking | Working from supplies that can be found at the local hardware store, explores how manual and material modes of making can open up to creative thinking. Through a series of units that introduce the fundamentals of 3D construction, simultaneously looks at how such skills are being used in contemporary art and how they can become useful. This is achieved through weekly lectures, readings and hands-on studio assignments. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only ART 109 or ART 194 (Making as Thinking) |
| ART | 110 | Drawing as Seeing and Thinking | Immerses students from a broad range of non-art disciplines in the practice of drawing. Considers and reflects on drawing in its most expanded form: as a primary tool of communication and creative problem solving, as movement, as sensory experience and as its own unique method of cognition. Divides class meetings among lectures, exercises, field excursions and opportunities for critical dialogue. Students leave with an appreciation of the unique power of mark-making and an improved understanding of its application in their lives. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Credit is allowed for only ART 110 or 194 (Drawing as Seeing and Thinking) OR Visiting University Student |
| ART | 111 | Foundation Drawing | Fundamental, technical, and perceptual skills using common drawing media and their application to pictorial organization. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art BA major or BFA major OR Visiting University Student |
| ART | 112 | 2-D Design | Fundamentals of pictorial design. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art, Art-Exploratory, Minor in Studio Art, or BIS concentration in Studio Art student OR Visiting University Student |
| ART | 113 | Pictorial Investigations and Color Theory | Fundamentals of pictorial design and color theory through an introduction to various studio methodologies. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | |
| ART | 114 | Expanded Arts Studio | Expanded arts has often mystified diverse publics around the world, as well as within the art world itself. Expanded arts has also been referred to throughout contemporary art history as new genres, intermedia, experimental art, conceptual art, and art in the expanded field. Although there is often a sense of confusion about art forms that do not reflect the classic notions of art, such as painting and sculpture, it is important to note that contemporary art is largely defined by emerging mediums and forms of expression that cannot always be framed as pictures or mounted to a plinth. By taking an "always emerging" approach to art, this seminar and studio course will not attempt to define expanded arts, but will instead provide foundational knowledge for further pushing the boundaries of what art can be and do in the world. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only ART 114 or ART 194 (Expanded Arts Studio) |
| ART | 115 | 3D Design | Fundamentals of 3D form. 6 hours a week. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | |
| ART | 116 | Introduction to Digital Media | Concentrates on the fundamentals of digital media, including imagery, sound, video, animation, and the Web. Assignments are given to engage students in the technical, conceptual, and aesthetic aspects of digital media. Students employ a diverse range of techniques and software as they become familiar with contemporary artistic processes involving the use of the computer and/or other technologies. Consists of hands-on experimentation and production supplemented by slide lectures, videos, visiting artists, and academic research. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only ART 116 or ART 194 (Introduction to Digital Media) OR Visiting University Student |
| ART | 121 | Introduction to Photography I | Students learn how to use camera operations with their own DSLRs (Digital Single Lens Reflex). Students learn how to edit, enhance and sequence digital images with Adobe software. Over the course of the semester, students gain exposure to the history of photography and photography as fine art. As students develop visual literacy, they become sensitive to the ways mass media instrumentalizes photography to sell, persuade, and exploit. Students engage in the analysis and critique of creative output. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | |
| ART | 122 | Introduction to Photography II | Students gain fluency in speaking and writing about images, building on the Photoshop and Lightroom skills they previously learned. Students study the color of light and color temperature to achieve accurate and manipulated color on the screen and for output. Over the course of the semester, students become more sensitive to color and use it expressively in their creative work. Each student participates in critique as they hone their critical voice. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 121 with C or better OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|---|---------------|-------|-----------------|---|
| ART | 123 | Introduction to Photography for Nonmajors | An introduction to photography, with emphasis on investigating personal, social, cultural and aesthetic concerns with the camera. Class lectures address contemporary and historical photographers and various philosophical and technical approaches to the medium. Lab sections emphasize the creative process through camera work and darkroom procedures using 35 mm film, as well as digital capturing from cell phone camera to DSLR. Students leave this class with a better understanding of the role of photographs in culture and in their own lives. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | |
| ART | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ART | 202 | Photography I Lab | An introduction to photography, with emphasis on investigating personal, social, cultural and aesthetic concerns with the camera. Class lectures address contemporary and historical photographers and various philosophical and technical approaches to the medium. Lab sections emphasize the creative process through camera work and darkroom procedures using 35 mm film, as well as digital capturing from cell phone camera to DSLR. Students leave this class with a better understanding of the role of photographs in culture and in their own lives. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 0 | | Corequisite(s): ART 201 |
| ART | 203 | Photography: Material Studies I | Expects students to have some control over the medium and an understanding of the basics of photography as a mode of creative expression. Further develops skills in making, printing and analyzing silver gelatin images. Explores in-depth the ways in which light affects imagery, the ways in which images interact in culture, and student's own potential for creative expression through photography. Participation in critiques, discussions and presentations is essential and are a significant part of the grade. In addition, students spend extensive amounts of time out of class both shooting, developing film and working in the darkroom. Deepens the questions and creative vision developed in the introductory courses and discusses the reasons why a recent historical monochromatic process might serve ideas. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 121; ART 122 OR Visiting University Student |
| ART | 206 | Digital Photography I | Through readings, lectures, demonstrations and regular shooting assignments and critique, introduces the basic concepts of photography as a form of creative expression. With an emphasis on the student's own creative practice, covers technical, aesthetic and conceptual aspects of photography and explores how meaning is created in a photograph. Introduces basic digital editing, camera controls, selection and sequencing. Assignments cover traditional genres such as landscape, portrait and still life. Places a strong emphasis on interaction with classmates' work and receptivity to critique. Fully manual DSLR is suggested but not required for this course. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only ART 206 or ART 294 (The Still Image in Digital Culture) OR Visiting University Student |
| ART | 207 | Digital Photography II | Through readings, lectures, demonstrations and regular shooting assignments and critique, introduces the basic concepts of digital photography as a form of creative expression. With an emphasis on the student's own creative practice, explores the ways in which the recently increased speed of creation and dissemination have led to the ubiquity of photography and how these aspects have radically altered how photographs function in today's world. Covers technical, aesthetic and conceptual aspects of digital photography and explores how meaning is created in a digital photograph. Students learn digital editing, camera controls, file formats, workflow and explores media theory in relation to digital imaging technology. Assignments cover topics such as appropriation, social media, surveillance, vernacular and ritual photography. Places a strong emphasis on interaction with classmates' work and receptivity to critique. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | |
| ART | 208 | View Camera Photography | View camera and darkroom techniques. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 121 (ART 204) with C or better OR ART 123 (ART 201) with C or better OR Visiting University Student |
| ART | 211 | Drawing | Continued development of technical and perceptual skills. Emphasizes materials and pictorial content. 6 hours a week. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): complete two from ART 111, 113, or 116 with C or better OR ART 110 with C or better OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|---|---------------|-------|-----------------|--|
| ART | 212 | Figure Drawing for Animation | Engages students in understanding the human figure: anatomy, structure, gesture, balances and motion. Working from the live human model, students learn the force and weight of the human figure and understand and draw what force of an action(s) causes a reactive/balancing force. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 111 with C or better OR Visiting University Student |
| ART | 214 | Figure Drawing | Development of skill and expressiveness in drawing the basic form, construction, and gesture from the human figure. 6 hours a week. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): complete two from ART 111, 113, or 116 with C or better OR ART 110 with C or better OR Visiting University Student |
| ART | 215 | Photography: Digital Compositing | Photographically based lab/lecture course designed to address ideas and concepts using digital montage/manipulation as an expressive medium. Emphasizes both assignments and self-defined projects. Includes discussion of technological theory and the extent to which digital imaging has affected the field of photography in the fine arts and professional arenas. Introduces new and more advanced techniques, but students also review retouching, coloration, enhancement and montage techniques. Covers the basic principles of pattern design in relationship to photography and the use of the computer as a pattern generator. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 121; ART 122 OR Visiting University Student |
| ART | 216 | Contemporary Art in Practice: Methods, Making, Meaning | Investigates multidisciplinary practices of making art within a contemporary context. Encourages students to explore various methods of artmaking with emphasis on understanding that materials and actions hold meaning. Relying on principles and techniques from foundation-level classes, students learn to choose appropriate media for a particular idea and construct work that is concept driven and incorporates cross-disciplinary approaches. Students develop individual and diverse approaches to fusing traditional art disciplines with experimental, performative, spatial and digital technologies if desired. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art BA, Art BFA, Digital Culture (Art) BA, Fashion BA major, Fashion minor, or Studio Art minor; ART 108, 110, 113, or 115 with C or better; ART 116 OR Visiting University Student |
| ART | 217 | Introduction to Computer Animation | Prepares students for the exciting world of digital animation. Looks back at animation through history and how it has developed into what we understand today. Looks at history, theory, principles, practices and animation techniques. Expands the student's current knowledge of 3D digital animation and how it has changed and affected society through time. Students use learned techniques to create art in animation. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only ART 217 or ART 294 (Introduction to Animation) OR Visiting University Student |
| ART | 218 | 3D Tools | Introduces 3D data capture, 3D modeling and rendering, and 3D prototyping and fabrication through creative/research activities using CNC and rapid prototyping tools. Projects are given to engage students in the technical, conceptual, and aesthetic aspects of digital media. Students employ a diverse range of techniques, software tools, and hardware in the course of making their creative/research projects, becoming familiar with contemporary artistic and engineering processes involving the use of the computer and/or other technologies. Consists of hands-on experimentation and production supplemented by slide lectures, videos, visiting artists, and academic research. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only ART 218 or 294 (3D Tools) |
| ART | 223 | Painting | Fundamental concepts and materials of traditional and experimental painting media. Emphasizes preparation of painting supports, composition, and color. Lab. 6 hours a week. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): complete two from ART 111, 113, or 116 with C or better OR ART 110 with C or better OR Visiting University Student |
| ART | 227 | Watercolor | Fundamental concepts, materials, and techniques of watercolor. Emphasizes problem solving, basic skills, composition and color. 6 hours a week. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): complete two from ART 111, 113, or 116 with C or better OR ART 110 with C or better OR Visiting University Student |
| ART | 231 | Sculpture I | Explores sculptural forms through concepts related to basic materials. Students learn how to create original sculptures using mold-making, wood-working and sheet metal construction. Focuses on studio production, safety, aesthetic criticism and history of sculpture. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | |
| ART | 235 | 3D Tools for Sculptors | Explores the ever-changing role of technology in the production of contemporary sculpture. Concentrates on the fundamentals of 3D modeling. Introduces a diverse range of modeling programs allowing students to create fully rendered sculptures that are viewed in a virtual gallery and imagined as public art at a monumental scale through Google Earth. Discusses options to output the sculptures created beyond the virtual to explore the question: What is next? | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only ART 235 or ART 294 (3D Modeling for Virtual Worlds) or ART 294 (3D Tools for Sculptors) |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|---|---------------|-------|-----------------|---|
| ART | 244 | Introduction to Interactive Environments | Introduces software programming in the context of real-time interactivity. Builds the skills and develops the confidence needed to produce interactive audiovisual environments. Primarily uses the Max 7 (cycling74.com) programming language to write code for manipulating digital images, sounds and video in real time. For these systems to be interactive (respond to human activity), uses the tools and techniques for gathering and processing real-time input from sensors such as microphones, electronics, cameras and interface devices. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only AME 244 or ART 244 or AME 294 (Introduction to Interactive Environments) or ART 294 (Introduction to Interactive Environments) |
| ART | 253 | Introduction to Printmaking | Introduces basic monotype, intaglio, relief, and related techniques. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 113 with C or better OR Visiting University Student |
| ART | 261 | Ceramic Survey | Handforming methods, throwing on the wheel, decorative processes, and glaze application. 6 hours a week. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 115 with C or better OR Visiting University Student |
| ART | 272 | Introduction to Metals and Jewelry | Emphasizes metal fabrication. Basic techniques of cutting, piercing, forging, soldering, and forming of non-ferrous metals. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art BA or Art BFA major; ART 115 with C or better; maximum junior standing OR Visiting University Student |
| ART | 274 | Wood I | Fundamental woodworking techniques to produce creative functional 3-D objects. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | |
| ART | 276 | Introduction to Textiles | Explores traditional and contemporary materials and basic techniques related to fibers. Embroidery, feltmaking, dyeing, block printing, plaiting, 3D structures. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): complete two from ART 111, 113, 115, or 116 with C or better OR ART 110 with C or better OR Visiting University Student |
| ART | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ART | 301 | Photography: Material Studies II | Recognizing alternative processes of the inherent characteristics of nonsilver processes and their use in communicating ideas. 6 hours a week. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 203, 208, 215, or 294 (Photographic Lighting I) with C or better OR Visiting University Student |
| ART | 302 | The Still and Moving Image: Digital Photography and Video | Through screenings, readings, discussion and practical assignments, explores the differences between the still and the moving image coming from the perspective of a still photographer. How does the addition of time, sound and movement affect the way we experience images? How have the histories of photography and cinema overlapped and how are they different? How does the fact that video and film are no longer prohibitively expensive for most people affect the approach that people take to creating videos? How can photographers make engaging video using their photo skills? Looking at practitioners and learning basic video editing tools--as well as various methods for output--students create video and still images with an understanding of the intersections, variations and potential of the similar yet markedly different languages of film, video and still photography. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 206; ART 207; ART 317 OR Visiting University Student |
| ART | 303 | Portraiture Photography | Photographing people. Critical discussions and slide lectures on issues in portraiture. 6 hours a week. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 203 or 215 with C or better OR Visiting University Student |
| ART | 304 | Junior Photographic Projects | Interpretation and manipulation of light as a tool in the performance of expressive photography. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 121 (ART 204) with C or better; ART 122 (ART 205) with C or better; ART 203, 208, 215, or 294 (Photographic Lighting I) OR Visiting University Student |
| ART | 308 | 2D Digital Animation I | Advanced animation course continues the technical, conceptual and aesthetic world of 2D digital animation. In addition to craft and technique, principles of narrative, visual rhythm, character, sound and image are a primary focus. Through assignments, tutorials, discussions and critiques, students expand their knowledge of the history of animated cinema, live action cinema, visual art, games, mobile media, performance and visual culture. Students who come in with foundational animation experience find this course to be the next level in 2D digital animation. Students produce strong conceptual work that demonstrate their command of the software with attention to the rhythm, proportion, volume, color and light/dark, smartly employing formal mechanisms of story, character and motif to produce well-crafted, expressive animations. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ART 308 or ART 394 (2-D Computer Animation) OR Visiting University Student |

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|---------|----------------|--|---|----------------------|----------------------|--------------------|------------------|---|---------------|-------|--------------------|---|
| ART | 309 | 2D Digital Animation II | Focuses on using 2D animation techniques through principles of animation studies, character animation studies and dialog animation studies. Follows a studio format similar to the industry standard of dailies for frequent feedback and to encourage progress. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art (Animation) BFA major; ART 308 with C or better; Credit is allowed for only ART 309 or ART 394 (2D Computer Animation II for Non-Majors) or ART 394 (2D Digital Animation II) OR Visiting University Student |
| ART | 310 | Landscape Photography | Photographing landscapes. Critical discussion and presentations on issues in landscape photography. 6 hours a week. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 203, 208, 215, or 294 (Photographic Lighting I) OR Visiting University Student |
| ART | 311 | Intermediate Drawing | Emphasizes composition and exploration of drawing media. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 211 with C or better OR Visiting University Student |
| ART | 312 | Illustration | For the purposes of this class, to illustrate means to illuminate. The prompts challenge students to engage in storytelling and explore text/imagery relationships while simultaneously honing basic rendering skills. At times we find images to "illuminate," enhance or subvert the meaning of written language and at other times we create language as a result of creating an image. The interplay between text and images is a constant in this class. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 110 or 111; Credit is only allowed for ART 312 or ART 394 (Illustration) OR Visiting University Student |
| ART | 313 | Experimental Film | Facilitates the exploration of 16 mm motion picture film as material and methodological fodder for artists. Students use original, found, and hand-altered footage to create projects of their own design. Covers basic techniques including camera operation, film exposure, and analog editing practices. Explorations also include in-class experiments, readings, discussions and screenings. For upper-division undergraduate and graduate art students attracted to the material and theoretical issues embodied in film and who are curious about how film might inform their own ongoing advanced artistic pursuits. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 203, 208, 215, or 294 (Photographic Lighting I) OR Visiting University Student |
| ART | 314 | Intermediate Figure Drawing | Drawing from the model with greater reference to structural, graphic, and compositional concerns. 6 hours a week. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 214 or 394 (Figure Drawing for Non-Majors) with C or better; minimum 2.00 GPA OR Visiting University Student |
| ART | 317 | Advanced Digital Photography | Builds on the skills and conceptual underpinnings of previous coursework and is the final course in the required photo foundation for the Digital Photography BFA. Students build on their understanding of photography in relation to the technical, aesthetic and conceptual aspects of photography. Requires students to create a short video and create physical objects, including printed photographs and a book. Places a strong emphasis on idea development, interaction with classmates' work and receptivity to critique. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 206; ART 207 OR Visiting University Student |
| ART | 318 | Photography: Material Studies III | Despite the convenience of modern photographic technology, many artists prefer to enrich their methods with the tactile wonders of traditional processes. This course has a finer focus on project-based work. Explores salt print, 3-color gum bichromate, wet plate collodion, albumen printing processes, daguerreotypes, as well as 21st-century alternative processes. Provides new opportunities for digital/analog hybrid processes and alternative ways of presentation, such as videos, photo sculptures and performances. Involves intensive studio work, lecture and critique sessions. Students must have a film or digital camera to produce new images for the projects assigned in this course. Also requires a basic understanding of Adobe Photoshop for digital negative outputting. Expects students to share ideas, techniques and their photographic experimentations. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 203; ART 301 OR Visiting University Student |
| ART | 319 | Photo Editing: Narrative/Non-Narrative | Explores how structure in images can be created both within the image (by setting up a picture) and by sequencing images that may or may not have had any relation when they were created. By exploring two prevalent ways in which images function in the art world--the directoral mode and sequencing mode--students gain valuable tools in terms of understanding how to construct meaning with their images. Emphasizes creating cohesive and complete sequences both narrative and non-narrative. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 206; ART 207; ART 317 OR Visiting University Student |

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|---------|------------|-------------------------------------|---|-------------------|-------------------|-----------------|---------------|---|---------------|-------|-----------------|--|
| ART | 320 | Science and Art of Botanical Design | Discover the multifaceted practice of botanical design as a science and an art form. Students exercise plant maintenance, study botanical nomenclature and postharvest care, and review theories of biophilic design, botanical wellness, ecopsychology, sociohorticulture, and ecotherapy. To learn the art behind the science, students learn to create botanical arrangements using the design process in each lab session. Explores topics including construction methodology, technique, and innovation as well as reviews the botanical design industry and its historical periods. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 4 | SG | Prerequisite(s): minimum 45 hours; Credit is allowed for only ART 320 or ART 394 (Science and Art of Botanical Design) OR Visiting University Student |
| ART | 323 | Intermediate Painting | Development of competency in skills and expression. Assigned problems involve light, space, color, form, and content. 6 hours a week. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 223 or ART 394 (Painting for Non-Majors) with C or better; minimum 2.00 GPA OR Visiting University Student |
| ART | 325 | Figure Painting | The human figure clothed and nude as the subject for painting in selected media. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 214 or 223 with C or better OR Visiting University Student |
| ART | 327 | Intermediate Watercolor | Explorations of personal expression in watercolor. Continued development of watercolor skills using traditional and experimental materials and techniques. 6 hours a week. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 227 or 394 (Watercolor for Non-Majors) with C or better; minimum 2.00 GPA OR Visiting University Student |
| ART | 331 | Sculpture II | Emphasizes metal fabrication as an expressive sculptural process. Techniques in welding, cutting and bending of metals and their aesthetics. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Studio Art BIS major or Studio Art minor; ART 110 with C or better; ART 115 with C or better OR Pre- or corequisite(s): Art BA or BFA major; ART 231 with C or better if completed OR Visiting University Student |
| ART | 332 | Sculpture III | Explores diverse media with a focus on mold-making processes. Development of the sculpture portfolio. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 331 with C or better |
| ART | 333 | Foundry Casting Methods | Fine art and techniques of metal casting: mold making, foundry safety, finishing techniques, application of patinas, and history of casting. 6 hours a week. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art Majors: ART 331 with C or better, or Non-art majors: ART 231 with C or better OR Visiting University Student |
| ART | 345 | Visualization and Prototyping | Studio/seminar introduces concepts of computer visualization, modeling, and rapid prototyping in an interdisciplinary manner. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art (Intermedia) BFA major or Digital Culture student OR Visiting University Student |
| ART | 346 | 3D Computer Imaging and Animation | Focuses on the modeling, texturing, surfacing, lighting and rendering portions of the 3D animation pipeline. Covers poly modeling, sculpting, edge flow, UV texturing, materials and PBR workflows, properties of lighting, and efficient rendering techniques. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | CS | Prerequisite(s): Film and Media Production BFA major or ART 217 with C or better OR Visiting University Student |
| ART | 348 | Animation Motion Studies | Focuses on using the principles of animation in 3D and open source, pre-rigged characters for animation and dialog studies. Course studio format follows similar industry standard of dailies for frequent feedback and to encourage progress. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Film and Media Production BFA major or ART 346 with C or better OR Visiting University Student |
| ART | 351 | Intaglio | Introduces concepts and techniques of intaglio processes, including non-acid and acid techniques such as drypoint, line etch, aquatint, photo etching; introduces multiple plate printing ala poupee wiping, chine colle, and basic color. Idea-generating exercises include visual signifiers of identity, democratic multiple, time and space, the disembodied gaze, and reconsidering beauty. 6 hours a week. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 253 with C or better OR Studio Art minor; ART 110 with C or better; ART 112 or 113 with C or better OR Visiting University Student |
| ART | 352 | Lithography | Monochromatic and color planographic printmaking utilizing stone and aluminum plate processes. 6 hours a week. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 253 with C or better OR Studio Art minor; ART 110 with C or better; ART 112 or 113 with C or better OR Visiting University Student |
| ART | 354 | Screen Printing | Introduces paper, direct, and photographic stencil techniques. 6 hours a week. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; complete two from ART 111, 112, 113 with C or better OR Studio Art minor; ART 110 with C or better; ART 112 or 113 with C or better OR Visiting University Student |
| ART | 360 | Ceramic Throwing | Design analysis and production of functional pottery. Emphasis on throwing techniques, surface enrichment, and glaze application. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 42 hours OR Visiting University Student |

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| ART | 361 | Junior Animation Projects I | Students are grouped together to produce animation projects from concept to screening, gaining valuable collaborative skills necessary in animation production through a given production system (3D, 2D or Stop Motion) widely adopted in the animation industry. Utilizes technical skills from prior classes to push conceptual ideas and gain confidence in their narrative, documentary and/or experimental abilities before senior capstone. Mainly focuses on pre-production and some production. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art (Animation) BFA major; minimum 2.00 GPA OR Visiting University Student |
| ART | 362 | Junior Animation Projects II | Students continue to produce animation projects from concept to screening, gaining valuable collaborative skills necessary in animation production through a given production system (3D, 2D or Stop Motion) widely adopted in the animation industry. Utilizes technical skills from prior classes to push conceptual ideas and gain confidence in their narrative, documentary and/or experimental abilities before senior capstone. Mainly focuses on production and post-production. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art (Animation) BFA major; ART 361 with C or better; minimum 2.00 GPA OR Visiting University Student |
| ART | 364 | Ceramic Handbuilding I | Search for form using handbuilding techniques. Kiln firing and related problems. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 42 hours OR Visiting University Student |
| ART | 365 | Ceramic Handbuilding II | Continuation of previous coursework with an additional focus on large-scale works, surface treatments, and glaze decoration with related kiln firing applications. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 261 with C or better; ART 364 with C or better OR BIS Studio Art emphasis or Studio Art minor; ART 364 with C or better OR Visiting University Student |
| ART | 367 | Ceramic Vessels | Focuses on the exploration and creation of ceramic vessel forms utilizing a variety of technical approaches. Students develop a personal direction through guided assignments focusing on both historical/contemporary vessels, function vs. design, and various forming processes. Students should have previous experience with either wheel-throwing or hand-building techniques. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ART 367 or ART 394 (Ceramic Vessels) |
| ART | 372 | Casting and Jewelry Techniques | Covers lost wax casting for jewelry scale work and alternative casting methods and mold making as well as other techniques such as chain making and marriage of metals. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art student; ART 272 with C or better |
| ART | 373 | Form Emphasis in Metals | Covers forming non-ferrous metals using techniques such as anticlastic and sinclastic forming, raising, fold forming. Projects focus on hollow forms using these various techniques. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art student; ART 272 with C or better |
| ART | 374 | Wood II | Individual and directed problems in wood related to the production of unique functional art objects. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 274 with C or better OR Visiting University Student |
| ART | 376 | Weaving and Dyeing | Focuses on loom-controlled woven structures in conjunction with a variety of dye techniques. In the investigation of these new practices, an emphasis is placed on technical issues, historical trajectories and contemporary contexts. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major: ART 276 with C or better OR Fashion BA major: FSH 201 with C or better OR All other majors: ART 110, 112, 113, 115, or 116 with C or better OR Visiting University Student |
| ART | 377 | Textile Design | Explores a variety of surface design processes such as sewing, embroidery, dyeing and interlacing, as well as the construction of collage, piece work and creatively fabricates sculptural forms with their newly soft design materials. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 276 with C or better or FSH 201 with C or better OR Visiting University Student |
| ART | 378 | Digital Textiles | Starting in the 19th century with advent of the Jacquard loom, which is often noted as the inspiration for the modern day computer, explores the interwoven history and practice of textiles and technology. Taking theoretical and practical approaches, works through textile techniques, such as knitting, printing and wearables, as well as research and readings. Emphasizes applying the information presented to support individual bodies of work. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s) C or better: ART 110 or 111; ART 112, 113, 115, or 116; min 2.00 GPA OR Dig Cult stdnt; AME 111; AME 112 or 130; min 2.00 GPA OR Fashion maj; FSH 201; Credit for only ART 378 or 394 (Digital Textiles) OR Visiting University Student |
| ART | 387 | Digital Photography Capstone Development | Introduces digital photography majors to the practice of developing a self-directed creative project. Invites students to reflect on their overall work created thus far to develop three ideas for focused, research-based bodies of works. With a final project output, emphasizes researching, generating and experimenting with ideas through reading, writing, peer discussions, critiques and image making. Each student creates a session-long photo sketchbook/journal that contains all research and work in progress and eventually becomes the basis for the final portfolio. Introduces building a photographic portfolio, including creating and editing a series of images, writing project proposals and artist statements, and constructing a final form such as a photobook, mock gallery installation, or web-based experience. Prepares majors for the culminating capstone course where they complete a single self-directed project. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 317; minimum 87 hours; Credit is allowed for only ART 387 or ART 394 (Photography Capstone Development) |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|---|---------------|-------|-----------------|---|
| ART | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ART | 400 | The Photobook | Photographers have long seen the photobook as an excellent way to showcase their work. From the mid 1960s art photographers have used self-publishing through methods as simple as a photocopier to disseminate their work. Recent advances in the accessibility of high-quality reproduction capacities have resulted in an explosion of flexible and creative ways for photographers to execute their ideas and contribute to a wide range of conversations. Practical and theoretical course on the photobook. Students learn about the history of the photobook and the multitude of contemporary applications from the major photography publishers such as Aperture, through to the small press and self-publishing and the exciting world of art book fairs. Students also create a handmade photobook and create and order a print-to-order book of their own work. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 206; ART 207; ART 317 OR Visiting University Student |
| ART | 401 | Traditional Genres in Digital Photography: Land and Place | Through practical shooting assignments, readings, lectures and critiques, students learn about expressing ideas about land and place through photography. This course both celebrates, challenges and subverts the tradition of landscape photography. Pays particular attention to the ways in which photography reinforces notions of land and can be a way to address issues of pollution, sustainability and climate change, ownership, borders and the relationship between the social, the political and the physical landscape. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 206; ART 207; ART 317; Credit is allowed for only ART 401 or ART 494 (Traditional Genres: Photographing Place and Space) OR Visiting University Student |
| ART | 402 | Traditional Genres in Digital Photography: Photographing People | Through practical assignments, lectures, readings, discussion and critique, investigates the traditional photographic genre of portraiture. Students create works and conduct research which questions and contextualizes these images in historical and contemporary art. Addresses such questions as what defines a portrait and the social, political and cultural impacts these have had on photography and art, as well as how photographs of people have been transformed with the advent of digital technology and how this affects images in a broader cultural and social history. Emphasizes the students' work and a final portfolio of portraits. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 206; ART 207; ART 317 OR Visiting University Student |
| ART | 403 | Senior Photographic Projects | Technical and philosophical refinement of personal aesthetic with various photographic media. 6 hours a week. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 301, 303 (ART 404), 304, 310 (ART 410), 313 (ART 408), 318 (ART 418), 394 (Digital Printing), or 394 (Street Photography) OR Visiting University Student |
| ART | 405 | Traditional Genres in Digital Photography: The Constructed Image | Through practical shooting assignments, readings, lectures and critiques, students learn about expressing ideas through photographs that are constructed for the camera. Students create works that question and are contextualized in historical and contemporary art. Ranging from the traditional genre of still life, early composited photographs, posed portraits, glitch art, to straight photography, emphasizing composing and manipulating subject matter to create an image rather than photographing the subject as is. Introduces Photoshop for basic edits and digital compositing. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 206; ART 207; ART 317; Credit is allowed for only ART 394 (Photography as the Constructed Image) or ART 405 OR Visiting University Student |
| ART | 406 | New Genres in Digital Photography | Explores the ways in which contemporary technology and the key changes--ubiquity, speed and reproducibility--have spawned new genres in photo-based art. Explores these emerging and changeable genres and examines the potential they present for creative expression and in-depth conversation about new ideas. Defines these new genres: selfie sticks, Instagram, screenshots from Google Streetview or remote cameras that we control from our home computer. Students are given weekly assignments and at the end of the course create a project within one of the new genres. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 206; ART 207; ART 317 OR Visiting University Student |
| ART | 407 | Digital Photography Capstone | Culminating class of the online Digital Photography degree. It is organized around a single, major self-directed project. Students will submit work once a week for critiques and will participate in their classmates' critiques as well. Classmates and instructor will guide each student towards the best execution of their vision. Students will complete course with a portfolio of images that may be realized in a variety of forms including but not limited to: an online gallery, a website, or a printed portfolio or a photobook. Students will also write an artist statement to accompany the work and conduct research where there is an audience for their work. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 206; ART 207; ART 317 |

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| ART | 409 | Photographic Exhibition | Care of photographic prints, print presentation, and exhibition. Practical experience in gallery operations. 6 hours a week. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 301, 303 (ART 404), 304, 310 (ART 410), 313 (ART 408), 318 (ART 418), 394 (Digital Printing), or 394 (Street Photography) OR Visiting University Student |
| ART | 411 | Advanced Drawing | Visual and intellectual concepts through problem solving and independent study. Emphasizes the individual creative statement. 6 hours a week. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 211 with C or better; ART 311 with C or better OR Visiting University Student |
| ART | 412 | Advanced Techniques in Digital Photography | Highly technical course consists mainly of technical applications, readings, quizzes and discussion. Focuses on learning advanced image-editing software such as Photoshop, and photo management and manipulation software. Covers montage and color management systems including profiling for color printing and monitors. Students also learn about using digital backs on medium format and view cameras. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 206; ART 207; ART 317 OR Visiting University Student |
| ART | 414 | Advanced Figure Drawing | Various media and techniques on an advanced level. The human figure as an expressive vehicle in various contexts. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 314; Credit is allowed for only ART 414 or ART 514 OR Visiting University Student |
| ART | 417 | Storyboarding and Narrative Sequencing | Focuses on the representation and manipulation of time, cause and effect, and viewpoints in narrative sequences. Designed for students interested in live action film, animation, video gaming and comic book formats. Although storyboarding is typically considered a preparatory stage, students are to treat each project as a finished piece, thereby requiring an amplified level of attention and understanding with a special emphasis on consistency and coherence. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 110 or 111; Credit is allowed for only ART 417 or ART 494 (Storyboarding and Narrative Sequencing) OR Visiting University Student |
| ART | 423 | Advanced Painting | Further exploration of techniques and concepts of painting. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 323 with C or better; minimum 2.00 GPA OR non-Art major; ART 110 with C or better; ART 112, 113, 115, or 116 with C or better; minimum 2.00 GPA; Credit is allowed for only ART 423 or ART 523 OR Visiting University Student |
| ART | 424 | Stop Motion Animation | Hands-on studio focuses on creating original stop motion animations. Covers the theory of timing for animation, how to plan and collaborate on animations and about the history of the art form. In-class activities include demonstrations, project work, and viewing of and discussion of stop motion animated films. Homework includes hands-on animation as well as reading, writing and viewing of films. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ART 424 or ART 494 (Stop Motion Animation) OR Visiting University Student |
| ART | 425 | Intermediate Figure Painting | The human figure clothed and nude as the subject for painting in selected media. 6 hours a week. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 325 with C or better; Credit is allowed for only ART 425 or ART 525 OR Visiting University Student |
| ART | 427 | Art on Paper | Advanced techniques, concepts, and processes with water media and mixed painting and drawing media on paper. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 110 with C or better OR complete two from ART 111, 112, 113, 115, 116 with C or better; Credit is allowed for only ART 427 or ART 527 OR Visiting University Student |
| ART | 428 | Video and Sound as Sculptural Materials | Students learn to incorporate video and sound into sculptures and installations. Covers basic video and sound capturing and editing, but emphasizes new techniques for controlling and presenting video and sound: Max/MSP programming language, Arduino microcontrollers and Raspberry Pi. The latest developments in video and sound for sculpture and sculpture for video and sound. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art BA or BFA major; ART 231 with C or better; Credit is allowed for only ART 428 or ART 494 (New Systems-Sculpture) or ART 528 |
| ART | 429 | Painting and Drawing Research Studio | Advanced-level students produce a series of drawings, paintings and/or mixed media works based around their chosen theme. Students apply their technical and conceptual abilities developed in previous courses into innovative statements of individual expression. Expects students to have a high level of motivation, a consistent work ethic, and a desire to advance their creative practice. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Painting and Drawing BFA major; ART 311, 314, 323, or 425 with C or better; minimum 2.00 GPA; Credit is allowed for only ART 429 or ART 494 (Painting and Drawing Studio Capstone) |
| ART | 430 | Advanced Sculpture: Materials and Techniques | Encourages individual investigation in sculpture with an emphasis on the development of a personal approach to materials and techniques. Students have acquired a strong background in the basic techniques and materials in sculpture in previous classes and now are working toward the development of a portfolio or body of work. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 331 OR Visiting University Student |
| ART | 431 | Special Problems in Sculpture | Development of a personal approach to sculpture. Emphasis on form, individual problems, and related color technology. Professional practices and presentation. 6 hours a week. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art student; ART 231, ART 331 and 332 with C or better |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|---|---------------|-------|-----------------|--|
| ART | 432 | Neon Sculpture | Techniques for creating neon in an art context. Glass tube bending and fabrication. Construction of artworks utilizing light-generating gasses. 6 hours a week. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art student; ART 231 with C or better or BIS Studio Art emphasis or Studio Art minor; ART 110 and 115 with C or better |
| ART | 433 | Foundry Casting Methods | Thorough and directed course for the professional preparation of sculptors. Requires participation in all aspects of the foundry process, including serving on both a casting and foundry process maintenance team. Provides a history of the use of cast metal in the visual arts and an understanding of how casting processes can be applied to contemporary sculptural concepts. Requires participation in special projects such as exhibitions, iron casting, and field trips to local foundries as the semester course schedule dictates. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 331 with C or better OR Non-art majors; ART 231 with C or better OR Visiting University Student |
| ART | 434 | Advanced Sculpture: Context and Content | Studio-based class offers an opportunity for guided individual study with an emphasis on content, context and professional practices. Students work on developing a series of related works on a theme of their choosing. Assignments help students gain a greater understanding of the themes and ideas that are important in their art and expand their awareness of historical and contemporary artist working along similar lines. Requires students to develop a packet for self-promotion including a resume, portfolio and artist statement and to submit these materials to a competitive exhibition, commission, residency, scholarship or similar opportunity. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 331 |
| ART | 435 | Foundry Research Methods | Research in foundry techniques. | N | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ART | 436 | Architectural Sculpture | Sculptural concepts as related to architecture and other man-made environments. Scale drawing, models and relief sculpture. Students learn to produce proposals for large-scale and public commissions. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art Majors: ART 331 with C or better, or Non-art majors: ART 231 with C or better |
| ART | 438 | Art with Arduino | Explores the use of Arduino microcontrollers to control light, sound, interactivity and movement in sculptures and installations. Covers basics of electronic circuits, mechanics and audio electronics. Also covers historical and contemporary artists who incorporate technology into their work. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art (Sculpture) BFA major; ART 231 with C or better OR Art BFA major; ART 115 with C or better; Credit is allowed for only ART 438 or ART 538 OR Visiting University Student |
| ART | 439 | Studio Inquiry: Practice and Cultural Context | Investigates how intermedia practice can expand discourse within contemporary art, life and society. Encourages investigation of visual art, conceptual art, digital art, emergent media, installation, performance, art/life practices, social art practice, and with emphasis on research, production and theory. Students expand their ability to assess interdisciplinary strategies. Through reinforcing artistic rigor, students deepen their ability to employ intermedia methods as artistic communication, to express a personalized point of view. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major or Digital Culture (Art) BA major; ART 111, 112, or 113 with C or better OR Studio Art minor or BIS Studio Art emphasis; ART 110; ART 116; Credit is allowed for only ART 439 or ART 539 OR Visiting University Student |
| ART | 440 | Experimental Video Art | Explores creative possibilities through the production of experimental video art works referencing new approaches to concept, theory and art practice. Curriculum emphasizes the use of metaphor and simulation to depict reality and linear story telling. Students study relational aesthetics, content, stylistic formats and presentation issues as they reference time-based media. The technical component concentrates on the use and operation of equipment for video recording, audio mixing, lighting, video editing and computer graphics. Students create stand-alone video works, video installations, multimedia time-based performances, through individual and group projects. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 116 with C or better OR Studio Art minor or non-Art major; minimum 45 hours; Credit is allowed for only ART 440 or ART 529 OR Visiting University Student |
| ART | 441 | Video Art | Utilizing video and audio equipment essential to the production of broadcast quality video art. 2 hours a week. May be repeated for credit. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1 | | Prerequisite(s): Art portfolio completed; corequisite ART 440 |
| ART | 442 | Art and Community | Explores public and socially engaged art practice that is often collaborative, participatory and involves developing relationships with people and communities as a fundamental material of the work. Many social practice artists aim to initiate real-world change through artistic experimentation, activism, social intervention or interpretation of community stories, tragedies and celebrations. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ART 442 or ART 542 OR Visiting University Student |

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| ART | 443 | Performance Art: Actions, Gestures, Journeys | Performance art is the act of doing. It is not about representing, recounting, re-enacting or acting. It is an art form of direct action. Students work with the elements of time, space and the body as material to speak to cultural histories and collective contemporary experience while learning critical thinking skills and gaining knowledge about historical and contemporary performance artists. Students create performances and context-specific projects by making connections between art, life and public space. Since performance art and live art cannot be separated from the body who makes it, this course continually investigates the meaning and significance of performance art. For instance, what distinguishes an action as art? Is it different from an everyday action like brushing your teeth? What makes it different? When is a job or labor a performance? How does a person (artist or audience) know when the art begins or when it ends? All performances are documented and presented in video or still photography examples online. Select works are posted on the Live Art Platform website at the end of the semester. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Studio Art minor or BIS Studio Art emphasis; ART 110 with C or better; ART 116 with C or better OR Art major OR Performance and Movement BA major; Credit is allowed for only ART 443 or ART 543 OR Visiting University Student |
| ART | 444 | Short Subject: Documentary Video | Students investigate documentary video as an art form with close attention to the aesthetic as well as the informational content. Emphasizes the intersection between standard documentary modes and experimental video art. Researches and discusses contemporary and historical materials in both documentary and video art. Emphasizes concept and content development, in preparation for the production and post-production of a documentary video art work by each student. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ART 444 or ART 494 (Documentary Video Art) or ART 544 or ART 598 (Documentary Video Art) OR Visiting University Student |
| ART | 445 | Digital Processes for Printmaking | Introduces digital applications and processes as they relate to all areas of photo-mechanical printmaking processes. Comprised of three smaller sections to give a broad overview of possibilities and how they relate to analog printmaking techniques, including image capture, film generation and analog processes, and digital and inkjet printing. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 50 hours; Credit is allowed for only ART 445 or ART 545 OR Visiting University Student |
| ART | 446 | On Walking | Artists have often made use of walking as a source of inspiration, or a starting point for the creation of art works. The act of walking is located in histories of landscape art, conceptual art, cultural ritual and political protest. From Paul Klee to Marina Abramovic, this course covers a range of artists engaging walking in their art practice. From the philosophical to the contemplative, discusses artist writings, literature and histories of walking related to studio practice, sustainability, indigenous culture and contemporary art. Encourages students to consider walking as a creative medium and to think of the pedestrian as an active creator of public space. Physically engages the body in space by walking in urban and rural places and implements ways in which this experience can be documented to be re-presented in another context (i.e., gallery, museum, film festival, etc.). | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ART 446 or ART 494 (On Walking) or ART 546 or ART 598 (On Walking) OR Visiting University Student |
| ART | 449 | Computer Animation and Video | Integrates 3D fine arts animation with video and compositing. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Film (Film and Media Production) BA, Film (Filmmaking Practices) BA, or Film and Media Production BFA major or ART 217 with C or better OR Visiting University Student |
| ART | 451 | Advanced Intaglio | Gives students the opportunity to further develop their skills with intaglio printmaking techniques. Primary areas of research include image development, multiple plate and color printing. Additional techniques include lift grounds, spit bite aquatint, white ground, and viscosity printing. Develops sharper critical responses, both aesthetically and conceptually, to their own work, as well as the work of other artists. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 351 with C or better; Credit is allowed for only ART 451 or ART 551 OR Visiting University Student |
| ART | 452 | Advanced Lithography | Covers advanced techniques in lithography. Students work in monochromatic and color planographic printmaking. Utilizes stone and aluminum plate processes. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 253 with C or better; ART 352 with C or better OR Visiting University Student |
| ART | 453 | Experimental Printmaking: Expanding the Matrix | Alternative methods of working with print techniques, including installations, actions or performances, and other nontraditional formats. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): at least one of the following: ART 351, 352, 354, 355, 456, 459, 477, 478, 494 (Relief), or 394 (Photolithography) with C or better; Credit is allowed for only ART 453 or ART 553 |
| ART | 454 | Advanced Screen Printing | Continuation of paper, direct, and photographic stencil techniques. 6 hours a week. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 354 with C or better OR Visiting University Student |

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| ART | 455 | Artists' Books | Concepts, materials, techniques and structures related to book arts. Explores a variety of traditional and nontraditional binding structures, basic editing and low-tech printing techniques while simultaneously working on studio assignments that challenge them on a conceptual level. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ART 455 or ART 494 (Artists' Books) or ART 555 OR Visiting University Student |
| ART | 456 | Letterpress Studio | Equipment, techniques and applications of letterpress printing. Students hand set type and create photopolymer plates and are encouraged to integrate the tactile quality of letterpressed type and image with other media. Discusses conceptual and material aspects of letterpress. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 253 with C or better; minimum 2.50 GPA; Credit is allowed for only ART 456 or ART 556 OR Visiting University Student |
| ART | 457 | Fine Printing and Bookmaking II | Continuation of ART 456. Bookbinding, book design and printing, advanced typography, theory, and presswork. May be repeated for credit. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART student; ART 253 with C or better; ART 456 with C or better; Credit is allowed for only ART 457, ART 557 or ART 598 (Fine Printing and Bookmaking II) |
| ART | 458 | Papermaking Studio | The equipment, techniques and applications of papermaking, exploring both traditional sheet forming, paper pulp painting as well as sculptural paper. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 113 with C or better; minimum 2.50 GPA OR non-Art major; minimum 56 hours; minimum 2.50 GPA; Credit is allowed for only ART 458 or ART 558 OR Visiting University Student |
| ART | 459 | Monoprinting | Nonmultiple printed image using a variety of technical approaches. 6 hours a week. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 113 with C or better; minimum 45 hours OR Visiting University Student |
| ART | 460 | Ceramic Clay | Research into various clay body formulations, local natural materials, slip glazes, and engobes. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 261 with C or better; Pre- or corequisite(s): ART 360 with C or better if completed; ART 364 with C or better if completed OR Visiting University Student |
| ART | 461 | Animation Capstone I | In this studio course, advanced-level students envision and develop plans for a substantial animation project of their own. This project could be a very short film individually produced in any animation medium, or a more substantial film produced in collaboration with other students. Students generate an idea, pitch it and create storyboards and layouts for their animation. Leads directly into and is required before subsequent course where students produce and screen their films. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art (Animation) BFA major; ART 308 with C or better; ART 346 with C or better; ART 417 with C or better; minimum 2.00 GPA |
| ART | 462 | Animation Capstone II | In this studio course, advanced-level students continue developing their substantial animation projects that they have previously developed. Provides an industry model of start-to-finish guide with which students can develop their pre-production contents into polished final animation within a pre-set production timeline. Includes frequent updates, critique and one-on-one personal meetings during studio sessions. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art (Animation) BFA major; ART 461 with C or better; minimum 2.00 GPA |
| ART | 463 | Ceramic Glaze Research | Glaze calculation and formulation using various glaze colors and surfaces. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 261 with C or better; Credit is allowed for only ART 463 or ART 563 OR Visiting University Student |
| ART | 466 | Special Problems in Ceramics | Emphasis on personal expression within structure of seminars, critiques, and studio work. Professional methods of presentation/documentation of work. 6 hours a week. May be repeated for credit. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 261 with C or better; ART 364 with C or better OR Visiting University Student |
| ART | 467 | Art and Ecology | Designed for students with advanced independent studio art practices or sustainability studies students who have an interest in the way that their lives and practices engage environments. Through readings, slide presentations, discussions, guest visits, hands-on activities and screenings, explores the work of many contemporary ecological artists engaging with environments and environmental issues from a multitude of angles. Artists engage land remediation, agriculture, socio-ecological justice, sustainable materials, landscape design and much more. As cultural workers must be informed, the course content addresses some basic literacy with regard to environmental concerns and shares examples of realized accessible sustainable solutions. In addition to learning about ecologies and artists, students complete three art or research projects, inspired by assignments. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ART 467 or ART 494 (Art and Ecology) or ART 567 or ART 598 (Art and Ecology) or SOS 467 or SOS 494 (Art and Ecology) or SOS 567 or SOS 598 (Art and Ecology) |
| ART | 472 | Advanced Jewelry and Surface Techniques | Covers jewelry forms and techniques including surface embellishment such as granulation, keum-boo and filigree to be used as tools for aesthetic expression and expand student awareness of historical and contemporary jewelry/metalwork. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art student; ART 272 and ART 372 with C or better |

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| ART | 473 | Advanced Metals and Mechanisms | Covers new techniques and develops existing skills in non-ferrous metal forming and mechanism fabrication while further refining fitting and finishing techniques, incorporating concept with craft and emphasizing professional practices/portfolio development. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art student; ART 272 with C or better; ART 373 with C or better; Credit is allowed for only ART 473 or 598 (Adv. Metals & Mechanisms) |
| ART | 474 | Advanced Wood | Extended experience and advanced techniques in the use of wood to create functional works of art. 6 hours a week. May be repeated for credit. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art student; ART 274 with C or better; ART 374 with C or better OR Visiting University Student |
| ART | 476 | Advanced Textile Construction | Expanding on technical knowledge of knit and woven structures, this course emphasizes the creation of a body of work. The materialization ranges from the functional to the formal to the conceptual depending on one's research trajectory within his or her program of study. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art student; ART 276 with C or better; ART 376 with C or better |
| ART | 477 | Printed Textiles | Techniques for screen printing on fabric exploring pattern as a compositional element. Various stencil methods including photographic processes. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major: ART 276 with C or better; ART 377 with C or better OR Fashion BA major: FSH 201 |
| ART | 478 | Advanced Surface to Form | Broadening knowledge of surface design and the construction of 3D structures, presents advanced explorations in embroidery, dyeing and quilting. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 276, ART 377 and ART 477 with C or better; Credit is only allowed for ART 478 or ART 578 |
| ART | 479 | 3-D Fibers: Construction and Content | Explores hand-constructed fiber techniques through the context of the history and communities from which they came, as well as contemporary applications. Emphasizes research and the development of one's work through studio and social practice. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major or Studio Art minor; ART 276 with C or better; Credit is allowed for only ART 479 or ART 579 or ART 598 (3-D Fibers) |
| ART | 482 | Senior Exhibitions/Portfolio | Capstone course required of all BFA studio art majors. Students participate in a group exhibition and focus on professional practices, including exhibition display and advertisement, career planning, and development of a professional packet with artist statement, CV, and digital portfolio. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art BFA major; minimum 100 hours |
| ART | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): Art student |
| ART | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | STO | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-6 | | Prerequisite(s): Barrett Honors student |
| ART | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | STO | N | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ART | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ART | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| ART | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-3 | | Prerequisite(s): Art student |
| ART | 501 | Cross-Practice Critique | Engages graduate students in deep, sustained critical discussion about artwork made by students in the class. Students investigate together the process(es) of critiquing artwork and consider and discuss the underlying assumptions and values they bring to this method of communication and pedagogy. Helps students develop and improve their critical voice at whatever level they are at, including the ability to receive and accept critical feedback of their work. Encourages students to hone their sense of personal agency in the context of "the crit." | N | LEL | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate |
| ART | 508 | Experimental Film | Facilitates the exploration of 16 mm motion picture film as material and methodological fodder for artists. Students use original, found, and hand-altered footage to create projects of their own design. Covers basic techniques including camera operation, film exposure, and analog editing practices. Explorations also include in-class experiments, readings, discussions and screenings. For upper-division undergraduate and graduate art students attracted to the material and theoretical issues embodied in film and who are curious about how film might inform their own ongoing advanced artistic pursuits. Graduate level focuses on the development of a personal approach. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| ART | 514 | Graduate Figure Drawing | Advanced study of the human figure as an expressive vehicle in various contexts. Graduate level focused on the development of personal approach. Timed poses of short and long duration with emphasis on using the figure to enhance the student's individual research. Includes art historical component to enable students to fit themselves into the context of the use of the figure as it relates to the study of the history of art. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR senior or postbaccalaureate undergraduate with minimum 108 hours; Credit is allowed for only ART 414 or ART 514 |
| ART | 518 | Advanced Alternative Processes | Despite the convenience of modern photographic technology, many artists prefer to enrich their methods with the tactile wonders of the traditional processes that this course introduces. Part two of Alternative Processes with a finer focus on project-based work. Explores salt print, 3-color gum bichromate, wet plate collodion, albumen printing processes, daguerreotypes, as well as 21st-century alternative processes. Provides new opportunities for digital/analog hybrid processes and alternative ways of presentation, such as videos, photo sculptures and performances. Involves intensive studio work, lecture and critique sessions. Students must have a film or digital camera to produce new images for the projects assigned in this course. Also requires a basic understanding of Adobe Photoshop for digital negative outputting. Students are expected to share ideas, techniques and their photographic experimentations. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ART | 523 | Graduate Painting | Concentrates on formal and conceptual skills and explores a variety of topics, including historical and contemporary painting issues, visual literacy, critical thinking, and professional practices. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR Senior or Postbaccalaureate undergraduate with minimum 108 hours; credit is allowed for only ART 423 or 523 |
| ART | 525 | Advanced Figure Painting | Advanced study of the human figure clothed and nude as the subject for painting in selected media. Graduate-level study focuses on the development of personal expression. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 425 or ART 525 |
| ART | 527 | Art on Paper | Exploration focused on conceptual and technical approaches combining mixed media painting and drawing on paper and related surfaces. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 427 or ART 527 |
| ART | 528 | Video and Sound as Sculptural Materials | Students learn to incorporate video and sound into sculptures and installations. Covers basic video and sound capturing and editing, but emphasizes new techniques for controlling and presenting video and sound: Max/MSP programming language, Arduino microcontrollers and Raspberry Pi. The latest developments in video and sound for sculpture and sculpture for video and sound. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 428 or ART 528 or ART 598 (New Systems Sculpture) |
| ART | 529 | Experimental Video Art | Explores creative possibilities through the production of experimental video art works referencing new approaches to concept, theory and art practice. The experimental video art curriculum emphasizes the use of metaphor and simulation to depict reality and linear story telling. Students study relational aesthetics, content, stylistic formats and presentation issues as they reference time-based media. The technical component concentrates on the use and operation of equipment for video recording, audio mixing, lighting, video editing and computer graphics. Students create stand-alone video works, video installations, multimedia time-based performances, through individual and group projects. Graduate students create a collaborative video anthology. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 440 or ART 529 |
| ART | 530 | Digital Compositing | Fine arts digital compositing of computer animation, video, and video editing of composites with audio. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR senior OR postbaccalaureate undergraduate with minimum of 108 earned hours |
| ART | 532 | Neon Sculpture | Emphasizes techniques for creating neon in an art context, including glass bending and fabrication. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ART | 533 | Foundry Casting Methods | Thorough and directed course for the professional preparation of sculptors. Students are expected and required to participate in all aspects of the foundry process, including serving on both a casting and foundry process maintenance team. Students deepen their knowledge of the history of the use of cast metal in the visual arts and understanding of how casting processes can be applied to contemporary sculptural concepts, participating in special projects such as exhibitions, iron casting, and field trips to local foundries as the semester course schedule dictates. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| ART | 538 | Art with Arduino | Explores the use of Arduino microcontrollers to control light, sound, interactivity and movement in sculptures and installations. Covers basics of electronic circuits, mechanics and audio electronics. Also covers historical and contemporary artists who incorporate technology into their work. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 438 or ART 538 |
| ART | 539 | Studio Inquiry: Practice and Cultural Context | Investigates how intermedia practice can expand discourse within contemporary art, life and society. Encourages investigation of visual art, conceptual art, digital art, emergent media, installation, performance, art/life practices, social art practice, and with emphasis on research, production and theory. Students expand their ability to assess interdisciplinary strategies. Through reinforcing artistic rigor, students deepen their ability to employ intermedia methods as artistic communication, to express a personalized point of view. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 439 or ART 539 |
| ART | 540 | Visualization and Prototyping | Explores advanced concepts of computer visualization, modeling and prototyping in an interdisciplinary manner. Looks at "visualization" quite broadly--from 2D visualizations such as graphs and maps, to tangible 3D models, to dynamic and immersive 4D systems. Engages a variety of approaches to 3D data capture and modeling. Prototypes original designs--objects, assemblies, and systems--using 3D computer modeling techniques, desktop and enterprise level 3D printing, and novel systems for experiencing time and space, including stop motion film and AR/VR. Theoretical and historical lecture/discussion are supplemented with visiting artists, engineers, scholars and field trips. Students must be familiar with computer graphics applications and should have experience with 3D modeling applications. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 540 or ART 494 (Visual Prototyping) or ART 598 (Visual Prototyping) |
| ART | 542 | Art and Community | Through studio practice, research and presentations, explores intermedia social art practice, public practice, art/life practice, relational aesthetics, community-based projects, and other critical theories and conventions that engage art and community. Graduate students, in conjunction with the instructor, create their own workplan for the course. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 442 or ART 542 |
| ART | 543 | Performance Art: Actions, Gestures, Journeys | Performance art is the act of doing. It is not about representing, recounting, re-enacting or acting, or but simply doing. It is an art form of direct action. Students work with the elements of time, space, and the body as material to speak to cultural histories and collective contemporary experience while learning critical thinking skills and gaining knowledge about historical and contemporary performance artists. Students create performances and context-specific projects by making connections between art, life and public space. Since performance art/live art cannot be separated from the body who makes it, this course continually investigates the meaning and significance of performance art. For instance, what distinguishes an action as art? Is it different from an every day action like brushing your teeth? What makes it different? When is a job or labor a performance? How does a person (artist or audience) know when the art begins or when it ends? All performances are documented and presented in video or still photography examples online. Select works are posted on the Live Art Platform website at the end of the semester. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 443 or ART 543 |
| ART | 544 | Short Subject: Documentary Video | Students investigate documentary video as an art form with close attention to the aesthetic as well as the informational content. Emphasizes the intersection between standard documentary modes and experimental video art. Researches and discusses contemporary and historical materials in both documentary and video art. Emphasizes concept and content development in preparation for the production and post-production of an 8-10 minute documentary video art work by each student. Each student's documentary video art work is archived on the "ASU Documentary Video Art" Vimeo account that is viewable by the public. Each student produces a 4-minute excerpt of the longer 8-10 minute documentary for purposes of screening it at the Scottsdale Museum of Contemporary Art. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 444 or ART 494 (Documentary Video Art) or ART 544 or ART 598 (Documentary Video Art) |
| ART | 545 | Digital Processes for Printmaking | Introduces digital applications and processes as they relate to all areas of photo-mechanical printmaking processes. Course is comprised of three smaller sections to give a broad overview of possibilities and how they relate to analog printmaking techniques: image capture, film generation and analog processes, and digital and inkjet printing. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 445 or ART 545 |

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| ART | 546 | On Walking | Artists have often made use of walking as a source of inspiration, or a starting point for the creation of art works. The act of walking is located in histories of landscape art, conceptual art, cultural ritual and political protest. From Paul Klee to Marina Abramovic, covers a range of artists engaging walking in their art practice. From the philosophical to the contemplative, discusses artist writings, literature and histories of walking related to studio practice, sustainability, indigenous culture and contemporary art. Encourages students to consider walking as a creative medium and to think of the pedestrian as an active creator of public space. Physically engages the body in space by walking in urban and rural places and implements ways in which this experience can be documented to be re-presented in another context, i.e., gallery, museum, film festival, etc. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 446 or ART 494 (On Walking) or ART 546 or ART 598 (On Walking) |
| ART | 550 | Photolithography | Covers various photolithography processes including black and white, multiple color, and CMYK photo reproduction techniques, looking at the transformation of the photo image into print and the nature of printed photographic images. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 550 or ART 598 (Photolithography Prints) |
| ART | 551 | Advanced Intaglio | Gives students the opportunity to further develop their skills with intaglio printmaking techniques. Primary areas of research include image development, multiple plate and color printing. Additional techniques include lift grounds, spit bite aquatint, white ground, and viscosity printing. Develops sharper critical responses, both aesthetically and conceptually, to their own work, as well as the work of other artists. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or senior or post-baccalaureate undergraduate with minimum of 108 earned hours; credit is allowed for only ART 451 or 551 |
| ART | 553 | Experimental Printmaking: Beyond the Matrix | Focuses on the development of concepts in printmaking beyond the traditional two-dimensional image on paper that is contained in a portfolio or frame. Explores alternative techniques and materials, methods of extending the print beyond 2 dimensions, and expanding the concept of what is a print. Students are encouraged to understand printmaking within the wider context of contemporary art, especially those directly related to the student's main artistic emphasis (if not printmaking). | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or senior or postbaccalaureate undergraduate with minimum 108 hours; Credit is allowed for only ART 453 or ART 553 |
| ART | 554 | Graduate Screenprinting | Focuses on the development of screenprinting techniques and the ability to utilize these techniques as an expressive visual method of exploring and developing individual research concepts. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ART | 555 | Artists' Books | Graduate-level introduction to concepts, materials, techniques and structures related to book arts. Explores a variety of traditional and nontraditional binding structures, basic editioning and low-tech printing techniques while simultaneously working on studio assignments that challenge on a conceptual level. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 555 or ART 598 (Artists' Books) or ART 455 |
| ART | 556 | Letterpress Studio | The equipment, techniques and applications of letterpress printing. Students hand-set type and create photopolymer plates and are encouraged to integrate the tactile quality of letterpressed type and image with other media. Discusses conceptual and material aspects of letterpress. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 456 or ART 556 |
| ART | 557 | Fine Printing and Bookmaking | Continuing study of letterpress in fine art--the book arts--with emphasis on the book. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 457 or ART 557 or ART 598 (Fine Printing and Bookmaking II) |
| ART | 558 | Papermaking Studio | The equipment, techniques and applications of papermaking, exploring both traditional sheet forming, paper pulp painting as well as sculptural paper. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 458 or ART 558 |
| ART | 559 | Monoprinting | Investigates monoprint/monotype printmaking and its aesthetic possibilities. Students acquire basic and advanced skills in the medium through demonstrations, problem solving exercises, and experimentation. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR senior or postbaccalaureate undergraduate student; minimum 108 hours |

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| ART | 563 | Ceramic Glaze Research | Focuses on an investigation into the science and art of clay and glazes and a process of exploration of materials and surfaces, which continues to evolve with the students' evolving creative expression. The first assignments help students choose a direction to investigate for their own artwork. Each student selects a particular glaze to focus on during the term. Investigates ways of altering and improving recipes, focusing on one particular glaze quality at a time. By the end of the term students understand their glaze focus extensively and know how to go about altering all glaze types for special effects and required changes. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 463 or ART 563 |
| ART | 567 | Art and Ecology | Designed for students with advanced independent studio art practices or sustainability studies students who have an interest in the way that their lives and practices engage environments. Through readings, slide presentations, discussions, guest visits, hands-on activities and screenings, explores the work of many contemporary ecological artists engaging with environments and environmental issues from a multitude of angles. Artists engage land remediation, agriculture, socio-ecological justice, sustainable materials, landscape design and much more. As cultural workers must be informed, the course content addresses some basic literacy with regard to environmental concerns and shares examples of realized accessible sustainable solutions. In addition to learning about ecologies and artists, students complete three art or research projects, inspired by assignments. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 467 or ART 494 (Art and Ecology) or ART 567 or ART 598 (Art and Ecology) or SOS 467 or SOS 494 (Art and Ecology) or SOS 567 or SOS 598 (Art and Ecology) |
| ART | 576 | Advanced Textile Construction | Expanding on technical knowledge of knit and woven structures, this course emphasizes the creation of a body of work. The materialization ranges from the functional to the formal to the conceptual depending on one's research trajectory within his or her program of study. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 476 or ART 576 or ART 598 (Woven Structures) |
| ART | 578 | Advanced Surface to Form | Broadening knowledge of surface design and the construction of 3D structures, this class presents advanced explorations in embroidery, dyeing and quilting. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 478 or ART 578 or ART 598 (Advanced Surface Design) |
| ART | 579 | 3-D Fibers: Construction and Content | Explores hand-constructed fiber techniques through the context of the history and communities from which they came, as well as contemporary applications. Emphasizes research and the development of one's work through studio and social practice. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisite: Degree- or Nondegree-seeking graduate; Credit is allowed for only ART 479, 579 or 598 (3D Fibers) |
| ART | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or senior or postbaccalaureate undergraduate with minimum of 108 earned hours |
| ART | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or senior or postbaccalaureate undergraduate with minimum of 108 earned hours |
| ART | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ART | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | School of Art | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student or senior or postbaccalaureate undergraduate with minimum of 108 earned hours |
| ART | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student or senior or postbaccalaureate undergraduate with minimum of 108 earned hours |
| ART | 621 | In Practice | Advanced study. 3 hours a week each section. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ART | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | Z2 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|---|---|-------|---------------------|--|
| ART | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-12 | | |
| ASB | 100 | Introduction to Global Health | Current global health crises, challenges; tools for describing health and disease; ecological, cultural, social, historical, political-economic factors; comparative health systems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G | Credit is allowed for only ASB 100 or SSH 100 |
| ASB | 101 | Anthropology: Understanding Human Diversity | Provides an integrated understanding of biological, historical, and cultural evolutionary processes that account for human variation. Specifically examines how humans evolved and how they obtained the characteristics that make us a unique species. Considers cultural and biological models of cooperation, resource acquisition and distribution, sex and marriage, parenting, conflict and warfare, political structures, power and status, sex roles, ritual, religion, and language. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G | |
| ASB | 102 | Introduction to Cultural Anthropology | Introduces concepts and methods of sociocultural anthropology, with illustrative materials from a variety of communities in a globalizing world. Explores the concept of culture and examines a variety of social, political and economic dimensions of how humans organize their lives. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G | |
| ASB | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-3 | | Pre-requisites: Freshman standing, Maximum 25 hours |
| ASB | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | |
| ASB | 202 | Immigration and Ethnic Relations in the U.S. | The ethnic and social consequences of international migration with a focus on the United States. Examines the impact of immigration on both American society and immigrant ethnic minorities over time. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & C | Credit is allowed for only AFR 202 (or AFS 202) or ASB 202 |
| ASB | 210 | Human Sexuality: Anthropological Perspectives | Examines the sexual nature and behavior of humans from both a biological and an anthropological point of view across various cultures around the globe. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G | |
| ASB | 211 | Women in Other Cultures | Cross-cultural analysis of the economic, social, political, and religious factors that affect women's status in traditional and modern societies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (HU or SB) & G | |
| ASB | 220 | The Expressive Culture of Latin America and the Caribbean: A Transborder Perspective | Interdisciplinary social science introduction to various forms of cultural expressions found throughout Latin America and the Caribbean region and in Latina/o communities within the United States. Uses a transborder perspective to examine how migration, race, ethnicity, gender, power, history and identity shape and influence different aspects of Latina/o culture and identity. Focuses on the study of a wide array of expressive practices including music, dance, verbal arts, myths and folktales, festivals, sports and food in Mexico, the Spanish Caribbean and their counterpart Latina/o communities in the United States. Class lectures and readings introduce basic concepts such as ethnography, ethno-musicology, culture, representation and globalization. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (L or HU or SB) & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ASB 220 or TCL 230 OR Visiting University Student |
| ASB | 222 | Buried Cities and Lost Tribes | Archaeology through its most important discoveries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (HU or SB) & G & H | |
| ASB | 223 | Aztecs, Incas and Mayas | Archaeological and historical study of the three best-known ancient cultures of Mesoamerica and South America. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (HU or SB) & G & H | |
| ASB | 230 | Beginning Social Research | Introduces basics of social research design; fosters independent thinking and critical analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB | |
| ASB | 250 | Introduction to Evolution and Medicine | Introduces applications of evolutionary biology to medicine. Discusses topics ranging from the evolution of antibiotic resistance to aging, obesity, Alzheimer's disease and cancer using an evolutionary framework to better understand how these diseases/issues came to be, and what can be done to prevent/treat/mitigate these conditions. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G | Credit is allowed for only ASB 250 or ASB 294 (Introduction to Evolutionary Medicine) or ASM 294 (Evolution and Medicine) or BIO 250 or BIO 294 (Introduction to Evolutionary Medicine) OR Visiting University Student |
| ASB | 252 | Sports and Culture | Cross-cultural examination of symbolic and social dimensions of sports past and present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G | |
| ASB | 272 | Economic Justice | Surveys key environmental justice issues and movements. Uses interdisciplinary social science perspectives to review and analyze U.S. and international case studies. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB | Credit is allowed for only ASB 272 or SOS 272 |
| ASB | 275 | Culture, Language and Learning | Examines the dynamic and complex interplay of language, culture and learning within and across individuals, groups, institutions and cultures in diverse multicultural, multilingual and transborder contexts. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & C | Credit is allowed for only ASB 275 or TCL 275 |
| ASB | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---------------------------------------|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| ASB | 300 | Food and Culture | Uses the case of food to explore how culture shapes human well-being, including the impact of political-economic systems on what we have and chose to eat. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (L or SB) & C | Prerequisite(s): ENG 101, 105, 107, or 111 with C or better; Credit is allowed for only ASB 300 or SSH 300 OR Visiting University Student |
| ASB | 301 | Global History of Health | Examines disease and health transitions in broadest context of human history, from primate ancestors to hunter-gatherers, to transcontinental contact, colonialism, industrialization, urbanization. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 301 or HST 301 or SSH 301 OR Visiting University Student |
| ASB | 302 | Ethnographic Field Study | Fieldwork study of cultural adaptation through ethnographic research methods and local culture. Taught in Latin America or other international locations. | N | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (L or SB) & G | Prerequisite(s): ASB 102, ASB 222, ASB 223, or ASM 104; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| ASB | 305 | Poverty and Global Health | From perspectives of anthropology and allied fields, explores critical, social justice, and ethical issues in health care, research, and disparities. Focuses on vulnerable and special populations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (L or SB) & G | Prerequisite(s): ENG 101, 105, 107, or 111 with C or better; Credit is allowed for only ASB 305 or SSH 305 OR Visiting University Student |
| ASB | 310 | Precolonial Africa | In-depth course study of contemporary Africa, providing thorough examination of the continent's pre-colonial history, particularly before 1900. The course will study the continent and its people, the way the history of the continent has been interpreted by non-Africans, how the continent's anatomy has affected historical development, and the methodology and interdisciplinary scholarship in the study of Africa | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G & H | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours; Credit is allowed for only AFR 300 (or AFH 300) or ASB 310 |
| ASB | 311 | Principles of Social Anthropology | Comparative analysis of domestic groups and economic and political organizations in primitive and peasant societies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G & H | |
| ASB | 316 | Money and Culture | Using the fundamentals of economic anthropology, investigates how culture shapes our relationship to money and decision making. Provides a foundation for thinking about how production, exchange and consumption can be explained by looking at human behavior, thought and culture, and encourages students to apply anthropological knowledge to real-world situations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| ASB | 319 | The North American Indian | Archaeology, ethnology, and linguistic relationship of the Indians of North America. Does not include Middle America. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Pre-requisites: ASB 102, ASB 222, or ASB 223 |
| ASB | 322 | Peoples of Latin America | Indigenous, mestizo, and national cultures, rural and urban peoples in the region that today we call Latin America. Covers historic and contemporary events and cultures. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (L or SB) & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; ASB 102 with C or better or minimum 45 hours OR Visiting University Student |
| ASB | 325 | Peoples of Southeast Asia | Cultural-ecological perspective on the peoples of mainland and insular Southeast Asia. Subsistence modes, social organization, and the impact of modernization. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | G | |
| ASB | 326 | Human Impacts on Ancient Environments | World survey of successful and unsuccessful ancient societies and their impacts on the environment, as well as modern society's impact in the "anthropocene." Through lecture and discussions, addresses the nature of humans' impact on the environment through antiquity (both beneficial and deleterious effects), debates about human-made versus natural causes of environmental impacts, and alternative ways to minimize potentially harmful consequences of human activities including social and environmental policy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & H | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ASB | 327 | Disaster! | Examines the causes of disasters, such as famines and pandemics, throughout human history. Explores cases in which social responses to disaster have helped people survive or led to their demise. Through hands-on activities, students gain experience with popular tools to understand human responses to disasters. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (L or SB) & C | Prerequisite(s): ASB 102 with C or better or minimum 45 hours; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| ASB | 330 | Understanding Archaeology | In-depth study and critique of theories and methods for reconstructing the lives of prehistoric peoples. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G & H | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ASB | 333 | Frauds, Myths and Mysteries | Depictions of archaeology in popular culture are full of dubious tales of ancient extraterrestrials, giants and widespread scientific conspiracy. Explores such fantastic claims and learn how archaeologists separate plausible arguments from pseudoscience. Critically examines how and why such pseudoscientific claims develop and take hold of the public imagination. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (HU or SB) & G | Prerequisite(s): minimum 42 hours OR Visiting University Student |
| ASB | 335 | Ancient Ruins of the Southwest | Archaeological exploration of the major cultural developments in the prehispanic Southwest, including Mesa Verde, Chaco Canyon, Mimbres, Hohokam and Rio Grande. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & H & C | Prerequisite(s): ASB 102, ASB 222, ASB 223, or minimum 45 hours OR Visiting University Student |
| ASB | 336 | African Art | Anthropological perspective of ancient visual art traditions of Africa. In-depth studies focus on several important themes and case studies that are pivotal to the understanding of the rich and diverse artistic heritage of the African continent. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | HU & G | Prerequisite(s): AFR 200 (or AFS 200) or ASB 102 or minimum 45 hours; Credit is allowed for only AFR 336 (or AFH 336) or ASB 336 |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--|---|-------|--------------------|--|
| ASB | 337 | Pyramids and Hieroglyphs: Life in Ancient Mesoamerica | Preconquest cultures and civilizations of Mexico. The Aztecs, Mayas, and their predecessors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (HU or SB) & G & H | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ASB | 338 | Archaeology of North America | In-depth study of the origin, spread, and development of the prehistoric Indians of North America up to historic tribes. Does not include the Southwest. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB | Pre-requisites: ASB 102 or ASB 222 or ASB 223 |
| ASB | 339 | Grassroots Social Movements | Explores how groups mobilize collectively to produce social, political, economic and cultural change, with an emphasis on the United States. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ASB 339 or POS 339 or SBS 339 or SOC 339 OR Visiting University Student |
| ASB | 340 | Migration and Culture | Examines migration and culture embedded in a transnational field of social, economic and political processes. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 340 or SOC 328 OR Visiting University Student |
| ASB | 342 | Mexico-U.S. Borderlands | Contemporary examination of socioeconomic and political dimensions of border communities, and formation of Mexican-origin communities within and outside the Southwest. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & C | Credit is allowed for only ASB, SBS or SOC 342 |
| ASB | 343 | Latinas/os and the Environment | Examines the nexus among race/ethnicity, migration, class and the built and natural environment. Explores the proposition that Latina/o and other ethnic minorities and socioeconomically disadvantaged populations bear a disproportionate burden of environmental challenges and its consequences for equality, health and quality of life. Key topics include environmental racism, vulnerability and resilience, climate change, community organizing, and mobilization. Pays considerable attention to community-based efforts to deal with environmental problems affecting the Latina/o population in the U.S. Southwest. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): ENG 101 or 105 or 107 with C or better OR minimum 24 hours; Credit is allowed for only ASB 343 or PUP 343 or SOS 343 or TCL 343 or ASB/PUP/SOS/TCL 394 (Latinos and the Environment) |
| ASB | 344 | Technology and Society | Development of technology in relation to society, work, science, the environment, public health, and cultural values related to social change. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ASB 344 or SOC 334 OR Visiting University Student |
| ASB | 345 | Culture and Society Transformation | Uses video documentaries and movies to explore the way in which cultural values, economic background and human interaction impact and transform societies. Societal changes in Central and Eastern Europe make a good case study for contrasting and comparing with other societies and understanding global trends and issues in today's world. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G | Prereq(s): ENG 101, 105, or 107 with C or better; Credit for only ASB 345 or ASB 394 (Cult & Soc Transform) or JUS 343 or JUS 394(Cult & Soc Transform) or ROM 343 or SLC 343 or SLC 394 (Cult & Soc Transform) or SOS 344 or SOS 394 (Cult & Soc Transform) |
| ASB | 346 | Marriage and Family Diversity | Social, economic, and cultural factors that shape family diversity in relation to generational and gender dynamics within the family. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & C | |
| ASB | 348 | The Borders of Language | In-depth focus on language use, multilingualism and social life in borderlands contexts, in and out of school. Explores the historical and contemporary dimensions of language use in the borderlands, including Indigenous languages, English and Spanish, and hybrid forms. Also introduces theories and methods in the field of linguistic anthropology. Students conduct research on everyday linguistic practice and connect it to broader sociopolitical realities. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | L | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only ASB 348 or ASB 394 (The Borders of Language) or ENG 348 or ENG 394 (The Borders of Language) or TCL 348 or TCL 394 (The Borders of Language) |
| ASB | 350 | Anthropology and Art | Art forms of people in relationship to their social and cultural setting. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | HU | |
| ASB | 353 | Death and Dying in Cross-Cultural Perspective | Scientific and humanistic approaches to the study of death and dying from the perspective of anthropology and allied disciplines. Uses a global, comparative approach across space and time from the earliest human burials to contemporary funeral events. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3-4 | (HU or SB) & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 353 or SOC 353 OR Visiting University Student |
| ASB | 355 | Traditional Medicine and Healing | In-depth study of world views, practices, and roles of shamans and traditional and contemporary healers. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | HU or SB | Prerequisite(s): ASB 102, ASB 222, ASB 223 or ASM 104 or SSH 100 or ASB 100 with C or better |
| ASB | 356 | Central American Studies | Part of the summer ASU study abroad Costa Rica Program, which is a language and social sciences immersion program in the capital city, San Jose. A summer offering permits students to enroll in the program without conflicting with full course loads during the fall or spring semester. However, the course is proposed as a stand-alone course that can be offered in a regular semester as well. | N | REC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | Credit is allowed for only ASB 356 or GCU 356 or POS 354 or SBS 356 or SOC 356 |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|--|
| ASB | 357 | Society, Drugs and Health | Analyzes how humans use exogenous chemicals to change psychology, biology and behavior, and what positive and negative consequences this has for human health. Explores how such chemical technologies arise through cultural evolution, how societies decide what are appropriate and inappropriate uses of such technologies, how these technologies change what is considered normal biological functioning and behavior, and how these technologies shape human health. Through this substantive topic, introduces basic concepts and tools in two related fields--medical anthropology and epidemiology. A consistent focus in the course is developing tools that can be applied to improve the provision of care and health care policy. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ASB | 358 | The Yoruba and the Atlantic World | The Yoruba in the African diaspora is how Africans, separated from their home country and scattered in a new land, managed to retain their traditions and reform their identities. The slave trade led to the spreading of African culture, religion, dance, art and music from one hemisphere to another and contributed to the cultural diversity of the New World. Allows students to trace the experiences of one African cultural group throughout the cycle of the slave experience in the Americas. Utilizes different sources or approaches (e.g., anthropology, archaeology, written document, oral tradition) to provide an understanding of how the Yoruba were integrated into the Atlantic world, the transformations of Yoruba identities and culture, and the strategies for resistance employed by the Yoruba in the New World. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): minimum 30 hours; Credit is allowed for only AFR 358 or ASB 358 or AFS 394/ASB 394/HST 394/SGS 394 (Yoruba in the African Diaspora World) OR Visiting University Student |
| ASB | 361 | Human Cultural Beginnings | Biosocial evolution in the Plio-Pleistocene, emphasizing technological achievements and the relationship between technology and environment in Eurasia and Africa. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | H | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ASB | 362 | People and Plants | Offers a global survey of ethnobotany, the study of the uses of plants by people. Integrating botany, anthropology and archaeology, students learn about the roles plants have played as foods, tools, medicines and foci of religious devotion and ritual experience across human history. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ASB | 363 | From Cells to Society: Understanding Complexity | Equips students with concepts and empirical examples they need to understand the role of complexity in the world around them. Complexity science is based on the fundamental principle that entities and phenomena in the world around us are systems composed of many parts that interact to produce their global characteristics. For example, cells interact to produce organs and tissues, which in turn interact to produce physiological processes (i.e., the capacity to metabolize food to produce new compounds and energy) and physical infrastructure (skeletal and muscular structure) which produce organisms. Organisms, (e.g., humans) interact to form groups, villages, cities, nations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AML/ASB/BIO/SOS 394 (From Cells to Societies) or ASB 363 or BIO 363 or CAS 363 or SOS 363 OR Visiting University Student |
| ASB | 366 | African Archaeology: Precolonial Urban Culture | In-depth analysis of African civilization from the last 10,000 years up to 1850 via archaeological, documentary, and oral data. Places special study on the evidence relating to dynamics of civilizations in ancient Africa, their foundation, growth, and failure, which spans a period of two million years. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & H | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours; Credit is allowed for only AFR 366 (or AFS 366) or ASB 366 |
| ASB | 368 | Hunter-Gatherers | Studies of known hunting and gathering societies with the goal of developing approaches to understanding past and/or present hunting and gathering societies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB | Prerequisite(s): minimum 45 hours |
| ASB | 370 | Ethics of Eating | This multidisciplinary course examines the elements of modern food systems and current ethical issues regarding food production, distribution and consumption. Also provides a foundation for investigating the effects of social inequality in food systems and global and local responses to address those challenges. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | L or SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ASB 370 or ASB 394 (Production, People, and Environments) or ASB 394 (Ethics of Eating) or SOC 370 or SOS 370 or SSH 370 OR Visiting University Student |
| ASB | 371 | Language Hegemony and Culture | Historical and cultural analysis of language and the ideological constructs imposed upon resident populations in the Southwest North American region since 1540. Analyzes the suppositions, ideologies, premises and mechanisms by which Spanish and English became imposed among Native peoples and later national populations of Mexicans during the 19th century and continuing with their descendants and migrating populations crossing the bifurcated border. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 371 or HST 371 or SLC 371 or SPA 371 or TCL 371 or ASB/HST/SLC/SPA/TCL 394 (Language Hegemony & Culture in SW North America) |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|--|
| ASB | 373 | Applying Anthropology | Takes key findings from the most recent research across the fields of anthropology (archeology, biological anthropology, cultural anthropology and linguistic anthropology) and identifies how it is helpful in addressing the daily personal and professional challenges we all face. Topics include health and disease, death and dying, and communication through language. Suitable for nonmajors and assumes no prior background in anthropology. Emphasizes practical skills development. Engages students in both written and oral forms of communication and interpretation and evaluation of evidence, with a view to building practical skills for everyday professional and personal life. Requires and expects writing as part of this class. Writing assignments are relevant and interesting by applying them to issues and challenges encountered across students' lives. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ASB 373 or ASB 394 (Applying Anthropology) OR Visiting University Student |
| ASB | 374 | Cultures and Politics of the Internet | Explores the culture and politics of the Internet in global perspective, including virtual communities, free software, copyleft, blogs, and hacktivism. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | Credit for only ASB 374, POS 374, SBS 374 or SOC 374 |
| ASB | 375 | Humans and the Environment: What's the Connection? | How do diverse human groups across global ecosystems (desert, tropics, arctic, alpine, urban) interact with and adapt to their environments and how are these relationships changing in response to globalization, climate change and other social, historical and political-economic drivers? Cultures situated in landscapes are the basis for an incredible global diversity of worldviews and behaviors that in turn affect how humans experience and "use" their environments. This course will provide an introduction to current and benchmark literature and methods in environmental and ecological anthropology that address people-environment interactions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (L or SB) & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ASB 375 or SOS 375 OR Visiting University Student |
| ASB | 376 | Global Health Policy | Examines the relationship among global policy, population dynamics and human health. Learn about what quantitative indicators (i.e., measures) can tell us about the scope, distribution and determinants of population health problems. The population focus organizes the course according to the broad domains of fertility, morbidity and mortality. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): minimum 42 hours; Credit is allowed for only ASB 376 or ASB 494 (Global Health Policy) OR Visiting University Student |
| ASB | 378 | Globalization: Migration, Mass Media, McDonald's | Explores the impact of globalization on local societies and cultures by focusing on the international migration of peoples, the global expansion of capitalism and global mass media and popular culture. Examines both the socioeconomic causes and consequences of globalization, as well as how local peoples around the world have been affected by, participated in and resisted the forces of globalization. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (L or SB) & C | Prerequisite(s): ENG 101, 105, 107, or 111 with C or better; Credit is allowed for only ASB 378 or TCL 378 OR Visiting University Student |
| ASB | 380 | Language, Culture and Gender | Focuses on how language, thought and culture are intertwined in everyday practice. Students learn the central role of language in shaping and reflecting social norms and social actions cross-culturally. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB | Prerequisite(s): minimum 42 hours OR Visiting University Student |
| ASB | 383 | Religion and Sports | Religion and sport in America are both long-held and passionately maintained cultural components. The first part provides a framework for understanding scholarly analyses and approaches regarding the intersections of religion and sport primarily in the 20th and 21st centuries. Indeed, religious sentiments and doctrines have played and continue to play an important role in creating today's American sporting culture. The second part seeks to understand particular arguments framing sports as a space of religious expression or more boldly as a religion in the United States. To gain various perspectives, students engage with various materials including scholarly works, recorded lectures and podcasts, popular culture videos, and conduct qualitative interviews with student athletes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only ASB 383 or REL 383 or REL 394 (Religion and Sports) |
| ASB | 389 | Ethnographic Field Lab | Hands-on, guided ethnographic qualitative research and interpretative analysis. | N | LAB | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-6 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 389 or SBS 389 or SOC 389 |
| ASB | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ASB | 395 | Topics in Comparative Culture | In-depth study of specific topic(s) cross-culturally. Students engage with the subject matter through critical evaluation of literature, hands-on analysis and interpretation of data, and scientific writing. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G | Prerequisite(s): minimum 42 hours |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| ASB | 408 | Advanced Evolutionary Medicine | Explores the application of the principles of evolution to the fields of medicine and public health and places disease in the context of changing environments, both exposures and the encompassing ecology of life in which an individual is imbedded. Focuses on the biological aspects of evolutionary theory through the use of molecular genetics; population genetics; and the use of evolutionary thinking and analysis with translational, clinical and public health intersections. A foundation in evolutionary medicine is useful for students with interests including but not limited to: premed, population genomics, maternal and child health, mental health, cancer, microbiome, aging, anthropology, biology, public health, global health and medicine. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): minimum 30 hours; Credit is allowed for only ASB 408 or ASB 494 (Evolutionary Med) or ASB 507 or ASB 591 (Evolutionary Med) or BIO 408 or BIO 494 (Evolutionary Med) or BIO 507 or BIO 591 (Evolutionary Med) OR Visiting University Student |
| ASB | 412 | History of Anthropology | Historical treatment of the development of the culture concept and its expression in the chief theoretical trends in anthropology between 1860 and 1950. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| ASB | 417 | Politics and Culture | Comparative examination of the forms and processes of political organization and activity in primitive, peasant, and complex societies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| ASB | 421 | Education and Society | Uses contemporary sociological perspectives to examine effects of schools and schooling on individuals and society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 421 or SOC 421 OR Visiting University Student |
| ASB | 442 | Global Cities | This close look at megacities in the global south decisively challenges the outdated impression that the rest of the world's cities still lag way behind the U.S. and Europe. The social sciences' debate over "global cities" anchors our examination of the reorganization of metropolitan social space under impact of neoliberal globalization since the 1970s. Explores urban inequalities of slums and dreamworlds; compares vernacular and transnational styles of urbanism (in architecture, design, markets, consumerism, jobs, ads, ways of living); and asks how transnational flows of people, capital and culture have reconfigured ethnic relations and national identities rooted in global cities. Students become virtual transnational flâneurs, tacking between the slums and skyscrapers of global cities, and conduct guided research on a global megacity to investigate how the production of the global city changes the lived space and urban culture of local residents, and how they respond. We ask, whose city is it? | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | Prerequisite(s): minimum junior standing; Credit is allowed for only ASB 442 or SBS 460 |
| ASB | 443 | Cross-Cultural Studies in Global Health | Direct investigations of society, ecology, and health in international settings. | N | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3-6 | (L or SB) & G | Prerequisite(s): ASB 100; ENG 101, 105, or 107 with C or better; Credit is allowed for only ASB 443 or SSH 403 OR Visiting University Student |
| ASB | 447 | Citizenship, Nationalism and Identity | Critical examination of citizenship, national belonging and identities by examining contemporary social issues and discourses from global and comparative perspectives. Aims to understand complexities of national belonging that go beyond legal, formal citizenship, such as how cultural, racial/ethnic, class and gender differences challenge the limits of national citizenship. Explores case studies that show how members of different societies demonstrate their positions as legitimate national citizens in different and often conflicting ways, especially in order to defend social justice and human diversity. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & C & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 447 or POS 447 or SBS 447 OR Visiting University Student |
| ASB | 448 | Maternal and Child Health | Explores how genetics, nutrition, disease ecology, clinical access, legal systems, cultural practices and historical context contribute to maternal and child health. Draws from diverse fields including epidemiology, anthropology, biology, medicine, global health, public policy and sustainability to integrate a complex understanding of the myriad influences that shape maternal and child health and thereby affect our broader society. Evaluates the translation of basic science into clinical practice and public policy as well as the roles and partnerships among local, national and international organizations for improving human health worldwide. Provides up-to-date information about basic science, public policy and global health of maternal and child health to develop skills translatable in the workforce. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prereq(s): minimum 45 hours; Credit is allowed for only ASB 448 or ASB 494 (Matrnl &Chld Hlth) or ASB 548 or ASB 598 (Matrnl &Chld Hlth) or BIO 448 or BIO 494 (Matrnl &Chld Hlth) or BIO 548 or BIO 598 (Matrnl &Chld Hlth) OR Visiting University Student |
| ASB | 452 | Community Partnerships for Global Health | Supervised community-based activities relevant to a global perspective on contemporary U.S. health. Addresses community-identified issues using appropriate methodologies. | N | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3-9 | SB | Prerequisite(s): ASB 100; minimum 45 hours; Credit is allowed for only ASB 452 or SSH 402 OR Visiting University Student |

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| ASB | 455 | Practicum for Social Sciences | Students integrate theoretical, methodological, ethical and experiential learning related to social science research questions. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3-9 | SB | Prerequisite(s): minimum 42 hours |
| ASB | 457 | Global Mental Health | Brief overview of the field of global mental health, an emerging field and one of vital importance for both research and evidence-based interventions. Mental health has been identified as one of the leading causes of death and disability and thus deserves a critical look at why this is occurring globally. Introduces the concept of the field of global mental health, cross-cultural problems and possible solutions. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (L or SB) & G | Prerequisite(s): ASB 100; ENG 101, 105, or 107 with C or better; Credit is allowed for only ASB 457 or ASB 498 (Global Mental Health) OR Visiting University Student |
| ASB | 462 | Medical Anthropology: Culture and Health | Role of culture in health, illness, and curing; health status, provider relations, and indigenous healing practices in United States ethnic groups. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & C | Credit is allowed for only ASB 462 or SSH 404 OR Visiting University Student |
| ASB | 463 | Political Ecology of the Border | Examines the political ecology of the human-environment relationship in Mexico and on the U.S.-Mexican border. Through case studies, students learn about the most pressing environmental issues facing human populations and their communities on both sides of the U.S.-Mexican border and the various ways in which these issues are dealt with. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 463 or SOS 463 or TCL 443 |
| ASB | 464 | The Ethnography of Mexico and the Borderlands | Students learn basic principles of ethnographic research and obtain a better understanding of the social, ecological, cultural, political and economic processes affecting people in Mexico and in the U.S.-Mexico borderlands. Through case studies, students become aware of the variety of issues shaping the lives of those living in these regions. Focuses on contemporary issues such as migration, economy, gender, labor, health and the environment. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 464 or TCL 444 or TCL 598 (The Ethnography of Mexico and the Borderlands) OR Visiting University Student |
| ASB | 466 | Peoples and Cultures of Africa | Surveys African peoples and their cultures, external contact, and changes. Meets non-Western requirement. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G | Prerequisite(s): AFR 200 or minimum 45 hours; Credit is allowed for only AFR 466 or ASB 466 OR Visiting University Student |
| ASB | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | |
| ASB | 490 | Earliest Cities | Archaeological research on the origins and development of the earliest urban centers around the world. Applies urban theory and comparative analysis. Compares ancient and modern cities. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & H | Prerequisite(s): ASB 222 or 223 with C or better; minimum 45 hours; Credit is allowed for only ASB 490 or PUP 490 |
| ASB | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-6 | | Prerequisite(s): Barrett Honors student |
| ASB | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ASB | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | |
| ASB | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-6 | | Prerequisite(s): Barrett Honors student |
| ASB | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-7 | | |
| ASB | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-3 | | |
| ASB | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 501 | Professionalism | Presents students both information about the tools, opportunities and skills needed to navigate graduate training and future career success, as well as the opportunity to consider all this for themselves. Presents traditional, timeless tools for success, while also taking into account recent and profound changes to the academy that have changed how academic work is done and communicated. Also touches upon considering and preparing for a range of possible career paths for PhDs. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASB 501 or ASB 591 (Professionalism) |
| ASB | 503 | Medical Anthropology | Theory in medical anthropology and cross-cultural studies that illustrate particular theories. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| ASB | 504 | Global Health Policy | Examines the relationship among global institutions and policies, population dynamics and human health. Uses extant data to conduct comparative analyses of population data and health-related policies and practices. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 507 | Advanced Evolutionary Medicine | Explores the application of the principles of evolution to the fields of medicine and public health and places disease in the context of changing environments, both exposures and the encompassing ecology of life in which an individual is imbedded. Focuses on the biological aspects of evolutionary theory through the use of molecular genetics; population genetics; and the use of evolutionary thinking and analysis with translational, clinical and public health intersections. A foundation in evolutionary medicine is useful for students with interests including but not limited to: premed, population genomics, maternal and child health, mental health, cancer, microbiome, aging, anthropology, biology, public health, global health and medicine. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking grad stdnt; Credit is allowed for only ASB 408 or ASB 494 (Evol Medicine) or ASB 507 or ASB 591(Evol Medicine) or BIO 408 or BIO 494 (Evol Medicine) or BIO 507 or BIO 591 (Evol Medicine) |
| ASB | 510 | Health: Social and Biocultural Theories | Comparative and critical approaches to complexities of health, drawn from anthropology and related fields Focuses on theories that address how social and cultural factors shape human health. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 517 | Uncertainty and Decision Making | Knowledge is always incomplete, yet decisions must be made. Explores uncertainty and its relation to decision making, with a particular focus on the ways that science and science-derived information is applied with the intent of improving decisions. Explores the many meanings and origins of uncertainty, using theoretical and case-based approaches. A central theme is the relation among uncertainty, scientific prediction, and decision making, especially in politically charged issues, for example as related to management of the environment. Ultimately understands how effective decisions can be made in the face of inevitable uncertainties and contested knowledge. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only ASB 517 or BIO 517 or BIO 591 (Uncertainty & Decision Making) or HSD 517 or POS 527 or SOS 518 |
| ASB | 525 | Introduction to Material Culture | Considers how objects embody social relationships and therefore cultural meanings. Seminar explores theories that give insight into social processes such as exchange, consumption, and identity. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 526 | Survey Topics in Global Nutrition | Nutrition is at the nexus of human health, food systems, water, sanitation and hygiene (WASH) and gender, among others important intersecting human and environmental systems. Explores the current landscape of nutrition and its intersection with these topics by synthesizing research, programmatic, and policy documents and public communications and through hands-on exploration and analysis of publicly available datasets. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 530 | Changing Human-Nature Relationships | Explores key concepts in Western and non-Western thinking now intersecting in the Anthropocene to influence human interactions with and descriptions of Nature. Humans may protect Nature, but simultaneously use/overuse resources and drive change in social-ecological systems. Examines evolving assumptions about Nature, values/world views, progress, change, uncertainty, rationality, knowledge, tradeoffs and control/management, using a range of theoretical lenses (e.g., environmental/ecological/historical anthropology, culture, geography, ecology, economics, institutions, economic development, complex systems and sustainability science). Also studies a set of iconic Human-Environmental challenges and examines how theories and assumptions explain behaviors and human, ecological and policy outcomes. In turn, focuses on lessons that emerge for interdisciplinary scholarship. Encourages students to apply methods, concepts and theories to their evolving research questions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASB 530 or SOS 553 |
| ASB | 537 | Topics in Mesoamerican Archaeology | Explores changing organization of pre-Columbian civilizations in Mesoamerica through interpretive issues, such as regional analysis, chiefdoms, urbanism, and exchange. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 541 | Theory in Sociocultural Anthropology | Basic issues and concepts in sociocultural anthropology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|-----------------------------------|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|---|
| ASB | 548 | Maternal and Child Health | Explores how genetics, nutrition, disease ecology, clinical access, legal systems, cultural practices and historical context contribute to maternal and child health. Draws from diverse fields including epidemiology, anthropology, biology, medicine, global health, public policy and sustainability to integrate a complex understanding of the myriad influences that shape maternal and child health and thereby affect our broader society. Evaluates the translation of basic science into clinical practice and public policy as well as the roles and partnerships among local, national and international organizations for improving human health worldwide. Provides up-to-date information about basic science, public policy and global health of maternal and child health to develop skills translatable in the workforce. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prereq(s): degree or non-degree seeking graduate student; Credit is allowed for only ASB 448 or ASB 494 (Matrnl & Child Hlth) or ASB 548 or ASB 598 (Matrnl & Child Hlth) or BIO 448 or BIO 494 (Matrnl & Child Hlth) or BIO 548 or BIO 598 (Matrnl & Child Hlth) |
| ASB | 560 | Theory and Archaeology | Applies social theory to archaeological study of societies of the past. Includes practice theory, hierarchy, space and place, material culture. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AML 560 or ASB 560 |
| ASB | 567 | Southwestern Archaeology | Broad coverage of Southwestern cultural developments focusing on current debates and rigorous use of archaeological data in making cultural inferences. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 568 | Intrasite Research Strategies | Research issues within a single site context. Topics include quantitative spatial analysis, site definition, sampling, distributional analysis, and substantive interpretation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 572 | Museum Collection Management | Principles and practices of acquisition, documentation, care, and use of museum collections; registration, cataloging, and preservation methods; legal and ethical issues. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 573 | Museum Administration | Formal organization and management of museums, governance, personnel matters, fund raising and grantsmanship, legal and ethical issues. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASB 573 or HST 573 |
| ASB | 574 | Exhibit Design and Development | Exhibition philosophies and development; processes of planning, designing, staging, installing, evaluating, and disassembling temporary and long-term exhibits. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 579 | Critical Issues in Museum Studies | Current debates of museum practice from an anthropological perspective. Addresses issues of collection, presentation, authenticity, and authority. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | REC | Y | Z1 | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| ASB | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | REC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASC | 310 | Elements of Scientific Computing | Basic knowledge of programming in Python, multiple numerical methods illustrated in Python and examples of these methods in physical and biological sciences. More importantly, provides the opportunity to practice critical thinking skills and learn how real problems can be solved with computational methods. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ABS 394 (Introduction to Scientific Computing) or ASC 310 or MAT 394 (Introduction to Scientific Computing) OR Visiting University Student |
| ASC | 315 | Numeracy in Technology | Contextual uses of mathematics in applied sciences. Emphasizes using mathematical methodologies to solve technology-related problems. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | MA | Prerequisite(s): BAS major OR Visiting University Student |
| ASC | 325 | Physical Sciences in Technology | Physical systems and their interrelationships on technology systems. Real-world applications of physical systems. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 4 | SQ | Prerequisite(s): BAS major |
| ASC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| ASC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| ASC | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-3 | | Pre-requisites: Polytechnic BAS student |
| ASL | 101 | American Sign Language I | Basic receptive/expressive conversational skills; basic grammar and syntax rules. Orientation to deafness and deaf culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | |
| ASL | 102 | American Sign Language II | Further development of receptive/expressive conversation skills in ASL; finger spelling. Continued exploration of deaf culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | Prerequisite(s): ASL 101 or SHS 101 with C or better and taken within the past two years OR Visiting University Student |
| ASL | 201 | American Sign Language III | Continued development of fluency in ASL with emphasis on more abstract concepts and the ability to narrate events. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | Prerequisite(s): ASL 102 or SHS 102 with C or better and taken within the past two years OR Visiting University Student |
| ASL | 202 | American Sign Language IV | Further development of fluency in ASL with emphasis on literature, folklore, and signing narratives with multiple characters. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | Prerequisite(s): ASL 201 or SHS 201 with C or better and taken within the past two years OR Visiting University Student |
| ASL | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| ASL | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| ASL | 410 | Deaf Culture | Provides students with an overview of issues related to deaf, hard of hearing and comprehensive vision hearing loss (CVHL). Topics include historical, cultural, educational and political issues, technology, arts and literature as it relates to the deaf community. Taught primarily in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | C | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ASL 410 or ASL 494 (Deaf Culture) or SHS 410 or SHS 494 (Deaf Culture) or SLC 410 or SLC 494 (Deaf Culture) OR Visiting University Student |
| ASL | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| ASL | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| ASL | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-7 | | |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| ASL | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| ASL | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASL | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASL | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASL | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASL | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASL | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASM | 104 | Bones, Stones, and Human Evolution | Physical anthropology and archaeology. Evidence and processes of human evolution and of culture change. Primates. Fossil hominids and their tools. Race, variation, and heredity. Environment and human biology. Prehistoric culture and society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 4 | SB or SG | |
| ASM | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | |
| ASM | 201 | Epidemics and Outbreaks | Covers epidemiologic methods for the control of conditions such as infectious and chronic diseases, mental disorders, community and environmental health hazards, and unintentional injuries. Other topics include quantitative aspects of epidemiology, including data sources, measures of morbidity and mortality, evaluation of association and causality, and study design. A background in basic biology and a basic understanding of the principles of human diseases helpful in succeeding in this course. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Credit is allowed for only ASM 201 or SSH 201 OR Visiting University Student |
| ASM | 246 | Human Origins | History of discoveries and changing interpretations of human evolution. Earliest ancestors to emergence of modern humans. Humanity's place in nature. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB | |
| ASM | 275 | Forensic Anthropology | Discusses the role of the forensic anthropologist in medico-legal investigations involving skeletonized human remains. Includes forensic recovery techniques, identification of decedents through skeletal and dental analysis, and reconstructing the crime scene through analysis of trauma patterns. Covers the legal aspects of forensic practice and considers historical case studies and the contributions forensic anthropologists make to mass disaster investigations and human rights abuses. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 4 | SB or SG | |
| ASM | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | |
| ASM | 300 | Anthropological Sciences Seminar | Focuses on the ways in which research findings are produced by diverse theories and methods in the anthropological sciences, usually in combination with other life and physical sciences, with a strong focus on combination anthropological conceptual frameworks with quantitative methodologies. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): Anthropology BS major; Two of the following: ASB 102, 222 or 223, AML 100 or ASM 104 with a C or better OR Visiting University Student |
| ASM | 301 | Peopling of the World | Reviews all evidence for human dispersal during the last 100,000 years, origins of language, cultures, races, and beginnings of modern humans. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB | Prerequisite(s): ASM 104 OR Visiting University Student |
| ASM | 310 | War and Peace: The Evolution of Conflict and Cooperation | Examines the evolutionary foundations of conflict and cooperation using theories and evidence spanning humans and other animals. Covers mechanisms of nonviolent conflict in nature, strategies for violent conflict and mechanisms to reduce the cost of conflict. Additionally, examines how cooperation evolved in humans and other animals. Topics include nepotism, reciprocity, cultural group selection and the evolution of moral sentiments. Also examines the interaction between cooperation and warfare. Topics include the relation between violence and morality, and how warfare shapes cultural evolution. The course ends examining combat-induced Post Traumatic Stress Disorder and Moral Injury, and how it relates to the evolution of cooperation and warfare. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASM 310 or ASM 394 (War & Peace: Origins of Conflict & Cooperation) or PAX 310 OR Visiting University Student |

| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|---|
| ASM | 313 | Great Adaptations | Tiny hummingbirds and huge whales commute thousands of miles every year, male bower birds construct elaborately decorated structures to impress females, and some parasites program suicidal behavior into their hosts. These amazing (and sometimes bizarre) behaviors are all adaptations--traits that have been favored by selection because they enhance the ability of individuals to survive and reproduce successfully. The study of adaptation helps us to understand how evolution generates complexity and to understand the processes that underlie the rich diversity of life. Covers the principles of natural selection and a diverse and remarkable range of adaptations in nature. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASM 313 or ASM 394 (Great Adaptations) OR Visiting University Student |
| ASM | 332 | Life and Death in Ancient Egypt | Reveals ancient Egyptian life through recent research in archaeology and physical anthropology on cemeteries, tombs, and the dead themselves. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): ENG 101, 105, 107, or 111 with C or better; Credit is allowed for only AFR 332 (or AFS 332) or ASM 332 |
| ASM | 338 | Anthropological Field Session | Anthropological field techniques, analysis of data, and preparation of field reports. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | |
| ASM | 341 | Human Osteology | Osteology, human paleontology, and osteometry. Description and analysis of archaeological and contemporary human populations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 4 | | Prerequisite(s): ASM 104 with C or better; 25 minimum hours |
| ASM | 342 | Evolution of Human Behavior | Examines how evolutionary theory informs our understanding of human behavior, psychology and culture. Explores evolutionary explanations of human behavioral variation and cultural diversity and the influence of natural selection on shaping human cognition. Topics include nepotism, economic decisions, behavioral strategies throughout the life course, mate choice and sexual behavior, perception and judgment, motivation and emotions, social learning and culture, cooperation and prosociality, interpersonal violence and warfare, and norms and moral sentiments. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s) with C or better: ASM 104 (or BIO 181 or 282). Credit is allowed for only ASM 342 or BIO 327 |
| ASM | 344 | Fossil Hominids | The fossil evidence for human evolution, emphasizing the concepts and methods for reconstructing the past. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 4 | | Pre-requisite: ASM 104 |
| ASM | 345 | Disease and Human Evolution | Interaction of people and pathogens from prehistoric times to the present, with emphasis on disease as an agent of genetic selection. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): ASM 104 or BIO 100 or BIO 181 or BIO 182 or BIO 281 or BIO 282 OR Visiting University Student |
| ASM | 350 | Geoarchaeology | Geologic context relevant to archaeological research. Topics include sediments, deposition environments, soils, anthropogenic and biogenic deposits, and quaternary chronology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): ASB 222 or 223, GLG 101 or 103, or GPH 111 with C or better OR Visiting University Student |
| ASM | 365 | Doing Archaeology | Using hands-on analysis of artifacts and a mock site, this advanced introduction to archaeology acquaints the student with the field and laboratory methods applied by archaeologists, the information archaeologists use, and how they construct knowledge of the past. | N | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3-4 | | Prerequisite(s): ASB 222 (or ASB 223 or 335 or 337) |
| ASM | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | |
| ASM | 401 | Health and Human Biology | Health and biology in contexts of human evolutionary history, biological and cultural variation, lab-based health status assessments, core concepts of human variation. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3-4 | | Prerequisite(s): ASB 100 or ASM 104 OR Visiting University Student |
| ASM | 403 | Evolutionary Medicine and Global Health | Fundamentally, the practice of medicine is applied biology to improve human health and well-being and is embedded within population and global scales. Integrates the life and social sciences to tackle the current and emerging global health challenges of the 21st century with an evolutionary biology lens with current medical knowledge enhancing our understanding of health. Uses topics such as human-pathogen coevolution; development and aging; human migration; diseases (infectious, metabolic and autoimmune); and physiological and behavioral mechanisms of immunity to explore the broad arena of human health within a deep time and global context. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prereq(s): min 45 hrs; Credit is allowed for only ASM 403 or ASM 494(Evol Med & Gbl Hlth) or ASM 503 or ASM 598(Evol Med & Gbl Hlth) or BIO 403 or BIO 494(Evol Med & Gbl Hlth) or BIO 510 or BIO 598(Evol Med & Gbl Hlth) OR Visiting University Student |
| ASM | 414 | Urban, Environmental and Health Challenges | Design and practical application of collaborative social science research on rotating, current topics related to contemporary urban, environmental and/or health challenges. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ASM | 443 | Primatology | Evolution and adaptations of nonhuman primates, emphasizing social behavior. Includes material from fossil evidence and field and lab studies in behavior and biology which must be critically integrated with relevant competing theories concerning the evolution of primate behavior and biology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): ASM 104 with C or better; minimum 56 hours; Credit is allowed for only ASM 443 or ASM 543 OR Visiting University Student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|--|
| ASM | 446 | Principles of Human Genetics | Molecular and cellular analysis of the human genome. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | L | Prerequisite(s): ASM 301, BIO 340, LSC 347, or MBB 347 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only ASM 446 or ASM 546 or BIO 446 or BIO 546 OR Visiting University Student |
| ASM | 450 | Bioarchaeology | Surveys archaeological and physical anthropological methods and theories for evaluating skeletal and burial remains to reconstruct biocultural adaptation and lifeways. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G | Prerequisite(s): ASM 104 OR Visiting University Student |
| ASM | 452 | Dental Anthropology | Human and primate dental morphology, growth, evolution, and genetics. Within- and between-group variation. Dental pathology and behavioral-cultural-dietary factors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 4 | SG | Pre-requisites: ASM 104. Credit is allowed for only ASM 552 or ASM 452 |
| ASM | 456 | Infectious Disease and Human Evolution | Study of infectious disease and humanity, using evidence from anthropology, history, medicine, and ancient skeletons. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Pre-requisite: ASM 345 |
| ASM | 459 | Forensic Anthropology | Applies anthropology, primarily human osteology, to legal questions, including individual identification, crime scenes, forensic reports, police work, and court testimony. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): ASM 275; ASM 341 OR Visiting University Student |
| ASM | 460 | Human Growth and Development: An Evolutionary Perspective | How growth and development influences human variation; stages of human life; evolution through the fossil record; genetic, environmental, and biocultural factors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): ASM 104 with C or better; ASM 341, 342, 344, 345, or 348 |
| ASM | 463 | A Practical Guide to Bayesian Data Analysis | Teaches how to do Bayesian data analysis using MCMC methods. Includes practical application with specific problems; also covers a range of historical and theoretical topics including probability theory, the history of Bayesian data analysis and frequentist alternatives, Markov chains and causality. Introduces students to executing Bayesian analysis via MCMC methods and also helps them see how these methods work and why they had to wait until the late 20th century to become widespread. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | CS | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASM 463 or ASM 494 (Bayesian Statistics in Theory and Practice) or ASM 563 or ASM 594 (Bayesian Statistics in Theory and Practice) OR Visiting University Student |
| ASM | 465 | Quantification and Analysis for Anthropologists | Statistical and quantitative strategies for envisioning and exploring archaeological, physical anthropological, bioarchaeological, and socialcultural data. Univariate and bivariate methods. A basic understanding of algebra is necessary to be successful in this course. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | CS | |
| ASM | 466 | The Evolution of Preindustrial Technology | Over the last few hundred thousand years we have spread to every continent except Antarctica, thriving in habitats that range from tropical forests to arctic tundra. Technology is one of the keys to this success. Human populations living in different habitats rely on different, specialized tool kits--weapons and snares for hunting, boats, nets and tackle for fishing, housing for shelter, baskets and pottery for transportation and storage. The scholarly study of these tool sets is crucial for understanding human evolution. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASM 466 or ASM 494 (Evolution of Technology) or ASM 591 (Evolution of Technology) OR Visiting University Student |
| ASM | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | |
| ASM | 503 | Evolutionary Medicine and Global Health | Fundamentally, the practice of medicine is applied biology to improve human health and well-being and is embedded within population and global scales. Integrates the life and social sciences to tackle the current and emerging global health challenges of the 21st century with an evolutionary biology lens with current medical knowledge enhancing our understanding of health. Uses topics such as human-pathogen coevolution; development and aging; human migration; diseases (infectious, metabolic and autoimmune); and physiological and behavioral mechanisms of immunity to explore the broad arena of human health within a deep time and global context. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit for only ASM 403 or ASM 494(Evol Med & GIBI Hlth) or ASM 503 or ASM 598(Evol Med & GIBI Hlth) or BIO 403 or BIO 494(Evol Med & GIBI Hlth) or BIO 510 or BIO 598(Evol Med & GIBI Hlth) |
| ASM | 506 | Clinical Gross Anatomy | Dissection of the human body with an emphasis on the application of anatomical knowledge to clinical applications. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 6 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASM 506 or BIO 506 |
| ASM | 525 | Primate Paleobiology | Seminar-based survey of primate evolution, focusing on comparative biology of the extant primates and the fossil record through the Miocene. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASM | 530 | Paleoanthropology | Seminar-based in-depth study of the fossil record of human evolution and its geological, environmental, and phylogenetic contexts. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASM | 543 | Primatology | Advanced study of nonhuman primate behavioral adaptations, emphasizing comparative sociality, incorporating data on behavior and biology from field and captivity. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit allowed for ASM 443 or 543 |

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| ASM | 546 | Principles of Human Genetics | Examines human molecular genetics from an evolutionary perspective, particularly analysis, current debates, the Human Genome Project, disease, ethics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking); credit is allowed for only BIO 446, ASM 446, BIO 546 or ASM 546 |
| ASM | 548 | Geoarchaeology | Geologic context relevant to archaeological research. Topics include sediments, deposition environments, soils, anthropogenic and biogenic deposits, and quaternary chronology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASM | 552 | Dental Anthropology | Evolutionary anthropology of non-human primate and human dentition and research from extant and extinct species of non-human primates and hominins. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 4 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only ASM 452 or ASM 552 |
| ASM | 555 | Advanced Human Osteology | Intensive lab course covers identification of human skeletal remains and bone fragments from archaeological contexts. Emphasizes skeletal biology, variation, anatomical landmarks, determinants of age, sex, and stature. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 4 | | Prerequisite(s): Anthropology graduate student OR ASM 341 |
| ASM | 560 | Human Growth and Development: An Evolutionary Perspective | How growth and development influences human variation; stages of human life; evolution through the fossil record; genetic, environmental, and biocultural factors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASM | 563 | A Practical Guide to Bayesian Data Analysis | Teaches how to do Bayesian data analysis using MCMC methods. Includes practical application with specific problems; also covers a range of historical and theoretical topics including probability theory, the history of Bayesian data analysis and frequentist alternatives, Markov chains and causality. Introduces students to executing Bayesian analysis via MCMC methods and also helps them see how these methods work and why they had to wait until the late 20th century to become widespread. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASM 463 or ASM 494 (Bayesian Statistics in Theory and Practice) or ASM 563 or ASM 594 (Bayesian Statistics in Theory and Practice) |
| ASM | 564 | Models of Social Evolution | Over the last four decades biologists have developed a rich mathematical theory explaining how natural selection shapes animal social behavior. To read and understand the literature in primary journals one must understand this body of theory. This course presents the theory in such a way that advanced students in evolutionary biology and anthropology can use the theory and read primary literature. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASM 494 (Models in Social Evolution) or ASM 564 or ASM 591 (Models in Social Evolution) |
| ASM | 565 | Quantitative Archaeology | Formal methods of structuring, codifying, and analyzing data for archaeological problems. Designing research to yield data amenable to productive analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASM | 568 | GIS and Spatial Technologies in Anthropological Research | In-depth survey of spatial technologies in anthropological research, including GIS, spatial modeling, remote sensing, and image analysis and classification. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASM | 570 | Fundamentals of CAS Science | Many phenomena of critical relevance to human society are dynamic systems that change over individual and evolutionary time scales, and are highly interactive, both within and between systems. That is, they are complex adaptive systems (CAS), and thus share isomorphic properties like near-decomposability, hierarchical organization, scale-free networks, self-organized criticality, and emergence. Fundamentals of CAS science explores the diverse, interdisciplinary applications of a complex adaptive systems across the social, behavioral, and life sciences. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASM 570 or BIO 570 or CAS 570 or SOS 570 |
| ASM | 573 | Lithic Analysis | Analysis and interpretation of chipped stone artifacts. Focus on both techniques and underlying concepts and their application to real collections. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASM | 579 | Proposal Writing | Proposal writing and reviewing with a focus on the NSF dissertation improvement grant format. Discusses professional development. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASM 579 or SOS 579 |
| ASM | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASM | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASM | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASM | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|--|
| ASM | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASM | 611 | Paleopathology | Explores patterns of disease manifested in the human skeleton and differential diagnosis of infectious, metabolic, neoplastic, congenital, and other conditions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking); ASM 555 |
| ASM | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASM | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 111 | Introduction to Solar Systems Astronomy | Properties and origins of the solar system, exoplanets, astrobology. History, properties of light, instruments, study of solar system and nearby stars. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 4 | SQ | |
| AST | 112 | Introduction to Stars, Galaxies, and Cosmology | Structure and evolution of stars, star clusters, galaxies, cosmology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 4 | SQ | |
| AST | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | |
| AST | 301 | Physics of Astrophysics | Develops critical physical and mathematical concepts for contemporary astrophysics. Assumes prior knowledge of algebra and calculus. Through the textbook, introduces students to a variety of physical forces in the context of astrophysical processes, including electromagnetic interactions and light, gravity and motion, interactions between light and matter in astrophysical systems, and the strong (nuclear) force responsible for the fusion processes fueling stars. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): MAT 210 or higher with C or better; (PHY 111 and 113 with C or better) or (PHY 121 and 122 with C or better); (PHY 112 and 114 with C or better) or (PHY 131 and 132 with C or better) OR Visiting University Student |
| AST | 321 | Introduction to Planetary and Stellar Astrophysics | Physical laws; celestial mechanics; properties of planets, the sun, and other stars; formation and evolution of stars and planetary systems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): AST 301 with C or better OR MAT 266 or 271 with C or better; PHY 121 and 122 (or PHY 150) with C or better OR Visiting University Student |
| AST | 322 | Introduction to Galactic and Extragalactic Astrophysics | Evolved stars, introduction to relativity, galaxies and interstellar matter, structure and dynamics of galaxies, cosmology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): AST 301 with C or better OR MAT 266 or 271 with C or better; PHY 121/122 with C or better or PHY 150 with C or better |
| AST | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | |
| AST | 421 | Astrophysics I | Selected astrophysical topics, including stellar evolution, star formation, interstellar medium, galactic structure, extragalactic astronomy, high-energy astrophysics, and cosmology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): AST 321 or 322 with C or better; PHY 252 with C or better |
| AST | 422 | Astrophysics II | Same range of astrophysical topics as for AST 421 but emphasizes different specific topics in a given year. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): AST 321 or 322 with C or better; PHY 252 with C or better OR Visiting University Student |
| AST | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-6 | | Prerequisite(s): Barrett Honors student |
| AST | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| AST | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | |
| AST | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-7 | | |
| AST | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-3 | | |
| AST | 521 | Stars and Interstellar Medium I | Radiative transfer, atomic and molecular properties, stellar atmospheres, line profiles, nonlocal thermodynamic equilibrium, interstellar gas and dust, star formation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 522 | Stars and Interstellar Medium II | Stellar structure, radiative transport, boundary conditions, equations of state, nuclear reactions, opacity, nucleosynthesis, chemical evolution of the galaxy, stellar evolution. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 523 | Stars and Interstellar Medium III | Structure of the interstellar medium, gaseous nebulae, recombination theory, ionization fronts and shock waves, galactic magnetic fields, magnetohydrodynamics, molecular clouds. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 531 | Galaxies and Cosmology I | Structure and evolution of the Milky Way, stellar properties, populations and associations/clusters, interstellar medium, dark matter. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| AST | 532 | Galaxies and Cosmology II | Structure of galaxies and the nearby universe, Hubble sequence, kappa-space, stellar populations, active galaxies, galaxy environments. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 533 | Galaxies and Cosmology III | Issues in modern cosmology, the distance scale, cosmological parameters, cosmological tests, cosmic background radiation, early universe, galaxy formation and evolution. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 540 | Astronomical Instrumentation and Data Analysis | Studies a range of optical astronomical hardware including telescopes, digital detectors and instrument design and theory. Focuses on the use of CCDs in terms of operation, calibration, use, measurement, limitations, noise and signal, statistics, and preliminary understanding prior to data reduction. Discusses practical optical astronomical observing: the choice of filters and their design, planning your observing run, bringing your data home and the types of data you will need. Final class project requires the reduction and measurement of data using computers. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AST 540 or AST 598 (Optical Astro Tech & Data) or AST 598 (Observing Instrumentation and Data Analysis) |
| AST | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASU | 9 | ASU-Uber Online Orientation | Students that are a part of the ASU & Uber Education Partnership will learn about ASU's mission as the New American University, discover the value of a university degree from a research institution, discuss academic integrity, explore the tools used in online courses, become familiar with the partnership and identify key components of a work/life/school balance plan. | N | LEC | N | NOG | Office of the Provost | Online and Extended Campus | 0 | | |
| ASU | 10 | Connect: ASU Orientation | Students enrolled in the Starbucks College Achievement Plan will learn about ASU's mission as the New American University, discover the value of a university degree from a research institution, discuss academic integrity, explore the tools used in online courses, and identify key components of a work/life/school balance plan. | N | LEC | N | NOG | Office of the Provost | Online and Extended Campus | 0 | | |
| ASU | 11 | ASU Online Orientation | Students enrolled in ASU Online Orientation will learn about ASU and its mission as the New American University, discover the value of a university degree from a research institution, discuss academic integrity, explore the tools used in online courses, and identify key components of a work/life/school balance plan. | N | LEC | N | NOG | Office of the Provost | Online and Extended Campus | 0 | | |

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| ASU | 12 | SDAP Online Orientation | Students enrolled in the Starbucks Degree Achievement Plan Orientation will learn about ASU's mission as the New American University, discover the value of a university degree from a research institution, discuss academic integrity, explore the tools used in online courses, and identify key components of a work/life/studies balance plan. | N | LEC | N | NOG | Office of the Provost | Online and Extended Campus | 0 | | |
| ASU | 19 | Jump Start | One-week program for incoming first-year students to ASU and is designed to set them up for academic success. Introduces the tools and processes that support their journey. Students learn how to connect with other students via collaborative environments. | N | LEC | N | YGB | University College | University Academic Success Programs | 0 | | Prerequisite(s): Jump Start or SPIRIT student |
| ASU | 42 | Online Military Orientation | Active duty and veteran students enrolled in ASU 42 will explore ASU academic, veteran, and career resources, discover the value of a university degree from a research institution, discuss academic integrity, explore the tools used in online courses, and craft a plan balancing work, school, and life. | N | LEC | N | NOG | Office of the Provost | Online and Extended Campus | 0 | | |
| ASU | 101-AEE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1 | | Prerequisite(s): Aerospace Engineering undergraduate student OR Visiting University Student |
| ASU | 101-AMT | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): undergraduate Aviation programs major |
| ASU | 101-BME | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1 | | Prerequisite(s): Biomedical Engineering student OR Visiting University Student |
| ASU | 101-CAI | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1 | | Prerequisite(s): School of Computing and Augmented Intelligence major OR Visiting University Student |
| ASU | 101-CEE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1 | | Prerequisite(s): Fulton Schools of Engineering student OR Visiting University Student |
| ASU | 101-CHE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1 | | Prerequisite(s): Chemical Engineering major OR Visiting University Student |

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| ASU | 101-CHS | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): College of Health Solutions student OR Visiting University Student |
| ASU | 101-CLS | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1 | | Prerequisite(s): College of Integrative Sciences and Arts undergraduate student OR Logistics (Maritime) AS student OR Visiting University Student |
| ASU | 101-CNE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1 | | |
| ASU | 101-CON | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1 | | Prerequisite(s): Fulton Schools of Engineering student OR Visiting University Student |
| ASU | 101-CPP | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1 | | Prerequisite(s): Watts College of Public Service and Community Solutions OR Visiting University Student |
| ASU | 101-CS | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Prerequisite(s): Cronkite School of Journalism and Mass Communication student OR Visiting University Student |
| ASU | 101-CSE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1 | | Prerequisite(s): School of Computing and Augmented Intelligence major OR Visiting University Student |
| ASU | 101-EEE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1 | | Prerequisite(s): Electrical Engineering undergraduate student OR Visiting University Student |

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| ASU | 101-EGR | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1 | | Prerequisite(s): Engineering undergraduate student OR Visiting University Student |
| ASU | 101-ERM | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1 | | Prerequisite(s): Environmental and Resource Management student or Visiting University Student |
| ASU | 101-EVE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1 | | Prerequisite(s): Fulton Schools of Engineering student OR Visiting University Student |
| ASU | 101-FSE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1 | | Prerequisite(s): Fulton Schools of Engineering student OR Visiting University Student |
| ASU | 101-GIT | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1 | | Prerequisite(s): Graphic Information Technology BS major OR Visiting University Student |
| ASU | 101-HDA | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1 | | Prerequisite(s): Herberger Institute for Design and the Arts student OR Visiting University Student |
| ASU | 101-HNR | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Barrett, The Honors College | Barrett, The Honors College | 1 | | Prerequisite(s): Barrett Honors student |
| ASU | 101-HSE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1 | | Prerequisite(s): Human Systems Engineering student OR Visiting University Student |

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| ASU | 101-IEE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1 | | Prerequisite(s): School of Computing and Augmented Intelligence major OR Visiting University Student |
| ASU | 101-IFT | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 1 | | Prerequisite(s): Information Technology student OR Visiting University Student |
| ASU | 101-LA | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 1 | | Prerequisite(s): The College of Liberal Arts & Sciences student OR Visiting University Student |
| ASU | 101-MAE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1 | | Prerequisite(s): Mechanical Engineering undergraduate student or Aerospace Engineering undergraduate student OR Visiting University Student |
| ASU | 101-MEE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1 | | Prerequisite(s): Mechanical Engineering undergraduate student OR Visiting University Student |
| ASU | 101-MSE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1 | | Prerequisite(s): Materials Science and Engineering BSE major OR Visiting University Student |
| ASU | 101-MSN | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1 | | Prerequisite(s): School of Manufacturing Systems and Networks major OR Visiting University Student |
| ASU | 101-NCIAS | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1 | | Prerequisite(s): New College of Interdisciplinary Arts and Sciences undergraduate student OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--------------------|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| ASU | 101-NU | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Prerequisite(s): Edson College of Nursing and Health Innovation or Nutrition student OR Visiting University Student |
| ASU | 101-ONL | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1 | | Prerequisite(s): ASU Online students OR Visiting University Student |
| ASU | 101-SOS | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): School of Sustainability student OR Visiting University Student |
| ASU | 101-TE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): Mary Lou Fulton Teachers College student OR Visiting University Student |
| ASU | 101-TEM | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1 | | Prerequisite(s): Technological and Entrepreneurship Management student OR Visiting University Student |
| ASU | 101-TPS | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Polytechnic School | 1 | | Prerequisite(s): Ira A. Fulton Schools of Engineering - The Polytechnic School student OR Visiting University Student |
| ASU | 101-UC | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | University College | Dean, University College | 1 | | Prerequisite(s): University College students OR Visiting University Student |
| ASU | 101-WPC | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 1 | | Prerequisite(s): W.P. Carey student OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---------------------|--|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|---|
| ASU | 120 | Emerging Leaders I | Students develop in academic areas while also gaining essential career skills in creativity, problem solving, and teamwork. Students learn how to think critically and manage a project from inception to completion. Through course discussions and assignments, students examine connections between their work in other courses and ASU 120. This is the first part of a two-part curriculum which continues into the spring semester. Separate grades will be issued for each semester. | N | LEC | N | GNA | University College | Dean, University College | 3 | | Credit is allowed for only ASU 120 (or ASU 150) or UNI 120 OR Visiting University Student |
| ASU | 121 | Emerging Leaders II | Students continue to develop in academic areas while gaining essential career skills in creativity, problem solving and teamwork. Students learn how to think critically and manage a project from inception to completion. Through course discussions and assignments, students examine connections between their work in other courses and this course. Second part of a two-part curriculum, which continues from the fall semester. Separate grades are issued for each semester. | N | LEC | N | GNA | University College | Dean, University College | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| ASU | 140-CHS | ProMod | Project-based learning. | Y | PRO | Y | GNA | College of Health Solutions | College of Health Solutions | 0-18 | | |
| ASU | 140-CLS | ProMod | Project-based learning. | Y | PRO | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 0-18 | | |
| ASU | 140-CPSCS | ProMod | Project-based learning. | Y | PRO | Y | GNA | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 0-18 | | |
| ASU | 140-CS | ProMod | Project-based learning. | Y | PRO | Y | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 0-18 | | |
| ASU | 140-FSE | ProMod | Project-based learning. | Y | PRO | Y | GNA | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 0-18 | | |
| ASU | 140-HDA | ProMod | Project-based learning. | Y | PRO | Y | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 0-18 | | |
| ASU | 140-HNR | ProMod | Project-based learning. | Y | PRO | Y | GNA | Barrett, The Honors College | Barrett, The Honors College | 0-18 | | Prerequisite(s): Barrett Honors student |
| ASU | 140-LA | ProMod | Project-based learning. | Y | PRO | Y | GNA | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 0-18 | | |
| ASU | 140-NU | ProMod | Project-based learning. | Y | PRO | Y | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 0-18 | | |
| ASU | 140-SOS | ProMod | Project-based learning. | Y | PRO | Y | GNA | College of Global Futures | School of Sustainability | 0-18 | | |
| ASU | 140-TB | ProMod | Project-based learning. | Y | PRO | Y | GNA | Thunderbird School of Global Management | Dean, Thunderbird School of Global Management | 0-18 | | |
| ASU | 140-TE | ProMod | Project-based learning. | Y | PRO | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 0-18 | | |
| ASU | 140-WPC | ProMod | Project-based learning. | Y | PRO | Y | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 0-18 | | |
| ASU | 194-CLS | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| ASU | 194-LA | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-4 | | |
| ASU | 194-NCIAS | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| ASU | 194-UC | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | University College | Dean, University College | 1-4 | | |
| ASU | 230 | Life by Design | Living a meaningful life that is true to you is one of life's greatest endeavors. And, it's a process that can seem overwhelming and difficult to figure out. College offers the opportunity to explore interests and find career paths that align to your genuine interests and personal goals. But where do you start on this journey of self-discovery? Start with this course; it introduces the design thinking process--a strategy used by the world's top designers to launch products and services--and applies that process to your individualized career and life plans. You'll learn how aspects of your life that may feel disconnected (e.g., skills, ambition, interests, relationships, family needs, lifestyle) can and should work together in helping you discover careers that fit you. You'll explore how the college experience--through majors, classes, experiential learning, networking and other student services--can support your journey. And you'll develop a growth mindset that helps you. | N | LEC | N | GNA | University College | Dean, University College | 3 | | Credit is allowed for only ASU 230 or ASU 294 (Life by Design) |
| ASU | 240-CHS | ProMod | Project-based learning. | Y | LEC | Y | GNA | College of Health Solutions | College of Health Solutions | 0-18 | | |
| ASU | 240-CLS | ProMod | Project-based learning. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 0-18 | | |

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|---------|----------------|----------------|--|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|---|
| ASU | 240-CS | ProMod | Project-based learning. | Y | LEC | Y | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 0-18 | | |
| ASU | 240-FSE | ProMod | Project-based learning. | Y | LEC | Y | GNA | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 0-18 | | |
| ASU | 240-HDA | ProMod | Project-based learning. | Y | LEC | Y | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 0-18 | | |
| ASU | 240-HNR | ProMod | Project-based learning. | Y | LEC | Y | GNA | Barrett, The Honors College | Barrett, The Honors College | 0-18 | | Prerequisite(s): Barrett Honors student |
| ASU | 240-LA | ProMod | Project-based learning. | Y | LEC | Y | GNA | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 0-18 | | |
| ASU | 240-NCIAS | ProMod | Project-based learning. | Y | LEC | Y | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 0-18 | | |
| ASU | 240-NU | ProMod | Project-based learning. | Y | LEC | Y | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 0-18 | | |
| ASU | 240-SOS | ProMod | Project-based learning. | Y | LEC | Y | GNA | College of Global Futures | School of Sustainability | 0-18 | | |
| ASU | 240-TB | ProMod | Project-based learning. | Y | LEC | Y | GNA | Thunderbird School of Global Management | Dean, Thunderbird School of Global Management | 0-18 | | |
| ASU | 240-TE | ProMod | Project-based learning. | Y | LEC | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 0-18 | | |
| ASU | 240-WPC | ProMod | Project-based learning. | Y | LEC | Y | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 0-18 | | |
| ASU | 294-UC | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | University College | Dean, University College | 1-4 | | |
| ASU | 340-CHS | ProMod | Project-based learning. | Y | PRO | Y | GNA | College of Health Solutions | College of Health Solutions | 0-18 | | |
| ASU | 340-CLS | ProMod | Project-based learning. | Y | PRO | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 0-18 | | |
| ASU | 340-CPSCS | ProMod | Project-based learning. | Y | PRO | Y | GNA | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 0-18 | | |
| ASU | 340-CS | ProMod | Project-based learning. | Y | PRO | Y | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 0-18 | | |
| ASU | 340-FSE | ProMod | Project-based learning. | Y | PRO | Y | GNA | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 0-18 | | |
| ASU | 340-HDA | ProMod | Project-based learning. | Y | PRO | Y | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 0-18 | | |
| ASU | 340-HNR | ProMod | Project-based learning. | Y | PRO | Y | GNA | Barrett, The Honors College | Barrett, The Honors College | 0-18 | | Prerequisite(s): Barrett Honors student |
| ASU | 340-LA | ProMod | Project-based learning. | Y | PRO | Y | GNA | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 0-18 | | |
| ASU | 340-NU | ProMod | Project-based learning. | Y | PRO | Y | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 0-18 | | |
| ASU | 340-SOS | ProMod | Project-based learning. | Y | PRO | Y | GNA | College of Global Futures | School of Sustainability | 0-18 | | |
| ASU | 340-TB | ProMod | Project-based learning. | Y | PRO | Y | GNA | Thunderbird School of Global Management | Dean, Thunderbird School of Global Management | 0-18 | | |
| ASU | 340-TE | ProMod | Project-based learning. | Y | PRO | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 0-18 | | |
| ASU | 340-WPC | ProMod | Project-based learning. | Y | PRO | Y | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 0-18 | | |
| ASU | 394-CLS | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 0.5-4 | | |
| ASU | 394-UC | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | University College | Dean, University College | 0.5-4 | | |
| ASU | 440-CHS | ProMod | Project-based learning. | Y | LEC | Y | GNA | College of Health Solutions | College of Health Solutions | 0-18 | | |
| ASU | 440-CLS | ProMod | Project-based learning. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 0-18 | | |
| ASU | 440-CPSCS | ProMod | Project-based learning. | Y | LEC | Y | GNA | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 0-18 | | |
| ASU | 440-CS | ProMod | Project-based learning. | Y | LEC | Y | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 0-18 | | |
| ASU | 440-FSE | ProMod | Project-based learning. | Y | LEC | Y | GNA | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 0-18 | | |
| ASU | 440-HDA | ProMod | Project-based learning. | Y | LEC | Y | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 0-18 | | |
| ASU | 440-HNR | ProMod | Project-based learning. | Y | LEC | Y | GNA | Barrett, The Honors College | Barrett, The Honors College | 0-18 | | Prerequisite(s): Barrett Honors student |
| ASU | 440-LA | ProMod | Project-based learning. | Y | LEC | Y | GNA | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 0-18 | | |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| ASU | 440-NU | ProMod | Project-based learning. | Y | LEC | Y | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 0-18 | | |
| ASU | 440-SOS | ProMod | Project-based learning. | Y | LEC | Y | GNA | College of Global Futures | School of Sustainability | 0-18 | | |
| ASU | 440-TB | ProMod | Project-based learning. | Y | LEC | Y | GNA | Thunderbird School of Global Management | Dean, Thunderbird School of Global Management | 0-18 | | |
| ASU | 440-TE | ProMod | Project-based learning. | Y | LEC | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 0-18 | | |
| ASU | 440-WPC | ProMod | Project-based learning. | Y | LEC | Y | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 0-18 | | |
| ATC | 230 | Fundamentals of Air Traffic Management | Introduces the manuals, procedures, maps, charts, and regulations used by air traffic controllers in the National Airspace System (NAS). | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): AMT 201 with C or better |
| ATC | 331 | Tower Operations | Provides knowledge of air traffic control procedures, phraseology, equipment, and aircraft separation requirements used in ATC towers. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): ATC 230 with C or better |
| ATC | 332 | TRACON Operations | Provides knowledge of air traffic control procedures, phraseology, equipment, and aircraft separation requirements used in FAA TRACONs. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): ATC 230 with C or better |
| ATC | 333 | En Route Operations | Provides knowledge of air traffic control procedures, phraseology, equipment, and aircraft separation requirements used in FAA ATC En Route Centers. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): ATC 230 with C or better |
| ATC | 431 | Tower Operations and Procedures | Opportunity to operate in tower simulator environment to run scenarios for local and ground control and flight data/clearance delivery. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): ATC 331 with C or better |
| ATC | 432 | TRACON Operations and Procedures | Opportunity to operate in tower simulator environment to run scenarios for local and ground control and flight data/clearance delivery. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): ATC 332 with C or better |
| ATC | 433 | En Route Operations and Procedures | Opportunity to operate in tower simulator environment to run scenarios for local and ground control and flight data/clearance delivery. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): ATC 333 with C or better |
| ATC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-12 | | Prerequisite(s): minimum junior standing |
| ATC | 491 | Air Traffic Management Capstone | Overview of problem solution tools, quality metrics, and current technology initiatives related to air traffic management and related industry problems in a project environment. Student projects focus on airport and airspace requirements. Student teams work with partners from industry, government, and academia to define project objectives and work toward a formal recommendation to help solve the specified problem. Class discussions focus on project management, organizational structures, strategic initiatives, strategy implementation and execution. Uses review and analysis of current industry problems and resolutions to provide examples of practical solutions. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Pre- or corequisite(s); ATC 431 with C or better if completed; ATC 432 with C or better if completed; ATC 433 with C or better if completed |
| ATC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-4 | | |
| ATE | 242 | Introduction to Architectural Technology | Materials and methods of construction. Aesthetic, code and construction costs. Exposure to building information management (BIM). | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Architectural Studies major. Corequisite(s): ALA 226 |
| ATE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| ATE | 361 | Architectural Technology I | Introduces load distribution on structures. Static analysis of determinant beams, trusses, arches, and rigid frames. Computer applications. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Corequisite(s): ADE 321 OR Visiting University Student |
| ATE | 362 | Architectural Technology II | Strength of materials. Stresses in beams and columns. Thermal effects on structures. Analysis, design, and detailing of wood structural systems. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): ATE 361 with C or better |
| ATE | 451 | Building Systems I | Principles of solar radiation, heat and moisture transfer, and environmental control systems as form influences. Energy-conscious design. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Co-requisites: ADE 421 |
| ATE | 452 | Architectural Technology III | Architectural design implications of heating, ventilation, and air conditioning systems. Principles of lighting, daylighting, and acoustics, and their applications. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): ATE 362 with C or better; Corequisite(s): ADE 422 |
| ATE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-3 | | |
| ATE | 521 | Building Environmental Science | Scientific principles relating to comfort and environmental control. Heat and moisture transfer. Solar/natural energies for heating, cooling, and lighting. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisites: Bldg Design MS, Master of Architecture, Master of Urban Design, or Master of Landscape Architecture student |
| ATE | 550 | Passive Heating and Cooling | Theory, analysis, and application of passive and low-energy systems in order to maximize comfort and minimize energy consumption in buildings. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisites: Bldg Design MS, Master of Architecture, Master of Urban Design, or Master of Landscape Architecture student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|---|------------------------------|-------|-----------------|---|
| ATE | 553 | Architectural Technology IV | Design and integration of building systems, including mechanical, electrical, plumbing, security, communications, fire protection, and transportation. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Master of Architecture student; Corequisite(s): ADE 521; ATE 563 |
| ATE | 556 | Architectural Technology V | Comprehensive design development through the understanding and integration of building materials and systems. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Corequisite(s): ADE 522; APH 505 |
| ATE | 560 | Building Energy Analysis | Computer simulation of building thermal behavior. Software review. Detailed study of selected simulation models using case study projects. | N | LAB | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisites: Bldg Design MS, Master of Architecture, Master of Urban Design, or Master of Landscape Architecture student |
| ATE | 562 | Experimental Evaluation | Instrumentation, measurement and computational techniques for analysis of building components, and assessment of thermal and luminous performance. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisites: Bldg Design MS, Master of Architecture, Master of Urban Design, or Master of Landscape Architecture student |
| ATE | 563 | Architectural Technology VI | Analysis, design, and detailing of steel buildings and frames. Lateral analysis of small rigid and braced frame systems. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Master of Architecture student |
| ATE | 582 | Environmental Control Systems | Heating, ventilation, and air-conditioning systems. Loads, psychrometrics, refrigeration cycle, air/water distribution, controls, energy performance standards, and utility rates. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisites: Bldg Design MS, Master of Architecture, Master of Urban Design, or Master of Landscape Architecture student |
| ATE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ATE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Pre-requisites: Herberger Institute of Design and the Arts Graduate student |
| ATE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Pre-requisites: Herberger Institute of Design and the Arts Graduate student |
| ATE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Pre-requisites: Herberger Institute of Design and the Arts Graduate student |
| ATE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | The Design School | 1 | | Pre-requisites: Herberger Institute of Design and the Arts Graduate student |
| ATE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ATE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Herberger Institute of Design and the Arts Graduate student |
| ATP | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ATP | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ATP | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | |
| ATP | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ATP | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-7 | | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| BCH | 341 | Physical Chemistry with a Biological Focus | Thermodynamics, equilibrium, states of matter, solutions and chemical kinetics with a focus on biological systems. For students in biochemical, premedical, biomedical and educational curricula. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): CHM 114 or 116 or 118 with C or better; CHM 231 or 233 or 333 with C or better; MAT 251 or 265 or 270 with C or better; PHY 101 or 112 or 131 with C or better; Credit is allowed for only BCH 341 or CHM 341 OR Visiting University Student |
| BCH | 361 | Advanced Principles of Biochemistry | Advanced consideration of the structures, properties, and functions of proteins, enzymes, nucleic acids, carbohydrates, and lipids; principles and theory of the utilization and synthesis of these materials by living systems, and the relationship of these processes to energy production and utilization. The course is recommended for pre-health students. No credit for Biochemistry majors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): CHM 231 with C or better OR Pre- or corequisite(s): CHM 234 or CHM 334 with C or better if completed OR Visiting University Student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|--|
| BCH | 367 | Elementary Biochemistry Laboratory | Qualitative/quantitative analyses of constituents of biological systems, enzyme activity measurements and metabolic studies. | N | REC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | | Pre- or corequisite(s): BCH 361 or LSC 366 with C or better if completed OR Visiting University Student |
| BCH | 371 | Modern Concepts in Biochemistry | Detailed examination of the chemical structure, conformation and function of proteins, carbohydrates, lipids and nucleotides; analysis of the energetics, enzymes and control of the metabolic pathways by which these molecules are degraded or synthesized. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): BIO 182 with C or better; CHM 234 with C or better; CHM 238 with C or better, Forensic Science BS, or Pharmacology and Toxicology BS major OR Visiting University Student |
| BCH | 372 | Modern Concepts in Biochemistry Laboratory | Analyzes protein structure, purification and function using spectroscopic, chromatographic, electrophoretic and other methods. | N | LAB | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Pre- or corequisite(s): BCH 371 OR Visiting University Student |
| BCH | 392 | Introduction to Research Techniques | Instrumental methods and philosophy of research by actual participation in chemical research projects. May be repeated for total of 6 semester hours. | N | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-3 | | |
| BCH | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-4 | | |
| BCH | 461 | General Biochemistry | Structure, chemistry, and metabolism of biomolecules and their role in the biochemical processes of living organisms. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): CHM 234 or 334 with C or better; Corequisite(s): BCH 341 or CHM 341 or CHM 346 with C or better if completed OR Visiting University Student |
| BCH | 462 | General Biochemistry | Continuation of BCH 461. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): BCH 461 with C or better OR Visiting University Student |
| BCH | 463 | Biophysical Chemistry | Principles of physical chemistry as applied to biological systems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): BCH 341 or CHM 341 or CHM 346 with C or better OR Visiting University Student |
| BCH | 467 | Analytical Biochemistry Laboratory | Quantitative analysis, separation and purification of biological molecules. Applies chemical and physical methods to the characterization of biological macromolecules. | N | REC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; Pre- or corequisite(s): BCH 462 with C or better if completed OR Visiting University Student |
| BCH | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | |
| BCH | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| BCH | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| BCH | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-4 | | |
| BCH | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-3 | | |
| BCH | 501 | Current Topics in Biochemistry | Varies by topic. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BCH | 520 | Chemical Biology | Chemical biology, broadly defined, is the application of chemical tools toward the study biological problems. The purpose of this class is to provide the foundation for translational research involving cross-disciplinary approaches to tackling significant problems in the biosciences. This one-semester class will cover topics ranging from traditional molecular biology and biochemistry to state-of-the-art techniques in genomics and proteomics. Particular emphasis will be placed on modern concepts in enzymology. The class will be taught using a combination of current literature and text-based materials. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Pre-requisite: Graduate students (degree and nondegree); Credit is allowed for only BCH or CHM 520 |
| BCH | 561 | Advanced Topics in Biochemistry | Topics selected from emerging areas of biochemistry based primarily on current literature. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BCH | 564 | Bionanotechnology | The use of biomolecules, bioelectronics, and biomedicine for applications in nanotechnology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BCH 564 or NAN 564 |
| BCH | 568 | Molecular Mechanisms of Photosynthesis | Structure and function of photosynthetic complexes; mechanism of energy conversion in plants, bacteria, and model systems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BCH 568 or PLB 558 |
| BCH | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| BCH | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BCH | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BCH | 597 | Capstone | Provides a culminating experience in biochemistry. Students bring together knowledge learned in prior courses in a way that is meaningful and relevant to their professional goals. Each student must prepare and defend a report summarizing current knowledge on a topic important to the field of biochemistry. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BCH | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BCH | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BCH | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BCH | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BCS | 101 | Elementary Serbo-Croatian | Structural grammar, basic vocabulary; introduction and reinforcement of aural/oral, reading, and writing skills. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | |
| BCS | 102 | Elementary Serbo-Croatian | See BCS 101. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | |
| BCS | 201 | Intermediate Serbo-Croatian | Systematic review of grammar. Development of vocabulary through reading and writing. Drill in aural/oral skills. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | |
| BCS | 202 | Intermediate Serbo-Croatian | See BCS 201. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | |
| BCS | 311 | Bosnian/Croatian/Serbian Composition and Conversation I | Develops writing ability and oral expression. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): BCS 202 with C or better OR Visiting University Student |
| BCS | 312 | Bosnian/Croatian/Serbian Composition and Conversation II | Develops writing ability and oral expression. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): BCS 311 with C or better OR Visiting University Student |
| BCS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| BCS | 495 | Serbo-Croatian for Heritage Speakers | Generates professional proficiency by developing communicative and written competency in standard literary Serbo-Croatian. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | |
| BDE | 502 | Research Methods in Biological Design | Introduction to research, the scientific method, literature survey, experiments and research documentation, time management, technical writing and peer review, technical presentations, ethics and safety, academic and industrial research, funding and proposals, industrial research and intellectual property. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 3 | | Prerequisite(s): Biological Design MS or Biological Design PhD student |
| BDE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BDE | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BDE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BDE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BDE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| BDE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BDE | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1-12 | | |
| BDE | 702 | Fundamentals of Biological Design II | Emphasizes the integrative areas of computational bioinformatics, systems biology, and synthetic biology, and their application in biomedical research. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BDE | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BDE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BDE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BDE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 100 | The Living World | Principles of biology. Cannot be used for major credit in the biological sciences. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | SQ | |
| BIO | 100M | The Living World | Principles of biology. Cannot be used for major credit in the biological sciences. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 0.25-4 | SQ | |
| BIO | 108 | Concepts in Plant Biology | Introduces concepts of plant biology that are of human relevance using commercially important, edible, and medicinal plants as examples. Not for majors in the biological sciences. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | SQ | |
| BIO | 109 | Field Natural History of Arizona | Studies the common plants and animals of Arizona including their distribution, adaptations, behavior and ecology. Introduces basic field techniques used in the study of natural history. Off-campus field trips. Cannot be used for major credit in the biological sciences. | N | LEL | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | SG | |
| BIO | 112 | Discovery: Why Sex? | "Why?" is a question that animates the youngest of children to the most seasoned of scientists. The acts of asking and answering "Why?" highlight the integrated nature of scientific knowledge and discovery. Demonstrates scientific disciplines are not walled cities in which knowledge is neatly segregated from lines of inquiry and knowledge in other disciplines. Instead, scientific concepts weave throughout and between disciplines and scientists increasingly rely on colleagues from different scientific fields to find answers to scientific questions. So our journey to find responses to the question "Why Sex?" takes us not just to biology, but also to earth science and to physics. Along the way, scientists are linked together not only through concepts that crosscut the disciplines, but also in their reliance upon key scientific skills such as the ability to observe, think critically, measure, gather data and communicate their findings. | N | LEL | N | GNA | College of Liberal Arts and Sciences | School of Life Sciences | 4 | SG | Credit is allowed for only BIO 112 or BIO 194 (Discovery: Why Sex?) OR Visiting University Student |
| BIO | 113 | Dinosaurs | Principles of evolution, ecology, behavior, anatomy and physiology using dinosaurs and other extinct life as case studies. Geological processes and the fossil record. Cannot be used for major credit in the biological sciences. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | SG | |
| BIO | 130 | Introduction to Environmental Science | Introduces the interconnected nature of Earth's hydrosphere, lithosphere (soils and rocks), atmosphere, and biosphere. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | SQ | Credit is allowed for only ABS 130 or BIO 130 or ENV 130 OR Visiting University Student |
| BIO | 130M | Introduction to Environmental Science | Introduces the interconnected nature of Earth's hydrosphere, lithosphere (soils and rocks), atmosphere, and biosphere. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 0.25-4 | SQ | |

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| BIO | 140 | Greek and Latin Roots in Bioscientific Terminology | Introduces students to the ancient Greek and Latin root words most commonly used in biological, medical, and other scientific terminology, and gives practice identifying them in context. The knowledge of these root words enables students to memorize with greater ease and increased retention the bioscientific terminology they encounter in other coursework as well as in their medical or scientific profession. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Credit is allowed for only BIO 140 or GRK 140 or LAT 140 or SLC 140 OR Visiting University Student |
| BIO | 145 | Introduction to Marine Biology | Introduces non-majors to the basic concepts of marine biology, the study of the ocean and the diverse life forms that reside in the diverse habitats found there. Includes an extensive discussion on ocean conservation, including threats facing marine life and policy solutions to those threats. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | SG | Prerequisite(s): minimum 25 hours; Credit is allowed for only BIO 145 or LSC 145 or LSC 294 (Introduction to Marine Biology) OR Visiting University Student |
| BIO | 151 | Biological Thinking | The science behind the science of life. Masters the core concepts of modern biology, understands the scientific discoveries that lie behind those concepts, and develops scientific reasoning skills so that students can contribute discoveries of their own. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | SQ | Prerequisite(s): Life Sciences student; ALEKS score below 61; Credit is allowed for only BIO 100 or BIO 151 OR Visiting University Student |
| BIO | 160 | Introduction to Anatomy and Physiology | Terminology and essential concepts in human anatomy and physiology, as well as the structure and function of the human body. Designed for students in the health-related professions. Acquaints the student with human anatomy, structure and function, and basic disease concepts. Organizes and presents course concepts by organ systems, and the laboratory component of the course emphasizes human structure and function. The course has 3 contact hours for lecture and 2 contact hours for lab per week. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 4 | SQ | |
| BIO | 181 | General Biology I | Biological concepts emphasizing principles and the interplay of structure and function at the molecular, cellular, and organismal levels. Intended for life sciences, biology, and health-related science majors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | SQ | Credit is allowed for only BIO 181 or BIO 281 or BIO 282 |
| BIO | 182 | General Biology II | Biological concepts emphasizing principles and the interplay of structure and function at the organismal, population, and community levels. Intended for life sciences, biology, and health-related science majors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | SG | Prerequisite(s): BIO 181 with C or better; Credit is allowed for only BIO 182 or BIO 281 or BIO 282 OR Visiting University Student |
| BIO | 189 | School of Life Sciences Undergraduate Research Apprentice | Students gain exposure to contemporary issues in research excellence, mentoring skills and professional development. Enriches individual lab research experiences for students by bringing them together in a peer-community environment. Introduces the resources students have at their disposal (e.g., on campus, online) to facilitate research productivity and career planning. Rigorously evaluates their research processes and products in light of their eventual professional plans. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): minimum 2.75 GPA; Credit is allowed for only BIO 189 or BIO 194 (SOLS Undergraduate Research Apprentice) OR Visiting University Student |
| BIO | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| BIO | 201 | Human Anatomy and Physiology I | Studies the structure and function of the human body. Topics include cells, tissues, integumentary system, skeletal system, muscular system, and nervous system. Cannot be used for major credit in the life sciences. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | SG | |
| BIO | 201M | Human Anatomy and Physiology I | Studies the structure and function of the human body. Topics include cells, tissues, integumentary system, skeletal system, muscular system, and nervous system. Cannot be used for major credit in the life sciences. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 0.25-4 | SG | |
| BIO | 202 | Human Anatomy and Physiology II | Studies the structure and function of the human body. Topics include cardiovascular, respiratory, lymphatic/immune, endocrine, renal, digestive, and reproductive systems. Cannot be used for major credit in the life sciences. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | SG | Prerequisite(s): BIO 201 with C or better OR Visiting University Student |
| BIO | 230 | How Nature Works | Teaches biology through the lens of function, thereby providing a core understanding in biology for all students, no matter their background. Explores the process of scientific discovery and how biological knowledge can inform other disciplines. Each week investigates a new topic regarding how ecosystems and organisms function--e.g., How do ecosystems cycle nutrients? How do animals move through air, water and on land? How do organisms defend themselves against disease? Covers core concepts in biology as well as how these concepts apply to other disciplines. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Credit is allowed for only BIO 230 or BMY 230 |
| BIO | 250 | Introduction to Evolution and Medicine | Introduces applications of evolutionary biology to medicine. Discusses topics ranging from the evolution of antibiotic resistance to aging, obesity, Alzheimer's disease and cancer using an evolutionary framework to better understand how these diseases/issues came to be, and what can be done to prevent/treat/mitigate these conditions. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Life Sciences | 3 | SB & G | Credit is allowed for only ASB 250 or ASB 294 (Introduction to Evolutionary Medicine) or ASM 294 (Evolution and Medicine) or BIO 250 or BIO 294 (Introduction to Evolutionary Medicine) OR Visiting University Student |

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| BIO | 282 | Conceptual Approaches to Biology for Majors II | Builds upon established conceptual foundations, covers the themes and concepts underlying organismal biology, with an emphasis on physiology and ecology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): School of Life Sciences student; BIO 281 with C or better; Credit is allowed for only BIO 181 or BIO 182 or BIO 282 OR Visiting University Student |
| BIO | 289 | School of Life Sciences Undergraduate Researcher | Students gain exposure to contemporary issues in research excellence, mentoring skills, and professional development in this seminar. Enriches individual lab research experiences students by bringing them together in a peer-community environment. Introduces students to the resources they have at their disposal (e.g. on campus, online) to facilitate research productivity and career planning. Rigorously evaluates their research processes and products, in light of their eventual professional plans. | N | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): minimum 3.00 GPA OR Corequisite(s): BIO 310, or BIO 494 (Advanced Study Practicum), or BIO/HPS/MBB/MIC 484/492/493/495/496/499 OR Visiting University Student |
| BIO | 293 | The Health Sciences Workplace | Provides exposure to the health science workplace and helps students explore the full range of careers that are open to those who major at the undergraduate level in the health sciences including managerial and administrative aspects. Includes short presentations by professionals in a variety of fields, including biotechnology and bioenterprise, business and the health sciences. Ample opportunities for questions and personal interactions. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | |
| BIO | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| BIO | 301 | Field Natural History | Organisms and their natural environment. Cannot be used for major credit in the biological sciences. Both BIO 300 and BIO 301 must be taken to secure SQ General Studies credit | N | PRA | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | SG | Pre- or corequisite(s): BIO 300 or LSC 310 with C or better if completed |
| BIO | 302 | Cancer--Mother of All Diseases | History of cancer; disease statistics; pathogenesis; diagnosis, treatment and prevention; case studies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | L | Prerequisite(s): BIO 181, BIO 182, BIO 201, BIO 281, BIO 282, MIC 205, or MIC 220 with C or better; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| BIO | 303 | Plant Diversity and Evolution | An examination of the major groups of land plants, emphasizing evolutionary history, comparative data, and phylogenetic methods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | L or SG | Prerequisite(s) with C or better: BIO 181; BIO 182; ENG 101, 105, or 107 OR BIO 281; BIO 282; ENG 101, 105, or 107; Credit allowed for only BIO 303 or ENV 300 or PLB 300 OR Visiting University Student |
| BIO | 304 | Plants and Civilization | Plants and plant products used by people throughout the world. Cultivation, processing, and uses in modern life (beverages, fibers, foods, medicinals, and perfumes). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | L | Prerequisite(s) with C or better: BIO 181; BIO 182; ENG 101, 105, or 107 OR BIO 281; BIO 282; ENG 101, 105, or 107; Credit is allowed for only BIO 304 or ENV 302 or PLB 302 OR Visiting University Student |
| BIO | 305 | Biology Behind the Crime Scene | Explores biological technology behind forensic techniques like fingerprinting, Polymerase Chain Reaction (PCR), and paternity testing. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | SG | Pre-requisites: Minimum Sophomore standing |
| BIO | 306 | Modes of Biological Thought | Involves students in the process of biological discovery to examine how we identify truth in biological science. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | L | Prerequisite(s): ENG 101 or 105 with C or better; BIO 181 (or BIO 188) and BIO 182 (or BIO 187) with C or better OR Visiting University Student |
| BIO | 307 | Research Colloquium: Identifying a Research Question | Develops critical thinking abilities, introduces students to what it means to do scholarly research, and familiarizes students with other tools needed to develop a research proposal in biology and society. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): Biological Sciences (Biology and Society) BS major; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| BIO | 308 | Plant Physiology | Concepts of plant function: carbon metabolism, energy acquisition, regulation of growth and development, stress responses, and water and nutrient uptake. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better; CHM 116 with C or better; Credit is allowed for only BIO 308 or PLB 308 OR Visiting University Student |
| BIO | 309 | Plant Anatomy | Development and mature structure of tissues of vascular plants; patterns and modifications of the leaf, stem, root, and flower. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): BIO 181 with C or better; BIO 182 or PLB 200 with C or better OR BIO 281 with C or better; BIO 282 with C or better |
| BIO | 310 | Special Problems and Techniques | Qualified undergraduates may investigate a specific biological problem under the direction of a faculty member. | N | IND | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-3 | | |
| BIO | 311 | Biology and Society | Explores interactions between biological sciences and society, e.g., biomedical, environmental, ethical, historical, legal, philosophical, political, and social issues. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better OR BIO 281 with C or better; BIO 282 with C or better; Credit is allowed for only BIO 311 or HPS 340 OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|-------------------------|-------|-----------------|--|
| BIO | 312 | Bioethics | Critical examination of moral questions arising in biomedical contexts, particularly due to new technologies and scientific discoveries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | HU | Prerequisite(s): minimum 45 hours; Credit is allowed for only BIO 312 or IAS 340 or PHI 320 OR Visiting University Student |
| BIO | 313 | The Flora of Arizona | Overview of Arizona's flora and plant communities; emphasizes identification, classification, and natural history of the state's native vascular species. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s) with C or better: BIO 181 (or BIO 188) and BIO 182 (or BIO 187 or both PLB 200 and 201) OR BIO 281 and 282; Credit is allowed for only BIO 313 or PLB 310 |
| BIO | 314 | Research Colloquium in Biology and Society I | Develops critical thinking abilities, research methods and writing skills for research in the interactions between biological sciences and society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): Biological Sciences (Biology and Society) BS major; ENG 101, 105, or 107 with C or better; Pre- or corequisite(s): BIO 307 with C or better if completed OR Visiting University Student |
| BIO | 315 | Science, Values, and the Public | Examines science, communication, and a range of public opinion to understand science as a discourse of profound social power. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Minimum 35 hours; Credit is allowed for only ENG 370 or BIO 315 |
| BIO | 316 | History of Biology: Conflicts and Controversies | Focuses on 19th and 20th centuries, considering biology as a discipline. Evolution, problems of heredity, development, and cell theory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | H | Credit is allowed for only BIO 316 or HPS 330 OR Visiting University Student |
| BIO | 317 | History of Science II | Development and application of scientific thinking from the 18th century to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | HU & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only BIO 317 or HPS 323 OR Visiting University Student |
| BIO | 318 | History of Medicine | Scientific study of the human body, changing theories of disease, evolution of practical opinions on treatment, and the emerging institutionalization of medical practice. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | HU & H | Credit is allowed for only BIO 318 or HPS 331 OR Visiting University Student |
| BIO | 320 | Fundamentals of Ecology | Organization, functioning, and development of ecological systems; energy flow; biogeochemical cycling; environmental relations; population dynamics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better; CHM 116 or 118 with C or better OR CHM 116 or 118 with C or better; SES 220 with C or better OR Visiting University Student |
| BIO | 321 | Introductory Ecology Laboratory | Lab and field observations and experiments to test current concepts and theories in ecology. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 2 | | Pre- or corequisite(s): BIO 320 with C or better if completed OR Visiting University Student |
| BIO | 322 | Conservation of Biodiversity | Species-level approaches to the protection, management, and restoration of biological resources from scientific and policy perspectives. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 181 with C or better; BIO 182 (or PLB 200) with C or better OR BIO 281 with C or better; BIO 282 with C or better OR Visiting University Student |
| BIO | 323 | Ecosystem Restoration and Management | Ecosystem-level approaches to the protection, management, and restoration of biota and ecosystem processes from local to global scales. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 181 with C or better; BIO 182 (or PLB 200) with C or better OR BIO 281 with C or better; BIO 282 with C or better |
| BIO | 324 | Environmental Ethics | Examines a full range of philosophical positions pertaining to our moral relationship to the natural world; anthropocentrism, individualism, biocentrism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | HU | Credit is allowed for only BIO 324 or PHI 310 OR Visiting University Student |
| BIO | 325 | Oceanography | Introduces marine geology, chemistry, and physical and biological oceanography. Methods of oceanic exploration, environmental and social aspects of oceans. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s) w/ C or better: BIO 100, BIO 182, BIO 282, SES 220, SES 225, or both GLG 101 & 103, or both SES 121 & 123; CHM 101, 113, 114, 117, or both CHM 107 & 108; Credit allowed for only BIO 325 or CHM 385 or GLG 325 OR Visiting University Student |
| BIO | 327 | Evolution of Human Behavior | Examines how evolutionary theory informs our understanding of human behavior, psychology and culture. Explores evolutionary explanations of human behavioral variation and cultural diversity and the influence of natural selection on shaping human cognition. Topics include nepotism, economic decisions, behavioral strategies throughout the life course, mate choice and sexual behavior, perception and judgment, motivation and emotions, social learning and culture, cooperation and prosociality, interpersonal violence and warfare, and norms and moral sentiments. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): ASM 104, BIO 181 or 282 with C or better; Credit is allowed for only ASM 342 or BIO 327 |
| BIO | 328 | History of Science I | Development and application of scientific thinking from ancient times through the 17th century. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | HU & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only BIO 328 or HPS 322 OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|-------------------------|-------|-----------------|--|
| BIO | 331 | Animal Behavior | Theories of evolutionary, genetic, physiological, and ecological bases of animal behavior. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s) with C or better: BIO 181; BIO 182 OR BIO 281; BIO 282; Credit is allowed for only BIO 331 or LSC 331 OR Visiting University Student |
| BIO | 340 | General Genetics | Surveys fundamental principles of genetics--the study of biological inheritance. Specific topics include Mendelian principles, molecular and functional genetics, gene regulation, cytogenetics, gene mapping, genetics of development, complex traits and population genetics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better; Credit is allowed for only BIO 340 or MBB 347 OR Visiting University Student |
| BIO | 342 | General Genetics Laboratory | Explores general principles of inheritance with special reference to Mendelian, molecular, and computational genetics via lab experiments. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 2 | | Prerequisite(s): BIO 340 with C or better; Credit is allowed for only BIO 342 or MBB 347 OR Visiting University Student |
| BIO | 343 | Genetic Engineering and Society | Introduces genetic engineering, with emphasis on applications (transgenic plants and animals, cloning, vaccines, therapeutics, and diagnostics). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | L | Prerequisite(s): BIO 340 or MBB 347 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only BIO 343 or MBB 343 OR Visiting University Student |
| BIO | 345 | Evolution | Processes of adaptive change and speciation in sexual populations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 340, LSC 347, or MBB 347 with C or better OR Visiting University Student |
| BIO | 351 | Developmental Biology | Principles of developmental biology, including the development of major organ systems and their underlying molecular and cellular mechanisms. Illustrated mainly using vertebrate examples. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 340 or LSC 347 or MBB 347 with C or better OR Visiting University Student |
| BIO | 352 | Laboratory in Vertebrate Developmental Anatomy | Morphology of representative embryonic and adult vertebrates. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 2 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better OR BIO 281 with C or better; BIO 282 with C or better; Pre- or corequisite(s): BIO 351 with C or better OR Visiting University Student |
| BIO | 353 | Cell Biology | Surveys major topics in cell biology, including structural, biochemical, and molecular aspects of cell function. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s) with C or better: BIO 181; BIO 182; CHM 116 or 118 OR BIO 281; BIO 282; CHM 116 or 118 OR Biomedical Engineering BSE major; BIO 181; CHM 114 or 116 OR Visiting University Student |
| BIO | 354 | Cell Biology Laboratory | Investigational lab using modern molecular and cellular techniques to analyze molecular, biochemical, and anatomical traits of cells. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Pre- or corequisite(s): BIO 353 with C or better if completed OR Visiting University Student |
| BIO | 355 | Introduction to Computational Molecular Biology | Introduces the mathematical skills used in molecular biology, genomics, and bioinformatics. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | CS | Prerequisite(s): MAT 119, 210, 243, 251, 265, or 270 or STP 220, 226, or 231 with C or better; Credit is allowed for only BIO 355 or CPI 480 or MAT 355 or MBB 355 OR Visiting University Student |
| BIO | 357 | Cell and Molecular Biology Laboratory | Laboratory concepts and techniques central to cell biology and molecular biology emphasize principles and the interplay of these two sub disciplines. Intended for life sciences, biology, and health-related science majors. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 2 | | Prerequisite(s): BIO 353 with C or better; Credit is allowed for only BIO 357 or BIO 394 (Cell and Molecular Biology Laboratory) OR Visiting University Student |
| BIO | 360 | Animal Physiology | Principles and mechanisms of physiological regulation in animals, with a focus on humans. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better OR BIO 281 with C or better; BIO 282 with C or better; CHM 116 or 118 with C or better OR Visiting University Student |
| BIO | 361 | Animal Physiology Laboratory | Experimental lab studies of physiological mechanisms in animals and model systems. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 2 | | Pre- or corequisite(s): BIO 360 with C or better if completed OR Visiting University Student |
| BIO | 363 | From Cells to Society: Understanding Complexity | Equips students with concepts and empirical examples they need to understand the role of complexity in the world around them. Complexity science is based on the fundamental principle that entities and phenomena in the world around us are systems composed of many parts that interact to produce their global characteristics. For example, cells interact to produce organs and tissues, which in turn interact to produce physiological processes (i.e., the capacity to metabolize food to produce new compounds and energy) and physical infrastructure (skeletal and muscular structure) which produce organisms. Organisms, (e.g., humans) interact to form groups, villages, cities, nations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AML/ASB/BIO/SOS 394 (From Cells to Societies) or ASB 363 or BIO 363 or CAS 363 or SOS 363 OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|-------------------------|-------|-----------------|--|
| BIO | 370 | Vertebrate Zoology | Characteristics, classification, evolution, and natural history of the major groups of vertebrate animals. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better OR BIO 281 with C or better; BIO 282 with C or better OR Visiting University Student |
| BIO | 382 | Spanish for Biomedical Sciences | Focuses on developing the communicative skills necessary to engage students with the human aspect of health in Spanish. Students develop cultural and linguistically appropriate skills which address the communication needs across the healthcare continuum, to provide culturally competent services. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): SPA 202, 204, or 210 with C or better or Spanish placement test score of 521+; Credit is allowed for only BIO 382 or BIO 394 (Spanish Biomedical Sciences) or SPA 382 or SPA 394 (Spanish Biomedical Sciences) OR Visiting University Student |
| BIO | 385 | Comparative Invertebrate Zoology | Characteristics, life cycles, adaptations, and evolution of invertebrate animals. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better OR BIO 281 with C or better; BIO 282 with C or better |
| BIO | 386 | General Entomology | Specialized focus on form, activities, and classification of insects. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better OR BIO 281 with C or better; BIO 282 with C or better OR Visiting University Student |
| BIO | 389 | School of Life Sciences Undergraduate Research Scholar | While performing undergraduate research at ASU, students gain exposure to contemporary issues in research excellence, mentoring skills, and professional development. Goals include: enriching individual lab research experiences of each student by bringing them together in a peer-community environment; introducing students to the resources they have at their disposal (e.g., on campus, online) to facilitate research productivity and career planning; rigorously evaluating their research processes and products, in light of their eventual professional plans. | N | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): School of Life Sciences major; minimum 3.00 GPA OR Visiting University Student |
| BIO | 390 | Medical/Dental Field Placement | Field placement for students exploring a career in a health profession. Requires classroom sessions and fieldwork. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | |
| BIO | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| BIO | 400 | Topics in Neuroscience | Covers in-depth important and emerging developments in neuroscience, emphasizing lectures that include readings of recent reviews and contemporary publications in peer-reviewed journals. Includes a significant writing component; students learn skills for writing scientific publications and grant applications. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 360 with C or better; Credit is allowed for only BIO 400 or KIN 400 or PSY 400 or SHS 400 |
| BIO | 403 | Evolutionary Medicine and Global Health | Fundamentally, the practice of medicine is applied biology to improve human health and well-being and is embedded within population and global scales. Integrates the life and social sciences to tackle the current and emerging global health challenges of the 21st century with an evolutionary biology lens with current medical knowledge enhancing our understanding of health. Uses topics such as human-pathogen coevolution; development and aging; human migration; diseases (infectious, metabolic and autoimmune); and physiological and behavioral mechanisms of immunity to explore the broad arena of human health within a deep time and global context. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prereq(s): min 45 hrs; Credit is allowed for only ASM 403 or ASM 494(Evol Med & Gbl Hlth) or ASM 503 or ASM 598(Evol Med & Gbl Hlth) or BIO 403 or BIO 494(Evol Med & Gbl Hlth) or BIO 510 or BIO 598(Evol Med & Gbl Hlth) OR Visiting University Student |
| BIO | 405 | Sonoran Desert Field Botany | Plants are the most important organisms on the planet and a fundamental knowledge of them is critical for any biological career--especially the fields of conservation, ecology, sustainability and systematics. Arizona is a diverse state and therefore, an ideal place to explore a wide variety of landscapes and their constituent plants. Introduces the important species of the Sonoran Desert within about a 50-mile radius of Tempe. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): minimum 45 hours; Credit is only allowed for BIO 405 or BIO 498 (Sonoran Desert Field Botany) |
| BIO | 407 | Novel Ecosystems | This primarily field course challenges preconceptions and received wisdom. Visit and discuss a variety of sites within about one hour's drive of ASU Tempe. These sites range from apparently relict desert mountain parks to effluent-dominated wetlands, active agricultural fields, newer and older commercial and residential areas, recreational ponds and (presently) abandoned vacant lots. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 320; BIO 322 or 323 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only BIO 407 or BIO 494 (Novel Ecosystems) OR Visiting University Student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|-------------------------|-------|-----------------|---|
| BIO | 408 | Advanced Evolutionary Medicine | Explores the application of the principles of evolution to the fields of medicine and public health and places disease in the context of changing environments, both exposures and the encompassing ecology of life in which an individual is imbedded. Focuses on the biological aspects of evolutionary theory through the use of molecular genetics; population genetics; and the use of evolutionary thinking and analysis with translational, clinical and public health intersections. A foundation in evolutionary medicine is useful for students with interests including but not limited to: premed, population genomics, maternal and child health, mental health, cancer, microbiome, aging, anthropology, biology, public health, global health and medicine. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): minimum 30 hours; Credit is allowed for only ASB 408 or ASB 494 (Evolutionary Med) or ASB 507 or ASB 591 (Evolutionary Med) or BIO 408 or BIO 494 (Evolutionary Med) or BIO 507 or BIO 591 (Evolutionary Med) OR Visiting University Student |
| BIO | 410 | Techniques in Conservation Biology and Ecology | Lecture, field and laboratory experience in techniques used in conservation biology and ecology. Course is modular, with each module instructed by a discipline-specific expert (e.g., plant ecologist, mammal conservationist, soil ecologist). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | L | Prerequisite(s): BIO 320 with C or better; BIO 322 or 323 with C or better; ENG 101, 105, or 107 with C or better; STP 226 or higher with C or better OR Visiting University Student |
| BIO | 411 | Quantitative Methods in Conservation and Ecology | Quantitative methods in conservation ecology: develop mathematical models of ecological and natural resource systems and use the models to better understand and inform management of ecosystems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): BIO 320 or 322 with C or better; BIO 415 or STP 226 or STP 231 with C or better; MAT 210, 251, 265, or 270 with C or better OR Visiting University Student |
| BIO | 412 | Conservation in Practice | Global biodiversity patterns, processes, and conservation; global environmental change; sustainable use of natural resources; emphasizing international approaches to conservation biology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only BIO 412 or SOS 412 |
| BIO | 414 | Research Colloquium in Biology and Society II | Further develops critical thinking abilities, research methods and writing skills for research in the interactions between biological sciences and society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): BIO 307 with C or better; BIO 314 with C or better; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| BIO | 415 | Statistical Models for Biology | Statistical methods applied to biological problems, design of experiments, estimation, significance, analysis of variance, regression, correlation, chi square, and bioassay; the use of computers. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | CS | Prerequisite(s): MAT 210, MAT 251, MAT 265, MAT 270, STP 226, or STP 231 with C or better; Credit is allowed for only BIO 415 or BIO 514 OR Visiting University Student |
| BIO | 416 | Biomedical Research Ethics | Considers issues related to values in science such as collaboration, finances, legal issues, media, mentoring, ownership of ideas, scientific integrity. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only BIO 416 or HPS 410 OR Visiting University Student |
| BIO | 417 | Experimental Design | Fixed, random, mixed models; crossed and nested factorial designs; balanced and unbalanced data; completely randomized, blocked, repeated measure designs; ANCOVA. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 415 with C or better |
| BIO | 418 | Soil Ecology | Soils viewed in an ecosystem context, soil-plant relationships, nutrient budgets, and abiotic factors that influence soil processes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Pre-requisite: ABS 370 or BIO 320. Credit is allowed for only ABS 434 or BIO 418 |
| BIO | 419 | Physiological Plant Ecology | Physiological and morphological responses and adaptations of plants to their environment, emphasizing mechanisms that influence carbon and water balance, growth, and population distributions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 320 or PLB 308 with C or better; Credit is allowed for only BIO 419 or PLB 419 or BIO 519 or PLB 519 |
| BIO | 420 | Immunology: Molecular and Cellular Foundations | Antibody/antigen interactions, cellular response, cytokines, immunogenetics, immunoregulation, autoimmunity, psychoneuroimmunology research/medical perspectives. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 353, BIO 360, or MIC 220 with C or better; Credit is allowed for only BIO 420 or MIC 420 OR Visiting University Student |
| BIO | 421 | Landscape Ecology | Discusses how landscape heterogeneity interacts with ecological processes, and implications for biodiversity conservation, resource management, and landscape and urban planning. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 320 with C or better; Credit is allowed for only BIO 421 or BIO 521 or SOS 421 or SOS 521 OR Visiting University Student |
| BIO | 422 | Ecosystem Ecology | Explores the structure, development and dynamics of ecosystems, with a focus on the exchange of energy and materials between the atmosphere, soils, water, biosphere, and anthro-sphere. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 320 with C or better; Credit is allowed for only BIO 422 or BIO 494 (Ecosystem Ecology) |
| BIO | 423 | Population and Community Ecology | Organization and dynamics of population and communities. Theoretical and empirical approaches. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 320 with C or better |
| BIO | 425 | Marine Conservation Ecology | Marine conservation biology is increasingly important for society, as evidenced by frequent media coverage and the recent report by the U.S. Commission on Ocean Policy. Expect exposure to multiple perspectives on important conservation issues in the marine environment and gain valuable experience in critical thinking, communication skills, and the use of science in effective debate. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better OR BIO 281 with C or better; BIO 282 with C or better OR Visiting University Student |
| BIO | 426 | Limnology | Structure and function of aquatic ecosystems, with emphasis on freshwater lakes and streams. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3-4 | L | Prerequisite(s): BIO 320 with C or better; ENG 101, 105, or 107 with C or better OR Visiting University Student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|--|
| BIO | 427 | Fire | A survey of fire on Earth--history, ecology, behavior, and management. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | H | Prerequisite(s): BIO 181 with C or better; BIO 182 (or PLB 200) with C or better OR BIO 281 with C or better; BIO 282 with C or better |
| BIO | 429 | Human Impacts on Ecosystem Functioning | Explores our current understanding of how humans are impacting the functioning of ecosystems and how changes in ecosystems would affect provisioning of ecosystem services and ultimately human well-being. The two primary drivers of ecosystem change are growth of the human population and increased consumption per capita. These drivers affect the Earth's cycles of carbon, nitrogen and water, as well as regional and global-scale changes in biodiversity and climate. Includes an in-depth discussion of scenarios for the next 50 and 100 years, which articulate costs and benefits of alternative development pathways in terms of climate change, food production, clean water and biodiversity. Scenarios of change in biodiversity lead to the topic of the consequences of biodiversity change for the functioning of ecosystems from the point of view of their productivity and stability. Human activities have disrupted several biogeochemical cycles including nitrogen and carbon cycles. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 320 (or SOS 326); Credit is allowed for only BIO 429, BIO 528, SOS 429, SOS 528, or SOS 494/598 (Human Impacts on Ecosystem Functioning), or BIO 494/598 (Human Impacts on Ecosystem Functioning) |
| BIO | 430 | Plant Geography | Plant communities of the world and their interpretation, emphasizing North American plant associations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 181 or GPH 111 or PLB 200 with C or better; Credit is allowed for only BIO 430 or GPH 422 or PLB 422 |
| BIO | 431 | Genes, Development, and Evolution | Contribution of genes, developmental processes, and evolution to pattern of phenotypic variation, including disease. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | L | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better; ENG 101, 105, or 107 with C or better OR BIO 281 with C or better; BIO 282 with C or better; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| BIO | 432 | Why People Steal, Cheat and Lie | Explores the ecological and evolutionary causes of selfishness and cooperation in human societies. Students apply biological models to predict patterns of behavior in human populations and evaluate these models with empirical data. Develops new scientific and philosophical perspectives on human behavior by integrating ideas from complementary disciplines, including biology, psychology, anthropology, criminology, sociology and philosophy. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Life Sciences | 3 | SB | Prerequisite(s): BIO 182 or 282; Credit is allowed for only BIO 432 or BIO 494 (Why People Steal, Cheat, and Lie) OR Visiting University Student |
| BIO | 434 | People and Nature: Ecosystem Services | Explores the drivers of biodiversity change and the consequences they have for human wellbeing, taking both an ecological and an economic perspective. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Pre-requisites: MAT 117 or higher or SOS 101; junior standing. Credit is allowed for only BIO 434, SOS 434, or BIO 494 (Ecosys Servcs:People&Nature) |
| BIO | 435 | Research Techniques in Animal Behavior | Experimental and field studies of animal behavior; description and quantification of animal behavior and interpretation of behavior within an evolutionary framework. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 331 with C or better |
| BIO | 436 | Sociobiology and Behavioral Ecology | Surveys animal and human social behavior examined from ecological and evolutionary perspectives using theoretical and empirical constructs. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 331 with C or better OR Visiting University Student |
| BIO | 438 | Marine Biology | Covers the marine habitat, the organisms that live in it and their ecology, in the open water as well as on the sea floor, from coasts to open sea. Includes aspects of oceanography, ecology and biology of marine organisms, ranging from the smallest plankton to whales, as well as issues related to the changing marine environment and conservation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): with C or better: BIO 181; BIO 182; BIO 320 or 325 OR BIO 281; BIO 282; BIO 320 or 325; Credit is allowed for only BIO 438 or BIO 494 (Marine Biology) or LSC 434 OR Visiting University Student |
| BIO | 439 | Computing for Research | Works mainly with command-line programs for data analysis, with a major focus on sequence-based analysis. An interactive flipped course, with required hands-on aspects both in class trouble-shooting and for out-of-class assignments where students work on problem-solving and implementation. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s) with C or better: BIO 181; BIO 182 OR BIO 281; BIO 282; Credit is allowed for only BIO 439 or BIO 498 (Computing for Rsrch) or BIO 539 or BIO 598/EVO 598/MCB 598 (Computing for Rsrch) or EVO 539 or MCB 539 OR Visiting University Student |
| BIO | 440 | Functional Genomics | Covers emerging fields of genomics and proteomics. Discusses key technologies and their applications to the study of genomes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 340 or LSC 347 or MBB 347 with C or better; Credit is allowed for only BIO 440 or MBB 440 or MCB 540 |
| BIO | 443 | Applied Molecular Genetics and Genomics | Nature and function of the gene; emphasizes the molecular genetic disease states; molecular biology; regulation of gene expression; genomics. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): LSC 347 with C or better; CHM 233 with C or better; CHM 237 with C or better |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|-------------------------|-------|-----------------|---|
| BIO | 446 | Principles of Human Genetics | Molecular and cellular analysis of the human genome. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | L | Prerequisite(s): ASM 301, BIO 340, LSC 347, or MBB 347 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only ASM 446 or ASM 546 or BIO 446 or BIO 546 OR Visiting University Student |
| BIO | 448 | Maternal and Child Health | Explores how genetics, nutrition, disease ecology, clinical access, legal systems, cultural practices and historical context contribute to maternal and child health. Draws from diverse fields including epidemiology, anthropology, biology, medicine, global health, public policy and sustainability to integrate a complex understanding of the myriad influences that shape maternal and child health and thereby affect our broader society. Evaluates the translation of basic science into clinical practice and public policy as well as the roles and partnerships among local, national and international organizations for improving human health worldwide. Provides up-to-date information about basic science, public policy and global health of maternal and child health to develop skills translatable in the workforce. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prereq(s): minimum 45 hours; Credit is allowed for only ASB 448 or ASB 494 (Matrnl &Chld Hlth) or ASB 548 or ASB 598 (Matrnl &Chld Hlth) or BIO 448 or BIO 494 (Matrnl &Chld Hlth) or BIO 548 or BIO 598 (Matrnl &Chld Hlth) OR Visiting University Student |
| BIO | 450 | Advanced Developmental Biology | Current concepts and experimental methods involving differentiation and biosynthetic activities of cells and organisms, with examples from microorganisms, plants, and animals. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 351 with C or better |
| BIO | 451 | Cell Biotechnology: Cell Culture, Immunocytochemistry and Bioimaging | Fundamentals of creating and maintaining cell culture for the purpose of experimental design and analysis. Cell culture technique, cell behavior, cell signaling and regulation, histology, transgenic fluorescent protein expression, immunocytochemistry and various bioimaging techniques including live cell, epi-fluorescent and confocal microscopy. Working with established cancer-derived cell lines and primary neural disassociated cultures, students perform various experimental techniques for cell imaging preparation and acquisition. Focuses on image analysis and presentation using ImageJ. During the second half of the semester, students propose and develop an experimental project in which they will collect data, do analysis and prepare the results for a final project presentation. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): BIO 343, BIO 353, MBB 343 or MBB 347 with C or better; Credit is allowed for only BIO 451 or BIO 551 OR Visiting University Student |
| BIO | 452 | Philosophy of Biology and Medicine | Examines fundamental topics in the philosophy of biology and their implications for medicine. Examples include biological mechanisms and evidence-based medicine, species concepts and race, reductionism and the nature of individuality, and theories of function and health. Uses these topics throughout the semester to address two overarching questions about whether biology is fundamentally different from physics and whether medicine can be reduced to applications of biology. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): minimum 25 hours; Credit is allowed for only BIO 452 or HPS 452 or PHI 452 or BIO/HPS/PHI 394 (Philosophy of Biology and Medicine Introduction) or BIO/HPS/PHI 494 (Philosophy of Biology and Medicine) OR Visiting University Student |
| BIO | 453 | Animal Histology | Microscopic study of animal tissues. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s) with C or better: BIO 201, 353, or 360 or MIC 220 |
| BIO | 461 | Comparative Animal Physiology | A comparative approach to understanding the function of animal physiological systems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 360 with C or better OR Visiting University Student |
| BIO | 462 | Endocrine Physiology | Mechanisms of action of hormones; endocrine control of homeostasis, growth, stress responses, and reproduction. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 360 with C or better OR Visiting University Student |
| BIO | 465 | Neurophysiology | Detailed treatment of cellular and organismal neurophysiology and nervous system function. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 360 with C or better |
| BIO | 467 | Neurobiology | Introduces major areas of neurobiology, from fundamental cellular and molecular processes through systems neuroscience and neural bases of behavior. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 360 with C or better; Credit is allowed for only BIO 467 or BIO 476 or BIO 477 OR Visiting University Student |
| BIO | 471 | Ornithology | Biology of birds. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better OR BIO 281 with C or better; BIO 282 with C or better OR Visiting University Student |
| BIO | 472 | Mammalogy | Classification, structure, habits, ecology, and distribution of mammals, emphasizing North American forms. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better OR BIO 281 with C or better; BIO 282 with C or better |
| BIO | 474 | Herpetology | Classification, structure, habits, ecology and distribution of reptiles and amphibians, emphasizing North American forms. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better OR BIO 281 with C or better; BIO 282 with C or better OR Visiting University Student |

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| BIO | 475 | Advanced Human Anatomy | Continues study of the human body. Specifically, explores and differentiates anatomic concepts at an advanced level. Additional didactic assignments designed to facilitate critical evaluation of pathophysiological principles and common misconceptions of human physiology, as well as a capstone presentation project. Grades are determined by class exercises, presentations and a series of critical thinking exercises. | N | LEL | Y | GNA | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 201 with C or better; BIO 202 with C or better OR BIO 360 with C or better; Credit is allowed for only BIO 475 or BIO 494 (Advanced Study Practicum: Anatomy & Physiology) OR Visiting University Student |
| BIO | 476 | Cellular and Molecular Neuroscience | Explores the cellular and molecular neurobiology of the central nervous system across many levels (genetic, molecular, cellular and network) by examining the principles underlying the function of individual neurons and how these principles give rise to integrated neuronal networks. Emphasizes critical thinking and problem solving in all evaluation exercises, including daily class participation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 360 with C or better; Credit is allowed for only BIO 467 or BIO 476 OR Visiting University Student |
| BIO | 477 | Systems and Behavioral Neuroscience | Explores the functions of the nervous system across many levels (genetic, molecular, cellular and network) in regard to how neural systems produce behavior, and how problems (e.g., injury, disease) of the CNS arise and can be overcome. Examines principles underlying the function of individual neurons and how these principles give rise to integrated neuronal networks. Emphasizes critical thinking and problem solving in all evaluation exercises, including daily class participation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 476 with C or better; Credit is allowed for only BIO 467 or BIO 477 OR Visiting University Student |
| BIO | 480 | Methods of Teaching Biology | Methods of instruction, experimentation, organization, and presentation of appropriate content in biology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 181 with C or better; BIO 182 (or PLB 200) with C or better OR BIO 281 with C or better; BIO 282 with C or better |
| BIO | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | |
| BIO | 486 | Peer Mentoring in STEM | Advanced students learn and apply mentoring skills in science classes or teaching labs. | Y | SEM | Y | YGB | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ACO 486 or BIO 486 or LSC 486 or MAT 486 or PTX 486 or STP 486 OR Visiting University Student |
| BIO | 489 | School of Life Sciences Undergraduate Research Fellow | While performing undergraduate research at ASU, students gain exposure to contemporary issues in research excellence, mentoring skills, and professional development. Goals include: enriching individual lab research experiences of each student by bringing them together in a peer-community environment; introducing students to the resources they have at their disposal (e.g., on campus, online) to facilitate research productivity and career planning; rigorously evaluating their research processes and products, in light of their eventual professional plans. | N | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): School of Life Sciences major; minimum 3.50 GPA OR Visiting University Student |
| BIO | 490 | Surgical Field Placement | Advanced field placement for students exploring a career in a health profession. Requires classroom sessions and fieldwork. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 390 with C or better OR Visiting University Student |
| BIO | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| BIO | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| BIO | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| BIO | 495 | Undergraduate Research | Supervised research in biology/microbiology/molecular biosciences and biotechnology/or plant biology. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-3 | | Prerequisite(s): junior or senior standing OR Visiting University Student |
| BIO | 496 | Undergraduate Thesis | Guided research culminating in the preparation of an undergraduate thesis based on supervised research done in this and previous semesters. | N | RSC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): junior or senior standing; Credit is allowed for only BIO 496 or HPS 496 or MBB 496 or MIC 496 OR Visiting University Student |
| BIO | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-7 | | |
| BIO | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-3 | | |
| BIO | 500 | Research Methods | Course on research methods in a specific discipline. | Y | RSC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| BIO | 502 | Transmission Electron Microscopy | Theory, use, and methods of preparing biological materials for transmission electron microscopy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Pre/Co-requisites: BIO 504 |
| BIO | 503 | Bioimaging Lab | Provides a fundamental understanding of light-based microscopy through the training and use of instruments contained within the Biodesign Imaging Facility (part of the Advanced Light Microscopy Facility, ASU Biosciences Core). Examines the use and research applications of bright field, contrast, epi-fluorescent, total internal reflective fluorescence (TIRF), confocal and super-resolution microscopy modalities. Gives additional focus to image ethics, analysis and presentation using programs such as Elements and FIJI. During the second half of the semester, students propose and develop an experimental project based on their graduate research in which they collect data, do analysis and prepare results for a final project presentation. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 2 | | Pre- or corequisite(s): BIO 504 |
| BIO | 504 | Bioimaging | Lecture survey of modern techniques for imaging tissues, cells, and macromolecules, including light microscopy (e.g. video, fluorescence, confocal, multiphoton, single molecule), electron microscopy (e.g. transmission, scanning, cryogenic, tomographic) and ancillary techniques. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 506 | Clinical Gross Anatomy | Dissection of the human body with an emphasis on the application of anatomical knowledge to clinical applications. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 6 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASM 506 or BIO 506 |
| BIO | 507 | Advanced Evolutionary Medicine | Explores the application of the principles of evolution to the fields of medicine and public health and places disease in the context of changing environments, both exposures and the encompassing ecology of life in which an individual is imbedded. Focuses on the biological aspects of evolutionary theory through the use of molecular genetics; population genetics; and the use of evolutionary thinking and analysis with translational, clinical and public health intersections. A foundation in evolutionary medicine is useful for students with interests including but not limited to: premed, population genomics, maternal and child health, mental health, cancer, microbiome, aging, anthropology, biology, public health, global health and medicine. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking grad stdnt; Credit is allowed for only ASB 408 or ASB 494 (Evol Medicine) or ASB 507 or ASB 591(Evol Medicine) or BIO 408 or BIO 494 (Evol Medicine) or BIO 507 or BIO 591 (Evol Medicine) |
| BIO | 510 | Evolutionary Medicine and Global Health | Fundamentally, the practice of medicine is applied biology to improve human health and well-being and is embedded within population and global scales. Integrates the life and social sciences to tackle the current and emerging global health challenges of the 21st century with an evolutionary biology lens with current medical knowledge enhancing our understanding of health. Uses topics such as human-pathogen coevolution; development and aging; human migration; diseases (infectious, metabolic and autoimmune); and physiological and behavioral mechanisms of immunity to explore the broad arena of human health within a deep time and global context. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit for only ASM 403 or ASM 494(Evol Med & GIBI Hlth) or ASM 503 or ASM 598(Evol Med & GIBI Hlth) or BIO 403 or BIO 494(Evol Med & GIBI Hlth) or BIO 510 or BIO 598(Evol Med & GIBI Hlth) |
| BIO | 514 | Statistical Models for Biology | Fundamental concepts of statistics and how to apply a range of standard statistical tools to the analysis of biological data. Uses the software applications SPSS and R to carry out these tests, and how to identify the particular situations in which each test is appropriate. Topics include: basic probability, descriptive statistics, estimation, hypothesis testing, t-tests, analysis of variance, regression, correlation, chi-square analysis, randomization tests, and nonparametric statistics. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 415 or BIO 514 |
| BIO | 515 | Science, Technology and Public Affairs | Explores the political, economic, cultural, and moral foundations of science and technology policy and governance in democratic society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only BIO 515 or GLG 547 or HSD 515 or PAF 547 or SOS 516 |
| BIO | 516 | Foundations of Bioethics | Advanced introduction to the theoretical and normative foundations of the field of bioethics. | N | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| BIO | 517 | Uncertainty and Decision Making | Knowledge is always incomplete, yet decisions must be made. Explores uncertainty and its relation to decision making, with a particular focus on the ways that science and science-derived information is applied with the intent of improving decisions. Explores the many meanings and origins of uncertainty, using theoretical and case-based approaches. A central theme is the relation among uncertainty, scientific prediction, and decision making, especially in politically charged issues, for example as related to management of the environment. Ultimately understands how effective decisions can be made in the face of inevitable uncertainties and contested knowledge. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only ASB 517 or BIO 517 or BIO 591 (Uncertainty & Decision Making) or HSD 517 or POS 527 or SOS 518 |
| BIO | 518 | History of Biology | Covers themes such as the voyages of discovery, systematics, and classification; morphology and embryology; Darwin and evolutionary biology; the rise of genetics; molecular and organismal approaches of post-WWII biology; recent history of biology. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 518 or HPS 516 |
| BIO | 519 | Physiological Plant Ecology | Physiological and morphological responses and adaptations of plants to their environment, emphasizing mechanisms that influence carbon and water balance, growth, and population distributions | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only BIO 519, PLB 419 or PLB 519 |
| BIO | 521 | Landscape Ecology | Discusses how landscape heterogeneity interacts with ecological processes, and implications for biodiversity conservation, resource management, and landscape and urban planning. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only BIO 421 or BIO 521 or SOS 421 or SOS 521 |
| BIO | 522 | Populations: Evolutionary Ecology | Principles of population biology and community ecology within an evolutionary framework. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 522 or EVO 601 |
| BIO | 526 | Sustainability Science: Interactions Between Human and Environmental Systems | Addresses core ideas in sustainability science--an emerging field of research dealing with the interactions between human and environmental systems. The problem that motivates the course is the challenge of sustainability: improving the well-being of present and future generations in ways that conserve the planet's life support systems over the long term. Students critically discuss a set of presentations and papers covering the field in a systematic way, drawing on and integrating contemporary research from earth systems science, resource economics, institutional analysis, ecology, geography, development studies, health sciences, engineering, and other disciplines. Covers from the theory of sustainability to its multiple applications in the field and explores the impacts of different value systems on both theory and applications. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 526 or GCU 526 or SOS 526 or BIO 591 (Sust Sci: Int Btwn Hum &Env Sys) or GCU 591 (Sust Sci: Int Btwn Hum &Env Sys) or SOS 591 (Sust Sci: Int Btwn Hum &EnvSys) |
| BIO | 527 | Environmental Ethics and Policy Goals | Advanced seminar in applied environmental ethics, focusing on the most influential and policy-relevant approaches in the field of environmental ethics. Core topics include the historical and philosophical foundations of alternative understandings of environmental responsibility; the debate over utility and preservation in environmental policy argument; and the interplay of ethical principles, scientific knowledge and societal priorities in environmental decision making. Consideration of the ethical and value dimensions of biodiversity conservation, wilderness protection, environmental valuation, environmental activism, climate change and sustainability, among other challenges. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 527 or SOS 527 or BIO 591 (Environ Ethics & Policy Goals) |
| BIO | 528 | Human Impacts on Ecosystem Functioning | Explores our current understanding of how humans are impacting the functioning of ecosystems and how changes in ecosystems would affect provisioning of ecosystem services and ultimately human well-being. The two primary drivers of ecosystem change are growth of the human population and increased consumption per capita. These drivers affect the Earth's cycles of carbon, nitrogen and water, as well as regional and global-scale changes in biodiversity and climate. Includes an in-depth discussion of scenarios for the next 50 and 100 years, which articulate costs and benefits of alternative development pathways in terms of climate change, food production, clean water and biodiversity. Scenarios of change in biodiversity lead to the topic of the consequences of biodiversity change for the functioning of ecosystems from the point of view of their productivity and stability. Human activities have disrupted several biogeochemical cycles including nitrogen and carbon cycles. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): Degree- or Nondegree-seeking graduate; Credit is allowed for only BIO 429, BIO 528, SOS 429, SOS 528, or SOS 494/598 (Human Impacts on Ecosystem Functioning), or BIO 494/598 (Human Impacts on Ecosystem Functioning) |

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| BIO | 530 | Scientific Teaching | Guides graduate students to better understand issues related to undergraduate learning in science courses, and prepares students to become more effective teachers. Topics focus on emerging research that supports active and student-centered learning activities as well as methods that include the 5Es, concept-mapping, and "backward" design. Students reflect on their own teaching philosophy, and begin building an ePortfolio documenting and validating their ability to teach effectively. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only BIO 530 or 591 (Scientific Teaching) |
| BIO | 531 | Advanced Scientific Teaching | Further develops the teaching abilities of graduate students by applying knowledge into the more advanced teaching activities including large class sizes, diverse student populations, online delivery, and technology-integrated teaching. Students have more in-depth practice fully developing lesson plans, assessments and other teaching activities based on the concepts of evidence-based teaching. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only BIO 531 or BIO 594 (Advanced Scientific Teaching) |
| BIO | 532 | Recent Papers in Discipline-Based Education Research | Discipline-based education research is a newly emerging scholarly field that combines the knowledge of teaching and learning with the deep knowledge of discipline-specific science content. Currently, discipline-based education research is being used to transform the way we teach undergraduate science courses. Readings in recent papers in the field of discipline-based education research, spanning the disciplines of physics, chemistry, geosciences and biology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 533 | K-12 STEM Education and Outreach | Trains students to create, evaluate and implement K-12 science lessons for science clubs, classrooms and other outreach activities, such as those organized by the ASU Graduate Partners in Science Education. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 494 (K-12 Stem Education) or BIO 533 or BIO 598 (K-12 Stem Education) |
| BIO | 539 | Computing for Research | Works mainly with command-line programs, focusing on sequence-based analysis. An interactive flipped course, with required hands-on aspects both in class debugging and troubleshooting and for out-of-class assignments where students work on problem solving and implementation. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 439 or BIO 498 (Computing for Rsrch) or BIO 539 or BIO 598/EVO 598/MCB 598 (Computing for Rsrch) or EVO 539 or MCB 539 |
| BIO | 541 | SOLS Seminar Series | Explores cutting-edge research in the life sciences as presented by distinguished experts at Arizona State University and beyond, representing a diversity of concepts and perspectives. | N | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 542 | SOLS Current Topics in the Life Sciences | Explores current topics in the life sciences by discussing scientific experiments and results with peer scientists. Practices interpreting results and determining the significance of experimental findings, and gains experience with the culture of scientific discourse by giving short presentations, asking and answering questions. | N | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 543 | Molecular Genetics and Genomics | Advanced study of genetics, focusing on the molecular basis of inheritance and gene expression in eukaryotes and prokaryotes, and study of genomics, or the high-throughput analysis of the entire organism's genes and their function. Knowledge of general genetics recommended before registering for this course. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 544 | Discovering Biodiversity | Collecting natural history specimens is not only an expression of our human curiosity for the natural world. This activity forms the evidential basis of much that we understand about biodiversity, its evolutionary history, and what changes take place across ecological space and time. How do biodiversity scientists build up this knowledge? More precisely, how do we create specimen-based information that drives our understanding of past, present and future trends in biodiversity? This research-active course gives critical skills in documenting biodiversity "from the specimen up." Students learn about current methods in biodiversity documentation in the field and research collection, including concepts and practices needed to collect, process, digitize, publish and analyze high-quality biodiversity data through open, standard-compliant information environments. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 494 (Discovering Biodiversity) or BIO 544 or EVO 598 (Discovering Biodiversity) |
| BIO | 545 | Populations: Evolutionary Genetics | Mathematical models in the description and analysis of the genetics of populations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 546 | Principles of Human Genetics | Examines human molecular genetics from an evolutionary perspective, particularly analysis, current debates, the Human Genome Project, disease, ethics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only ASM 446, 546, BIO 446 or 546 |

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| BIO | 548 | Maternal and Child Health | Explores how genetics, nutrition, disease ecology, clinical access, legal systems, cultural practices and historical context contribute to maternal and child health. Draws from diverse fields including epidemiology, anthropology, biology, medicine, global health, public policy and sustainability to integrate a complex understanding of the myriad influences that shape maternal and child health and thereby affect our broader society. Evaluates the translation of basic science into clinical practice and public policy as well as the roles and partnerships among local, national and international organizations for improving human health worldwide. Provides up-to-date information about basic science, public policy and global health of maternal and child health to develop skills translatable in the workforce. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prereq(s): degree or non-degree seeking graduate student; Credit is allowed for only ASB 448 or ASB 494 (Matrnl & Child Hlth) or ASB 548 or ASB 598 (Matrnl & Child Hlth) or BIO 448 or BIO 494 (Matrnl & Child Hlth) or BIO 548 or BIO 598 (Matrnl & Child Hlth) |
| BIO | 549 | Phylogenetic Biology and Analysis | Basic theory and general concepts of phylogenetic inference as well as practical, hands-on experience with many of the commonly used methods for inferring and interpreting phylogenetic trees. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 551 | Cell Biotechnology | Fundamentals of creating and maintaining cell culture for the purpose of experimental design and analysis. Cell culture technique, cell behavior, cell signaling and regulation, histology, transgenic fluorescent protein expression, immunocytochemistry and various bioimaging techniques including live cell, epi-fluorescent and confocal microscopy. Working with established cancer-derived cell lines and primary neural disassociated cultures, students perform various experimental techniques for cell imaging preparation and acquisition. Focuses on image analysis and presentation using ImageJ. During the second half of the semester, students propose and develop an experimental project in which they collect data, do analysis and prepare the results for a final project presentation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 451 or BIO 551 or BIO 598 (Cell Biotechnology Laboratory) |
| BIO | 552 | Developmental Genetics | Genetic approaches to the analysis of development during the life cycle of eukaryotic organisms, and the role of genes in the unfolding of the differentiated phenotype. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 557 | Practical Applications in Computational Life Sciences | Working group to troubleshoot challenges in computational life sciences. | N | LEC | Y | OP2 | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 498 (Pract Apps in Comp. Life Sci) or BIO 557 or BIO 598 (Pract Apps in Comp. Life Sci) or EVO 557 or EVO 598 (Pract Apps in Comp. Life Sci) |
| BIO | 564 | Cellular Physiology and Signaling | Emphasizes the molecular basis for cell structure, function and intercellular signaling. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 568 | Stress and the Brain | Covers the fundamentals of stress and brain interactions. Presents a foundation from a historical perspective, then the basics of an organism's stress response, including the activation of the sympathetic nervous system and the hypothalamic-pituitary-adrenal axis. The stress response is highly conserved and allows organisms to respond and adapt to their environment. A highly effective and robust stress response facilitates adaptation and behavioral flexibility. However, a maladaptive stress response can produce detrimental outcomes. The ultimate goal is to understand the dynamic and reciprocal processes by which the stress response and brain interact to produce behavioral flexibility and resilience or detrimental outcomes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s) degree- or nondegree-seeking graduate student; Credit is allowed for either BIO 568 or PSY 568 |
| BIO | 570 | Fundamentals of CAS Science | Many phenomena of critical relevance to human society are dynamic systems that change over individual and evolutionary time scales, and are highly interactive, both within and between systems. That is, they are complex adaptive systems (CAS), and thus share isomorphic properties like near-decomposability, hierarchical organization, scale-free networks, self-organized criticality, and emergence. Fundamentals of CAS science explores the diverse, interdisciplinary applications of a complex adaptive systems across the social, behavioral, and life sciences. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASM 570 or BIO 570 or CAS 570 or SOS 570 |

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| BIO | 571 | Evolutionary Medicine Capstone | Provides a culminating experience in which students bring together the knowledge learned in prior courses in the program in a way that is meaningful and relevant to their professional goals. Focuses on projects that students carry out to demonstrate their ability to integrate the core concepts of evolutionary thinking and analysis; and places disease in the context of changing environments, exposures and the encompassing ecology of life in which an individual is embedded. Demonstrations weave perspectives from biology, anthropology, public health and medicine. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): Evolutionary Medicine graduate certificate student |
| BIO | 578 | Environmental Leadership and Communication | America remains inactive about the ramifications of critical societal challenges such as climate change, environmental hazards and living sustainably, and less than 2% of Congress has any professional background in science. Environmental issues are no longer local and solutions cannot remain provincial. Scientists must become envoys of knowledge that is global; science is now part of an unavoidable and contentious public discussion on these issues, and we need it to catalyze solutions. Increasingly, scientists who are communicators are moving into positions of leadership, engaging with society and changing their academic institutions from within. This seminar provides leadership training and important skills for early career scientists to communicate science. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 578 or BIO 591 (Environmental Leadership and Communication) |
| BIO | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 597 | Capstone | Provides a culminating experience for the MS Biology degree. Students bring together knowledge learned in prior courses in a way that is meaningful and relevant to their professional goals. Each student must summarize current knowledge on an important topic in the biological sciences, and demonstrate his or her ability to integrate core concepts of biological thinking. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 610 | Introduction to Responsible Conduct of Research (RCR) in Life Sciences | Introduces ethical and regulatory issues in the nine core areas of responsible conduct of research. Discusses real and hypothetical cases that tie broad ethical considerations to current concern of scientists. | N | REC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| BIO | 611 | Current Topics in Responsible Conduct of Research (RCR) in Life Sciences | Explores a single topic in the responsible conduct of research in depth. Topic changes depending on current issues in responsible conduct of research as well as the interests of the instructor and students. Possible topics include: responsible authorship; conflicts of interest; human subjects research; and misconduct, data management, and academic integrity. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 615 | Biology and Society Lab | This course brings together graduate students, postdocs, and faculty members in biology and society. Sessions include panel discussions of biology and society topics from multiple perspectives, student-led discussions of important literature, practice presentations of papers for national meetings, discussion of dissertation and thesis ideas, and other activities that help to forge an active intellectual lab group. | N | LAB | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 615 or HPS 615 |
| BIO | 620 | Research Prospectus Writing | Workshop-style course where students develop and peer review graduate-level project prospectuses, such as those for NSF grant proposals, journal articles, theses, and dissertations. Appropriate for graduate students in Biology and Society, History and Philosophy of Science, the life sciences, and related programs. | N | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only BIO or HPS 620 |
| BIO | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIS | 343 | Social Processes in Organizations | Examines social processes and human interactions within different organizational contexts and engages in experiential learning through team-based projects. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum junior standing or minimum 56 hours; Credit is allowed for only BIS 343 or OGL 343 OR Visiting University Student |
| BIS | 345 | Organizational Ethics | Explores and considers normative and applied ethics within a variety of organizations. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | HU | Prerequisite(s): minimum 45 hours; Credit is allowed for only BIS 345 or OGL 345 OR Visiting University Student |
| BIS | 350 | Diversity and Organizations | Students engage in a critical analysis of individual, cultural and organizational diversity. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 56 hours. Credit is allowed for only BIS 350 or OGL 350 OR Visiting University Student |
| BIS | 353 | Interdisciplinary Leadership | Offers interdisciplinary perspectives on the theory and practice of leadership in a range of organizational environments | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum junior standing |
| BIS | 357 | Assessment in Organizations | Considers the role and function of assessment in effective organizations. Provides the knowledge and tools required to identify, collect and analyze information to assess organizations. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum junior standing or minimum 56 hours; Credit is allowed for only BIS 357 or OGL 357 OR Visiting University Student |
| BLE | 220 | Foundations of Structured English Immersion | Examines current educational practices and historical legal issues. Prepares teacher candidates with a provisional Structured English Immersion endorsement. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | L | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; ENG 101, 105, or 107 with C or better; Credit is allowed for only BLE 220 or BLE 408 or ELL 515 |

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| BLE | 221 | Theories for Acquiring and Learning Languages | Languages are tools people use and learn to use for a variety of purposes. While nearly all people naturally acquire at least one language in their lifetime, the construct of bilingualism or multilingualism can occur as either an elective or a forced process. The context or the decision that leads to second or multiple language learning can have profound effects on the way and the extent to which those languages are learned. Examines the variables affecting both language acquisition and language learning as well as some methods to better facilitate these processes. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): non-Teacher Preparation student |
| BLE | 322 | Reading Methods in BLE/ESL Settings | Instructional/assessment strategies, including systematic, research-based phonics, vocabulary, comprehension, spelling, writing, phonemic writing in Spanish/English. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| BLE | 324 | Social Studies for Diverse Language Classrooms | Social studies education standards, curriculum, and instructional strategies for English language learners. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |
| BLE | 335 | Language Diversity in Classrooms | Issues in sociolinguistics and language variation in schools with a focus on classroom interaction, instruction, curriculum, assessment, and language policy. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | SB | Prerequisite(s): admission to the Professional Program |
| BLE | 336 | Culturally Sustaining and Transformative Pedagogies | Prospective educators examine culturally sustaining and transformative pedagogies (CSTP). Use of CSTP frames their reflection on educator positionality, attunement to cultural and community knowledge resources in field experiences, and development of their own teacher praxis plans oriented toward CSTP. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |
| BLE | 338 | Foundations of Second Language Acquisition and Development | Introduces educators to theoretical and critical perspectives related to the nature of language, language variation and language acquisition among second language learners and bi/multilinguals, with considerations for bilingualism and biliteracy development, instruction and assessment in various K-12 education settings. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | L | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; ENG 101, 105, or 107 with C or better; minimum 30 hours |
| BLE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| BLE | 396 | Clinical Experience I | Applies course content in BLE/ESL elementary education classrooms grades 1-8: emphasizes observation, pupil management, planning and delivery of instruction, and assessment. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-2 | | Prerequisite(s): admission to the Professional Program |
| BLE | 397 | Clinical Experience II | Applies course content in BLE/ESL elementary education classrooms grades 1-8: emphasizes observation, pupil management, planning and delivery of instruction, and assessment. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-2 | | Prerequisite(s): admission to the Professional Program |
| BLE | 400 | Principles of Language Minority Education | Overview of philosophical and theoretical foundations of bilingual education and ESL models of instruction. Other topics include significant legislative and judicial measures. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |
| BLE | 404 | Instructional Design for Culturally and Linguistically Diverse Students | Provides a foundation in instructional design to meet the academic and linguistic needs of culturally and linguistically diverse students, with a focus on English language learners. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours; Credit is allowed for only BLE 404 or ELL 504 or SPE 404 |
| BLE | 407 | SEI for Secondary Students | Examines foundations, assessment, English language learner proficiency standards, and strategies (including SEI) for the 7-12 classroom. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | L | Prerequisite(s): admission to the Professional Program; ENG 101, 105, or 107 with C or better |
| BLE | 408 | Structured English Immersion (SEI) Methods | Examines current educational practices and historical legal issues. Prepares teacher candidates with a provisional Structured English Immersion endorsement. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | L | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; ENG 101, 105, or 107 with C or better; minimum 39 hours; Credit is allowed for only BLE 220 or BLE 408 or ELL 515 |
| BLE | 411 | Science Curriculum, Instruction and Assessment in BLE/ESL Settings | Methods, management strategies, and assessment procedures for teaching science to BLE/ESL students in elementary schools. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| BLE | 412 | Mathematics Curriculum, Instruction and Assessment in BLE/ESL Settings | Teaching, management, and assessment of mathematics in K-8 BLE/ESL settings. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| BLE | 413 | Language Arts in BLE/ESL Settings | Literacy and language arts instruction; assessment of reading and writing; transition literacy skills, particularly critical reading of content. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |

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| BLE | 436 | Equitable Practices in Diverse Classrooms | Provides theoretical lenses to analyze the culture of schools and classrooms and equips future educators to recognize the hidden curriculum in classroom organization, student regulation and disciplinary actions, discourse, relationships, pedagogical choices, and other environmental and curricular factors that perpetuate inequities. Explores tools and approaches to transform the educational context and to advocate for just and equitable learning experiences for historically marginalized youth. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum junior standing OR Visiting University Student |
| BLE | 478 | Student Teaching: BLE/ESL Elementary Schools 1-8 | Student teaching in BLE/ESL elementary education classrooms grades 1-8: synthesized experience in curriculum, instruction, assessment and classroom management. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3-15 | | Prerequisite(s): admission to the Professional Program |
| BLE | 481 | Reading Practicum | Applies concepts from BLE 414. Supervised school-based experiences in teaching reading to BLE/ESL students. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |
| BLE | 511 | Introduction to Language Minority Education | Historical, philosophical, theoretical, and pedagogical foundations of language minority education in the United States. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| BLE | 520 | ESL for Children | Examines approaches to second-language development for children congruent with recent research in second-language acquisition in children. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| BLE | 522 | Bi/Multilingual Acquisition and Development | Introduces educators to theory and research related to the acquisition and development of languages among second language learners, and bi/multilinguals, with considerations to language and bi/literacy development and instruction in formal schooling contexts and other learning environments. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or post-baccalaureate undergraduate student |
| BLE | 529 | Language Assessment and Evaluation of ESL/BLE Students | Assessment and evaluation of linguistic minorities; test theory, score interpretation; culturally responsive assessment; assessment of language and school achievement. | N | SEM | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BLE | 531 | Linguistically and Culturally Sustaining Pedagogy | Examines asset-based approaches to educating multilingual learners that acknowledge and sustain home culture and identity (including approaches to assessment, instruction, theories of learning and development and advocacy). | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Education (Educ Multiling Learners) MA or Educ Multiling Learners Certificate stdnt; BLE 534; BLE 536; BLE 537 OR non-Edu (Educ Multiling Learners) MA and non-Educ Multiling Learners Cert degree- or nondegree-seeking grad stdnt |
| BLE | 534 | Language, Policy and Power: Past and Present | Examines theories, concepts and findings in language policy and planning for educating multilingual learners locally, nationally and globally. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BLE | 535 | Sociolinguistic Issues in Bilingual Education | Surveys major theoretical issues (e.g., language situations, communicative competence, language attitudes) interrelating language, social processes, and bilingual education. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| BLE | 536 | Education for Social Transformation | Theoretical and practical issues concerning education for social transformation. Recognizes features, reflections, affordances and challenges to transforming education through interactions and exchanges. Also considers assessment frameworks to assist educating multilingual learners. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BLE | 537 | Linguistics for Educators | Main theories and approaches within linguistics and their application to language learners in educational contexts. Areas include phonetics, phonology, morphology, syntax and translanguaging. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BLE 537 or LIN 510 |
| BLE | 538 | Methods for Educating Multilingual Learners | Applied methods and pedagogies for educating multilingual learners. Includes pedagogies supported by second language acquisition (including multilingual perspectives); multiliteracies; and bilingualism including heteroglossic bilingual instructional practices, translanguaging practices, critical multilingual awareness and complex language/literacy use. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BLE | 561 | Parent Involvement in Language Minority Education Programs | Examines issues, approaches, and strategies for improving parental and community involvement in the schooling of language minority children and youth. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| BLE | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate student; minimum 9 hours in English as a Second Language MA program |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|----------------------------------|---|-------|-----------------|--|
| BLE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| BLE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| BLE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| BLE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| BLE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| BLE | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| BLE | 597 | Capstone | Reflective, experience-based integration of theory and practice; professional development for individuals working with English language learners. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): MA English as a Second Language major |
| BLE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| BMD | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMD | 501 | Introduction to Biomedical Informatics | Overview of the field of biomedical informatics for use of computers and information in healthcare and the biomedical sciences. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Degree- or Nondegree-seeking graduate. Credit is allowed for only BMD 501 or BMI 501 |
| BMD | 502 | Foundations of Biomedical Informatics Methods I | Surveys methods and theories underlying the field of biomedical informatics. Explores techniques in mathematics, logic, decision science, computer science, engineering, cognitive science, management science and epidemiology, and demonstrates the application to health care and biomedicine. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BMD 502 or BMI 502 |
| BMD | 507 | Introduction to Digital Image Processing and Analysis | Core course with four sections for students seeking to concentrate in biomedical imaging informatics. The first section analyzes the concepts and terms of image processing and analysis. The second section evaluates key algorithms in image processing (e.g., image filtering, Fourier transform, image restoration). The third section examines advanced image analysis methods (e.g., image segmentation, mathematical morphology, image topology, shapes and boundaries, color processing, image coding and compression, wavelet, and special effects). The fourth section develops the practical applications of image processing and analysis in medicine and biology. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BMD 507 or BME 507 or BMI 507 or CEN 507 or CSE 507 |
| BMD | 510 | Current Perspectives in Biomedical Diagnostics | Seminar course using external speakers who review the current state of the biomedical diagnostics industry in terms of technology, regulation or legal issues. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Biomedical Diagnostics MS student; BMD 502 or BMI 502; BMD 511; BMD 513; BMD 514; BMD 667; minimum 3.00 GPA |
| BMD | 511 | Health Economics, Policy, and Payment Models | Economics provides a framework to understand and predict human decision making under scarcity, uncertainty and imperfect information. Examines concepts central to health care economics and their application to important decisions made by patients, families, practitioners, administrators and policy makers. Uses an individual family's scenario through a progressive case study to evaluate how incentives and information affect the health and health care of each family member. Each meeting integrates basic economic principles, existing facts and knowledge from economic research, and individual perspectives and experience regarding how these concepts apply to health care policy. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Degree- or Nondegree-seeking graduate; Credit is allowed for only BMD 511 or HCD 511 |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|-----------------------------------|-------|-----------------|---|
| BMD | 513 | Principles of Diagnostic Technology: Immunoassays | Provides a detailed understanding of the theory and applications of advanced diagnostic assay systems and devices. Students gain knowledge in immunoassay design and validation with particular attention to the manipulation of the immune system for disease recognition. This module assumes no former knowledge of immunoassays, but some knowledge would be advantageous. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BMD 513 or BMD 598 (Principles of Diagnostic Technology 2: Immunology) |
| BMD | 514 | Principles of Diagnostic Technology: Molecular Diagnostics | Survey course covering topics such as multiple types of analytes including DNA, RNA and protein; a multitude of disease application areas; major molecular diagnostic platforms; development of molecular diagnostics tests; sample preparation; and future prospects for molecular diagnostics. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree or nondegree-seeking graduate student; Credit is allowed for only BMD 514 or BMD 598 (Molecular Diagnostics) |
| BMD | 550 | Translational Bioinformatics | Provides an introduction to bioinformatics methods and applications used in the field of translational medical research. Topics include bioinformatics data acquisition and management, analysis methodologies, and applications. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BMD 550 or BMI 550 |
| BMD | 562 | Bioethical Issues in Applied Biomedicine | Examines bioethical challenges in real-world health care settings, including emerging health advancements, technological innovations, an ever-changing social and cultural landscape, and increased attention to deeply challenging and personal decisions. Analyzes contextual history of bioethics and applies theory to modern-day ethical dilemmas. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMD | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMD | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMD | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMD | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMD | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): BMD 502 or BMI 502; BMD 511; BMD 513; BMD 514; BMD 667; minimum 3.00 GPA |
| BMD | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): Biomedical Diagnostics MS student; BMD 502 or BMI 502; BMD 511; BMD 513; BMD 514; BMD 667; minimum 3.00 GPA |
| BMD | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMD | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMD | 617 | Genetics and the Law | Provides background on genetics and recent genetic advances; addresses the legal consequences and issues associated with such advances. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2-3 | | Prerequisite(s): College of Law student or College of Health Solutions graduate student; Credit is allowed for only BMD 617 or LAW 617 |
| BMD | 667 | Regulation of Medical Diagnostics | Examines the regulation of drugs, medical devices, and biologics (e.g. vaccines) by the Food and Drug Administration. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate |
| BMD | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 100 | Introduction to Biomedical Engineering | Introduces engineering design methods, experimental practices, data gathering, presentation and statistical analysis. Lecture/labs focus on device design and application, including hands-on experience. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): Biomedical Engineering BSE major OR Visiting University Student |
| BME | 111 | Engineering Perspectives on Biological Systems | Biological concepts for the emerging engineer. Introduces biological and earth systems engineering, materials, structures, fluid mechanics, bioelectricity, and the dynamic, nonlinear nature of nature. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): Engineering undergraduate student OR Visiting University Student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|-----------------------------------|-------|-----------------|--|
| BME | 121 | Programming in Biomedical Engineering | Introduces computer programming in the context of scientific and engineering problem solving. Topics include loops, functions, pointers, data structures, and algorithms in the context of a biomedical problem. Culminates in an introduction to object-oriented programming, with a look at modern wireless (iPad and iPhone) devices for biomedical applications. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1 | | Prerequisite(s): Biomedical Engineering BSE major; Pre- or corequisite(s): MAT 265 or 270 OR Visiting University Student |
| BME | 122 | Statistics for Biomedical Engineers | Introduces statistics tests in the context of common biomedical experiments. Students perform basic linear regression and correlation analyses, experiment using power analysis, generate descriptive statistics, and perform statistical tests using statistical software. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 2 | | Prerequisite(s): Biomedical Engineering BSE major; Pre- or corequisite(s): MAT 265 or 270 with C or better if completed OR Visiting University Student |
| BME | 182 | Biomedical Engineering Product Design and Development I | Continuation of hands-on training and implementation of medical device product design and development skills; FDA-regulated U.S. and global medical device healthcare markets and opportunities, business development in regulated environments, medical product and project management planning, exempt and Class I medical devices, medical product component and device levels, identification and selection of customer needs, translation of customer needs, product specification development, virtual and physical prototypes, prototype product specification verification, product design and development process documentation, FDA regulatory best-industry practices. | N | LAB | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1 | | Prerequisite(s): Biomedical Engineering BSE major; Pre- or corequisite(s): ENG 101, 105, or 107 with C or better if completed OR Visiting University Student |
| BME | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-4 | | |
| BME | 200 | Conservation Principles in Biomedical Engineering | Applies bioengineering analysis and problem solving of mass, energy, and charge balances to medical and biological systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s) with C or better: Biomedical Engineering BSE major; BIO 181; CHM 114 or 116; PHY 121; Pre- or corequisite(s) with C or better if completed: BME 210 or MAE 215; MAT 274 or 275 OR Visiting University Student |
| BME | 210 | Programming for Biomedical Engineers: Introduction to Computers, Programming and Data | Computers are ubiquitous tools in all engineering disciplines. Biomedical engineering pushes the limits of computational power in all applications--from small computers embedded in medical devices to large computer clusters used in research projects. Understanding the fundamental operation of computers, and how to efficiently and effectively program them, are critical knowledge and skills for biomedical engineers. Covers the fundamentals of computer architecture and operation, and how to program them. Utilizes the MATLAB and Python programming languages and prepares students for applying these languages for problem solving in upper-level biomedical engineering classes. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | CS | Prerequisite(s): MAT 265 or 270 with C or better; Pre- or corequisite(s): MAT 266 or 271 with C or better if completed OR Visiting University Student |
| BME | 211 | MATLAB & Mathcad in Biomedical Engineering | Introduces the basics of MATLAB and Mathcad programming in the context of biomedical engineering conservation of mass problem solving. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1 | | Prerequisite(s): Biomedical Engineering BSE major; CHM 114, 116 or 118 w/ C or better; BIO 181 w/ C or better; Pre- or corequisite(s): PHY 131 or 151 w/ C or better if completed; MAT 274 or 275 w/ C or better if completed OR Visiting University Student |
| BME | 213 | Biomedical and Bioengineering Ethics | Explores ethical issues in biomedical and medical sciences and engineering practices and includes professional ethics, medical ethics, engineering ethics and the Biomedical Engineering Society (BMES) Code of Ethics, the ethics of human and animal tissue and subjects use in biomedical science and engineering research, responsible conduct for research, ethical issues in the design and manufacture of medical devices for developing and developed countries, and the impact of biomedical engineering solutions on society and the environment. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1 | | Prerequisite(s): Biomedical Engineering BSE major OR Visiting University Student |
| BME | 214 | FDA Regulatory Processes and Technical Communications | Develops writing skills to factually and effectively communicate all facets of biomedical product design and development activities that are required to successfully conceive, develop, and launch a medical device into the market place using the FDA quality systems best practices that are utilized by the health care technology industry. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1 | | Prerequisite(s): Biomedical Engineering BSE major; Pre- or corequisite(s): ENG 102, 105, or 108 with C or better if completed OR Visiting University Student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|-----------------------------------|-------|-----------------|--|
| BME | 235 | Physiology for Engineers | Physiology of the nervous, muscular, cardiovascular, endocrine, renal, and respiratory systems. Emphasizes use of quantitative methods in understanding physiological systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 4 | | Prerequisite(s) with C or better: Biomedical Engineering BSE major; BIO 181; CHM 114 or 116; Pre- or corequisite(s) with C or better if completed: BME 210 or CSE 110; PHY 121; PHY 122 OR Visiting University Student |
| BME | 282 | Biomedical Engineering Product Design and Development II | Hands-on training and implementation of product design skills that combine virtual analytical model prototype development with component and sub-assembly integration to develop both virtual and physical prototypes of a medical device product at the product architecture level and verify selected product architecture specifications from design input and earlier design process verification steps. | N | LAB | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1 | | Prerequisite(s): Biomedical Engineering BSE major OR Visiting University Student |
| BME | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-4 | | |
| BME | 300 | Bioengineering Product Design | The fundamentals of financial and organizational structure of business and how it influences bioengineering analysis, design, and decision making; biomedical ethics and device and drug regulation; and fundamentals of business and technical management. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): Biomedical Engineering BSE major; BME 100 or FSE 100 with C or better; ENG 102, 105, or 108 with C or better; minimum junior standing; Pre- or corequisite(s): BME 213 with C or better if completed OR Visiting University Student |
| BME | 301 | Numerical Methods in Biomedical Engineering | Applications of numerical methods to biomedical engineering problems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 2 | | Prerequisite(s): Biomedical Engineering BSE major; MAT 274 or 275 with C or better OR Visiting University Student |
| BME | 316 | Biomechanics for Biomedical Engineers | Biomechanics provides conceptual and mathematical tools that are necessary for understanding how living things move. Focuses on human biomechanics with an emphasis on the musculoskeletal system. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): Biomedical Engineering BSE major; PHY 121 with C or better; PHY 122 with C or better; Pre- or corequisite(s): BME 235 or BIO 202 with C or better if completed OR Visiting University Student |
| BME | 318 | Biomaterials | Material properties of natural and artificial biomaterials. Tissue and blood biocompatibility. Uses of materials to replace body parts. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 4 | | Prerequisite(s): Biomedical Engineering BSE major; BIO 181 with C or better; BIO 202 or BME 235 with C or better; CHM 114 or 116 with C or better; MAT 274 or 275 with C or better OR Visiting University Student |
| BME | 322 | Statistics for Biomedical Engineering | Introduces parametric and nonparametric statistics tests in the context of common biomedical experiments. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1 | | Prerequisite(s): Biomedical Engineering BSE major; MAT 274 or 275 with C or better OR Visiting University Student |
| BME | 331 | Transport Phenomena for Biomedical Engineering | Transport phenomena with emphasis on momentum, energy, and mass transport in living systems, medical devices, and other therapeutic/diagnostic applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): Biomedical Engineering BSE major; BME 200 with C or better; MAT 274 or 275 with C or better; PHY 121 with C or better OR Visiting University Student |
| BME | 340 | Thermodynamics for Biomedical Engineers | Thermodynamics is a branch of science dealing with processes (chemical or mechanical) and the subsequent energy and mass transfers. Studies whether a process is favorable (possible) or unfavorable (impossible) while assessing energy and mass transfer within each specific stage of the process. The operation of living systems is heavily based on the use of chemical reactions and or mechanical processes such as beating of the heart, biochemical reactions of a drug in liver, phase equilibria. Covers the fundamental principles and laws of thermodynamics. Helps students think thoroughly about the applications of thermodynamics in biological sciences and bioengineering with the main emphasis on basic concepts and problem-solving skills. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): Biomedical Engineering BSE major; BME 200 with C or better; Pre- or corequisite(s): MAT 267 or 272 with C or better if completed OR Visiting University Student |
| BME | 350 | Signals and Systems for Bioengineers | Applies principles of calculus and ordinary differential equations to analysis and computer processing of biosignals and linear modeling of biosystems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): Biomedical Engineering BSE major; MAT 274 or 275 with C or better; Pre- or corequisite(s): EEE 202 with C or better if completed OR Visiting University Student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|-----------------------------------|-------|-----------------|--|
| BME | 360 | Control in Biological Systems | Illustrates the basic principles of control through examples from evolved and synthetic biological systems. Surveying topics including feedback and feedforward control mechanisms, insulation of circuits via modularity, and discovering optimal intervention strategies. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): Biomedical Engineering BSE major; EEE 202 with C or better; MAT 275 with C or better; Pre- or corequisite(s): BIO 353 with C or better if completed; BME 362 with C or better if completed OR Visiting University Student |
| BME | 362 | Methods in Molecular and Cellular Biology | Gives junior-level undergraduate students hands-on experience on the methods used in molecular and cellular biology lab, especially methods to engineer or analyze DNA and protein. | N | LAB | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1 | | Prerequisite(s): Biomedical Engineering BSE major; Pre- or corequisite(s): BIO 353 with C or better if completed OR Visiting University Student |
| BME | 370 | Microcomputer Applications in Biomedical Engineering | Uses microcomputers for real-time data collection, analysis, and control of experiments involving actual and simulated physiological systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): Biomedical Engineering major; EEE 202 with C or better; BME 350 with C or better |
| BME | 382 | Biomedical Engineering Product Design and Development III | Continuation of hands-on training and implementation of medical device product design and development skills; experimental practices, data gathering, presentation, and statistical analysis in regards to demonstration of validation and verification tools and testing, identification and selection of customer needs, translation of customer needs, product specification development, virtual and physical prototypes, prototype product specification verification, product design and development process documentation, FDA regulatory best industry practices. | N | LAB | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1 | | Prerequisite(s): Biomedical Engineering BSE major; BME 182 with C or better; BME 282 with C or better OR Visiting University Student |
| BME | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-4 | | |
| BME | 413 | Biomedical Instrumentation | Principles of medical instrumentation. Studies of medical diagnostic instruments and techniques for the measurement of physiologic variables in living systems. Both BME 413 and BME 423 need to be taken together to secure L General Studies credit. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | L | Prerequisite(s): Biomedical Engineering BSE major; BIO 202 or BME 235 with C or better; BME 350 with C or better; ENG 101, 105, or 107 with C or better; Corequisite(s): BME 423 OR Visiting University Student |
| BME | 416 | Advanced Biomechanics | Mechanical properties of bone, muscle, and soft tissue. Static and dynamic analysis of human movement tasks such as locomotion. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): Biomedical Engineering major; BME 316 with C or better |
| BME | 417 | Biomedical Engineering Capstone Design I | Technical, regulatory, economic, legal, social, and ethical aspects of medical device systems engineering design. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 4 | L | Prerequisite(s) with C or better: Biomedical Engineering BSE major; BME 122, STP 226 or STP 231; BME 300; BME 301; BME 316; BME 318; BME 331; 2 courses from the following: BIO 353, BME 350, BME 360 or BME 370; ENG 101, 105 or 107 |
| BME | 423 | Biomedical Instrumentation Laboratory | Lab experience with problems, concepts, and techniques of biomedical instrumentation in static and dynamic environments. Both BME 413 and BME 423 need to be taken together to secure L General Studies credit. | N | LAB | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1 | L | Prerequisite(s): Biomedical Engineering BSE major; ENG 101, 105, or 107 with C or better; Corequisite(s): BME 413 OR Visiting University Student |
| BME | 434 | Applications of Bioengineering Transport Phenomena | Develops mathematical models of transport phenomena in physiological systems, medical devices, and pharmacokinetic analysis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; BME 331 with C or better |
| BME | 465 | Magnetic Resonance Imaging | Provides a foundation in the fundamental concepts of magnetic resonance imaging and some applications to measure physiological processes and changes with respect to disease. Incorporates real-time demos using a bench-top MRI system. Several local MR experts present guest lectures on specialized topics. Requires a working knowledge of the fundamentals of signal analysis and Fourier transform theory and linear algebra to be successful in this course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): BME 350 or EEE 304; Credit is allowed for only BME 465 or BME 565 OR Visiting University Student |
| BME | 467 | Tissue Engineering and Regenerative Medicine | Covers the fundamentals of engineering and developmental biology concepts relevant to tissue engineering and regenerative medicine (TERM). Topics covered range from basic cell biology principles to nutrient exchange parameters to cell material interactions that inform engineering design of regenerative strategies. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s) with C or better: Biomedical Engineering BSE major; BIO 353; BME 318; BME 331; MAT 275; Credit is allowed for only BME 467 or BME 567 OR Visiting University Student |
| BME | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-12 | | |
| BME | 490 | Biomedical Engineering Capstone Design II | Individual projects in medical systems or medical device design and development. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 4 | L | Prerequisite(s): Biomedical Engineering BSE major; BME 417 with C or better; ENG 101, 105, or 107 with C or better |

| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|-----------------------------------|-------|-----------------|---|
| BME | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-6 | | Prerequisite(s): Barrett Honors student |
| BME | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| BME | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-4 | | |
| BME | 507 | Introduction to Digital Image Processing and Analysis | Core course with four sections for students seeking to concentrate in biomedical imaging informatics. The first section analyzes the concepts and terms of image processing and analysis. The second section evaluates key algorithms in image processing (e.g., image filtering, Fourier transform, image restoration). The third section examines advanced image analysis methods (e.g., image segmentation, mathematical morphology, image topology, shapes and boundaries, color processing, image coding and compression, wavelet, and special effects). The fourth section develops the practical applications of image processing and analysis in medicine and biology. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BMD 507 or BME 507 or BMI 507 or CEN 507 or CSE 507 |
| BME | 521 | Advanced Motor Neuroscience for Engineers | Overview of sensorimotor brain structures. Application of nonlinear, adaptive, optimal, and supervisory control theory to eye-head-hand coordination and locomotion. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 525 | Surgical Techniques | Principles of surgical techniques, standard operative procedures, federal regulations, guidelines, and state-of-the-art methods. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 2 | | Pre-requisites: Graduate Engineering students only |
| BME | 526 | Introduction to Neural Engineering | Introduces the field of neural engineering. Neural engineering, as with all engineering fields, can be thought of as applied scientific understanding, in this case, applied neuroscience. Covers aspects of neurophysiology, neuroanatomy, neurosurgery, biophysics, electronics and signal processing; integrates these knowledge areas into neural engineering applications. Covers an entire process for conducting research in neural engineering: surgical implantation of electrodes, data acquisition, processing neural signals, decoding neural data, and controlling prosthetic devices. Provides foundation for working with neural engineering applications and conducting research in neural engineering. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only BME 526 or BME 598 (Intro to Neural Engineering) |
| BME | 527 | Biomedical Device Design | Basic phenomena behind various types of biomedical devices which measure indicators using optical, thermal and other modalities. Provides an introductory coverage of the theory and history of these devices and includes some hands-on activities to use, reverse engineer and analyze data gathered from in-class activities with currently existing devices. Uses Matlab to perform most of the analysis. Preliminarily exposes students to principles of device design and testing with consideration to FDA regulations and requirements. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): graduate Biomedical Engineering student; Credit is allowed for only BME 527 or BME 598 (Biomedical Device Design) |
| BME | 556 | Human Systems Neuroscience | Systems-level neuroscience course focusing on human diseases. Classes involve lectures and/or other activities such as observations of clinical procedures and tours of clinical facilities (e.g., the neurosurgical suite, imaging facilities). | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 4 | | Prerequisite(s): BME PhD student or Neuroscience PhD student; Credit is allowed for only BIO 598 (Human Sys Neuroscience) or BME 556 or NEU 556 |
| BME | 561 | Clinical Neuroscience | Fundamental mechanisms that underlie diseases and disorders of the central and peripheral nervous systems. Introduces assessment and pharmacological, surgical and rehabilitative management of nervous systems disorders. Prior knowledge of neural systems is helpful. Identifies the mechanisms by which key disease and trauma states impact neural systems and how clinicians identify the locus and type of damage based on clinical and imaging criteria. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 564 | Cyber Biomedical Systems | Engineering principles involved in the modeling, design and analysis of hybrid systems that involve computers controlling and interacting with biomedical systems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BME 564 or BME 598 (Cyber Biomedical Systems) |
| BME | 565 | Magnetic Resonance Imaging | Provides a foundation in the fundamental concepts of magnetic resonance imaging and some applications to measure physiological processes and changes with respect to disease. Incorporates real-time demos using a bench-top MRI system. Several local MR experts present guest lectures on specialized topics. Requires a working knowledge of the fundamentals of signal analysis and Fourier transform theory and linear algebra to be successful in this course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): Engineering graduate student, Chemistry MS or PhD student, or Physics MS or PhD student; Credit is allowed for only BME 465 or BME 565 |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|-----------------------------------|-------|-----------------|---|
| BME | 566 | Medical Imaging Instrumentation | Design and analysis of imaging systems and nuclear devices for medical diagnosis, therapy and research. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 567 | Tissue Engineering and Regenerative Medicine | Covers the fundamentals of engineering and developmental biology concepts relevant to tissue engineering and regenerative medicine (TERM). Topics covered range from basic cell biology principles to nutrient exchange parameters to cell material interactions that inform engineering design of regenerative strategies. Prior knowledge of high-level engineering mathematics (up to differential equations), engineering transport concepts (particularly mass transfer), and biology is expected. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): Biomedical Engineering graduate student; Credit is allowed for only BME 467 or BME 567 |
| BME | 568 | Human Factors and System Design in Assistive Technologies | The field of human factors engineering as it relates to the design, development and use of assistive technology for individuals with sensory, motor and cognitive disabilities. Includes lectures, guest lectures, hands-on demonstrations and class discussions of relevant and current topics related to human-centered design of assistive technology. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): BME graduate student; Credit is allowed for only BME 568 or BME 598 (IGERT: Human Factors) |
| BME | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-4 | | Prerequisite(s): Bioengineering graduate student |
| BME | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-12 | | Prerequisite(s): Biomedical Engineering PhD student |
| BME | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|-----------------------------------|-------|-----------------|---|
| BME | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 101 | Introduction to Bioinformatics | Introduces existing and future applications of biomedical informatics. Overview of history and present state of the field. Introduces topics in translational bioinformatics, such as sequence alignment, the Human Genome Project, gene expression analysis, genome-wide association studies, next-generation sequencing. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |
| BMI | 102 | Introduction to Population Health Informatics | Applies information and computer science and technology to public health practice, research, policy and decision support. This new scientific area focuses on the capture, management and use of electronic public health data. Introduces the field of population health informatics and the current systems that are used for population health decision making. This is not a programming course or a mathematics course. While these backgrounds are prominent in the field, this course provides the history and context of the field and enables students to develop their own population health informatics system using techniques of their choice. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |
| BMI | 110 | Introduction to Python | First in a series of courses on using the Python programming language to solve biomedical problems. Introduces Python as a language for object-oriented programming and for scripting tasks. Basic concepts and techniques of computation, data structure and software development. Examples focus on healthcare-related applications. Includes a broad knowledge of computation, Python programming, standard libraries, and commonly used techniques in data manipulation. Students develop a Python program to address a biomedical challenge in a term project. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only BMI 110 or BMI 294 (Introduction to Python) |
| BMI | 201 | Introduction to Clinical Informatics | Introduces existing and future applications of biomedical informatics. Overview of history and present state of the field. Provides an introduction to biomedical informatics techniques and applications used in clinical environments. Includes searching and organizing free text information, decision analysis techniques and clinical decision support systems, and clinical applications including physician order entry used in electronic medical records. Also covers challenges in clinical informatics, including sociotechnical and cognitive issues in implementation and use. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | |
| BMI | 210 | Data Structures and Algorithms in Python | Introduces concepts of data structures and algorithms (such as recursion, sorting, arrays, trees and dictionaries) and designing and implementation of Python code to efficiently resolve problems in biomedical research, healthcare and population health. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BMI 110 OR Visiting University Student |
| BMI | 211 | Modeling Biomedical Decisions | First semester of a three-semester course sequence surveying the methods and theories underlying the field of biomedical informatics. Explores models of medical decision making, including classical decision theory, Bayesian, and cognitive models. Also includes a component discussing evaluation methods in biomedical informatics. | N | PRA | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |
| BMI | 221 | Knowledge Representation for Biomedical Informatics | Introduces topics in knowledge representation and modeling, including frame-based systems, logic-based systems, rule-based systems, inference, and reasoning. Overview of history and present state of the field. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |
| BMI | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| BMI | 310 | App Development for Clinical and Population Health | Covers core object-oriented language concepts. Enables learners to successfully apply object-oriented programming language features to develop multiplatform (work in iOS, Android and Windows phones) mobile apps. Final project allows learners to apply the knowledge and skills learned to develop a health solution. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only BMI 310 or CSE 335 OR Visiting University Student |
| BMI | 311 | Modeling Biomedical Knowledge | Introduces concepts of artificial intelligence and knowledge modeling using medical informatics examples. Historical foundations and motivations of AI in medical applications; problem solving, reasoning, knowledge management, and planning as applied to medical informatics problems. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|-----------------------------|-----------------------------|-------|-----------------|--|
| BMI | 312 | Modeling Biomedical Data | Third semester of a three-semester course surveying the methods and theories underlying the field of biomedical informatics. Explores methods of use in the design and maintenance of biomedical databases, machine learning techniques, information retrieval in biomedicine and other methods specific to bioinformatics. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |
| BMI | 330 | Topics in Translational Bioinformatics | Provides an introduction to bioinformatics methods and applications used in the field of translational medicine research. Topics include bioinformatics data acquisition and management, including microarrays, database modeling and integration; analysis methodologies, including statistics and data mining; and applications. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BMI 311 with C or better OR Visiting University Student |
| BMI | 332 | Team Dynamics for Healthcare IT Projects | Teaches the fundamentals of leadership, management, and team dynamics in a project-focused software engineering environment, and with a focus on informatics and healthcare applications. Teaches students about team and group dynamics, recognizing dysfunctional teams, and helping to fostering productive group and leadership skills. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |
| BMI | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| BMI | 404 | Clinical Environments | Designed for medical informatics students who have no significant clinical experience in the U.S. Introduces medical terminology and exposes students to the clinical environments in which health care providers create, manage, and use clinical information. Students attend lectures and spend a significant portion of time examining and reporting on different clinical settings throughout the semester. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |
| BMI | 410 | Database Management in Health Care | Database fundamentals and the use of databases in health care. Fundamental concepts in relational database design spanning both operational and analytical use cases. Students learn and practice SQL syntax. Discusses modern implementations of databases in health care; exposes students to the most common forms of modern health care data: EHR data, claims (pharmacy and medical), and health care data models (includes health care data warehouses). When possible, exposes students to real (deidentified) data and database schemas, but synthetic data may also be used that closely matches the format it is intended to represent. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only BMI 410 or BMI 394 (Database Management in Healthcare) |
| BMI | 440 | Software Engineering for Biomedical Informatics | Provides a survey of software engineering with application to biomedical informatics. Teaches general theories, models, and specific techniques such as requirement analyses, architecture design, system modeling, software evaluation and project management. Uses specific examples from biomedical research, patient care, clinical education and public health for illustration of the concepts. Exposes students to interdisciplinary, team-oriented approach to developing software systems for biomedical and health applications. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BMI 310 or CSE 335 OR Visiting University Student |
| BMI | 461 | Advanced Topics in Biomedical Informatics I | Covers current trends and cutting-edge research areas of clinical, public health, and consumer health informatics. Particular emphasis on research that is of relevance to patients, and the healthy public, covering such topics as outbreak detection and the personal health record. Also covers research on the use of technology in medical education, and the ways in which clinical decision support systems are applied in contemporary medical practice. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |
| BMI | 462 | Advanced Topics In Biomedical Informatics II | Covers current trends and cutting-edge research areas of bioinformatics, imaging informatics, and translational science. Emphasizes informatics approaches to the novel data sources that are supplied by the next generation of methods for affordable gene sequencing, and initiatives underway to accelerate the integration of novel research findings into everyday clinical practice. Includes a series on modeling and simulation, current approaches to computer-aided diagnosis of medical images, ways in which technology can support the discovery of new knowledge, and the application of telemedicine to remotely facilitate clinical care. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |
| BMI | 465 | Introduction to Comparative Genomics | Explores genomic sequences and hypotheses for their structure, evolutionary history, and underlying mechanisms. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only BMI 465 or BIO 455 |
| BMI | 482 | Capstone I | First course in capstone sequence for biomedical informatics majors emphasizing the development of technical skills and effective team work within the context of a research project in biomedical informatics. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |

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|---------|------------|---|--|-------------------|-------------------|-----------------|---------------|-----------------------------|-----------------------------|-------|-----------------|--|
| BMI | 483 | Capstone II | Second course in capstone sequence for biomedical informatics majors emphasizing the development of technical skills and effective team work within the context of an applied project in biomedical informatics. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): BMI 482 with C or better; ENG 101, 105, or 107 with C or better |
| BMI | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | |
| BMI | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): Barrett Honors student |
| BMI | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| BMI | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| BMI | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-3 | | |
| BMI | 501 | Introduction to Biomedical Informatics | Overview of the field of biomedical informatics for use of computers and information in healthcare and the biomedical sciences. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Degree- or Nondegree-seeking graduate. Credit is allowed for only BMD 501 or BMI 501 |
| BMI | 502 | Foundations of Biomedical Informatics Methods I | Surveys methods and theories underlying the field of biomedical informatics. Explores techniques in mathematics, logic, decision science, computer science, engineering, cognitive science, management science and epidemiology, and demonstrates the application to health care and biomedicine. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BMD 502 or BMI 502 |
| BMI | 504 | Introduction to Clinical Environments | Course is divided into three sections. The first section covers medical and health care concepts and terms, and discuss observational techniques. In the second portion, students investigate a variety of different clinical environments and report back to the class on their findings. The final portion summarizes the key points of information technology in these clinical environments. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): graduate BME or BMI major; Credit is allowed for only BMI 404 or BMI 504 |
| BMI | 505 | Foundations of Biomedical Informatics Methods II | Surveys advanced methods and theories underlying the field of biomedical informatics. Provides an introduction to machine learning and natural language processing and an overview of database systems. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; BMI 502 with C or better |
| BMI | 506 | Clinical Decision Support | The course will provide an in-depth analysis of computer-based approaches to supporting clinical decision making for providers and patients (as well as healthy individuals, for disease prevention/health maintenance). The history of the field of clinical decision support (CDS) and the spectrum of methodologies will be reviewed. Practical issues involved in successful implementations of CDS will be discussed. The roles of standards and infrastructure will be examined. Current research topics and foci will be explored. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 507 | Introduction to Digital Image Processing and Analysis | Core course with four sections for students seeking to concentrate in biomedical imaging informatics. The first section analyzes the concepts and terms of image processing and analysis. The second section evaluates key algorithms in image processing (e.g., image filtering, Fourier transform, image restoration). The third section examines advanced image analysis methods (e.g., image segmentation, mathematical morphology, image topology, shapes and boundaries, color processing, image coding and compression, wavelet, and special effects). The fourth section develops the practical applications of image processing and analysis in medicine and biology. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BMD 507 or BME 507 or BMI 507 or CEN 507 or CSE 507 |
| BMI | 515 | Applied Biostatistics in Medicine and Informatics | Comprehensive treatment of the statistical methods used most often to analyze quantitative data collected in medical and biomedical informatics studies, including clinical trials, epidemiologic studies, studies of the accuracy and performance of screening and diagnostic tests, and studies to develop predictive models. Students learn to use SAS statistical software to analyze biomedical data. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 516 | Advanced Biomedical Data Analysis | Acquisition, conversion and organization of biological data into relevant diagnostic, therapeutic, and research information using information extraction and data mining. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; BMI 501 with C or better |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|-----------------------------|-----------------------------|-------|-----------------|--|
| BMI | 517 | Advanced Biostatistics for Biomedical Research and Health Care | Covers the use of computation as a tool for biostatistical data analysis and methods development, especially for research on multivariable regression analysis of biostatistics and health science. Major topics include understanding of hypothesis testing; regression model development; multivariable regression analyses on continuous, binary and censored outcomes; how to handle statistics issues related to regression modeling such as collinearity, overfitting and missing data. Students use the SAS and R statistical programming language to display and analyze data, and to evaluate statistical procedures and algorithms. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BMI 515; Credit is allowed for only BMI 517 or BMI 598 (Biostatistics with Computational Applications) |
| BMI | 520 | Modeling Gene Regulatory Networks | Computational and mathematical modeling used to approximate gene regulatory networks as well as signaling pathways and inference of model parameters. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; BMI 505 with C or better; BMI 516 with C or better |
| BMI | 540 | Problem Solving in Biomedical Informatics | Theory and practice of software engineering principles as they apply to large- and medium-scale clinical systems from bench to bedside. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BMI 601 with C or better |
| BMI | 550 | Translational Bioinformatics | Provides an introduction to bioinformatics methods and applications used in the field of translational medical research. Topics include bioinformatics data acquisition and management, analysis methodologies, and applications. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BMD 550 or BMI 550 |
| BMI | 555 | Statistical Learning for Data Mining | Surveys data analysis methods for massive data sets and provides experience in analysis with computer software. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; BMI 515, IEE 572, or IEE 578; Credit is allowed for only BMI 555 or CSE 572 or IEE 520 |
| BMI | 560 | Teaching in Biomedical Informatics | Student serves as a teaching assistant with a faculty member who is teaching either a required or elective course in the Biomedical Informatics curriculum. Such courses will generally be BMI courses but with the approval of the student's faculty program advisor may include a course that is an approved elective in the BMI program but is offered in another department within the university. The experience provides a significant teaching role, either lecturing or moderating small group sessions or laboratories. Grading class homework assignments and designing/grading examinations will also typically be part of the experience. Assisting other students outside of class and being available during office hours will also generally be part of the student teacher's role. A student may also receive 1 hour of credit for participating substantively in the design of a new course, working closely with a faculty member. Generally in such circumstances the student should then serve as course teaching assistant when it is offered for the first time (separate enrollment in this course). | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): Biomedical Informatics PhD student |
| BMI | 570 | BMI Symposium | Students attend the BMI Symposium Speaker Series twice a month and the student journal club discussion on alternate weeks. During the journal club weeks, each student leads a discussion on a current topic pertinent to the field of biomedical informatics. | N | SEM | Y | YGB | College of Health Solutions | College of Health Solutions | 1 | | Pre-requisite: BMI Graduate student |
| BMI | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Pre-requisite: Biomedical Informatics Masters student |
| BMI | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | N | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): Biomedical Informatics MS student |
| BMI | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): Health Informatics MAS, Biomedical Informatics MIP, or Biomedical Informatics MS student |
| BMI | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): graduate Biomedical Informatics student |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|-----------------------------|-----------------------------|-------|-----------------|--|
| BMI | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Health Solutions | College of Health Solutions | 1-12 | | Pre-requisite: Biomedical Informatics Masters student |
| BMI | 601 | Fundamentals of Health Informatics | Offers an overview of the field of health informatics. Combines perspectives from medicine and computer science for use of computers and information in health care and the health sciences. Includes an overview of health information literacy and data standards. Covers specific applications and general methodology in health informatics using current topics in the field. Discusses evaluations of health systems. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 602 | Programming in a Health Care Domain | Intensive introduction to object-oriented programming concepts focused on the unique challenges such as those related to data volume, complexity, and uncertainty inherent to applications in a health care domain. Also covers the fundamentals of algorithm analysis and data structure design. Stresses a software engineering approach to abstraction for problem decomposition and solution formulation, with object-oriented and reusability concepts introduced early. Emphasizes the use of generic data structures and abstractions from template libraries for reusability, as well as modular design. In addition, also covers basic concepts of algorithms and data structures. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 603 | Health Informatics Database Modeling and Applications | Thorough coverage of the foundations of database systems and their specific use and modeling in healthcare and biomedical environments. Students learn through hands-on experience with the modeling and implementation of health-related databases using the relational approach. Topics include an overview of database models and architecture, database design, SQL, XML, and data warehousing as they are applied in clinical domains. Students are encouraged to explore database-related topics of their own, choosing ones that are relevant to a bioinformatics or clinical domain. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 604 | Health Information Communication | Students learn to locate, retrieve, and store information with an emphasis on electronic search, retrieval, and storage. They also learn to assess the validity and quality of information, improve the quality of information, and how to improve the quality of, protect, and effectively communicate health information. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Health Informatics MAS student |
| BMI | 605 | Health Information Systems and Applications | Explores the use of information systems in different health care settings, analyzing operational and strategic objectives for their deployment. Emphasizes the analysis of the different factors that influence decision making during the process of design and deployment of systems, including human factors, hardware, software, policy, communications, and the successful management of such systems. Also covers guidelines for the design and successful deployment of systems to meet those objectives and includes discussion of architectures, components, and models. Analyzes specific case studies of successfully and unsuccessfully deployed systems. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 608 | Project Management for Interdisciplinary Teams | Introduces students to the health care team and explores tools and techniques for establishing effective interdisciplinary teams in a health care setting, emphasizing collaborative clinical decision-making and patient management. By working in small teams, the course puts into practice these techniques, allowing students to collaborate with other health professionals to solve specific problems, provide services, or develop new understandings. Also covers the concepts, skills, tools, and techniques involved in the management of information system projects, providing an introduction to the established discipline of project management, with a specific focus on how they apply to managing information systems for a biomedical setting. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 610 | Clinical Culture and the Health Care Environment | Designed for medical informatics students who have no significant clinical experience in the U.S. Introduces medical terminology and reviews clinical environments in which health care providers create, manage and use clinical information. Students perform observations in a variety of clinical environments. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Health Informatics MAS student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|-----------------------------|-----------------------------|-------|-----------------|--|
| BMI | 612 | Applied Data Mining | Comprehensive introduction to data mining methods and algorithms used most often to analyze data collected in biomedical informatics studies, including genomics and proteomic disease association studies, clinical trials, clinical image analysis and studies of the accuracy and performance of screening and diagnostic tests. Emphasizes assessing data quality, understanding how to select an overall approach to analysis, and presenting and interpreting the results of data mining analysis. Students learn to use Excel to effectively display data collected in biomedical research studies and Weka software to analyze data using approaches that are used commonly in biomedical studies. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 613 | Workflow Analysis and Redesign in Health Systems Engineering | Provides an overview of workflow analysis and process redesign and their use in quality improvement activities, including specification. Uses case examples to highlight key concepts and measurement concepts and covers techniques. Includes the links of systems engineering to fundamentals of decision theory, statistics and optimization. Includes discussion of current successful techniques for systems engineering. System engineering seeks to enable the successful design, implementation, deployment and maintenance of successful systems. Emphasizes gathering and analysis of customer needs for the specification and documentation of required functionality early in the system's lifecycle. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 614 | Current Perspectives in Health Informatics | Seminar course using external speakers to discuss and review the current state of the health informatics field. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BMI 601 |
| BMI | 615 | Human Factors Engineering for Biomedical Applications | Fundamental principles of human-computer interaction and human factors and how to apply them to real-world problems through class projects, homework, and real-world design. Focuses on learning why user-friendly interfaces can greatly improve work productivity and enhance the quality of healthcare without radically changing the underlying technology. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 616 | Clinical Decision Support and Evidence-Based Medicine | Focuses on the major problems of human decision making in health care including causes of errors, decreased quality and increased costs. Explores the role of information technology, primarily through computer-based clinical decision support (CDS), to address these problems. Explores key methods used to provide CDS, the capabilities and limitations of current approaches, and the challenges for managing and updating the knowledge needed to deliver CDS in an enterprise setting. Origins of evidence-based decision making and policy formulation; how to use the tools and approaches that have been developed to support evidence-based decision making and policy formulation; and the history and evolution of systematic review and meta-analysis as a tool to inform decisions and policies based on evidence. Students gain hands-on experience by conducting a systematic review and a meta-analysis and using the results to draw conclusions and formulate health policy. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 617 | Principles of Evidence-based Medicine | The origins of evidence-based decision making and policy formulation; how to use the tools and approaches that have been developed to support evidence-based decision making and policy formulation. The history and evolution of systematic review and meta-analysis as a tool to inform decisions and policies based on evidence. Hands-on experience by conducting a systematic review and a meta-analysis and using the results to draw conclusions and formulate policy. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): Health Informatics MAS student |
| BMI | 618 | Leadership and Change in Clinical Environments | Introduces tools and techniques for leading interdisciplinary teams in health care settings. Provides an opportunity for collaboration with health care professionals to solve specific problems, provide services or develop new understandings. Covers the concepts, skills, tools and techniques involved in the management of projects with a specific focus on how they apply to managing information systems projects in biomedical settings. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): Biomedical Informatics PhD student |

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|---------|----------------|----------------------------|--|-------------------|-------------------|-----------------|---------------|-----------------------------|------------------------------------|-------|-----------------|--|
| BMI | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-15 | | Prerequisite(s): Biomedical Informatics PhD student |
| BMI | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Health Solutions | College of Health Solutions | 1-15 | | Prerequisite(s): Biomedical Informatics PhD student |
| BMV | 230 | How Nature Works | Teaches biology through the lens of function, thereby providing a core understanding in biology for all students, no matter their background. Explores the process of scientific discovery and how biological knowledge can inform other disciplines. Each week investigates a new topic regarding how ecosystems and organisms function--e.g., How do ecosystems cycle nutrients? How do animals move through air, water and on land? How do organisms defend themselves against disease? Covers core concepts in biology as well as how these concepts apply to other disciplines. | N | LEC | N | OPT | College of Global Futures | School of Complex Adaptive Systems | 3 | | Credit is allowed for only BIO 230 or BMV 230 |
| BMV | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-4 | | |
| BMV | 302 | Principles of Life | Explores nature's universal design guidelines based on 3.8 billion years of successful strategies across all life. Develops participants' understanding of the deep patterns found in nature, and acts as an introduction into the methodology of biomimicry--including the review and study of life's operating conditions on Earth; the six primary principles; and their related sub-principles. Gives the knowledge necessary to bring these design guidelines into practice and provides opportunity to integrate them into one's discipline. | N | LEC | N | OPT | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): SOS 110 with B or better |
| BMV | 304 | The Practice of Biomimicry | Explores the process of nature-based design from a methodology-based approach. Deep dives into the biomimicry process and reviews how biology and biomimicry can be incorporated into the four major phases of any design process: scoping, discovering, creating and evaluation. Introduces the art of translating biological concepts into strategies for application and building a taxonomy of design principles. Includes a practicing tools component and a final multi-week group project. Offers the structure for which biomimicry can be put to practice. | N | LEC | N | OPT | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): SOS 110 with B or better OR Visiting University Student |
| BMV | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-4 | | |
| BMV | 430 | Biomimicry Practicum | Allows participants to dive deep into the biomimicry tools and resources presented during the program and to apply them selectively to a specific and unique opportunity of the student's choosing. Projects should have meaningful outcomes achievable within the semester, and allow the investigation of biomimicry life's principles as well as engage students in the scoping, discovering, creating and evaluating phases of biomimicry thinking. Deliverables are milestone based with the final deliverable having an application in a real-world setting. | N | PRA | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): BMV 230; BMV 302; BMV 304 |
| BMV | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | |
| BMV | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-4 | | |
| BMV | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-7 | | |
| BMV | 501 | Essentials of Biomimicry | Offered as a sampler of the various topics (discipline, emulate, ethos, (re)connect and iSites, human-nature connection, biomimicry thinking, and life's principles) within the discipline of biomimicry. Each week is devoted to a specific topic and is led by a different instructor. Provided a basic overview of each aspect of the discipline with ample opportunity for conversation and dialogue around the specific components, with an understanding that greater depth into each topic can be learned by taking the advanced BMV courses. | N | LEC | N | OP2 | College of Global Futures | School of Complex Adaptive Systems | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMV | 502 | Life's Principles | Life's principles are nature's universal design guidelines based on 3.8 billion years of successful strategies across all life. With instruction by Dr. Dayna Baumeister, this 16-week online course takes participants on a deep dive of life's principles, including the review and study of life's operating conditions, the six primary principles and their related sub-principles. Gives participants the experience necessary to bring these design guidelines into practice. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 4 | | Pre- or corequisite(s): Biomimicry MS or Biomimicry certificate student; BMV 501 |

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| BMY | 503 | Biology Taught Functionally | Biomimicry teaches biology through the lens of function, thereby providing a core understanding in biology for all students, no matter their background. Explores how biologists gather and research information and how that knowledge can inform other disciplines. Also introduces the art of translating biological concepts into strategies for application, which is then carried throughout all the courses. Students learn how to work with biologists on a biomimicry team and how to weave biology and biomimicry together. The biologists in the cohort not only learn to look at nature through the function lens, but also act as subject matter experts for their interdisciplinary teams and teaching assistants. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 4 | | Pre- or corequisite(s): Biomimicry MS or Biomimicry certificate student; BMY 501 |
| BMY | 504 | Biomimicry Thinking | Biomimicry thinking is the practice of biomimicry from a methodology-based approach. It is a 15-week intensive in the methodology of biomimicry that reviews how biology and biomimicry can be incorporated into the four major phases of any design process: scoping, discovering, creating and evaluating. Covers the art of translating biological concepts into strategies for application and building a taxonomy of design principles. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 4 | | Prerequisite(s): Biomimicry MS student or Biomimicry certificate student; Pre- or corequisite(s): BMY 501 |
| BMY | 511 | Biomimicry and Design | Prepares participants to facilitate the design of sustainable innovations using the biomimicry philosophy and methodology. Participants engage in a series of lectures and assignments to demystify the design thinking process, understand how to harness the potential of approaching challenges with a design mind, distill a design challenge, understand user needs, build a bridge between biology and design, use a methodology for discovering models from nature, abstract design principles from biological strategies, and translate those principles into sustainable innovations. Participants with or without a design background equally experience a deep immersion into the world of biomimetic design. | N | LEC | N | OPT | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): BMY 504 |
| BMY | 512 | Biomimicry and Engineering | Prepares participants to understand the field of engineering; identify the types of engineers and what each one does; what constrains engineers work under, materials selected by engineers, how to present biological ideas to engineers and how to integrate ideas from their discipline into sustainable engineering designs using biomimicry principles. Most examples used are of large engineered structures. These structures play critical functions in human systems, have a significant impact on the environment and last for over 100 years, so it is important to imbed as much sustainability into their design as possible. Requires a final team project designed to put these ideas into practice. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): BMY 502; BMY 504 |
| BMY | 516 | Biomimicry and Business | Addresses business topics from the biomimicry point of view; explains mechanisms and tools for comparing and contrasting business and nature. Challenges participants to question conventional ways of conducting business and come up with new approaches based on a different point of view. Recommend BMY 502 and BMY 504 to be successful in this course. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Pre- or corequisite(s): Biomimicry MS student; BMY 501 |
| BMY | 517 | Human-Nature Connection | Grounds the emerging discipline of biomimicry as a continuation of our ancestral connection with nature. Human-Nature Connection (HNC) engages participants in an exploration of the meaning and value of connecting with nature. Topics include defining humans, nature, and our connection with nature; establishing the evolutionary, personal, and socio-cultural influences on the different expressions of this connection; and illustrating the relevance of biomimicry to the human-nature connection. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 2 | | Pre- or corequisite(s): Biomimicry MS student; BMY 501 |
| BMY | 530 | Virtual Design Lab Practicum | Practicum designed to allow participants to dive deep into the biomimicry tools and resources presented during the program and to apply them selectively to a specific and unique opportunity of the student's choosing. Projects should have a meaningful outcome achievable within the semester, and should engage the scoping, discovering, creating and evaluating phases of biomimicry thinking. Deliverables are milestone based, and the final deliverable should have application in a real-world setting. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 2 | | Prerequisite(s): BMY 501; BMY 502; BMY 503; BMY 504; Biomimicry MS student with minimum 20 hours or Biomimicry Certificate student with minimum 13 hours; Pre- or corequisite(s): Biomimicry MS or Biomimicry Certificate student |
| BMY | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | N | LEC | Y | GNA | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): Biomimicry MS student; BMY 501; BMY 502; BMY 503; BMY 504 |
| BMY | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| BMY | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | REC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMY | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMY | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Global Futures | School of Complex Adaptive Systems | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMY | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | GNA | College of Global Futures | School of Complex Adaptive Systems | 1-4 | | Pre- or corequisite(s): Biomimicry MS student; BMY 501 |
| BUA | 380 | Small Business Leadership | Develops leadership skills needed to form, lead, and operate a small business. Emphasizes creating a vision, research, and problem solving. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Pre-requisites: Non-business student with a minimum ASU cumulative GPA of 2.00 and a minimum of 56 earned hours, OR Non-degree student with a minimum ASU Cum GPA of 2.00, OR Graduate student. |
| BUA | 381 | Small Business Accounting and Finance | Accounting and finance skills needed by small business owners to acquire, allocate, and track monetary resources and evaluate performance. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Pre-requisites: Non-business student with a minimum ASU cumulative GPA of 2.00 and a minimum of 56 earned hours, OR Non-degree student with a minimum ASU Cum GPA of 2.00, OR Graduate student. Must not have earned credit in ACC 382. |
| BUA | 383 | Small Business Working Relationships | Addresses communication and the people in a business--clients, employees, suppliers, competitors, governments, family, and self development. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Pre-requisites: Non-business student with a minimum ASU cumulative GPA of 2.00 and a minimum of 56 earned hours, OR Non-degree student with a minimum ASU Cum GPA of 2.00, OR Graduate student. |
| BUA | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 1-4 | | |
| BUS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Prebusiness Office | 1-4 | | |
| BUS | 384 | Business Operations and Planning | Planning and executing plans--the what, when, where, how, and who from product/service/project idea to pay back or completion. | N | LEC | N | OPT | W. P. Carey School of Business | Prebusiness Office | 3 | | Prerequisite(s): SCM 300 or 303 OR Visiting University Student |
| BUS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Prebusiness Office | 1-4 | | Prerequisite(s): minimum 45 hours |
| BUS | 424 | Sales and Negotiations | Principles and techniques of selling, merchandising and negotiations applicable for all businesses and organizations. | N | LEC | N | OPT | W. P. Carey School of Business | Prebusiness Office | 3 | | Prerequisite(s): MKT 300 |
| BUS | 434 | Business Risk Management | Strategies to manage business risk: derivatives, insurance, self-insurance and public policy. | N | LEC | N | OPT | W. P. Carey School of Business | Prebusiness Office | 3 | | Prerequisite(s): FIN 300, 302 or 303 OR Visiting University Student |
| BUS | 436 | Frontiers in Risk Management | Highlights practices and challenges faced by firms in terms of identifying, measuring and communicating a variety of business and financial risks, as well as designing and implementing risk management strategies as a critical component of the overall strategic management process. Emphasizes a variety of financial and nonfinancial risks in a holistic framework. Develops an understanding of the risk management practices and challenges faced by firms in a variety of business settings and industries. | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 3 | | Prerequisite(s): FIN 300, 302 or 303 OR Visiting University Student |
| BUS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Prebusiness Office | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAP | 120 | Introduction to Counseling | Provides an introduction to and broad overview of the field of counseling. Covers several counseling topics related to ethics, prevention, intervention and treatment, as well as multicultural counseling. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | SB | |

| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--|--------------------------------------|-------|-----------------|---|
| CAP | 121 | Introduction to Sport, Exercise and Performance Psychology | Introduces the psychological factors that are associated with participation and performance in sport, exercise and other types of physical activity. This field is primarily interested in two main areas: (1) understanding how participation in sport, exercise and physical activity affects a person's psychosocial development, overall health and mental well-being throughout the lifespan; and (2) helping athletes use psychological science to achieve optimal mental health and to enhance their performance. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | SB | Credit is allowed for only CAP 121 or KIN 348 or KIN 452 |
| CAP | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-4 | | |
| CAP | 220 | Self in a Multicultural Society | Covers current theories and research on culture, race and ethnicity, gender and other specific aspects of cultural diversity in a multicultural society. Explores themes, theories, topics and research related to power, privilege and oppression in the United States. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | C | |
| CAP | 222 | Mental Performance | Introduces concepts used by elite athletes and elite warriors to unlock their peak performance. Rooted in the traditions of mindfulness-based stress reduction and mindfulness-based cognitive therapy, Kaufman, Glass and Pineau present "mindful sport performance enhancement" (MSPE), an empirically supported, six-session program that can be adapted for athletes or even performers in other high-pressure domains. Combined with resources from the military community, explores how these two worlds overlap and develop mental toughness and the warrior mindset. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): CAP 120 OR Visiting University Student |
| CAP | 240 | Counseling Skills | Provides an introduction to counseling skills and intervention techniques used in treatment. Focuses on active listening, self-awareness and other related skills. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): CAP 120 OR Visiting University Student |
| CAP | 260 | Survey of Careers in Counseling and Applied Psychology | Provides a broad overview of the various career opportunities in counseling and applied psychology fields. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1 | | Prerequisite(s): CAP 120 or PSY 101 OR Visiting University Student |
| CAP | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-4 | | |
| CAP | 310 | Addictions I: Foundations and Basic Principles | Covers the history, overview and principles of addiction as well as symptoms of co-occurring mental health issues prevalent in individuals with addictions and substance abuse disorders. Students also learn basic screening and assessment tools used to detect, evaluate and manage risks associated with individuals who have co-occurring disorders | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): CAP 120 OR Visiting University Student |
| CAP | 315 | Trauma and Crisis Intervention | The role of counselors in traumatic events, crises and situations. Also introduces students to counseling skills and techniques particularly specialized for crises such as child abuse, partner violence, war, natural disasters and many others. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): CAP 120 OR Visiting University Student |
| CAP | 320 | Theories of Counseling and Psychotherapy | Provides the theoretical foundations and knowledge related to the principles of counseling. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): CAP 120 or PSY 101; ENG 102, 105, or 108 with C or better OR Visiting University Student |
| CAP | 323 | Psychology of Coaching | Covers a broad range of factors related to the psychology of coaching and work with athletes. Discusses the physiological, psychological and sociocultural aspects of motivation and performance as well as considering the ways coaches can support athletes who suffer from emotional and psychological stress. Chapter readings, discussion responses and a group research presentation introduce students to theories and research surrounding topics in the psychology of coaching. Guest lectures from actual coaches and students' attendance and observations at sporting events bring class concepts, theories and research to life. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| CAP | 325 | Professional Practice and Ethics in Counseling | Discusses ethical issues (confidentiality, informed consent, integrity, respect) and professional codes of conduct in the counseling field. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): CAP 120; CAP 240 OR Visiting University Student |
| CAP | 330 | Group Counseling | Provides an overview of theories, techniques and approaches to group counseling and therapy. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): CAP 120; CAP 240 OR Visiting University Student |
| CAP | 335 | Addiction Group Counseling | Offers an overview of the role and efficacy of group therapy in substance abuse treatment. Students learn about the different types of substance abuse treatment groups; screening and criteria for groups; group development and stages of treatment; and group leadership skills and techniques (e.g., motivational interviewing). Through weekly discussions, journal reflections and experiential activities, students learn the various techniques used in group substance abuse treatments. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): CAP 120; CAP 240 OR Visiting University Student |
| CAP | 340 | Multicultural Counseling Theory and Practice | Provides an overview of multicultural theory, research and practice. Topics include acculturation, identities, prejudice and other related topics. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): CAP 120; CAP 220 OR Visiting University Student |

| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--|--------------------------------------|-------|-----------------|---|
| CAP | 342 | Community Outreach, Prevention and Intervention | Provides an understanding of the methodologies in community outreach and prevention treatment. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): CAP 120; CAP 220 OR Visiting University Student |
| CAP | 345 | Social Issues in Counseling and Psychology | Covers a broad range of factors in applied social psychology as it relates to the counseling field. Discusses broad theoretical perspectives within social psychology and their relevance to issues within counseling and work with clients. Chapter readings and reflection papers introduce students to theories and research surrounding topics covered within the course. Video presentations and students' engagement in discussion responses throughout the course enable them to apply theory and research to real-world case examples in the counseling field. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| CAP | 351 | Issues in Assessment, Diagnosis and Treatment | Builds upon previous coursework. Provides students with an understanding of the major screening, assessment and diagnostic approaches for substance abuse and addictions. Students obtain knowledge of (1) models, (2) instruments and (3) diagnostic criteria, and the ability to link this knowledge to treatment planning and interventions for addictions. The goal of this course is not to diagnose or treat individuals with disorders. Rather, it is designed to give students a basic understanding of diagnostics and evidence-based treatments to inform work in the mental health field. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): CAP 310 with C or better OR Visiting University Student |
| CAP | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| CAP | 400 | Advanced Counseling Research Methods | Builds upon introductory research methods and provides students with a strong foundation of research knowledge in counseling. Covers critical reading and analysis of peer-reviewed journal articles, types of research methodologies and proposal development. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): CAP 120; PSY 290 OR Visiting University Student |
| CAP | 420 | School Counseling | Provides an overview of counseling in school settings. Covers the role of school counselors in supporting youth and adolescents in many areas such as developmental disabilities/mental illness, as well as ethical and legal issues. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): CAP 120; CAP 240 OR Visiting University Student |
| CAP | 440 | Addictions II: Treatment, Recovery and Relapse Prevention | Builds upon previous course work. Covers philosophies and models of treatment, recovery, relapse prevention and continuing care in substance abuse counseling. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): CAP 120; CAP 310 OR Visiting University Student |
| CAP | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | PRA | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): minimum 45 hours |
| CAP | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-6 | | Prerequisite(s): Barrett Honors student |
| CAP | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | RSC | Y | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-6 | | Prerequisite(s): Barrett Honors student |
| CAP | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| CAP | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-7 | | Prerequisite(s): minimum 45 hours |
| CAP | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-3 | | Prerequisite(s): minimum 45 hours |
| CAS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-4 | | |
| CAS | 253 | Introduction to Mathematical Tools and Modeling for the Life and Social Sciences | Introduces the evaluation and construction of mathematical models used in the life and social sciences. Includes the basic steps in developing a model, analyzing it, and testing it with actual data. Covers the first steps concerning how to use formal mathematical techniques including developing equation-based relationships, plotting graphs, linear regression, and solving equations using computer software. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): AML 100 or SOS 101 with C or better; MAT 117 with C or better or ALEKS score of 61 or higher; Credit is allowed for only AML 253 or CAS 253 OR Visiting University Student |
| CAS | 254 | Introduction to Dynamics and Control in the Biological and Social Sciences | Includes three fundamental topics in dynamics of populations, each topic motivated by a biological example. Covers mathematical tools, both analytic and computational, to solve the problem. Students have a small group project on each topic. | N | LEC | N | OPT | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): AML 253; MAT 210, 251, 265, or 270; MAT 266 or 271; Credit is allowed for only AML 254 or AML 294 (Continuous Models for the Life and Social Sciences) or CAS 254 OR Visiting University Student |
| CAS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-4 | | |
| CAS | 298 | Honors Directed Study | Independent study or practicum under the supervision of a faculty member. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-6 | | Prerequisite(s): Barrett Honors student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|---------------------------|------------------------------------|-------|-----------------|--|
| CAS | 363 | From Cells to Society: Understanding Complexity | Equips students with concepts and empirical examples they need to understand the role of complexity in the world around them. Complexity science is based on the fundamental principle that entities and phenomena in the world around us are systems composed of many parts that interact to produce their global characteristics. For example, cells interact to produce organs and tissues, which in turn interact to produce physiological processes (i.e., the capacity to metabolize food to produce new compounds and energy) and physical infrastructure (skeletal and muscular structure) which produce organisms. Organisms, (e.g., humans) interact to form groups, villages, cities, nations. | N | LEC | N | OPT | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AML/ASB/BIO/SOS 394 (From Cells to Societies) or ASB 363 or BIO 363 or CAS 363 or SOS 363 OR Visiting University Student |
| CAS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-4 | | |
| CAS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-6 | | Prerequisite(s): Barrett Honors student |
| CAS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-6 | | Prerequisite(s): Barrett Honors student |
| CAS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-4 | | |
| CAS | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-6 | | Prerequisite(s): Barrett Honors student |
| CAS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-7 | | |
| CAS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 501 | Fundamentals of Complex Systems Science: Evolution | The enormous diversity of biological, social and technological systems is the product of evolution. As Darwin put it poetically: "There is grandeur in this view of life, with its several powers, having been originally breathed by the Creator into a few forms or into one; and that, whilst this planet has gone cycling on according to the fixed law of gravity, from so simple a beginning endless forms most beautiful and most wonderful have been and are being evolved." In short, complexity is the product of evolutionary processes. This, in turn, implies that understanding complexity requires us to understand its evolutionary origins. This course is a comprehensive introduction to the evolutionary history of complex systems and the principles and mechanisms that guide this dynamic. Covers the consequences of evolutionary history of complex systems, such as vulnerability to failure or limits of the potential of these systems to change and adapt. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 502 | Fundamentals of Complex Systems Science: Computation | Most systems are complex. Complex systems share a number of critical features across all domains, including the fact that all complex systems process information and perform computations in the broadest sense. Explores the informational and computational dimensions of complex systems with an emphasis on how complex systems acquire, process, store and transmit information in a systematic way across the social, behavioral and life sciences and engineering. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 503 | Fundamentals of Complex Systems Science: Collectives | From neurons in a brain to fish in a school to people in an economy, collectives are all around us. These are complex systems in which we understand in some detail how the individual components behave and interact, but the behavior we are interested in is at the larger scale of the aggregate. The behavior of systems like these is challenging to predict and understand largely due to the sheer number of interacting components, as well as the unintuitive way that contributions from individuals scale up to have large collective effects. Complex systems science has developed an array of conceptual tools to help understand collective behavior. Explores these foundational concepts, including emergence, scaling laws, dynamical modes and coarse-graining. Uses these tools to de-mystify powerful aggregate-scale effects, from impressive feats of swarm intelligence to potentially harmful instabilities and hysteresis. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|---------------------------|------------------------------------|-------|-----------------|--|
| CAS | 520 | Agent-Based Modeling | Agent-based modeling is a method to study the macro-level consequences of micro-level interactions of agents representing individuals, households, firms or other type of actors. Agent-based modeling is used to study the dynamics of complex adaptive systems across different domain areas. Covers the basics of agent-based modeling including programming computer simulations and how this method is used to study complex adaptive systems in different application areas. Examines the method for scientific research, especially the various ways of doing model analysis. Students perform individual assignments. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 521 | Methods for Complex Systems Science: Network Analysis | Network science within the framework of complex adaptive systems. Begins with general introductions to different kinds of networks and their basic network properties. Then progresses to the mathematics and algorithms of network analysis while learning about computational feasibility and the importance of random graph comparisons. Each week students are responsible for readings and a write-up of that week's topics. These write-ups help build toward the final assignment incorporating all topics covered in this class. Upon completion, students should feel confident incorporating networks and their associated complexity into their research and worldview. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 522 | Methods for Complex Systems Science: Dynamical Systems | Focuses on the mechanisms through which complexity emerges in evolving and dynamical network architectures. Some of the best-known examples include gene expression networks, adaptive ecological networks, and neural networks for cognitive information processing. Complex systems theory deals with dynamical systems with a large number of interacting variables. Therefore, after an introduction to graph and network theory, the course covers the basic concepts of dynamical systems theory: continuous and discrete systems, attractor dynamics, bifurcation, and chaos. After introducing information theory, devoted to the fundamentals, the second part focuses on applications, especially to network dynamics. Students acquire familiarity through the analysis of concrete examples of both deterministic and random dynamics in the form of Boolean networks and random walks. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 523 | Methods for Complex Systems Science: Statistics and Dimensionality Reduction | Because complex systems involve a large number of interacting components, observational studies of these systems typically generate data sets of high dimension. Examples include the hundreds or thousands of distinct neurons in a brain, genes in a cell, people in a society, firms in an economy, or texts in a corpus. To make sense of such data, a diverse set of data analytic tools has been developed to summarize key properties at the population level (statistics) and characterize predictable lower-dimensional patterns (dimensionality reduction). Provides a guided tour of such tools most relevant to complex adaptive systems. With a solid foundation in inferential statistics, students encounter PCA-type linear projections, nonlinear manifold techniques, topic modeling, clustering methods, network statistics, as well as more abstract foundations for how these methods work and when they fail. Students hone their data skills by applying state-of-the-art open-source software to real-world datasets. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 540 | Socioecological Complex Systems | We live in a world that is neither wholly human nor wholly natural. Human decisions and actions combine with biological processes and physical forces transform cities, rural landscapes, ecosystems and biogeography, river systems, coastlines and the atmosphere. By emphasizing the importance of networks and feedbacks, complexity science is especially helpful in providing insight into the complex interactions between the human and natural components of the socioecological systems that are so critical to our lives and wellbeing. Examines key concepts for understanding socioecological system dynamics from a complex systems perspective. Explores how methods drawn from complexity science can trace the complex web of feedbacks between social, biological and geophysical processes and help to better understand and plan for change and stability in socioecological systems. Also looks at how complexity science can help contribute to relevant policy and governance for SES. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|---------------------------|------------------------------------|-------|-----------------|--|
| CAS | 541 | Complex Urban Systems | Despite occupying only a tiny fraction of the world's area, cities house over half of earth's human population, consume over two thirds of global energy, and emit over 70% of global CO2 emissions. It is estimated that the combined ecological footprint of earth's urban areas already exceeds the entire area of our planet, and still globally 3 million more people migrate to cities every week. Cities are also the global engines of innovation, wealth creation, and production efficiencies. Thus, cities are both drivers of unsustainable behavior and our best hope for innovating sustainable solutions. Examines key concepts for understanding the complexity of urban systems, and explores how methods drawn from complexity science can be applied to urban structures and dynamics to better understand both past and future outcomes. Shows how complexity science might contribute to relevant policy and governance of cities and whether such a contribution is advisable. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 2-3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 542 | Sustainability as a Problem Complexity | Sustainability challenges are complex challenges. Sustainability as a problem of complexity explores in a systematic way the interconnected nature of sustainability challenges and presents a complex systems science-based framework for developing sustainability solutions. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 543 | Complexity Economics | Complexity economics is the study of economic systems as evolving, complex systems. These systems consist of interacting individuals who perceive their environments, and take actions based on multiple criteria, which in turn affect their environments and the decisions available to other individuals. Complexity economics is not an extension of conventional, neo-classical economic theory and practice, which is based on the concepts of equilibrium, optimization and aggregation. Complexity economic attempts to understand economic phenomena through concepts of evolution, emergence, path dependency and the interdependent relationships between heterogenous individuals whose actions shape their environments. This offers a new basis for theory and practice that better reflects not only real problems and scenarios, but also how individuals make decisions and how those decisions have consequences for both the environment and society. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 544 | Innovation in Complex System | Innovation is a central property of complex systems. Without innovation there would be no evolution of complex systems. Explores the dynamics of innovation in complex systems across a number of different domains, including biological, social, cultural and technological innovations. Focuses on the common principles and differences guiding innovation dynamics. Also focuses on unintended consequences of innovation, such as cascading effects and innovation traps and investigates why certain systems fail to innovate. Identifies common features of innovation across complex systems. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 545 | Disease as a Complex System | Disease and failure are properties of complex systems. All organisms, groups, societies, technologies, ecosystems and the planetary system are complex systems. Disease can be seen as a failure in complex system function and has, at its root cause, the breakdown of complex regulatory structures that maintain function and facilitate adaptation. Comprehensive introduction into the origins, mechanisms and consequences of disease in a number of complex systems ranging from organisms to the planet and the technosphere. Explores disease, failure and health of these systems and investigates the underlying complex systems properties that are responsible for these different states. Identifies common features of failure across complex systems. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 546 | Bio-Inspired AI and Optimization | Provides a survey of a variety of algorithms for optimization and multiagent control that are inspired by natural systems. Algorithms inspired by biological or physical systems can often be viewed as idealized models of those antecedent systems. Consequently, also explores potential problems (and solutions) in these algorithms that are analogous to fundamental but less well-known issues in the biological and physical systems that inspire them. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|-----------------------------|--|-------------------|-------------------|-----------------|---------------|---------------------------|------------------------------------|-------|-----------------|---|
| CAS | 570 | Fundamentals of CAS Science | Many phenomena of critical relevance to human society are dynamic systems that change over individual and evolutionary time scales, and are highly interactive, both within and between systems. That is, they are complex adaptive systems (CAS), and thus share isomorphic properties like near-decomposability, hierarchical organization, scale-free networks, self-organized criticality, and emergence. Fundamentals of CAS science explores the diverse, interdisciplinary applications of a complex adaptive systems across the social, behavioral, and life sciences. | N | SEM | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASM 570 or BIO 570 or CAS 570 or SOS 570 |
| CAS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | College of Global Futures | School of Complex Adaptive Systems | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | N | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 599 | Thesis | Supervised research focused on preparation of a thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 600 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 691 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | College of Global Futures | School of Complex Adaptive Systems | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 791 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| CAS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | RSC | Y | Z3 | College of Global Futures | School of Complex Adaptive Systems | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 799 | Dissertation | Supervised research focused on preparation of a dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Global Futures | School of Complex Adaptive Systems | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 232 | Human Development | Lifespan development from conception through adulthood, with emphasis on family influences. Recognition of individuality within the universal pattern of development. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | |
| CDE | 244 | Children Facing Health Care Challenges | Provides a comprehensive introduction to family-centered care, psychosocial assessment of the hospitalized and chronically ill child, and techniques to support their coping. Utilizes the principles/theories of child development, and introduces the role of a child-life specialist in the promotion of effective coping through play, preparation and education among children, youth and families facing challenges related to health care and hospitalization. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Credit is allowed for only CDE 244 or CDE 294 (Children Facing Health Care Challenges) OR Visiting University Student |
| CDE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | |
| CDE | 312 | Adolescence | In-depth examination of the developmental and social processes that help explain modern adolescence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): CDE 232, PSY 101, SOC 101, or TEL 215 with C or better; minimum 24 hours; Credit is allowed for only CDE 312 or SOC 312 OR Visiting University Student |
| CDE | 337 | Early Childhood Intervention | Explores how child development theory affects practice with children and families, emphasizing development of young children and early intervention. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | |
| CDE | 338 | Child Development Practicum | Supervised practicum in the Child Development Lab preparing students for work in child care centers and agencies serving young children and families. | N | PRA | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 2-4 | | Prerequisite(s): minimum 45 hours |
| CDE | 350 | Inequality and Diversity in Education | Advanced exploration of various dimensions of diversity in relation to educational systems and outcomes. Through sociological and psychological research, case studies and films, students examine how educational inequality is created and reproduced through individual actions and institutional constraints. Also considers the connection between schooling and human rights and ways in which educational inequality may be addressed. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | L & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; AFR 212, APA 200, APA 210, CDE 232, JUS 210, TCL 210, or minimum 24 hours; Credit is allowed for only AFR 350, APA 350, CDE 350, JUS 365, SOC 350, or TCL 360 OR Visiting University Student |
| CDE | 356 | Race and Child Development | Reviews the current research and literature about the particular role of race in child development. Even though race is not a valid biological construct, it has significant social implications as it shapes how children interact and are treated by others. Through primarily class discussions/activities, presentations and papers, addresses: (1) What are the research and theoretical issues in studying race? (2) What does race and racism mean? (3) How does race influence developmental processes? | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & C | Prerequisite(s): APA 200, APA 210, or minimum 30 hours; Credit is allowed for only APA 356 or CDE 356 OR Visiting University Student |
| CDE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | |
| CDE | 414 | The School-Aged Child: Development in the Elementary Years | Examines children's physical, social-emotional and neurological development across the elementary school years, as well as the socialization influences of primary people and contexts engaged with children during this developmental period. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): CDE 232 with C or better OR Visiting University Student |
| CDE | 418 | Aging and the Life Course | Examines aging as a process of change and adaptation over the lifespan, patterned by social, cultural, and historical forces. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & H | Prerequisite(s): FAS 101, 330, PSY 101 or SOC 101 with C or better; minimum 30 hours; Credit is allowed for only CDE 418 or SOC 418 OR Visiting University Student |
| CDE | 430 | Infant and Toddler Development in the Family | Discover the world of babies and toddlers. Learn about important changes in biological/physical, cognitive, emotional and social domains of development from conception to age three. Consider the influences of parents, family and environment. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): minimum 30 hours OR Visiting University Student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| CDE | 450 | Childhood Disorders and Family Functioning | Examines the presentation, development and treatment of a wide range of neurodevelopmental, psychological, emotional and behavioral disorders of childhood. Applies family theories to understand the implications of these disorders for children and families. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | L | Prerequisite(s): CDE 232 or PSY 101 with C or better; ENG 101, 102, 105, 107, or 108 with C or better; minimum 45 hours OR Visiting University Student |
| CDE | 469 | Multivariate Statistics for Social Sciences | Provides instruction and hands-on experience with statistical methods for examining the effects of multiple variables. Focuses on multivariate techniques and how statistical techniques can lead to a better understanding of substantive issues. As this is an applied course, lectures and coursework focus more on the application and interpretation of multivariate techniques than on the mathematics behind the statistical techniques. Topics typically include data visualization, correlation, simple regression, multiple regression, logistic regression, multinomial regression, ordinal regression, and principal component analysis. Also teaches how to conduct these statistical techniques and undertake basic programming in the R computer program. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): DAT 300, ECN 221, GIS 270, PSY 230, SOC 390, or STP 226 with C or better; Credit is allowed for only CDE 469 or GIS 469 or SOC 469 or CDE 498/GIS 494 (Multivariate Statistics for Social Sciences) OR Visiting University Student |
| CDE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | |
| CDE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| CDE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | |
| CDE | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-6 | | Prerequisite(s): Barrett Honors student |
| CDE | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-7 | | |
| CDE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-3 | | |
| CDE | 501 | Social Statistics | Understands and uses statistics for applications in the social sciences. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): Degree- or Nondegree-seeking graduate; Credit is allowed for only CDE 501, SOC 501 or SOC 598 (Statistics for Social Sciences) |
| CDE | 531 | Theoretical Issues in Child Development | Major developmental theories, related research, and their application to family interaction. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 533 | Research Issues in Child Development | In-depth exploration and critique of research focusing on child development in a family setting. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 534 | Risk and Resilience in Children and Adolescents | Integrates child development, family theory, and research to understand risk and resilience in children and adolescents. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisites: CDE 531; FAS 500 |
| CDE | 570 | Child Development for Infant Family Practice | Examines development during infancy and early childhood with an emphasis on social and emotional development, mental health, and early parent-child relationships. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-IFP student |
| CDE | 571 | Infant Mental Health for Infant Family Practice | Surveys the biological and environmental risk factors that jeopardize the mental health of infants and young children; overview of prevention and intervention strategies. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-IFP student |
| CDE | 572 | Assessment of Infants, Toddlers, and Families for Infant Family Practice | Developmentally appropriate assessment of mental disorders and developmental disabilities in infants, toddlers, and preschool children and parent-child relationships. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-IFP student |
| CDE | 573 | Cultural Competence for Infant Family Practice | Examines cultural issues impacting parent-child relationships and child rearing and the effectiveness of infant mental health and early intervention services on families of various ethnic and cultural backgrounds. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-IFP student |
| CDE | 574 | Observation and Reflection for Infant-Family Practice | Strategies for observing infant behavior and parent-child relationships and skills for reflective, relationship-based intervention. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-IFP student |
| CDE | 575 | Advanced Observation and Reflection for Infant-Family Practice | Advanced strategies for observing infant behavior and parent-child relationships and skills for reflective relationship-based intervention. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-IFP student |
| CDE | 576 | Applied Research Methods for Infant Family Practice | Survey and critical examination of child development, parent-child relationships, family relationships, and early intervention research and the application to IFP. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-IFP student |
| CDE | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|----------------------------------|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| CDE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 610 | Gender Development | Examines current theories and research concerning the various aspects of gender and developmental change. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 612 | Children's Peer Relationships | Studies scientific theory, research, and evidence on peer relationships and social competence from early childhood through adolescence. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite(s): CDE 531 with C or better |
| CDE | 634 | Prevention and Child Development | Advanced training in research and theory-based approaches to developing and evaluating prevention programs for children at risk. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite: CDE 534 |
| CDE | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 783 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDH | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| CDH | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |

| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| CDH | 501 | Digital Humanities: Critical Theory and Methods | Digital technologies are now intricately woven into our lives--whether it's in terms of authoring a paper in a text editor, sending texts and emails, or doing data analysis. Popular narratives of the "big" and the "new" celebrate and sometimes bemoan the ways that these tools shape our communication, access to information, habits and even our physical bodies. Focuses on the histories of these technologies, their operations, popular conceptions about such tools, and their affordances and limits for humanities scholarship. Students learn how to leverage digital technologies, but also how to critically read them. Broad ranging; in addition to surveying the "big tent," students are encouraged to utilize their final projects to engage with specific disciplinary digital tools and methods relevant to their scholarly work. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CDH 501 or HST 504 or REL 504 |
| CDH | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDH | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDH | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDH | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CED | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-4 | | |
| CED | 250 | Career Development | Covers models of the individual, the world of work, and decision making with emphasis on individual application. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| CED | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | |
| CED | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-4 | | |
| CED | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-3 | | |
| CED | 501 | Intro to Research and Evaluation in Counseling | Introduction to the basic models of research and evaluation in the field of counseling. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CED 501 or CED 591 (Counseling Research & Evaluation) |
| CED | 502 | Counseling Research Data Analysis | Descriptive statistics, visual approaches, estimation, and inferential methods for univariate and bivariate counseling research problems using statistical software. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CED 502 or CED 591 (Counseling Research Data Analysis) |
| CED | 510 | Introduction to School Counseling | Provides a basic introduction to school counseling at the elementary, middle and high school levels. Gives students an overview of current trends in school counseling on local, state and national levels. Topics include: (a) historical basis for school counseling; (b) the reformation from a mental health model; (c) the assessment of school guidance needs; (d) planning, implementing and evaluating a guidance program based on the National Model of the American School Counseling Association (ASCA); (e) professional organizations; and (f) overview of the ASCA Model Components, with emphasis on "define" and "manage." | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): Counseling (School Counseling) MC student |
| CED | 511 | Career Development and Advanced Educational Planning | Provides counseling students with an understanding of how career development occurs from various theoretical standpoints, while also taking into consideration the unique contribution of other life aspects to career development. In addition, exposes students to various career instruments that are often used in career counseling. Teaches students how to articulate their developing theory of how career development occurs; knowledge of career program development procedures and of the professional, legal and ethical considerations associated with career counseling. Also familiarizes students with the development, organization and administration of the school guidance program, K-12. Included are the principles upon which the program is built, appropriate procedures for successful program implementation, professional counselor strategies and behaviors and strategies for utilizing data-driven practices in school counseling. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): Counseling (School Counseling) MC student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--|--------------------------------------|-------|-----------------|--|
| CED | 522 | Theories of Counseling and Psychotherapy | Presents major theories of psychological intervention as well as underlying personality theory upon which they are based. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): Counseling MC or Counseling Psychology PhD student |
| CED | 523 | Psychological Tests | Standardized tests in the study of the individual, with emphasis on test score interpretation in counseling. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CED | 527 | Prevention and Consultation | Community focus with emphasis on outreach, prevention, psychoeducation, consulting, and advocacy from a systematic multicultural perspective. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): Counseling MC or Counseling Psychology PhD student; Credit is allowed for only CED 527 or CPY 660 |
| CED | 529 | Lifespan Human Development | Issues and models of human development as it occurs across the lifespan. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CED | 534 | Occupations and Careers | The world of work, career development, education, and training for occupational entry and mobility. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CED | 545 | Assessment and Diagnosis | Theory and methods commonly used to assess mental health diagnoses utilizing the most current version of the Diagnostic and Statistical Manual of Mental Disorders. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): Counseling MC or Counseling Psychology PhD student |
| CED | 567 | Group Dynamics and Counseling | Group process factors, theory, and diversity issues determining effective interaction in small groups. Emphasis placed on lecturettes, self awareness, and experiential components. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): Counseling MC or Counseling Psychology PhD student |
| CED | 577 | Counseling Prepracticum | Focus on racial, social, and cultural factors in the development of helping relationships through integration of cognitive and affective self-awareness with counseling skills. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): Counseling MC or Counseling Psychology PhD student |
| CED | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CED | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CED | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CED | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CED | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CED | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CED | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CED | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CED | 645 | Professional Issues and Ethics | Ethical, legal, and professional issues of concern to practitioners and researchers functioning in a variety of settings. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or postbaccalaureate student; Credit is allowed for only CED 645 or CPY 645 |
| CED | 671 | Multicultural Counseling | Provides awareness of the influence of sociocultural variables on human development and explores implications for counseling minority populations. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate student; Credit is allowed for only CED 671 or CPY 671 |
| CED | 672 | Couple and Family Counseling | Couple and family counseling theories. Emphasizes a systems-communication model utilizing cocounseling. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CED | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): Counseling graduate student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| CED | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): Counseling graduate student |
| CED | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CED | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CED | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CED | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CED | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CEE | 181 | Technological, Social, and Sustainable Systems | Introduces the importance and role of technological, social, and sustainable systems in the modern world. Provides a framework for the theory and practice of sustainable engineering. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | HU | Credit is allowed for only CEE 181, FSE 181, or SOS 181 |
| CEE | 210 | Engineering Mechanics I: Statics | Force systems, resultants, equilibrium, distributed forces, area moments, fluid statics, internal forces, friction, and stability. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): FSE 100 with C or better; MAT 266 or 271 with C or better; PHY 121 with C or better; PHY 122 with C or better; Corequisite(s): MAT 242; Credit is allowed for only CEE 210 or CNE 210 OR Visiting University Student |
| CEE | 212 | Engineering Mechanics II: Dynamics | Kinematics and kinetics of particles, translating and rotating coordinate systems, rigid body kinematics, dynamics of systems of particles and rigid bodies, and energy and momentum principles. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): CEE 210 or CNE 210 with C or better; MAT 242 with C or better; MAT 274 or 275 with C or better; Credit is allowed for only CEE 212 or CNE 212 OR Visiting University Student |
| CEE | 213 | Introduction to Deformable Solids | Strain-displacement and stress-strain-temperature relations. Stresses and deformations due to axial, shear, torsional and bending moments. Buckling, stability. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): CEE 210, CNE 210, or EVE 214 with C or better; MAT 274 or 275 with C or better; Credit is allowed for only CEE 213 or CNE 213 OR Visiting University Student |
| CEE | 281 | Surveying | Theory and fieldwork in construction and land surveys. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): MAT 170 or higher with C or better; Credit is allowed for only CEE 281 or CNE 241 or CON 241 OR Visiting University Student |
| CEE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-4 | | |
| CEE | 300 | Engineering Business Practice | Engineering economic principles, cost/benefit analysis, project financing and delivery, management of engineering design, business practices, ethical and professional responsibilities. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | L | Prerequisite(s): Engineering BSE major; ENG 101, 105, or 107 with C or better; MAT 267 with C or better; minimum junior standing OR Visiting University Student |
| CEE | 321 | Structural Analysis and Design | Statically determinate and indeterminate structures (trusses, beams, and frames) by classical and matrix methods. Introduces structural design. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 4 | | Prerequisite(s): Civil Engineering BSE or Construction Engineering BSE major; CEE 212 or CNE 212; CEE 213 or CNE 213 with C or better; Credit is allowed for only CEE 321 or CNE 321 OR Visiting University Student |
| CEE | 341 | Fluid Mechanics for Civil Engineers | Fundamental principles and methods of fluid mechanics forming the analytical basis for water resources engineering. Conduit and open channel flow. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 4 | | Prerequisite(s): Civil Engr BSE major; CEE 212 with C or better; CEE 213 with C or better OR Environmental Engr BSE major; EVE 214 with C or better; Pre- or corequisite(s): CEE 384 or MAE 384 with C or better if completed OR Visiting University Student |

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| Subject | CatalogNbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| CEE | 351 | Geotechnical Engineering | Index properties and engineering characteristics of soils. Compaction, permeability and seepage, compressibility and settlement, and shear strength. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 4 | | Prerequisite(s): Civil Engring BSE, Construction Engring BSE, or Environmental Engring BSE major; CEE 212 or CNE 212 with C or better; CEE 213 or CNE 213 with C or better; Credit is allowed for only CEE 351 or CNE 351 OR Visiting University Student |
| CEE | 353 | Civil Engineering Materials | Structure and behavior of civil engineering materials, including steel, aggregate, concrete, masonry, asphalt, wood, composites. Atomic structure and engineering applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 4 | | Prerequisite(s): Civil Engr BSE, Construction Engr BSE, or Environmental Engr BSE major; CEE 213 or CNE 213 w/C or better; Credit is allowed for only CEE 353 or CNE 353 or EVE 354 or EVE 394 (Materials in the Environment) OR Visiting University Student |
| CEE | 361 | Introduction to Environmental Engineering | Concepts of air and water pollution; environmental regulation, risk assessment, chemistry, water quality modeling, water and wastewater treatment systems designs. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 4 | | Prerequisite(s): Fulton Engineering undergraduate student; CEE 213 with C or better; CHM 114 or 116; Pre- or corequisite(s): IEE 380 OR Visiting University Student |
| CEE | 372 | Transportation Engineering | Fundamental background of highway and traffic engineering in the areas of planning, design, and operations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE major; CEE 212 with C or better; CEE 213 with C or better; Pre- or corequisite(s): IEE 380 OR Visiting University Student |
| CEE | 384 | Numerical Methods for Engineers | Numerical methods and computational tools for selected problems in engineering. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | CS | Prerequisite(s): Fulton Engineering major; MAT 274 or 275 with C or better; MAT 242 or 343 (or 342 for non-MAE major) with C or better; Pre- or corequisite(s): MAT 267 or 272 with C or better if completed OR Visiting University Student |
| CEE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-4 | | |
| CEE | 400 | Earth Systems Engineering and Management | Introduces earth systems engineering and management, and the technological, economic and cultural systems underlying the terraformed Earth. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | (L or HU) & H | Prerequisite(s): Civil Engr BSE major; CEE 300 with C or better; ENG 101, 105, or 107 with C or better OR non-CEE junior or senior; ENG 101, 105, or 107 with C or better; Credit is allowed for only CEE 400 or CNE 400 OR Visiting University Student |
| CEE | 412 | Pavement Analysis and Design | Design of flexible and rigid pavements for highways and airports. Surface, base, and subgrade courses. Cost analysis and pavement selection. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE major; CEE 351 with C or better; CEE 353 with C or better; Credit is allowed for only CEE 412 or 511 OR Visiting University Student |
| CEE | 420 | Steel Structures | Behavior of structural components and systems. Design of steel members and connections. Load and resistance factor design methods. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE or Construction Engineering BSE major; CEE 321 or CNE 321 with C or better; CEE 353 or CNE 353 with C or better; Credit is allowed for only CEE 420 or CNE 420 OR Visiting University Student |
| CEE | 421 | Concrete Structures | Behavior of concrete structures and the design of reinforced and prestressed concrete members, including footings. Partial design of concrete building system. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE or Construction Engineering BSE major; CEE 321 or CNE 321 with C or better; CEE 353 or CNE 353 with C or better; Credit is allowed for only CEE 421 or CNE 421 OR Visiting University Student |
| CEE | 423 | Structural Design | Analysis and design of reinforced concrete steel, masonry, and timber structures. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE major; CEE 421 with C or better; Pre- or corequisite(s): CEE 420 with C or better if completed |
| CEE | 432 | Developing Software for Engineering Applications | Matrix and computer applications to structural engineering and structural mechanics. Stiffness and flexibility methods, finite elements, and differences. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE major; CEE 321 with C or better; Credit is allowed for only CEE 432 or CEE 532 |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| CEE | 440 | Hydrology | Descriptive and quantitative hydrology; hydrologic cycle, models, and systems. Rain-runoff models. Hydrologic design. Concepts, properties, and basic equations of groundwater flow. Emphasizes quantitative methods. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): CEE 341 or MEE 340 or GLG 362 with C or better; Credit is allowed for only CEE 440 or CEE 545 or CEE 598 (Hydrology) or GLG 471 or GLG 490 (Hydrology) OR Visiting University Student |
| CEE | 441 | Water Resources Engineering | Applies the principles of hydraulics and hydrology to the engineering of water resources projects; design and operation of water resources systems; water quality. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE or Environmental Engineering BSE major; CEE 341 with C or better; Credit is allowed for only CEE 441 or CEE 544 or CEE 598 (Water Resources Eng) OR Visiting University Student |
| CEE | 452 | Foundations | Applies soil mechanics to foundation and retaining wall systems, including bearing capacity, settlement, and lateral earth pressure. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE major or Construction Engineering major; CEE 351 or CNE 351 with C or better; Credit is allowed for only CEE 452 or CNE 452 OR Visiting University Student |
| CEE | 453 | Earth Structures Engineering | Principles and design considerations of earth structures. Slope stability, compaction, earth retaining structures embankments, and earthen dams. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE or Construction Engineering BSE major; CEE 351 or CNE 351; Credit is allowed for only CEE 453 or CEE 494 (Earth Structures) or CEE 598 (Earth Structures) OR Visiting University Student |
| CEE | 462 | Unit Operations in Environmental Engineering | Design and operation of unit processes for water and wastewater treatment. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prereq(s):Civ Engr BSE maj; CEE 361 w/C or better OR Enviro Engr BSE maj; EVE 302 w/C or better; Credit is allowed for only CEE 462 or EVE 461 or EVE 465 or EVE 494 (Unit Ops Drinking Water) or EVE 494 (Unit Ops Wastewater) OR Visiting University Student |
| CEE | 466 | Urban Water System Design | Capacity; planning and design of water supply; domestic and storm drainage; and solid waste systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE major; CEE 341 with C or better; CEE 361 with C or better OR Environmental Engineering BSE major; CEE 341 with C or better; EVE 261 with C or better OR Visiting University Student |
| CEE | 467 | Environmental Microbiology | Overview of the microbiology of natural and human-impacted environment, microbial detection methodologies, waterborne disease outbreaks, risk assessment, and regulations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE major; CEE 361 or MIC 220 with C or better OR Environmental Engineering BSE major; EVE 303 with C or better; Credit is allowed for only CEE 467 or CEE 567 OR Visiting University Student |
| CEE | 470 | Sustainable Environmental Biotechnologies | Introduces principles of green chemistry and green engineering and their integration in the design of sustainable bioengineering and biotechnology applications that protect environmental quality and human health. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): CEE 361; Credit is allowed for only CEE 470 or CEE 494 (Sustainable Environmental Biotechnologies) or CEE 570 or CEE 598 (Sustainable Environmental Biotechnologies) OR Visiting University Student |
| CEE | 474 | Transportation Systems Planning | Transportation systems modeling procedures, travel characteristics analysis, traffic predictions, transportation systems management, and transit planning methods. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE major; CEE 372 with C or better; CEE 384 with C or better; Credit is allowed for only CEE 474 or CEE 574 or CEE 598 (Transportation Systems Planning) OR Visiting University Student |
| CEE | 475 | Highway Geometric Design | Design of visible elements of roadway, design controls, at-grade intersections, freeways, and interchanges. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE major; CEE 372 with C or better; Credit is allowed for only CEE 475 or CEE 576 |
| CEE | 481 | Civil Engineering Project Management | Civil engineering project management and administration, planning and scheduling, cost estimating and bidding strategies, financial management, quality control and safety, and computer applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE major; CEE 321 with C or better; CEE 351 with C or better; CEE 372 with C or better; Credit is allowed for only CEE 481 or CEE 585 |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| CEE | 483 | Highway Materials, Construction, and Quality | Properties of highway materials, including aggregates, asphalt concrete, and portland cement concrete; construction practice; material delivery, placement, and compaction; quality control. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE major; CEE 351 with C or better; CEE 353 with C or better; CEE 372 with C or better; Credit is allowed for only CEE 483 or CEE 583 OR Visiting University Student |
| CEE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-12 | | |
| CEE | 485 | Sustainable Civil and Environmental Systems Engineering | Provides working knowledge of operations research methodologies, both the traditional and more modern metaheuristic techniques, to evaluate sustainable civil engineering systems and quantitatively evaluate project alternatives involving single or multiple goals. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE major; CEE 300; MAT 242 with C or better |
| CEE | 486 | Integrated Civil Engineering Design | Requires completion of a civil engineering design in a simulated practicing engineering environment. Limited to undergraduates in their final semester. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 4 | L | Prereq(s): ENG 101, 105, or 107 with C or better; Civil Engr; CEE 321; CEE 341; CEE 351; CEE 353; CEE 361; CEE 372 OR Constr Engr; CEE 321, CNE 321; CEE 351, CNE 351 OR Envir Engr; CEE 341; EVE 302; EVE 303; Credit is allowed for only CEE 486 or CNE 486 |
| CEE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-6 | | Prerequisite(s): Barrett Honors student |
| CEE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-6 | L | Prerequisite(s): Barrett Honors Engineering student; ENG 101, 105, or 107 with C or better |
| CEE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-4 | | |
| CEE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-3 | | |
| CEE | 501 | Machine Learning Techniques in Civil Engineering | General field of machine learning and deep learning, covering key principles, methods and tools. A mix of hands on coding and applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil, Environmental, and Sustainable Engineering graduate student or Data Science, Analytics and Engineering MS student or Environmental Engineering MS student |
| CEE | 502 | Front-End Planning | Principles and applications for effective early planning of capital facilities, including: finance, economics decision making, risk management, team alignment and front-end planning processes and tools. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): graduate Civil Engineering or Construction or Construction Engineering student; Credit is allowed for only CEE 502 or CON 502 or CON 598 (Front End Planning) or CEE 598 (Front End Planning) |
| CEE | 506 | Life Cycle Assessment for Civil Systems | Covers fundamental and advanced concepts of the life cycle assessment framework exploring products, services, activities and infrastructure systems. Examines key concepts for system boundary selection, functional unit selection, inventorying, impact assessment and interpretation stages with a focus on energy and environmental assessment. Advanced concepts include allocation of effects, problem formulation for assessing footprints versus decisions or policies, and assessment of infrastructure interdependencies and supply chains. Exposes tools and data sources and presents approaches for evaluation of sensitivity and uncertainty of results. Encourages students with broad sustainability interests to enroll and explore how life cycle assessment can aid their work by shifting their views from direct to cradle-to-grave effects. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only CEE 506 or CEE 598 (Lifecycle Assessment) or SOS 546 or SOS 598 (Lifecycle Assessment) |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| CEE | 507 | Urban Infrastructure Anatomy and Sustainable Development | Understanding how built environment infrastructure systems interact with ecosystem services is critical for policies and decisions directing urban sustainability. Brings together students from several disciplines to develop a semester-long research project focused on a particular urban sustainability problem in Phoenix. During the semester, students are given background on how infrastructure systems work and are interdependent, and explore tools and methods for urban sustainability assessment with peers from several disciplines. As a class, students evaluate a particular urban sustainability problem for Phoenix, interact with local policy and decision makers in developing solutions, and present their findings at the end of the semester to the ASU community. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit for only CEE 507 or 598(Urban Infrastructure Anatomy/Sustainable Dev) or PUP553 or 598(Urban Infrastructure Anatomy/Sustainable Dev) or SOS547 or SOS598 (Urban Infrastructure Anatomy & Sustainable Dev) |
| CEE | 511 | Pavement Analysis and Design | Design of flexible and rigid pavements for highways and airports. Surface, base, and subgrade courses. Cost analysis and pavement selection. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering or Construction Engineering graduate student; Credit is allowed for only CEE 412 or CEE 511 |
| CEE | 512 | Pavement Performance and Management | Pavement management systems, including data collection, evaluation, optimization, economic analysis, and computer applications for highway and airport design. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering or Construction Engineering graduate student |
| CEE | 513 | Pavement Evaluation, Maintenance, and Rehabilitation | Provides the necessary information for pavement engineers to evaluate, identify, and select reliable and cost-effective rehabilitation alternatives for existing Hot Mix Asphalt (HMA) and Portland Cement Concrete (PCC) pavements. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Civil, Environmental, and Sustainable Engineering Graduate student |
| CEE | 514 | Bituminous Materials and Mixture | Types of bituminous materials used in pavement mixtures. Chemical composition, physical properties, desirable aggregate characteristics, optimum asphalt contents, superpave asphalt binder, mixture design. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Graduate Civil Engineering student |
| CEE | 515 | Properties of Concrete | Materials science of concrete. Cement chemistry, mechanisms of hydration, interrelationships among micro- and macro-properties of cement-based materials. Mechanical properties, failure theories, fracture mechanics of concrete materials. Cement-based composite materials and the durability aspects. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Engineering CEE or Construction Engineering graduate student |
| CEE | 516 | Sustainable Energy and Material Use | Sustainable engineering; overall energy needs and impacts; thermodynamics, heat transfer, and fluid mechanisms; atmospheric energy systems; field investigation; current and future urban energy systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil, Environmental, and Sustainable Engineering graduate student; Credit is allowed for only CEE 516 or SOS 534 |
| CEE | 520 | VLSI Design for Reliability | Modeling and design solutions for very large-scale integration (VLSI) reliability. Statistical design under static and dynamic variability. Aging effects and resilient design techniques. Radiation effects in VLSI. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student; Credit is allowed for only CEE 520 or EEE 520 or EEE 598 (VLSI Design for Reliability) |
| CEE | 521 | Stress Analysis | Introduces tensors: kinematics, stress analysis, and constitutive assumptions leading to elastic and plastic behavior. Strain energy and energy methods; applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only CEE 521 or MAE 520 |
| CEE | 523 | Structural Damage | Fundamental mechanisms of damage in infrastructural materials from both imposed mechanical and environmental loading. Covers assessment of damage through noninvasive tools involving stress-wave, electrical, electro-chemical, radiographic and optical techniques. Methods for strengthening of structural elements and selected methods of design of strengthening systems for concrete and steel structures. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): graduate Civil or Construction Engineering student; Credit is allowed for only CEE 523 or CEE 598 (Structural Damage Evaluation and Strengthening) |
| CEE | 524 | Advanced Steel Structures | Strength properties of steel and their effects on structural behavior. Elastic design of steel structures. Plastic analysis and design of beams, frames, and bents. Plastic deflections. Plastic design requirements. Multistory buildings. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Engineering CEE Graduate student |
| CEE | 525 | Composites for Infrastructure | Composites could be continuous laminates and FRP as well as cement-based composites, including random and heterogeneous such as fiber-reinforced concrete and asphalt, or new technologies in terms of ultra-high performance concrete and textile fiber reinforced concrete as well as other CEE-based FRP composites. Uses effective media theories to predict the mechanical properties of composite laminate theory as the basis. Failure theories for these random and oriented composite materials, the influence of phase fractions and their distribution including the porosity, stochastic treatment of random heterogeneous composites, and fracture mechanics of the composites. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CEE 525 or CEE 598 (Design of Composites for Infrastructure) |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| CEE | 526 | Finite Elements for Engineers | Direct stiffness, method of weighted residuals, weak formulation, and variational techniques in the solution of engineering problems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): graduate Engineering student; APM 505 or MAE 501 with C or better; Credit is allowed for only CEE 526 or MAE 527 |
| CEE | 527 | Advanced Concrete Structures | Ultimate strength design. Combined shear and torsion. Serviceability. Plastic analysis. Special systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Engineering CEE or Construction Engineering graduate student |
| CEE | 528 | Advanced Mechanics of Materials | Covers topics in advanced mechanics of materials, including theories of stress and strain, plane elasticity problems, failure criteria, beam bending and torsion, energy methods, plasticity in steel and concrete, linear and nonlinear viscoelastic behavior. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CEE 528 or CEE 598 (Advanced Mechanics of Materials) |
| CEE | 530 | Prestressed Concrete | Materials and methods of prestressing. Analysis and design for flexure, shear, and torsion. Prestress losses due to friction, creep, shrinkage, and anchorage set. Statically indeterminate structures. Design of flat slabs, bridges, and composite beams. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Engineering CEE or Construction Engineering graduate student |
| CEE | 532 | Developing Software for Engineering Applications | Fundamentals of engineering software development and object-oriented programming. Programming in C++. Development of matrix toolbox. Introduces finite element method. Computer graphics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Engineering CEE or Construction Engineering graduate student; Credit is allowed for only CEE 432 or CEE 532 |
| CEE | 533 | Structural Optimization | Linear and nonlinear programming. Problem formulation. Design sensitivity analysis. FEM-based optimal design of structural and mechanical systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; MAE 501 with C or better; Credit is allowed for only CEE 533 or EEE 589 or MAE 521 |
| CEE | 536 | Structural Dynamics for Civil Engineering | Free vibration and forced response of discrete and continuous systems, exact and approximate methods of solution, response spectra, computational techniques, special topics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Construction Engineering or Engineering CEE graduate student |
| CEE | 540 | Groundwater Hydrology | Physical properties of aquifers, well pumping, subsurface flow modeling, unsaturated flow, numerical methods, land subsidence, and groundwater pollution. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Engineering CEE Graduate student |
| CEE | 541 | Surface Water Hydrology | Hydrologic cycle and mechanisms, including precipitation, evaporation, and transpiration; hydrograph analysis; flood routing; statistical methods in hydrology and hydrologic design. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Engineering CEE Graduate student |
| CEE | 543 | Water Resources Systems | Theory and application of quantitative planning methodologies for the design and operation of water resources systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Engineering CEE Graduate student |
| CEE | 544 | Water Resources Engineering | Applies fundamental conservation laws of fluid mechanics to open channel flow. Uses the governing physical equations of open channel flow to solve a range of engineering problems, including design of canals, computation of water surface profile, design of spillways, stilling basins and energy dissipators. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CEE 441 or CEE 544 or CEE 598 (Water Resources Eng) |
| CEE | 545 | Hydrology | Descriptive and quantitative hydrology; hydrologic cycle, models and systems. Rain-runoff models. Hydrologic design. Concepts, properties and basic equations of groundwater flow. Emphasizes quantitative methods. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil, Environmental and Sustainable Engineering MS, MSE or PhD major; Credit is allowed for only CEE 440 or CEE 545 or CEE 598 (Hydrology) or GLG 471 or GLG 490 (Hydrology) |
| CEE | 546 | Advanced Watershed Hydrology | Watershed processes leading to runoff generation and the transformation of meteorological forcing through a hydrologic system. Emphasizes physical mechanisms and their treatment in numerical models. Quantification of uncertainty in hydrological modeling through probabilistic methods. Provides hands-on experience with data analysis and hydrologic models. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CEE 546 or GLG 546 or GLG 598 (Advanced Watershed Hydrology) |
| CEE | 548 | Advanced Environmental Analysis | Statistical methods used to describe, analyze, test and model environmental data. Specifically focuses on exploratory data analysis, the main probability distributions used to describe environmental data, hypothesis testing, time series analysis and multivariate data analysis. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEE | 549 | Ecohydrology of Semiarid Landscapes | Interactions between terrestrial plants and limiting resources in arid and semiarid environments. Temporal and spatial aspects of plant-water relations. Process-oriented discussion and examples using simple and complex numerical models. Provides experience with data analysis and instrumentation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CEE 549 or CEE 598 (Ecohydrology of Semiarid Landscapes) or GLG 549 or GLG 598 (Ecohydrology of Semiarid Landscapes) |
| CEE | 550 | Soil Behavior | Physicochemical aspects of soil behavior, stabilization of soils, and engineering properties of soils. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Engineering CEE or Construction Engineering graduate student |
| CEE | 551 | Advanced Geotechnical Testing | Odometer, triaxial (static and cyclic) back pressure saturated and unsaturated samples, pore pressure measurements, closed-loop computer-controlled testing, in-situ testing, and sampling. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Engineering CEE or Construction Engineering graduate student |

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| CEE | 552 | Soil Improvement | Physical, chemical and biological methods for improving (modifying) the properties of the ground for engineering purposes; the applicability of these techniques to different ground conditions (e.g., sand, silt, clay) and design objectives (e.g., erosion control, stability, liquefaction mitigation); design of ground improvement programs for common ground modification techniques used in practice. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): graduate Civil Engineering student; Credit is allowed for only CEE 552 or CEE 598 (Soil Improvement) |
| CEE | 553 | Advanced Soil Mechanics | Applies theories of elasticity and plasticity to soils, theories of consolidation, failure theories, and response to static and dynamic loading. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Engineering CEE or Construction Engineering graduate student |
| CEE | 554 | Shear Strength and Slope Stability | Shear strength of saturated and unsaturated soils strength-deformation relationships, time-dependent strength parameters, effects of sampling, and advanced slope stability. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Engineering CEE or Construction Engineering graduate student |
| CEE | 555 | Advanced Foundations | Deep foundations, braced excavations, anchored bulkheads, reinforced earth, and underpinning. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Engineering CEE Graduate student |
| CEE | 557 | Geoenvironmental Engineering | Environmental site assessment, solid waste management, waste containment system design, soil and groundwater remediation, soil erosion control, brownfields development. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Engineering CEE or Construction Engineering graduate student |
| CEE | 558 | Unsaturated Soil Mechanics | Advanced unsaturated soil mechanics theory, including introduction of stress-state variables and constitutive relationships for unsaturated flow and stress-strain applications. Knowledge of CEE 351 or equivalent material is required to be successful in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Civil, Environmental, and Sustainable Engineering Graduate student |
| CEE | 559 | Geotechnical Earthquake Engineering | Characteristics of earthquake motions, selection of design earthquakes, site response analyses, seismic slope stability, and liquefaction. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Engineering CEE or Construction Engineering graduate student |
| CEE | 560 | Soil and Groundwater Remediation | Presents techniques for remediation of contaminated soils and groundwaters with basic engineering principles. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Engineering CEE Graduate student |
| CEE | 561 | Physical-Chemical Treatment of Water and Waste | Theory and design of physical and chemical processes for the treatment of water and wastewaters. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3-4 | | Pre-requisite: Engineering CEE Graduate student |
| CEE | 562 | Environmental Biochemistry and Waste Treatment | Theory and design of biological waste treatment systems. Pollution and environmental assimilation of wastes. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3-4 | | Pre-requisite: Engineering CEE Graduate student |
| CEE | 563 | Environmental Engineering Chemistry | Analyzes water, domestic and industrial wastes, lab procedures for pollution evaluation, and the control of water and waste treatment processes. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Engineering CEE Graduate student |
| CEE | 564 | Contaminant Fate and Transport | Fate and transport processes with emphasis on governing equations and parameters relevant to the migration of chemicals in the environment. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Engineering CEE Graduate student |
| CEE | 565 | Advanced Environmental Biotechnology | Emerging topics in environmental biotechnology and related problem-solving techniques. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; CEE 562; CEE 567 |
| CEE | 566 | Water Reuse and Reclamation | Reuse and reclamation of water, tertiary treatment technologies of water for reuse applications, cloth filtration and UV disinfection, agricultural reuse and engineering, landscape irrigation, industrial reuse, environmental restoration, groundwater recharge, direct and indirect potable reuse, water reuse planning and dual distribution systems, storage requirements. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CEE 566 or CEE 598 (Water Reuse & Reclaim) |
| CEE | 567 | Environmental Microbiology | Overview of the microbiology of natural and human-impacted environment, microbial detection methodologies, waterborne disease outbreaks, risk assessment, and regulations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisites: Engineering CEE Graduate student; Credit is allowed for only CEE 467 or 567 |
| CEE | 569 | Air Quality Engineering | Chemical and physical processes by which air pollutants are generated and controlled with an emphasis on urban air quality. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only CEE 569 or CHE 469 or CHE 569 |
| CEE | 570 | Sustainable Environmental Biotechnologies | Introduces principles of green chemistry and green engineering and their integration in the design of sustainable bioengineering and biotechnology applications that protect environmental quality and human health. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisites: Civil, Environmental and Sustainable Engineering MS, MSE or PhD student; Credit is allowed for only CEE 470, 494 (Sustainable Environmental Biotechnologies), 570 or 598 (Sustainable Environmental Biotechnologies) |

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| CEE | 572 | Life Cycle Assessment for Civil Systems | Concepts of the life cycle assessment (LCA) framework exploring products, services, activities and infrastructure systems. Examines key concepts for system boundary selection, functional unit selection, inventoring, impact assessment and interpretation stages with a focus on energy and environmental assessment. Advanced concepts include allocation of effects, problem formulation for assessing footprints versus decisions or policies, and assessment of infrastructure interdependencies and supply chains. Exposure to tools and data sources occur throughout the course; presents approaches for evaluation of sensitivity and uncertainty of results. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): graduate Civil Engineering or Construction Engineering major; Credit is allowed for only CEE 572 or CEE 598 (Life Cycle Assessment for Civil Systems) |
| CEE | 573 | Transportation Operations | Driver, vehicle, and roadway characteristics; traffic control devices; traffic engineering studies; and transportation system management measures. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Engineering CEE Graduate student |
| CEE | 574 | Transportation Systems Planning | Planning; energy and environment; sustainability and climate change; past, present and future technologies; demand analysis; economic theory; network analysis and system optimization. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil, Environmental, and Sustainable Engineering or Construction Engineering graduate student; Credit is allowed for only CEE 474 or CEE 574 or CEE 598 (Transportation Systems Planning) |
| CEE | 576 | Highway Geometric Design | Design of visible elements of roadway, design controls, at-grade intersections, freeways, and interchanges. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Engineering CEE Graduate student; Credit is allowed for only CEE 475 or 576 |
| CEE | 578 | Activity-Travel Behavior Modeling | Regression and discrete choice models of activity-travel behavior for transportation demand forecasting; computational travel forecasting methods and statistical modeling tools based on the principles of microsimulation; interpretation and use of econometric model outputs for transportation planning and policy analyses. | N | LEC | N | OP3 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only CEE 578 or CEE 598 (Activity Travel Behavior Model) |
| CEE | 579 | Transportation Data Collection and Analysis Methods | Types of transportation data; travel survey data collection and analysis methods to support transportation planning and modeling; sampling methods, experimental design, survey methodology and classic exploratory statistical analysis of travel survey data. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only CEE 579 or CEE 598 (Transportation Data Collection and Analysis) |
| CEE | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | N | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-12 | | Pre-requisite: Engineering CEE Graduate student |
| CEE | 581 | Advanced Earth Systems Engineering and Management | Advanced introduction to earth systems engineering and management, and the technological, economic and cultural systems underlying the terraformed Earth. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Civil, Environmental, and Sustainable Engineering Graduate student; Credit is allowed for only CEE 581 or SOS 552 |
| CEE | 582 | Industrial Ecology and Design for Sustainability | The conceptual, ethical, and practical challenges in the design, manufacture, and life cycle performance of products; environmental evaluation via materials flow analysis and life cycle assessment; global economic, environmental, cultural, and social aspects of competitive and functional product development and manufacture. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil, Environmental, and Sustainable Engineering graduate student; Credit is allowed for only CEE 582 or SOS 515 |
| CEE | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-12 | | Prerequisite(s): Civil, Environmental, and Sustainable Engineering or Construction Engineering graduate student; Credit is allowed for only CEE 483 or CEE 583 |
| CEE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-12 | | Pre-requisite: Civil, Environmental, and Sustainable Engineering Graduate student |
| CEE | 585 | Civil Engineering Project Management | Civil engineering project management and administration, planning and scheduling, cost estimating and bidding strategies, financial management, quality control and safety, and computer applications. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): MS, MSE or PhD Civil, Environmental and Sustainable Engineering major. Credit is allowed for only CEE 481 or CEE 585 |
| CEE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | N | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-12 | | Pre-requisite: Civil Engineering MS or MSE student |
| CEE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-12 | | Pre-requisite: Engineering CEE Graduate student |
| CEE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-12 | | Pre-requisite: Civil Engineering MS or MSE student |

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| CEE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-12 | | Pre-requisite: Civil, Environmental, and Sustainable Engineering Graduate student |
| CEE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1 | | Pre-requisite: Civil Engineering MS or MSE student |
| CEE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-4 | | Prerequisite(s): Civil, Environmental, & Sustainable Engr MS, Civil, Environmental, & Sustainable Engr MSE, Civil, Environmental, & Sustainable Engr PhD, Construction Engr MSE, Environmental Engr MS, or Sustainable Engr MSE graduate student |
| CEE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | N | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-12 | | Pre-requisite: Civil Engineering MS or MSE student |
| CEE | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | N | IND | Y | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-12 | | Pre-requisite: Civil Engineering PhD student |
| CEE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | N | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-15 | | Pre-requisite: Civil Engineering PhD student |
| CEE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | IND | Y | Z3 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1 | | Pre-requisite: Civil Engineering PhD student |
| CEE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-15 | | Prerequisite(s): Civil Engineering PhD student |
| CEL | 100 | Great Ideas of Politics and Ethics | Introduces fundamental debates and ideas of politics in both the West and beyond. Surveys ancient, medieval and modern thinkers in the Greek, Jewish, Christian and Muslim traditions, tracing their influences on contemporary debates with focus on the great questions of human nature, social and political life, and the relationship between religion and politics. Studies both the ideas and historical statesmanship of such figures as Plato, Cicero, Tertullian, Aquinas, Saadyah Gaon, Maimonides, Al-Farabi, Ibn Rushd (Averroes) and Al-Ghazali, as well as various leaders and writers from modernity in America and abroad. Includes separate discussion to encourage active learning; expects students to write analytical papers and make a class presentation. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | HU | Credit is allowed for only CEL 100 or CEL 194 (Great Ideas of Politics and Ethics) |
| CEL | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-3 | | |
| CEL | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-4 | | |
| CEL | 200 | Great Debates in American Politics | Introduces fundamental ideas and debates about liberty and equality in American thought from the colonial era to the present, focusing on major political figures and issues--ideas that continue to shape political debates in 21st-century America, thus providing crucial foundations for future leadership roles in either public affairs or the private sector. A major theme is the tension between liberty and equality and between constitutionalism and democracy, in three centuries as a democratic, commercial republic. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | HU | |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|--|
| CEL | 235 | Debating American Constitutionalism | Examines the arguments and questions raised during the debates over the 1787 Constitution, which provide resources to understand and contribute to contemporary political debates. Reviews fundamental issues such as political power, federalism, republicanism, representation, separation of powers, protection of rights, slavery and the character of the people and their leaders. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | HU | Credit is allowed for only CEL 235 or CEL 294 (Federalists, Anti-Federalists & Enduring Debate) |
| CEL | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-4 | | |
| CEL | 300 | Debating Capitalism | Explores and debates the politics, economics and morality of "capitalism"--the system of society that allows space for markets, profit-seeking and money-making. Readings cover the period from antiquity to modern commercial society. Authors studied include Aristotle, the Apostles, Aquinas, Locke, Franklin, Smith, Marx and Weber. Also serves as a broad introduction to the study of political economy. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only CEL 300 or CEL 394 (Capitalism and Great Economic Debates) OR Visiting University Student |
| CEL | 304 | Classical to Modern Economic Thought | Provides an introduction to the schools of thought concerned with explaining and influencing economic activity. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s): ECN 211 or 213 with C or better; ECN 212 or 214 with C or better; MAT 211 or 271 with C or better; Credit is allowed for only CEL 304 or ECN 304 or CEL/ECN 394 (Classical to Modern Economic Thought) OR Visiting University Student |
| CEL | 305 | Classical Political Statecraft | Examines political leadership, ambition and the common good in the texts of thinkers from the Ancient world. From thinkers as diverse as Sun Tzu, Thucydides and Tacitus, to Plato, Cicero and Dante, asks questions about the essence of the common good, justice and war as they were lived and discussed by the contemporaries of the age. Proceeds through discussion and student-led presentations of the enduring questions these texts raise. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| CEL | 320 | Modern Political Thought: Origins and Debates about Modern Liberty | Examines crucial debates in modern political thought, especially in the United States. A focus is defining what is distinctive about "modern thought," with recourse to Tocqueville's Democracy in America on the difference between ancien régime monarchies and modern liberal democratic polities. Other primary readings include works from such seminal moderns as Machiavelli, Hobbes and Locke, but America (not Europe) is the ultimate focus. Queries the core documents and ideas of the American Founding, and discerns the complex interplay of classical republican and liberal intellectual traditions. Close reading of The Federalist and selected Anti-Federalist writings prepare for a broader re-examination of the American political tradition, concluding with the ongoing dispute among progressivism, socialism and conservatism. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only CEL 320 or CEL 394 (Mod Political Thght:Orgns & Debats abt Mod Librty) |
| CEL | 345 | Modern Economic Classics | Explores the ideas and writings of the leading economic thinkers of the last 100 years. Emphasizes those thinkers who have had a major impact on public policy. Thinkers covered include Keynes, Hayek, Schumpeter, Polanyi, Galbraith, Friedman and Piketty. Also attends to the way economics and, more generally, social science have increasingly shaped public policy over the course of the last century. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only CEL 345 or CEL 394 (Clsscs of Mod Ecnmic Thght:Smith to Hayek & Beyond) |
| CEL | 350 | Philosophy, Politics and Economics | Prepares the foundation for students to become active participants, as citizens and leaders, in a liberal democratic society that faces an uncertain future. Provides familiarity with core conceptual tools provided by philosophy, politics and economics, and an appreciation for the foundation they provide together to address social and political uncertainties we face today as well as in the future. Reliance on any one disciplinary set of tools and skills is useful, of course, but the real challenges of any liberal democracy are met by neither technocratic nor bureaucratic solutions. They require an awareness of the relevance of ethics, politics and economics, as well as an appreciation for the limitations of each and the necessity of thinking through their interactions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only CEL 350 or CEL 394 (Philosophy, Politics and Economics) OR Visiting University Student |

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| Subject | CatalogNbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|---|
| CEL | 375 | Politics and Leadership in the Age of Revolutions, 1776-1826 | Examines political thought and political leadership in the era of the American, French, Haitian and Latin American Revolutions. Begins with a look at Enlightenment political thought, focusing on natural rights, constitutionalism and political economy. Then considers leading political ideas connected with each of the great upheavals that began with the American Revolution and ended, 50 years later, with the independence of Latin America. Examines the record of political leadership during the same episodes, via biographies of figures such as Washington and Jefferson, Sièyes and Robespierre, Toussaint and Napoleon, Bolivar and San Martin. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only CEL 375 or CEL 394 (Politics & Leadership in the Age of Revolution) |
| CEL | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-4 | | |
| CEL | 429 | Studies in European Literature and Culture | Literary, cultural, and historical issues. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s) with C or better: ENG 101, 105, 107; ENG 200; one ENG 200- or 300-level literature course OR ENG 101, 105, 107; min 45 hours; Credit is allowed for only CEL 429 or ENG 429 or REL 429 or SLC 429 or THE 429 OR Visiting University Student |
| CEL | 475 | Statesmanship and American Grand Strategy | Discusses great ideas and figures in political leadership and statesmanship, from ancient Greece and early modern Europe to America's founding and the present global uncertainty, especially the major arguments about war, peace and international affairs--ideas that shape foreign policy and grand strategy debates in the 21st century, thus providing crucial foundations for future leadership roles. Major thinkers and episodes include Thucydides, Plutarch, Montesquieu, George Washington, Lincoln, Truman and the Cold War, and Reagan, as well as contemporary debates about America's post-Cold War strategies for its leadership role in global affairs. Incorporates a Marshall brief (a policy presentation) and a group simulation exercise. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only CEL 475 or CEL 494 (Statesmanship and American Grand Strategy) |
| CEL | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-12 | | |
| CEL | 485 | Capstone Seminar in Civic and Economic Thought and Leadership | Integrates theory and practice by studying selected topics of the intellectual foundations for leadership with exemplars of leadership and statesmanship, culminating in a research presentation and paper. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 60 hours |
| CEL | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-6 | | |
| CEL | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-6 | | |
| CEL | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-4 | | |
| CEL | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-7 | | |
| CEL | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-3 | | |
| CEL | 501 | Literary Leaders | Examines literary leaders, both in respect to depictions of leadership in works of classical and compelling literature, as well as literary authors who led the way and set the standards in their respective genres. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CEL 501 or CEL 598 (Literary Leaders) |
| CEL | 503 | Classic Texts in Political Philosophy and Justice | Provides an overview of the four major periods of political thought--ancient, medieval, modern and post-modern--and engages students in close readings of classic texts from each of these periods. The concept of justice serves as an organizing theme, complemented by analyses of other political concepts such as virtue, the common good, natural law, rights, liberty and equality. Texts include: Plato's Republic, Aristotle, Politics, St. Thomas Aquinas' Summa Theologica, Machiavelli's The Prince, Thomas Hobbes' Leviathan, John Locke's Second Treatise of Government, Hamilton, Madison, Jay's The Federalist and John Rawls' A Theory of Justice. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|--|
| CEL | 510 | Classic Texts in Natural Science and Philosophy | Studies the development of natural philosophy and theories of scientific knowledge from Plato and Aristotle to Newton and Darwin. Gives particular attention to the period known as the Scientific Revolution, inspired most famously by Francis Bacon. Explores the relationships among natural philosophy, epistemology, moral philosophy and political philosophy. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEL | 513 | Classic Texts in Leadership and Statesmanship | Encounters classic texts featuring analyses and discussions of important historical leaders and their actions. These texts both situate examples of leadership and statesmanship in their historical context, and highlight timeless principles of wise and effective leadership. Texts include Thucydides' History of the Peloponnesian War, Plutarch's Lives, Cicero's On Duties, Shakespeare's histories, and the writings and speeches of Abraham Lincoln. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CEL 513 or ENG 513 |
| CEL | 520 | Classic Texts in the Foundations of Logic | Provides an introduction to the principles of logical thought through close readings of Euclid's Elements and Aristotle's Organon. Students learn and demonstrate Euclidean geometric proofs in class, and reflect in discussion upon the relationship between Euclidean geometry and the logical principles analyzed in Aristotle's works. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEL | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEL | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEL | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRO | Y | GNA | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEL | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEL | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-4 | | |
| CEL | 599 | Thesis | Supervised research focused on preparation of a thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEN | 503 | Algorithms for Computer-Aided Design of Digital Systems | Provides the algorithmic underpinnings of CAD (Computer-Aided Design) tools for digital systems--from high-level algorithmic specifications down to an optimized network of logic cells. Covers the underlying theory and algorithms that have been incorporated into many commercial tools over the past two decades. Covers behavioral to RTL (Register-Transfer Level) synthesis, and from RTL to logic, including combinational and sequential network optimization, gate and interconnect timing models, retiming of sequential networks, clock tree design and optimization. To be successful in this course, students need an undergraduate background in combinational and sequential logic design, discrete mathematics, and a strong background (preferably at the graduate level) in fundamentals of data structures and algorithms; strong experience in programming (C or C++) and coding and documentation standards. (All code developed in class is in Python). | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Comp Scie or Comp Engrn or Elect Engrn graduate student; Credit is allowed for only CEN 503 or CEN 591 (Digital Logic Synthesis&Verifi) or CEN 598 (Algo Synth & Opt Digital Sys) or CSE 591 (Digital Logic Synthesis&Verifi) |

| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| CEN | 507 | Introduction to Digital Image Processing and Analysis | Core course with four sections for students seeking to concentrate in biomedical imaging informatics. The first section analyzes the concepts and terms of image processing and analysis. The second section evaluates key algorithms in image processing (e.g., image filtering, Fourier transform, image restoration). The third section examines advanced image analysis methods (e.g., image segmentation, mathematical morphology, image topology, shapes and boundaries, color processing, image coding and compression, wavelet, and special effects). The fourth section develops the practical applications of image processing and analysis in medicine and biology. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BMD 507 or BME 507 or BMI 507 or CEN 507 or CSE 507 |
| CEN | 571 | Hardware Acceleration and FPGA Computing | Graduate students collaboratively work on challenging class projects that focus on designing and optimizing hardware accelerators for computationally intensive algorithms to advance real-life applications. Topics include energy-delay models, timing, circuit optimization, architecture techniques, architecture flexibility, DSP arithmetic, data flow control, and field-programmable gate (FPGA) essentials. In order to be successful in this course, students should have prior knowledge of at least one of the following topics: (1) digital integrated circuits and VLSI systems; or (2) a domain of computational algorithms, e.g., digital signal processing, machine learning. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science, Computer Engineering, or Electrical Engineering graduate student; Credit is allowed for only CEN 571 or CEN 598 (Hardware Acceleration and FPGA Computing) |
| CEN | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | |
| CEN | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | |
| CEN | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEN | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEN | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEN | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | |
| CEN | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEN | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEN | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEN | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEN | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEN | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| CEN | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEN | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEN | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CGF | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | College of Global Futures | 1-4 | | |
| CGF | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | College of Global Futures | 1-4 | | |
| CGF | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | College of Global Futures | 1-4 | | |
| CGF | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Global Futures | College of Global Futures | 1-12 | | |
| CGF | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | LEC | Y | Z1 | College of Global Futures | College of Global Futures | 1-6 | | Prerequisite(s): Barrett Honors student |
| CGF | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | LEC | Y | Z1 | College of Global Futures | College of Global Futures | 1-6 | | Prerequisite(s): Barrett Honors student |
| CGF | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | College of Global Futures | 1-4 | | |
| CGF | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | Y | LEC | Y | OPT | College of Global Futures | College of Global Futures | 1-6 | | Prerequisite(s): Barrett Honors student |
| CGF | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Global Futures | College of Global Futures | 1-7 | | |
| CGF | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Global Futures | College of Global Futures | 1-3 | | |
| CGF | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Global Futures | College of Global Futures | 1-12 | | |
| CGF | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Global Futures | College of Global Futures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CGF | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Global Futures | College of Global Futures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CGF | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Global Futures | College of Global Futures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CGF | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Global Futures | College of Global Futures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHE | 211 | Introduction to Chemical Processing | Applies chemical engineering analysis and problem solving to chemical processes material and energy balance methods and skills. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): CHM 116 with C or better; MAT 266 or 271 with C or better OR Visiting University Student |
| CHE | 231 | Introduction to Transport Phenomena I: Fluids | Transport phenomena, with emphasis on fluid systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): CHE 211 with C or better; MAT 267 or 272 with C or better; PHY 121 with C or better; Pre- or corequisite(s): MAT 274 or 275 with C or better if completed |
| CHE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-4 | | |
| CHE | 334 | Introduction to Transport Phenomena II: Heat and Mass Transfer | Applies heat and mass transport principles. Design of heat exchangers and continuous contactors. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Chemical Engineering BSE major; CHE 231 with C or better; MAT 275 with C or better; Pre- or corequisite(s): CHE 384 with C or better if completed OR Visiting University Student |

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| CHE | 342 | Introduction to Applied Chemical Thermodynamics | Applies conservation and accounting principles with nonideal property estimation techniques. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Chemical Engineering BSE major; CHE 231 with C or better; Pre or corequisite(s): MAT 267 or 272 with C or better if completed OR Visiting University Student |
| CHE | 352 | Chemical Engineering Lab I | Engineering lab equipment, data collection and analysis; strengthens ability to generate written reports and oral presentations; reinforces teamwork skills; strengthens and extends the understanding of earlier technical contents in the curriculum; strengthens abilities in recognizing and understanding key issues associated with lab and process safety. | N | LAB | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | L | Prerequisite(s): Chemical Engineering BSE major; CHE 334 with C or better; CHE 342 with C or better; ENG 101, 105, or 107 with C or better; PHY 131 with C or better OR Visiting University Student |
| CHE | 384 | Numerical Methods for Chemical Engineers | Study and application of numerical methods in solving problems commonly encountered in chemical engineering. Emphasizes chemical engineering applications using MATLAB and Excel. Roots, linear algebraic equations, matrices, curve fitting, differentiation, integration, ordinary and partial differential equations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | CS | Prerequisite(s) w/C or better: Chm Engr BSE major; MAT 242, 342, 343; MAT 274, 275; Pre- or coreq(s): MAT 267, 272 w/C or better if completed; Credit allowed for CEE 384, CHE 384, CHE 394 (Num Mthds for Chm Eng), or MAE 384 OR Visiting University Student |
| CHE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-4 | | |
| CHE | 432 | Principles of Chemical Engineering Design | Chemical process hierarchical synthesis, modeling, design and optimization, process flow simulation, separation system design, energy integration, project-scale engineering economics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Chemical Engineering BSE major; CHE 433 with C or better; CHE 442 with C or better OR Visiting University Student |
| CHE | 433 | Modern Separations | Design of modern separation equipment in chemical engineering other than fractionation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; CHE 334 with C or better; CHE 342 with C or better |
| CHE | 442 | Introduction to Chemical Reactor Design | Applies kinetics to chemical reactor design. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; CHE 334 with C or better; CHE 342 with C or better; Credit is allowed for only CHE 442 or CHE 505 |
| CHE | 451 | Chemical Engineering Laboratory II | Operation, control and design of experimental and industrial process equipment; strengthens abilities in recognizing and understanding key issues associated with lab and process safety; group research projects. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Chemical Engineering BSE major; CHE 352 with C or better; CHE 384 with C or better; CHE 433 with C or better; CHE 442 with C or better OR Visiting University Student |
| CHE | 461 | Process Dynamic Control | Process dynamics, instrumentation, and feedback applied to automatic process control. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | CS | Prerequisite(s): Chemical Engineering BSE major; CHE 384 with C or better; CHE 433 with C or better; CHE 442 with C or better OR Visiting University Student |
| CHE | 462 | Process Design | Applies economic principles to optimize equipment selection and design; process safety; development and design of process systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | L | Prerequisite(s): Chemical Engineering BSE major; CHE 432 with C or better; CHE 433 with C or better; CHE 442 with C or better; ENG 101, 105, or 107 with C or better |
| CHE | 468 | Polymer Principles and Processing | Covers relevant polymer synthesis techniques, molecular and structural characterization methods, elastic deformation and viscoelasticity models related to processing, and block polymer morphology. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prereq(s): Chem Eng BSE mjr; CHE 231 w/ C or better; CHM 233 w/ C or better; Credit for only CHE 468 or CHE 568 or CHE 494(PolyPrin & Proc) or CHE 598(PolyPrin & Proc) or CHM 494(PolyPrin & Proc) or CHM 598(PolyPrin & Proc) OR Visiting University Student |
| CHE | 469 | Air Quality Engineering | Chemical and physical processes by which air pollutants are generated and controlled with an emphasis on urban air quality. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Chem Engr BSE major; CHE 342 OR Civil Engr BSE major; CEE 361 OR Environmental Engr BSE major; EVE 302 OR Materials Scie & Engr BSE major; MSE 330; Credit is allowed for only CEE 569 or CHE 469 or CHE 569 OR Visiting University Student |
| CHE | 473 | Fuel Cells and Biofuel Cells | Provides a comprehensive analysis of fuel cell technologies. Begins by discussing the different types of fuel cells and the thermodynamic and kinetic fundamentals that control their performance. Discusses the materials and techniques used to characterize fuel cells. Finishes with a specific analysis of biofuel cells and their applications. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Chemical Engineering BSE major; CHE 231 with C or better; Credit is allowed for only CHE 473 or CHE 494 (Fuel Cells & Biofuel Cells) or CHE 573 or CHE 598 (Fuel Cells & Biofuel Cells) OR Visiting University Student |

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| CHE | 475 | Biochemical Engineering | Applies chemical engineering methods, mass transfer, thermodynamics, and transport phenomena to industrial biotechnology. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Pre-requisites: CHE 334 and 442 |
| CHE | 477 | Inorganic Membranes and Thin Films | Synthesis and properties of various types of inorganic membranes and thin films, with focus on the sol-gel process and its use for synthesis of porous materials and thin films. Inorganic membranes and thin films represent a new research area of great importance for chemical engineers, materials scientists and chemists. They are finding increasing applications in separation processes, chemical reactor systems, fuel cells and batteries of impact on energy and environment. Requires prior knowledge of inorganic chemistry, physical chemistry, calculus, thermodynamics, mass transport, basic materials science, and separation processes to be successful in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): CHE 433 or MSE 420; Credit is allowed for only CHE 477 or CHE 577 or CHE 494 (Inorganic Membrane and Films) or CHE 598 (Inorganic Membrane and Films) |
| CHE | 478 | Biomass Energy Conversion Technology | Fundamentals and applications of biomass conversion process technologies. Gives a brief review on fundamentals of engineering thermodynamics, the chemistry of plant materials and reaction kinetics. Focuses on surveying the state-of-the-art technologies for cost-effective biomass conversion to biofuels including liquid fuels (bioethanol and biodiesel) and gaseous fuels (methane, hydrogen and synthesis gas). Considers both biological and thermochemical processes for the conversion of biomass to biofuels and chemicals. Also covers applications of biofuels in transportation, energy production in power plants and fuel cells, and economics, environmental impact, and policy issues relevant to biofuels. The course is of value to engineering students who are interested in the technologies of the developing field of biofuels, as well as engineers, managers and policymakers. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Chem Engrnr BSE major; CHM 116 w/ C or better; CHE 231 w/ C or better; Credit is allowed for only CHE 478 or CHE 578 or CHE 494 (Biomass Energy Conversion Tech) or CHE 598 (Biomass Energy Conversion Tech) OR Visiting University Student |
| CHE | 479 | Microbial Bioprocess Engineering | Investigates the application of basic chemical engineering principles to the design and understanding of biochemical and biological processes. Discusses enzyme kinetics and enzymatic processes; specifically emphasizes the development and application of whole cell bioprocesses for the production of chemicals, food, biofuels and pharmaceuticals, as well as applications in bioremediation. In addition to traditional topics such as the stoichiometry and kinetics of microbial growth, bioreactor design/operation, and downstream processing, also introduces contemporary topics of metabolic engineering and synthetic biology. Complements theoretical concepts presented in lectures with the presentation of relevant research topics and/or industrial applications. Introduces fundamental biochemical engineering concepts, primarily to chemical engineers. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Chemical Engineering BSE major; CHE 342 with C or better; CHE 442 with C or better; Credit is allowed for only CHE 479 or CHE 494 (Microbial Bioprocess Engineering) or CHE 598 (Microbial Bioprocess Engineering) |
| CHE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-12 | | |
| CHE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-6 | | Prerequisite(s): Barrett Honors student |
| CHE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| CHE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-4 | | Prerequisite(s): Fulton Engineering undergraduate student OR Visiting University Student |
| CHE | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-7 | | Prerequisite(s): Fulton Engineering undergraduate student |
| CHE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-3 | | |
| CHE | 518 | Fundamentals of Semiconductor Packaging | Multidisciplinary foundation course in addressing electrical, thermal, materials, chemical, manufacturing and reliability problems in semiconductor packaging. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only CHE 518 or EEE 518 or MAE 518 or MSE 548 |
| CHE | 533 | Transport Processes I | Unified treatment of momentum, heat, and mass transfer from molecular theory, and continuum points of view. Continuum equations of microscopic and macroscopic systems and multicomponent and multiphase systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): graduate Engineering major. Credit is allowed for only BME 533 or CHE 533 or MAE 533 |
| CHE | 543 | Thermodynamics of Chemical Systems | Classical and statistical thermodynamics of nonideal physicochemical systems and processes; prediction of optimum operating conditions. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student |
| CHE | 544 | Chemical Reactor Engineering | Reaction rates, thermodynamics, and transport principles applied to the design and operation of chemical reactors. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student |

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| CHE | 561 | Advanced Process Control | Dynamic process representation, linear optimal control, optimal state reconstruction, and parameter and state estimation techniques for continuous and discrete time systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student |
| CHE | 568 | Polymer Principles and Processing | Covers relevant polymer synthesis techniques, molecular and structural characterization methods, elastic deformation and viscoelasticity models related to processing, and block polymer morphology. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only CHE 468 or CHE 568 or CHE 494 (Polymer Principles & Proc) or CHE 598 (Polymer Principles & Proc) or CHM 494 (Polymer Principles & Proc) or CHM 598 (Polymer Principles & Proc) |
| CHE | 569 | Air Quality Engineering | Chemical and physical processes by which air pollutants are generated and controlled with an emphasis on urban air quality. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only CEE 569 or CHE 469 or CHE 569 |
| CHE | 573 | Fuel Cells and Biofuel Cells | Provides a comprehensive analysis of fuel cell technologies. Begins by discussing the different types of fuel cells and the thermodynamic and kinetic fundamentals that control their performance. Discusses the materials and techniques used to characterize fuel cells. Finishes with a specific analysis of biofuel cells and their applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only CHE 473 or CHE 494 (Fuel Cells & Biofuel Cells) or CHE 573 or CHE 598 (Fuel Cells & Biofuel Cells) |
| CHE | 577 | Inorganic Membranes and Thin Films | Synthesis and properties of various types of inorganic membranes and thin films, with focus on the sol-gel process and its use for synthesis of porous materials and thin films. Inorganic membranes and thin films represent a new research area of great importance for chemical engineers, materials scientists and chemists. They are finding increasing applications in separation processes, chemical reactor systems, fuel cells and batteries of impact on energy and environment. Requires prior knowledge of inorganic chemistry, physical chemistry, calculus, thermodynamics, mass transport, basic materials science, and separation processes to be successful in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only CHE 477 or CHE 577 or CHE 494 (Inorganic Membrane and Film) or CHE 598 (Inorganic Membrane and Film) |
| CHE | 578 | Biomass Energy Conversion Technology | Fundamentals and applications of biomass conversion process technologies. Gives a brief review on fundamentals of engineering thermodynamics, the chemistry of plant materials and reaction kinetics. Focuses on surveying the state-of-the-art technologies for cost-effective biomass conversion to biofuels including liquid fuels (bioethanol and biodiesel) and gaseous fuels (methane, hydrogen and synthesis gas). Considers both biological and thermochemical processes for the conversion of biomass to biofuels and chemicals. Also covers applications of biofuels in transportation, energy production in power plants and fuel cells, and economics, environmental impact, and policy issues relevant to biofuels. The course is of value to engineering students who are interested in the technologies of the developing field of biofuels, as well as engineers, managers and policymakers. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only CHE 478 or CHE 578 or CHE 494 (Biomass Energy Conversion Technology) or CHE 598 (Biomass Energy Conversion Technology) |
| CHE | 579 | Microbial Bioprocess Engineering | Investigates the application of basic chemical engineering principles to the design and understanding of biochemical and biological processes. Discusses enzyme kinetics and enzymatic processes; specifically emphasizes the development and application of whole cell bioprocesses for the production of chemicals, food, biofuels and pharmaceuticals, as well as applications in bioremediation. In addition to traditional topics such as the stoichiometry and kinetics of microbial growth, bioreactor design/operation, and downstream processing, also introduces contemporary topics of metabolic engineering and synthetic biology. Complements theoretical concepts presented in lectures with the presentation of relevant research topics and/or industrial applications. Introduces fundamental biochemical engineering concepts, primarily to chemical engineers. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only CHE 579 or CHE 598 (Microbial Bioprocess Engineering) |
| CHE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-12 | | Prerequisite(s): Fulton Engineering graduate student |
| CHE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-12 | | Prerequisite(s): Fulton Engineering graduate student |
| CHE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-12 | | Pre-requisites: Chemical Engineering Master's degree student |

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| CHE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-12 | | Prerequisite(s): graduate CHE major |
| CHE | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | SEM | Y | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-12 | | Prerequisite(s): Fulton Engineering graduate student |
| CHE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1 | | Prerequisite(s): Fulton Engineering graduate student |
| CHE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-4 | | Prerequisite(s): Ira A. Fulton Schools of Engineering graduate student |
| CHE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-12 | | Pre-requisites: Chemical Engineering Master's degree student |
| CHE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-15 | | Pre-requisites: Chemical Engineering Doctoral student |
| CHE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1 | | Prerequisite(s): Fulton Engineering graduate student |
| CHE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-15 | | Pre-requisites: Chemical Engineering Doctoral student |
| CHI | 101 | Elementary Chinese I | Develops students' basic communication skills in Standard Mandarin Chinese. Focuses on providing a solid foundation in pronunciation, basic grammatical structures and vocabulary which equip students with the skills to carry out basic everyday communication tasks. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Credit is allowed for only CHI 101 or CHI 110 or MND 101 |
| CHI | 102 | Elementary Chinese II | Continuing introduction to Modern Standard Mandarin Chinese for non-native speakers of Chinese. Adopts different pedagogical approaches to help students further develop basic skills in listening, speaking, reading and writing in Modern Standard Mandarin Chinese. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): CHI 101 with C or better; Credit is allowed for only CHI 102 or CHI 110 or MND 102 OR Visiting University Student |
| CHI | 110 | Intensive Chinese I | Adopts different pedagogical approaches to help students acquire basic skills in listening, speaking, reading and writing in Modern Standard Chinese. While linguistic elements are the focus of this course, appropriate cultural information related to language use is also an important component of instruction. Trains students to be able to function successfully in Chinese culture. Students don't simply learn to "speak Chinese" or read and write characters as some form of party trick. Teaches a practical skill set that allows students to communicate and behave appropriately in Chinese culture. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 8 | | Credit is allowed for only CHI 101 or CHI 102 or CHI 110 or MND 101 or MND 102 |
| CHI | 120 | Introduction to Chinese Culture | Introduces geographical, historical, literary, and intellectual premises of Chinese culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only CHI 120 or SLC 120 OR Visiting University Student |
| CHI | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| CHI | 201 | Intermediate Chinese I | Develops intermediate-low proficiency in Standard Mandarin Chinese by building upon the vocabulary, grammatical structures and communicative strategies that have been taught during previous coursework. Also introduces additional grammar and vocabulary, which enables the students to carry out more everyday familiar tasks. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): CHI 102 or 110 with C or better; Credit is allowed for only CHI 201 or CHI 210 or MND 201 OR Visiting University Student |
| CHI | 202 | Intermediate Chinese II | Develops intermediate-mid proficiency in Standard Mandarin Chinese. Reviews previously learned grammatical knowledge and reinforces new presented ones. In addition to everyday familiar topics, also introduces more sophisticated topics pertaining to Chinese society and culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): CHI 201 with C or better; Credit is allowed for only CHI 202 or CHI 210 or MND 202 OR Visiting University Student |
| CHI | 205 | Chinese Calligraphy | Introduces styles and techniques of Chinese writing. Requires no knowledge of Chinese or Japanese. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | |

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| CHI | 210 | Intensive Chinese II | Intensive 2nd-year college-level Modern Standard Chinese designed for students who are highly motivated and have successfully completed at least 1st-year college-level Modern Standard Chinese language course or equivalent. Reviews and reinforces 1st-year Chinese grammatical patterns and introduces new ones in order to further develop students' communicative competence in listening, speaking, reading and writing in modern Chinese. Introduces over 500 new characters and presents and expands an equal number of spoken vocabulary items. Students increase their vocabulary, consolidate their grammar, describe objects and express ideas more accurately and fluently. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 6-8 | | Prerequisite(s): CHI 102 with B or better or CHI 110 with C or better; Credit is allowed for only CHI 201 or CHI 202 or CHI 210 or MND 201 or MND 202 |
| CHI | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| CHI | 301 | Third-Year Chinese I | Expansion of proficiency in listening comprehension, speaking, reading and writing. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): CHI 202 or 210 with C or better OR Visiting University Student |
| CHI | 302 | Third-Year Chinese II | Continuation of CHI 301. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): CHI 301 with C or better OR Visiting University Student |
| CHI | 307 | Introduction to Literary Chinese I | First part of a two-course sequence in Literary Chinese (Classical Chinese). Literary Chinese is a language that was used throughout Chinese history for all formal writing until the first half of the 20th century. Introduces basic grammar and vocabulary through reading texts from the Spring and Autumn period and Warring States period (ca. 770-256 BCE). Conducted in English. Texts are in Chinese. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): CHI 202, CHI 210, JPN 202, JPN 210, or KOR 202 with C or better OR Visiting University Student |
| CHI | 308 | Introduction to Literary Chinese II | Second part of a two-course sequence in Literary Chinese (Classical Chinese). Literary Chinese was used throughout Chinese history for all formal writing until the first half of the 20th century. Introduces basic grammar and vocabulary through reading texts from the Spring and Autumn period and Warring States period (ca. 770-256 BCE). Conducted in English. Texts are in Chinese. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): CHI 202, CHI 210, JPN 202, JPN 210, or KOR 202 with C or better OR Visiting University Student |
| CHI | 321 | Power and Poetry: Classical Chinese Literature in Translation | Masterworks of the tradition from the 7th century BCE through the 13th century. Readings, lectures and examinations are in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| CHI | 322 | Self, Society and the Drive for Modernity: Classical Chinese Literature in Translation | Masterpieces from the later tradition and its transition to modern times. Readings, lectures and examinations are in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| CHI | 333 | China | Political, economic, social, and cultural history of the Chinese people from early times to the 17th century. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 30 hours; Credit is allowed for only CHI 333, HST 383 or SLC 333 |
| CHI | 336 | Interpreting China's Classics | Study of selected Confucian and/or Taoist classics and ways they have been read in both Asian and Western scholarship. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 30 hours; Credit is allowed for only CHI 336, HST 386 or SLC 336 |
| CHI | 338 | Daode Jing: Way to the West | At 5,000 words, the Daode Jing [Tao-te ching, "the Scripture of the Way and its Powers," attributed to the Sage Laozi] is perhaps the shortest religious book in the world. It is also the most widely misinterpreted. In China, Daoists, Buddhists and Confucians have each taken its short, pithy statements as warrant for their very different belief systems. In the West, missionaries, new-age pundits, hippies, rock-stars, mystics and LSD advocates each claim to understand the "true meaning" of Laozi's mystical words. But "the farther one travels, the less one knows..." Students read representative samples of these explanations to understand why this brief book of wisdom has endured for over 2000 years. Requires no knowledge of Chinese. Presents all Chinese texts in the translations of the instructor. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only CHI 338 or REL 338 OR Visiting University Student |
| CHI | 343 | Daoism | Introduces the history, doctrines, and practices of Taoism from the mid-second century CE up to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 24 hours; Credit is allowed for only CHI 343 or REL 343 OR Visiting University Student |
| CHI | 345 | Chinese Film and Civilization | Screening and discussion of recent films from China, Taiwan, and Hong Kong in the context of modern Chinese civilization. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| CHI | 346 | Chinese Religions | Examines the history and practices of Chinese religions with particular attention to culture, society, and history. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only CHI 346 or REL 346 OR Visiting University Student |

| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| CHI | 348 | Pathways into Chinese Culture | Introduces some important aspects of China's cultural history and traditions. Provides an overview of Chinese history and culture and reviews major developments in science and technology. Incorporates current social and cultural topics and reviews through the lens of historical context. Classroom activities enable students to gain a better understanding of traditional Chinese culture with respect to both elite and popular culture. Conducted in Mandarin and is designed for the students who are currently enrolled in CHI 301 and CHI 401 or whose Chinese proficiency level in all four skills (speaking, listening, reading and writing) are at the intermediate mid to intermediate high level according to ACTFL guidelines. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): CHI 202 or 210 with C or better OR Visiting University Student |
| CHI | 380 | The Chinese Language | Introduces the Chinese languages from linguistic perspectives. Topics include the linguistic structure and characteristics (phonetics, phonology, morphology and syntax) of the Chinese language; linguistic history and dialects of Chinese; and its relationship with culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| CHI | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| CHI | 401 | Fourth-Year Chinese I | Focuses on solidifying and improving students' knowledge of modern Mandarin. Emphasizes learning strategies to increase reading and listening comprehension, as well as further strengthening oral fluency and written skills. Surveys a wide variety of original text and media materials, in both full-form and simplified characters. Conducted in Chinese. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): CHI 302 with C or better OR Visiting University Student |
| CHI | 402 | Fourth-Year Chinese II | Continuation of CHI 401. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): CHI 401 with C or better OR Visiting University Student |
| CHI | 407 | Chinese for Academic and Professional Purposes I | Part of the Chinese Flagship program; course has a three-fold objective: (1) to improve language proficiency in all four language skills; (2) to support other Flagship courses by introducing specific vocabulary, literary genres, key reference materials; and (3) to develop the use of explicit language learning strategies that support professional-level literacy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): CHI 402 with C or better OR Visiting University Student |
| CHI | 408 | Chinese for Academic and Professional Purposes II | Part of the Chinese Flagship Program. Improves language proficiency in all four language skills; supports other Flagship courses by introducing specific vocabulary, literary genres, key reference materials; develops the use of explicit language learning strategies that supports professional level literacy. All course work in Mandarin Chinese. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): CHI 407 with C or better |
| CHI | 451 | Chinese Cultural History I | China's classics in translation studied both for their intrinsic ideas and for the origins of Chinese thought. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (HU or SB) & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 55 hours; Credit is allowed for only CHI 451, HST 451 or SLC 451 |
| CHI | 452 | Chinese Cultural History II | Evolution of Confucian thought, its synthesis with Taoism and Buddhism, and modern reactions against, and uses of, Confucian traditions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & G & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 55 hours; Credit is allowed for only CHI 452 or HST 452 or SLC 452 |
| CHI | 470 | Modern Chinese Literature and Culture | Readings in modern Chinese literary texts, including prose, fiction, and poetry. Course content changes with instructor. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): CHI 302 with C or better |
| CHI | 482 | History of the Chinese Language | Introduces the history of the Chinese language. Graduate/advanced undergraduate-level introductory course on the historical changes of the sounds, writing system, grammar, and other aspects of the Chinese language. Topics include the historical phonology of Chinese, development of graphs (Hanzi), some topics of syntactic changes in texts, morphology, lexicography, cultural implication of language. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): CHI 302; CHI 308 OR Visiting University Student |
| CHI | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| CHI | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| CHI | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| CHI | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| CHI | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|-----------------------------------|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| CHI | 501 | Proseminar: East Asian Humanities | Provides MA and PhD students with a solid understanding of both the history of their academic discipline, as well as the various methodological approaches employed in the professional study of East Asian literature, history, language and culture. Centers on the close reading and discussion of a wide range of secondary sources, dealing with key issues in the development of East Asian humanities. Topics include premodern and modern discourses of language and literature; the trajectories of academic disciplines and approaches such as philology, sinology/Japanology, area studies and comparative literature; academic theories of space and temporality; translation studies; and book history. In addition to pursuing independent research, participants are expected to make regular presentations summarizing the main points in each week's readings. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CHI 501 or JPN 501 |
| CHI | 502 | Academic Writing | Trains graduate students in research methodology and conventions in academic writing. Centers on fine tuning students' command of the various components in English expository essays within the academic field of East Asian studies. Also addresses various contexts in academic writing, such conferences and proposals targeting audiences beyond the disciplinary boundaries of East Asian studies. | N | SEM | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CHI 502 or JPN 502 |
| CHI | 514 | Advanced Classical Chinese | Close readings in selected premodern texts, with focus on special grammatical features, and increased vocabulary. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 561 | Readings in Traditional Xiaoshuo | Introduces major issues, texts, and resource materials for the study of narrative forms, including short stories and longer works of fiction. Focuses on the period from 1400 to 1900. One year of university-level classical Chinese or equivalent proficiency; three years of university-level modern Chinese recommended. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 596 | Second Language Methodologies | Provides a solid overview of current methodologies in foreign/second language teaching and learning, including the World-readiness standards for learning languages and the Proficiency Guidelines of the American Council on the Teaching of Foreign Languages (ACTFL). Focuses on current pedagogical trends and theories in several areas of second language acquisition, including grammar and vocabulary, reading, writing, listening and speaking, and intercultural competence. Also provides opportunities to obtain practice in creating and adapting instructional materials, preparing and implementing individual lesson plans, written and oral assignments, and exams. Focuses on discussing student diversity in today's classrooms and differences between heritage and second language learners. Students have the opportunity to research a topic of their interest. Course consists of lectures, discussion, hands-on experience to encourage meaningful and collaborative learning. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking grad stdnt; Credit only allowed for CHI 591 (Lang Teach Mthd & Prin) or CHI 596 or SLC 591 (Lang Teach Mthd & Prin) or SLC 596 or SPA 591 (Teach Mthd) or SPA 591 (Lang Teach Mthd & Prin) or SPA 596 |
| CHI | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| CHI | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-15 | | |
| CHI | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 101 | Introductory Chemistry | Elements of general chemistry. Adapted to the needs of students in nursing and kinesiology and those preparing for general chemistry. Recommended for General Studies credit. Cannot be used for major credit in chemical or biochemical sciences. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 4 | SQ | |
| CHM | 107 | Chemistry and Society | General chemical principles and concepts presented in context of social and technological issues, e.g., energy, pollution, global warming, and others. This lecture course may be combined with the laboratory CHM 108 for those interested in lab course credit. Cannot be used for major credit in chemical or biochemical sciences. Both CHM 107 and CHM 108 must be taken to secure SQ credit. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | SQ | |
| CHM | 108 | Chemistry and Society Laboratory | Experiments in chemical principles presented in chemistry and society lectures (CHM 107). Students must complete both CHM 107 and CHM 108 to receive an SQ (General Studies). | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | SQ | Pre- or Corequisite(s): CHM 107 OR Visiting University Student |
| CHM | 111 | General Chemistry Laboratory for Majors I | Laboratory course in general chemistry for chemistry and biochemistry majors intended to complement CHM 117 lecture course. Covers a diverse range of laboratory experiments appropriate to chemistry and biochemistry majors designed to reinforce chemical principles and to develop a broad range of chemical synthesis skills. Uses modern analytic and characterization techniques to study the physical and chemical properties of substances. Suitable for students who have completed introductory chemistry at the high school level. Both CHM 117 and CHM 111 must be taken to secure SQ General Studies credit. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | SQ | Pre- or corequisite(s): Biochemistry, Biophysics, or Chemistry major; CHM 117 with C or better if completed OR Visiting University Student |
| CHM | 112 | General Chemistry Laboratory for Majors II | Continuation of CHM 111 laboratory course in general chemistry for chemistry and biochemistry majors intended to complement CHM 118 lecture course. Covers a diverse range of laboratory experiments appropriate to chemistry and biochemistry majors designed to reinforce chemical principles and to develop a broad range of chemical synthesis skills. Uses modern analytic and characterization techniques to study the physical and chemical properties of substances. Both CHM 118 and CHM 112 must be taken to secure SQ General Studies credit. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | SQ | Prerequisite(s): Biochemistry, Biophysics, or Chemistry major; CHM 111 with C or better; Pre- or corequisite(s): CHM 118 with C or better if completed OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|------------------------------|-------|-----------------|--|
| CHM | 113 | General Chemistry I | Principles of chemistry. Adapted to the needs of students in the physical, biological, and earth sciences. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 4 | SQ | Prerequisite(s): CHM 101 with C or better or ALEKS score of 61 or higher OR Pre- or corequisite(s): MAT 170, 171, 210, 251, 265 or 270 with C or better if completed OR Visiting University Student |
| CHM | 114 | General Chemistry for Engineers | Chemical principles with emphasis toward engineering. Students without high school chemistry or are chemical engineering majors must enroll in the CHM 113, 116 sequence instead of CHM 114. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 4 | SQ | Prerequisite(s): CHM 101 with C or better or ALEKS score of 61 or higher OR Pre- or corequisite(s): MAT 170, 171, 210, 251, 265, or 270 with C or better if completed OR Visiting University Student |
| CHM | 116 | General Chemistry II | Continuation of CHM 113. Equilibrium theory, thermodynamics, kinetics, electrochemistry, nuclear chemistry, descriptive chemistry. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 4 | SQ | Prerequisite(s): CHM 113, 114, or 117 with C or better OR Visiting University Student |
| CHM | 117 | General Chemistry for Majors I | Lecture course in general chemistry for chemistry and biochemistry majors and is complemented by the CHM 111 laboratory course. Covers electronic structure of atoms and molecules, intermolecular forces, bonding models, molecular geometry, physical states of matter, gas laws, and chemistry of condensed matter and modern materials. Highlights chemical reactivity, periodic trends and descriptive chemistry. Both CHM 111 and CHM 117 must be taken to secure SQ General Studies credit. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | SQ | Prerequisite(s): Biochemistry, Biophysics, or Chemistry major; CHM 101 with C or better, or ALEKS score of 61 or higher, or Pre- or corequisite(s): MAT 170, 171, 210, 251, 265, or 270 with C or better if completed OR Visiting University Student |
| CHM | 118 | General Chemistry for Majors II | Continuation of CHM 117 lecture course in general chemistry for chemistry and biochemistry majors and is complemented by the major's CHM 112 laboratory course. Topics include thermodynamics, properties of solutions, chemical equilibrium, aqueous chemistry, acids and bases, electrochemistry, chemical kinetics, nuclear chemistry, coordination chemistry. Both CHM 118 and CHM 112 must be taken to secure SQ General Studies credit. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | SQ | Prerequisite(s): Biochemistry, Biophysics, or Chemistry major; CHM 117 with C or better OR Visiting University Student |
| CHM | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-3 | | Pre-requisites: Biochemistry or Chemistry major; Maximum 45 hours |
| CHM | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-4 | | |
| CHM | 231 | Elementary Organic Chemistry | Surveys organic chemistry, with emphasis on the reactivity of basic functional groups. Both CHM 231 and 235 must be taken to secure SQ General Studies credit. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | SQ | Prerequisite(s): CHM 101, 114, 116, or 118 with C or better OR Visiting University Student |
| CHM | 233 | General Organic Chemistry I | Chemistry of organic compounds. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): CHM 116 or 118 with C or better OR Visiting University Student |
| CHM | 234 | General Organic Chemistry II | Continuation of CHM 233. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): CHM 233 or 333 with a C or better; Credit is allowed for only CHM 234 or CHM 334 OR Visiting University Student |
| CHM | 235 | Elementary Organic Chemistry Laboratory | Organic chemistry experiments in synthesis, purification, analysis, and identification. Both CHM 231 and 235 must be taken to secure SQ General Studies credit. | N | REC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | SQ | Pre- or corequisite(s): CHM 231 with C or better if completed OR Visiting University Student |
| CHM | 237 | General Organic Chemistry Laboratory I | Microscale organic chemical experiments in separation techniques, synthesis, analysis and identification, and relative reactivity. | N | REC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | | Pre- or corequisite(s): CHM 233 with C or better if completed; Credit is allowed for only CHM 237 or CHM 337 OR Visiting University Student |
| CHM | 238 | General Organic Chemistry Laboratory II | Continuation of CHM 237. | N | REC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | | Prerequisite(s): CHM 237 or 337 with C or better; Pre- or corequisite(s): CHM 234 with C or better if completed; Credit is allowed for only CHM 238 or 338 OR Visiting University Student |
| CHM | 240 | Mathematical Methods in Chemistry | Introduces mathematical/computational methods in chemical kinetics, thermodynamics, quantum chemistry. Mathematical-based computer lab. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | CS | Prerequisite(s): CHM 116 or 118 with C or better; Pre- or corequisite(s): MAT 267 or 272 with C or better if completed OR Visiting University Student |
| CHM | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-4 | | |
| CHM | 302 | Environmental Chemistry | Explores major environmental issues, problems, and solutions from analytical and chemistry perspectives. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): CHM 114, 116, or 118 with C or better; CHM 231, 233, or 333 with C or better; Credit is allowed for only CHM 302 or ERM 406 or ERM 526 or ERM 598 (Environmental Chemistry) OR Visiting University Student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|------------------------------|-------|-----------------|--|
| CHM | 303 | Environmental Chemistry Laboratory | Lab in environmental chemistry to complement CHM 302. First-hand experience with sampling methods, analytical techniques, and environmental lab methods. Both CHM 303 and CHM 348 must be taken to secure L General Studies credit. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 2 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; Pre- or corequisite(s): CHM 302 with C or better if completed OR Visiting University Student |
| CHM | 325 | Analytical Chemistry | Advanced principles and theory of quantitative analysis, including stoichiometry, equilibria, photometric methods, electrochemistry, separation processes, statistical data analysis, and applications to advanced topics in analytical chemistry. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): CHM 116 or 118 with C or better OR Visiting University Student |
| CHM | 326 | Advanced Analytical Chemistry Laboratory | Practical methods of quantitative analysis for chemistry majors, including titrimetric, gravimetric, and photometric analysis, and analytical separation processes, statistical data analysis, and applications to advanced topics in chemical analysis. | N | REC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | | Pre- or corequisite(s): CHM 325 with C or better if completed OR Visiting University Student |
| CHM | 327 | Instrumental Analysis | Principles of instrumental methods in chemical analysis. Electroanalytical and optical techniques. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): CHM 325 with C or better; CHM 326 with C or better; Pre- or corequisite(s): CHM 346 with C or better if completed OR Visiting University Student |
| CHM | 328 | Instrumental Analysis Laboratory | Experiments in chemical analysis by electroanalytical and optical techniques. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 2 | | Pre- or corequisite(s): CHM 327 with C or better if completed |
| CHM | 341 | Elementary Physical Chemistry | Thermodynamics, equilibrium, states of matter, solutions, and chemical kinetics. For students in premedical, biological, and educational curricula. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): CHM 114, 116, or 118 with C or better; CHM 231, 233, or 333 with C or better; MAT 251, 265, or 270 with C or better; PHY 101, 112, or 131 with C or better; Credit is allowed for only BCH 341 or CHM 341 OR Visiting University Student |
| CHM | 343 | Elementary Physical Chemistry Laboratory | Physical chemistry experiments. | N | REC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | | Pre- or corequisite(s): BCH 341 or CHM 341 with C or better if completed; Credit is allowed for only CHM 343 or CHM 348 and CHM 349 OR Visiting University Student |
| CHM | 345 | Physical Chemistry I | Introduces quantum chemistry with application to electronic structure and dynamics of atoms and molecules. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): CHM 116 or 118 with C or better; CHM 240 OR PHY 201 OR both MAT 274 or 275; MAT 242, 342 or 343 with C or better; MAT 267 or 272 with C or better; PHY 131 or 151 with C or better OR Visiting University Student |
| CHM | 346 | Physical Chemistry II | Introduces equilibrium and statistical thermodynamics. Laws of thermodynamics, equations of state, multicomponent chemical and phase equilibria, and electrochemistry. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): CHM 345 with C or better |
| CHM | 348 | Physical Chemistry Laboratory I | Lab experiments in spectroscopy and computational chemistry. To secure L General Studies credit the following must be taken: CHM 303 & CHM 348 or CHM 348 & CHM 349 & CHM 452. | N | REC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; Pre- or corequisite(s): CHM 345 with a C or better if completed OR Visiting University Student |
| CHM | 349 | Physical Chemistry Laboratory II | Lab experiments in thermodynamics, electrochemistry, and computational chemistry. CHM 348, CHM 349 and CHM 452 must be taken to secure L General Studies credit. | N | REC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; Pre- or corequisite(s): CHM 346 with C or better if completed OR Visiting University Student |
| CHM | 385 | Oceanography | Introduces marine geology, chemistry, and physical and biological oceanography. Methods of oceanic exploration, environmental and social aspects of oceans. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s) w/ C or better: BIO 100, BIO 182, BIO 282, SES 220, SES 225, or both GLG 101 & 103, or both SES 121 & 123; CHM 101, 113, 114, 117, or both CHM 107 & 108; Credit allowed for only BIO 325 or CHM 385 or GLG 325 OR Visiting University Student |
| CHM | 392 | Introduction to Research Techniques | Instrumental methods and philosophy of research by actual participation in chemical research projects. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-3 | | |
| CHM | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-4 | | |
| CHM | 433 | Advanced Organic Chemistry I | Reaction mechanisms, reaction kinetics, linear free energy relationships, transition state theory, and Woodward-Hoffmann rules. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): BCH 341, CHM 341 or 346 with C or better; CHM 234 or 334 with C or better; Credit is allowed for only CHM 433 or CHM 531 OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--------------------------------|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|------------------------------|-------|-----------------|---|
| CHM | 435 | Medicinal Chemistry | Principles of medicinal and pharmaceutical chemistry. Drug design, synthesis, and mechanism of action. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): BCH 361, BCH 371, BCH 461, or CHM 460; CHM 234; Credit is allowed for only CHM 435 or CHM 535 OR Visiting University Student |
| CHM | 442 | Practical NMR Spectroscopy | Covers the practical operation of NMR spectrometers, common ¹ H/ ¹³ C/ ¹⁵ N nuclei NMR spectroscopy, safety around NMR spectrometers and basic NMR data processing, handling and analysis. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | | Prerequisite(s): CHM 101, 114, 116, or 118 with C or better; Credit is allowed for only CHM 442 or CHM 494 (Practical Nuclear Magnetic Resonance Spectroscopy) or CHM 542 |
| CHM | 452 | Inorganic Chemistry Laboratory | Preparation and characterization of typical inorganic substances, emphasizing methods and techniques. CHM 348, CHM 349 and CHM 452 must be taken to secure L General Studies credit. | N | REC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; Pre- or corequisite(s): CHM 453 with C or better if completed OR Visiting University Student |
| CHM | 453 | Inorganic Chemistry | Principles and applications of inorganic chemistry. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): BCH 341, CHM 341 or 346 with C or better OR Visiting University Student |
| CHM | 460 | Biological Chemistry | Structure and function of macromolecules and their involvement in the processing of energy and information by living cells. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): CHM 234 or 334 with C or better; CHM 346 with C or better |
| CHM | 471 | Solid-State Chemistry | Crystal chemistry, thermodynamics and electrochemistry of solids, nonstoichiometric compounds, diffusion and solid-state reactions, crystal growth, and selected topics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Pre- or corequisite(s): CHM 346 with C or better if completed; Credit is allowed for only CHM 471 or CHM 571 |
| CHM | 480 | Methods of Teaching Chemistry | Organization and presentation of appropriate content of chemistry; preparation of reagents, experiments, and demonstrations; organization of stock rooms and laboratories; experience in problem solving. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | |
| CHM | 481 | Geochemistry | Origin and distribution of the chemical elements. Geochemical cycles operating in the Earth's atmosphere, hydrosphere, and lithosphere. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): BCH 341, CHM 341, CHM 346, or GLG 321 with C or better; Credit is allowed for only CHM 481 or GLG 481 OR Visiting University Student |
| CHM | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | |
| CHM | 489 | Field Geochemistry | Explores basic field measurements and sampling techniques for environmental systems, with a focus on carbon cycling in the Colorado River. Surveys a variety of geochemical principles, including: equilibrium aqueous speciation, acid-base chemistry, solution-mineral equilibrium systems, oxidation-reduction reactions, organic and environmental geochemistry and biogeochemical cycles. Applies chemical principles and analytical techniques to answer questions about environmental systems and processes. | N | LEL | N | GNA | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | L | Prerequisite(s): CHM 302, GLG 321, or GLG 481 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only CHM 489 or GLG 489 OR Visiting University Student |
| CHM | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| CHM | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| CHM | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-4 | | |
| CHM | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-3 | | |
| CHM | 501 | Current Topics in Chemistry | Varies by topic. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 520 | Chemical Biology | Chemical biology, broadly defined, is the application of chemical tools toward the study biological problems. The purpose of this class is to provide the foundation for translational research involving cross-disciplinary approaches to tackling significant problems in the biosciences. This one-semester class will cover topics ranging from traditional molecular biology and biochemistry to state-of-the-art techniques in genomics and proteomics. Particular emphasis will be placed on modern concepts in enzymology. The class will be taught using a combination of current literature and text-based materials. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Pre-requisites: Graduate students (degree and non-degree); Credit is allowed for only BCH 520 or CHM 520 |
| CHM | 524 | Separation Science | Addresses principles and applications for all areas of chemical separations. Emphasizes separations principles in microfluidics and its interface with nanotechnology and traditional electronic materials. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|------------------------------|-------|-----------------|--|
| CHM | 531 | Advanced Organic Chemistry I | Reaction mechanisms, reaction kinetics, linear free energy relationships, transition state theory, molecular orbital theory, and Woodward-Hoffmann rules. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Pre-requisite: degree- or nondegree-seeking graduate. Credit is allowed for only CHM 433 or CHM 531 |
| CHM | 535 | Medicinal Chemistry | Principles of medicinal and pharmaceutical chemistry. Drug design, synthesis, and mechanism of action. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Pre-requisites: Graduate degree or non-degree seeking students; Credit is allowed for only CHM 435 or 535 |
| CHM | 540 | Integrated Physics and Chemistry | Collaborative inquiry methods for teaching and coordinating physics and chemistry. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only CHM 540 or PHS 540 |
| CHM | 541 | Advanced Thermodynamics | Equilibrium thermodynamics. Chemical reactions, phase equilibria, and stability in multicomponent systems. Aqueous solutions and electrochemistry. Introduces statistical thermodynamics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only CHM 541 or MSE 524 |
| CHM | 542 | Practical NMR Spectroscopy | Covers the practical operation of NMR spectrometers, common ¹ H/ ¹³ C/X nuclei NMR spectroscopy, safety around NMR spectrometers and basic NMR data processing, handling and analysis. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CHM 442 or CHM 542 or CHM 598 (Practical Nuclear Magnetic Resonance Spectroscopy) |
| CHM | 543 | Computational Chemistry | Provides basic concepts and practical experience in computational chemistry as applied to molecules and solids. Systematically covers theoretical background and applied aspects of electronic structure methods/simulation, and related visualization techniques. Provides weekly laboratory session will provide hands-on experience with state-of-the-art molecular and solid-state simulation/visualization packages, with an emphasis on their reliability, predictive capability and practical limitations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 546 | Molecular Spectroscopy and Group Theory | Applies quantum mechanics to the general problem of the interaction of light with molecular systems. Angular momentum and group theory. Symmetry classifications. Overview of the formalism and experimental techniques in different resonant-based spectroscopies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 547 | Data Modeling for the Natural Sciences: Applications, Basics and Computation | Data analysis courses that go beyond teaching elementary topics such as fitting residuals, error propagation and p-values are rarely offered in the physical sciences. Thus, data analysis, much like programming, is something often learned and improvised "on the job." Yet, with an explosion of experimental methods generating large quantities of data, students would benefit from a clear presentation of methods of data analysis, many of which are straightforward to implement and would raise our community standard for how data is currently being treated. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prereq(s): degree- or nondegree-seeking grad stdnt; Credit for only CHM 494/CHM 598/PHY 598 (Data-Driv Inf&StochProc) or CHM 494/CHM 598 (StatMechII: Stoch proc&inf) or CHM 494/CHM 598/PHY 598 (Unravel the noise:data-driv model&ana) or CHM 547 or PHY 547 |
| CHM | 553 | Advanced Inorganic Chemistry | Principles of modern inorganic chemistry applied over the entire periodic system. Bonding theory, chemical reactivity, spectroscopic and magnetic properties. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 560 | Matter and Light | Interactions of light with matter. Lasers and spectroscopy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CHM 560 or PHS 560 |
| CHM | 571 | Structure, Bonding, and Symmetry in Materials | Principles of structural and materials chemistry, emphasizing crystal chemistry. Symmetry of periodic structures (space groups), factors determining bond lengths and coordination geometries, and the role of structure in determining physical properties. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only CHM 471 or 571 |
| CHM | 581 | Structure of Matter and its Properties | Models of matter and its properties. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CHM 581 or PHS 581 |
| CHM | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|------------------------------|-------|-----------------|--|
| CHM | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 597 | Capstone | Provides a culminating experience in chemistry. Students bring together knowledge learned in prior courses in a way that is meaningful and relevant to their professional goals. Each student must prepare and defend a report summarizing current knowledge on a topic important to the field of chemistry. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHS | 100 | Optimizing Your Health and Performance | Explores concepts, attitudes, research and practices associated with the optimization of health and performance. Students gain practical and foundational knowledge regarding evidence-based practice, nutrition, physical activity, executive function, strategies and cognition. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | SB | |
| CHS | 101 | The ASU Experience for Health Solutions Students | Required, one-hour course designed to introduce all new first-time ASU students to the unique elements, culture, challenges and opportunities of their university. Covers several core topics. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): College of Health Solutions student |
| CHS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| CHS | 201 | International Indigenous Health | This course aims to develop student's understanding of core concepts in the health and well-being of Indigenous peoples worldwide, with particular focus on the Aboriginal and Torres Strait Islander peoples in Australia and Indigenous peoples in United States (or the Americas more broadly). The course highlights the differences in distribution of disease and health disparities between Indigenous and non-Indigenous peoples and develops an understanding of underlying interrelated physical, psycho-social, cultural and other determinants of Indigenous peoples' health. Students will be provided with examples of evidence-based research and health practice to learn about the ways in which Indigenous health and well-being can be supported. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): Bachelor of International Public Health major |
| CHS | 260 | Health Professions Terminology | Prepares students for a field in the health care field and covers medical terms related to all the major body systems including: muscular system, skeletal system, respiratory system, circulatory system, digestive system, reproductive system and urinary system. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only CHS 260 or KIN 294 (Health Professions Terminology) |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|-----------------------------|-----------------------------|-------|-----------------|---|
| CHS | 280 | Experiential Community Health and Research | Provides experiential learning in community health and/or research. Gives students the opportunity to develop professionally; enhance their health education; take ideas and concepts beyond the classroom; and gain experiences and real-world perspectives in research, clinical or community-based settings. Students interact with faculty, researchers and/or professionals in the field across a range of observations and activities. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): College of Health Solutions student or Edson College of Nursing and Health Innovation student OR Visiting University Student |
| CHS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| CHS | 300 | An Exploration of Well-Being | An engaging, multidisciplinary, scientific and practical exploration into factors influencing the well-being of individuals and society. Students experiment with mindsets, habits, strategies and skills to develop greater awareness and curiosity about lifelong well-being and success. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | SB | Prerequisite(s): minimum 30 hours OR Visiting University Student |
| CHS | 301 | Epidemiology for International Public Health | Epidemiology and its use in public health research and practice. This course introduces students to epidemiological principles and methods. It aims to enable students to apply an epidemiological approach to the study of disease and illness, to interpret and assess the quality of evidence of a range of study designs and report on epidemiological research. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): Bachelor of International Public Health major |
| CHS | 303 | Health Promotion | Health Promotion is a fundamental component of any approach to public health and population health, whether it be research, policy or practice. The World Health Organization defines health promotion as the process of enabling people to increase control over, and to improve, their health. It moves beyond a focus on individual behavior towards a wide range of social and environmental interventions. (http://www.who.int/topics/health_promotion/en/). This course provides an overview of health promotion including examination of the social determinants of health, health literacy and foundations in health promotion. During the course students will explore the role of health promotion in addressing a range of current global health issues and their relevance to the field of public health. Students will examine contemporary perspectives on health and health promotion contributions to public health and population health responses. The course enables students to gain an understanding of how health can be defined from different perspectives, and develop core knowledge of health promotion including its foundation theories, principles and concepts. The course will equip students with the capacity to engage in public health and population health through the essential health promotion skills and understandings. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): Bachelor of International Public Health major |
| CHS | 304 | Communicable Disease | This course will introduce students to the burden of infectious or communicable disease worldwide. Students will learn about the theory of transmission modes, surveillance, outbreak investigation, current disease prevention, control and management strategies, and emerging and re-emerging infections. Key case studies covering different types of communicable diseases will be used to illustrate these important concepts. Current and future challenges in communicable disease control will be highlighted. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): Bachelor of International Public Health major |
| CHS | 305 | Principles of Prevention & Public Health Surveillance | Disease surveillance and population health monitoring represents one of the most important tools for public health, for early disease detection and prevention, and the monitoring and evaluation. Early detection of and rapid response to a public health threat has huge potential to save lives and costs from preventing hospitalizations and deaths. This course provides an overview of different types of surveillance systems and the sources of data that are used in such systems. Students learn to assess challenges and limitations associated with different types of public health surveillance systems and develop the skills to examine the tools and approaches that can be used to improve the effectiveness of public health surveillance systems. The course looks at principles of disease prevention more broadly. Public health prevention measures are discussed including immunization and screening, using case studies for both communicable and non-communicable diseases. The role of epidemiological and social factors is also considered. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): Bachelor of International Public Health major; Pre- or corequisite(s): CHS 301; CHS 304; HCD 300 |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|-----------------------------|-----------------------------|-------|-----------------|--|
| CHS | 306 | Public Health Policy & Programs | The overall aim of this course is to enable students to develop their understanding of both public health policy and programs as a part of public health practice. Students will learn about the concept and role of policy and the key concepts, models and approaches to designing and evaluating public health programs. Case studies from multiple countries and contexts will be used as teaching material. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): Bachelor of International Public Health major |
| CHS | 307 | Health Leadership | The course aims to develop students understanding of different approaches to leading and managing at different levels in health services in local and international contexts to improve individual, community and population level outcomes. Students will be introduced to the common and overlapping skills and features of effective health leadership within public health agency settings requiring coordinated system-wide action through to health care management in more clinically focused patient delivery settings. Topics include management and leadership theories and models; systems perspectives and strategic thinking; influence, power and leading change; managing interprofessional teams and motivating staff; conflict management and improving health worker performance. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): Bachelor of International Public Health major |
| CHS | 308 | Comparative Health Systems | Principles and practice of health system analysis, the sources and utilization of information relating to health services, and frameworks for assessing health systems performance. Examines the constitutional, legal, economic, social and political environments within which health care systems operate. Compares different models of health system funding and operation. Reviews different health services organization and management, health service financing arrangements and the health workforce. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| CHS | 309 | Evaluating Chronic Disease Programs | This course aims to enhance students' understanding of the major non-communicable diseases-specifically so-called "lifestyle diseases" including cardiovascular disease, cancer, type II diabetes, chronic lung disease- and the interaction between their associated lifestyle behaviors such as unhealthy diet, physical inactivity, tobacco use and alcohol use. Students will examine the concept of the epidemiological transition to provide insights into trends in the burden of lifestyle diseases and injuries globally and in developing countries. This course will help students to evaluate prevention and control approaches to lifestyle diseases, and to critique the modern social environment and lifestyle behaviors with respect to global health. Topics include: the global burden of disease, the epidemiological transition, injury prevention, health systems, global tobacco control, obesity, and global action plan on non-communicable diseases. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): Bachelor of International Public Health major |
| CHS | 340 | Health Theory | Health theories help to frame health and health outcomes in our society. Applies health theories to medical problems in order to explore the different levels of influence on behavior: individual, social network, community, health system and policies. Helps students take a deeper look at the intersections between people and their environment as well as understand how influence on our health is constructed all around us. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 30 hours; Credit is allowed for only CHS 340 (EXW 340) or EXW 342 or HSC 340 OR Visiting University Student |
| CHS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | College of Health Solutions | College of Health Solutions | 1-4 | | |
| CHS | 400 | Adaptive Exercise Program Practical Experience | One-on-one adaptive exercise programming for individuals with developmental, neuromuscular, physical, or chronic conditions. | N | LEC | Y | GNA | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CHS 400 or CHS 494 (Adaptive Exercise Program Practical Experience) OR Visiting University Student |
| CHS | 401 | Ethics in Public Health | This course provides an overview of ethical considerations and issues pertinent to public health and health care. Students will examine ethical theories and principles, and key legal concepts, and their application to health care and public health contexts. The course enables students to identify and analyse the ethical challenges of balancing the interests of individuals and communities within a health care context which is costly, complex and increasingly globalized. While the focus is on public health ethics which includes health policy and promotion, clinical and research ethics will also be examined as integral components of contemporary, cutting-edge health care service and delivery. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): Bachelor of International Public Health major |
| CHS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): minimum 45 hours; minimum 2.00 GPA |

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|---------|------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------|-----------------------------------|-------|-----------------|---|
| CHS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): Barrett Honors student |
| CHS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| CHS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| CHS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-7 | | Prerequisite(s): minimum 45 hours |
| CHS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): minimum 45 hours |
| CHS | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHS | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHS | 791 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CIS | 105 | Computer Applications and Information Technology | Introduces business information systems from a business intelligence perspective and the uses of application software with emphasis on database and spreadsheet packages for efficient and effective problem solving. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Information Systems | 3 | CS | |
| CIS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Information Systems | 1-4 | | |
| CIS | 235 | Introduction to Information Systems | Survey course introducing the competitive and strategic uses of information systems, how information systems are transforming organizations and their management, and the issues, difficulties, and opportunities facing the technology professional and business manager today. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s) with C or better: CIS 105; MAT 210, 211, 270, or 271 OR Applied Business & Tech Solutions BA major; CIS 105; ECN 221 or 231 OR Data Science BS major; CSE 205; Credit is allowed for only CIS 235 or CIS 236 OR Visiting University Student |
| CIS | 236 | Honors Introduction to Information Systems | Introduces strategic leveraging of IS solutions and surveys different facets of IS in order to gain an understanding of how business problems are addressed and opportunities realized. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Information Systems | 3 | CS | Prerequisite(s): Barrett Honors student |
| CIS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Information Systems | 1-4 | | Prerequisite(s): Business Data Analytics BS or Computer Information Systems BS major |
| CIS | 300 | Web Design and Development | Focuses on Web site development, including target audience, image presentation, page/content topic organization, site navigational functionality, implementation needs, and future needs. Web site design and development practice using business software products. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): minimum 2.00 GPA; minimum 56 hours, OR post-baccalaureate undergraduate student, OR non-degree student; minimum 2.00 GPA, OR graduate student OR Visiting University Student |
| CIS | 308 | Advanced Excel in Business | Covers advanced Excel skills using an applied focus on different types of decisions one may analyze using spreadsheet capabilities; graphs and charts to communicate complex analytics; pivot tables to slice and dice data for reporting. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): CIS 105 or 236 with C or better OR Visiting University Student |
| CIS | 309 | Business Process Management | Flow charting, swimlane diagramming, process simulation using modern tool suites. Teaches the types of process evaluation decision analytics most commonly used and covers applied process analysis in a variety of contexts. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): CIS 105 or 236 with C or better OR Visiting University Student |
| CIS | 310 | Business Data Visualization | The design of insightful business data visualizations and dashboards to improve business decision making. Applies advanced data visualization techniques to make sense of temporal, geospatial, topical and network business data while also making it easier to digest and utilize for business users. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): CIS 105 or 236 with C or better OR Visiting University Student |

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|---------|----------------|---|---|----------------------|----------------------|--------------------|------------------|--------------------------------|-----------------------------------|-------|--------------------|--|
| CIS | 311 | Business Agile Project Management | Overview of project management emphasizing the fundamentals, analytics and value that support project decision making. Covers how and why projects are selected within organizations, the purpose of projects, and the way that they should be properly managed using industry best practices and frameworks. Includes classical (Waterfall), modern (Agile), and hybrid project management techniques. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): CIS 105 or 236 with C or better OR Visiting University Student |
| CIS | 312 | Business Mobile Commerce and Monetization | Teaches students the entire mobile commerce process starting with recognizing what it is, what it does, how to build it and the business value of it. Familiarizes students with software development platforms and ecosystems, strategies for development and deployment, and monetization strategies. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): CIS 105 or 236 with C or better; Credit is allowed for only CIS 312 or CIS 294 (Business Mobile App Development and Monetization) OR Visiting University Student |
| CIS | 313 | Location Analytics in Business | Understands location intelligence via visualization and analyses of geo-spatial data to enhance business insights and decision making. Teaches how location analytics can offer better insights and decision-making support for business by analyzing geo-referenced data with GIS application software such as ArcGIS Online. Explores and geo-enriches the location component of business data to perform market analysis, visualize demographic, customer, and competition data and share analysis insights using engaging maps. Covers how spatial analysis helps organizations decrease cost, increase revenue and reduce risks. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): CIS 105 or 236 with C or better; Credit is allowed for only CIS 313 or CIS 394 (Location Analytics for Business) OR Visiting University Student |
| CIS | 315 | Introduction to Business Data Analytics | Overview of analytics in the business context; concepts of strategic and operational analytics; overview of concepts like dimensional modeling, the Model Lifecycle, data mining, big data, KPIs and metrics, ERP and analytics, in-database/memory analytics; real-time analytics and data stream analysis. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): Business Data Analytics BS major; CIS 235 or 236 with C or better; ECN 221 or 231 with C or better; MAT 211, 266, or 271 with C or better OR Visiting University Student |
| CIS | 325 | Fundamental Techniques for Business Data Analytics | Manipulating, processing, cleaning and crunching data with a focus on utilizing scripting and programming tools toward business applications. Also a practical, modern introduction to extraction, transformation and loading of enterprise data for business applications. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): Business Data Analytics BS, Computer Information Systems BS, or Business (Information Security) BA major; CIS 235 or 236 with C or better; ECN 221 or 231 with C or better OR Visiting University Student |
| CIS | 340 | Business Information System Development I | Systems Development Life Cycle (SDLC) tools, techniques, and methodologies used to plan and analyze the needs of modern business information system development. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W. P. Carey Computer Information Systems BS major; ACC 241, 242 or 271 with C or better; CIS 235 or 236 with C or better; ECN 221 with C or better; MAT 211, 266 or 271 with C or better OR Visiting University Student |
| CIS | 345 | Business Information System Development II | Provides a clear understanding of the Systems Development Life Cycle (SDLC) tools, techniques, and methodologies used to design, implement, and support modern business information systems development. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): Computer Information Systems BS major; CIS 340 with C or better OR Visiting University Student |
| CIS | 360 | Business Database Concepts | Database theory, design, and application, including the entity-relationship model; the relational, hierarchical, and network database models; and query languages. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W. P. Carey Accountancy BS or Business (Information Security) BA major; ACC 231, 232 or 261 with C or better; ACC 241, 242 or 271 with C or better; CIS 105 or 236 with C or better OR Visiting University Student |
| CIS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Information Systems | 1-4 | | Prerequisite(s): minimum 2.00 GPA; minimum 56 hours OR nondegree-seeking student; minimum 2.00 GPA OR degree- or nondegree-seeking graduate student OR Visiting University Student |
| CIS | 401 | Managing Cyber Risks in Enterprise Business Processes | Covers the activities, decisions, risks and controls associated with enterprise business processes. Specific focus on the activities in the sales-to-cash (revenue cycle) and purchase-to-pay (expenditure cycle) processes. Students understand how IT enables performing those processes more efficiently and effectively. In addition to identifying internal controls necessary for accurate, complete performance of processes, also covers the fundamentals of cybersecurity. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): ACO 320 or CIS 235 or CIS 236 or CSE 310 or IEE 305 with C or better; Credit is allowed for only ACO 401 or CIS 401 OR Visiting University Student |
| CIS | 402 | Privacy, Ethics and Compliance Issues | Covers the activities, mechanisms and challenges associated with implementing the principles of privacy into corporate structures. Also provides an overview of the privacy regulatory landscapes as well as emerging challenges with privacy. Specific focus areas include the Generally Accepted Privacy Principles framework and the implementation of privacy controls via the use of process and technology. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): ACO 401, CIS 401, or CSE 465 with C or better; Credit is allowed for only ACO 402 or CIS 402 OR Visiting University Student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------|-----------------------------------|-------|-----------------|---|
| CIS | 405 | Business Intelligence | Business intelligence (BI) is a term describing a broad category of applications, technologies, architectures and processes for gathering, storing, accessing and analyzing data to provide business users with timely information to enable better insights into project and process management and evidence-based decision making. BI is based on techniques for data decision capture, cleansing, validation, warehousing and analytics to help decision makers improve decision outcomes. Provides a capstone understanding of the concepts of managing data resources and the development of business intelligence capabilities using data visualization, data warehousing, data mining, online analytical processing decision support systems and other advanced BI topics. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s) CIS 105 or 236 with C or better OR Visiting University Student |
| CIS | 407 | Business Database Systems Development | Focuses on business database and data warehousing systems, development and management. Topics include capturing business requirements using data modeling, SQL, data security, operational and analytical data stores and data integrity. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): Business Data Analytics BS, Computer Information Systems BS, or Data Science BS major; CIS 235 or 236 with C or better OR Visiting University Student |
| CIS | 409 | Business Data Warehouses and Dimensional Modeling | SQL, stored procedures and data warehouse architectures; data warehouse requirements definition, design and analysis; overview of the steps in building information-enabled business models; role of data warehousing in data mining and analytics. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): Business Data Analytics BS or Data Science BS major; CIS 407 (CIS 365) with C or better OR Visiting University Student |
| CIS | 412 | Business Data Mining | Building predictive analytics (e.g., SEMMA, KDD); exposure to logistic regression, machine learning and decision tree methods; Understanding lift factors, ROC curves; hands-on use of mining software; business case studies. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): Business Data Analytics BS major; CIS 315 with C or better; WPC 300 with C or better OR Data Science BS major; CIS 235 with C or better; DAT 300 with C or better OR Visiting University Student |
| CIS | 415 | Big Data Analytics in Business | Applications of machine learning, data and text mining for big data, Hadoop, cloud-based solutions, fundamentals of big data programming, social media and big data, NoSQL, GIS, business case studies. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): Business Data Analytics BS major; CIS 315 with C or better; CIS 325 with C or better OR Data Science BS major; CIS 235 with C or better; DAT 301 with C or better OR Visiting University Student |
| CIS | 425 | Web Technologies for the Enterprise | Modern Web application technologies for the enterprise. Covers development of Web applications for handling business transactions and strategies including the use of cloud-based applications. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W. P. Carey Computer Information Systems BS major; CIS 340 with C or better; CIS 360 or CIS 407 (CIS 365) with C or better OR Visiting University Student |
| CIS | 430 | Mobile Platforms for Business | Mobile application development for the enterprise to address mobile transactions and consumer engagement. Covers business frameworks, app development; and management of devices, applications and services in today's multi-platform environment. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W.P. Carey Computer Information Systems BS major; CIS 345 with C or better; CIS 425 with C or better OR Visiting University Student |
| CIS | 440 | Capstone in Information Systems | Offers a capstone experience integrating concepts from the business as well as the technology curricula. Students analyze, propose and develop a full technology solution for a business enterprise. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | L | Prerequisite(s): W.P. Carey Computer Information Systems BS major; CIS 401 with C or better; CIS 425 with C or better; ENG 101, 105, or 107 with C or better |
| CIS | 450 | Enterprise Analytics | Model lifecycle analysis, analytics governance, aligning governance, aligning firm and analytics strategy, big data security issues, enterprise search, applied projects. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): Business Data Analytics BS major; CIS 409 (CIS 355) with C or better; CIS 412 (CIS 375) with C or better; CIS 415 with C or better OR Visiting University Student |
| CIS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | W. P. Carey School of Business | Department of Information Systems | 1-12 | | Pre-requisite: W.P. Carey CIS BS student |
| CIS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | W. P. Carey School of Business | Department of Information Systems | 1-6 | | Prerequisite(s): Barrett Honors student |
| CIS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | W. P. Carey School of Business | Department of Information Systems | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| CIS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | W. P. Carey School of Business | Department of Information Systems | 1-4 | | Prerequisite(s): Business Data Analytics BS or Computer Information Systems BS major |
| CIS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Information Systems | 1-3 | | Prerequisite(s): Business Data Analytics BS or Computer Information Systems BS major |
| CIS | 502 | Information Systems: Digital Innovations and Transformation | Organizational, strategic, and technical issues of the management of information. Evaluation, design, and use information systems as competitive advantage. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 1-4 | | Prerequisite(s): W.P. Carey MBA degree program student |

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|---------|----------------|-------------------------------------|---|-------------------|-------------------|-----------------|---------------|--------------------------------|-----------------------------------|-------|-----------------|---|
| CIS | 503 | Decision Making with Data Analytics | Presents frameworks and approaches to equip students to recognize patterns in data and models, recommend actions and implement organizational changes. Students learn multiple concepts to improve decision making in organizations including the curation of data repositories for cross-functional analytics, recognition of decision biases, recommendation and communication of business process changes, and the establishment of iterative processes for decision analytics. Readings address decision-making dilemmas and challenges facing managers in analytics-rich business environments. Students get an immersive experience in analyzing the individual biases inherent in decision making, the informational requirements and the data analytics governance requirements to ensure effective deployment and continuous renewal of analytics culture at the enterprise level. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 2.5-3 | | Prerequisite(s): W. P. Carey MBA student; WPC 501 with C or better |
| CIS | 505 | Enterprise Data Analytics | Ensuring the foundational understanding of contextualized analytics within the business enterprise continuum by covering how data flows and is managed across the landscape of enterprise business processes. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W. P. Carey graduate student |
| CIS | 506 | Information Management | Addresses central issues in managing information to achieve competitive advantage and support innovation. Specific topics covered include data quality, data modeling using both entity relationship models and star schemas, data governance, document management, document search, enterprise performance management and visualization techniques. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 1-4 | | Prerequisite(s): graduate W. P. Carey major |
| CIS | 508 | Machine Learning in Business | Charting a roadmap for data-driven decision making and getting a practical understanding of how IT tools and techniques can allow managers to extract predictive analytics and patterns from primarily numeric data. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W. P. Carey graduate student |
| CIS | 509 | Analytics for Unstructured Data | Uses tools and techniques to analyze unstructured data that are applied to business problems to support informed decision making and the extraction of predictive analytics and patterns from primarily nonnumeric data. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W. P. Carey graduate student; CIS 508 |
| CIS | 510 | Enterprise Processes and Systems | Introduces essential business processes and the enterprise systems that support them. Provides an introduction to various techniques and tools of process analysis, including an understanding of organizational issues in rolling out change initiatives. Surveys major classes of enterprise systems including Enterprise Resource Planning (ERP) and Customer Relationship Management (CRM) and focuses on best practices for successful enterprise-class implementations and upgrades. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W.P. Carey graduate student |
| CIS | 512 | Business Intelligence | Understanding how organizations make use of Business Intelligence (BI) to gain a sustainable competitive advantage. Builds the foundations for evidence-based managerial decision making. Covers technologies for data warehousing and data mining from a managerial perspective. Covers contemporary topics such as real-time BI, business analytics, and business performance management with the help of case studies, audio-video content, guest speakers, online forums to generate creative thinking and discussion. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 1-4 | | Prerequisite(s): W.P. Carey graduate major |
| CIS | 515 | AI and Data Analytics Strategy | Deep learning applications have become an integral part of our lives over the last decade. Applications based on deep learning models cover a wide spectrum of industries including retail, automotive, manufacturing, health care, banking, insurance, agriculture, security and surveillance. Hands-on look at the latest models, trends, challenges and strategy of deep learning applications in business. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W. P. Carey graduate student; CIS 509 |
| CIS | 518 | Big Data Analytics | Combines hands-on experience with relevant readings to explore the business strategies behind big data, AI, analytics and data science that drive enterprise decision making and how such strategies can lead to long-term competitive advantage. | N | LEL | N | GNA | W. P. Carey School of Business | Department of Information Systems | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CIS 518 or CIS 591 (Big Data Analytics) or CIS 591 (Information Enabled Business Modeling) |

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| CIS | 525 | Strategic Value of Information Technology | Explores the strategic value of information technology (IT). Identifies competitive advantages derived from IT solutions along with IT's impacts on strategy formulation and business operations. Discusses economic issues, benefits and risks associated with IT. Instills in students a balanced and disciplined view of IT and business with their interplay. Explicates the importance of aligning IT and business strategies to enable strategic positioning and achieve operational effectiveness. Assigns cases and assignments involving the symbiotic relationship of IT and business to provide real-world exposure for critical thinking and engaging discussion. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W. P. Carey graduate student |
| CIS | 531 | Cloud Architecture and Strategy | For students who seek an overall understanding of the architecture and platforms of cloud computing from a business perspective. Provides a detailed overview of cloud concepts, core services, security, architecture and support to improve the outcomes of the enterprise. | N | LEL | N | GNA | W. P. Carey School of Business | Department of Information Systems | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CIS 531 or CIS 591 (Cloud Architecture and Platforms) |
| CIS | 533 | Cloud Deployment and Management | Develops business expertise and skill in deploying and managing cloud technologies such as public cloud, private cloud, hybrid cloud and others. Emphasizes the best practices and design patterns of cloud operations to provide a foundation to deploy, maintain, migrate, problem solve and troubleshoot for cloud-based business solutions. | N | LEL | N | GNA | W. P. Carey School of Business | Department of Information Systems | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CIS 533 or CIS 591 (Cloud Deployment and Management) |
| CIS | 540 | Enterprise Cybersecurity | Provides a broad survey of information security and controls, utilizing industry-based frameworks to illustrate how information security programs are developed, delivered and operationalized in organizations today. Develops an understanding of the issues associated with information security with particular emphasis on how management contributes to the effectiveness of an organization's information security program. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W. P. Carey graduate student |
| CIS | 541 | Business Data Visualization | The design of insightful business data visualizations and dashboards to improve business decision making. Key focus on data visualization design principles incorporating graphical integrity. Applies advanced data visualization techniques to make sense of large data sets such as temporal, geospatial, topical and business data while also making it easier to digest, present and utilize for business needs and users. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W. P. Carey graduate student |
| CIS | 545 | Managing Enterprise Systems | Investigates major categories of enterprise systems, factors driving software adoption and keys for successful implementation. Pays special attention to evaluating the potential impact of emerging technologies on business environments. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W.P. Carey graduate major; Credit is allowed for only CIS 545 or CIS 591 (Enterprise Systems) |
| CIS | 560 | IT Services and Project Management | Provides an overview of the project management process groups and knowledge areas (defined by the PMBOK) and focuses on the application of key concepts, tools and techniques for delivering on-time, on-budget IT project and services that meet end-user needs. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W.P. Carey graduate major; Credit is allowed for only CIS 560 or CIS 591 (IT Services and Project Management) |
| CIS | 565 | Artificial Intelligence and Business | Explores modern artificial intelligence (AI) technology, applications, techniques and their implications for business. People, process and technology factors related to the innovation and adoption of AI in the commercial enterprise and how it shapes the competition and society in the future. Also covers implications for information systems professionals as it pertains to managing the AI infrastructure (robots, algorithms, platforms). | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W. P. Carey graduate student |
| CIS | 575 | Emerging Technologies | Explores decision models and frameworks applied to assess, evaluate and implement emerging technologies. Explains the principles of sustaining and disruptive technological innovation on the adoption and diffusion of emerging technologies. Discusses the technical, industrial and legal parameters that enable convergence and commoditization of technologies. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W.P. Carey graduate major; Credit is allowed for only CIS 575 or CIS 591 (Emerging Technologies in IT) |
| CIS | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Information Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CIS | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Information Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CIS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Information Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | CatalogNbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| CIS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Information Systems | 1-12 | | Prerequisite(s): Business Analytics MS, Information Systems Management MS, W. P. Carey MBA or W. P. Carey PhD student |
| CIS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Information Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CIS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Information Systems | 1-12 | | Pre-requisite: Specific W.P. Carey Graduate student |
| CIS | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Information Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CIS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | W. P. Carey School of Business | Department of Information Systems | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CIS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Information Systems | 1-4 | | Pre-requisite: Specific W.P. Carey Graduate student |
| CIS | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | W. P. Carey School of Business | Department of Information Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CIS | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Information Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CIS | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Information Systems | 1-12 | | Prerequisite(s): W.P. Carey PhD student |
| CIS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Information Systems | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CIS | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | W. P. Carey School of Business | Department of Information Systems | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CIS | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | W. P. Carey School of Business | Department of Information Systems | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CMN | 502 | Theory and Practice in Communication and Persuasion | Theoretical exploration of communicative and persuasive practices as applied in various contexts. Surveys classical, modern, and contemporary theories of persuasion. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Communication Studies MA student |
| CMN | 505 | Methods in Applied Communication Research | Examines the intellectual, practical, and ethical dimensions of engaging in applied research. Emphasizes empirical and quantitative methods. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Communication Studies MA student |
| CMN | 506 | Humanistic Inquiry and Field Research in Communication | Examines interpretive, critical, and rhetorical approaches to communication and advocacy, including hermeneutics, ethnography, and cultural studies. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Pre-requisite: Communication Studies Master of Arts student |
| CMN | 515 | Ethical Issues in Communication Advocacy | Examines the ethical issues or concerns related to communication advocacy. Variable topics; examines research, theory, and/or practice. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Communication Studies MA student |
| CMN | 516 | Mediation and Dispute Resolution | Examines advocacy's role in fair negotiation and effective and successful dispute resolution. Examines research, theory, and/or practice. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Communication Studies MA student |
| CMN | 520 | Communication Campaigns | Explores public communication strategies aimed at advocating for general or specific audiences and/or for particular issues and causes. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Communication Studies MA student; CMN 502 or 522 with C or better |
| CMN | 522 | Argumentation and Advocacy | Introduces various models of argumentation and their applications to various spheres of advocacy. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Communication Studies MA student |
| CMN | 531 | Communication and Social Change | Examines human communication and technologies of communication as agents of social change within groups, communities, organizations, and/or cultures. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Communication Studies MA student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| CMN | 532 | Advocacy in Interpersonal Settings | Examines particular relational contexts in which advocacy plays a pronounced role (e.g., personal, family, and service provider relationships). | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Communication Studies MA student |
| CMN | 550 | Advocacy in Organizational Settings | Examines issues of upward influence, the expression of dissent, and grievance systems within organizational contexts. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Communication Studies MA student |
| CMN | 551 | Democracy and Power in Organizations | Examines structural, historical, relational, and symbolic dimensions of organizational communication and discourses that foster or impede communication advocacy. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Communication Studies MA student |
| CMN | 557 | Communication and Technology | Assesses technology's role in the social dynamics of human interaction. Emphasizes the impact of technology with regard to communication advocacy. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Communication Studies MA student |
| CMN | 565 | Globalization and Advocacy | Explores the forces leading to increased intergroup contact and their impact on social, economic, and political dynamics. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Communication Studies MA student |
| CMN | 570 | Communication and Advocacy in Social Context | Variable topics course exploring the intersection of communication and advocacy in specific contexts not addressed in other elective courses. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Communication Studies MA student |
| CMN | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): Communication Studies MA student |
| CMN | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): Communication Studies MA student |
| CMN | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): Communication Studies MA student |
| CMN | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): Communication Studies MA student |
| CMN | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): Communication Studies MA student |
| CMN | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): Communication Studies MA student |
| CMN | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | RSC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): Communication Studies MA student |
| CMN | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1 | | Prerequisite(s): Communication Studies MA student |
| CMN | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CMN | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): Communication Studies MA student |
| CNE | 210 | Engineering Mechanics I: Statics | Force systems, resultants, equilibrium, distributed forces, area moments, fluid statics, internal forces, friction, and stability. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | | Prerequisite(s): FSE 100 with C or better; MAT 266 or 271 with C or better; PHY 121 with C or better; PHY 122 with C or better; Corequisite(s): MAT 242; Credit is allowed for only CEE 210 or CNE 210 OR Visiting University Student |
| CNE | 212 | Engineering Mechanics II: Dynamics | Kinematics and kinetics of particles, translating and rotating coordinate systems, rigid body kinematics, dynamics of systems of particles and rigid bodies, and energy and momentum principles. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | | Prerequisite(s): CEE 210 or CNE 210 with C or better; MAT 242 with C or better; MAT 274 or 275 with C or better; Credit is allowed for only CEE 212 or CNE 212 OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--------------------------|-------|-----------------|---|
| CNE | 213 | Introduction to Deformable Solids | Strain-displacement and stress-strain-temperature relations. Stresses and deformations due to axial, shear, torsional and bending moments. Buckling, stability. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | | Prerequisite(s): CEE 210, CNE 210, or EVE 214 with C or better; MAT 274 or 275 with C or better; Credit is allowed for only CEE 213 or CNE 213 OR Visiting University Student |
| CNE | 241 | Surveying | Theory and fieldwork in construction and land surveys. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | | Prerequisite(s): MAT 170 or higher with C or better; Credit is allowed for only CEE 281 or CNE 241 or CON 241 OR Visiting University Student |
| CNE | 243 | Heavy Construction Equipment, Methods and Materials | Emphasizes Horizontal construction. Fleet operations, maintenance programs, methods, and procedures to construct tunnels, roads, dams, and the excavation of buildings. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | | Credit is allowed for only CON 243 or CNE 243 |
| CNE | 271 | Construction Safety | Safety procedures and equipment. OSHA requirements for construction. Biological aspects of construction safety. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | | Prerequisite(s): Construction Management BS or Construction Engineering BSE major; Credit is allowed for only CNE 271 or CON 271 OR Visiting University Student |
| CNE | 296 | Summer Field Internship | Participation as interns on construction projects to observe and experience the daily activities. | N | PRA | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 1 | | Prerequisite(s): Construction Management BS or Construction Engineering BSE major; CON 271 or CNE 271; Credit is allowed for only CON 296 or CNE 296 |
| CNE | 321 | Structural Analysis and Design | Statically determinate and indeterminate structures (trusses, beams, and frames) by classical and matrix methods. Introduces structural design. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 4 | | Prerequisite(s): Civil Engineering BSE or Construction Engineering BSE major; CEE 212 or CNE 212; CEE 213 or CNE 213 with C or better; Credit is allowed for only CEE 321 or CNE 321 OR Visiting University Student |
| CNE | 351 | Geotechnical Engineering | Index properties and engineering characteristics of soils. Compaction, permeability and seepage, compressibility and settlement, and shear strength. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 4 | | Prerequisite(s): Civil Engr BSE, Construction Engr BSE, or Environmental Engr BSE major; CEE 212 or CNE 212 with C or better; CEE 213 or CNE 213 with C or better; Credit is allowed for only CEE 351 or CNE 351 OR Visiting University Student |
| CNE | 353 | Civil Engineering Materials | Structure and behavior of civil engineering materials, including steel, aggregate, concrete, masonry, asphalt, wood, composites. Atomic structure and engineering applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 4 | | Prerequisite(s): Civil Engr BSE, Construction Engr BSE, or Environmental Engr BSE major; CEE 213 or CNE 213 w/C or better; Credit is allowed for only CEE 353 or CNE 353 or EVE 354 or EVE 394 (Materials in the Environment) OR Visiting University Student |
| CNE | 383 | Construction Estimating | Analyzes construction drawings and specifications. Utilizes advanced technical and ethical practices in estimating process. Quantity surveying techniques for CSI divisions. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | | Prerequisite(s): Construction Engr BSE maj; CNE 243 or CON 243 OR Construction Mgmt&Tech BS maj; CON 252 OR Interdisc Studies BA maj or Construction Mgmt minor; CON 243 or 252; Credit is allowed for only CNE 383 or CON 383 OR Visiting University Student |
| CNE | 400 | Earth Systems Engineering and Management | Introduces earth systems engineering and management, and the technological, economic and cultural systems underlying the terraformed Earth. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | (L or HU) & H | Prerequisite(s): Civil Engr BSE major; CEE 300 with C or better; ENG 101, 105, or 107 with C or better OR non-CEE junior or senior; ENG 101, 105, or 107 with C or better; Credit is allowed for only CEE 400 or CNE 400 OR Visiting University Student |
| CNE | 421 | Concrete Structures | Behavior of concrete structures and the design of reinforced and prestressed concrete members, including footings. Partial design of concrete building system. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | | Prerequisite(s): Civil Engineering BSE or Construction Engineering BSE major; CEE 321 or CNE 321 with C or better; CEE 353 or CNE 353 with C or better; Credit is allowed for only CEE 421 or CNE 421 OR Visiting University Student |
| CNE | 450 | Geotechnical Applications for Construction | Soil formation, engineering properties and use as building materials. Soil's influence on construction of built environment, including specifications and biological aspects. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | | Prerequisite(s): Construction Management BS major; CON 223 with C or better; CON 310; Credit is allowed for only CNE 450 or CON 450 OR Visiting University Student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|---|
| CNE | 452 | Foundations | Applies soil mechanics to foundation and retaining wall systems, including bearing capacity, settlement, and lateral earth pressure. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | | Prerequisite(s): Civil Engineering BSE or Construction Engineering major; CEE 351 or CNE 351 with C or better; Credit is allowed for only CEE 452 or CNE 452 OR Visiting University Student |
| CNE | 453 | Construction Technology | Building information modeling, including current computer programs and technology planning strategies for advanced project deliveries. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | | Prerequisite(s): Construction Mgmt major, Interdisc Studies major (Construction Mgmt concentration), or Construction Mgmt minor; CON 251 OR Construction Engrn major; senior standing; Credit is for only CNE 453 or CON 453 OR Visiting University Student |
| CNE | 455 | Construction Project Management | Advanced topics in administrative procedures, planning processes, and coordination required to successfully complete construction projects on time and budget. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | | Prerequisite(s): Construction Engineering BSE or Construction Management and Technology BS major; Pre- or corequisite(s): CNE 495 or CON 495; Credit is allowed for only CNE 455 or CON 455 or CON 545 OR Visiting University Student |
| CNE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Construction Engineering | 1-12 | | Prerequisite(s): Construction Management BS major with CON 296 or CNE 296 OR Construction Engineering BSE major with CON 271 or CNE 271; Credit is allowed for only CON 484 or CNE 484 |
| CNE | 486 | Integrated Civil Engineering Design | Requires completion of a civil engineering design in a simulated practicing engineering environment. Limited to undergraduates in their final semester. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 4 | L | Prereq(s): ENG 101, 105, or 107 with C or better; Civil Engr; CEE 321; CEE 341; CEE 351; CEE 353; CEE 361; CEE 372 OR Constr Engr; CEE 321, CNE 321; CEE 351, CNE 351 OR Envir Engr; CEE 341; EVE 302; EVE 303; Credit is allowed for only CEE 486 or CNE 486 |
| CNE | 495 | Construction Planning and Scheduling | Various network methods of project scheduling, such as AOA, AON Pert, bar-charting, line-of-balance, and VPM techniques. Microcomputers used for scheduling, resource allocation, and time/cost analysis. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | CS | Prerequisite(s): Construction Mngmt BS major, Construction Engineering BSE major, BIS major with Construction Mngmt emphasis, or Construction Mngmt minor; CNE 383 or CON 383; Credit is allowed for only CNE 495 or CON 495 OR Visiting University Students |
| CNE | 496 | Construction Contract Administration | Surveys administrative procedures of general and subcontractors. Studies documentation, claims, arbitration, litigation, bonding, insurance, and indemnification. Discusses ethical practices. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | L | Prerequisite(s): Constr Mgmt BS major, Constr Engr BSE major, BIS major w/ Constr Mgmt emphasis, or Constr Mgmt minor; CNE 453 or CON 453; ENG 101, 105, or 107 w/ C or better; Credit is allowed for only CNE 496 or CON 496 OR Visiting University Student |
| COE | 501 | Introduction to Research and Evaluation in Education | Overview of educational inquiry from controlled, quantitative to qualitative, naturalistic. Emphasizes locating and critically interpreting published research. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only COE 501 or ECD 503 or PPE 501 or SPE 501 or TEL 501 |
| COE | 502 | Introduction to Data Analysis | Descriptive statistics, visual approaches, estimation, and inferential methods for univariate and bivariate educational research problems. Experience using statistical software. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate; Credit is allowed for only COE 502 or EDP 502 |
| COE | 503 | Introduction to Qualitative Research | Terminology, historical development, approaches (including ethnography, ethnomethodology, critical theory, grounded theory, and hermeneutics), and qualitative versus quantitative social sciences; methods of inquiry. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| COE | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate |
| COM | 100 | Introduction to Human Communication | Topics-oriented introduction to basic theories, dimensions, and concepts of human communicative interaction and behavior. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB | |
| COM | 110 | Elements of Interpersonal Communication | Introduces fundamental concepts and skills related to interpersonal communication. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| COM | 124 | Media and Culture | Introduces contemporary intercultural issues as expressed through various media in American society. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | C | |
| COM | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-3 | | Pre-requisite: Maximum 24 earned hours |
| COM | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-4 | | |
| COM | 207 | Introduction to Communication Inquiry | Bases of inquiry into human communication, including introduction to notions of theory, philosophy, problems, and approaches to the study of communication. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): COM 100 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 222 | Argumentation | Philosophical and theoretical foundations of argumentation, including a comparison of models of advocacy and evidence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | L | Prerequisite(s): ENG 101, 105 or 107 with C or better OR Visiting University Student |
| COM | 225 | Public Speaking | Verbal and nonverbal communication in platform speaking. Discussion and practice in vocal and physical delivery and in purposeful organization and development of public communication. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| COM | 230 | Small Group Communication | Principles and processes of small group communication, attitudes, and skills for effective participation and leadership in small groups, small group problem solving, and decision making. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB | |
| COM | 235 | Disability, Justice and Advocacy | Overarching history of the disability rights movement and how it is similar to and different from other civil and rights movements. Examines how policies and activism are interconnected within this movement, in addition to looking at other human categories related to disabilities such as gender, sexuality, race and socioeconomic status. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | C | Credit is allowed for only COM 235 or JUS 235 or SST 235 or WST 235 |
| COM | 241 | Introduction to Oral Interpretation | Communication of literary materials through the mode of performance. Verbal and nonverbal behavior, interface of interpreter with literature and audience, and rhetorical and dramatic analysis of literary modes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 250 | Communication and the Workplace | Introduces the study of communication in the workplace, including topics such as successful organizational communication strategies, supervisor and peer relationships, workplace conflict, new media and technology, professionalism, organizational morale, work-life well-being and employee socialization. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| COM | 259 | Communication in Business and the Professions | Interpersonal, group, and public communication in business and professional organizations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): non-Communication student; minimum 25 hours OR Visiting University Student |
| COM | 263 | Elements of Intercultural Communication | Basic concepts, principles, and skills for improving communication among persons from different minority, racial, ethnic, and cultural backgrounds. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB & C & G | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| COM | 277 | Sport Communication | Explores, synthesizes and evaluates the connection between communication and sport by examining the role and place of sport in community building, identity formation and media representations. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Credit is allowed for COM 277 or COM 294 (Examination of communication in the sport context) or COM 294 (Sport Communication) |
| COM | 281 | Communication Activities | Participation in forensics or interpretation cocurricular activities. | N | PRA | Y | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-3 | | |
| COM | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-4 | | |
| COM | 298 | Honors Directed Study | Independent study or practicum under the supervision of a faculty member. | N | PRA | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-6 | | Prerequisite(s): Barrett Honors student |
| COM | 300 | Communication in Interdisciplinary Studies | Examines and analyzes communication in the context of other academic disciplines. Open to BIS majors only. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): BIS student; ; minimum sophomore standing; minimum 2.00 GPA; COM 100 with C or better; COM 225 with C or better OR COM 259 with C or better OR Visiting University Student |
| COM | 302 | Representations and Self-Representations of Veterans in the Media and the Arts | Surveys the cultural history of veterans' representations from the early mythical verses about the Trojan War produced by Homer in the Odyssey (800 BC) to contemporary self-representations in social media platforms such as YouTube. Examines the various motives societies have for promoting specific kinds of representations of veterans, the veteran culture and their experiences. This course does not presume to offer a singular vision of the veteran experience. Instead, it seeks to expose students to the diversity of ways in which veterans are represented and self-represented. Readings and assignments provide an intersectional understanding of the veteran community, and the veteran and military cultures. By looking at the axis of race, gender, sexuality and class, students examine why specific modes of representations persist over time and encourage them to use this course as a starting point for future studies in any number of disciplines. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | H & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only COM 302 or VTS 302 OR Visiting University Student |

| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| COM | 308 | Advanced Research Methods in Communication | Advanced communication research methods, including quantitative, qualitative, and critical approaches. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | L | Prerequisite(s): COM 207 with C or better; ENG 101, 105, or 107 with C or better; MAT 117 or an MA general studies course with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 309 | Rhetorical, Interpretive, and Critical Methods in Communication | Examines humanistic and qualitative approaches to communication. Introduces textual, interactional and ethnographic methods. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): COM 207 with C or better; minimum 2.0 GPA OR Visiting University Student |
| COM | 310 | Communication in Interpersonal Relationships | Takes an interdisciplinary approach to understanding communication in developing and established relationships, such as those between romantic partners, friends and family members. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB | Prerequisite(s): COM 100 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 312 | Communication, Conflict, and Negotiation | Theories and strategies of communication relevant to the management of conflicts and the conduct of negotiations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): COM 100 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 314 | Inner-City Families: The Cycle of Poverty | Examines issues and concerns that confront inner-city families. Blends theory and application. From a theoretical perspective, examines issues that affect families who live in the inner city (e.g., race and poverty), as well as specific skills and programmatic elements that are needed to work with families in an urban setting. In terms of application, provides an intensive service-learning-based experience. Engages students in specific service to an embedded inner-city organization for a minimum of 3 hours per week. Students work with the professor to determine appropriate service placements. | N | PRA | Y | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| COM | 316 | Gender and Communication | Introduces gender-related communication. Examines verbal, nonverbal, and paralinguistic differences and similarities within social, psychological, and historic perspectives. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB & C | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| COM | 317 | Nonverbal Communication | Study of communication using space, time, movement, facial expression, touch, appearance, smell, environment, objects, voice, and gender/cultural variables. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB | Prerequisite(s): minimum 2.00 GPA; minimum 45 hours OR Visiting University Student |
| COM | 319 | Persuasion and Social Influence | Variables that influence and modify attitudes and behaviors of message senders and receivers, including analysis of theories, research, and current problems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB | Prerequisite(s): COM 100 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 320 | Communication and Consumerism | Critical evaluation of messages designed for public consumption. Perceiving, evaluating, and responding to political, social, and commercial communication. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| COM | 321 | Rhetorical Theory and Research | Historical development of rhetorical theory and research in communication, from classical antiquity to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | (L or HU) & H | Prerequisite(s): COM 100 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 323 | Communication Approaches to Popular Culture | Critical analysis of popular culture within social and political contexts; emphasizes multicultural influences and representations in everyday life. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | C | Prerequisite(s): COM 100 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 324 | Rhetoric and Media Criticism | Critical examination of media arts, including cinema, television, and video. Applies rhetorical, textual, and interpretive methods of criticism. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Pre-requisite: Minimum 2.0 GPA |
| COM | 325 | Advanced Public Speaking and Presentations | Social and pragmatic aspects of public speaking as a communicative system; strategies of rhetorical theory and the presentation of forms of public communication. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | L | Prerequisite(s): COM 225 with C or better; ENG 101, 105, or 107 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 326 | Court Room Oratory | Increases knowledge and appreciation of the role of communication in the development of legal and public policies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | |
| COM | 327 | Civil Communication | Offers a theoretical understanding of civil communication and methods for applying civil communication practices in a variety of contexts. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): minimum junior standing; minimum 2.00 GPA OR Visiting University Student |
| COM | 328 | Communicating Science | Applies the fundamentals of public speaking and communication theory to technical and scientific presentations. Prepares students to communicate science and technology subject matter through presentations to the general public. Students adapt complex messages for a variety of audiences through traditional and multimodal presentations. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only COM 328 or COM 394 (Communicating Science) or LSC 394 (Communicating Science) OR Visiting University Student |
| COM | 335 | Acting for the Camera | Designed for students who are interested in pursuing a career in front of the camera, and students who are more generally interested in the arts and desire a better understanding of the commercial and film acting industry. It is a practical study of essential television and theatrical film presentation, teaching the student actor essential performance techniques in front of the camera, developing creativity in this performance environment and enhancing performance levels. | N | LEL | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only COM 335 or IAP 335 OR Visiting University Student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| COM | 339 | Creating Dramatic Works: Page to Stage to Screen | Practical study of writing, directing, acting and performance techniques essential for the creation of theatrical works for stage, television and theatrical film presentation. | N | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prereq(s): ENG 102, 105, or 108 w/C or better; Credit allowed for only COM 339 or COM 394(Crt Drm Wrk:Pg to Stg&Scrn) or ENG 339 or ENG 394(Crt Drm Wrk:Pg to Stg&Scrn) or IAP 339 or IAP 394(Crt Drm Wrk:Pg to Stg&Scrn) OR Visiting University Student |
| COM | 341 | Social Contexts for Performance | Adaptation and performance of literature for the community outside the university. Research into the practical uses of performed literature. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): minimum 2.00 GPA |
| COM | 342 | Oral History and Storytelling | Examines the formation of culture and history through research, presentations, the collection of oral history, and the telling of stories. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): ENG 101 or 102 with C or better OR Visiting University Student |
| COM | 353 | Professional Communication | Introduces both verbal and written professional communication styles and technologies in preparation for communication-related internships and careers. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| COM | 362 | Urban Communication: Reinventing the Latinx City | Explores and reflects on the impact of mediated representations of Latinx ethnic enclaves in the configuration of notions of community, citizenship and sense of belonging. Also looks at the role of media in identity formation as a way of engaging and challenging cultural, social and political ideologies and struggles in urban contexts. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only COM 362 or COM 394 (Urban Communication: Reinventing the Latinx City) or TCL 362 or TCL 394 (Urban Communication: Reinventing the Latinx City) OR Visiting University Student |
| COM | 363 | Latinxs and the Media | The rapid growth of Latinx-media within the U.S., and transnational/regional media in the Americas, is unprecedented. Local and global organizations serving Latinx communities are increasingly acknowledging the importance of preparing professionals and academics with an understanding not only of Latino communities, but also of media industries and communication issues that impact those communities. Examines the production, distribution, and consumption of Latinx Media and images in the United States (U.S.). Focuses on a wide range of mediated cultural production with an emphasis on visual media such as television, film, advertising and digital/social media. Pays special attention to the influence of the so-called Latinx market, the configuration of national, racial and ethnic identities, politics, cultural production and the ways it challenges and/or reproduces competing cultural ideologies. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | C | Prerequisite(s): minimum 45 hours; Credit is allowed for only COM 363 or COM 394 (Latinos and Media) or TCL 394 (Latinos and Media) OR Visiting University Student |
| COM | 364 | Cultural Communicology | Basic introduction to cultural communicology, focusing on its relationship to general systems theory and semiotics (the study of signs and sign systems). Focuses on lived-experience as a semiotic interrelation between culture and communication. General systems theory and semiotic theory are used to study culture as a living condition of communicative relations among humans and within their environment. Emphasizes practical applications to real-world problems. Examines communication as a confluence of intrapersonal, interpersonal, group and transcultural networks of codes and messages. Uses comparative cultural contexts as a basis for applied analysis. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): COM 100; Credit is allowed for only COM 364 or COM 394 (Cultural Communicology) OR Visiting University Student |
| COM | 371 | Language, Culture, and Communication | Cultural influences of language on communication, including social functions of language, bilingualism, biculturalism, and bidialectism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB & C & G | Prerequisite(s): COM 263 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 377 | Communication, Terrorism, and National Security | Surveys strategic communication and its relationship to terrorism challenges facing the United States and the rest of the world. Begins with a look at language and definitions, how strategic communication functions are traditionally conceptualized, and the scope and extent of the terrorism problem. Focuses on the contemporary problems of terrorism, including its extent, tactics, and strategies and strategies that aim to combat it. Concludes with a look at new frontiers in the terrorism struggle, including new media and communication approaches. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): minimum junior standing; minimum 2.00 GPA |
| COM | 382 | Classroom Apprenticeship | Nongraded credit for students extending their experience with a content area by assisting with classroom supervision in other COM courses. | N | PRA | N | YGB | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-6 | | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| COM | 383 | Communication and Mentoring | Explores the role of communication in face-to-face and online mentoring relationships with an emphasis on message shaping, nonverbal communication, professionalism and audience analysis. Applies practice and theory from a variety of lower-division communication courses (public speaking, professional and business, small group, intercultural and interpersonal) to prepare students for mentoring roles in CommLabASU on ASU's West campus. During the semester, students (individually and as a member of a group) engage in creating and delivering both online and in-person public speaking tutorials. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): COM 225 with B or better OR Visiting University Student |
| COM | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-4 | | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| COM | 400 | Communication in Professions | Specialized study of communication processes in professional and organizational settings. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): Appl Bus & Tech Sol BA, Business (Comm) BA, Commncatn BA, Commncatn BS, or Intdis Studies BA major; COM 259 with C or better, or both COM 100 and 225 with C or better; min 2.00 GPA; min sophomore standing OR Visiting University Student |
| COM | 404 | Research Apprenticeship | Direct research experience on faculty projects. Student/faculty match based on interests. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): COM 308 with C or better; minimum 2.00 GPA |
| COM | 407 | Advanced Critical Methods in Communication | Examines critical approaches relevant to communication, including textuality, social theory, cultural studies, and ethnography. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): COM 308 with C or better; minimum 2.00 GPA; Credit is allowed for only COM 407 or COM 507 OR Visiting University Student |
| COM | 408 | Quantitative Research Methods in Communication | Advanced designs, measurement techniques, and methods of data analysis of communication research. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): COM 308 with C or better; minimum 2.00 GPA; Credit is allowed for only COM 408 or COM 508 OR Visiting University Student |
| COM | 410 | Advanced Interpersonal Communication | Advanced course focused on gaining a deeper understanding of interpersonal communication concepts and theories, and how they apply to various contexts. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB | Prerequisite(s): COM 110 or 310 with C or better; COM 308 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 411 | Communication in the Family | Broad overview of communication issues found in marriage and family life, focusing on current topics concerning communication in the family. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB | Prerequisite(s): COM 100 or 110 with C or better; minimum 2.00 GPA; Credit is allowed for only CMN 598 (Communication in the Family) or COM 411 OR Visiting University Student |
| COM | 413 | Resilient Relationships and Communities | Explores resilience in individuals, relationships and communities, placing specific emphasis on the psychological, social and cultural factors that determine how people cope, recover and even thrive after experiencing major adversity or disruption and how resilience is defined, enacted and sustained through communication. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): min junior standing; min 2.00 GPA; Credit is allowed for COM 413 or COM 494 (Resilient Comm & Relationships) or CMN 598 (Resilient Comm & Relationships) or PSY 598 (Resilient Comm & Relationships) OR Visiting University Student |
| COM | 414 | Crisis Communication | Role of communication in crisis development and intervention. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| COM | 415 | Risk Communication | Understanding how risk is constructed and assessed across social spheres, developing familiarity with dominant approaches to framing risk and the principles and professional practices of risk communication. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 2.50 GPA; minimum junior standing; Credit is allowed for only COM 415 or COM 494 (Risk Communication) OR Visiting University Student |
| COM | 416 | Gender and Race in the Media | Explores how the mass media constructs gender and race and perpetuates views of minorities and varied nationalities. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 2.00 GPA |
| COM | 417 | Communication and Aging | Critical study of changes in human communicative patterns through the later adult years, with attention on intergenerational relationships and self-concept functions. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 2.00 GPA |
| COM | 420 | Rhetoric and Community Advocacy | Critical rhetorical study of local communities and advocacy, including fieldwork guided by rhetorical theory; the intersection of media, rhetoric and advocacy; and reflexivity in rhetorical fieldwork. Examines rhetoric in the context of community advocacy and through participant observation within social controversies. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): COM 308 with C or better; ENG 101, 105, or 107 with C or better; Pre- or corequisite(s): junior or senior standing; Credit is allowed for only COM 420 or COM 494 (Rhetoric and Community Advocacy) |
| COM | 421 | Rhetoric of Social Issues | Critical rhetorical study of significant speakers and speeches on social issues of the past and present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | HU | Prerequisite(s): COM 308 or 309 with C or better; COM 321 or 323 with C or better; minimum 2.00 GPA OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| COM | 422 | Advanced Argumentation | Advanced study of argumentation theories and research as applied to public forums including: political, business, and legal contexts. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | L | Prerequisite(s): ENG 101, 105, 107, or 111 with C or better; minimum junior standing; minimum 2.00 GPA OR Visiting University Student |
| COM | 423 | Facilitating Collaboration and Dialogue | Explores processes of collaboration, dialogue, deliberation and participative decision making. Examination of both philosophical and scientific perspectives on to these processes as they relate to communication in various settings (community relations, dispute resolution, social work, policing and politics) and in personal relationships and family life. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 2.00 GPA; Credit is allowed for only CMN 598 (Facilitating Collaboration and Dialogue) or COM 423 or COM 494 (Facilitating Collaboration and Dialogue) OR Visiting University Student |
| COM | 424 | Television Studies and Criticism | Surveys critical and historical approaches to television as a medium; to television research; and to television's effects. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): COM 207 with C or better OR minimum junior standing; minimum 3.00 GPA |
| COM | 426 | Political Communication | Theories and criticism of political communication; including campaigns, mass persuasion, propaganda, and speeches. Emphasizes rhetorical approaches. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| COM | 427 | Crime and Media | Examines the relationships among crime and discourse, media representations of crime and criminals, and the structural deficiencies in society that perpetuate relations of domination and oppression based on class, race, gender and sexuality. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum junior standing; minimum 2.00 GPA; Credit is allowed for only COM 427 or CRJ 427 or COM 494 (Crime, Communication and Media) or CMN 598 (Crime, Communication and Media) OR Visiting University Student |
| COM | 428 | Graphic Novels and Popular Culture | Rhetorical analysis, with a focus on the graphic novel as both persuasive product and practice. Explores the communicative, persuasive and cultural effects of this medium and specifically offers vocabulary and tools for critically viewing its influence on popular culture. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| COM | 429 | Semiotics and Visual Communication | Semiotic analysis of mediated forms of communication, including film, television, and photography. Includes the political and aesthetic dimensions of images. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): COM 207 with C or better OR minimum junior standing; minimum 3.0 GPA OR Visiting University Student |
| COM | 430 | Leadership in Group Communication | Theory and process of leadership in group communication, emphasizing philosophical foundations, contemporary research, and applications to group situations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| COM | 432 | Forgiveness and Reconciliation | Examines various communication processes related to forgiveness and reconciliation with a focus on constructive, prosocial responses to interpersonal relationship hurt and disappointment. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 2.00 GPA; Credit is allowed for only COM 432 or COM 494 (Forgiveness and Reconciliation) or COM 494 (Forgiveness, Mindfulness, and the Healthy Self) or CMN 598 (Forgiveness and Reconciliation) OR Visiting University Student |
| COM | 441 | Performance Studies | Theory, practice, and criticism of texts in performance. Emphasizes the interaction among performer, text, audience, and context. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | HU | Prerequisite(s): COM 241 with C or better; COM 308 with C or better; minimum 2.00 GPA |
| COM | 442 | Identity, Performance, and Human Communication | Explores communication dimensions of self and others as performance. Examines topics that include gender, race, sexuality, age, and ethnicity through performance. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): COM 225 with C or better; COM 241 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 445 | Narrative Performance | Theory and practice of performing narrative texts (e.g., prose fiction, oral histories, diaries, essays, letters). Includes scripting, directing, and the rhetorical analysis of storytelling. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | HU | Prerequisite(s): COM 241 with C or better; minimum 2.00 GPA |
| COM | 446 | Performance of Literature Written by Women | Explores, through performance and critical writing, literature written by women. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | (L or HU) & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 450 | Organizational Communication | Offers advanced exploration of organizational communication principles through analyses of scholarship and contemporary case studies. Topics include workplace culture, networking, leadership, management, nonprofits, virtual organizing, work-life balance, organizational change, power, control and ethics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB | Prerequisite(s): COM 250 with C or better; COM 308 or 309 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 451 | Communication and Work Relationships | Communication principles and practices associated with supervisory, peer, and client relationships. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): COM 100; minimum 2.50 GPA; minimum 45 hours OR Visiting University Student |
| COM | 452 | Communication and the Art of Happiness | Examines how communication behaviors relate to constructing happiness and wellbeing. Topics include gratitude, forgiveness, social support, appreciation, social networks and communicative contagion of mood intersecting with issues of dyadic, group and organizational communication. Auxiliary readings come from a variety of disciplines, including psychology, management, sociology, positive organizational scholarship and appreciative inquiry. Course activities include reading, field exercises, journal writing, exams, project presentation(s) and paper(s). | N | LEC | N | GNA | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): minimum 2.00 GPA; minimum junior standing OR Visiting University Student |

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|---------|----------------|--|---|----------------------|----------------------|--------------------|------------------|--|--|-------|--------------------|--|
| COM | 453 | Communication Training and Development | Examines the procedures and types of communication training and development in business, industry, and government. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| COM | 454 | Rhetorical and Critical Approaches to Public Relations | An historical and contemporary account of how public relations messages build corporate identities and persuade audiences by shaping public values. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): COM 207 with C or better OR minimum junior standing; minimum 3.0 GPA; Credit is allowed for only COM 454 or CMN 598 (Rhetorical&Critical Approaches to Public Relations) |
| COM | 455 | Surveillance and Popular Culture | Surveys representations of surveillance in popular culture. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CMN 598 (Surveillance, Film and Culture) or COM 455 or COM 494 (Surveillance, Film and Culture) or STC 598 (Surveillance, Film, and Culture) |
| COM | 456 | Political Communication Campaigns | Theory and research related to political campaign communication. The persuasive process of political campaigning, the role of the media, the candidate and image creation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): minimum 2.00 GPA |
| COM | 457 | New Media | Explores how new communication and information technologies affect communication and culture. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): COM 207 with C or better OR minimum junior standing; minimum 3.0 GPA OR Visiting University Student |
| COM | 458 | Media and Everyday Life | Considers media in the routine, habitual and somewhat unconscious aspects of our lives, particularly mobile media transported in and out of public and private spaces. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum junior standing; minimum 2.00 GPA; Credit is allowed for only COM 458 or COM 494 (Media and Everyday Life) Visiting University Student |
| COM | 459 | Theory and Methods of Social Media Networks | A network-based perspective plays an increasingly important role in our understanding of contemporary communication process of which much has shifted from a hierarchical, densely bounded group basis to a personalized, lateral network. Especially, along with the popularity of social media, social networking has become a key term that characterizes our everyday life. Discusses the role of new media technologies in evolving networked society, and how online networks are intertwined with our offline life. Covers theories and computerized methods that help understand online network structure. Includes lectures and discussions on theoretical issues with hands-on exercises of analytic methods. | N | LEL | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum junior standing; minimum 2.50 GPA; MAT 142 or higher with C or better; Credit is allowed for only COM 459 or COM 494 (Social Networks) |
| COM | 463 | Intercultural Communication in a Global Context | Survey and analysis of major theories and research dealing with communication between people of different cultural backgrounds, primarily in international settings. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB & G | Prerequisite(s): COM 263 with C or better; COM 308 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 464 | Communicative Sexualities | Grounded in the discipline of communicology, provides an introduction to the qualitative research practice of semiotic phenomenology. Examines sexuality as a personal, social, historical, and cultural phenomenon, wherein communication is studied as the mediating force through which meanings are ascribed to sexuality and sexual experience. Sexuality is studied as it manifests among a wide variety of people, practices, and contexts. U.S. American culture provides the primary cultural context. Addresses basic questions including: How do we understand sexuality? How have we come to know what we know about sexuality? How do we understand the relationship between sexuality as personal desire, and sexuality as social norm in specific cultural contexts. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; Pre- or corequisite(s): minimum junior standing; minimum 2.50 GPA OR Visiting University Student |
| COM | 465 | Intercultural Communication Workshop | Experientially based study of communication between members of different cultures designed to help students improve their intercultural communication skills. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-3 | | Prerequisite(s): minimum 2.00 GPA |
| COM | 467 | Digital Rhetoric | Critical rhetorical study of intersection of public advocacy, deliberation, argumentation and digital media. Examines a variety of digital media as they intersect with theories of rhetoric. Explores digital technology through a blending of criticism upon and creation of digital artifacts. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): COM 207 with C or better; ENG 101, 105, or 107 with C or better; Pre- or corequisite(s): junior or senior standing; Credit is allowed for only COM 467 or COM 494 (Digital Rhetoric) |
| COM | 471 | Global Media and Cultural Identity | Explores theory and practices of global media production, dissemination and consumption. Surveys the ways in which local, regional and global sociocultural and political forces interplay to shape cultural identities and media consumption. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | G | Prerequisite(s): minimum 2.50 GPA; junior standing OR Visiting University Student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| COM | 477 | Sport, Culture, and Discourses | Introduces sport as a global economic and cultural force, and as a foundational discourse experienced largely through media. Facilitates the understanding of sport as a major cultural and socializing institution and, thus, as a key site for the construction of knowledge, understandings, ideologies, and identities. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 2.50 GPA |
| COM | 482 | Communication, Instruction and Training | Explores instructional communication practices applied to professional training settings. Considers verbal, nonverbal and technological aspects of instructional communication with an emphasis on training professional and community audiences. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 2.50 GPA OR Visiting University Student |
| COM | 483 | Advanced Communication and Mentoring | Students serve as peer mentors in CommLabASU on ASU's West campus with instructional emphasis on speaker apprehension, listening, the dynamics of group communication and leadership. Through experiential learning, mentors employ ethical peer tutoring practices by coaching undergraduates in managing public speaking apprehension, speech development and organization. Further, mentors provide on-the-spot feedback to undergraduates relating to delivery techniques, style, nonverbal communication, persuasive strategies and the use of presentational material. | N | LEL | Y | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): COM 383 with B or better OR Visiting University Student |
| COM | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | GNA | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-12 | | Prerequisite(s): COM 225 with C or better; COM 308 with C or better; minimum 56 hours; minimum 2.00 GPA or New College communication student with minimum 2.80 GPA |
| COM | 485 | Communication Portfolio | Intensive small-group, topically focused, variable-content course that integrates research and study for advanced students within the major. | N | SEM | Y | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only COM 485 or COM 498 (Family Communication Portfolio) OR Visiting University Student |
| COM | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | PRA | Y | Z1 | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-6 | | Prerequisite(s): Barrett Honors student |
| COM | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | PRA | N | Z1 | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| COM | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-4 | | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| COM | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-6 | | Prerequisite(s): Barrett Honors student |
| COM | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-7 | | |
| COM | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-3 | | Prerequisite(s): minimum 2.00 GPA |
| COM | 501 | Research Methods in Communication | Critical analysis of systems of inquiry in communication, focusing on the identification of variables and approaches to conducting research in communication. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): Communications graduate student |
| COM | 504 | Theories and Models in Communication | Theory construction, metatheoretical concerns, models, construct definition, and comparative analysis of current theories in communication. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): Communications graduate student |
| COM | 507 | Qualitative Research Methods in Communication | Qualitative research methods, including interviewing, field methods, and other nonquantitative techniques for analyzing communication. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): Communications Graduate student; Credit is allowed for only COM 407 or 507 |
| COM | 508 | Quantitative Research Methods in Communication | Empirical research designs, measurements, and statistical strategies and techniques in analyzing and evaluating experimental and descriptive research in communication. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Pre-requisites: Communications Graduate student. Credit is allowed for only COM 408 or COM 508 |
| COM | 510 | Transmedia Narratives | Explores the history, production, distribution and consumption of transmedia narratives as an emergent multiple-platform dynamic of storytelling. Focuses on digital storytelling, the dynamics of nonlinear narrative and immersive audience experience. | N | SEM | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| COM | 514 | Communication and Gender | Investigate the role that gender and identity plays in communication and the life of the organization. Provides a theoretical overview of the topics as well as opportunities for personal reflection and discussion. Students acquire the background and practical skills necessary to recognize the barriers to effective communication, and a variety of tools and strategies with which to manage interactions within organizations. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only COM 514 or COM 598 (Communication and Gender) |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| COM | 515 | Communication in the Workplace | Provides an in-depth review of the core concepts and areas of organizational communication to advance students' understanding of the role of communication in workplace interactions and professional achievement. Throughout the coursework, students learn and discuss key scholarly perspectives, which enable them to (a) better articulate the changing nature of modern work, (b) analyze their own work experiences, and (c) improve their adaptability at work by applying their knowledge of communicative interactions. In addition to theoretical discussions, students investigate contemporary issues and case studies with respect to the nature of the modern workplace. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only COM 515 or COM 598 (Communication in the Workplace) |
| COM | 517 | Communication and Conflict Transformation | Focuses on the principles and perspectives of conflict, including discussions on the practices that push toward conflict transformation. Engages in application activities that allow students to apply such practices to theory, online simulated activities, and personal experiences. Course readings, which include both academic and research-based applied texts, address perspectives of conflict and the impact of power, relationship and context on conflict episodes, among other topics. Requires students to engage in online simulated activities and reflect on their experiences and the relevance of theory to those experiences. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only COM 517 or COM 598 (Communication and Conflict Transformation) |
| COM | 518 | Communication in Global Contexts | Globalization is a profound influence on contemporary societies, including facilitating greater opportunities for communication across regional and international borders. As mediated content and networks grow at unparalleled rates, new flows of information and knowledge connect families, communities and nations. Yet, at the same time, sociocultural differences and digital divides exist to widen gaps in our relationships and development processes. Develops a critical understanding of the relationships between culture and communication technologies in the changing infrastructures, networks and boundaries of our increasingly globalized world. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only COM 518 or COM 598 (Communication in Global Contexts) |
| COM | 519 | Social Influence and Persuasion | Studies social influence and persuasion in the discipline of communication from a social scientific perspective. Examines significant processes and factors whereby human communication can effectively impact the perspectives, attitudes and behaviors of others. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only COM 519 or COM 598 (Social Influence and Persuasion) |
| COM | 520 | Crisis Management and Communication | Explores the crucial role of strategic communication principles and practices throughout the stages of crises that impact organizations and their stakeholders. By mastering these principles and practices, equips students to constructively evaluate and engage in the consequential communication that accompanies each organizational crisis stage. Explains how communication can prevent, cause, exacerbate and remedy organizational crises. Summarizes the elements that constitute a crisis for organizations and organized communities. Differentiates the various stages that comprise the two primary organizational crisis models. Evaluates an organization's preparation for, response to, and recovery from an actual crisis event. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only COM 520 or COM 598 (Crisis Management and Communication) |
| COM | 521 | Negotiation Theory and Practice | Focuses on the theory and practice of negotiating as well as how theory and practice influence one another. Course readings, including both academic and research-based applied texts, address principles of effective negotiating and the impact of emotion, sex and culture on practice, among other topics. Students engage in a variety of applied negotiation activities and reflect on their experiences and the relevance of theory to their experiences (and vice versa) in written assignments and class discussion boards. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only COM 521 or COM 598 (Negotiation Theory and Practice) |
| COM | 530 | Training and Development | Provides an in-depth review of the core concepts relevant to training and development informed by adult learning theories and situated within contexts relevant to the human communication discipline. Purposefully designed to advance students' understanding of the role of communication and human interaction in training and development especially in workplace contexts. Throughout the coursework, students learn and discuss key scholarly perspectives, which enable them to (a) more deeply appreciate and understand the training and development cycle components, (b) reflect on and analyze their own experiences as participants in training and development sessions, and (c) create and implement learner-centered training and development plans grounded by theoretical frameworks. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): Communication MA student; COM 501 with B or better; COM 504 with B or better; Credit is allowed for only COM 530 or COM 598 (Training and Development) |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| COM | 540 | Conducting Communication Research | Develops the skills necessary to conduct communication research in the workplace. Students develop a research proposal for a project that they could conduct at their current jobs or a job they would like to have. They may choose to develop a proposal for their capstone project or a project that they would like to conduct in the future. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): COM 530 with B or better; minimum 9 hours of 500-level COM courses; minimum 3.00 GPA |
| COM | 550 | Capstone | Culminating experience of the Master of Arts in Communication. The capstone course allows each student to develop a project that answers a question or solves a problem tailored to his or her interests, needs and goals. Develops final products individually based on consultation with faculty. Each student has a two-faculty member committee to support the capstone project. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): COM 540; minimum 3.00 GPA |
| COM | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| COM | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| COM | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| COM | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| COM | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| COM | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-12 | | Pre-requisite: Communications Graduate student |
| COM | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| COM | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| COM | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | PRA | Y | Z2 | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| COM | 604 | Theory Construction in Communication | Review and analysis of philosophical problems inherent in communicative research and of metatheories designed to deal with these problems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): Communications PhD student |
| COM | 607 | Contemporary Rhetorical Methods | Analysis of issues in the practice of rhetorical communication research, including criticism and scholarship. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): Communication PhD student |
| COM | 608 | Multivariate Statistical Analysis of Data in Communication | Statistical analysis of communication research data. Multivariate procedures used in communication research and methods of causal analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): Communication PhD student |
| COM | 609 | Advanced Qualitative Research Methods in Communication | Analysis of issues in the practice of qualitative communication research, including data gathering, fieldwork issues, analysis strategies, and reporting results. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): Communication PhD student |
| COM | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| COM | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-12 | | Prerequisite(s): Communications graduate student |
| COM | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| COM | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| COM | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| COM | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | PRA | Y | Z2 | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CON | 100 | Introduction to Construction | Introduces construction industry sectors and professionals. Additional content includes developing personal competencies required of construction professionals. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 2 | | |
| CON | 101 | Construction and Culture: a Built Environment | Analyzes the cultural context of construction, emphasizing its centrality in the evolution and expansion of built environments as expressions of ethical and historical value systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | HU & H | |
| CON | 106 | Introduction to Concrete Materials for the Built Environment | Effects of concrete-making materials (aggregates, cements, admixtures, etc.) on the properties of fresh and hardened concrete. Discusses concrete mixture proportioning along with the calculations and statistical analysis of strength testing. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 4 | SQ | |
| CON | 221 | Applied Statics | Vectors, forces and moments, force systems, equilibrium, analysis of basic structures and structural components, friction, centroids, and moments of inertia. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): MAT 170 or higher with C or better; PHY 111 with C or better; PHY 113 with C or better OR Visiting University Student |
| CON | 223 | Strength of Materials | Analyzes strength and rigidity of structural members in resisting applied forces. Stress, strain, shear, moment, deflections, combined stresses, and connections. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): CON 221 with C or better; CON 252 with C or better OR Visiting University Student |
| CON | 241 | Surveying | Theory and fieldwork in construction and land surveys. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): MAT 170 or higher with C or better; Credit is allowed for only CEE 281 or CNE 241 or CON 241 OR Visiting University Student |
| CON | 243 | Heavy Construction Equipment, Methods and Materials | Emphasizes Horizontal construction. Fleet operations, maintenance programs, methods, and procedures to construct tunnels, roads, dams, and the excavation of buildings. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Credit is allowed for only CNE 243 or CON 243 |
| CON | 244 | Working Drawing Analysis | Provides the ability to read and understand architectural plans; to understand drawing symbols, dimensions, abbreviations, and terms. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | |
| CON | 251 | Microcomputer Applications for Construction | Applies the microcomputer as a problem-solving tool for the constructor. Uses spreadsheets, information management, and multimedia software. | N | LAB | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): MAT 170 or higher with C or better OR Visiting University Student |
| CON | 252 | Building Construction Methods, Materials, and Equipment | Emphasizes Vertical construction. Methods, materials, codes, and equipment used in building construction corresponding to the division of the CSI Master Format. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | |
| CON | 271 | Construction Safety | Safety procedures and equipment. OSHA requirements for construction. Biological aspects of construction safety. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction Management BS or Construction Engineering BSE major; Credit is allowed for only CNE 271 or CON 271 OR Visiting University Student |
| CON | 273 | Electrical Construction Fundamentals and Project Management | Electrical construction, design, estimating, scheduling and project management. Electrical safety, blueprints and symbols, theory, sequence of installation. National Electrical Code (NEC). | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | |
| CON | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-4 | | |
| CON | 296 | Summer Field Internship | Participation as interns on construction projects to observe and experience the daily activities. | N | PRA | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1 | | Prerequisite(s): Construction Management BS or Construction Engineering BSE major; CON 271 or CNE 271; Credit is allowed for only CON 296 or CNE 296 |
| CON | 310 | Testing of Materials for Construction | Structural and behavioral characteristics, engineering properties, measurements, and application of construction materials. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 2 | | Prerequisite(s): Construction Management and Technology BS major; CON 221 with C or better; Pre- or corequisite(s): CON 223 with C or better if completed OR Visiting University Student |
| CON | 343 | Advanced Heavy Equipment Operations | Reviews the principles of horizontal construction. Emphasizes fleet operations, maintenance programs, methods and procedures to construct tunnels, roads, dams and the excavation of buildings. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): CON 252; minimum junior standing; Credit is allowed for only CON 343 or CON 394 (Advanced Heavy Equipment Operations) OR Visiting University Student |

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| CON | 345 | Mechanical Systems | Design parameters and equipment related to heating and cooling systems for mechanical construction. Biorelated aspects of mechanical systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction Management BS major; CON 221 with C or better; CON 252 with C or better; PHY 111 or 121 with C or better; PHY 113 or 122 with C or better OR Visiting University Student |
| CON | 383 | Construction Estimating | Analyzes construction drawings and specifications. Utilizes advanced technical and ethical practices in estimating process. Quantity surveying techniques for CSI divisions. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction Engr BSE maj; CNE 243 or CON 243 OR Construction Mgmt&Tech BS maj; CON 252 OR Interdisc Studies BA maj or Construction Mgmt minor; CON 243 or 252; Credit is allowed for only CNE 383 or CON 383 OR Visiting University Student |
| CON | 384 | Environmental Aspects of Heavy Construction | Methods, measures and analysis related to control of erosion, dust generation and storm water discharge during projects. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): BS Construction Management major. Pre- or corequisite(s): CON 243. Credit is allowed for only CON 384 or CON 394 (Environmental Aspects of Heavy Construction) |
| CON | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-4 | | Pre-requisite: Engineering BS or BSE student |
| CON | 424 | Structural Design | Economic use of concrete, steel, and wood in building and engineered structures. Design of beams, columns, concrete formwork, and connections. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction Management BS major; CON 223 with C or better; Pre- or corequisite(s): CON 310 OR Visiting University Student |
| CON | 441 | Public Works Capital Construction | Practices and policies employed in delivering capital construction projects by government agencies at various levels. The full lifecycle of the typical public works capital construction project from planning, through design and construction, to operations and maintenance. Additional lecture topics include sustainability, strategic planning, risk management and safety. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prereq(s): Con Engr BS or Con Mngmt BSE major; min junior standing; Credit is for only CON 441 or CON 541 or CEE 494(Pub Wrks Cap Con) or CON 494(Pub Wrks Cap Con) or CEE 598(Pub Wrks Cap Con) or CON 598(Pub Wrks Cap Con) OR Visiting University Student |
| CON | 446 | Marketing for Construction | Provides key marketing practices to include strategic planning, marketing collateral, networking, business development, and interview preparation for project pursuits. Covers all aspects of service-based marketing topics and practices. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): COM 225; CON 221 with C or better OR Visiting University Student |
| CON | 448 | Sustainable Construction | Studies the principles associated with sustainable construction: problem definition, definition of sustainability, measures of sustainability, examination of current industry practices, financial and resource impacts of sustainable construction, independent student investigation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Civil Engineering (Sustainable Engineering) BSE or Construction Management & Technology BS major; minimum junior standing; Credit is allowed for only CON 448 or CON 548 or CON 598 (Sustainable Construction) OR Visiting University Student |
| CON | 450 | Geotechnical Applications for Construction | Soil formation, engineering properties and use as building materials. Soil's influence on construction of built environment, including specifications and biological aspects. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction Management BS major; CON 223 with C or better; CON 310; Credit is allowed for only CNE 450 or CON 450 OR Visiting University Student |
| CON | 451 | Innovative Project Delivery | Studies design and construction interaction; the RFP (request for proposal) and RFQ (request for quote) process; risk allocation issues; developing successful project proposals, procurement and selection. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction Management, Construction Engineering, Civil Engineering, or Architectural Studies major; senior standing; Credit is allowed for only CON 451 or CON 494 (Alt Project Delivery Mthds) or CON 551 |
| CON | 453 | Construction Technology | Building information modeling, including current computer programs and technology planning strategies for advanced project deliveries. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction Mgmt major, Interdisc Studies major (Construction Mgmt concentration), or Construction Mgmt minor; CON 251 OR Construction Engr major; senior standing; Credit is for only CNE 453 or CON 453 OR Visiting University Student |
| CON | 454 | Trenchless Construction Methods | Theory and practice of trenchless construction methods. Types of equipment, roles of site personnel, engineering design, contractual issues and safety. Lecture, class projects, and site visits. Knowledge of heavy construction equipment, methods and materials required to be successful in this course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction Management BS or Construction Engineering BSE major; Pre- or corequisite(s): CNE 243 or CON 243; Credit is allowed for only CON 454 or CON 554 OR Visiting University Student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--------------------------|-------|-----------------|--|
| CON | 455 | Construction Project Management | Advanced topics in administrative procedures, planning processes, and coordination required to successfully complete construction projects on time and budget. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction Engineering BSE or Construction Management and Technology BS major; Pre- or corequisite(s): CNE 495 or CON 495; Credit is allowed for only CNE 455 or CON 455 or CON 545 OR Visiting University Student |
| CON | 457 | Principles of Leadership for Project Managers | Individual, organizational and process/structure leadership in project setting. Four-step leadership transformational model for project leaders. Project leadership tools and applications to motivation, conflict management, team building and delegation of risk. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction Management BS or Construction Engineering BSE major; Pre- or corequisite(s): CON 243; Credit is allowed for only CON 457 or CON 557 OR Visiting University Student |
| CON | 465 | Deductive Logic, Leadership and Industry Structure | Simple, logical explanations of construction and other industries. State-of-the-art supply chain, profit maximizing and efficient practices. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): junior or senior standing; Credit is allowed for only CON 465 or CON 565 |
| CON | 467 | Advanced Procurement Systems | Development of multicriteria decision procurement model for selecting the performing contractor. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): junior or senior standing; Credit is allowed for only CON 467 or CON 567 or CON 494 (Advanced Procurement Systems) |
| CON | 483 | Advanced Building Estimating | Concepts of pricing and markup, development of historic costs, life cycle costing, change order and conceptual estimating. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction BS major; CON 383 with C or better OR Visiting University Student |
| CON | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-12 | | Prerequisite(s): Construction Management BS major with CON 296 or CNE 296 OR Construction Engineering BSE major with CON 271 or CNE 271; Credit is allowed for only CON 484 or CNE 484 |
| CON | 486 | Heavy Construction Estimating | Methods analysis and cost estimation for construction of highways, bridges, tunnels, dams, and other engineering works. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prereq(s): Constr Engr BSE maj; CNE 243 or CON 243 OR Constr Mgmt & Tech BS maj; CON 252 OR Interdisc Studies BA maj or Constr Mgmt minor; CON 243 or 252; Credit allowed for only CON 486 or CON 598 (Heavy Constr Estimating) OR Visiting University Student |
| CON | 487 | Project Controls | Project staff roles and responsibilities, project documentation process and control, project control processes to manage quality, schedule and budget, quantity tracking and earned value management, and financial management of a construction project. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Pre- or corequisite(s): CON 495 OR Visiting University Student |
| CON | 488 | Heavy Construction Earthworks | Geotechnical issues with respect to foundation grading, forming and location for various types of infrastructure and transportation projects. Also includes streets, highway and embankment developments, retaining wall system, mechanically stabilized earth walls, and required quality control methods for these activities. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction Management BS or Construction Engineering BSE major; Pre- or corequisite(s): CON 243; Credit is allowed for only CON 488 or CON 494 (Heavy Construction Earthworks) |
| CON | 491 | Construction Project Capstone | Develops understanding and knowledge of topics and concepts required to be a construction manager. A construction project is the basis for applying cost estimating, scheduling, safety, communications and other construction management skills. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): CON 383; CON 495; Pre- or corequisite(s): CON 455; Credit is allowed for only CON 491 or CON 494 (Construction Project Capstone) |
| CON | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-6 | | Prerequisite(s): Barrett Honors student |
| CON | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| CON | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-4 | | |
| CON | 495 | Construction Planning and Scheduling | Various network methods of project scheduling, such as AOA, AON Pert, bar-charting, line-of-balance, and VPM techniques. Microcomputers used for scheduling, resource allocation, and time/cost analysis. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | CS | Prerequisite(s): Construction Mngmt BS major, Construction Engineering BSE major, BIS major with Construction Mngmt emphasis, or Construction Mngmt minor; CNE 383 or CON 383; Credit is allowed for only CNE 495 or CON 495 OR Visiting University Students |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--------------------------|-------|-----------------|---|
| CON | 496 | Construction Contract Administration | Surveys administrative procedures of general and subcontractors. Studies documentation, claims, arbitration, litigation, bonding, insurance, and indemnification. Discusses ethical practices. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | L | Prerequisite(s): Constr Mgmt BS major, Constr Engr BSE major, BIS major w/ Constr Mgmt emphasis, or Constr Mgmt minor; CNE 453 or CON 453; ENG 101, 105, or 107 w/ C or better; Credit is allowed for only CNE 496 or CON 496 OR Visiting University Student |
| CON | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-3 | | |
| CON | 501 | Construction Research Methods | Data collection methodologies, applied parametric and nonparametric statistics, data analysis techniques, technical writing, and data presentation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Pre-requisite: Construction Graduate student |
| CON | 502 | Front-End Planning | Principles and applications for effective early planning of capital facilities, including: finance, economics decision making, risk management, team alignment and front-end planning processes and tools. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): graduate Civil Engineering or Construction or Construction Engineering student; Credit is allowed for only CEE 502 or CON 502 or CON 598 (Front End Planning) or CEE 598 (Front End Planning) |
| CON | 507 | Safety Management for Construction Managers | Executives and managers make better decisions while managing the safety needs for a company in the construction industry using different safety management approaches. | N | LEC | N | OP3 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction Engineering or Construction Management graduate student; Credit is allowed for only CON 507 or CON 598 (Introduction to Safety Management) |
| CON | 508 | Engineering and Construction Failures | Engineering, construction and ethics failures. Focuses on failures in the built environment. Students tailor the assignments and projects to their specific engineering or construction discipline. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prereq(s): degree- or nondegree-seeking graduate student; Credit allowed for only CON 508 or FSE 508 or CEE 598 (Engineering and Construction Failures) or CON 494 (Engineering and Construction Failures) or CON 598 (Engineering and Construction Failures) |
| CON | 509 | Advanced Concrete Materials | Properties of Portland cement concrete materials at an advanced level by examining the influence of constituent materials (cements, aggregates and admixtures) on the properties and behavior of fresh and hardened concrete under various types of loading and environmental conditions. | N | LEC | N | OP3 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CON 509 or CON 494 (Advanced Concrete Materials) or CON 598 (Advanced Concrete Materials) |
| CON | 510 | Sustainable Bio-Based Construction | State of the art on sustainable bio-based construction for buildings and infrastructure. Helps students gain knowledge on the following topics related to construction: various types of emerging bio-materials, novel technologies and processes in bio-material development, emerging technologies for characterization and diagnosis. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Civil, Enviro or Sustainable Engr MS, MSE, or PhD student or Construction Engineering MSE, Construction Mgmt PhD, or Construction Mgmt & Tech MS student; Credit is allowed for only CON 510 or CON 598 (Sustain Bio-based Construction) |
| CON | 511 | Hazard Mitigation Planning | Examines policies, methodologies and guidance for state and local hazard mitigation planning. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CON 511 or PAF 553 (CPP 511) |
| CON | 530 | Facilities Operations and Maintenance | Operations, maintenance and energy management requirements of various types of facilities and built environments. Ethical practices | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking); Credit is allowed for only CON 430, 494 (Facilities Management/Operations & Maintenance), 530 or 598 (Facilities Management/Operations & Maintenance) |
| CON | 531 | Facility Management: Building Energy Management | Understand and learn energy management techniques in facilities management. Identifying and performing efficiency evaluations on various types of heating, ventilation and air conditioning systems in typical buildings. Concepts and methods of managing, adjusting and balancing equipment and systems for maximum facility performance. Facilities organizations best practices to maximize energy savings and performance, such as insulation usage, lighting optimization, energy management systems and commissioning procedures. Identification of ancillary benefits to energy-efficient building systems such as indoor air quality, sustainability and energy audits. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only CON 531 or CON 598 (Facility Management Building) |

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|---------|----------------|--|--|----------------------|----------------------|--------------------|------------------|--------------------------------------|--------------------------|-------|--------------------|--|
| CON | 532 | Facilities Project Management | Understand and learn project management techniques in facilities management. Stakeholder analysis, including roles, responsibilities and risk considerations. Asset owner and manager considerations within project components and deliverables. Development of project scope, requirements, schedules, budgets and communication plans from a facility manager's perspective. Best practices of facilities organizations for managing contract types, contract governance and performance management. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; Credit is allowed for only CON 532 or CON 598 (Facility Project Management) |
| CON | 534 | Retrofit Construction | Focuses on energy efficiency retrofits in existing commercial buildings. Defines retrofit and why we retrofit. Examines current industry practices, impacts of retrofit construction on finances and the environment, and independent student investigation. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Ira A. Fulton graduate student; Credit is allowed only for CON 534 or CON 598 (Retrofit Construction) |
| CON | 540 | Construction Productivity | Productivity concepts. Data collection. Analysis of productivity data and factors affecting productivity. Means for improving production and study of productivity improvement programs. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction MS or Construction Engineering MSE major |
| CON | 541 | Public Works Capital Construction | Practices and policies employed in delivering capital construction projects by government agencies at various levels. The full lifecycle of the typical public works capital construction project from planning, through design and construction, to operations and maintenance. Additional lecture topics include sustainability, strategic planning, risk management and safety. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): graduate Construction Engineering or Construction Management student; Credit is allowed for only for CON 441 or CON 541 or CEE 494/CON 494 (Public Works Capital Construction) or CEE 598/CON 598 (Public Works Capital Construction) |
| CON | 545 | Construction Project Management | Theory and practice of construction project management. Roles of designer, owner, general contractor, and construction manager. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction or Construction Engineering graduate student; Credit is allowed for only CNE 455 or CON 455 or CON 545 |
| CON | 548 | Sustainable Construction | Studies the principles associated with sustainable construction: problem definition, definition of sustainability, measures of sustainability, examination of current industry practices, financial and resource impacts of sustainable construction, independent student investigation. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Civil, Environmental & Sustainable Engineering or Construction Engineering or Construction Management graduate student; Credit is allowed for only CON 448 or CON 548 or CON 598 (Sustainable Construction) or CON 598 (Sustain in Constrn) |
| CON | 551 | Alternative Project Delivery Methods | Design/construction interaction; conceptual estimation and scheduling; the RFQ/RFP process; legal, insurance, risk allocation issues; procurement and selection. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CON 451 or CON 494 (Alt Project Delivery Mthds) or CON 551 |
| CON | 554 | Trenchless Construction Methods | Theory and practice of trenchless construction methods. Types of equipment, roles of site personnel, engineering design, contractual issues, and safety. Lecture, class projects, and site visits. Knowledge of heavy construction equipment, methods, and materials required to be successful in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction Engineering OR Construction Management graduate student |
| CON | 557 | Principles of Leadership for Project Managers | Individual, organizational and process/structure leadership in project setting. Four-step leadership transformational model for project leaders. Project leadership tools and applications to motivation, conflict management, team building and delegation of risk. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CON 457 or CON 494 (Prin Lead & Management) or CON 557 or CON 598 (Prin Lead and Mgmt) |
| CON | 565 | Deductive Logic, Leadership and Industry Structure | Simple, logical explanations of construction and other industries. State-of-the-art supply chain, profit maximizing, and efficient practices. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): graduate student (degree seeking or nondegree seeking). Credit is allowed for only CON 465 or CON 565 |
| CON | 567 | Advanced Procurement Systems | Development of multicriteria decision procurement model for selecting the performing contractor. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only CON 467, 567 or 494 (Advanced Procurement Systems) |
| CON | 570 | Introduction to Advanced Technology Facilities | Introduces advanced technology facilities such as cleanrooms, data centers, research labs, and hospitals. The constructor's viewpoint, including: planning, structures, mechanical, and tool installation. Site visits. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CON | 571 | Construction of Advanced Technology Facilities | Construction issues for advanced technology facilities such as cleanrooms, data centers, research labs, and hospitals. Issues include scheduling, cost estimating, project management, mechanical, safety, commissioning and tool hookup. Site visits. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): CON 570 with C or better |
| CON | 575 | Information Technology in Construction | Uses virtual construction methodologies to improve the construction enterprise using communications, facility modeling, and decision making. Site visits. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|-----------------------------------|-------|-----------------|---|
| CON | 576 | Computer Vision For Builders | Computer vision is the subfield of artificial intelligence that trains computers to interpret visual data. In the context of construction, it is used to automatically monitor safety and security, evaluate efficiency, track progress, detect defects, guide robotic systems, and support remote presence of scarce expert resources. Students learn about the sensors used to collect visual data, the tools used to fuse data into unified digital representations and the algorithms available to automatically analyze these representations to extract useful insights for improving construction operations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only CON 494 (Computer Vision for Builders) or CON 576 or CON 598 (Computer Vision for Builders) |
| CON | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CON | 589 | Construction Company Financial Control | Financial accounting and cost control at the company level in construction companies. Accounting systems. Construction project profit calculations. Financial analysis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Pre-requisite: Engineering MS, MSE or PHD student |
| CON | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CON | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CON | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-12 | | Pre-requisite: Construction Masters student |
| CON | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CON | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | IND | Y | Z3 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CON | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-4 | | Prerequisite(s): Construction Engineering OR Construction Management graduate student |
| CON | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-12 | | Pre-requisite: Construction Masters student |
| CON | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | N | PRA | Y | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CON | 700 | Research Methods | Course on research methods in a specific discipline. | N | RSC | Y | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CON | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | N | IND | Y | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CON | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-15 | | Pre-requisite: Construction Doctoral student |
| CON | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CON | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-15 | | Pre-requisite: Construction Doctoral student |
| CPI | 101 | Introduction to Informatics | Concepts, tools, techniques, and applications of informatics. Includes overview of programming, data management, visualization, modeling, and social implications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | CS | |

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| CPI | 111 | Game Development I | Introduces video game design, art theory, and concepts as they apply to video game development. Basic art principles used in game development. Covers the fundamental video game art principles of 2-D and 3-D composition, color theory, modeling, and lighting techniques. Demonstrates practical application of these art fundamentals in establishing style guides, concept art, storyboards, and in-game assets. Also includes game design, game production, asset production, and game programming. Hands-on experience by creating 2-D game prototypes belonging to different video game genres and evaluating the techniques. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | CS | |
| CPI | 200 | Mathematical Foundations of Informatics | Practical introduction to the mathematics necessary for studies in informatics. Topics include discrete math, analytic geometry, calculus and linear algebra. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | MA | Prerequisite(s): MAT 242, 342, or 343 with C or better; MAT 243 or 300 with C or better OR Visiting University Student |
| CPI | 211 | Game Development II | Introduces the basics of 3D game development by using a game engine. Focuses on the pipeline of 3D game development including environment and contents creation, scripting to control components, and graphics user interfaces development. Develops several 3D games for multi platforms. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | | Prerequisite(s): CPI 111 with C or better OR Visiting University Student |
| CPI | 220 | Applied Data Structures and Algorithms | Thorough grounding in applied knowledge and skills related to algorithms and data structures used in the development of software designed to solve complex problems. Overview of computational and critical thinking skills that can be called upon to analyze and solve complex problems in multiple domains. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | | Prerequisite(s): CSE 205 with C or better OR Visiting University Student |
| CPI | 221 | Advanced Object-Oriented Principles Using Java | Advanced object-oriented programming using the Java language. Design concepts and problem solving. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | | Prerequisite(s): CPI 220, CSE 310 or TGM 410 with C or better OR Visiting University Student |
| CPI | 310 | Web-Based Information Management Systems | Relational database design, entity-relationship modeling, relational algebra, SQL, database access through Web, Web data management, introduction to XML, fundamentals of Web application development, Web server architectures, lecture, in-class lab activities. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | | Prerequisite(s): CSE 205 with C or better OR Visiting University Student |
| CPI | 311 | Game Engine Development | State-of-the-art techniques for computer game design and programming with an emphasis on 3-D graphics and interaction. Focuses on a practical, example-driven approach to learning the unique art of 3-D game development. Topics include graphics game engines, textures, shader programming, artificial intelligence, physics, modeling, sound effects, and techniques for user interfaces. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | | Prerequisite(s): CPI 211 with C or better; CSE 205 with C or better OR Visiting University Student |
| CPI | 321 | Fundamentals of Game Art | Introduces art theory and concepts as they apply to video game development. Covers 2-D and 3-D composition, color theory, modeling, and lighting techniques. Demonstrates practical application of these art fundamentals in establishing style guides, concept art, storyboards, and in-game assets. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | | Prerequisite(s): CPI 211 with C or better |
| CPI | 350 | Evaluation of Informatics Systems | Methods for evaluation of informatics systems, including design of computational and human experiments, ethnography, and analytic techniques. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | | Prerequisite(s): GIS 270, GIS 470, IEE 380, STP 226, STP 231, or STP 420 with C or better OR Visiting University Student |
| CPI | 360 | Decision Making and Problem Solving | Practical use of database systems, computer graphics, and modeling to inform decision making. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | | Prerequisite(s): CSE 205 with C or better OR Visiting University Student |
| CPI | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 1-4 | | |
| CPI | 411 | Graphics for Games | Examines real-time rendering of high-quality interactive graphics. Studies advances in graphics hardware and algorithms that make this possible. Examples of techniques and topics include nonphotorealistic rendering, occlusion culling, level of detail, terrain rendering, shadow generation, image-based rendering, and physical simulation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | | Prerequisite(s): CPI 211 with C or better |
| CPI | 421 | 3-D Modeling and Texturing | Provides working knowledge of 3-D modeling, texture mapping, and paint concepts for the creation of 3-D video games art assets. Students work on concepts such as 3-D lighting, high polygon mesh rendering, and various third-party software and how to integrate them into the asset production pipeline. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | | Prerequisite(s): CPI 211 with C or better OR Visiting University Student |
| CPI | 441 | Gaming Capstone | Industry-oriented course emphasizing the video game development process, technical skills, teamwork and communication among the students enrolled in the gaming certificate. Students partner with local industry involved in game development, visual art, and educational gaming and solve real-world problems by working in a team comprised of students from the three tracks available within the certificate. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | | Prerequisite(s): BS Informatics or BIS (Computer Gaming) or Computer Gaming certificate; senior standing |

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| CPI | 460 | Intelligent Interactive Instructional Systems | Intelligent interactive instructional systems serve as tutors, as learning companions or both. Covers their design, the technology that powers them, the learning theories that motivate them and results from experimental evaluations. Emphasizes intelligent tutoring systems, as they are a more mature technology. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | | Prerequisite(s): CSE 205 with C or better; Credit is allowed for only CPI 460 or CSE 494 (Intelligent Instr Sys) |
| CPI | 462 | Design for Learning in Virtual Worlds | Focuses on issues of design for learning in virtual worlds by exploring: the history and evolution of virtual worlds, the theories behind the use of virtual worlds for learning, the design of curricula in virtual worlds, design guidelines for elements experienced in virtual worlds to support learning, design guidelines for learning quests and activities in virtual worlds. Also introduces virtual world building using Unity 3D. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | | Prerequisite(s): CPI 221, CSE 220, or CSE 240 with C or better; Credit is allowed for only CPI 494 (Design for Learning in Virtual Worlds) or CSE 494 (Design for Learning in Virtual Worlds) or CPI 462 |
| CPI | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 1-12 | | Prerequisite(s): Informatics BS major or Informatics certificate student; CPI 221 with C or better; CPI 310 with C or better; Pre- or corequisite(s): CPI 360 with C or better if completed |
| CPI | 485 | Informatics Capstone I | Team-based design of an informatics system; working with clients; development of requirements, use cases, class/object diagrams, and plans for quality assurance and other evaluations; technical communication; teamwork. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | L | Prerequisite(s): Informatics BS major; CPI 350 with C or better; CSE 463 with C or better; ENG 101, 105, or 107 with C or better |
| CPI | 486 | Informatics Capstone II | Implementation of the informatics system designed during CPI 485; work processes; keeping designs consistent with implementations; conducting QA and other evaluations; technical communication; teamwork. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 4 | L | Prerequisite(s): Informatics BS major; CPI 485 with C or better; ENG 101, 105, or 107 with C or better |
| CPI | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 1-6 | | Prerequisite(s): Barrett Honors student |
| CPI | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| CPI | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 1-4 | | |
| CPI | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 1-3 | | |
| CPI | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPP | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1-4 | | |
| CPP | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1-4 | | |
| CPP | 350 | Community Works | In the first part of the course, students apply the five concepts of interpersonal empathy while completing a 30-hour service project. After completing the service project, students apply the two concepts of social empathy to a social issue in their community. At the conclusion of the course, students know how interpersonal and social empathy can be developed as a skill to help their community within their public service career. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CPP 350 or CPP 494 (Community Works) OR Visiting University Student |
| CPP | 353 | Community Impact Lab | Offers hands-on, service learning opportunities for upper-division students from the College of Public Service and Community Solutions. Using a problem-solving method called design thinking, student teams have the opportunity to work closely with a nonprofit organization, small business, government office or community organization to develop a solution to a critical issue within their organization. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CPP 353 or CPP 494 (Community Impact Lab) |
| CPP | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1-4 | | |
| CPP | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | LEC | N | Z1 | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1-12 | | |
| CPP | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1-4 | | |
| CPP | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |

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| CPP | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | N | LEC | N | Z1 | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1-3 | | |
| CPP | 521 | Public Finance and Project Management for Emergency Management and Homeland Security | Focuses on the related topics of how state and local governments utilize use budgeting and financing techniques in the emergency services domain as well as how emergency/disaster services projects are managed. Specifically, the first part of the course covers budgeting and finance mechanisms and processes in the public sector generally and how those mechanisms and processes relate to emergency response, general hazards management and disaster recovery. The second part of the course covers core principles of project management and then applies those principles to process related to grant application and grant award management in the areas of preparedness, hazard mitigation and disaster recovery. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPP | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | N | LEC | N | Z1 | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPP | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1-12 | | |
| CPP | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | N | LEC | N | Z1 | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1-12 | | |
| CPP | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPY | 568 | Group Intervention | Provides advanced MC or PhD students with supervisory experience serving as Group Leaders or Co-Leaders to students currently enrolled in the prerequisite course. Time dedicated to group leadership or supervision accumulates as "Direct Contact" or "Group Supervision" hours and fulfills the "maladaptive/intervention" requirements or may be applied as an elective for MC students and PhD students. Students are selected for enrollment in this course with required instructor or departmental approval. | N | SEM | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): Counseling MC or Counseling Psychology PhD student; CED 567; Credit is allowed for only CPY 568 or CPY 691 (Group Intervention) |
| CPY | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPY | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPY | 622 | Child Counseling and Play Therapy | The use of play and expressive arts in counseling. Major areas of focus include: theoretical orientations to play therapy and child counseling, foundations of counseling, practice of play therapy and child counseling skills, and assessment/treatment planning. Integrates play media such as guided imagery, puppets and dolls, art, creative dramatics, music and movement, games, and sand play. Demonstrations and experiential activities are a primary method of teaching and learning the theory and practice of play counseling. Includes both directive and nondirective play counseling experiences. | N | SEM | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): Counseling MC or Counseling Psychology PhD student; Credit is allowed for only CPY 622 or CPY 691 (Child Counseling and Play Therapy) |
| CPY | 623 | Counseling At-Risk Youth | Examines the behaviors that place adolescents at risk for not achieving career goals and interventions to address these behaviors. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPY | 635 | Professional Development | A series of presentations designed to expose beginning doctoral students to the multidimensional facets and competencies for being a counseling psychologist. | N | SEM | Y | YGB | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1 | | Prerequisite(s): Counseling Psychology PhD student; Credit is allowed for only CPY 635 or CPY 691 (Professional Development) |
| CPY | 644 | Psychology of Careers | Advanced career counseling, including theory, research, and practice. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate OR undergraduate postbaccalaureate student |
| CPY | 645 | Professional Issues and Ethics | Ethical, legal, and professional issues of concern to practitioners and researchers functioning in a variety of settings. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or postbaccalaureate student; Credit is allowed for only CED 645 or CPY 645 |
| CPY | 650 | Counseling Latinos | Survey course addressing mental health concerns and perspectives for individuals and families of Latino, Spanish-speaking origin. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| CPY | 651 | Personality Assessment | Training in the use of major objective personality instruments to assess psychological symptoms; emphasizes MMPI-2 and MCMI-III. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): CED 523 |
| CPY | 652 | Individual Intellect Assessment | Examines the nature of human intellectual/cognitive abilities, their standardized measurement, and related issues in interpretation and practice. Provides preliminary training and experience in the administration and interpretation of two of the most widely used tests in this area: the Wechsler Adult Intelligence Scale, 4th ed. & the Wechsler Intelligence Scale for Children, 5th ed. Introduces other instruments at a topical level. Emphasizes theoretical foundations, practice skills, cultural considerations and ethical issues in intellectual/cognitive assessment. Operates under the broad principles of a cooperative learning approach. By researching and presenting on key course concepts, students practice incorporating a scholarly and empirical basis into their clinical work to develop specialized expertise in clinical assessment. Class format includes instructor- and student-led didactics, discussion and practice labs. | N | SEM | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): Master of Counseling or Counseling Psychology PhD student; Credit is allowed for only CPY 652 or CPY 691 (Individual Intellect Assessment) |
| CPY | 653 | Neuropsychology | Assumes students have knowledge of basic topics in physiological psychology and/or in brain and behavior-type courses. Concentrates on human neuropsychology; the main topics are related to functional brain organization and hemispheric specialization, with a particular emphasis on functional assessment. Includes several other topics related to late-breaking empirical developments in the field. Read and discuss articles and studies, employing a large variety of methodologies, ranging from the 1950s to the latest publications, with both normal and pathological subject populations. Much of the course is spent discussing brain assessment techniques to study cognitive function and dysfunction. Emphasizes commonly used approaches in the assessment and measurement of human behavior and how the human brain is responsible for cognition, language, memory, spatial processing, emotion and personality. | N | SEM | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): Master of Counseling or Counseling Psychology PhD student; Credit is allowed for only CPY 653 or CPY 691 (Neuropsychology) |
| CPY | 654 | Biobases of Behavior | Fulfills the APA requirement for a three-semester-hour course devoted to the broad and general biological bases that underlie behavior, and surveys a variety of fundamental physiological principles. Designed for students enrolled in an APA-accredited professional psychology training program; it does not focus on application of physiological principles to psychological practice. Capitalizes on most students' prior familiarity with psychopathology to help enable acquisition of general information about important brain structures and functions. Includes information about basic nervous system-related biochemistry, cellular structure and physiology, and anatomy and physiology. Students participate in classroom problem solving activities during which an array of principles is covered based on reading assignments. Challenges students to consider the role of biological, evolutionary and genetic factors in the expression of an array of typical and atypical behavior. | N | SEM | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): Master of Counseling or Counseling Psychology PhD student; Credit is allowed for only CPY 654 or CPY 691 (Biobases of Behavior) |
| CPY | 660 | Prevention and Consultation | Community focus with emphasis on outreach, prevention, psychoeducation, consulting, and advocacy from a systematic multicultural perspective. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): Counseling MC or Counseling Psychology PhD student; Credit is allowed for only CED 527 or CPY 660 |
| CPY | 668 | Grant Writing and Grant Makers: The Washington Context | Develops successful proposals for educational research projects. Students gain experience writing for federal agencies, reviewing, and being evaluated on grant proposals. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPY | 670 | Individual Differences | Focuses on definitions and assessment of ways humans vary on psychological constructs. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPY | 671 | Multicultural Counseling | Provides awareness of the influence of sociocultural variables on human development and explores implications for counseling minority populations. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate student; Credit is allowed for only CED 671 or CPY 671 |

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| CPY | 673 | Trauma in Counseling | Addresses the impact of crisis, disasters, sexual assault and other trauma-causing events on individuals and communities, as well as the treatment of trauma-related disorders. Examines trauma through the impact on the brain regions, impact on memory, variations of emotional regulation and somatic responses. Also addresses operations of emergency management systems within clinical mental health agencies and in the community. Also gives attention to vicarious trauma and caring for the caregiver. Demonstrations and experiential activities are a primary method of teaching and learning the theory and practice of working with trauma. Includes both directive and nondirective experiences. | N | SEM | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CPY 673 or CPY 691 (Working with Trauma in Counseling) |
| CPY | 674 | Counseling Women | Explores women's development and its implications for counseling. Sexism in mental health, sex differences in diagnosis and psychopathology, and women's particular treatment needs. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CPY | 675 | Health and Wellness Counseling | Theory, research, and practice in health and wellness counseling. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPY | 676 | Social Bases of Behavior | In-depth examination of contemporary research and theory in selected areas of social psychology. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPY | 677 | Advanced Counseling | Advanced topics in counseling theory, research, and practice. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CPY | 678 | Supervision Theory | Models of therapist development and clinical supervision. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPY | 679 | History and Systems of Psychology | Examines the development and differentiation of the discipline of psychology from its origins in philosophy to the present. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CPY | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CPY | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CPY | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CPY | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CPY | 694 | Substance Use, Disorders, Addiction and Therapy | Develops knowledge and skills for conducting psychotherapeutic and educational interventions to address substance use disorders and associated concerns. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPY | 701 | Science and Practice of Counseling Psychology | Directed experiences involving the integration of theory, research, and practice in counseling psychology. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CPY | 702 | Research Methods in Counseling Psychology | Applies experimental and/or quasi-experimental methods to theory construction and treatment evaluation in counseling psychology. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPY | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CPY | 783 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CPY | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CPY | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CPY | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |

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| CPY | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CPY | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CPY | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CRD | 100 | Introduction to Community Development | Focuses on communities and draws on an interdisciplinary lens to orient students to the foundations of community development. Presents a holistic approach to communities as complex systems with the goal of addressing ecological, economic, social, cultural and political dimensions that play a vital role in decision making. Provides effective tools with which to engage various stakeholders (e.g., government, private, nonprofit, community). Framed within the theoretical context of social justice and community well-being. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | |
| CRD | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-3 | | Prerequisite(s): maximum 25 hours; Credit is allowed for only CRD 191, PRM 191 or TDM 191 |
| CRD | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |
| CRD | 200 | Foundations of Community Development | Focuses on development within the context of communities and draws on a holistic approach that encompasses social, economic and ecological dimensions of development. Orients students to municipal, state, national and international examples of development. Critical analyses of the application of development-related practices and policies implemented locally and internationally equip students with key assessment tools for complex systems. Presentations from key stakeholders grant students with first-hand information regarding issues, challenges and solutions that have been applied to various community development contexts. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 100 |
| CRD | 210 | Community Services and Professions | Allows students to develop an educational and career plan to use throughout their programs culminating in an ePortfolio. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Pre- or corequisite(s): CRD 200, NLM 160, or PRM 120 with C or better if completed OR Visiting University Student |
| CRD | 235 | Leadership and Ethics | Examines ethical questions faced by emerging leaders. Focuses on helping students develop emotional intelligence, current professional issues, and the refinement of a professional philosophy and comprehensive set of competences that enable transition from student to professional. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Credit is allowed for only CRD 235 or NLM 235 |
| CRD | 300 | Research Methods and Applied Skills | Orients students to the main methodological approaches utilized within the practice and study of community development. Discussion on research design and data collection complements the concepts employed in quantitative and qualitative approaches to development. Presents computer software applications. The goal is not mastery of research methods, but ability to critically consume research outputs as well as to design research-related documents. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 100; CRD 200 |
| CRD | 301 | Sustainable Communities | Analyzes community as concept and as an organizing system for promoting sustainability. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Pre- or corequisite(s): CRD 210, NLM 160, or PRM 120 with C or better if completed OR Visiting University Student |
| CRD | 302 | Inclusive Community Development | Examines the characteristics of diverse populations across the lifespan to effectively develop inclusive community programs and services. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | SB & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Pre- or corequisite(s): CRD 210 or PRM 210 with C or better if completed OR Visiting University Student |
| CRD | 350 | Tourism, Recreation and Sports Marketing | Critical examination of marketing principles in leisure and related industries in diverse settings, including local, national, and international. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 210, CSM 201 or TDM 205; ENG 102, 105 or 108 with C or better; MAT 142 or higher with C or better; minimum 45 hours; Credit is allowed for only CRD 350 or CSM 350 or PRM 350 or TDM 350 OR Visiting University Student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|--|
| CRD | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |
| CRD | 400 | Capstone: Leadership, Applied Skills and Community Development | Integrates and synthesizes knowledge disseminated throughout the entire community development degree program. Students purposefully revisit applications and principles of community development as well as community engagement skills and research tools necessary in collaborating with various groups of stakeholders. Introduces and applies concepts of conduct and ethics to discussions of careers in community development. Students apply acquired knowledge through culminating groups projects and group presentations. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 100; CRD 200; CRD 300 |
| CRD | 401 | Managing Tourism and Leisure Enterprises | Basic principles of administration and their application in successful administrative situations. Analyzes administrative function, structure, and policies. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 210 or PRM 210 with C or better; CSM 203, NLM 203, PRM 203, or TDM 372 with C or better; minimum 2.50 GPA; Credit is allowed for only CRD 401 or CSM 401 or PRM 401 or TDM 401 OR Visiting University Student |
| CRD | 402 | Assessment and Evaluation of Community Services | Introduces applied leisure research with emphasis on program evaluation, research design, data collection techniques, and data analysis. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 210 or PRM 210; Credit is allowed for only CRD 402 or CSM 402 or NLM 402 or PRM 402 or TDM 402 OR Visiting University Student |
| CRD | 403 | Leadership and Professional Development | Examines leadership theory and strategies, current professional issues, and refinement of professional philosophy and competencies that enable transition from student to professional. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s) with C or better: CRD 210, NLM 210, PRM 210, or TDM 210; CRD 301, CRD 302, NLM 301, PRM 301, or TDM 301; senior standing; min 2.50 GPA; Credit is allowed for only CRD 403 or NLM 403 or PRM 403 or TDM 403 OR Visiting University Student |
| CRD | 435 | Service Learning for Community Development | Applies community development and service-based learning applications. Students develop a professional relationship with an agency/organization management-level representative. Through this professional relationship, a service-learning plan is developed in a partnership with an agency/organization related to the student's degree program. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CRD 435 or NLM 435 OR Visiting University Student |
| CRD | 463 | Senior Internship | Supervised guided experience in selected agencies. | N | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3-12 | | Prerequisite(s): CRD 403 or RTH 413 (PRM 413) with C or better; Credit is allowed for only CRD 463 or CSM 463 or NLM 463 or PRM 463 or RTH 463 or TDM 463 |
| CRD | 471 | Interprofessional Education and Community Health | Community-engaged service learning exposes students to community health and interprofessional education through the delivery of team-based services with vulnerable populations. Students build on their professional practice skills as they develop interprofessional competencies. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prereq(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only CRD 471 or HCR 471 or CRD/HCR/PRM 494 (Interprofessional Education & Community Health) or CRD 598 (Interprofessional Education & Community Health) OR Visiting University Student |
| CRD | 472 | Interprofessional Education and Complex Health | Complex health community-based experiential learning with immersive "real-world" learning opportunities. Students dedicate hours at pre-approved placement sites serving a community; apply new (and advance prior) complex health knowledge and skills; benefit from an expanded scope of supervised practice experience while providing targeted complex health interventions that address health and health care disparity needs, improve care quality, and reduce care costs for individuals, families, communities, and/or populations with complex health needs. Students practice values and ethics, communication, roles and responsibilities, teams and teamwork, and leadership competencies essential for interprofessional collaborative practice and team-based care. Online and in-person collaborative learning includes: seminars, course readings, discussions, and reflection assignments to facilitate critical thinking and a deeper understanding of the delivery of complex health interprofessional team-based care in the community. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prereqs with C or better: CRD 471, HCR 471, or CRD/HCR 494 (Interprof Ed & Comm Hlth) OR Hlth Care Coord major; HCR 210; HCR 220; HCR 230; Credit for only CRD 472 or HCR 472 or CRD/HCR 494/598 (Interprof Ed & Complex Hlth) OR Visiting University Student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|--|
| CRD | 473 | Interprofessional Education and Comprehensive Systems Health | Community-engaged experiential learning integrates students into comprehensive systems health and interprofessional education through the creation of team-based community impact projects with vulnerable populations. Students refine their professional practice and leadership skills as they integrate interprofessional competencies. | N | LEC | Y | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-3 | | Prereqs w/min C: CRD 471, CRD 472, HCR 471, HCR 472 or CRD/HCR494 (Interprf Ed&Comm Hlth or Interprf Ed&Cmplx Hlth) OR Hlth Care Coord, Comm Hlth or Integrative Hlth BS; HCR210; HCR220; HCR230; Credit for CRD 473 or HCR 473 OR Visiting University Student |
| CRD | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | Prerequisite(s): minimum 45 hours |
| CRD | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-6 | | Prerequisite(s): Barrett Honors student |
| CRD | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-6 | | Prerequisite(s): Barrett Honors student |
| CRD | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |
| CRD | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-3 | | |
| CRD | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | |
| CRD | 502 | Statistical and Data Analysis | Introduces descriptive and inferential methods used in community development, with an emphasis on nonprofit, tourism, and recreation sciences. Students gain experience using statistical software. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | |
| CRD | 530 | Community Services Management | Examines and applies administrative/management analysis of public and nonprofit sector applications. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRD | 552 | Critical Issues | Examines critical research issues in the leisure, recreation and tourism fields. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRD | 555 | Theoretical Perspectives in Community Development | Reviews theoretical and empirical literature in community development with an emphasis on nonprofit, tourism, and recreation sciences. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | |
| CRD | 563 | Advocacy in Therapeutic Recreation | Explores trends and issues facing therapeutic recreation professionals and advocacy practices integral to therapeutic recreation service delivery. Investigates a variety of topics; community-engaged experiences facilitate the development of competencies needed to effectively lead therapeutic recreation programs. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CRD 563 or RTH 440 (PRM 440) |
| CRD | 569 | Advanced Tourism and Recreation Studies | Advanced study of tourism with an emphasis on relevant practices, theories, and concepts. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRD | 570 | Foundations of Community Development | Compare and contrast leading theories of community development in the historical context of the United States. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRD | 571 | The Community Development Process | Develops an understanding of the overall process of pursuing intentional community change and builds education, mobilization, and facilitation skills for engaging in the community development process. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRD | 572 | Community and Social Innovations | Considers community innovation and development from the perspective of achieving balance among economic, environmental, social, physical and political realms as a framework of sustainability. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CRD 572 or NLM 572 |
| CRD | 573 | Local and Regional Development | Builds core knowledge and analytical skills for the methods and sustainable outcomes of local and regional environmental and economic development. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 570; CRD 571 |
| CRD | 574 | Applied Research Skills | Develops skills in common qualitative and quantitative data collection and analysis methods used by community development practitioners. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRD | 577 | Community Building Practice | Builds core knowledge and analytical skills for the ethics and practice of building equitable communities, focusing on the development of self-efficacy, agency and solidarity. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 570; CRD 571 |
| CRD | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|--|
| CRD | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | |
| CRD | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | |
| CRD | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | IND | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | |
| CRD | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | IND | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | |
| CRD | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1 | | |
| CRD | 596 | Community Development Capstone Project | Capstone application of core values, knowledge and skills in an applied project. The final product is a deliverable to a community partner, and serves as a culminating experience for the Master of Professional Studies in Community Development Practice. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 570; CRD 571; CRD 572; CRD 573; CRD 574 |
| CRD | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |
| CRD | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | IND | Y | Z2 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | |
| CRD | 610 | Sustainable Communities | Systems thinking for promoting sustainability. Considers issues at different scales ranging from urban to rural, local to global, historical to contemporary. Critically examines the role of public, private and nonprofit institutions in promoting quality of life. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRD | 620 | Community Research Methods | Introduces community research methods, with emphasis on methodological questions and techniques relevant to contemporary community-based research. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRD | 640 | Research Seminar in Community Resources and Development I | A seminar designed to explore issues related to advancing a career as a researcher in the fields associated with community resources and development (i.e., non-profit, recreation and parks, tourism). Critical to this study is an understanding of the conduct of high quality research, an understanding of issues that arise in professional settings (e.g., expediency vs. effectiveness), and ethical principles and processes that undergird research. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Pre-requisite: Doctoral student in Community Resources and Development |
| CRD | 650 | Research Seminar II | Helps prepare doctoral students to become productive and successful social scientists in community resources and development. Covers a wide range of topics under the broader conceptual umbrella of research, teaching, and service. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Pre-requisite: Doctoral student in Community Resources and Development |
| CRD | 683 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRD | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRD | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| CRD | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | LEC | Y | Z3 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRD | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | IND | Y | Z2 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRJ | 100 | Introduction to Criminal Justice | History and current practice of the criminal justice system. Roles of law enforcement agencies, courts and correctional agencies. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | SB | |
| CRJ | 201 | Criminal Justice Crime Control Policies and Practices | Dimensions and causes of crime. Criminal justice system responses. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | |
| CRJ | 203 | Courts and Sentencing | Structure and operation of criminal court system. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | |
| CRJ | 204 | Juvenile Justice | History and development of the juvenile court and the juvenile justice system. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | |
| CRJ | 210 | Introduction to Criminal Investigations | Studies the basic principles of criminal investigation including the analysis of investigative techniques, criminal patterns and modus operandi, interviewing and interrogation strategies, collection and management of evidence, surveillance, and crime scene investigation. Covers theories, philosophies and concepts related to suppression of crime. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 100 with C or better OR Visiting University Student |
| CRJ | 211 | Documenting the Crime Scene | Practical approach to evidence identification; documentation of the location of evidence; crime scene sketching; and the collection and handling of evidence from the crime scene, to the crime laboratory, and to presentation in court. Includes lab exercises designed to reinforce important investigative skills. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 100 with C or better OR Visiting University Student |
| CRJ | 230 | Introduction to Policing | History of police. Contemporary police work. Problems in policing. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | |
| CRJ | 240 | Introduction to Corrections | Structure and operation of corrections system. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | |
| CRJ | 260 | Criminal Law I: Introduction to Substantive Criminal Law | In-depth study of the historical development, foundational principles and public policy implications of criminal law, focusing on theories of criminal liability and the elements of select crimes against the person. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | |
| CRJ | 270 | Community Justice | Collaborative and evidence-based approach to reducing crime, incorporating offenders, victims, the community and criminal justice agencies. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | SB | |
| CRJ | 284 | Professional Growth in Criminal Justice | Targeted field practice with criminal justice agencies. Prerequisite for internship. | N | LEC | N | YGB | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 100 with C or better |
| CRJ | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-4 | | |
| CRJ | 300 | Oral and Written Communication for Criminology and Criminal Justice | Develops critical oral and written communication skills with emphasis on locating, analyzing, properly citing, and persuasively using primary and secondary sources in criminology and criminal justice. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| CRJ | 302 | Research Methods | Validity and reliability of research designs and data collection. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | L | Prerequisite(s): CRJ 100 with C or better; CRJ 201 with C or better; ENG 101, 105, or 107 with C or better; MAT 117, 119, 142, 170, 210, or 270 with C or better OR Visiting University Student |
| CRJ | 303 | Statistical Analysis | Fundamentals and application of descriptive and inferential statistics. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | CS | Prerequisite(s): CRJ 100 with C or better; CRJ 201 with C or better; MAT 117, 119, 142, 170, 210, or 270 with C or better OR Visiting University Student |
| CRJ | 304 | Inequality, Crime and Criminal Justice | Explores variability in the perpetration, apprehension, prosecution and punishment of crime, as well as criminal victimization by race, ethnicity, class and socio-economic status, religion, gender and gender identity, sexual orientation, and disability status. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 100 with C or better; CRJ 201 with C or better; junior or senior standing OR Visiting University Student |

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| CRJ | 305 | Gender, Crime, and Criminal Justice | Women as offenders, victims and professionals in the criminal justice system. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | C | Prerequisite(s): CRJ 100 with C or better; CRJ 201 with C or better; junior or senior standing OR Visiting University Student |
| CRJ | 306 | Race, Ethnicity, Crime, and Criminal Justice | Minority issues in the criminal justice system. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | C | Prerequisite(s): CRJ 100 with C or better; CRJ 201 with C or better; junior or senior standing OR Visiting University Student |
| CRJ | 309 | Criminology | Theoretical explanations for criminal behavior. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | SB | Prereq(s) w/ C or better: Crim & Crim Just or Pub Serv & Pub Policy (Crim) major; CRJ 100; CRJ 201; min 56 hrs OR Psych (Forensic Psych) BA or BS major; Credit allowed for only CRJ 309 (or CRJ 225) or CRJ 414 (or CRJ 308) OR Visiting University Student |
| CRJ | 315 | Police Organization and Management | Structure, processes and behavior of police organizations. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 100, JUS 105, or JUS 305 with C or better; CRJ 230 with C or better |
| CRJ | 317 | Inside-Out Prison Exchange Program | Pairs university students and correctional students inside a prison to examine the criminal justice system through a combination of theoretical knowledge and practical experience, paying special attention to race, gender, socioeconomic status, age, and ethnicity. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CRJ 317 or CRJ 494 (Inside-Out Prison Exchange) |
| CRJ | 321 | Evidence: Imperatives of Proof | Problems and means of establishing identity and fact in relation to arrest, detention, adjudication, sentencing, and correctional case management. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 100 with C or better; CRJ 201 with C or better; junior or senior standing OR General Studies BA major OR Interdisciplinary Studies BIS major OR Visiting University Student |
| CRJ | 350 | Law and Social Control | Resolution of social issues through the application of law as an agent of social control. Nature, sanctions, and limits of law. Categories of law and schools of jurisprudence. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | SB | Prerequisite(s): CRJ 100 with C or better; CRJ 201 with C or better; junior or senior standing OR General Studies BA major OR Interdisciplinary Studies BIS major OR Visiting University Student |
| CRJ | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-4 | | |
| CRJ | 403 | Victims and the Criminal Justice System | Victimization theories. Nature and extent of victimization. Interactions among victims, the criminal justice system and society. Victim rights and services. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prereq(s) w/ C or better: Crimnlgly & Crim Just mjr; CRJ 302; CRJ 303 OR Law & Hmn Behav cert; CRJ 302; CRJ 303 or PSY 230; PSY 290 OR Pub Serv & Pub Pol (Crimnlgly or Emer Mgt & Hmlnd Sec or Law & Pol) mjr; PAF 301; PAF 302 OR Visiting University Student |
| CRJ | 404 | Juvenile Delinquency | Causes, correlations and strategies to reduce juvenile delinquency. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 302 with C or better; CRJ 303 with C or better OR Public Service & Public Policy (Criminology, Emer Mgt & Homeland Security, or Law & Policy) BS major; PAF 301 with C or better; PAF 302 with C or better OR Visiting University Student |
| CRJ | 405 | Neighborhoods and Crime | Variation in crime across neighborhoods from ecology of crime and urban sociology perspectives. Influence of social institutions on community crime patterns. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 302 with C or better; CRJ 303 with C or better OR Public Service and Public Policy (Criminology, Emergency Management and Homeland Security, or Law and Policy) BS major; PAF 301 with C or better; PAF 302 with C or better |
| CRJ | 406 | Sex Crimes | Prevalence, nature and etiology of sex crimes. Response of criminal justice system to victims and perpetrators of sex crimes. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prereq(s) w/C or btr: Crim&Crim Just BS: CRJ 302; CRJ 303 OR Lw&Hmn Bhv crt: CRJ 302; CRJ 303 or PSY 230; PSY 290 OR Psy(ForPsy)BA/BS: PSY 230; PSY 290 OR PubSer&PubPol(Crim, Emer Mgt&Hm Sec, or Lw&Pol)BS: PAF 301; PAF 302 OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|---|--|-------|-----------------|--|
| CRJ | 407 | Police Use of Force | Explores the use of force options available to police officers. After analyzing the legal foundations of use of force, examines the community context. Also studies future technology and examines current research on the topic. Uses case studies to demonstrate the historical and current issues in police use of force. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prereq(s): w/ C or better: Crim & Crim Just mjr; CRJ 302; CRJ 303 OR Pub Serv & Pub Pol (Crimnlgy, Emerg Mgmt & Hmlnd Sec, or Law & Pol) mjr; PAF 301; PAF 302; Credit for only CRJ 407 or CRJ 494 (Police Use of Force or Force in Law Enfrmnt) |
| CRJ | 408 | Drugs and Crime | Patterns of illegal drug use. Problems, practices and policies associated with drugs, crime and drug policy. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 302 with C or better; CRJ 303 with C or better OR Public Service & Public Policy (Criminology, Emer Mgt & Homeland Security, or Law & Policy) BS major; PAF 301 with C or better; PAF 302 with C or better OR Visiting University Student |
| CRJ | 409 | Police Accountability | Command and control systems. Managing police culture. Community policing and accountability to the community. Police training. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 302 with C or better; CRJ 303 with C or better OR Public Service & Public Policy (Criminology, Emer Mgt & Homeland Security, or Law & Policy) BS major; PAF 301 with C or better; PAF 302 with C or better OR Visiting University Student |
| CRJ | 410 | Criminal Procedure I: The Law of Investigations | In-depth exploration of U.S. Constitutional law governing criminal investigative procedures. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 100, 203, or 230 with C or better; minimum junior standing OR Visiting University Student |
| CRJ | 411 | Legal Issues in Corrections | Explores the constitutional and statutory law concerning prisoners in the United States. Places special emphasis on the First, Fourth, Fifth, Sixth, Eighth and Fourteenth Amendment rights of persons under the jurisdiction of correctional agencies, as well as their rights under relevant statutes and case law, including those affecting habeas corpus right. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prereq(s) with C or better: Criminology & Criminal Justice major; CRJ 302; CRJ 303 OR Correctional Studies cert; CRJ 100 OR Public Service & Public Policy (Criminology, Emergency Management & Homeland Security, or Law & Policy) major; PAF 301; PAF 302 |
| CRJ | 412 | International Terrorism | Structural, organizational, political and legal characteristics of international terrorism. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prereqs w/min C: Crimnlgy & Crim Just BS; CRJ 302; CRJ 303 OR Emer Mgt & Hmlnd Sec BS OR Pub Serv & Pub Pol (Crimnlgy, Emer Mgt & Hmlnd Sec, or Law&Pol) BS; PAF 301; PAF 302; Credit for only CRJ 412 or 494 (Intl Terrorism) OR Visiting University Student |
| CRJ | 414 | Advanced Criminological Theory | Critical assessment of criminological thought using original readings. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminology & Crim Jus major; CRJ 302 w/ C or better; CRJ 303 with a C or better OR Law & Humn Behavr Cert Students: CRJ 100 with a C or better; min junior standing; Credit is allowed for only CRJ 309 (or CRJ 225) or CRJ 414 (or CRJ 308) |
| CRJ | 416 | Criminal Procedure II: Adjudication | In-depth study of the constitutional rights attendant to the processing and adjudication of criminal cases in court, from initial court appearances through appeals and collateral attacks. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 203; CRJ 410 OR Visiting University Student |
| CRJ | 417 | Cyber Terrorism | Terrorism perpetuated online. Terrorism and technology. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s) with C or better: Criminology & Criminal Justice major; CRJ 302; CRJ 303 OR Public Service & Public Policy (Criminology or Emergency Management & Homeland Security or Law & Policy) BS major; PAF 301; PAF 302 OR Visiting University Student |
| CRJ | 419 | Domestic Terrorism | Evolution of domestic terrorism in the United States. History and future of domestic security. Public policy responses. Internal and external political implications. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s) with C or better: Criminology & Crim Justice BS major; CRJ 302; CRJ 303 OR App Sci (Emer Mgt) BAS or Publ Service & Publ Policy (Criminology, Emer Mgt & Homeland Sec, Law & Policy) BS major; PAF 301; PAF 302 OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|---|--|-------|-----------------|---|
| CRJ | 422 | Violence in America | Theories, patterns, prevention and policy responses to violence in the United States. Varieties of violence including domestic, gang-related, hate crimes, school violence and sex crimes. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s) with C or better: Criminology & Criminal Justice major; CRJ 302; CRJ 303 OR Public Service & Public Policy (Criminology, Emergency Management & Homeland Security, or Law & Policy) BS major; PAF 301; PAF 302 OR Visiting University Student |
| CRJ | 423 | Sacred Crimes: Religion and Violence | Religion is capable of doing great good in the lives of humans, leading them to personal betterment and positive social contributions. Yet, throughout human history religion has also led some individuals to engage in acts of violence and other dangerous behaviors. This course explores the history of several religious traditions and texts and their complicated connections to violence and criminality. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | G & H | Prerequisite(s): ENG 102, 105, or 108 w/ C or better; Credit is allowed for only CRJ 423 or FOR 413 or REL 413 or FOR 494 (Sacred Crimes: Religion, Violence & Crim) or REL 494 (Sacred Crimes: Religion, Violence & Crim) OR Visiting University Student |
| CRJ | 425 | Life-Course Criminology | Theories, methods and controversies of the life-course perspective as it applies to crime. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prereq(s) w/ C or btr: Crim&Crim Just BS mjr; min jr standing; CRJ 302; CRJ 303 OR Juvenile Just or Law & Human Behavior cert stud; min jr standing; CRJ 100; Credit is allowed for only CRJ 425 or CRJ 494 (Life-Course Crim) OR Visiting University Student |
| CRJ | 427 | Crime and Media | Examines the relationships among crime and discourse, media representations of crime and criminals, and the structural deficiencies in society that perpetuate relations of domination and oppression based on class, race, gender and sexuality. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): minimum junior standing; minimum 2.00 GPA; Credit is allowed for only COM 427 or CRJ 427 or COM 494 (Crime, Communication and Media) or CMN 598 (Crime, Communication and Media) OR Visiting University Student |
| CRJ | 433 | Death Investigations: Principles of Forensic Medicine | Medico-legal investigation of death via postmortem examinations. Identification, thanatology, thanato-etiology of unexpected natural deaths, accidental deaths, suicides and homicides. Forensic examination of living people following sexual assault, traffic offenses, child abuse and drug crimes. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s) with C or better: Criminology and Criminal Justice BS major; CRJ 302; CRJ 303 OR Public Service and Public Policy (Criminology, Emergency Management and Homeland Security, or Law and Policy) BS major; PAF 301; PAF 302 |
| CRJ | 434 | Drugs of Abuse | Pharmacological and toxicological characteristics of commonly abused drugs such as alcohol, barbiturates, amphetamines, narcotics, stimulants and hallucinogens. Forensic toxicology. Acute and long-term effects of drug abuse. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prereq(s): w/ min C: Crimnlg & Crim Just mjr: CRJ 302; CRJ 303 OR Lw & Hman Bhvior crt: CRJ 302; CRJ 303 or PSY 230; PSY 290 OR Pblc Serv & Pblc Pol (Crimnlg or Emerg Mgt & Hmlnd Sec or Lw & Pol) mjr: PAF 301; PAF 302 OR Visiting University Student |
| CRJ | 435 | Crime and Forensic Mental Health | Clinical assessment of people under court jurisdiction. Topics include psychological paradigms, nomenclature of mental disorders, forensic clinical assessment, mental disorders and crime, legal standards governing mentally disordered criminal offenders. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | SB | Prereq(s) w/C or better: Crimnlg&Crim Just BS: CRJ 302; CRJ 303 OR Law&Hmn Behv cert: CRJ 302; CRJ 303 or PSY 230; PSY 290 OR Psych (Forens Psych) BA/BS: PSY 230; PSY 290 OR Pub Serv&Pub Pol (Crimnlg, Emer Mgt&Hmlnd Sec, or Law&Pol) BS: PAF 301; PAF 302 |
| CRJ | 443 | Community Corrections | Probation and parole. Types of community corrections programs. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s) w/ C or better: Criminology & Criminal Justice major; CRJ 302; CRJ 303 OR Public Service & Public Policy (Criminology or Emergency Management & Homeland Security or Law and Policy) major; PAF 301; PAF 302 OR Visiting University Student |
| CRJ | 444 | Institutional Corrections | Provides an overview of secure correctional facilities in the U.S. with a focus on prisons and jails. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s) with C or better: Criminology and Criminal Justice BS major; CRJ 302; CRJ 303 OR Public Service and Public Policy (Criminology or Emergency Management and Homeland Security or Law and Policy) BS major; PAF 301; PAF 302 |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|---|--|-------|-----------------|--|
| CRJ | 445 | Tools for Engaging Correctional Populations | Provides an overview to risk and needs assessment with correctional populations, with a particular focus on introducing tools to engage with and rehabilitate individuals. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prereq(s) w/ C or better: Criminology & Criminal Justice BS major; CRJ 302; CRJ 303 OR Public Service & Public Policy (Criminology or Emergency Management & Homeland Security, or Law & Policy) BS major; PAF 301; PAF 302 OR Visiting University Student |
| CRJ | 450 | Crime Analysis | Tactical, strategic and administrative aspects of crime analysis and crime mapping as practiced in everyday policing. Environmental criminology. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prereq(s) w /C or better: Criminology & Criminal Justice BS major; CRJ 302; CRJ 303 OR Public Service & Public Policy (Criminology or Emergency Management & Homeland Security or Law & Policy) BS major; PAF 301; PAF 302 OR Visiting University Student |
| CRJ | 455 | Police and International Terrorism | Suicide bomber interdiction, jihadism, and anti-terrorism intelligence gathering. History of prior attacks and policy responses. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 201 with C or better; minimum junior standing; Credit is allowed for only CRJ 455 or CRJ 555 or CRJ 494 (Police and Int'l Terrorism-Israel) |
| CRJ | 456 | Etiology of Martyrdom | Development of a jihadist mindset. Social support for beliefs that lionize martyrdom. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 201 with C or better; minimum junior standing; Credit is allowed for only CRJ 456 or CRJ 556 or CRJ 494 (Etiology of Martyrdom) |
| CRJ | 460 | Criminal Law II: Advanced Substantive Criminal Law | In-depth study of the historical development, foundational principles, and public policy implications of criminal law focusing on parties to crime, inchoate liability, select crimes against the person; crimes against property, public order and the state; and defenses to crime. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 260 OR Visiting University Student |
| CRJ | 461 | Intimate-Partner Violence | Examines the prevalence, causes and consequences surrounding physical, psychological, sexual and financial abuse of family and intimate partners. Pays special attention to underserved populations (e.g., people of color, Indigenous persons, and LGBTQ+ people) who are particularly impacted by systemic racism and hetero-normative worldviews that play important roles in intimate-partner violence. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s) with C or better: Criminology & Criminal Justice major; CRJ 302; CRJ 303 OR Public Service & Public Policy (Criminology, Emergency Management & Homeland Security, or Law & Policy) BS major; PAF 301; PAF 302 OR Visiting University Student |
| CRJ | 462 | Gangs | History and development of gangs. Criminal justice system responses. Nature of gangs and gang members. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s) with C or better: Criminology & Criminal Justice major; CRJ 302; CRJ 303 OR Public Service & Public Policy (Criminology, Emergency Management & Homeland Security, or Law & Policy) major; PAF 301; PAF 302 OR Visiting University Student |
| CRJ | 463 | White Collar Crime | Business, professional and official lawbreaking including consumer fraud, securities violations, unethical behavior and political corruption. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s) w/ C or better: Criminology & Criminal Justice BS major; CRJ 302; CRJ 303 OR Public Service & Public Policy (Criminology, Emergency Management & Homeland Security, or Law & Policy) BS major; PAF 301; PAF 302 OR Visiting University Student |
| CRJ | 464 | Organized Crime | Nature and history of organized crime. Theories of containment. Criminal justice agency responses. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s) w/ C or better: Criminology & Criminal Justice BS major; CRJ 302; CRJ 303 OR Public Service & Public Policy (Criminology, Emergency Management & Homeland Security, or Law & Policy) BS major; PAF 301; PAF 302 OR Visiting University Student |
| CRJ | 470 | Discretionary Justice | Use and abuse of discretion in the criminal justice system. Theoretical and empirical links between discretion and discrimination based on race, ethnicity and gender. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | L or SB | Prerequisite(s) w/ C or better: Criminology & Crim Just major; CRJ 302; CRJ 303; ENG 101, 105, 107 OR Public Serv & Pub Policy (Criminology, Emerg Mgmt & Homeland Sec or Law & Pol) major; ENG 101, 105, 107; PAF 301; PAF 302 OR Visiting University Student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|---|--|-------|-----------------|--|
| CRJ | 474 | Correctional Psychology | Covers the basic principles of correctional psychology, including psychologists' roles in prisons and jails, the unique challenges of working in these settings, establishing successful relationships with correctional staff and inmates, and the various career opportunities in correctional psychology. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): PSY 366; Credit is allowed for only CRJ 474 or PSY 474 OR Visiting University Student |
| CRJ | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-12 | | Prerequisite(s): minimum 56 hours; minimum 2.75 GPA; complete three from CRJ 100, 302, 303, 304, 305, 306, or 309 with C or better |
| CRJ | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-6 | | Prerequisite(s) with C or better: Barrett Honors stdnt; Criminology & Criminal Justice BS major; CRJ 302; CRJ 303 OR Barrett Honors stdnt; Public Serv & Public Policy (Criminology, Emrgncy Mgt & Homeland Sec, or Law & Policy) BS major; PAF 301; PAF 302 |
| CRJ | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-6 | L | Prereq(s) w/ C or btr: Barrett Hons stdnt; Crimlgy&Crim Just BS mjr; ENG 101, 105, or 107; CRJ 302; CRJ 303 OR Barrett Hons stdnt; Pub Serv&Pub Policy (Criminlgy, Emrgncy Mgt&Homeland Sec, or Law & Policy) BS mjr; ENG 101, 105, or 107; PAF 301; PAF 302 |
| CRJ | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-4 | | Prerqs w/ C or better: Crim & Crim Just BS mjr; CRJ 302; CRJ 303 OR Law & Hmn Behav cert; CRJ 302; CRJ 303 or PSY 230; PSY 290 OR Pub Srv & Pub Pol (Crimlgy, Emrgncy Mgt & Homelnd Sec, or Law & Pol) BS mjr; PAF 301; PAF 302 OR Visiting University Student |
| CRJ | 496 | Directed Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to contribute to a specific project such as a report or publication. Tasks may include data collection and coding, data analysis, literature reviews and producing research reports. Neither a substitute for a catalog course nor a means of taking a catalog course on an individual basis. Requires application well in advance of regular registration with the student's advisor, the advisor's signature, and approval by both the faculty member with whom the student will work and the director of the school offering the course. | N | RSC | Y | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-3 | | Prerequisite(s) with C or better: Criminology & Criminal Justice BS major; CRJ 302; minimum junior standing OR Public Service & Public Policy (Criminology, Emergency Mgmt & Homeland Security, or Law & Policy) BS major; PAF 302; minimum junior standing |
| CRJ | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-3 | | Prerequisite(s): minimum 45 hours |
| CRJ | 501 | Seminar in Criminal Justice | Overview of the American criminal justice system, with emphasis on policy issues in police, courts, sentencing, corrections. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Forensic Psychology MS student OR Law and Psychology PhD student |
| CRJ | 502 | Seminar in Criminology | Theory and research on the nature, causes, and prediction of criminal careers and events. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA major OR Criminology and Criminal Justice MS or PhD major OR Forensic Psychology MS OR Law and Psychology PhD major |
| CRJ | 503 | Research Methods | Introduces data analysis; overview of research methods used in social science research, including experimental design, survey research, field research, and evaluation research. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 504 | Statistical Tools for Criminology and Criminal Justice | Focuses on essential statistical analysis that can be used in criminal justice and related agencies. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 505 | Theory and Practice in Criminal Justice | Capstone course for School of Criminology and Criminal Justice master's students. Students complete a project that requires the application of knowledge from program coursework. | N | RSC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student; CRJ 501; CRJ 502; CRJ 510; CRJ 511 |

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|---------|----------------|---|--|----------------------|----------------------|--------------------|------------------|---|--|-------|--------------------|--|
| CRJ | 506 | Seminar in Crime Analysis | Examines theory and practice of crime analysis in the field of criminal justice. Focuses on data collection, management and dissemination methods; related technology and software; and analytical techniques to examine crime trends, the spatial distribution of crime, and temporal trends in crime for the purpose of understanding and responding to crime. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Crime Analysis graduate certificate, Crime Analysis MS, Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, Forensic Psychology MS, or Law and Psychology PhD student |
| CRJ | 507 | Social Network Analysis | Examines the theory and practice of social network analysis in the field of criminal justice. Focuses on the major theoretical assumptions of social network analysis, how to collect social network data, how to use social network analysis software, and how to analyze and interpret social network data for the purpose of understanding and responding to crime. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Crime Analysis graduate certificate, Crime Analysis MS, Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, Forensic Psychology MS, or Law and Psychology PhD student |
| CRJ | 508 | Advanced Seminar in Crime Analysis | Examines advanced topics in the practice of crime analysis in the field of criminal justice. Students learn the terminology, principles and techniques crime analysts use in everyday practice. Provides an exploration of the various approaches to analyzing and reducing crime as well as the theories that inform those approaches. Examines situational analysis and its approach to managing the occurrence of crime; also explores crime prevention through community-based approaches to crime prevention. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 506 |
| CRJ | 509 | Data Management | Core concepts and practices used for the organization and management of data. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Crime Analysis graduate certificate, Crime Analysis MS, Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, Forensic Psychology MS, or Law and Psychology PhD student; CRJ 511 |
| CRJ | 510 | Criminal Justice Planning and Program Evaluation | Examines the application of alternative models of strategic planning to the criminal justice system. Covers methods of evaluating criminal justice policies and practices. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Crime Analysis MS, Crime Analysis graduate certificate, Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, or Law and Psychology PhD student |
| CRJ | 511 | Applied Data Analysis in Criminal Justice | Examines a variety of tools used in the analysis of criminal justice data, including GIS mapping. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prereq(s): Crime Analysis MS, Crime Analysis grad certificate, Criminal Justice MA, Criminology & Criminal Justice MS, Criminology & Criminal Justice PhD, Emergency Management & Homeland Security MA (all concentrations), or Law & Psychology PhD student |
| CRJ | 512 | Seminar in Policing | Graduate-level review of policing and police organizations. Seminar examines research on police strategies and practices designed to address crime. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Crime Analysis MS, Crime Analysis graduate certificate, Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, Forensic Psychology MS, or Law and Psychology PhD student |
| CRJ | 513 | Seminar in Courts and Sentencing | Overview of the nature, proposed principles, and theoretical doctrine of the courts and sentencing policies in criminal justice. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Forensic Psychology MS student OR Law and Psychology PhD student |
| CRJ | 514 | Seminar in Corrections | Theory, research, and policy issues regarding community-based and institutional correction programs. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Forensic Psychology MS student OR Law and Psychology PhD student |
| CRJ | 515 | Seminar in Women and Crime | Introduces students to issues regarding women and the criminal justice system, focusing on their roles as offenders, victims and professionals. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 516 | Seminar in Criminal Justice Organization and Management | How external and internal variables shape criminal justice systems' organizational behaviors. Emphasizes strategic hiring, professional socialization, effective leadership, progressive discipline, interagency collaboration and organizational change. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 517 | Seminar on Juvenile Delinquency and Juvenile Justice | Examines patterns and correlates of delinquency within the context of theories of delinquency. Reviews the response of the juvenile justice system. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, Forensic Psychology MS, or Law and Psychology PhD student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|---|--|-------|-----------------|---|
| CRJ | 518 | Seminar on Race/Ethnicity, Crime, and Justice | Theoretical perspectives and research on the overrepresentation of racial minorities as victims, offenders, and defendants in the criminal justice system. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 519 | Seminar on Victimization | Examines theory and research concerning victimization and consequences for victims, society, and the justice system. Also examines effective responses to victims' post-crime needs. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, Forensic Psychology MS, or Law and Psychology PhD student |
| CRJ | 520 | Seminar on Violent Crime | Examines patterns and correlates of violent crime, as well as prevention strategies and policy implications. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, Forensic Psychology MS, or Law and Psychology PhD student |
| CRJ | 521 | Topics in Psychological Criminology | Topical courses relating to the intersection of various specializations in psychology with criminology and criminal justice. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, Forensic Psychology MS, or Law and Psychology PhD student |
| CRJ | 522 | Seminar on Gangs and Crime | Theoretical perspectives and research on gangs and crime, and on the role of the community and the criminal justice system in causes and control. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, Forensic Psychology MS, or Law and Psychology PhD student |
| CRJ | 523 | Seminar in Network Criminology | Explores the theoretical foundations for applying the concepts and methods of network science to problems in criminology and criminal justice. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA, Criminology and Criminal Justice MS or PhD, Forensic Psychology MS or Law and Psychology PhD student |
| CRJ | 524 | Theories of Punishment | Examines the fundamental philosophical principles of justice and punishment. Includes a comparative and historical perspective. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 525 | Seminar on Life-Course Criminology | Provides an intensive examination of life-course explanations of crime, the life-course perspective and a theoretical orientation, and research methods used in life-course research. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 527 | Police Accountability | Examines the great authority of police, the various and most common ways that police abuse that authority, the consequences of those abuses, and accountability mechanisms that can prevent those abuses from occurring. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 529 | Community Corrections | Provides a review of theory, research and policy focusing primarily on correctional strategies and programs that take place within the community setting, as well as the function of community corrections within the larger correctional system. Gives particular attention to the purpose and goals of community-based corrections; the historical development of probation and parole practices; and contemporary community corrections programs and strategies such as evidence-based practices, risk assessment, offender reentry, sex offender management, diversion, restitution, community service programs and other emerging alternatives to traditional incarceration. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, Forensic Psychology MS, or Law and Psychology PhD student |
| CRJ | 530 | Seminar in Forensics | Explores recent and sometimes controversial developments in forensic science. Includes topics such as quality assurance, the CSI effect and the National Academy of Sciences' report entitled "Strengthening Forensic Science in the United States: A Path Forward." | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 531 | Crime Mapping | Examines the applied research methodology and conceptual framework used to conduct spatial analysis within the crime analysis profession. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Crime Analysis MS, Crime Analysis graduate certificate, Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, or Law and Psychology PhD student |
| CRJ | 532 | Sex Crimes | Not only discusses the distinctions among types of offenders, but also applies theory, analyzes public policy, examines the effect of sex offenses on victims, and discusses how we've legislated sexual behavior over human history. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, Forensic Psychology MS, or Law and Psychology PhD student |
| CRJ | 533 | Seminar in White Collar Crime | Provides a general overview of white collar crimes including forms, contexts and response by the criminal justice system toward offenders and victims. Also addresses theoretical perspectives. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student; Credit is allowed for only CRJ 533 or CRJ 598 (Seminar in White-Collar Crime) |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|---|--|-------|-----------------|--|
| CRJ | 535 | Seminar in Crime and Forensic Mental Health | This interdisciplinary course, which draws from the fields of criminology, psychology, sociology and law, focuses on the clinical assessment of people under the jurisdiction of a court of law. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, Forensic Psychology MS, or Law and Psychology PhD student; Credit is allowed for only CRJ 535 or CRJ 598 (Crime and Forensic Mental Health) |
| CRJ | 537 | Criminal Procedure of Investigations for Social and Forensic Scientists | Explores the criminal procedures mandated by the U.S. Constitution as applied to criminal investigations with emphases on pretrial rights under the Fourth, Fifth and Sixth Amendments. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Forensic Science PSM student OR Law and Psychology PhD student |
| CRJ | 538 | Criminal Law and Social Control | Examines practical, legal and constitutional limitations of criminal laws and procedures as means of securing social order. Focuses on the formal social control of justice system actors and the limits placed on government when seeking to control crime. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Forensic Psychology MS student OR Law and Psychology PhD student |
| CRJ | 539 | Topics in Law, Crime and Justice | Topical courses relating to the intersection of law with criminology, criminal justice, public policy and the social sciences. | N | LEC | Y | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminology and Criminal Justice MS or PhD, Forensic Psychology MS, or Law and Psychology PhD student |
| CRJ | 540 | Qualitative Methods | Provides students with an examination of the design, execution, and write-up of qualitative research. Discusses methods of data collection, including participant-observation, ethnography, and interviewing. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 553 | Terrorism and Weapons of Mass Destruction | Historical evolution of terrorism and weapons of mass destruction. Analyzes current theories and mitigation, preparedness, and response tactics. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Emergency Management and Homeland Security MA student (all concentrations) OR Law and Psychology PhD student |
| CRJ | 554 | Homeland Security | Presents skills necessary to develop policies, strategies, programs, and organizational structure of an all hazards/all risk homeland security program. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology & Criminal Justice MS or PhD student OR Emergency Management & Homeland Security MA student (all concentrations) OR Law & Psychology PhD student; Credit is allowed for only CRJ 554 or PAF 461 |
| CRJ | 555 | Police and International Terrorism | Suicide bomber interdiction, jihadism and anti-terrorism intelligence gathering. History of prior attacks and policy responses. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA or Criminology and Criminal Justice MS or Criminology and Criminal Justice PhD student; Credit is allowed for only CRJ 445 or CRJ 555 or CRJ 598 (Police and Int'l Terrorism-Israel) |
| CRJ | 556 | Etiology of Martyrdom | Development of a jihadist mindset. Social support for beliefs that lionize martyrdom. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology & Criminal Justice MS or PhD student OR Emergency Management & Homeland Security MA student OR Law & Psychology PhD student |
| CRJ | 557 | Seminar in Domestic Terrorism | Develops a foundation of theoretical approaches to understanding domestic terrorism in the United States of America. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology & Criminal Justice MS or PhD student OR Emergency Management & Homeland Security MA student OR Law & Psychology PhD student; Credit is allowed for only CRJ 557 or CRJ 598 (Seminar in Domestic Terrorism) |
| CRJ | 558 | Seminar in International Terrorism | Reviews the various definitions of terrorism and how to apply these to terrorism issues and instances globally. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology & Criminal Justice MS or PhD student OR Emergency Management & Homeland Security MA student OR Law and Psychology PhD student; Credit is allowed for only CRJ 558 or CRJ 598 (International Terrorism) |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|---|--|-------|-----------------|--|
| CRJ | 559 | Seminar in Cyber Terrorism | Explores the rapidly changing face of cyber warfare and cyber terrorism. Identifies and characterizes the fundamental aspects of cyber terrorism and the role of computers and the Internet in terrorist acts on information systems and critical infrastructure components. Analyzes cyber warfare techniques such as Denial of Service (DoS) attacks on critical infrastructure, man-in-the-middle attacks, sabotage and espionage. Evaluates the various cybercrimes that finance terrorism and cyber-criminal activities that associate with terrorism. Offers intensive study in specific areas of homeland security and cybersecurity with regard to nation-state cyberwarfare and terrorism. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA, Criminology & Crim Justice MS, Criminology & Crim Justice PhD, Emergency Mgmt & Homeland Security MA, or Homeland Security grad cert student; Credit is allowed for only CRJ 559 or CRJ 598 (Seminar in Cyber Terrorism) |
| CRJ | 560 | Topics in Research Methods | In-depth exploration of either a specific social scientific research method or a narrow range of related methods relevant to criminological and criminal justice research. | Y | LEC | Y | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA, Criminology and Criminal Justice MS or PhD, Forensic Psychology MS, Forensic Science PSM, or Law and Psychology PhD student |
| CRJ | 570 | Leadership and Innovation in Public Fire Services | Provides current and future fire service leaders with an understanding and the skills necessary to manage creativity and foster a culture of innovation in public fire and emergency services. The approach is to treat the fire officer as an entrepreneur who identifies ideas and opportunities, then builds a business case for innovation. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRJ | 571 | Foundations of Emergency Medical Services | Examines the operational structure of emergency medical services in the United States, including the current organization, delivery and financing of these systems. Discusses strengths, weaknesses and future challenges of EMS with consideration for creating systems better integrated with the overall health care delivery system. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRJ | 572 | Community Paramedicine: Mobile Integrated Health Care | Explores mobile integrated health care and community paramedic programs and how health care professionals and community partners can work together to identify community health needs, foster partnerships and overcome hurdles in MIH/CP program development. Discusses examples of successful MIH/CP programs. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRJ | 573 | Emergency Services: Operations Analysis and Planning | Applies common data analysis tools and techniques appropriate to risk assessment, deployment analysis and performance measurement to evaluate an organization's abilities to respond to community risk. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRJ | 574 | Executive Leadership Principles in Public Safety | Covers models of leadership. Students learn strategies to increase leadership skills for executive-level career fields in public safety/service. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, or Public Safety Leadership and Administration MPLSA student |
| CRJ | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRJ | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-12 | | Prerequisite(s): Criminal Justice MA, Criminology and Criminal Justice MS, or Criminology and Criminal Justice PhD student; CRJ 501 |
| CRJ | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-12 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-12 | | Prerequisite(s): Crime Analysis MS, Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, or Law and Psychology PhD student |
| CRJ | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | SEM | Y | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-4 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |

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| CRJ | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | N | RSC | Y | Z2 | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-12 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 601 | Seminar on Criminological Theory | Examines historical and contemporary criminological theories. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 602 | Seminar on Criminal Justice Policies and Practices | Analyzes responses to crime and the operation of criminal justice system, with emphasis on theory and research on effectiveness of policies and practices of the system. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 604 | Regression Models | Use and application of advanced statistical techniques and multivariate analysis of data. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminology and Criminal Justice MS or PhD student or Law and Society PhD student |
| CRJ | 605 | Topics in Quantitative Methods | Explores advanced techniques of statistical analysis within the field of criminal justice. | N | SEM | Y | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 606 | Advanced Topics in Theoretical Criminology | Focuses on criminological theory construction, historical and contemporary theoretical debates within criminology, theory testing, empirical support for theories, and theoretical integration. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 614 | Professional Development Workshop I: Professionalization | A structured series of four workshop sessions to help doctoral students adjust to graduate school and begin to chart a path toward success as a scholar and colleague. | N | LEC | N | YGB | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 0 | | Prerequisite(s): Criminology and Criminal Justice MS or PhD, Forensic Psychology MS, or Law and Psychology PhD student |
| CRJ | 615 | Professional Development Workshop II: Preparing to Teach Effectively | A structured series of four workshop sessions to help doctoral students develop teaching skills. | N | LEC | N | YGB | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 0 | | Prerequisite(s): Criminology and Criminal Justice MS or PhD, Forensic Psychology MS, or Law and Psychology PhD student |
| CRJ | 616 | Professional Development Workshop III: Navigating the Academic Job Market in CCJ | A structured series of four workshop sessions to help doctoral students navigate the academic job market. | N | LEC | N | YGB | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 0 | | Prerequisite(s): Criminology and Criminal Justice MS or PhD, Forensic Psychology MS, or Law and Psychology PhD student |
| CRJ | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRJ | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-15 | | Prerequisite(s): Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1 | | Prerequisite(s): Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-15 | | Prerequisite(s): Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CSE | 100 | Principles of Programming with C++ | Principles of problem solving using C++, algorithm design, structured programming, fundamental algorithms and techniques, and computer systems concepts. Social and ethical responsibility. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | CS | |
| CSE | 110 | Principles of Programming | Concepts of problem solving using an object-oriented programming language, algorithm design, structured programming, fundamental algorithms and techniques. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | CS | |
| CSE | 120 | Digital Design Fundamentals | Number systems, conversion methods, binary and complement arithmetic, Boolean algebra, circuit minimization, ROMs, PLAs, flipflops, synchronous sequential circuits. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): degree-seeking student; minimum 12 hours; Credit is allowed for only CSE 120 or EEE 120 OR Visiting University Student |
| CSE | 180 | Computer Literacy | Students gain fluency in integrating technology to efficiently and effectively solve problems using computational thinking. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | CS | |
| CSE | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-4 | | |
| CSE | 205 | Object-Oriented Programming and Data Structures | Problem solving by programming with an object-oriented programming language. Introduces data structures. Overview of computer science topics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | CS | Prerequisite(s): CSE 100 or 110 with C or better OR Data Science, Analytics and Engineering PhD, Industrial Engineering MS, or Industrial Engineering PhD student; Credit is allowed for only ACO 102 or CSE 205 OR Visiting University Student |
| CSE | 220 | Programming for Computer Engineering | Introduction to C/C++, systems programming, and concurrency. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): CSE 205 with C or better OR Visiting University Student |

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| CSE | 230 | Computer Organization and Assembly Language Programming | Register-level computer organization. Instruction set architecture. Assembly language. Processor organization and design. Memory organization. IO programming. Exception/interrupt handling. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prereqs: degree-seeking stdnt w/min C: CSE 100/110; CSE 120/EEE 120 OR Sftwr Engr or Engr Mgt maj w/min C; CSE 110; SER 232 OR Elec Engr maj; CSE 100/110; CSE 120/EEE 120 OR Cmp Sci & Engr grad; Credit for CSE 230/EEE 230 OR Visiting University Student |
| CSE | 240 | Introduction to Programming Languages | Introduces the procedural, object-oriented, functional and declarative languages. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): ACO 102 with C or better OR CSE 205 with C or better OR GIS major with GIS 222 with C or better OR Software Engineering graduate student; Credit is allowed for only ACO 240 or CSE 240 OR Visiting University Student |
| CSE | 259 | Logic in Computer Science | Logic has been called the calculus of computer science. The argument is that logic plays a fundamental role in computer science, similar to that played by calculus in physical sciences and other engineering disciplines. Indeed, logic plays an important role in computer architecture (Boolean logic, digital gates, hardware verification); software engineering (specification, verification); programming languages (semantics, type theory, logic programming); databases (relational algebra, database query language); artificial intelligence (automated theorem proving, knowledge representation); algorithms and theory of computation (complexity, computability, expressiveness). This course is a mathematically solid introduction to propositional logic, first order logic, logic programming, and their applications in computer science. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): CSE 205 with C or better OR Visiting University Student |
| CSE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-4 | | |
| CSE | 301 | Computing Ethics | Ethics for computing majors: history of computing, intellectual property, privacy, ethical frameworks, professional ethical responsibilities and risks of computer-based systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1 | | Prerequisite(s): Computer Science BS or Computer Systems Engineering BSE major; CSE 205 with C or better; FSE 100 with C or better OR Informatics BS major; CPI 101 with C or better; CSE 205 with C or better OR Visiting University Student |
| CSE | 310 | Data Structures and Algorithms | Advanced data structures and algorithms, including stacks, queues, trees (B, B+, AVL), and graphs. Searching for graphs, hashing, external sorting. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prereqs w/min C: Comp Math Sci, Comp Sci, Comp Sys Egr, Data Sci, Dig Cult(Media Proc), Egr Mgt, Geo Info Sci or Informatics major; CSE 220 or 240; MAT 243 or 300 OR BMI/CEN/CS/Gbl Mgt Data Sci grad; Credit for CSE 310 or TGM 410 OR Visiting University Student |
| CSE | 320 | Design and Synthesis of Digital Hardware | Design and synthesis of digital hardware with hardware description language, computer-aided design tools, and programmable devices. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science BS or Computer Systems Engineering BSE major; CSE 220 or 240 with C or better; CSE 230 or EEE 230 with C or better OR Visiting University Student |
| CSE | 325 | Embedded Microprocessor Systems | System-level programming and analysis of embedded microprocessors systems. Fundamental concepts of digital system design for embedded system applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science BS or Computer Systems Engineering BSE major; CSE 220 or CSE 240 with C or better; CSE 230 or EEE 230 with C or better OR Visiting University Student |
| CSE | 330 | Operating Systems | Operating system structure and services, processor scheduling, concurrent processes, synchronization techniques, memory management, virtual memory, input/output, storage management, and file systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science BS or Computer Systems Engineering BSE major; CSE 230 or EEE 230 with C or better; CSE 310 with C or better OR CSE graduate student; Credit is allowed for only ACO 350 or CSE 330 OR Visiting University Student |
| CSE | 335 | Principles of Mobile Application Development | Covers topics pertaining to fundamental concepts of mobile application development principles including design patterns; data persistence; interfacing with services and devices; location and incorporation of existing frameworks; user interface and experience; context awareness; utilization of built-in tools for software profiling, testing, and version control; and security/privacy issues. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science BS or Informatics BS or Computer Systems Engineering BSE major; CSE 220 or 240 with C or better; Credit is allowed for only BMI 310 or CSE 335 OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| CSE | 340 | Principles of Programming Languages | Formal syntactic and semantic descriptions, compilation and implementation issues, and theoretical foundations for several programming paradigms. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Systems Engineer BSE or Computer Science BS major; CSE 310 with C or better; CSE 230 or EEE 230 with C or better OR CSE graduate student OR Visiting University Student |
| CSE | 355 | Introduction to Theoretical Computer Science | Introduces formal language theory and automata, Turing machines, decidability/undecidability, recursive function theory, and complexity theory. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Systems Engineer BSE or Computer Science BS major; CSE 310 with C or better OR CSE graduate student OR Visiting University Student |
| CSE | 360 | Introduction to Software Engineering | Software life cycle models; project management, team development environments and methodologies; software architectures; quality assurance and standards; legal, ethical issues. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Biomed Informat BS or Comp Sci BS or Dig Cult (Media Process) BA/BS or Geog Informat Sci BS or Comp Systems BSE or Engr Mgmt BSE major; CSE 220 or 240 w/ C or better OR Comp Sci or Software Engr grad stdnt OR Visiting University Student |
| CSE | 365 | Information Assurance | Concepts of information assurance (IA); basic IA techniques, policies, risk management, administration, legal and ethics issues. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): ACO 240, CIS 235, CIS 236, CSE 220, or CSE 240 with C or better; Pre- or corequisite(s): ACO 201, CSE 310, SER 222, or TGM 410 with C or better if completed OR Visiting University Student |
| CSE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-4 | | |
| CSE | 408 | Multimedia Information Systems | Design, use, and applications of multimedia systems. Introduces acquisition, compression, storage, retrieval, and presentation of data from different media such as images, text, voice, and alphanumeric. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science BS or Computer Systems Engineering BSE major; CSE 310 with C or better OR Software Engineering BS major; SER 222 with a C or better OR Computer Science and Engineering or Software Engineering graduate student |
| CSE | 412 | Database Management | Introduces DBMS concepts. Data models and languages. Relational database theory. Database security/integrity and concurrency. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prereq(s): Biomed Informs BS, Comp Sci BS, or Comp Syst Engr BSE mjr; CSE 310 w/ C or better OR Comp Sci & Engr or Software Engr grad stdnt; Credit is for only ACO 220 or ACO 320 or CSE 412 or IFT 300(or IFT 433) or SER 322 OR Visiting University Student |
| CSE | 414 | Advanced Database Concepts | Object-oriented data modeling, advanced relational features, JDBC and Web access to databases, XML and databases, object-oriented databases, and object-relational databases. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Comp Sci BS or Comp Sys Engineer BSE major; CSE 412 w/C or better OR Comp Engr, Comp Sci, or Sftwre Engr graduate student; Credit is allowed for only ACO 321 or CSE 414 or IFT 458 or IFT 554 or IFT 598 (Mdlwre Prgmrng & Dtabse Sec) |
| CSE | 420 | Computer Architecture I | Computer architecture. Performance versus cost tradeoffs. Instruction set design. Basic processor implementation and pipelining. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science BS or Computer Systems Engineering BSE major; CSE 230 or EEE 230 with C or better; CSE 310 with C or better; Credit is allowed for only CSE 420 or CSE 520 OR Visiting University Student |
| CSE | 423 | Systems Capstone Project I | Development process: specification, design, implementation, evaluation and testing with economic, social and safety considerations. Technical communication and team skills enrichment. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | L | Prerequisite(s) with C or better: Computer Systems Engineering BSE major; CSE 301; CSE 320; CSE 325; CSE 330; CSE 360; ENG 101, 105, or 107; Credit is allowed for only CSE 423 or CSE 485 |
| CSE | 424 | Systems Capstone Project II | Continuation of capstone project started in CSE 423. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | L | Prerequisite(s): Computer Systems Engineering BSE major; CSE 423 with C or better; ENG 101, 105, or 107 with C or better; senior standing or postbaccalaureate student; Credit is allowed for only CSE 424 or CSE 486 |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| CSE | 434 | Computer Networks | Network architecture and protocols, principles of network applications, socket programming, flow and congestion control, switching and routing, link-layer technologies, traffic capture and analysis, security. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Comp Sci BS or Comp Syst Engr BSE major; CSE 230 or EEE 230 w/ C or better; CSE 310 w/ C or better OR Computer Science & Engr or Software Engr graduate student; Credit is allowed for only ACO 330 or CSE 434 OR Visiting University Student |
| CSE | 438 | Embedded Systems Programming | Development of embedded system software, I/O handlers, and multiple threaded programs. Scheduling algorithms. Embedded software structures. Real-time operating system. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | L | Prerequisite(s): Computer Science BS or Computer Systems Engineering BSE major; ENG 101, 105, or 107 with C or better; CSE 325 with C or better OR Computer Science and Engineering or Software Engineering graduate student |
| CSE | 440 | Compiler Construction I | Introduces programming language implementation. Implementation strategies such as compilation, interpretation, and translation. Major compilation phases such as lexical analysis, semantic analysis, optimization, and code generation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Systems Engineering BSE or Computer Science BS major; CSE 310 with C or better OR Computer Science and Engineering or Software Engineering graduate student |
| CSE | 445 | Distributed Software Development | Distributed system architectures and design, service-oriented computing, and frameworks for development of distributed applications and software components. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science BS or Computer Systems Engineering BSE major; CSE 360 with C or better OR Computer Science and Engineering or Software Engineering graduate student OR Visiting University Student |
| CSE | 446 | Software Integration and Engineering | Software development using architecture design, composition, workflow, services, data resources, data representations, data management, and development tools. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Pre- or corequisite(s): Computer Science BS or Computer Systems Engr BSE major; CSE 445 with C or better if completed OR Computer Science and Engr or Software Engr grad student; Credit allowed for only CSE 446 or 598 (Software Integration & Engineering) |
| CSE | 450 | Design and Analysis of Algorithms | Design and analysis of computer algorithms using analytical and empirical methods; complexity measures, design methodologies and survey of important algorithms. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science BS, Computer Systems Engineering BSE, or Data Science BS major; CSE 310 with C or better OR Computer Engineering graduate student; Credit is allowed for only CSE 450 or CSE 551 OR Visiting University Student |
| CSE | 460 | Software Analysis and Design | Object-oriented and structured analysis and design; software architecture and design patterns; component-based development; software safety and reliability. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prereqs w/min C: Comp Sci, Comp Sys Engr or Geo Info Sci major; CSE 360 OR Sftwr Eng major; CSE 310, SER 222 or TGM 410; SER 315 or 316 OR Comp Sci & Eng or online CS nondegree grad stdnt; Credit allowed for CSE 460/SER 460 OR Visiting University Student |
| CSE | 463 | Introduction to Human Computer Interaction | Design, evaluate, and implement interactive software intended for human use. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prereqs w/minC: Cmp Sci BS or Cmp Sys Eng BSE or GIS BS; CSE310 OR Dig Cltr (Mda Prcs) BA/BS or Inf BS; CPI310 OR Sftwr Eng BS; SER315 or 316; CSE310 or SER222 OR Cmp Sci & Eng or Sftwr Eng grd st; Crdt only CSE463 or SER463 OR Visiting University Student |
| CSE | 464 | Software Quality Assurance and Testing | Software quality assurance (SQA), software quality metrics, software configuration management, software verification and validation, reviews, inspections, understanding software testing process, functional testing, structural testing, model-based testing, integration, system, and regression testing techniques, software life cycle models and software testing, testing distributed software, bug management, and use of testing tools. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prereqs w/min C: ComSci, ComSysEng, GeolInfoSci maj; CSE 360 OR SftwrEng maj; CSE 310, SER 222, or TGM 410; SER 315 or 316 OR CompSci&Eng or Online CS nondegree grad; Credit for CSE 464 or CSE 598 (SftQualAssrTst) or SER 464 OR Visiting University Student |
| CSE | 466 | Computer Systems Security | Countermeasures to attacks to computer systems from miscreants (or hackers) and basic topics of cryptography and network security. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s)w/ C or better: Computer Sci BS or Computer Sys Engr BSE major; CSE 310; CSE 365 with C or better OR Software Engr BS major; CSE 365; SER 222 OR Computer Sci & Engr or Software Engr graduate student OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| CSE | 467 | Data and Information Security | Basic concepts of security and privacy, data and database security, access controls, trust models, watermarking, and private information retrieval. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s) with C or better: Computer Science BS, Computer Systems Engr BSE, Data Science BS, or Software Engr BS major; CSE 310, SER 222, or TGM 410; CSE 365 OR Comp Sci & Engr or Software Engr graduate student OR Visiting University Student |
| CSE | 468 | Computer Network Security | Practical network security exposure and hands-on experience about basic security concepts, case studies and useful tools. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s) with C or better: Computer Science BS, Computer Systems Engineering BSE, or Software Engineering BS major; CSE 365 OR Computer Science, Computer Engineering, or Software Engineering graduate student OR Visiting University Student |
| CSE | 469 | Computer and Network Forensics | Identification, extraction, documentation, interpretation, and preservation of computer media for evidentiary purposes, file system forensics, and network forensics. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Sci BS or Computer Systems Engr BSE major; CSE 310 with C or better; CSE 365 with C or better OR Software Engr BS major; CSE 365 with C or better; SER 222 with C or better OR Computer Sci & Engr or Software Engr graduate student |
| CSE | 470 | Computer Graphics | Introduces basic concepts of interactive computer graphics, realistic rendering, and 3-D viewing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Digital Culture (Media Processing) BA/BS, Comp Sci BS, Geog Info Science BS, Comp Sys Engr BSE, or Software Engr BS major; CSE 310 or SER 222 with C or better; MAT 342 or 343 OR Comp Sci and Engr or Software Engr graduate student |
| CSE | 471 | Introduction to Artificial Intelligence | State space search, heuristic search, games, knowledge representation techniques, expert systems and automated reasoning. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science BS, Computer Systems Engineering BSE, Data Science BS, or Geographic Information Science BS major; CSE 310 with C or better OR Computer Science & Engr or Software Engr graduate student OR Visiting University Student |
| CSE | 472 | Social Media Mining | Network measures, social network analysis, network models, random graphs, small-world model, power laws, data mining, influence and homophily, information diffusion, epidemics, behavioral analysis, recommendation in social media, community detection. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s) with a C or better: Comp Scie BS or Comp Syst Engr BSE major; CSE 310; IEE 380; MAT 343 OR Comp Scie & Engr or Software Engr grad student; Credit is allowed for only CSE 472 or CSE 494 (Social Media Mining) OR Visiting University Student |
| CSE | 474 | Mobile Robotics | Aims to make accessible to undergraduate students a principled and mathematically sound approach to the design of algorithms for robots. Students acquire the mathematical foundations that are required for the implementation and analysis of algorithms for robotic applications through homework problems and a final project. Among course goals is the development of the vocabulary and mathematical background so that the students can follow the current research and development trends in the robotics industry. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Sci BS or Computer System Engineering BSE major; CSE 310 with C or better; IEE 380 with C or better; MAT 343 with C or better; Credit is allowed for only CSE 474 or CSE 494 (Intro to Robotics) OR Visiting University Student |
| CSE | 475 | Foundations of Machine Learning | Machine learning techniques: supervised learning, unsupervised learning, and neural networks and deep learning. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prereqs w/min C: Comp Sci BS, Comp Sys Engr BSE, Data Sci BS, or Informatics BS; CSE 310 or 450; DAT 300 or IEE 380; MAT 342 or 343 OR Comp Sci or Software Engr grad; Credit for only CSE 475 or 494 (Intro Machine Learning) OR Visiting University Student |
| CSE | 476 | Introduction to Natural Language Processing | Principles of computational linguistics, formal syntax, and semantics, as applied to the design of software with natural (human) language I/O. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science BS or Computer Systems Engineering BSE or Data Science BS major; CSE 310 with C or better OR Computer Science and Engineering or Software Engineering graduate student OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| CSE | 477 | Introduction to Computer-Aided Geometric Design | Introduces basic concepts of 3-D computer geometry, including curves, surfaces, meshes. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science BS or Computer Systems Engineering BSE major; MAT 342 or 343 with C or better OR Computer Science and Engineering or Software Engineering graduate student OR Visiting University Student |
| CSE | 478 | Foundations of Data Visualization | Techniques and algorithms for creating effective visualizations based on principles from graphic design, visual art, perceptual psychology and cognitive science to enhance the understanding of complex data. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prereqs w/C or better: Comp Sci BS, Comp Sys Engr BSE, or Data Sci BS maj; CSE 310; CSE 360 OR Appl Comp or Appl Comp (Cybersec) BS maj; ACO 240; ACO 320; Credit allowed for ACO 421 or CSE 478 or CSE 494 (Fndtn Data Visual) OR Visiting University Student |
| CSE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | PRA | Y | YGB | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): Computer Science BS or Computer Systems Engineering BSE major; CSE 310 with C or better; Pre- or corequisite(s): CSE 360 with C or better if completed |
| CSE | 485 | Computer Science Capstone Project I | First course in capstone sequence for computer science and informatics majors emphasizing development process, technical skills, teamwork and communication. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | L | Prerequisite(s) with C or better: Computer Science BS major; CSE 301; CSE 330; CSE 340; CSE 355; CSE 360; ENG 101, 105, or 107 OR Informatics BS major; CPI 350; CSE 463; ENG 101, 105, or 107; Credit is allowed for only CSE 423 or CSE 485 |
| CSE | 486 | Computer Science Capstone Project II | Second course in capstone sequence for computer science and informatics majors continuing the development process, technical skills, teamwork and communication. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | L | Prerequisite(s): Computer Science BS or Informatics BS major; CPI 485 or CSE 485 with C or better; ENG 101, 105, or 107 with C or better; senior standing or postbaccalaureate student; Credit is allowed for only CSE 424 or CSE 486 |
| CSE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-6 | | Prerequisite(s): Barrett Honors student |
| CSE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| CSE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-4 | | Prerequisite(s): CSE 310 with C or better OR Visiting University Student |
| CSE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-3 | | |
| CSE | 507 | Introduction to Digital Image Processing and Analysis | Core course with four sections for students seeking to concentrate in biomedical imaging informatics. The first section analyzes the concepts and terms of image processing and analysis. The second section evaluates key algorithms in image processing (e.g., image filtering, Fourier transform, image restoration). The third section examines advanced image analysis methods (e.g., image segmentation, mathematical morphology, image topology, shapes and boundaries, color processing, image coding and compression, wavelet, and special effects). The fourth section develops the practical applications of image processing and analysis in medicine and biology. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BMD 507 or BME 507 or BMI 507 or CEN 507 or CSE 507 |
| CSE | 509 | Digital Video Processing | Concepts of digital video compression, video analysis, video indexing, browsing and retrieval, video transmission over networks, video processors, and relevant industry standards. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science or Computer Engineering graduate student OR Online Computer Science nondegree-seeking graduate student |
| CSE | 510 | Database Management System Implementation | Implementation of database systems. Data storage, indexing, querying, and retrieval. Query optimization and execution, concurrency control, and transaction management. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science graduate student or Data Science, Analytics and Engineering PhD or Global Management (Data Science) MGM student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| CSE | 511 | Data Processing at Scale | Delves into new frameworks for generating, processing and managing large-scale data-sets. More specifically, covers the following topics: core database concepts, distributed and parallel data systems, deploying and operating data systems in the cloud, NoSQL database systems, and big data tools. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engr or Computer Sci or Data Sci, Analytics & Engr or Global Mgmt (Data Sci) or Robo & Auto Sys (AI) or Software Engr grad stdt OR Online Computer Sci nondegree-seeking grad student; Credit is allowed for only CSE 511 or CSE 512 |
| CSE | 512 | Distributed Database Systems | Distributed database design, query processing, and transaction processing. Distributed database architectures and interoperability. Emerging technology. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science or Data Science, Analytics & Engineering or Global Management (Data Science) or Robotics & Autonomous Systems (AI) or Software Engineering grad student; Credit allowed for only CSE 511 or CSE 512 |
| CSE | 515 | Multimedia and Web Databases | Data models for multimedia and Web data; query processing and optimization for inexact retrieval; advanced indexing, clustering, and search techniques. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science graduate student or Data Science, Analytics and Engineering PhD or Global Management (Data Science) MGM student |
| CSE | 520 | Computer Architecture II | Computer architecture description languages, computer arithmetic, memory-hierarchy design, parallel, vector, multiprocessors, and input/output. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering, Computer Science, Electrical Engineering, or Robotics and Autonomous Systems (Artificial Intelligence) graduate student; Credit is allowed for only CSE 420 or CSE 520 |
| CSE | 522 | Real-Time Embedded Systems | Development of real-time embedded systems, scheduling algorithms, embedded software structures, real-time operating system. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science, Computer Engineering, Master of Engineering, Engineering Science (Software Engineering) or Robotics and Autonomous Systems (Artificial Intelligence) graduate student |
| CSE | 530 | Embedded Operating System Internals | Investigating Linux source including: memory management, kernel synchronization and driver design topics. Designing, coding, testing, and evaluating embedded operating system software in a Linux environment. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science or Computer Engineering graduate student OR Online Computer Science nondegree-seeking graduate student |
| CSE | 531 | Distributed and Multiprocessor Operating Systems | Distributed systems architecture, remote file access, message-based systems, object-based systems, client/server paradigms, distributed algorithms, replication and consistency, and multiprocessor operating systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science or Computer Engineering graduate student OR Online Computer Science nondegree-seeking graduate student |
| CSE | 534 | Advanced Computer Networks | Advanced network protocols and infrastructure, applications of high-performance networks to distributed systems, high-performance computing and multimedia domains, special features of networks. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science or Computer Engineering graduate student OR Online Computer Science nondegree-seeking graduate student |
| CSE | 535 | Mobile Computing | Mobile networking, mobile information access, adaptive applications, energy-aware systems, location-aware computing, mobile security and privacy. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering, Computer Science, Robotics and Autonomous Systems (Artificial Intelligence), or Software Engineering graduate student OR online Computer Science nondegree-seeking graduate student |
| CSE | 536 | Advanced Operating Systems | Protection and file systems. Communication, processes, synchronization, naming, fault tolerance, security, data replication, and coherence in distributed systems. Real-time systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science or Robotics & Autonomous Systems (Artificial Intelligence) graduate student OR Online Computer Science nondegree-seeking graduate student |
| CSE | 539 | Applied Cryptography | Uses cryptography for secure protocols over networked systems, including signatures, certificates, timestamps, electrons, digital cash, and other multiparty coordination. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science graduate student OR Software Engineering MS student OR Online Computer Science nondegree-seeking graduate student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| CSE | 543 | Information Assurance and Security | Comprehensive understanding of information assurance and security problems with the solutions as well as hands-on experiences about applying these solutions. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science or Data Science, Analytics & Engineering or Robotics & Autonomous Systems (Artificial Intelligence) or Software Engineering grad student OR Online Computer Science nondegree-seeking grad student |
| CSE | 545 | Software Security | Theories and tools for software security, including secure design, threat analysis and modeling, security testing and coding. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science or Data Science, Analytics & Engineering or Robotics & Autonomous Systems (Artificial Intelligence) or Software Engineering grad student OR Online Computer Science nondegree-seeking grad student |
| CSE | 546 | Cloud Computing | Virtualization, cloud computing, programmable networking, performance evaluation, information assurance, distributed and parallel computing, and cloud computing-based applications. Students must have a solid background in computer architecture, operating system and computer networking to be successful in this course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science or Data Science, Analytics & Engineering or Global Management (Data Science) or Robotics & Autonomous Systems (Artificial Intelligence) or Software Engineering graduate student |
| CSE | 548 | Advanced Computer Network Security | Comprehensive understanding of network security and corresponding solutions, including cryptography, access control, secure Web transactions, e-mail security, and viruses. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science or Data Science, Analytics & Engineering or Robotics & Autonomous Systems (Artificial Intelligence) or Software Engineering grad student OR Online Computer Science nondegree-seeking grad student |
| CSE | 550 | Combinatorial Algorithms and Intractability | Combinatorial algorithms, nondeterministic algorithms, classes P and NP, NP-hard and NP-complete problems, and intractability. Design techniques for fast combinatorial algorithms. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science graduate student or Data Science, Analytics and Engineering PhD student |
| CSE | 551 | Foundations of Algorithms | Advanced topics in formal algorithm design and analysis, including advanced shortest-paths algorithms, amortized analysis, network flows, NP-completeness and selected topics in computational geometry, distributed/parallel, randomized, and approximation algorithms. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engr, Computer Sci, or Industrial Engr grad student or Data Sci, Analytics & Engr PhD or Robotics & Autonomous Systems (AI) MS OR Online Computer Sci nondegree-seeking grad student; Credit is allowed for only CSE 450 or CSE 551 |
| CSE | 552 | Randomized and Approximation Algorithms | Introduces two important areas of algorithm design for graduate students. A randomized algorithm is allowed to rely on the outcome of a random experiment in deciding on its next step. In many applications, randomized algorithms are simpler than any deterministic algorithms known, but in several cases, they are in fact more powerful or more efficient than any deterministic algorithms. Covers basic paradigms for randomized algorithm design and analysis, as well as for derandomization. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science graduate student or Data Science, Analytics and Engineering PhD student; CSE 550 or 551 or 555 with B or better |
| CSE | 555 | Theory of Computation | Rigorous treatment of regular languages, context-free languages, Turing machines and decidability, reducibility, and other advanced topics in computability theory. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science graduate student or Data Science, Analytics and Engineering PhD student |
| CSE | 556 | Game Theory with Applications to Networks | Strategic conflict as matrix games, notions of equilibrium, definition and existence of Nash equilibrium, zero-sum games, extensive-form games, Bayes Nash equilibrium, potential games, routing games, algorithmic game theory, computation of Nash equilibrium, incentives and pricing in communication networks, application of game theory in wireless networks. Knowledge of calculus, discrete mathematics, probability theory and algorithms is necessary to be successful in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science graduate student or Data Science, Analytics and Engineering PhD student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| CSE | 559 | Algorithms in Computational Biology | Explores a variety of fundamental topics in computational biology with more focus on computational and statistical problems in high throughput genomics. The computational methods used to solve the biological problems covered come from traditional optimization algorithms to modern machine learning techniques. Delves into computational ideas used in biology as well as applies existing resources that are used in practice every day by computational biologists. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engr, Computer Science, or Industrial Engr graduate student or Data Science, Analytics & Engr PhD; Credit is allowed for only CSE 494 (Algorithms in Computational Bio) or CSE 559 or CSE 598 (Algorithms in Computational Bio) |
| CSE | 561 | Modeling and Simulation Theory and Application | Modeling theories, simulation protocols, object-oriented modeling, model design, simulation analysis, network-based systems, discrete-event modeling, continuous modeling, hybrid modeling. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science or Data Science, Analytics & Engineering or Robotics & Autonomous Systems (Artificial Intelligence) graduate student OR Online Computer Science nondegree-seeking graduate student |
| CSE | 563 | Software Requirements and Specification | Examines the definitional stage of software development; analysis of specification representations, formal methods, and techniques emphasizing important application issues. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): graduate Computer Engineering or Computer Science or Software Engineering student |
| CSE | 564 | Software Design | Examines software design issues and techniques. Includes a survey of design representations and a comparison of design methods. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): graduate Computer Engineering or Computer Science or Software Engineering student |
| CSE | 565 | Software Verification, Validation, and Testing | Test planning, requirements-based and code-based testing techniques, tools, reliability models, and statistical testing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science or Software Engineering graduate student or Online CS nondegree-seeking graduate student |
| CSE | 566 | Software Project, Process, and Quality Management | Project management, risk management, configuration management, quality management, and simulated project management experiences. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science or Robotics & Autonomous Systems (Artificial Intelligence) or Software Engineering graduate student OR Online Computer Science nondegree-seeking graduate student |
| CSE | 569 | Fundamentals of Statistical Learning and Pattern Recognition | Concepts of statistical pattern recognition, Bayesian decision theory, parameter estimation, discriminant analysis, basics of artificial neural networks, basics of data clustering. Knowledge of college-level calculus, linear algebra, basic probability theory and proficiency in computer programming is necessary to be successful in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science or Data Science, Analytics & Engineering or Industrial Engineering or Robotics & Autonomous Systems (Artificial Intelligence) graduate student |
| CSE | 570 | Advanced Computer Graphics I | 3D shape analysis techniques: half-edge data structure, polygon mesh processing, fast marching method, iterative closest point algorithms, heat kernel and spectral analysis, isometric embedding. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science or Computer Engineering graduate student OR Online Computer Science nondegree-seeking graduate student |
| CSE | 571 | Artificial Intelligence | Definitions of intelligence, computer problem solving, game playing, pattern recognition, theorem proving, and semantic information processing; evolutionary systems; heuristic programming. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science or Data Science, Analytics & Engineering or Robotics & Autonomous Systems (Artificial Intelligence) or Software Engineering grad student OR Online Computer Science nondegree-seeking grad student |
| CSE | 572 | Data Mining | Advanced data mining techniques: classification, clustering, association, preprocessing; performance evaluation; information assurance, Web mining, security and privacy issues, and other applications. Students must have a solid background in database management systems, search, learning, and statistics to be successful in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prereq(s): Comp Engr or Comp Sci or Data Sci, Analytics&Engr or Global Mgmt (DataSci) or Industrial Engr or Robo&AutoSys (AI) or Software Engr grad stdt OR Online Comp Sci nondegree-seeking grad stdt; Credit allowed for only BMI 555 or CSE 572 or IEE 520 |
| CSE | 573 | Semantic Web Mining | Data mining techniques for structuring and organizing unstructured sources such as text and Web data into meaningful machine-processable information; computational aspects of information extraction and data linkage; discovery and prediction tasks where text serves as data such as detecting events, measuring public opinion and making recommendations. A background in databases, algorithms and theory of computation is necessary to be successful in this course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science graduate student or Data Science, Analytics and Engineering PhD or Global Management (Data Science) MGM student |

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| Subject | CatalogNbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| CSE | 574 | Planning and Learning Methods in AI | Reasoning about time and action, plan synthesis and execution, sequential decision support and reinforcement learning. It is highly recommended that students complete a 400-level artificial intelligence course in order to be successful. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science or Data Science, Analytics & Engineering or Robotics & Autonomous Systems (Artificial Intelligence) graduate student |
| CSE | 575 | Statistical Machine Learning | Spectral clustering, regression, classification, semi-supervised learning, feature reduction, manifold learning, ranking, kernel learning and multitask learning. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science or Data Science, Analytics & Engineering or Robotics & Autonomous Systems (Artificial Intelligence) or Software Engineering grad student OR Online Computer Science nondegree-seeking grad student |
| CSE | 576 | Topics in Natural Language Processing | Comparative parsing strategies, scoping and reference problems, nonfirst-order logical semantic representations, and discourse structure. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science or Data Science, Analytics & Engineering or Robotics & Autonomous Systems (Artificial Intelligence) or Software Engineering graduate student |
| CSE | 577 | Advanced Geometric Modeling I | Advanced concepts of geometric modeling: rectangular and triangular surfaces, triangle meshes, Voronoi diagrams, discrete and continuous shape measures, volumes and volume visualization. Students must have a solid background in linear algebra, calculus, and basic 3D graphics to be successful in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science or Computer Engineering graduate student OR Online Computer Science nondegree-seeking graduate student |
| CSE | 578 | Data Visualization | Amidst the information flood in which we are currently immersed, visualizations can be a well-placed treetop. The rise of big data has the potential to inform decisions, and visual representations can play a crucial intermediate role in our daily information consumption. Covers techniques and algorithms for creating effective visualizations based on principles from graphic design, visual art, perceptual psychology and cognitive science to enhance the understanding of complex data. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engr or Computer Science or Data Sci, Analytics & Engr or Global Mgmt (Data Sci) or Industrial Engr or Robotics & Autonomous Systems (AI) or Software Engr grad student OR Online Computer Science nondegree-seeking grad student |
| CSE | 579 | Knowledge Representation and Reasoning | Covers knowledge representation and reasoning algorithms in artificial intelligence, shows how they can be used in practice, and provides an overview of current research trends. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science or Data Science, Analytics & Engineering or Robotics & Autonomous Systems (Artificial Intelligence) or Software Engineering grad student OR Online Computer Science nondegree-seeking grad student |
| CSE | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CSE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CSE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | GNA | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CSE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): Computer Engineering or Computer Science or Data Science, Analytics & Engineering or Robotics & Autonomous Systems (Artificial Intelligence) or Software Engineering grad student OR Online Computer Science nondegree-seeking grad student |
| CSE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): Computer Science or Computer Engineering graduate student OR Online Computer Science nondegree-seeking graduate student |
| CSE | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|--|
| CSE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CSE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-4 | | Prerequisite(s): Computer Engineering or Computer Science graduate student or Data Science, Analytics & Engineering PhD or Robotics & Autonomous Systems (AI) MS OR Online CS nondegree-seeking graduate student |
| CSE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CSE | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): Computer Engineering (Comp Systems) PhD, Computer Engineering (Electrical Engr) PhD, Computer Sci PhD, Computer Sci (AME) PhD, Computer Sci (Cybersecurity) PhD, Data Sci, Analytics & Engineering PhD, or Industrial Engineering PhD student |
| CSE | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CSE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CSE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CSE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CSM | 201 | Introduction to Parks, Recreation and Sport Management | Examines the role of parks, recreation and community sports at the local, national and international levels. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Credit is allowed for only CSM 201 or PRM 201 OR Visiting University Student |
| CSM | 203 | Program Planning | Overview of the conceptual foundations and professional competencies necessary to effectively assess, plan, implement and evaluate programs. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Credit is allowed for only CSM 203 or NLM 203 or PRM 203 OR Visiting University Student |
| CSM | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |
| CSM | 305 | Sports Facility Operations and Management | Overview of the management and operations of sports facilities. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): MAT 142 or higher; minimum 2.50 GPA; minimum 45 hours OR Visiting University Student |
| CSM | 306 | Advanced Programming and Facilitation | Provides an experiential learning experience where students implement and reflect upon all aspects of an ongoing recreation program including program facilitation, budgeting, marketing, risk management, experience engineering and evaluation. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CSM 203 or PRM 203; Credit is allowed for only CSM 306 or PRM 306 OR Visiting University Student |
| CSM | 335 | Sports and Recreation for Youth Development | Provides an overview of definitions, statistics, theories and models, and types of programs surrounding youth development in relation to sports, recreation and leisure services. Addresses current trends related to youth development and collaborative partnerships in sports, recreation and leisure services at various levels within local, state, national and/or international systems. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Pre-requisite: minimum 45 hours. Credit is allowed for only CSM 335 or PRM 335 |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|---|---|--------|-----------------|--|
| CSM | 350 | Tourism, Recreation and Sports Marketing | Critical examination of marketing principles in leisure and related industries in diverse settings, including local, national, and international. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 210, CSM 201 or TDM 205; ENG 102, 105 or 108 with C or better; MAT 142 or higher with C or better; minimum 45 hours; Credit is allowed for only CRD 350 or CSM 350 or PRM 350 or TDM 350 OR Visiting University Student |
| CSM | 401 | Managing Tourism and Leisure Enterprises | Basic principles of administration and their application in successful administrative situations. Analyzes administrative function, structure, and policies. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 210 or PRM 210 with C or better; CSM 203, NLM 203, PRM 203, or TDM 372 with C or better; minimum 2.50 GPA; Credit is allowed for only CRD 401 or CSM 401 or PRM 401 or TDM 401 OR Visiting University Student |
| CSM | 402 | Assessment and Evaluation of Community Services | Introduces applied leisure research with emphasis on program evaluation, research design, data collection techniques, and data analysis. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 210 or PRM 210; Credit is allowed for only CRD 402 or CSM 402 or NLM 402 or PRM 402 or TDM 402 OR Visiting University Student |
| CSM | 407 | Ethics and Legal Issues in Sports | Comprehensive look at ethical decision making from many perspectives in the sports environment. Presents legal issues as they relate to history, present society and future trends. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CSM 201 OR Visiting University Student |
| CSM | 453 | Inclusive Community Sport | Examines historical and contemporary perspectives shaping the organization and delivery of competitive and cooperative sport and recreation at the local, regional, national and international levels. Emphasizes exploration of barriers to sport and recreation among diverse sociocultural groups (age, disability, gender, race, etc.) and strategies to facilitate access and participation through a continuum of program delivery options including adapted sport and therapeutic recreation. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CSM 453 or PRM 453 or RTH 453 OR Visiting University Student |
| CSM | 463 | Senior Internship | Supervised guided experience in selected agencies. | N | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3-12 | | Prerequisite(s): CRD 403 or RTH 413 (PRM 413) with C or better; Credit is allowed for only CRD 463 or CSM 463 or NLM 463 or PRM 463 or RTH 463 or TDM 463 |
| CSM | 483 | Sports Tourism | Examines the relationship between sports and tourism, and the role of recreation and amateur sports as an economic and community development strategy. Also considers the motives, behaviors and experiences of sport tourists; the impacts of sport tourism; and trends in sports tourism. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CSM 483 or PRM 483 or TDM 483 OR Visiting University Student |
| CSM | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | |
| CSM | 485 | Sports Events | Expands the basic concepts of recreation, leisure or tourism program planning and leadership as they are specifically related to sport events management. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CSM 485 or PRM 485 |
| CSM | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |
| CTE | 110 | Introduction to Culture, Technology and Environment | Investigates the dominant critical perspectives about three of the most fundamental constituents of human civilization: culture, environment and technology. The attention to the interaction and interdependence between environment and technologies (old and new) has been recently rising. Brings in culture--from the biological to the mammal--as another node to the approach, helping students realize the co-existence of these aspects in our life, to see how these topics interact, and the profound influence they have on contemporary issues. After introducing various notions of culture, environment and technology, draws on concrete, hands-on and interactive case studies that epitomize how culture, environment and technology have been connected throughout human history and, indeed, have shaped the modern, technologized and globalized world in which humans and their nonhuman planet mates live today. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | |
| CTE | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 0.25-4 | | |
| CTE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 0.25-4 | | |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|--------|-----------------|--|
| CTE | 310 | Elements of Culture, Technology and Environment | Brings historical, humanistic and transdisciplinary understanding to the intersections of culture, technology and environment by focusing on the four ancient elements of earth, air, fire and water: how they have been understood, how they interact with human societies, how they are manipulated by technology, and how they embody the multiple environmental crises of our time. Examines each element in terms of both past representations and present preoccupations, in accordance with the humanities ideal of learning from the past in order to understand the present and create a better future. Deploys many different media throughout the course. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): CTE 110; ENG 102, 105, or 108 with C or better OR Visiting University Student |
| CTE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 0.25-4 | | |
| CTE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | |
| CTE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-6 | | Prerequisite(s): Barrett Honors student |
| CTE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-6 | | Prerequisite(s): Barrett Honors student |
| CTE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 0.25-4 | | |
| CTE | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-7 | | |
| CTE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-3 | | |
| DAT | 250 | Data Science and Society | Examines quantitative literacy from a data and evidence driven perspective. Looks at the literature behind vaccines, climate, and other contentious topics where there is a wealth of scientific literature and yet these areas are still hotly debated. Investigates ways in which data science is abused; how to mislead with statistics, and how these problems have created a lack of trust in science. Through class discussions, case studies and exercises, students learn the basics of ethical thinking in science, understand the history of ethical dilemmas in scientific work, and study the distinct challenges associated with ethics in modern data science. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 117, 119, 142, 170, 171, 265, or 270 with C or better OR Visiting University Student |
| DAT | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| DAT | 300 | Mathematical Tools for Data Science | Covers the core mathematical topics that underpin data science as well as the key algorithms used for modern data analysis and how to implement them in Python. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s) with C or better: MAT 266 or 271; MAT 343; Credit is allowed for only ACO 598 (Math Methods in Data Sci) or DAT 300 or MAT 422 or MAT 494 (Math Methods in Data Sci) or STP 494 (Math Tools for Data Sci) OR Visiting University Student |
| DAT | 301 | Exploring Data in R and Python | Focuses on the exploration of the types of data typically encountered in modern data science, such as text data, spatial data, and time series data. Uses various statistical techniques to gain insight into the structure of the data, including graphical visualization, linear regression, trees and clustering. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 4 | | Prerequisite(s): MAT 266 or 271 with C or better; Credit is allowed for only ACT 370 or DAT 301 or STP 494 (Exploring Data in R and Python) OR Visiting University Student |
| DAT | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| DAT | 401 | Statistical Modeling and Inference for Data Science | Covers the basic statistical concepts underlying data science as well as some of the major methods. Includes fundamental ideas such as the key idea in predictive modeling is the bias-variance tradeoff, and cross validation is the basic approach for dealing with the bias-variance tradeoff. Statistical inference underlies much of data science methodology. Includes Bayesian and frequentist approaches to inference and how they are used in some of key ideas and methods in data science such as causal inference with observational data. Covers some key methods such as K nearest neighbors, naive Bayes classification, A/B testing, linear models, Gaussian processes and data reduction. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): DAT 301 with C or better; Credit is allowed for DAT 401 or STP 494 (Statistical Modeling and Inference for Data Sci) OR Visiting University Student |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|--|
| DAT | 402 | Machine Learning for Data Science | Concerns the key modern approaches for uncovering high-dimensional complex structure in data. Topics include regularized regression, ensemble methods with trees, deep neural nets, clustering and dimension reduction and state space modeling. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): DAT 401 with C or better OR ACT 415 or STP 421 with C or better; STP 420 with C or better; Credit is allowed for only DAT 402 or STP 494/598 (Machine Learning / Statistical Learning) OR Visiting University Student |
| DAT | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | |
| DAT | 490 | Data Science Capstone | Capstone allows students to build a culminating experience that reflects the breadth and depth of their data science experience and allows each student to explore a research area, interest, theme or question within the realm of data science. Develops final written projects in small groups based on consultation either directly within data science or within their concentration. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 2-4 | L | Prerequisite(s): CSE 475 or DAT 402 with C or better; DAT 401 with C or better; ENG 101, 105, or 107 with C or better |
| DAT | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| DAT | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| DAT | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| DAT | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-3 | | |
| DBA | 701 | Macroeconomic Policies in a Global Environment | Provides the framework for policy makers when facing macroeconomic situations, the tools in analyzing the costs and benefits of alternative policy options, and the knowledge necessary for making recommendations to policy makers and business leaders. Students learn knowledge and skills about global economy and risks that help facilitate dissertation research. | N | LEC | N | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 2 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 702 | Global Financial Systems: Markets and Institutions | Examines the overall architecture of the global financial system, its major components, and their functions in the macro economy. | N | LEC | N | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 703 | Global Financial Systems-Institutional Investing | A large fraction of investors around the world invest in securities markets indirectly, viz. through mutual funds or separate accounts established with investment managers, whether they be endowments, foundations, pension plans or sovereign funds. Exposes students to the global marketplace for such portfolios. | N | LEC | N | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 704 | Design of Knowledge Base Organizations for Performance and Innovation | Covers various issues on executive compensation and management pay structure with a particular emphasis on aligning business strategy, organization design to the choice of performance standards and pay structure for managers. | N | LEC | N | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 705 | Global Corporate Strategy | Demonstrates that decisions affecting the international expansion of a firm are neither obvious nor totally determined by the technological or economic forces generally associated with globalization. Addresses the most transcendental decisions that multinational firms face in the course of conducting business across borders. | N | LEC | N | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 706 | Strategic Visioning, Leadership and Change Management | Addresses the interrelationship among organizational culture, leadership, and the management of change in order to promote continuous improvement of the organization's market position. Addresses the role of strategy, how strategy explicates vision, and how effective strategies are created. | N | LEC | N | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 707 | Risk Management : An Enterprise Perspective | Provides an understanding of the broad set of risks an enterprise faces; their origin, characteristics and potential impact on business; and how they can be efficiently managed at the enterprise level. | N | LEC | N | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 708 | Challenges of Corporate Finance and Governance | Helps students understand the link between finance and corporate strategies, as well as examine ways to establish and reform the practices of corporate governance in China. | N | LEC | N | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 709 | Finance and Law | Helps students learn about the philosophy of law, various legal systems, the relationships among law and economics and finance, the practice of law in a global context. | N | LEC | N | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 2 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 710 | Financial Decision Making | Provides a framework of conceptual knowledge and enables students to understand what the literature on financial theory is trying to do and how it all fits together. Also provides an in-depth experience with the subject of finance and equips students for their future development as a practicing executive. | N | LEC | N | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |

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| DBA | 711 | Financial Innovations | Focuses on how financial innovations influence the evolution of finance. Discusses many of the major financial innovations in recent history, the forces driving these innovations, their impact on the financial system and the real economy and the risks they bring. | N | LEC | N | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 712 | Advanced Topics in Global Economy and Finance: Domestic Module | Addresses many critical topics facing China today on its quest of globalization, the need for transforming its economic structure, capital markets and corporate control, and its monetary policies. | N | LEC | N | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 713 | Advanced Topics in Strategy and Management: Domestic | Reexamines many popular best practices through panel discussion and speaker series on why some of those practices failed to work in China, and how firms have creatively modified their strategic undertakings to fit its environment. | N | LEL | N | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 714 | Current Trends in Global Economy, Finance and Management: US Module | Provides first-hand experiences on the world class practices by the multinationals and interactions with the leading experts on the emerging topics of interest on globalization, financial regulations, and managerial innovations. | N | LEL | N | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 4 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 715 | Current Trends in Global Economy, Finance and Management: Europe Module | Provides direct exposure to European markets, firms, and institutions, their history, current status, and future directions. | N | LEL | N | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 4 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 721 | Research Seminar I- Research in Action | Provides needed skills for research and thesis work. 1. Focuses mainly on research design and fundamental statistical/survey and field study methods. The key objective is to provide students with the needed required skills and concepts of the scientific method, the philosophy of science, and research design with an emphasis to solve specific problems. This course is spread out during the first year of the program. | N | SEM | Y | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 722 | Research Seminar II-Research in Action II | Focuses on the process of research "in actions" through faculty presentation and research workshops. Faculty with diverse research interest and methodologies present up-to-date research works. Through interaction, students gain first-hand experience on learning the process of how faculty, with diverse research interests, are able to identify specific research topic, choosing the right research methodology to address their research questions. The presentation and research workshop are scheduled at the beginning of the second year and throughout the entire year, allowing the program to leverage faculty availability during their course delivery while enabling students to seek out their faculty mentors for future dissertation engagement. | N | SEM | Y | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 723 | Research Seminar III- Research in Action III | Provides students with opportunities to present their own research proposal/ thesis ideas while allowing the participating faculty and fellow students to offer constructive comments. | N | SEM | Y | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DBA | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 100 | Introduction to Dance | Introduces 21st-century dance through a lens of creativity that acknowledges dance as a vital art where leadership, context, humanity and reflection provide centers of dynamic engagement for bodily movement where new meanings for dance are possible. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | |
| DCE | 110 | Argentine Tango I | Introduces basic movement elements, explores various contexts shaping Argentine Tango, and emphasizes social tango with exposure to vals and milonga timing. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 111 | Belly Dance I | Familiarizes students with the art and practice of belly dance. Covers posture, styling, basic body isolations, rhythm patterns, footwork, as well as the social significance and history of the dance. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 112 | Capoeira I | Introduces the Afro-Brazilian martial art and movement form capoeira. Molds elements of self-defense, dance, music, song, language, culture and philosophy into the course. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 113 | Dances of Africa I | Introduces basic elements of West and Central African dance styles, including the traditional rhythms and cultural context. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 114 | Dances of India I | Introduces Indian folk dances with an emphasis on the history and various movement elements of an ancient South Indian classical dance form, known as Bharata Natyam. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 115 | Yoga I | Introduces a basic physical and philosophical understanding of yoga. Designed by a certified Yoga instructor. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 116 | T'ai Chi Chuan I | Introduces an ancient Chinese internal martial art form. The structure includes the beginner level of Tai Chi Chuan theory and movement practice. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |

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|---------|----------------|----------------------------------|---|----------------------|----------------------|--------------------|------------------|---|------------------------------------|-------|--------------------|---|
| DCE | 117 | Feldenkrais I | The Feldenkrais method is an approach to enhance awareness of the body, improve functional actions, and expand one's repertoire of movements. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 118 | Yoga/Pilates | Provides a basic physical and philosophical understanding of yoga and Pilates mat practices. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 120 | Nonmajors Contemporary Modern I | Beginning level of contemporary modern dance for nonmajor students. Emphasizes a range of movement styles, fusing contemporary and traditional forms. Places a special focus on somatic principles, body placement, strength and range of movement. Provides opportunities to explore the history of contemporary modern dance, as well as engage in creative activities. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 121 | Ballet I | Introduces basic concepts of ballet technique, including dynamic alignment, musicality and classical movement vocabulary. Instructors use a somatic approach to this traditional art form. Students also learn about the history and context of ballet. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 122 | Jazz I | Explores the basics of jazz dance techniques and various styles. Focuses on alignment, technique, jazz rhythms and performance skills. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 123 | Nonmajors Hip Hop I | Introduces various styles of dance within the hip hop genre. Covers the fundamentals of dance through embodied learning of hip hop styles based on instructor's area of expertise. No previous dance experience necessary. Expects students to engage in both weekly movement classes as well as at least one cultural event beyond the studio to better understand their dance practice within the cultural context of which they exist. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 124 | Latin/Swing/Ballroom I | Introduces major Latin and ballroom dances and focuses on a system of elements that are found in all partnership dances, including movement components, rhythmic patterns, dance positions, and unique characteristics used to better define each dance. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 125 | Afro-Latin Salsa I | Beginner-level Afro-Latin social dances. Designed and structured for students with no previous dance history with movement, historical context, culture and rhythms that are associated with Latin social dance. Students learn fundamental technique and partnering frameworks, while engaging in the structures of community and participatory engaged practices in social dance. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 126 | Country-Western | Initiates the student into the rhythm two-step, progressive two-step, night club two-step, country cha-cha, country waltz, triple swing and a multitude of line dances. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 130 | First-Year Movement Practices I | Introduces diverse somatic movement principles and practices through exploration of movement, context, theory, and personal reflection. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance major OR Visiting University Student |
| DCE | 131 | First-Year Movement Practices II | Modular structure enables a series of short intensive studies including movement, context, theory, and personal reflection. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance student; DCE 130 with C or better |
| DCE | 132 | First-Year Dance Techniques | In-depth study of the foundations of multiple techniques. By dancing, conditioning, diving deep, living in the forms and in experimentation, students engage in consistent applied practice. By exploring the breadth and depth of selected technical concepts through the lens of different techniques, helps dancers amplify and understand themselves as a versatile mover. Students learn to approach physical and performative movement and recognize techniques as an integrated study. Emphasizes physical practice, expects students to engage creatively, reflect on their learning and demonstrate critical thinking in all class sessions. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance BFA, Dance (Dance Education) BFA, or Performance and Movement BA major OR Visiting University Student |
| DCE | 133 | Hip Hop I | Focusing on a strong foundation, encourages students to engage in studio classes and community cultural events throughout the semester. Exposes students to several hip hop foundational dance forms under and related to breaking, popping and locking. Develops and connects culturally relevant content to inform students' movement in these styles and, more importantly, find their own identity within these forms. | N | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance BFA, Dance (Dance Education) BFA, or Performance and Movement BA major or Dance minor OR Visiting University Student |
| DCE | 134 | Contemporary Modern I | Studies contemporary modern dance rooted in postmodern traditions. Includes diverse movement styles that build foundational knowledge and integrate somatic principles with physically challenging material. Enhances the student's artistry as a performer and creator. Also introduces the history and theory of the postmodern contemporary dance form. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance BFA, Dance (Dance Education) BFA, Performance and Movement BA major, or Dance minor OR Visiting University Student |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|---|------------------------------------|-------|-----------------|--|
| DCE | 135 | Contemporary Ballet I | Begins the study of ballet from a contemporary lens. Content includes classical ballet vocabulary, dynamic alignment, whole body integration and experiential anatomy. Enhances a student's foundational knowledge of the ballet vernacular; also considers the social and historical contexts of ballet artists and techniques. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance BFA, Dance (Dance Education) BFA, Performance and Movement BA major, or Dance minor OR Visiting University Student |
| DCE | 136 | Introduction to Somatic Movement | Survey course offers a practical and theoretical introduction to some of the major somatic practices evolving during the 20th century in the West; also offers exposure to some traditional Eastern disciplines and philosophies influencing those developments. Focuses upon self care, resilience, well-being of spirit, body and mind; explores movement and the integration of the whole person through a variety of somatic lenses. | N | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 137 | African and Diaspora Movement Practices I | The African Diaspora refers to the many communities of people of African descent dispersed throughout the world as a result of historic movements. This course explores various dances from the Diaspora. Students learn to execute polyrhythmic patterns and practice multiple types of call and response cues performed both verbally and physically. Different exercises focus on body isolation, the use of weight, and traveling in space. | N | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 139 | Afro-Latin I | Beginning-level course in Afro-Latin dance practices introduces the culture, movement rhythms and historical dialogue associated with various forms of Afro-Latin social dance practices, specifically salsa and mambo. Progressively teaches basic fundamentals in footwork and partner work, along with understanding timing and connection with Afro-Latin social music throughout the semester in class and in social events. By learning the movement fundamentals and applying them through social dancing, students not only succeed in the course, but also evolve in becoming a knowledgeable and participative social dancer within the ASU salsa community. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance BFA, Dance (Dance Education) BFA, or Performance and Movement BA major or Dance minor; Credit is allowed for only DCE 139 or DCE 194 (Salsa I) OR Visiting University Student |
| DCE | 160 | Creative Practices I | Focuses on cultivating one's creative process by investigating methods, strategies and dance-making approaches. Involves movement investigation and development, moving-making and designing, group discussions, readings, journal writing, instructor and peer-feedback, choreographic analysis, and reflective writing. Explores creative strategies that begin from a place of self and embodied history, one's archive, and ongoing repertoire. Expands toward processes that explore our interconnectivity with the body, multiple bodies, partners and constructing new methodologies of performing movement for any audience or daily life. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance BFA, Dance (Dance Education) BFA, Performance and Movement BA major, or Dance minor OR Visiting University Student |
| DCE | 161 | Creative Practices II | Explores creativity and creative processes with reference to some key historical practices and influential artists. Encourage and develops students' awareness of their own imagination and creative process through individual and group projects involving problem solving, creative tasks, and reflection. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance BFA, Dance (Dance Education) BFA, Performance and Movement BA major, or Dance minor OR Visiting University Student |
| DCE | 170 | First-Year Seminar I | Orientation to studying dance in college, the university learning environment, and the professional practice of dance | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance BFA or Performance and Movement BA major OR Visiting University Student |
| DCE | 171 | First-Year Seminar II | Continuation of First-Year Seminar I. Focuses on orientation to the larger field of contemporary dance practice with an emphasis on developing tools and processes for reflection, synthesis, and critical thinking. Requires participation in School of Dance "Dance Matters." | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance BFA or Performance and Movement BA major |
| DCE | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| DCE | 201 | Dance, Culture, and Global Contexts | Introduces the study of dance as culture in diverse global contexts. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | |
| DCE | 202 | Dance in U.S. Popular Culture | Investigates vital cultural heritages that have shaped dance in U.S. American popular culture from 20th century to the present. Emphasizes dance as a producer of social space and cultural identity as well as a reflection of diverse social realities and dynamics of power. Following required reading and videos, the course surveys time periods of dance from the late 1800s through the 20th century to the present day. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & C | Credit is allowed for only DCE 202 or 294 (Dance in US Popular Culture) |
| DCE | 203 | The Walking Body | Investigates walking as movement language with the focus on physical thinking. Micro-research engages the student with collecting data from peripatetic walks and focused weekly walkings to hone the skill sets of: perception to increase one's awareness to the spatio-temporal context and one's attentional flow during walking. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Pre- or corequisite(s): ENG 101, 105, or 107 with C or better if completed OR Visiting University Student |

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| DCE | 204 | Dance, Health and Wellness | A class of dynamically interacting ideas. Dance promotes health and wellness. Wellness practices create a healthy dancer. A healthy dancer is one who has a wellness mindset and knows how to prevent injuries. Studying the interaction of these three ideas is intended to produce a movement literacy. This movement literacy, however, lives implicitly in a world where bodily communication of tensional relationships, tugs, and pulls is silent. Thus, a further intention is to transform the implicit understanding to explicit communication through applying academic communicative skills of writing and speaking. Circumnavigates the polycenters of healthy movement, injury prevention and wellness identifying strategies, models and practices that best optimize movement. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | L | Pre- or corequisite(s): ENG 101, 105, or 107 with C or better if completed OR Visiting University Student |
| DCE | 205 | How Dance Matters: A Sociocultural Framing | Introduces observing, discussing and analyzing dance through a contemporary sociocultural lens. Introduces the contemporary contexts of the dance forms currently offered in the BFA dance programs, including contemporary ballet, postmodern contemporary, Afro-Latin movement practices and hip hop. By examining where and when the dance occurs, who participates and how, and why dance matters across each of these forms, students gain a deeper understanding of what makes each dance form unique. Investigates the elements of each form that overlap with others and how dance can both ignite and reflect cultural change. Additionally, students learn to write about dance in a way that recognizes and describes key values and attributes of each dance form and articulately uses description, interpretation and evaluation to create informed perspectives of dance. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | C | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| DCE | 210 | Argentine Tango II | Builds upon concepts, figures, and elements of the Argentine Tango introduced in level one. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisite: DCE 110 or DAN/DCE 194 (Argentine Tango I) |
| DCE | 211 | Belly Dance II | Focuses on refining beginning technique, advanced movements, layering and musical interpretation. Uses choreography and improvisation to encourage mind-body awareness. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): DCE 111 OR Visiting University Student |
| DCE | 216 | T'ai Chi Ch'uan II | Intermediate-level study of the ancient Chinese martial art of rounded, fluid, balanced movements. Teaches the sets of long form Yang style of Tai Chi Ch'uan in a slow and relaxed manner. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): DCE 116 or DAN 194 (T'ai Chi Ch'uan I) OR Visiting University Student |
| DCE | 220 | Nonmajors Contemporary Modern II | Intermediate level of contemporary modern dance for nonmajor students. Emphasizes a range of movement styles, fusing contemporary and traditional forms. Special focus on somatic principles, body placement, strength and flexibility. Provides opportunities to explore the history and social significance of modern dance, as well as performance skills and choreography. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 221 | Ballet II | Open to all ASU students, focuses on contemporary and classic ballet practices and increasing students' understanding of the integration of both. Students also learn about the historical and cultural contexts of contemporary ballet. Continued practice on voicing the inner perspective of experiencing ballet and relating it to the aesthetics outer perspective. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 222 | Jazz II | Explores intermediate level of jazz dance techniques. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisite: DCE 122 or DAN 130 (Jazz I) |
| DCE | 223 | Nonmajors Hip Hop II | Designed for intermediate dancers to expand, explore and deepen their training in foundational hip hop dance forms. Focus aligns with instructor area of expertise. Students experience social and community aspects of hip hop culture by engaging with cultural artists and events throughout the term. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): DCE 123 OR Visiting University Student |
| DCE | 224 | Latin/Swing/Ballroom II | Continues development of level one Latin/Swing/Ballroom dances to prepare student to have command of the complex rhythmic patterns and figures used in major partnership dances. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): DCE 124 or DAN 194 (Latin/Swing/Ballroom I) OR Visiting University Student |
| DCE | 225 | Afro-Latin/Salsa II | Designed and structured to build upon content from previous coursework, for students who have completed Level I or have had previous dance history with movement, historical context, culture and rhythms that are associated with Latin social dance. Students continue to refine their technique and sensibility, while engaging in the structures of community and participatory engaged practices in social dance. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): DCE 125 OR Visiting University Student |

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| DCE | 226 | Musical and Kinesthetic Communication in Dance | Brings basic principles of rhythmic awareness and theory to life through movement and breath. Develops listening skills to "hear" movement and to "see" sound, providing a foundation of skills and knowledge to perform and aurally recognize beat patterns, subdivisions, grooves, textural and qualitative subtleties in different styles. Practical application of concepts and abilities for teaching dance musically--connecting to students' personal movement practice, somatic and pedagogy classes as well as linking rhythmic theory concepts with aural and kinesthetic listening skills and life. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Corequisite(s): DCE 124, 133, 134, 135, 136, 139, 224, 233, 234, 235, 236, 239, 324, 333, 334, 335, 336, or 339 OR Visiting University Student |
| DCE | 230 | Second-Year Movement Practices I | Investigates selected movement forms in the second-year movement practices. New movement forms include but are not limited to contact improvisation, Alexander technique, Feldenkrais, Body Mind Centering (BMC), taekwando, aikido, wushu, LMA, yoga, or somatic bodywork. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance majors; DCE 131 with C or better OR Visiting University Student |
| DCE | 231 | Second-Year Movement Practices II | This course is set up in two modules. In module one, students will investigate a movement form, include but are not limited to contact improvisation, Alexander technique, Feldenkrais, Body Mind Centering (BMC), taekwando, aikido, wushu, LMA, yoga, or somatic bodywork. Module two expands the practice of rhythmic awareness through exploration and investigation of the close relation between thought and act, the kinesthetic and the verbal, the text and the beat, as well as the breath and the word. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance student; DCE 230 with C or better |
| DCE | 233 | Hip Hop II | With a deeper understanding and training with a focus on music freestyle and cultural connections, students build upon foundational knowledge and approaches to at least two hip hop forms. Students take instructor-led dance classes while working with local practitioners in the studio and community such as DJs, beatmakers, beatboxers and music producers. | N | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): two completions of DCE 133 with C or better OR Visiting University Student |
| DCE | 234 | Contemporary Modern II | Furtheres the study of contemporary modern dance rooted in postmodern traditions at the intermediate level. Emphasizes somatic principles, performance quality and complex movement ideas. Enhances the student's artistry as a performer and creator; also furtheres student's study of the history and theory of the postmodern contemporary discipline through physical and written assignments. Faculty assess students' abilities within the first week of class to ensure this course is a good fit. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): two completions of DCE 134 with C or better OR Visiting University Student |
| DCE | 235 | Contemporary Ballet II | Furtheres the study of ballet with a contemporary lens, allowing the dancer to develop and hone the relationship between the somatic experience and the ballet tradition. Employs further investigation of concepts as students manipulate physical concepts to deepen their understanding of the theory and lineage of contemporary ballet. Faculty assess students' abilities within the first week of class to ensure this course is a good fit. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): two completions of DCE 135 with C or better OR Visiting University Student |
| DCE | 236 | Somatic Movement Applications: A Closer Look | Co-taught laboratory that explores foundations of somatic education, including principles of dance science, bodywork practices, Bartenieff Fundamentals, and Body-Mind Centering. Emphasizes developing a holistic perception of ourselves, our relation to one another, and to the environment. Nonmajors are welcome and encouraged to enroll as this course benefits anyone interested in dance, theater, music, social engagement, architecture and design, education, and health and wellness, among other areas. | N | LEL | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 238 | Hip Hop Ensemble | Comprises dancers and musicians exploring the connections between hip hop musical practices and hip hop movement forms in a live improvisatory setting. Places special emphasis on hybridization, or the blending of musical traits and physical movement from two or more genres. Throughout the semester, builds cooperative practices with one another and experiments in a cross-disciplinary manner. Catalyzes and fosters ability to imagine innovative musical and movement practices within the hip hop aesthetic. Course serves as an "experiment lab" for music and dance students. | N | LAB | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | |

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|---------|----------------|-----------------------------------|---|-------------------|-------------------|-----------------|---------------|---|------------------------------------|-------|-----------------|---|
| DCE | 239 | Afro-Latin II | Beginner/intermediate-level course designed and structured to build upon students who have completed Afro-Latin dance practices with the movement, historical context, culture and rhythms associated with Afro-Latin movement dance. Framework of movement involves reviewing beginner, then covers intermediate fundamentals in footwork and partner work that is learned in salsa technique progression modules. Along with progression modules, addresses through online readings and documentaries the history and social significance of Afro-Latin movement practices, such as salsa on2, cha cha and bachata. Through learning intermediate fundamentals and applying them through social dancing, students succeed and evolve in becoming knowledgeable and proficient social dancers within the salsa community. Expects students to not only have fun, but to integrate their learning within the ASU salsa community. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): two completions of DCE 139 with C or better OR Visiting University Student |
| DCE | 240 | Media for Dance | Computer applications for human movement modeling, digital video design and creation, sound composition, and the incorporation of multimedia design elements into online environments. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | CS | |
| DCE | 260 | Creative Practices III | Explores concepts introduced in the first year of creative practice and further expands into the themes of analysis and investigation. Year two experience involves the investigation of learning to compose and construct choreographic material through individual, collaborative, improvisational, and group exploration. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): DCE 161 with C or better OR Visiting University Student |
| DCE | 261 | Creative Practices IV | Continues developing students' awareness of their own creative process through individual and group projects involving problem solving, creative tasks, and reflection. Emphasizes exposure and refinement of students' consideration of production elements (sound, light, and costume design) and concept development. Includes a lab experience that broadens students' hands-on understanding of production practices. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): DCE 260 with C or better OR Visiting University Student |
| DCE | 262 | Rhythmic Theory for Dance I | Elements of music, music structures, and their relationship to dance. Emphasis on rhythmic analysis and dance accompaniment. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisite: BA Performance and Movement or BFA Dance major |
| DCE | 270 | Second-Year Seminar I | Continues developing tools and processes for reflection and critical thinking by identifying individual goals and objectives related to the students' current and future academic and professional careers. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Dance major; DCE 171 OR Visiting University Student |
| DCE | 271 | Second-Year Seminar II | Provides basic understanding of costume design, sound production, and interactive performance for dance. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Dance major; DCE 270 with C or better |
| DCE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| DCE | 300 | Dancing Histories | Critical investigation, especially in relation to gender, sexuality, race and class, of the history and historiography of vernacular and concert dance forms informing dance in America today. Focuses on Afro-Latin social dancing, ballroom, jazz, hip hop, ballet and modern/postmodern dance forms. Students learn about various ways of conducting research into dance history, including interviewing, researching using primary resources and performing scholarship. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s): ENG 101, 105 or 107 with C or better |
| DCE | 301 | Dance Analysis and Theory | Reflective inquiry into the nature of dance through the lenses of dance analysis and critical theory. Covers philosophical and theoretical issues raised by the study of dance in relation to specific historical and global contexts. Students learn how to describe and analyze the components and form of dance events, and interpret and evaluate works by applying feminist, queer, postcolonial and critical race theories, among others. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| DCE | 302 | History of American Hip Hop Dance | The histories of hip hop dance are multilayered and multifaceted. There is not a singular history of hip hop dance, yet multiple entry points with multiple pathways of understanding to unpack the turbulent and linked histories of historically disenfranchised communities within the context of post-Civil Rights era United States. Designed as a seminar experience and operates from the assumption that hip hop dance is an extension of African diasporic traditions colliding with multiculturalism and youth culture. Serves as a portal to some of the histories, perspectives, individuals and stories that help shape the forms of hip hop dance expressed throughout this course. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & C | Prerequisite(s): minimum 45 hours OR Visiting University Student |

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| DCE | 303 | The Body Condition(ed) | Examines contemporary practices of conditioning the body from a triangulation of perspectives: physical, social, and experiential. Enhances the ability to obtain a holistic understanding of how the self/social dynamic operates within the context of body conditioning. Designed for non-majors. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | SB | Pre- or corequisite(s): ENG 102, 105, or 108 OR Visiting University Student |
| DCE | 306 | History of Salsa: Afro-Latin Social and Global Contexts | For students who are curious about salsa dancing and music, and who have interest in learning about its timeline and origins. Salsa is a migrational phenomenon, and the course traces the journey of multiple timelines that intersect with the global industry it has become today. Course theme revolves around the concept of salsa hybridity and the migrational dance that continues to evolve based on the interexchange of music and dance as it represents Afro-Latinness in the community. Content focuses on tracing the pathways of salsa and its origins from a dance and music perspective. Content also includes chronological investigative critique on performance from salsa congresses and festivals, and social dance videos from various video platforms. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & C | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| DCE | 324 | Latin/Swing/Ballroom III | Refines dances learned in the intermediate level of Latin and ballroom dances, including foxtrot, waltz, salsa, cha cha, rumba, samba, west coast swing, bolero, tango, and swing. Prepares students to have a more advanced command of the complex rhythms and figures used in the major partnership dances. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): DCE 224 or DAN 294 (Latin/Swing/Ballroom II) OR Visiting University Student |
| DCE | 325 | Afro-Latin/Salsa III | Advanced movement course designed to bring an interdisciplinary approach towards performance, competitive, and social partner movement that incorporates multiple contextual and Latin dance style perspectives to inform and critique one's own dance understandings. Latin social movement forms include NY Mambo, cha cha, and bachata. Elements and concepts investigated with partner work include the following: working with the body, kinesthetic movement properties, connection, musicality, and rhythm. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): DCE 125, 139, 225, 239, or 339; Credit is allowed for only DCE 325 or DCE 394 (Latin/Salsa III) OR Visiting University Student |
| DCE | 330 | Third-Year Movement Practices I | Focuses on the application of diverse movement forms and somatic studies in a range of performance contexts. These contexts may include live and mediated performance, community-based projects, pedagogy, analysis of movement forms in relation to musical compositions or the creation of new movement languages. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance major; DCE 231 OR Visiting University Student |
| DCE | 331 | Third-Year Movement Practices II | Student will focus on the integration of diverse movement forms and somatic practices, as well as developing an in-depth understanding of a range of performance contexts practically and theoretically. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance student; DCE 330 with C or better |
| DCE | 333 | Hip Hop III | Underscores hip hop cultural practice as inherently interdisciplinary and as a culture expressed in various practices and forms. Students bring a solid foundation of different techniques, approaches and contexts of multiple hip hop dance styles to fluently and radically bridge their dance practice and movement as a tool to empower and transform. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): two completions of DCE 233 with C or better OR Visiting University Student |
| DCE | 334 | Contemporary Modern III | Advanced level of contemporary modern dance rooted in postmodern traditions. Prepares students for the professional field of dance while continuing to deepen their understanding of the history and social significance of the art form. Includes diverse movement styles that emphasize a nuanced approach to complex movement concepts and somatic principles. Faculty assess students' abilities within the first week of class to ensure this course is a good fit. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): two completions of DCE 234 with C or better OR Visiting University Student |
| DCE | 335 | Contemporary Ballet III | Advanced level for contemporary ballet furthers the study of ballet with a contemporary lens, allowing the dancer to develop and hone the relationship between the somatic experience and the ballet tradition. Employs further investigation of concepts as students continue to apply physical learning to deepen their understanding of the history and theory of contemporary ballet. Written work expands students' contextual understanding of ballet's most current choreographers and happenings. Faculty assess students' abilities within the first week of class to ensure this course is a good fit. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): two completions of DCE 235 with C or better OR Visiting University Student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|---|------------------------------------|-------|-----------------|---|
| DCE | 336 | Somatic Movement Development and Facilitation | Laboratory for somatic education that engages students in the theoretical and guided practical study of somatic movement practices. Facilitates students in exploring and addressing personal movement concerns and identifying areas for growth while expanding student understanding of the diversity of approaches to somatic studies. Focuses on body awareness, holding patterns, and movement re-education through various somatic practices drawn from Bartenieff Fundamentals, Body-Mind Centering, ideokinesis, Laban Movement Analysis, Dynamic Embodiment and other related somatic constructs. | N | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): DCE 136 or 236 with C or better OR Visiting University Student |
| DCE | 339 | Afro-Latin III | Advanced course brings an interdisciplinary approach toward performance, competitive and social partner movement that incorporates multiple contextual and Afro-Latin dance style perspectives to inform and critique one's own dance understandings. Provides a learning environment to investigate performance elements/theories and how they relate or contrast within the following dance styles: Afro-Latin Social which include NY Mambo, Cha Cha and Bachata. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): two completions of DCE 239 with C or better; Credit is allowed for only DCE 339 or DCE 394 (Afro-Latin Movement Practices III) or DCE 394 (Salsa III) OR Visiting University Student |
| DCE | 350 | Dance in the Classroom: Learning Through Movement | Explores theories of learning, thought development, and knowledge construction through aesthetic movement experiences. Students look to theories from the fields of aesthetics, phenomenology (study of lived experiences), somatics (study of the soma or body/mind), sociology and epistemology (theory of knowledge) to understand how the intertwined relationship of human thought development and movement patterning can affect children's learning and development. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum junior standing OR Visiting University Student |
| DCE | 354 | Creative Approaches to Teaching Dance I | Explores creative strategies and methodologies for teaching dance to a variety of populations in diverse settings. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance BFA, Dance (Dance Education) BFA, or Performance and Movement BA major OR Visiting University Student |
| DCE | 356 | Creative Approaches to Teaching Dance II | Explores creative strategies and methodologies for teaching dance to a variety of populations in diverse settings. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance BFA, Dance (Dance Education) BFA, or Performance and Movement BA major OR Visiting University Student |
| DCE | 357 | Teaching Internship | Designed for dance education majors pursuing K-12 certification. Students complete a minimum of 25 internship hours in a secondary education classroom setting and are mentored by a high school dance teacher. The internship experience involves observing and assisting the mentor teacher in instructional activities, planning and teaching dance movement and creative practice lessons, choreographing a dance concert work at the internship site, and engaging in self-evaluation processes. Mentor teachers provide ongoing feedback to students in the course and complete two formal assessments. Creative work generated from the internship course is entered into a digital portfolio and shared with course peers and instructors at the end of the semester. | N | PRA | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): Dance BFA, Dance (Dance Education) BFA, or Performance and Movement BA major; DCE 354 with C or better |
| DCE | 360 | Creative Practices V | Conceived as a laboratory for practice-led research and choreography. Emphasizes compositional forms and structures in dance as well as the art of generation, organizing and framing movement. Focuses on developing tools and honing the student's creative voice. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): DCE 261 with C or better OR Visiting University Student |
| DCE | 361 | Creative Practices VI | Conceived as a means of application of creative tools garnered in the previous semester, students select from a survey of options that allow for full immersion in the creative process. Focuses on dance making in relationship with other creative practices and artistic work. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): DCE 360 with C or better OR Visiting University Student |
| DCE | 370 | Third-Year Seminar I | Provides an orientation to the field of community dance practice. Over two consecutive semesters, students investigate foundational theories pertaining to the development of community dance worldwide, are exposed to leaders in community dance practice, and have in-depth applied experiences interacting with different populations in a variety of community dance contexts. | N | SEM | N | YGB | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre-requisite: Dance major; DCE 271 with a Y |
| DCE | 371 | Third-Year Seminar II | Hones skills in collaborative approaches, teaching, leading, and facilitation through partnerships with community organizations in the Phoenix metropolitan area. Students study community dance practices covering a range of creative process and community building tools that can be used in diverse settings. Applies research methods, such as data collection, analysis, and reflection, to measure the efficacy of community arts practices. | N | SEM | N | YGB | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre-requisite: Dance major; DCE 370 with a Y. |
| DCE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |

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| DCE | 402 | Ethnography of Dance Practices | Examines the field of ethnochoreology, ethnographic methods, and interpretive research practices. Develops critical writing, thinking, and viewing skills for comparative dance study. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| DCE | 403 | Making. Living. Thriving Through the Arts | This specialized course looks at how creative practices and research revitalize one another and how artists continue to sustain themselves by bringing imaginative responses to 21st-century living. This course grew out of a wish to share the diversity of approaches in the current dance curriculum at ASU. In this open forum setting, we may develop a vibrant community moving toward visionary, yet realistic ideals in the arts, experiential learning and how we creatively contribute and support ourselves in the world. Emphasizes arts making practices and being self-supporting with one's creative work. Throughout the class, various artist/scholars share their creative research work and how they sustain a life in the arts. Among others, their perspectives may include a variety of intersections such as social issues in health/wellness, equity and justice, entrepreneurial thinking, technology and social engagement. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s): Herberger major or minor; minimum 60 hours |
| DCE | 404 | Dance and Ethics | Examines ethical issues as they relate to the field of dance, including the following: the ethical treatment of dancers within educational and professional institutions; the ethical creation of dances sensitive to copyright/appropriation concerns as well as issues of form and content; the ethical engagement of the arts by the state; the ethical use of dance in trauma recovery and community building. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | L | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum junior standing |
| DCE | 405 | Writing the Creating Body | Invites students into theorizing the lived experience of the creator during the creative act. This inner landscape of the creator's experience is one of change and split-second decisions. Why capture this landscape? As an artist, students can find their own patterns of creativity. If they wish only to appreciate creative artists, their understanding of the creative process deepens and magnifies. To capture this inner landscape, students learn new writing skills within a robust framework that can analyze the fluidity of the creative act. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only DCE 405 or DCE 505 OR Visiting University Student |
| DCE | 433 | Hip Hop IV | Focuses on application of various stylistic, technical and performance techniques expected at an advanced level in various forms of hip hop. Expects students to clearly articulate (in their words and bodies) hip hop as the embodiment of two or more dance styles rooted from the dance scenes of underground, street and/or club dance counterculture. Deepens understanding of the form through performance of the movement within cultural community context, "the studio," and within other community-oriented settings. It is through performing in these venues where students draw connections to help develop a nuanced mode of training within the studio. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): two completions of DCE 333 with C or better; two completions of DCE 338 with C or better OR Visiting University Student |
| DCE | 435 | Contemporary Ballet IV | Focuses on the students' individual application of contemporary ballet technique at an advanced level. Expects students to have an advanced, embodied understanding. Draws on a variety of traditional, codified and contemporary approaches to ballet as well as somatic techniques to enhance students' ballet proficiency through performing movement that is athletically challenging, nuanced and rhythmically complex. Emphasizes musicality and artistry throughout class. Engages students in critical thinking and reflection in relationship to their dancing and dance learning. Additionally, students engage with class concepts creatively through improvisation and composition. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): two completions of DCE 335 with C or better |
| DCE | 438 | Dance Theatre Performance/Production | Project-based class gives the opportunity to explore the collaborative approach of producing and creating work. Students conceive and construct the lighting, sound, costumes, media and movement designs for several projects. All levels are welcome. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance BFA, Film and Media Production BFA, Performance and Movement BA major, Dance minor, or BIS Dance concentration OR Visiting University Student |
| DCE | 439 | Afro-Latin IV | Focuses on the students' individual application of Afro-Latin salsa/mambo technique at an advanced level. Specific to undergraduate students who have completed previous coursework and are ready to focus on individual research, investigation and critique in Afro-Latin movement practices. With an expected advanced understanding of Afro-Latin rhythms and social partnerwork vocabulary, students synthesize past knowledge in previous courses and begin framing questions on areas of expertise to work in an Afro-Latin centric process that leads toward a finding, performance or finished/unfinished work. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): two completions of DCE 239 with C or better; two completions of DCE 339 with C or better OR Visiting University Student |

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| DCE | 460 | Transitions I | Original choreography for group performance with analysis and critique of problems encountered in production. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance BFA or Performance and Movement BA major; DCE 361 with C or better OR Visiting University Student |
| DCE | 461 | Transitions II | Effectively positions students as they ready themselves to enter the creative work force. Students fully execute and document their capstone project and develop materials for their portfolio that allow them to represent themselves well as artist professionals. Requires an internship. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): DCE 460 with C or better |
| DCE | 470 | Fourth-Year Seminar | Explores and investigates the larger world of dance as it pertains to transitioning out of the university environment into professional lives. Discussion revolves around career opportunities, options and finding potential work synergies that will parlay into meaningful and exciting lives. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre-requisites: BFA Dance major; DCE 371; Credit is allowed for only DCE 470 or 494 (4th-Yr Seminar) |
| DCE | 482 | The Alexander Technique | Mixed-level course open to students from across the Herberger Institute for Design and the Arts that covers the basic principles of the Alexander Technique (AT). The AT is a gentle reeducational process that promotes increased awareness and ease in movement. With a fundamental understanding and application of the AT principles, explores students' individual artistic practices and everyday patterns of movement through experiential research and application. | N | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Herberger major; min junior standing; Credit is allowed for only DCE 482 or DCE 394 (Alexander Technique:Application&Mvmnt Research) or DCE 582 or DCE 598 AlexanderTechnique:Applic&Mvmnt.Rsrc h for Grad St) OR Visiting University Student |
| DCE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | |
| DCE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | | Prerequisite(s): Barrett Honors student |
| DCE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| DCE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| DCE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | |
| DCE | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 501 | Philosophy of Dance | Analyzes traditional and contemporary theories of dance with regard to issues of expression, form, and meaning. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 502 | Cultural Concepts of Dance | Examines the close connections among culture, dance, and movement through writings in cultural theory, dance ethnology, and philosophy. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 504 | Dance and Ethics | Examination of ethical issues as they relate to the field of dance, including the following: the ethical treatment of dancers within educational and professional institutions; the ethical creation of dances sensitive to copyright/appropriation concerns as well as issues of form and content; the ethical engagement of the arts by the state; the ethical use of dance in trauma recovery and community building. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance MFA student |
| DCE | 505 | Writing the Creating Body | Dives deep into the nexus of the creative process to explore more about student's own understanding or that of another artist. Applies frameworks to investigate the dynamic relationships among artist, audience and creative project that occur during the flow of creating. Lens is the embodied perspective of the creative artist with writing techniques honed for how to capture the inner experience of creating. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Herberger Institute of Design and the Arts graduate student; Credit is allowed for only DCE 405 or DCE 505 |
| DCE | 530 | Somatic Movement Inquiry I | Explores somatic processes and frameworks as modalities for inquiry and research. Students engage in psychophysical investigations of specific somatic movement practices and frameworks, including Laban Movement Analysis, Body-Mind Centering and Dynamic Embodiment, as well as other phenomenological and epistemological frameworks for learning in and through the body. Approaches classroom experiences from theoretically grounded and contextualized perspectives that address through practice current somatic and epistemological thinking. Individual sessions with faculty support the deepening and exploration of personal movement inquiry and somatic research. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance MFA student |

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| DCE | 531 | Somatic Movement Inquiry II | Explores somatic processes and frameworks as modalities for inquiry and research. Students engage in psychophysical investigations of specific somatic movement practices and frameworks, including Body-Mind Centering, the Alexander Technique, Laban Movement Analysis and Dynamic Embodiment, as well as other phenomenological and epistemological frameworks for learning in and through the body. Approaches classroom experiences from theoretically grounded and contextualized perspectives that address through practice current somatic and epistemological thinking. Individual sessions with faculty support the deepening and exploration of personal movement inquiry and somatic research. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance MFA student |
| DCE | 534 | Contemporary Modern | First-year graduate level of contemporary modern dance rooted in postmodern traditions. Prepares students for the professional field of dance while continuing to deepen their knowledge of the history and theory of the practice. Includes diverse movement styles that emphasize a nuanced approach to complex movement concepts and somatic principles. Expects students to take a self-directed approach to course content. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance graduate student |
| DCE | 535 | Contemporary Ballet | Graduate-level theoretical study and movement practice of contemporary ballet for contemporary dancers. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisite: MFA Dance student |
| DCE | 536 | Somatic Practices | Laboratory for somatic education that explores the foundations of movement, voice, expression and spatial awareness. Open to nonmajors, the class welcomes and encourages the participation of students from a wide variety of disciplines. Taught through the principles of specific somatic lenses (e.g., the Alexander Technique, Bartenieff Fundamentals, and Body Mind Centering), the course highlights how embodied awareness affects artistic process and choice making, as well as enhancing physical capacities, kinesthetic intelligence, and the refinement of performance and technical skills. Emphasizes developing a holistic perception of ourselves, our relation to one another, and to the environment. Integrated lecture/lab. Prerequisite(s): degree- or nondegree-seeking graduate. | N | LEL | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 537 | African and Diaspora Movement Practices | Investigates and integrates historical and cultural contexts for West, Central, and South African and Post-African (diasporic) movement practices. Engages movement and physical articulation as tools to examine specific dance cultural knowledge and demonstrate/embody techniques representing that cultural knowledge. | N | LEL | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance MFA student |
| DCE | 538 | Dance Theatre | Performance in specially choreographed dance productions. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre-requisite: MFA Dance student |
| DCE | 540 | Issues in Media for Dance | Introduces desktop multimedia as it relates to dance creation, production, education, and research. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: MFA Dance student |
| DCE | 543 | Sound Design for Dance | Audio mixing for analog/digital recording and editing. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisite: Dance majors |
| DCE | 554 | Teaching Praxis I: Postsecondary Teaching Philosophies, Foundations and Practices | Addresses the theoretical basis and practical application of principles for teaching dance disciplines in a postsecondary setting. Includes discussion, co-teaching and individual teaching projects and sessions, practical application of course readings, and guest speakers. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance MFA student |
| DCE | 560 | Graduate Creative Practices I | Covers the philosophy and the breadth of process-oriented possibilities for art-making and provides opportunities to deepen and define personal artistic practices. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance MFA student |
| DCE | 561 | Graduate Creative Practices II | Continues as a laboratory for practice-led research offering further exposure to a range of practices in dance making and artistic inquiry, including sound design. Supports students' thinking about their evolving art making methodologies and contextualization of their artistic practice in the current field. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance graduate student; DCE 560 |
| DCE | 563 | Rhythmic Awareness | This course focuses on the kinesthetic aspects of weight, space, and time. It is opportunity for individual exploration as well as an ensemble experience, a chance to come together as a group through the communicative nature of sound, movement, and visual patterns. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance MFA student |
| DCE | 570 | Graduate First-Year Seminar I | Part of a four-semester sequence that offers a cohort experience to increase awareness of current global dance practices, present opportunities for dialoguing about topics significant to fulfilling degree requirements and that promote success in the dance program as well as to facilitate transition into the professional world. Seminar. | N | SEM | N | YGB | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Dance MFA student |

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| DCE | 571 | Graduate First-Yr Seminar II | Part of a four-semester sequence that offers a cohort experience to increase awareness of current global dance practices; present opportunities for dialoguing about topics significant to fulfilling degree requirements and that promote success in the dance program as well as to facilitate transition into the professional world. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Dance MFA student |
| DCE | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LAB | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 582 | The Alexander Technique | Mixed-level class open to students from across HIDA, covers the basic principles of the Alexander Technique (AT). The AT is a gentle reeducational process that promotes increased awareness and ease in movement. With a fundamental understanding and application of the AT principles, explores students' individual artistic practices and everyday patterns of movement through experiential research and application | N | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Herberger graduate student; Credit is allowed for only DCE 482 or DCE 394 (Alexander Technique:Application&Movement Research) or DCE 582 or DCE 598 (AlexanderTechnique:Applic&Mvmnt.Rsrch for Grad St) |
| DCE | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 634 | Postmodern Contemporary | Preparation in the performance and comprehension of professional-level modern dance for second-year graduate students. 6 hours weekly. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Dance Graduate student |
| DCE | 654 | Teaching Praxis II: Theories, Contexts, Populations, Psychomotor Development and Curriculum Design | Applies current learning theories and psychomotor development approaches to teaching practices and curriculum design for a variety of contexts and populations ranging from early childhood to late adulthood and community to institutional settings. Students develop and implement pedagogical praxis frameworks that stem from their developing teaching perspectives, values and objectives. Course experiences are designed to help students effectually integrate pedagogical theory and practice toward successful and meaningful ends. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): DCE 554; Credit is allowed for only DCE 654 or DCE 598 (Apprenticeship) |
| DCE | 656 | Teaching Praxis III: Secondary Practices and Teacher Preparation Course Development/Implementation | Prepares students to teach in secondary dance education settings; to develop and teach higher education dance pedagogy, curriculum development, and teacher prep courses that meet professional teaching standards, state and national learning standards and requirements and institutional benchmarks. Participants develop specific teaching strategies and frameworks, as well as gain practical experience, within the settings of secondary dance education and university teacher preparation courses. Utilizes Laban Movement Analysis and other social somatic frameworks as inroads into teaching, curricular design and student assessment. Students help instruct and mentor undergraduate dance majors in a secondary dance teaching methods course. Illuminates current sociocultural and educational issues that influence teaching and learning in secondary dance classrooms, and addresses strategies and requirements for pre-service teacher preparation courses. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 4 | | Prerequisite(s): DCE 554; Credit is allowed for only DCE 656 or DCE 680 (Secondary Teaching Praxis and Teacher Training Frameworks) |
| DCE | 657 | Pedagogical Research and Fieldwork | Provides a theoretical and practical foundation for students to engage in pedagogical research and fieldwork. Places primary emphasis on investigating and applying qualitative methods to processes of pedagogical inquiry and research. Students are mentored through processes of gathering information, focusing, designing, implementing and assessing an educational research project through fieldwork in a context of their choosing. The outcomes of students' fieldwork projects are documented and articulated in the forms of a scholarly research paper and live research presentation. | N | RSC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): DCE 554 |

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| DCE | 660 | Graduate Creative Practices III | Artistic research through the practices of choreographic choice making, exploration, and experimentation of integrated environments and interdisciplinary collaboration. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: MFA Dance student |
| DCE | 661 | Graduate Creative Practices IV | Culmination of a four-semester Creative Practices sequence, focusing on articulating individual creative practices and identifying the needs of each student relative to their Applied Projects. Students are also responsible for understanding the content and requirements for the selected modules of this course. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: MFA Dance student |
| DCE | 670 | Graduate Second-Year Seminar I | Part of a four semester sequence that offers a cohort experience to increase awareness of current global dance practices, presents opportunities for dialoguing about topics significant to fulfilling degree requirements and promotes success in the dance program as well as to facilitate transition into the professional world. Reflection is a key component of the School of Dance curriculum; develops ability and skills in analysis, but more importantly builds awareness of intuitive and habitual patterns of response to new stimuli. The Seminar is a key moment each week to develop a community of inquiry amongst peers. | N | SEM | N | YGB | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Dance MFA student |
| DCE | 671 | Graduate Second-Year Seminar II | The Second-Year Graduate Seminar is part of a four semester sequence that offers a cohort experience to increase awareness of current global dance practices, present opportunities for dialoguing about topics significant to fulfilling degree requirements and that promote success in the dance program as well as to facilitate transition into the professional world. | N | SEM | N | YGB | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Dance MFA student |
| DCE | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 683 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCI | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| DCI | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| DCI | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post Baccalaureate Undergraduate student |
| DCI | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post Baccalaureate Undergraduate student |
| DCI | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): COE 501 or DCI 510 with B or better |
| DCI | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post Baccalaureate Undergraduate student |
| DCI | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post Baccalaureate Undergraduate student |
| DCI | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| DCI | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post Baccalaureate Undergraduate student |
| DCI | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| DCI | 701 | Transdisciplinary Seminar I | Covers the "grand challenges" in education and other fields, and the centrality of interdisciplinary approaches in addressing these challenges. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR undergraduate postbaccalaureate student; Credit is allowed for only DCI 701 or DCI 791 (Transdisciplinary Seminar) |
| DCI | 702 | Transdisciplinary Seminar II | Guides PhD students to study, understand and solve multiple aspects of the problem area in a transdisciplinary fashion, approaching the problem from multiple theoretical perspectives, methodological practices and disciplines. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR undergraduate postbaccalaureate student; Credit is allowed for only DCI 702 or DCI 791 (Transdisciplinary Seminar II) |
| DCI | 706 | Academic Writing | Covers the practices of writing for academic purposes, specifically with an aim toward writing for publication. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR undergraduate postbaccalaureate student; Credit is allowed for only DCI 706 or DCI 791 (Academic Writing) |
| DCI | 707 | Scholarly Practices Seminar: Proposal Writing | Covers proposal writing for students seeking funding to support scholarly initiatives across research designs and methods. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): COE 503; Credit is allowed for only DCI 707 or DCI 791 (Proposal Writing - Seminar) or DCI 791 (SchlrlyPractices Smnr: Proposal Writing) |
| DCI | 752 | Quantitative Research Design | Focuses on the purpose, design and conduct of quantitative research that advances the field of education. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): COE 502; Credit is allowed for only DCI 752 or EPA 691 (Introduction to Quantitative Research Design) |
| DCI | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCI | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post Baccalaureate Undergraduate student |
| DCI | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post Baccalaureate Undergraduate student |
| DCI | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR undergraduate postbaccalaureate student |
| DCI | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post Baccalaureate Undergraduate student |
| DCI | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post Baccalaureate Undergraduate student |
| DCI | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post Baccalaureate Undergraduate student |
| DNP | 601 | Theoretical Foundations for Advance Practice Nursing | Examines philosophical foundations of advanced nursing practice by analyzing interrelationships among theory, philosophy, practice, and research. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Doctor of Nursing Practice or Nurse Practitioner graduate certificate student |
| DNP | 602 | Evaluating Research for Practice | Provides opportunities for graduate students to develop the knowledge and skills to critically analyze scientific literature and research for application to practice. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Edson College graduate student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| DNP | 603 | Health Equity and Social Justice | Focuses on the application of theories related to social justice and knowledge of social determinants of health to the role of the graduate prepared nurse for the purpose of advocating for health equity and creating innovative methods of addressing social injustices to improve health outcomes. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): admission to graduate Nursing program |
| DNP | 604 | Advanced Human Pathophysiology Across Lifespan | Core course focuses on human pathophysiology and concepts of genetics for advance practice nursing. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): Adv Nursing Practice DNP or Acute Care Ped NP cert, Adult Geron NP cert, Fam NP cert, Fam Psych Mntl Hlth NP cert, Ped NP cert, or Women's Hlth NP cert, or Nursing MS or Nursing (Entry to Nursing Practice) MS or Nursing (Nursing Ed) MS |
| DNP | 605 | Advanced Health Assessment Across Lifespan | Advanced health assessment skills, including history-taking strategies and physical, functional, developmental, and psychosocial assessment. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Doctor of Nursing Practice or Nurse Practitioner graduate certificate student |
| DNP | 606 | Principles of Pediatric Acute Care I | Provides the theoretical basis for the assessment and management of infants, children, adolescents and young adults with select complex acute, critical and chronic health conditions in tertiary, emergency and specialty inpatient/outpatient health care settings. Emphasizes recognition of the dynamic and fluctuating health status of emergent pediatric health conditions by body system. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): graduate student enrolled in Advanced Nursing Practice (Acute Care Pediatric Nurse Practitioner) DNP program or Advanced Nursing Practice (Acute Care Pediatric Nurse Practitioner) certificate; Corequisite(s): DNP 607 |
| DNP | 607 | Advanced Pediatric Acute Care Practicum I | This clinical course focuses on the assessment, diagnosis and management of infants, children, adolescents and young adults with select complex acute, critical and chronic health conditions in tertiary, emergency and specialty inpatient/outpatient health care settings. | N | PRA | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-7 | | Prerequisite(s): graduate student enrolled in Advanced Nursing Practice (Acute Care Pediatric Nurse Practitioner) DNP program or Advanced Nursing Practice (Acute Care Pediatric Nurse Practitioner) certificate; Corequisite(s): DNP 606 |
| DNP | 608 | Advanced Pharmacotherapeutics Across Lifespan | For advanced practice nurses, expands theoretical and evidence-based knowledge and promotes synthesis of pharmacotherapeutic concepts and principles across the lifespan. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice DNP or Acute Care Ped NP cert, Adult Geron NP cert, Family NP cert, Fam Psych Mntl Hlth NP cert, or Women's Hlth NP cert, or Nursing MS or Nursing (Entry to Nursing Pract) MS or Nursing (Nursing Ed) MS student |
| DNP | 609 | Advanced Practice Nursing Role | Focuses on the examination and implementation of the advanced practice nursing (APN) role. Presents historical and contemporary social and political influences on the development and implementation of the APN role and the circumstances prompting the movement of education for advanced practice to the doctoral level. Emphasizes the analysis of the role the APN and the Doctor of Nursing Practice prepared provider within the greater health care system. Explores issues and challenges related to advanced practice. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Prerequisite(s): Doctor of Nursing Practice student |
| DNP | 610 | Principles of Advanced Emergency Nursing I | Students acquire knowledge that is relevant to the management of common medical emergencies and management of patients with unexpected illness in pre-hospital, urgent care, and emergency department settings. This knowledge is applied in the required clinical course. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Emergency Nurse Practitioner certificate student; Corequisite(s): DNP 611 |
| DNP | 611 | ENP Practicum I: Advanced Emergency Nursing Practice | Demonstrates management strategies and applies selected practice models for the delivery of high-quality care to patients with unexpected illness in pre-hospital, urgent care, and emergency department settings. Focuses on the delivery of health care services to patients across the lifespan in pre-hospital, urgent care, and emergency department settings. | N | PRA | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Prerequisite(s): Emergency Nurse Practitioner certificate student; Corequisite(s): DNP 610 |
| DNP | 612 | Pediatric Palliative and End-of-Life Care: Research, Theory and Clinical Implications | Examines research, theory and principles for end of life and palliative care in infants, children, adolescents and young adults (birth to age 21 years). | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DNP | 613 | Women's Health Promotion I | Didactic course focuses on theories of health behavior, health promotion, disease prevention and patient education. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Women's Health Nurse Practitioner) DNP or Women's Health Nurse Practitioner certificate student; Corequisite(s): DNP 614 |
| DNP | 614 | Women's Health Practicum I | Clinical assessment and education of women across the lifespan for the purposes of health promotion and disease prevention. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Prerequisite(s): Advanced Nursing Practice (Women's Health Nurse Practitioner) DNP or Women's Health Nurse Practitioner certificate student; Corequisite(s): DNP 613 |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| DNP | 615 | Management of Common Problems in Women's Health | Focuses on management of nursing care for high-risk perinatal women and women with common health problems. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Women's Health Nurse Practitioner) DNP or Women's Health Nurse Practitioner certificate student; Corequisite(s): DNP 616 |
| DNP | 616 | Advanced Women's Health Practicum II | Clinical application of theories, concepts, and principles in area of concentration. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Prerequisite(s): Advanced Nursing Practice (Women's Health Nurse Practitioner) DNP or Women's Health Nurse Practitioner certificate student; Corequisite(s): DNP 615 |
| DNP | 617 | Management of Complex and Chronic Disease in Women | Didactic course focused on using current evidence-based research as the context for the assessment and management of complex and chronic reproductive and gynecologic health status across the lifespan and patient education. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Women's Health Nurse Practitioner) DNP or Women's Health Nurse Practitioner certificate student; Corequisite(s): DNP 618 |
| DNP | 618 | Advanced Women's Health Practicum III | Clinical course focused on using current evidence-based research as the context for the assessment and management of complex and chronic reproductive and gynecologic health states across the lifespan and patient education. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Prerequisite(s): Advanced Nursing Practice (Women's Health Nurse Practitioner) DNP or Women's Health Nurse Practitioner certificate student; Corequisite(s): DNP 617 |
| DNP | 619 | Principles of Pediatric Acute Care II | Continues to provide the theoretical basis for the assessment and management of infants, children, adolescents and young adults with select complex acute, critical and chronic health conditions in tertiary, emergency and specialty inpatient/outpatient health care settings. Emphasizes recognition of the dynamic and fluctuating health status of emergent pediatric health conditions by body system. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Acute Care Pediatric Nurse Practitioner) DNP or Acute Care Pediatric Nurse Practitioner certificate student; Corequisite(s): DNP 620 |
| DNP | 620 | Advanced Pediatric Acute Care Practicum II | This clinical course focuses on the assessment, diagnosis and management of infants, children, adolescents and young adults with select complex acute, critical and chronic health conditions in tertiary, emergency and specialty inpatient/outpatient health care settings. | N | PRA | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-7 | | Prerequisite(s): Advanced Nursing Practice (Acute Care Pediatric Nurse Practitioner) DNP or Acute Care Pediatric Nurse Practitioner certificate student; Corequisite(s): DNP 619 |
| DNP | 621 | Health Assessment Skills | Skill-based course focuses on advanced clinical skills including suturing, splinting, x-ray, ECG and advanced lab interpretation. | N | LEL | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Prerequisite(s): DNP 605 |
| DNP | 623 | Adult-Gerontology Health Promotion | Introduces adult-gerontology health promotion and disease prevention emphasizing principles of evidence-based practice in clinical and community settings. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Adult-Gerontology Nurse Practitioner) DNP or Adult Gerontology Nurse Practitioner certificate student; Corequisite(s): DNP 624 |
| DNP | 624 | Adult-Gerontology Health Promotion Practicum | Clinical practicum designed to apply principles of evidence-based practice in health promotion and disease prevention in clinical and community settings. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Prerequisite(s): Advanced Nursing Practice (Adult-Gerontology Nurse Practitioner) DNP or Adult Gerontology Nurse Practitioner certificate student; Corequisite(s): DNP 623 |
| DNP | 625 | Management of Common Health Problems in Adult-Gerontology: Theory | Focuses on the theory, research and application of evidence-based practice in the care of adolescents, adults and older adults with common health alterations. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Adult-Gerontology Nurse Practitioner) DNP or Adult Gerontology Nurse Practitioner certificate student; Corequisite(s): DNP 626 |
| DNP | 626 | Management of Common Health Problems in Adult-Gerontology: Practicum | Clinical practicum applies principles of evidence-based practice in primary care management of adolescents, adults and older adults with common health alterations. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Prerequisite(s): Advanced Nursing Practice (Adult-Gerontology Nurse Practitioner) DNP or Adult Gerontology Nurse Practitioner certificate student; Corequisite(s): DNP 625 |
| DNP | 627 | Management of Complex Health Problems in Adult-Gerontology: Theory | Focuses on theory, research and application of evidence-based practice in care of adolescents, adults and older adults with complex health alterations. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Adult-Gerontology Nurse Practitioner) DNP or Adult Gerontology Nurse Practitioner certificate student; Corequisite(s): DNP 628 |
| DNP | 628 | Management of Complex Health Problems in Adult-Gerontology: Practicum | Clinical practicum applies principles of evidence-based practice in primary care management of adolescents, adults and older adults with complex health alterations. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Prerequisite(s): Advanced Nursing Practice (Adult-Gerontology Nurse Practitioner) DNP or Adult Gerontology Nurse Practitioner certificate student; Corequisite(s): DNP 627 |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| DNP | 630 | Principles of Advanced Emergency Nursing II | Students acquire advanced knowledge that is relevant to common medical and traumatic emergencies. Focuses on preparing the student to implement the role of the advanced practice emergency nurse. This knowledge is applied in the required clinical course. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Emergency Nurse Practitioner certificate student; Corequisite(s): DNP 631 |
| DNP | 631 | ENP Practicum II: Advanced Emergency Nursing Practice | Demonstrate advanced management strategies and applies advanced practice models for the delivery of high-quality care to patients with unexpected illness in pre-hospital, urgent care, and emergency department settings. Focuses on the delivery of health care services to patients across the lifespan in pre-hospital, urgent care, and emergency department settings. | N | PRA | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Prerequisite(s): DNP 610; Corequisite(s): DNP 630 |
| DNP | 633 | Family Health Promotion | Focuses on concepts and strategies to promote, manage, and maintain health of children, adults, and families. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Family Nurse Practitioner) DNP or Family Nurse Practitioner certificate student; Corequisite(s): DNP 634 |
| DNP | 634 | Family Health Promotion Practicum | Clinical application of theories, concepts, and principles in the care of children, | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Prerequisite(s): Advanced Nursing Practice (Family Nurse Practitioner) DNP or Family Nurse Practitioner certificate student; Corequisite(s): DNP 633 |
| DNP | 635 | Management of Common Health Problems in Children, Adults and Families | Didactic course that integrates research into clinical decision making as the context for the assessment and management of acute and common health problems in family practice across the life span. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Family Nurse Practitioner) DNP or Family Nurse Practitioner certificate student; Corequisite(s): DNP 636 |
| DNP | 636 | Management of Common Health Problems in Children, Adults, and Families Practicum | Clinical application of theories, concepts, and research related to the management of acute and common problems in family practice across the lifespan. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Prerequisite(s): Advanced Nursing Practice (Family Nurse Practitioner) DNP or Family Nurse Practitioner certificate student; Corequisite(s): DNP 635 |
| DNP | 637 | Management of Complex and Chronic Health Problems in Children, Adults and Families | Didactic course that integrates research into clinical decision making as the context for the assessment and management of complex and chronic problems in family practice across the lifespan. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Family Nurse Practitioner) DNP or Family Nurse Practitioner certificate student; Corequisite(s): DNP 638 |
| DNP | 638 | Management of Complex and Chronic Health Problems in Children, Adults, and Families Practicum | Clinical application of theories, concepts, and research related to the management of complex and chronic problems in family practice across the life span for Family Nurse Practitioner role specialty. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Prerequisite(s): Advanced Nursing Practice (Family Nurse Practitioner) DNP or Family Nurse Practitioner certificate student; Corequisite(s): DNP 637 |
| DNP | 640 | Advanced Human Pathophysiology Pediatrics | Didactic course for pediatric nurse practitioner students focuses on applying concepts of human pathophysiology and genetics in pediatric patients. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Pre-requisite: DNP Advanced Nursing Practice (Pediatric Nurse Practitioner) |
| DNP | 641 | Advanced Health Assessment Pediatrics | Skills-based advanced health assessment course that includes history-taking strategies and physical, functional, developmental, psychosocial health assessment of children (birth-21). | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (AcuteCare or Pediatric Nurse Practitioner) DNP student or Acute Care Pediatric Nurse Practitioner or Pediatric Nurse Practitioner certificate |
| DNP | 642 | Applied Pharmacotherapeutics for Pediatrics | Applies evidence-based pharmacotherapeutic principles to disease treatment and health promotion and maintenance for pediatric patients. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): DNP Advanced Nursing Practice (AcuteCare or Pediatric Nurse Practitioner) student or Acute Care Ped Nurs Prac or Pediatric Nurse Practitioner certificate |
| DNP | 643 | Developmentally Based Care of the Well Child | Offers information for theory-based developmental care of well children. Includes anticipatory guidance for parents and/or children/teens. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): DNP Advanced Nursing Practice (AcuteCare or Pediatric Nurse Practitioner) student or Acute Care Ped Nurs Prac or Pediatric Nurse Practitioner certificate; Corequisite(s): DNP 644 |
| DNP | 644 | Well Child Advanced Practicum | Clinical application of theories, concepts and principles as they relate to the developmentally based care of the well child. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Prerequisite(s): DNP Advanced Nursing Practice (AcuteCare or Pediatric Nurse Practitioner) student or Acute Care Pediatric Nurse Practitioner or Pediatric Nurse Practitioner graduate certificate student; Corequisite(s): DNP 643 |
| DNP | 645 | Management of Common Problems in Pediatric Primary Care | Provides health promotion and disease prevention strategies for the advanced nursing care of all children and families. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Pediatric Nurse Practitioner) DNP or Pediatric Nurse Practitioner certificate student; Corequisite(s): DNP 646 |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| DNP | 646 | Management of Common Problems in Pediatric Primary Care Practicum | Facilitates development of advanced clinical skills in the assessment and management of child health, health surveillance and promotion. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Prerequisite(s): Advanced Nursing Practice (Pediatric Nurse Practitioner) DNP or Pediatric Nurse Practitioner certificate student; Corequisite(s): DNP 645 |
| DNP | 647 | Management of Complex and Chronic Health Problems in Pediatric Primary Care | Third pediatric didactic course focuses on assessment and management of childhood complex and chronic health problems and special health conditions. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Pediatric Nurse Practitioner) DNP or Pediatric Nurse Practitioner certificate student; Corequisite(s): DNP 648 |
| DNP | 648 | Management of Complex & Chronic Problems Pediatric Primary Care Practicum | Clinical course assists students in developing advanced clinical skills in decision making with chronically ill or special needs pediatric patients. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Prerequisite(s): Advanced Nursing Practice (Pediatric Nurse Practitioner) DNP or Pediatric Nurse Practitioner graduate certificate student; Corequisite(s): DNP 647 |
| DNP | 649 | Advanced Physiology | Focuses on integrating the structure and function, including the molecular and cellular levels, that are vital to the overall functioning of the human across the lifespan. It is highly encouraged that students taking this course have a basic understanding of physiological principles to be able to learn advanced concepts covered in this course. It serves as an important fundamental foundation required for advanced practice providers and helps support students in their progression into advanced pathophysiology and clinical specialty course work. Examines the complex interactions of multiple body systems in helping to maintain homeostasis and proper body functioning to promote a foundation for health. Uses clinical scenarios to promote innovative ways to integrate the complex physiological concepts. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Acute Care Pediatric Nurse Practitioner) DNP student or Acute Care Pediatric Nurse Practitioner certificate student or Emergency Nurse Practitioner certificate student |
| DNP | 650 | Advanced Human Pathophysiology Neonates | Didactic course for neonatal nurse practitioner students focuses on applying concepts of human pathophysiology and genetics in neonatal patients. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Pre-requisites: DNP Advanced Nursing Practice (Neonatal Nurse Practitioner) |
| DNP | 651 | Advanced Health Assessment of Neonates | Skill-based course focuses on advanced health assessment skills, including history-taking strategies and the physical, functional, genetic, developmental, and psychosocial/cultural health assessment of neonates. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Neonatal Nurse Practitioner) DNP |
| DNP | 652 | Applied Pharmacotherapeutics for Neonates | Focuses on the application of knowledge of pharmacological principles in the treatment of diseases and promotion of health for neonates and their families. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre-requisite: DNP Advanced Nursing Practice (Neonatal Nurse Practitioner) |
| DNP | 653 | Advanced Development and Family Health Promotion: Neonatal Theory I | Concepts, theories, interventions, and research related to the promotion, management, and maintenance of physical, behavioral, and developmental needs of at-risk newborns and infants and their families. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre-requisite: DNP Advanced Nursing Practice (Neonatal Nurse Practitioner); Co-requisite: DNP 654 |
| DNP | 654 | Neonatal Practicum I | Clinical application of theories, concepts, and principles in area of concentration. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Pre-requisite: DNP Advanced Nursing Practice (Neonatal Nurse Practitioner); Co-requisite: DNP 653 |
| DNP | 655 | Management of Common Neonatal Problems | Proactive neonatal theory course focusing on the concepts, theories, and research related to acute and chronic health deviations of neonates and infants. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre-requisite: DNP Advanced Nursing Practice (Neonatal Nurse Practitioner) Co-requisite: DNP 656 |
| DNP | 656 | Neonatal Practicum II | Clinical application of theories, concepts, and principles in area of concentration. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Pre-requisite: DNP Advanced Nursing Practice (Neonatal Nurse Practitioner); Co-requisite: DNP 655 |
| DNP | 657 | Management of Complex Problems in Neonates | Examines the application of knowledge of complex, multi-system alterations in neonatal health from a theoretical and research perspective in preparation for clinical practice. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre-requisite: DNP Advanced Nursing Practice (Neonatal Nurse Practitioner) |
| DNP | 658 | Neonatal Practicum III: Management of Complex Problems in Neonates | Develops and applies advanced neonatal assessment, clinical decision making, and management skills to complex health alterations in at-risk neonates to include cultural, ethical, legal, and advocacy issues. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Pre-requisite: DNP Advanced Nursing Practice (Neonatal Nurse Practitioner); Co-requisite: DNP 657 |
| DNP | 659 | Embryology and Genetics | Provides an understanding of embryology, genetics and physiology concepts. Covers application of normal/abnormal human physical development, human reproduction, teratology and developmental genetics to clinical practice in preconception/prenatal and pediatric genetics. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): College of Health Solutions or Edson College of Nursing and Health Innovation graduate student; Credit is allowed for only DNP 659 or GCO 659 |
| DNP | 660 | Advanced Neuropsychopathology Lifespan | Manifestations of altered neurophysiology and psychopathology over the lifespan. Uses evidence-based support for theoretical views of psychiatric disorders to analyze the relationships of neuropsychopathology. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): Advanced Nursing Practice (Family Psychiatric and Mental Health Nurse Practitioner) DNP or Family Psychiatric and Mental Health Nurse Practitioner certificate student |

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| DNP | 661 | Ethics and Advanced Nursing Practice | Focuses on the ethical implications in the role of the advanced practice nurse and provides information on ethics and how professional and personal values relate to advanced nursing practice. This course meets the Essentials of Doctoral Education as defined by the American Association of Colleges of Nursing (AACN). | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Doctor of Nursing Practice graduate student |
| DNP | 671 | Advanced Mental Health Assessment Across the Lifespan | Focuses on comprehensive mental health assessment of psychiatric disorders occurring in children, adolescents, and families. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): Advanced Nursing Practice (Family Psychiatric and Mental Health Nurse Practitioner) DNP or Family Psychiatric and Mental Health Nurse Practitioner certificate student |
| DNP | 672 | Psychopharmacology Across the Lifespan | Focuses on evidence-based use of medications for mental health disorders across the lifespan. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Family Psychiatric and Mental Health Nurse Practitioner) DNP or Family Psychiatric and Mental Health Nurse Practitioner certificate student |
| DNP | 673 | Mental Health Promotion Across the Lifespan | Focuses on evidence-based interventions to promote mental health across the lifespan. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Family Psychiatric and Mental Health Nurse Practitioner) DNP or Family Psychiatric and Mental Health Nurse Practitioner certificate student; Corequisite(s): DNP 674 |
| DNP | 674 | Mental Health Promotion Across the Lifespan Practicum | Clinical experiences to become skilled in assessment and evidence-based individual intervention of mental health disorders across the lifespan. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Prerequisite(s): Advanced Nursing Practice (Family Psychiatric and Mental Health Nurse Practitioner) DNP or Family Psychiatric and Mental Health Nurse Practitioner certificate student; Corequisite(s): DNP 673 |
| DNP | 675 | Management of Common Mental Health Disorders Across the Lifespan | Emphasizes the assessment and evidence-based management of common mental health disorders across the lifespan. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Family Psychiatric and Mental Health Nurse Practitioner) DNP or Family Psychiatric and Mental Health Nurse Practitioner certificate student; Corequisite(s): DNP 676 |
| DNP | 676 | Management of Common Mental Health Disorders Across the Lifespan Practicum | Clinical experiences necessary to become skilled in the assessment and evidence-based management of the most common mental health disorders across the lifespan. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Prerequisite(s): Advanced Nursing Practice (Family Psychiatric and Mental Health Nurse Practitioner) DNP or Family Psychiatric and Mental Health Nurse Practitioner certificate student; Corequisite(s): DNP 675 |
| DNP | 677 | Management of Complex & Chronic Mental Health Disorders Across the Lifespan | Focuses on modalities of evidence-based treatment with children, adolescents, adults, and families with complex and/or chronic psychopathology. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Family Psychiatric and Mental Health Nurse Practitioner) DNP or Family Psychiatric and Mental Health Nurse Practitioner certificate student; Corequisite(s): DNP 678 |
| DNP | 678 | Management of Complex & Chronic MH Disorders Across the Lifespan Practicum | Clinical experiences in the assessment and evidence-based management of the most complex and chronic mental health disorders across the lifespan. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Prerequisite(s): Advanced Nursing Practice (Family Psychiatric and Mental Health Nurse Practitioner) DNP or Family Psychiatric and Mental Health Nurse Practitioner certificate student; Corequisite(s): DNP 677 |
| DNP | 679 | Biostatistics: Principles of Statistical Inference | Examines principles of statistical inference and their application to the analysis and interpretation of epidemiological, psychosocial, medical, nursing, and healthcare data. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Nursing graduate student |
| DNP | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DNP | 682 | Geriatric Health Promotion | Examines theoretical perspectives in aging and cultural and contextual approaches for health promotion in older adults. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DNP | 688 | Management of Complex Diseases and Syndromes in Geriatric Population | Focuses on diagnosis and management of complex diseases and syndromes in the geriatric population. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only DNP 688 or NUR 688 |
| DNP | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | N | IND | N | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | |
| DNP | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| DNP | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DNP | 703 | Innovation in Communication-Scholarly and Professional Writing | Provides a review of principles of scholarly and professional writing, plagiarism and APA. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): Nursing graduate student |
| DNP | 704 | Principles of Evidence-Based Care in Advanced Practice | Foundational course focuses on the evidence-based process and understanding of evidence-based practice principles assist advanced practice nurses and other healthcare professionals in clinical decision making in order to provide best care. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Pre-requisite: Doctor of Nursing Practice student |
| DNP | 705 | Health Care Outcomes Management | Outcomes management methodology supports implementation of evidence-based practice and measurement of both patient and health care system outcomes attributed to adoption of best practices. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Doctor of Nursing Practice student; DNP 704 |
| DNP | 707 | Disseminating Evidence to Advance Best Practice in Health Care and Health Policy | Focuses on methods for dissemination of evidence to advance best practice within local, regional, and/or national settings, as well as advancement of EBP in health policy and the media. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): DNP 705 |
| DNP | 708 | Systems Thinking in a Complex Health Care Environment | Studies basic and advanced systems principles as they relate innovation to the United States health care system. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Doctor of Nursing Practice student |
| DNP | 709 | Individual and Innovation Leadership in Healthcare Practice | Introduces the role of the innovator, including the essential behaviors of risk taking, managing workload, and addressing the challenges of innovation. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre-requisite: Doctor of Nursing Practice student |
| DNP | 710 | Clinical Perspectives on Biomedical Device Design | Examines clinical perspectives on principles of biomedical device design, including interprofessional engagement with engineering and regulatory professionals. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Doctor of Nursing Practice student |
| DNP | 711 | Healthcare Policy and Innovation | Introduces the political, organizational, and economic dimensions of healthcare policy with emphasis on strategies for innovative policy and practice. | N | SEM | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre-requisite: Doctor of Nursing Practice student |
| DNP | 712 | Clinical Residency and Management | Demonstrates DNP competencies through portfolio documentation of clinical learning experiences and implementation of the DNP Evidence-Based Clinical Applied Project. Doctoral students submit the DNP Portfolio in partial fulfillment of the degree. | N | PRA | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Pre-requisites: Doctor of Nursing Practice student |
| DNP | 713 | Analysis of Organizational Cultures in Health Care | Analyzes culture, organizational implications and relationships to change and innovation in health care. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Doctor of Nursing Practice (AcuteCare or Adult-Gerontology or Advanced NP or Family NP or Family Psychiatric Mental Health or Innovation Leadership or Pediatric NP or Women's Health NP) student |
| DNP | 714 | Professional Relationships in Healthcare | Analyzes professional relationships within healthcare organizations and evidence-based strategies to improve communication, coordination, and collaboration. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Adult-Gerontology NP, Family Psychiatric Mental Health NP, Family NP, Innovation Leadership, Pediatric NP, or Women's Health NP) DNP student |
| DNP | 715 | Dynamics and Principles of Information in Health Care | Analyzes and applies multiple sources of information for health care leaders across the continuum of evidence including research, evidence-based practice, translational research, improvement science and quality improvement. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice DNP student |
| DNP | 716 | Leadership of Innovation in Health Care | Analyzes leadership theories in the creation of complex health care system innovation. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3-4 | | Prerequisite(s): Advanced Nursing Practice DNP student or Advanced Nursing Practice (Innovation Leadership) DNP student |
| DSC | 100 | ASU Design Experience | Covers ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | REC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): BS, BSD or BSLA Design School major. Credit is allowed for only DSC 100 or 194 (ASU Design Experience) OR Visiting University Student |
| DSC | 101 | Design Awareness | Surveys cultural, global, and historical context for the design professions. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU & G | |
| DSC | 102 | Introduction to Design | Introduces design, with an emphasis on understanding the process and principles by which design shapes our world. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | |

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| DSC | 236 | Introduction to Computer Modeling | Computers in design, including software concepts, specific packages, and problem solving, illustration, typography, modeling and animation. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | CS | Prerequisite(s): Industrial Design BSD major; DSC 101 with C or better; IND 120 with C or better; IND 121 with C or better; IND 122 with C or better; minimum 3.00 GPA OR Visiting University Student |
| DSC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| DSC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| DSC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | |
| DSC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| DSC | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-3 | | |
| DSC | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Pre-requisite: Master of Science in Design or PhD in Environmental Design & Planning student |
| DSC | 501 | Qualitative Research in Design | Theory and application of qualitative research. Emphasizes using ethnography to identify and specify innovative concepts and strategies. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Master of Industrial Design or Master of Science in Design major |
| DSC | 520 | Contemporary Design Issues | Issues influencing contemporary design such as sustainability, globalization, education, gender, collaboration and emotion. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DSC | 530 | Basic Modeling Techniques | Demonstrates how to create efficient repeatable and safe operations utilizing power tools. Instruction on basic principles of woodworking, material selection, re-saw, dimensioning, tool selection. Emphasizes cut lists, planning parts, basic tool knowledge, measuring and marking, and joinery. | N | LAB | N | GNA | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): Design School graduate student; Credit is allowed for only DSC 530 or DSC 494 (Basic Model Making Techniques) or DSC 598 (Basic Model Making Techniques) |
| DSC | 531 | Basic Mold Making and Casting | Explores basic knowledge on mold making and cold casting. Emphasizes material selection, planning, form-making and project planning. Requires students to execute two molds using appropriate techniques and methods. | N | LAB | N | GNA | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): Design School graduate student; Credit is only allowed for DSC 531 or DSC 598 (Cold Casting and Mold Making) |
| DSC | 540 | Biomimicry in Design | Explores and applies the biomimicry thinking framework in the field of design in order to arrive at sustainable design solutions that create conditions conducive to all life. Through hands-on activities, games, workshops, lectures, field trips, outdoor adventures, discussions, assignments and readings, introduces students to the biomimicry thinking methodology that helps find sustainable solutions to current problems found at various scales within any design disciplines. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only DSC 494 (Biomimicry in Design) or DSC 540 or DSC 598 (Biomimicry in Design) |
| DSC | 550 | Prototyping Futures | In this project-based course, students work in interdisciplinary teams to explore and envision the future of communities, industries, technologies and other elements of our society. In this process, students develop their understanding of the application of extended reality technologies, practices and methodologies for design, and tools for applying research to constructing prototypical scenarios for the future, in addition to gaining experience in effective collaboration. This course is about critical, methodological and narrative skills--the ability to move fluidly through domains, create low-fidelity prototypes, and devise creative solutions to complex problems by envisioning new realities. The development of deep technical skills in a chosen field follows in each program. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AME 550 or DSC 550 or HSD 550 |
| DSC | 551 | Immersive Experience Design I | Focuses on the practices of design for immersive experiences using different media including but not limited to extended reality technologies. Students work on interdisciplinary projects using and developing their skills on composition/aesthetics of environmental design; programmatic/spatial requirements in both real and virtual universes; modeling/simulation of spaces/objects in 3D animated environments, motion graphics, 3D printing/rapid prototyping, storytelling and world building. Develops abilities to manage projects, work effectively in teams and transform research into creative/technological products. | N | LAB | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only DSC 551 or GIT 551 |

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| DSC | 555 | Strategic Design Futures | Designers are increasingly addressing more strategic and long-term situations, while non-designers are increasingly interested in using design approaches to address diverse challenges. Strategic design is a practice that focuses on formulating strategies (problem setting) rather than only implementing strategies (problem solving). Strategic design is closely related to contemporary and emergent design practices such as user experience design, design thinking, service design, speculative design, behavioral design, and co-design, which are increasingly explored, adopted and adapted in projects and organizations. Students understand and practice a variety of strategic design methods and mindsets with the aim of changing and envisioning futures. With hands-on activities and real-world context, students use and develop core strategic design skills such as visualization, sensemaking, synthesis, speculation and facilitation. Some design tools that may be used include storyboards, user flows, journey mapping, participatory ideation, visioning, service blueprints, prototyping-testing. Includes seminar discussions and hands-on activities with a "live project." | N | PRO | N | Z1 | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only DSC 555 or DSC 598 (Strategic Design Futures) or HSD 555 |
| DSC | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Pre-requisite: Master of Science in Design student |
| DSC | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Pre-requisite: Design (Graphic Design) MSD, Design (Indus Design) MSD or Design (Inter Design) MSD student |
| DSC | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Pre-requisite: Design (Graphic Design) MSD, Design (Indus Design) MSD, or Design (Inter Design) MSD student |
| DSC | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | |
| DSC | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Pre-requisite: Design (Graphic Design) MSD, Design (Indus Design) MSD, or Design (Inter Design) MSD student |
| DSC | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Pre-requisite: Design (Graphic Design) MSD, Design (Indus Design) MSD, or Design (Inter Design) MSD student |
| DSC | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DSC | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): Master of Industrial Design, Master of Interior Architecture, Master of Science in Design, or Master of Visual Communication Design major |
| DSC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DSC | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Pre-requisite: Design (Graphic Design) MSD, Design (Indus Design) MSD, or Design (Inter Design) MSD student |
| DSE | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DSE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DSE | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| DSE | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | IND | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DSE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DSE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DSE | 799 | Dissertation | Supervised research focused on preparation of a dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DST | 101 | Introduction to Disability Studies | Provides an introduction to key concepts, methods, questions and themes in the field of disability studies, including an overview of the focused, unequal treatment experienced by people with disabilities. There are economic, political, social and cultural factors that should be considered by a society which normally addresses disabled bodies through medical frameworks. Debates ethical questions concerning genetic testing, selective abortion and disability therapies. Discusses how social inequalities of class, race, nationality, sexuality and gender relate to the experiences of the disabled. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | C | |
| DST | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-3 | | |
| DST | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| DST | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| DST | 322 | Social and Cultural Implications of the Many Forms of Disability | There are many types of disability, and oppression results from the socially constructed definition of disability. Provides a careful review of the many forms of disability, considering functional restrictions created within society and the impact of cultural limitations. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| DST | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| DST | 458 | Disability and Communication Advocacy | Disability advocacy historically and in the contemporary context. Historical and legal approaches to disability advocacy helps frame students' interrogation of contemporary disability advocacy issues and movements. Addresses disability advocacy issues including questions about the meaning of disability, the ends and forms of advocacy, and the politics of dis/ability. Emphasizes the communication practices that have constructed and debated the meanings, ethics and ends of disability advocacy. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| DST | 469 | Science and Literature | Historical and theoretical links between science and literature, from Francis Bacon to the present, examined in cultural context. May be repeated for credit when topics vary. | N | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours; Credit is allowed for only DST 469 or ENG 469 OR Visiting University Student |
| DST | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | |
| DST | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| DST | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| DST | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |

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| DST | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-3 | | |
| ECD | 211 | The Developing Child: Theory into Practice, Prenatal-Grade 3 | Examines process of physical, social, emotional, cognitive, language, and literacy development of young children; includes observation, practical application, fieldwork. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | SB | |
| ECD | 220 | Introduction to Nutrition, Health and Safety | Emphasizes providing proper nutrition, promoting a safe but challenging learning environment, and becoming knowledgeable of a child's health status. Also covers practical applications for assisting young children to develop good habits and attitudes and to assume lifelong responsibility for their own well-being. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2 | | |
| ECD | 302 | Foundations of Early Childhood Education | Foundational basis of the early childhood field, including historical roots, current practices, ethics, models of teaching, and application in early childhood settings. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| ECD | 310 | Applied Early Child Development | Conveys knowledge of how development is both unique and interconnected. Takes a highly applied approach to build participants' knowledge, recognition and use of evidence-based practices within preschool classrooms that support children's development, both within and across domains. In order to successfully complete assignments in this course, students need access (through volunteering or a work setting) to children ages birth through five at least 15 hours/month. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ECD | 312 | Social/Emotional Foundations of Learning | Foundations of early social development and evidence-based practices for promoting social-emotional development; young children's understanding, interactions, and relationships to the social world. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| ECD | 313 | Technology in Early Childhood Education | Evaluates technology and technological learning tools for early childhood classrooms; integrates technology and its tools into students' learning. Lecture, discussion, active participation. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| ECD | 315 | Classroom Organization and Guidance of Young Children | Theories and strategies to guide children's development toward becoming self governing; typical and atypical behaviors; implementing age-appropriate classroom management techniques that foster individual, social, and academic competence. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| ECD | 316 | Teacher Research: Studying Children in Context | Introduces designing, conducting, interpreting, and reporting teacher research; methods of research and fieldwork with children to improve teaching practices and child outcomes. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| ECD | 321 | Foundations in Language, Literacy and Culture in Early Childhood | Covers oral language and literacy development during the preschool years, with attention to supporting young children's developing cultural identity and awareness. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | L | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; ENG 101, 105, or 107 with C or better; minimum 30 hours |
| ECD | 322 | Cognition and General Knowledge: Science, Math, Logic and Reasoning | Increases students' knowledge of and ability to implement high-quality strategies that support the development of children's mathematical, scientific and logical reasoning in developmentally appropriate ways. In order to successfully complete assignments in this course, students need access (through volunteering or a work setting) to children ages birth through five at least 15 hours/month. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ECD | 323 | Building Home, School, and Community Partnerships | Knowledge and skills to facilitate positive and continuous family-school partnerships; family background, social context, family involvement, and current research on family-school interaction and academic success. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | SB | Prerequisite(s): admission to the Professional Program |
| ECD | 324 | Social Studies and Creative Arts Curriculum, Instruction and Assessment | Social studies and creative arts standards, curriculum, and instructional and assessment strategies in an integrated social studies and creative expression curriculum for children birth through grade 3. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| ECD | 325 | Supporting Dual Language Learners | Increases students' knowledge of the language development of Dual Language Learners (DLLs), the role of home language in assessment and instruction, as well as knowledge and application of instructional practices to support DLLs' oral language and emergent literacy practices. Students design and implement activities for working with young children who are DLLs and their families. In order to successfully complete assignments in this course, students need access (through volunteering or a work setting) to children ages birth through five at least 15 hours/month. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): ECS 321 |
| ECD | 327 | Becoming a Teacher Leader | Explores the perspective that effective early childhood professionals are self-aware, culturally competent leaders who practice ongoing reflection and growth. In order to successfully complete assignments in this course, students need access (through volunteering or a work setting) to children ages birth through five at least 15 hours/month. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |

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| ECD | 341 | Administration/Evaluation of EC Programs | Administration and evaluation of early childhood programs. Emphasizes planning and evaluation; regulations; health, nutrition, and safety; operations, budgeting, and supervision of personnel. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| ECD | 396 | Student Teaching: Early Childhood (Ages Birth-5) | Student teaching in early childhood education classrooms ages birth to 5: synthesized experience in curriculum, instruction, assessment and classroom management. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | Prerequisite(s): admission to the Professional Program |
| ECD | 406 | Assessment: Birth-Grade 3 | Examines assessments appropriate to birth - grade 3 instruction to align curriculum with learner needs. Focuses on test design, interpretation, lesson design, and aspects related to multiple classroom and formal assessments. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| ECD | 416 | Social and Educational Policies Affecting Children and Families | Social policies at the national and state levels; values and assumptions of policies; political factors shaping policy and implementation; links between policy, educational practice, schools, and family functioning. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| ECD | 417 | Arts Integration for Young Children | Provides a foundation for understanding young children's creativity and research-based perspectives for incorporating arts-based components such as drama, movement, dance, music, play and visual arts in education for young children. Further provides developmentally appropriate instructional methods and strategies to promote interdisciplinary learning with creative arts curriculum and inquiry learning, as well as instructional and assessment strategies for preprimary and primary-level children. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum junior standing OR Visiting University Student |
| ECD | 418 | Instructional Methods for Young Children: Integrating Digital Media | Develops integrated experiences with children's literature for facilitating development in reading, writing, speaking, and listening. Further develops educational strategies for promoting growth in the social studies and creative arts curriculum, and instructional/assessment strategies for preprimary- and primary-level children; developmentally appropriate methods and strategies for effective instruction. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| ECD | 476 | Intentional Teaching | Guides teachers in becoming intentional practitioners through observation, assessment, purposeful planning and reflective practice to adapt a variety of supports for children in order to maximize student potential and outcomes. Focuses in particular on teaching and learning within the domains of creative arts and social studies. In order to successfully complete assignments, students need access (through volunteering or a work setting) to children ages birth through five at least 15 hours/month (4-6 hours/week). | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ECD | 477 | Student Teaching: Birth to Pre-K | Supervised practicum in a birth to pre-K program. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 4-6 | | Prerequisite(s): admission to the Professional Program |
| ECD | 478 | Student Teaching: Early Childhood (Grades K-3) | Student teaching in early childhood education classrooms grades K-3: synthesized experience in curriculum, instruction, assessment and classroom management. | Y | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3-9 | | Prerequisite(s): admission to the Professional Program |
| ECD | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-12 | | Prerequisite(s): admission to the Professional Program |
| ECD | 503 | Introduction to Research and Evaluation in Education | Overview of educational inquiry from controlled, quantitative to qualitative, naturalistic. Emphasizes locating and critically interpreting published research. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only COE 501 or ECD 503 or PPE 501 or SPE 501 or TEL 501 |
| ECD | 504 | Learning and Instruction | Introduces psychology of learning and instruction. Includes the foundations of learning theories and their application to educational practice. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ECD 504 or TEL 504 |
| ECD | 505 | Foundations of Early Childhood Education | Foundational basis of the early childhood field, including historical roots, current practices, ethics, models of teaching, and application in early childhood settings. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Pre-requisite: Graduate student |
| ECD | 520 | Child Guidance and Management: Child, Family, Community, and Culture | Introductory exploration of a variety of techniques for developing a positive classroom environment. Includes overview of several classroom and school management programs and possible effects of implementation. Focuses on observations made during the students' classroom and field experiences. Provides the catalyst for introducing students to the program's professional portfolio requirement. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Pre-requisite: Graduate student |
| ECD | 525 | Foundations of Early Childhood Literacy: The Science of Reading | The first of two required literacy courses, examines current and classic research on oral language and early literacy development and effective strategies for teaching language and literacy from birth through grade 3. Focuses on the foundations of literacy development, including the unique learning needs of all students, with an emphasis on systematic phonics and examining the sequence of learning to read with an emphasis on the science of reading methods. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| ECD | 526 | Early Childhood Literacy Methods and Assessments | This second of two required literacy courses focuses on applying scientifically based teaching methods for delivering differentiated literacy instruction, assessment and intervention. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECD | 527 | Mathematics in Early Childhood Education | Explores methods of teaching and assessing mathematical skills and reasoning in children ages birth through third grade along with the broader impact of math literacy in young children. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECD | 541 | Assessment of Young Children | Assessment principles, techniques, and issues related to guiding learning for children birth through eight years. Test construction, interpretation and communication. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECD | 549 | Foundations of Diversity, Human Development, and the Young Child | Psychology of learning and instruction, including the foundations of learning theories and their application to educational practice with an emphasis on diversity, multidirectional human change and cultural embeddedness. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECD | 565 | Appropriate Instructional Methodologies for Young Children | Surveys appropriate teaching methodologies for young children across the curriculum. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Pre-requisite: Graduate student |
| ECD | 567 | Clinical Experience: Early Childhood Internship (Ages Birth-5) | Applies course content in early childhood education preschool classrooms birth to age five: emphasizes observation, classroom management, planning and delivery of instruction and assessment. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECD | 576 | Clinical Experience: Early Childhood Internship (Grades K-3) | Applies course content in early childhood education classrooms grades K-3; emphasizes observation, classroom management, planning and delivery of instruction, and assessment. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECD | 577 | Practicum: Early Childhood (Ages Birth-5) | Student teaching in early childhood education classrooms ages birth to 5: synthesized experience in curriculum, instruction, assessment and classroom management. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECD | 578 | Student Teaching: Early Childhood (Grades K-3) | Student teaching in early childhood education classrooms grades K-3: synthesized experience in curriculum, instruction, assessment and classroom management. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECD | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| ECD | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| ECD | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| ECN | 211 | Macroeconomic Principles | Introductory course in macroeconomics. Topics include the measurement and modeling of output, national income, inflation and unemployment; the determinants of cross-country differences in income; the functions of money and the banking system; the causes of and policy responses to recessions; the effect of monetary and fiscal policy on interest rates and national income. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB | Prerequisite(s): MAT 117, 119, 142, 170, 171, 210, 251, 265, or 270 with C or better OR Visiting University Student |
| ECN | 212 | Microeconomic Principles | Introductory course in microeconomics. Topics include marginal analysis; international trade; supply and demand analysis; market efficiency; basic welfare analysis of market interactions and government intervention; the theory of firm production and costs; profit maximization in different market structures; consumer choice. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB | Prerequisite(s): MAT 117, 119, 142, 170, 171, 210, 251, 265, or 270 with C or better OR Visiting University Student |
| ECN | 213 | Honors Macroeconomics | Introduces modern macroeconomic analysis. Theory of national income, unemployment, inflation, and economic growth and its application to economic policy. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB | Prerequisite(s): Barrett Honors student; MAT 210, 211, 270, or 271 with C or better; Credit is allowed for only ECN 213 or ECN 313 |
| ECN | 214 | Honors Microeconomics | Introduces modern microeconomic analysis. Theories of consumer behavior, production and cost. Output and price determination in a variety of market settings. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB | Prerequisite(s): Barrett Honors student; Pre- or corequisite(s): MAT 211 or 271 with C or better if completed; Credit is allowed for only ECN 214 or ECN 312 |
| ECN | 221 | Business Statistics | Introduces methods of statistical description, inference, probability, sampling, hypothesis testing and regression analysis with focus on business application. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | CS | Prerequisite(s): MAT 210, 251, 265, or 270 with C or better OR MAT 117 or 170 with C or better; minimum 25 hours; Credit is allowed for only ECN 221 or ECN 231 OR Visiting University Student |
| ECN | 231 | Honors Business Statistics | Methods of statistical description, inference, probability, sampling, hypothesis testing and regression analysis with focus on business application. Introduces statistical analysis software. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | CS | Prerequisite(s): Barrett Honors student; MAT 210, 251, 265, or 270 with C or better; Credit is allowed for only ECN 221 or ECN 231 |

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| ECN | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | W. P. Carey School of Business | Department of Economics | 1-4 | | Prerequisite(s): Barrett Honors student; Pre- or corequisite(s): MAT 210, 211, 270, 271, or 272 with C or better if completed |
| ECN | 304 | Classical to Modern Economic Thought | Provides an introduction to the schools of thought concerned with explaining and influencing economic activity. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 211 or 213 with C or better; ECN 212 or 214 with C or better; MAT 211 or 271 with C or better; Credit is allowed for only CEL 304 or ECN 304 or CEL/ECN 394 (Classical to Modern Economic Thought) OR Visiting University Student |
| ECN | 306 | Survey of International Economics | Surveys international trade issues, commercial policy, trade theory, customs unions, and international monetary topics. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB & G | Prerequisite(s): ECN 211 or 213 with C or better; ECN 212 or 214 with C or better; MAT 210, 251, 265, or 270 with C or better OR Visiting University Student |
| ECN | 312 | Intermediate Microeconomic Theory | Expands on models covered in principles. Models consumer and producer choice, market structure and welfare. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB | Prerequisite(s): ECN 211 or 213 with C or better; ECN 212 with C or better; MAT 211, 266, or 271 with C or better; Credit is allowed for only ECN 214 or ECN 312 OR Visiting University Student |
| ECN | 313 | Intermediate Macroeconomic Theory | Expands on topics covered in principles. Emphasizes models of growth, employment, economic fluctuations, monetary and fiscal policy. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB | Prerequisite(s): ECN 214 or 312 with C or better; Credit is allowed for only ECN 213 or ECN 313 OR Visiting University Student |
| ECN | 315 | Money & Banking | Functions of money. Monetary systems, credit functions, banking practices, and central banking policy. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 211 or 213, ECN 212 or 214, and MAT 211 or 271 with C or better OR Visiting University Student |
| ECN | 331 | Economics of the European Economic Union | Examines broad economic policies seeking to influence individuals' decisions, the history of European economic development and policies, as well as institutions and social systems. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB & G | Prerequisite(s): ECN 211 or 213 with C or better; ECN 212 or 214 with C or better; MAT 211, 266, or 271 with C or better OR Visiting University Student |
| ECN | 335 | South Asia and the World Economy | Develops and discusses alternative theories of trade, development, and growth in the context of south Asia and the world economy. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB & G | Prerequisite(s): ECN 211 or 213 with C or better; ECN 212 or 214 with C or better; MAT 211, 266, or 271 with C or better |
| ECN | 342 | Sports Economics | Applies microeconomic concepts of competitive and imperfectly competitive markets, collective bargaining, antitrust issues and public finance to the sports industry. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 211 or 213 with C or better; ECN 212 or 214 with C or better; MAT 211 or 271 with C or better; Credit is allowed for only ECN 342 or ECN 394 (Economics of Sport) OR Visiting University Student |
| ECN | 345 | Survey of Energy and Environmental Economic Issues | Economic principles and empirical methods applied to current private and public policy decisions concerning energy and environmental issues. Topics include gas prices, climate change, electric cars and renewable energy. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 211 or 213 with C or better; ECN 212 or 214 with C or better; MAT 211, 266, or 271 with C or better OR Visiting University Student |
| ECN | 355 | Economics of Healthcare | Uses economic tools and models to discuss and evaluate the American healthcare system. Applies standard concepts in microeconomics, macroeconomics, and public choice economics to the study of the evolution and the current state of the healthcare system and to the study of proposals for change. Focuses on the promise and problems of using economic tools in a historical, ethical, and cultural context to understand the current healthcare system. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 211 or 213 with C or better; ECN 212 or 214 with C or better; MAT 211 or 271 with C or better OR Visiting University Student |
| ECN | 360 | Economic Development | Theories of economic growth and development. Role of capital formation, technological innovation, population and resource development in economic growth. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB & G | Prerequisite(s): ECN 211 or 213 with C or better; ECN 212 or 214 with C or better; MAT 211, 266, or 271 with C or better OR Visiting University Student |
| ECN | 365 | Economics of Russia and Eastern Europe | Origins and analysis of contemporary institutions. Comparative development and differentiation in the 20th century. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB & G | Prerequisite(s): ECN 211 or 213 with C or better; ECN 212 or 214 with C or better; MAT 211 or 271 with C or better |
| ECN | 382 | Managerial Economics | Applies economic analysis to managerial decision making. Market analysis in the context of the socio-legal environment. Does not satisfy Economics major requirements. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Pre-requisites: Not open to Economics or Business majors. Minimum 2.0 ASU cumulative GPA and minimum of 56 total earned hours OR Non-degree student with minimum 2.0 ASU cum GPA OR Graduate student. |

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| ECN | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | W. P. Carey School of Business | Department of Economics | 1-4 | | Prerequisite(s): ECN 211 or 213 with C or better; ECN 212 or 214 with C or better; MAT 211 or 271 with C or better |
| ECN | 404 | History of Economic Thought | Development of economic doctrines, theories of mercantilism, physiocracy, classicism, neoclassicism, Marxism, and contemporary economics. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB | Prerequisite(s): ECN 214 or 312 with C or better; Pre- or corequisite(s): ECN 213 or 313 |
| ECN | 410 | Applied Regression Analysis and Forecasting | Applies regression techniques to forecasting in business and institutional environments. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 221, ECN 231, IEE 380, STP 226, or STP 420 with C or better; ECN 214 or 312 with C or better OR Visiting University Student |
| ECN | 411 | Current Analysis of the U.S. Economy | Studies the major data releases used by economists to track the U.S. economy. Emphasizes how these data are used and their connection to macroeconomic theory. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 214 or 312 with C or better; Pre- or corequisite(s): ECN 213 or 313; Credit is allowed for only ECN 411 or ECN 494 (Contemporary Topics in Macroeconomics) |
| ECN | 413 | Advanced Honors Macroeconomics | Develops and uses various macroeconomic models to evaluate important economic policies. Emphasizes honing students' policy evaluation skills. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): Barrett Honors student; ECN 213 or 313 with C or better; ECN 214 or 312 with C or better |
| ECN | 414 | Advanced Honors Microeconomics | Develops and uses various microeconomic models to evaluate important economic issues. Emphasizes the economics of uncertainty and information. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): Barrett Honors student; ECN 214 or 312 with C or better; Pre- or corequisite(s): ECN 213 or 313 with C or better if completed |
| ECN | 416 | Game Theory and Economic Behavior | Introduces game theory and its application to various economic situations under conditions of complete and incomplete information. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 214 or 312 with C or better; Pre- or corequisite(s): ECN 213 or 313 OR Visiting University Student |
| ECN | 421 | Labor Economics | Labor supply and demand, unemployment, determinants of wages, earnings inequality, labor unions and the structure of labor contracts. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB | Prerequisite(s): ECN 214 or 312 with C or better; Pre- or corequisite(s): ECN 213 or 313 with C or better if completed OR Visiting University Student |
| ECN | 423 | Economics of Education | Focuses on educational decisions, including individual choices, institutional strategies and government policies. Topics include measuring the costs and returns of education, the relationship between education and inequality, and the role of K-12 and postsecondary institutions in economic growth. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 214 or 312 with C or better; Pre- or corequisite(s): ECN 213 or 313; Credit is allowed for only ECN 423 or 494 (Economics of Education) |
| ECN | 425 | Introduction to Econometrics | Elements of regression analysis: estimation, hypothesis tests, prediction. Emphasizes use of econometric results in assessment of economic theories. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): DAT 401, ECN 221, ECN 231, IEE 380, STP 226, or STP 420 with C or better; ECN 214 or 312 with C or better OR Visiting University Student |
| ECN | 436 | International Trade Theory | Comparative-advantage doctrine, including practices under varying commercial policy approaches. Economic impact of international disequilibrium. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB & G | Prerequisite(s): ECN 214 or 312 with C or better; Pre- or corequisite(s): ECN 213 or 313 OR Visiting University Student |
| ECN | 438 | International Monetary Economics | History, theory, and policy of international monetary economics. Balance of payments and exchange rates. International financial markets, including Eurocurrency markets. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB & G | Prerequisite(s): ECN 214 or 312 with C or better; Pre- or corequisite(s): ECN 213 or 313 OR Visiting University Student |
| ECN | 441 | Public Economics | Public goods, externalities, voting models, public expenditures, taxation, and budget formation with emphasis on the federal government. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB | Prerequisite(s): ECN 214 or 312 with C or better; Pre- or corequisite(s): ECN 213 or 313 OR Visiting University Student |
| ECN | 445 | Environmental Economics | Advanced topics in environmental economics with quantitative methods for developing information that is used for environmental policy making. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 214 or 312 with C or better; Pre- or corequisite(s): ECN 213 or 313 OR Visiting University Student |
| ECN | 453 | Industrial Organization and Competition Policy | Development of public policies toward business. Antitrust activity. Economic effects of government policies. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 214 or 312 with C or better OR Visiting University Student |
| ECN | 455 | Health Economics | Focuses on health care decisions, including individual and government policies. Topics include demand for and supply of health care, payment for health care, the impact of health care reform and the techniques economists use to evaluate health care interventions. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 214 or 312 with C or better; Pre- or corequisite(s): ECN 213 or 313 OR Visiting University Student |
| ECN | 470 | Mathematical Economics | Integrates economic analysis and mathematical methods into a comprehensive body of knowledge within contemporary economic theory. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 214 or 312 with C or better |

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| ECN | 475 | Capstone in Economics | Capstone course integrating several fields of economics. Draws topics from multiple research areas of wide interest such as growth and development, environmental, health, industrial organization, international, labor and public economics. Focuses on discussion, evaluation and presentation of economic concepts in written and verbal form. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | L | Prerequisite(s): ECN 213 or 313 with C or better; ECN 214 or 312 with C or better; ENG 102, 105, or 108 with C or better; minimum senior standing |
| ECN | 479 | Experiments in Economics | Experiments on risk and time preferences, trust, collective action, social preferences and norms, gender, information, discrimination and market behavior. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 214 or 312 with C or better; ECN 425 with C or better; Credit is allowed for only ECN 479 or ECN 494 (Experiments in Economics) |
| ECN | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | W. P. Carey School of Business | Department of Economics | 1-12 | | Prerequisite(s): minimum 3.0 GPA; ECN 213 or 313 with C or better; ECN 214 or 312 with C or better |
| ECN | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | W. P. Carey School of Business | Department of Economics | 1-6 | | Prerequisite(s): Barrett Honors student; ECN 213 or 313 with C or better; ECN 214 or 312 with C or better |
| ECN | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | W. P. Carey School of Business | Department of Economics | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better; ECN 213 or 313 with C or better; ECN 214 or 312 with C or better |
| ECN | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | W. P. Carey School of Business | Department of Economics | 1-4 | | Prerequisite(s): ECN 214 or 312 with C or better; Pre- or corequisite(s): ECN 213 or 313 OR Visiting University Student |
| ECN | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | W. P. Carey School of Business | Department of Economics | 1-3 | | |
| ECN | 502 | Managerial Economics | Applies microeconomic analysis to managerial decision making in areas of demand, production, cost, and pricing. Evaluates competitive strategies. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 2-4 | | Prerequisite(s): W. P. Carey MBA student; Credit is allowed for only ECN 502 or FIN 535 |
| ECN | 503 | Global Business Environment | Macroeconomic analysis of issues related to economic growth, inflation, interest rates behavior, unemployment, exchange rate determination, and global competitiveness. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 1-4 | | Prerequisite(s): W. P. Carey MBA student |
| ECN | 504 | Fundamentals of Managerial Economics | Applies microeconomic analysis to managerial decision making in areas of demand, production, cost and pricing. Evaluates competitive strategies. Designed for students with limited business experience and without an undergraduate business degree. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): degree-seeking graduate student |
| ECN | 510 | Microeconomic Theory and Applications | Applies economic theory to production, consumer demand, exchange, and pricing in a market economy. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 2-4 | | Pre-requisites: W.P. Carey degree seeking graduate student |
| ECN | 525 | Applied Regression Models | Simple linear regression, multiple regression, indicator variables, and logistic regression. Emphasizes business and economic applications. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECN | 527 | Categorical Data Analysis | Discrete data analysis in business research. Multidimensional contingency tables and other discrete models. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Pre-requisites: ECN 525 |
| ECN | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Economics | 1-12 | | Pre-requisites: W.P. Carey degree seeking graduate student |
| ECN | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Economics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECN | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | W. P. Carey School of Business | Department of Economics | 1-12 | | Pre-requisites: W.P. Carey degree seeking graduate student |
| ECN | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | W. P. Carey School of Business | Department of Economics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECN | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Economics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECN | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | Z2 | W. P. Carey School of Business | Department of Economics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECN | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | W. P. Carey School of Business | Department of Economics | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|-------------------------------------|--|-------------------|-------------------|-----------------|---------------|--------------------------------|-------------------------|-------|-----------------|---|
| ECN | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | W. P. Carey School of Business | Department of Economics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECN | 711 | Macroeconomic Analysis I | Current theories of output, employment, inflation, and asset prices as well as major aggregates. Introduces dynamic optimization techniques. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Pre-requisites: W.P. Carey degree seeking graduate student |
| ECN | 712 | Microeconomic Analysis I | Theory of production, consumer demand, resource use, and pricing in a market economy. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Pre-requisites: W.P. Carey degree seeking graduate student |
| ECN | 713 | Macroeconomic Analysis II | Focuses on growth theory, dynamic general equilibrium models, monetary theory, open-economy issues. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Pre-requisites: W.P. Carey degree seeking graduate student |
| ECN | 714 | Microeconomic Analysis II | General equilibrium, welfare economics, production, and capital theory. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Pre-requisites: W.P. Carey degree seeking graduate student |
| ECN | 715 | Advanced Macroeconomic Analysis | Focuses on current research areas in macroeconomics and monetary theory with emphasis on methods in economic dynamics and numerical techniques. | N | LEC | Y | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): W.P. Carey degree seeking graduate student; ECN 711 with C or better; ECN 713 with C+ or better |
| ECN | 716 | Advanced Economic Theory I | Economic behavior under uncertainty; markets and contracts under asymmetric information; the theory of games with incomplete information and applications. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): W.P. Carey degree seeking graduate student; ECN 714 with C or better; ECN 712 with C+ or better |
| ECN | 717 | International Macroeconomics | Intertemporal approach to the current account, international business cycles, international risksharing and home bias, models of exchange rate determination, balance of payment crises, sovereign debt and default. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECN | 721 | Labor Economics I | Develops basic theoretical models for analyzing labor market issues. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): W.P. Carey degree seeking graduate student; ECN 713 with C or better; ECN 714 with C or better |
| ECN | 722 | Labor Economics II | Extensions/criticisms of labor market theories. Applications to a variety of policy issues. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): W.P. Carey degree seeking graduate student; ECN 721 with C or better |
| ECN | 725 | Econometrics I | Problems in the formulation of econometric models. Emphasizes estimation, hypothesis testing, and forecast of general linear models. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Pre-requisites: W.P. Carey degree seeking graduate student |
| ECN | 726 | Econometrics II | Estimation and inference of qualitative and limited dependent variable models as well as general multiple equation models. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): W.P. Carey degree seeking graduate student; ECN 725 with C+ or better |
| ECN | 727 | Quantitative Methods in Economics | Generalized method of moment estimation, estimation with censored and truncated samples, nonlinear models, panel-data models, econometrics of nonstationarities. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): W.P. Carey degree seeking graduate student; ECN 713 with C or better; ECN 714 with C or better |
| ECN | 736 | International Trade Theory | Theories of comparative advantage and their empirical verification. Theory and political economy of commercial policy. Resource transfers and the role of the multinational corporation. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): W.P. Carey degree seeking graduate student; ECN 713 with C or better; ECN 714 with C or better |
| ECN | 741 | Public Economics | Economics of collective action, public spending, taxation, and politics. Impact of central governmental activity on resource allocation and income distribution. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): W.P. Carey degree-seeking graduate students; ECN 712 with B or better; Corequisite(s): ECN 714 |
| ECN | 753 | Industrial Organization | Analyzes structure, conduct, and performance in industrial markets; the economics of organizations. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): W.P. Carey degree seeking graduate student; ECN 713 with C or better; ECN 714 with C or better |
| ECN | 760 | Economics of Growth and Development | Economic problems, issues, and policy decisions facing the developing nations of the world. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): W.P. Carey degree seeking graduate student; ECN 711 with C+ or better; ECN 712 with C+ or better; Corequisite(s): ECN 713; ECN 714 |
| ECN | 770 | Mathematics for Economists | Surveys mathematical ideas encountered in economics and econometrics. Topics include measure theory, probability theory, and mathematical statistics. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Pre-requisites: W.P. Carey degree seeking graduate student |
| ECN | 784 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Economics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECN | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Economics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECN | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | W. P. Carey School of Business | Department of Economics | 1-12 | | Prerequisite(s): W. P. Carey degree-seeking graduate student |
| ECN | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | W. P. Carey School of Business | Department of Economics | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|----------------------------------|---|-------|-----------------|---|
| ECN | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | W. P. Carey School of Business | Department of Economics | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECN | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | W. P. Carey School of Business | Department of Economics | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECS | 310 | Foundations in Typical / Atypical Child Development | Examines the process of typical and atypical physical, social, emotional, cognitive, and language development of young children with or at risk for delay. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student; minimum 39 hours |
| ECS | 312 | Social and Emotional Development of the Young Child | Examines genetic, environmental and biological influences on typical and atypical social and emotional developmental processes through current research, current issues, as well as connections to practice. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | SB | Prerequisite(s): MLFTC major, minor, concentration, or certificate student, or Interdisciplinary Studies BA major; minimum 39 hours |
| ECS | 315 | Classroom Organization and Child Guidance | Develops and implements analysis, intervention, and consultation strategies for effective management of classroom behavior for students with and without disabilities. Age-appropriate techniques addressing individual, social, and academic competence. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum junior standing OR Visiting University Student |
| ECS | 316 | Assessment/Evidence-based Practice | Examines assessments appropriate to birth - grade 3 instruction to align curriculum with learner needs. Focuses on test design, interpretation, lesson design, and aspects related to multiple classroom and formal assessments. Introduces designing, conducting, interpreting, and reporting teacher research; methods of research and fieldwork with children to improve teaching practices and child outcomes. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum junior standing OR Visiting University Student |
| ECS | 321 | Communication, Language Development, and Emergent Literacy | Language and literacy development; language acquisition; methods of facilitating oral language in relation to emergent reading and writing; methods of facilitating early literacy development; clinical observation. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum junior standing |
| ECS | 340 | Creative Curriculum for Children Birth to 8 | Provides an overview of research and curricular strategies for preschool classrooms, including best practices for classroom design, management, scheduling and lesson development. A comprehensive, research-based curriculum that features exploration and discovery as a way of learning. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum junior standing |
| ECS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| ECS | 397 | Student Teaching: Inclusive Early Childhood (Ages Birth-5) | Student teaching in early childhood education inclusive classrooms ages birth to 5: synthesized experience in curriculum, instruction, assessment and classroom management. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | Prerequisite(s): admission to the Professional Program |
| ECS | 411 | Instructional Methodologies for Young Children: STEM | Explores, applies and integrates STEM (Science, Technology, Engineering and Math) content, project-enhanced instructional strategies and assessments. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |
| ECS | 412 | Mathematics Curriculum, Instruction and Assessment | Focuses on math content, methods, skills, and attitudes to be considered in teaching young children. Examines the theoretical foundation for young children's inquiry and learning. Methods focus on practical application of theory in classroom practice. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |
| ECS | 413 | Literacy Curriculum, Instruction and Assessment | Extends ECD 321; language and literacy development in K-3 classrooms; language acquisition; methods of facilitating oral language in relation to emergent reading and writing; methods of facilitating early literacy development; clinical experience. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | L | Prerequisite(s): admission to the Professional Program; ENG 101, 105, or 107 with C or better |
| ECS | 420 | Evaluation and Intervention Strategies for Infants, Toddlers and Preschoolers with Disabilities | Students will learn to screen, assess and provide services to young children with special needs using norm-referenced, criterion-referenced, and formative assessments to determine special education eligibility, plan individualized family service programs, and monitor progress for eligible students. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum junior standing OR Visiting University Student |
| ECS | 427 | Highly Individualized Teaching and Learning | Covers evidence-based research and practices for fostering the social emotional, cognitive and motor development of young children with varying needs and abilities in inclusive settings. Students learn to individualize instructional strategies, design learning environments with appropriate accommodations and adaptations, and understand Individual Education Plans (IEPs) and/or Individual Family Service Plans (IFSPs). In order to successfully complete assignments in this course, students need access (through volunteering or a work setting) to children ages birth through five at least 15 hours/month. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|----------------------------------|---|-------|-----------------|--|
| ECS | 430 | Systems, Policy, and Advocacy in Early Childhood/Special Education | Social policies at the national and state levels; values and assumptions of policies; political factors shaping policy and implementation; links among policy, educational practice, schools, and family functioning that have a direct impact on both typical and special needs children in early childhood programs. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student, or Interdisciplinary Studies BA major; minimum 39 hours |
| ECS | 431 | Family, Community and Professional Support Systems | Covers methods and issues in cooperative teaching for special education students in general education classrooms, with an emphasis on collaborative communication skills for working with a variety of school professionals and families. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to Professional Teacher Preparation Program or enrolled in Educational Studies program or enrolled in Early Childhood minor |
| ECS | 478 | Student Teaching: Special Education (Grades K-3) | Student teaching in early childhood education inclusive classrooms grades K-3: synthesized experience in curriculum, instruction, assessment and classroom management. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-6 | | Prerequisite(s): admission to the Professional Program |
| EDA | 501 | Foundations of Educational Leadership | Nature of educational administration and the concept of competency as it applies to educational administration. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 505 | American Education System | Political, social, historical, and philosophical analyses of American education at all levels. Examines primary sources, legal findings, and case studies. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 511 | School Law | Interpreting state and federal law and policy in school settings. Includes statutory authority for administrators, liability, constitutional rights, law, and ethics. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 514 | Leadership in Curriculum and Assessment | Curriculum and assessment responsibilities of school administrators. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 526 | Instructional Supervision | Administering curriculum improvement, in-service education, evaluating, and improving teaching competence; administrative instructional responsibilities. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 548 | School, Family, and Community Connections | Administrative factors of primary importance in developing community involvement in public schools. Emphasizes theory and skill of school system and individual communication. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 572 | School Finance and Human Resources | Effective ethical models and strategies for organizing and administering the conduct of school site human resources administration and school financial affairs. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 578 | Critical Issues in Educational Leadership | Explores current critical issues in school leadership, including student support and relationships with governmental agencies and the community. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 611 | Educational Policy and the Law | Emphasizes policy analysis and application of federal and state law to policy evaluation and development in public schools. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|----------------------------------|---|-------|-----------------|---|
| EDA | 634 | Instructional Leadership | Theory, practice, and issues in school change and reform with a focus on leading change efforts at the school site. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 676 | The School Superintendency | Critical examination of the school superintendency and the primary functions of this educational position. Includes the duties, responsibilities, activities, and problems of the school superintendent. Examines the unique leadership role of the school superintendent. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 679 | Administration of Special Programs in Education | For personnel administering special education and federal programs; responsibilities of principals, supervisors, counselors, and directors for special education and federally funded programs. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 683 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 685 | Education in Global Contexts | Global perspectives on education in contemporary society with emphasis on social, political, and economic factors that affect access and equity. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3-6 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 701 | Quantitative Methods in Action Research | Quantitative methods of inquiry for action research: data collection, analysis, interpretation, complementarity analysis, evaluation and data-informed decision making. | N | LEL | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student; Credit is allowed for only EDA 701 or TEL 701 |
| EDA | 702 | Dynamic Contexts of Education | Explores current ethical issues influencing leadership decisions with a focus on real problems in the educational setting. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student; Credit is allowed for only EDA 702 or TEL 702 |
| EDA | 703 | Innovation in Teaching and Learning | Development and psychological processes of human cognition, motivation, and performance applied to cognitively diverse, English language learners, adult professional development. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student; Credit is allowed for only EDA 703 or TEL 703 |
| EDA | 704 | Leadership for Organizational Change | Develops understanding of dynamic and systemic nature of organizations, with emphasis on leadership for building organizational capacity and learning. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student; Credit is allowed for only EDA 704 or TEL 704 |
| EDA | 772 | School District Human Resources and Business Management | Effective ethical models and strategies for organizing and administering the conduct of school site human resources administration and business affairs. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 773 | The Superintendency and School District Leadership Roles and Responsibilities | Examines management roles and responsibilities of public school district superintendents and other leaders in identifying and addressing critical issues. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 783 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|----------------------------------|---|-------|-----------------|--|
| EDA | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDP | 310 | Educational Psychology for Non-Teachers | Human behavior in educational situations. Individual differences, factors affecting learning, behavioral and cognitive learning, motivation, testing, and assessment. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-6 | SB | |
| EDP | 311 | Educational Psychology for Future Teachers | Planning and conducting effective instruction based on learning theories and principles. | N | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-3 | SB | Prerequisite(s): Teachers College major, minor or certificate student OR Visiting University Student |
| EDP | 313 | Childhood and Adolescence | Principles underlying total development of pre- and early-adolescent children. Emphasizes physical, intellectual, social, and emotional development with practical implications for teachers. Meets ADE requirement for one course in early adolescent psychology for middle grade endorsement. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | SB | |
| EDP | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| EDP | 454 | Statistical Data Analysis in Education | Role of data analysis in research and decision making. Elements of exploratory data analysis, descriptive indexes, and statistical inference. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | CS | |
| EDP | 502 | Introduction to Data Analysis | Descriptive statistics, visual approaches, estimation, and inferential methods for univariate and bivariate educational research problems. Experience using statistical software. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate; Credit is allowed for only COE 502 or EDP 502 |
| EDP | 510 | Psychology in Education | Planning and conducting effective instruction based on learning theories and principles. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDP | 514 | Psychology of the Adolescent | Cognitive, physical, and social development of adolescents in contemporary society. Impact of family, school, and workplace on adolescent development. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 540 | Learning Theories and Instructional Strategies | Studies grounded instructional strategies rooted in established theories of learning to form the basis of building instruction. Explores how teaching, learning and performing can be designed via technological environments to support instruction. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate student; Credit is allowed for only EDP 540 or LSE 540 |
| EDP | 552 | Multiple Regression and Correlation Methods | Educational applications of regression techniques. Quantitative and qualitative predictors, curvilinear trends, and interactions. Emphasizes analyzing data and interpreting results. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 554 | Analysis-of-Variance Methods | Educational applications of ANOVA techniques. Between- and within-subjects designs, multiple comparisons. Emphasizes using statistical software and interpreting results. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|----------------------------------|---|-------|-----------------|--|
| EDP | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 597 | Applied Research and Reflection | The dual purpose of the project is to synthesize learning from multiple areas of scholarship on teaching and learning, and to reflect on the content and process of the master's degree program. Culminating product includes a reflective paper with a corresponding project, such as a literature review, curricular model, technology product, or other project as agreed upon by the student and the student's advisor. | N | SEM | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDP | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 651 | Methods and Practices of Qualitative Research | Advanced course for students familiar with theory and extant work. Topics include data collection, analysis, reporting, and an extensive fieldwork project. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): COE 503 with C or better |
| EDP | 652 | Multivariate Procedures for Data Analysis | Educational applications of multivariate methods, including MANOVA, discriminant analysis, and exploratory factor analysis. Emphasizes analyzing data and reporting results. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 654 | Structural Equation Modeling in Educational Research | Educational applications of confirmatory factor analysis, path analysis, and full latent variable models. Experience in conducting analyses and reporting results. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 683 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|--|
| EDP | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDS | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-3 | | Pre-requisites: Freshman standing, Maximum 25 hours |
| EDS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| EDS | 200 | Design Literacy and Communication | Builds the requisite skills for students to be able to express their ideas visually. Gives exercises to create an understanding of basic principles of design as well as design communication, principles of composition and aesthetic evaluation. Uses tools such as sketching, drawing, computer graphics and model making as a vehicle to develop an understanding of visual methods of expressing one's self. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Environmental Design or The Arts (Fashion Design) major |
| EDS | 201 | Fundamentals of Sustainability in Design | Explores sustainability as it relates to the key disciplines that comprise environmental design. Topics range from issues affecting the preservation of the urban fabric to the development of earth-friendly materials used by interior designers and product designers to the design of sustainable buildings by architects through the use of appropriate materials and requisite energy efficiencies. Surveys the literature of sustainability, identifying critical issues on the subject today. Explores the theoretical underpinnings of the sustainability movement as it affects environmental design and related disciplines. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| EDS | 223 | Design Thinking | Introduces the notion of design thinking, a concept that is gaining significant recognition in several disciplines including art, design, business, engineering and others. Design thinking can be described as a creative, multidisciplinary, human-centered approach to solving complex problems. Contemporary society faces numerous challenges, and the need for new tools and methods to tackle and solve these problems is more pressing than ever before. Offers several new techniques of design thinking and creative problem solving through engaging lectures and exciting projects. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| EDS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| EDS | 301 | Sustainable Community Design and Practices | Covers concepts and practices of a sustainable built environment of community scale. Exposes theories and methods, best practices to the design of built environments as a vehicle to develop students' understanding of different aspects of planning, designing, building, managing and promoting social and economic development of communities to meet sustainable development objectives. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | HU | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| EDS | 302 | Design Inquiry and Undergraduate Research | Theories and methods of design inquiry within a research environment. Prepares students for the senior-year synthesis courses. Students take on design-related research and develop and write a proposal for an integrative experience/project for an environmental design intervention and make an implementation plan to realize this intervention. | N | RSC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisite: EDS 301 |
| EDS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |

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| EDS | 401 | Environmental Design Synthesis I | First of a two-semester sequence of synthesis courses intended to be integrative, based on design research and inquiry. Serves as a culminating experience where, through the successful completion of an environmental design research project/application or experience, students demonstrate their understanding and synthesis of the knowledge and skills they have acquired in the program. Students identify a relevant research problem in environmental design and undertake the necessary literature search and reading regarding theories and methods related to the selected research question. Emphasizes the use of visual methods as a method of inquiry and research. | N | RSC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): GRA 440 with C or better OR Visiting University Student |
| EDS | 402 | Environmental Design Synthesis II | Second of a two-semester sequence of synthesis courses intended to be integrative, based on design research and inquiry. Serves as a culminating experience where, through the successful completion of an environmental design research project/application or experience, students demonstrate their understanding and synthesis of the knowledge and skills they have acquired in the program. Students implement the research study identified in the first semester of the two-semester sequence. Emphasizes the use of visual methods as a method of inquiry and research. | N | RSC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): EDS 401 |
| EDS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | |
| EDS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | | Prerequisite(s): Barrett Honors student |
| EDS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| EDS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| EDS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| EDS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-3 | | |
| EDT | 180 | Technology Literacy: Problem Solving using Digital Technology Applications | Introducing digital technologies and their place in society. Applies 21st-century skills to problem solving using digital technology applications including spreadsheets and databases. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | CS | Credit is allowed for only EDT 180 or EDT 321 OR Visiting University Student |
| EDT | 321 | Computer Literacy: Mobile Technologies and Your World | Uses mobile technologies across disciplines for communication, collaboration, creativity and problem solving. Employs digital tools including Microsoft Office's spreadsheets and databases, Google apps, mobile apps, and a variety of other Web-based tools in problem-based environments. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | CS | Pre-requisite: Minimum 45 hours; Credit is allowed for only EDT 180 or EDT 321 |
| EDT | 440 | Creating and Marketing Mobile Apps | Focuses on conceptualizing, creating and marketing of apps for mobile devices. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only EDT 440 or EDT 494 (Creating and Marketing Mobile Apps) or EDT 540 |
| EDT | 460 | Games, Technology and Society | Education, healthcare and social activism. Explores general theories about the relationship between technology and society using games as examples, as well as develops a better understanding of methods that take a systemic, contextualized approach to designing games for impact. Students play and analyze existing impact games as well as conduct a landscape analysis for an impact game on a topic of their own choosing. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Pre-requisite: Junior or Senior standing; Credit is allowed for only EDT 460 or 560 |
| EDT | 461 | Understanding Games for Impact | Explores the nature of learning in and around games designed for entertainment as well as games designed intentionally for impact. Students gain familiarity with current research on course topics; develop a language for reflection on the cognitive, sociocultural and educational merits and drawbacks of game-centered learning environments; and gain new insights into the ways in which digital playspaces and pastimes shape how people think and learn. Develops the ability to analyze learning in games and game-related social contexts, using different theoretical perspectives and tools. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum junior standing |

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| EDT | 463 | Games for Impact: The Full Life Cycle | Presents an impact game publishing methodology covering the full life cycle and key considerations for impact game design, development and publishing as well as the unique challenges in making games for impact. Applies methodology to examine an existing impact game currently in development. Students collaboratively workshop an original impact game concept and publishing plan that harnesses the power of games to address a key 21st-century challenge. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): junior or senior standing. Credit is allowed for only EDT 463 or EDT 563 |
| EDT | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| EDT | 524 | Principles and Issues in K-12 Online Learning | Examines current issues, policies, and trends pertaining to K-12 Web-based teaching and learning. Actively explores research related to online learning, with a focus on virtual schooling and emerging best practices for effective online instruction. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Pre-requisite: Practicing or licensed K-12 teacher |
| EDT | 530 | Technology Integration Methods across the Curriculum | Examines a constructivist approach to technology in education. Investigates technology as a catalyst for rethinking instructional goals and practices. | Y | LEL | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDT | 540 | Creating and Marketing Mobile Apps | Focuses on conceptualizing, creating and marketing of apps for mobile devices. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EDT 440 or EDT 494 (Creating and Marketing Mobile Apps) or EDT 540 |
| EDT | 545 | Using the Internet in Education | Explores the Internet as an educational tool for research, inquiry-based learning, and online learning communities. Incorporates constructivist theory. | N | LEL | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDT | 560 | Games, Technology and Society | The role and significance of digital games in society and the process of designing games for impact in areas such as education, healthcare and social activism. Explores general theories about the relationship between technology and society, using games as examples, as well as develops a better understanding of methods that take a systemic, contextualized approach to designing games for impact. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only EDT 460 or EDT 560 |
| EDT | 561 | Understanding Games for Impact | Explores the nature of learning in and around games designed for entertainment as well as games designed intentionally for impact. Students gain familiarity with current research on course topics; develop a language for reflection on the cognitive, sociocultural and educational merits and drawbacks of game-centered learning environments; and gain new insights into the ways in which digital playspaces and pastimes shape how people think and learn. Develops the ability to analyze learning in games and game-related social contexts, using different theoretical perspectives and tools. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only EDT 461 or EDT 561 |
| EDT | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): EDT 501, 502, and 503 with C or better |
| EDT | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: EDT 501, 502, and 503 with C or better |
| EDT | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDT | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDT | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | PRA | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisites: Accepted in either the MED in EDTCH, PHD in EDTECH, or the certificate in EDTECH programs |
| EDT | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | N | IND | N | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDT | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): EDT 502 with C or better |
| EDT | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): EDT 501, 502, and 503 with C or better |

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| EDT | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDT | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): EDT 701 with C or better |
| EDT | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDU | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | |
| EDU | 301 | Why Education? | Explores and understands diverse forms and roles of education across multiple settings and populations, and from those encounters, evaluates how those forms and embedded practices support different values that are commonly tied to education. This evaluation includes the analysis of fundamental questions about justice, equity, opportunity and fairness in education. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| EDU | 302 | Diversity in Learning Contexts | Examines the relationships among cultural values, social contexts and learners' experiences. Explores the role of prejudice, stereotypes, institutional racism and sexism, and cultural incompatibilities in learning environments. Students debate fundamental questions about justice, equity, opportunity and fairness in order to develop their personal values and beliefs about diversity in learning. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| EDU | 304 | The Bridge Between Coursework, Identity and Career | Connects critical concepts in coursework to field-based opportunities. Identifies social concerns that define an educational field as well as known supports and possible barriers. Given the specified discipline of a field, defines learning opportunities as well as opportunities for leadership, advocacy and innovation. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 2 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| EDU | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| EDU | 396 | Exploring Ideas and Planning for an Internship | Students learn about internship opportunities in nonprofit, government and for-profit organizations. Expands knowledge of educational opportunities in culturally and socially diverse educational spaces. Secures a placement for an upcoming two-semester internship. Students gain a foundation in human-centered design as a process for making changes in educational contexts. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours |
| EDU | 402 | Partnering to Advance Educational Initiatives | Examines global formal and informal partnerships to design innovative and sustainable educational initiatives that address social concerns and meet the needs of diverse populations. Shares solutions through professional communication using technology to collaborate with diverse groups. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| EDU | 403 | Planning for the Senior Capstone Project | Designs an education system or program to meet the needs of a diverse population within a specific community. Applies current research-based learning theories to the design. Uses professional communication skills to establish a partnership to advance an educational effort that promotes change within a community. Students use a deliberate design process to plan out an educational system or program that is aligned with their values and beliefs for learning. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1 | | Pre- or corequisite(s): EDU 396; EDU 484 |
| EDU | 404 | Navigating Change in Educational Innovations | Advocates for educational solutions that change communities and lives by addressing social concerns. Applies professional ethics to navigate through formal systems to change educational environments that meet the needs of a diverse population within a specific community. Expands one's experience in education across different cultural and social settings. Students communicate and collaborate globally to share findings and solutions on the world stage. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours |
| EDU | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): EDU 396 |
| EDU | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-6 | | Prerequisite(s): Barrett Honors student |

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| EDU | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | |
| EDU | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-7 | | Prerequisite(s): EDU 484 |
| EDU | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LAB | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-3 | | |
| EDU | 501 | Education Sciences I: Quantitative Research and Design Inquiry | First course in the MS in Education Sciences sequence with beginning-level topics in quantitative research design, measurement and statistics in practice. Covers fundamental concepts in education research design, measurement, statistics and data management. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 6 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDU | 502 | Education Sciences II: Intermediate Quantitative Inquiry and Measurement | Second course in the MS in Education Sciences sequence with intermediate-level topics in research design, measurement and statistics in practice. Covers intermediate topics essential to the design and implementation of quantitative education research and the analysis of data. Course topics expand upon research skills introduced in earlier coursework. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 6 | | Prerequisite(s): EDU 501 |
| EDU | 503 | Education Sciences III: Advanced Quantitative Analysis and Modeling | Third course in the MS in Education Sciences sequence with advanced-level topics in research design, measurement and statistics in practice. Covers advanced topics in quantitative education research essential to success in real-world projects and effective communication of results. Course topics integrate, expand upon and apply research skills introduced in blocks one and two to design, measurement and analysis. Emphasizes application of design, measurement and analysis topics to consume and produce educational research. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 6 | | Prerequisite(s): EDU 501; EDU 502 |
| EDU | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDU | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDU | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDU | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDU | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDU | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDU | 701 | Systems Leaders Lab I: Identifying "Wicked Problems" in Learning Systems | Aligned with students' professional settings and ongoing doctoral capstone projects, this lab course (Part I of the three-part LSL Lab Series) provides an overview of how leaders can identify and design solutions to "wicked problems" within learning systems. | N | LAB | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 2 | | Prerequisite(s): Learning Systems Leadership EdD student |
| EDU | 702 | Systems Leaders Lab II: Measuring Learning Systems Performance | Aligned with students' professional settings and ongoing capstone projects, the main motivation behind this lab (Part II of the three-part Lab Series) ensures students are familiar with, also in terms of application, the key concepts and ideas associated with educational and psychological measurement. While theoretical by nature, heavily applies the measurement-based content included throughout this course, and also involves required interactions with students' mentors. | N | LAB | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 2 | | Prerequisite(s): Learning Systems Leadership EdD student; EDU 701 |
| EDU | 703 | Systems Leaders Lab III: Evaluating Learning Systems Change and Performance | Aligned with students' professional settings and ongoing doctoral capstone projects, this lab course (Part III of the three-part LSL Lab Series) provides an overview of how leaders can design and implement approaches to oversee monitoring, evaluation and assessment processes within learning systems. | N | LAB | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 2 | | Prerequisite(s): Learning Systems Leadership EdD student; EDU 701; EDU 702 |

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| EED | 284 | Introduction to Integrated STEAM Learning Experiences | Examines theories and frameworks for guiding STEAM (Science, Technology, Engineering, Arts/Aesthetics, Mathematics) instruction in K-8 classrooms. Exposes prospective educators to strategies and tools for creating equitable and inclusive learning experiences. Addresses planning, enacting, and assessing effective disciplinary integrated approaches | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | |
| EED | 324 | Social Studies for Equity and Social Justice | Provides strategies for integrating social studies content knowledge with other curricular areas. Addresses a variety of issues related to social studies instruction in the elementary school, with an emphasis on valuing diverse cultures and experiences within historical and geographical perspectives. Emphasizes meeting the academic and linguistic needs of all learners including English language learners. Explores instructional materials, technology tools and social studies programs. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |
| EED | 396 | Clinical Experience I | Develops knowledge and skills for effective classroom management, establishing a positive classroom environment, and effective lesson delivery. Introduces use of the TAP instructional rubric, the college professionalism rubric, and strategies for co-teaching. Provides opportunities for students to engage as a teacher and learner in a K-8 classroom setting. Emphasizes focused observation; co-planning with a placement teacher; and co-teaching lessons to a whole group, small group and individual students. Successful completion of EED 396 fulfills two (2) of eight (8) required semester hours of practicum in grades K-8, as required by SBR R7-2-608 for an Elementary Education Teaching Certificate. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-2 | | Prerequisite(s): admission to the Professional Program |
| EED | 397 | Clinical Experience II | Develops knowledge and skills for effective classroom management, establishing a positive classroom environment, and effective lesson delivery. Continues use of the TAP instructional rubric, the college professionalism rubric, and strategies for co-teaching. Provides opportunities for students to engage as a teacher and learner in a classroom setting. Emphasizes focused observation; co-planning with a placement teacher; and co-teaching lessons to a whole group, small group and individual students. Successful completion of this course fulfills two (2) of eight (8) required semester hours of practicum as required by SBR R7-2-608 for an Elementary Education Teaching Certificate or two (2) of eight (8) required semester hours of practicum as required by SBR R7-2-602 for a Special Education Teaching Certificate. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-2 | | Prerequisite(s): admission to the Professional Program; Credit is allowed for only EED 397 or SPE 397 |
| EED | 411 | Science in Elementary Schools | Science education standards, curriculum, instructional and assessment strategies for all children. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours; Credit is allowed for only EED 411 or SCN 411 |
| EED | 412 | Mathematics in Elementary Schools | Methods of teaching mathematics to all students at the K-8 level, instructional planning and assessment. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours; Credit is allowed for only EED 412 or MTE 412 or SPE 410 |
| EED | 433 | Writing in the 21st Century | Theory on the social nature of oral and written language and congruent teaching, management and assessment practices. Emphasizes skills, strategies and dispositions for teaching 21st-century multimodal literacies to diverse learners including ELL with a focus on learners as creators of content, communicators, collaborators and global citizens. | N | LEL | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |
| EED | 478 | Student Teaching: Elementary School (Grades 1-8) | Student teaching in elementary education classrooms grades 1-8: synthesized experience in curriculum, instruction, assessment and classroom management. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3-15 | | Prerequisite(s): admission to the Professional Program |
| EED | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| EED | 511 | Curriculum Theory and Instructional Planning | Contemporary curriculum theories. Curriculum as an interrelated entity. Process for instructional planning for student understanding and achievement. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EED | 521 | Instructional Planning for the Diverse Classroom | Planning and delivering instruction; making adaptations for English language learners and students with special needs. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| EED | 524 | Social Studies Methods and Assessment | Provides strategies for integrating social studies content knowledge with other curricular areas. Addresses a variety of issues related to social studies instruction in the elementary school, with an emphasis on valuing diverse cultures and experiences within historical and geographical perspectives. Emphasizes meeting the academic and linguistic needs of all learners including English language learners. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EED | 529 | Science Teaching Methods for Elementary School | Focuses on inquiry-based processes, lesson design, teaching methods, and content overview to support science instruction in elementary grades. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EED | 531 | Teaching with Educational Technology | Focuses on using technology in K-12 classrooms. Addresses the integration of technology in all curricular areas for all students. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EED | 532 | Literacy Methods of Instruction and Assessment for Diverse Learners | Focuses on applying scientifically based teaching methods for delivering differentiated literacy instruction, assessment and intervention. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EED | 534 | Social Studies Methods and the Arts | Provides strategies for integrating social studies content knowledge with the arts. Addresses a variety of issues related to social studies instruction in elementary school, with an emphasis on valuing diverse cultures and experiences within historical and geographical perspectives. Emphasizes meeting the academic and linguistic needs of all learners including English Language Learners. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EED | 536 | Integrated Humanities (SS/ARTS/ELA) Methods and Assessment | Focuses on content, assessments and methods of integrated humanities (social studies, arts and English language arts) for the elementary teacher. Apprentice teachers critically analyze and discuss course materials, generate meaningful questions and seek answers concerning the purpose, content, methods and assessments of integrated humanities instruction, and actively participate in course activities. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): TEL 531 |
| EED | 537 | K-8 Mathematics Methods and Assessment | Mathematical knowledge for learning, teaching and assessment in grades K through 8. Focuses on developing conceptual understanding of mathematics through inductive, inquiry-based, problem-centered learning and teaching. Emphasizes representing and explaining mathematics using concrete, digital and real-world representations. Focuses on theories of mathematics learning, standards learning trajectories, and learning designs sequenced concrete-to-pictorial-to-abstract. Introduction to cognitively guided instruction and brain science messages of productive struggle and growth mindset for equitable mathematics learning. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate student |
| EED | 550 | Elementary Methods in Content Areas | Advanced level of development of knowledge and skills of instructional planning and methods of teaching and evaluating in elementary schools. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 550 or SPE 504 |
| EED | 557 | Internship I | Develops knowledge and skills for effective classroom management, establishing a positive classroom environment, and examining K-12 learner behavior. Provides opportunities for students to engage as a teacher and learner in a classroom setting. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-8 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 557 or SED 557 or SPE 556 |
| EED | 567 | Internship II | Develops knowledge and skills for effective classroom management, establishing a positive classroom environment and effective lesson delivery. Reinforces the application and evaluation of the NIET Aspiring Teacher Rubric. Provides opportunities for students to engage as a teacher and learner in a classroom setting. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-8 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 567 or SED 567 or SPE 570 |
| EED | 571 | Apprentice Teaching I | Semester one of apprentice teaching in an elementary (EED)/secondary (SED)/special education (SPE) setting for students who are currently working as the teacher of record. Introduces classroom management, curriculum, instruction and assessment supervised and reinforced by a clinical instructor. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 571 or SED 571 or SPE 571 |
| EED | 574 | Apprentice Teaching II | Semester two of apprentice teaching in an elementary (EED)/secondary (SED)/special education (SPE) setting for students who are currently working as the teacher of record. Reinforced application of developing proficiency in classroom management, curriculum, instruction and assessment occurs through supervision and individualized support by a clinical instructor. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 574 or SED 574 or SPE 574 |
| EED | 576 | Internship III | Develops knowledge and skills for creating learning experiences for a range of learners, executing instructional cycles, using assessment methods and reflecting on best teaching practices. Provides opportunities for pre-service educators to engage as a teacher and learner in a professional experience setting. | Y | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-8 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 576 or SED 576 or SPE 576 |

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| EED | 578 | Residency/Student Teaching in Elementary Education | Student teaching in elementary (EED) school classroom. Synthesized experience in curriculum, instruction and classroom management. Builds upon previous professional experiences to extend learning in a classroom setting and to obtain practice and feedback to continuously improve educator knowledge and skills. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EED | 579 | Apprentice Teaching III | Semester three of apprentice teaching in an elementary (EED)/secondary (SED)/special education (SPE) setting for students who are currently working as the teacher of record and enrolled in the masters plus certification program. Continued development toward proficiency in classroom management, curriculum, instruction and assessment. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 579 or SED 579 or SPE 579 |
| EED | 582 | Residency in Elementary Education for Dual Certification Semester Three Professional Experiences | This 8-week capstone residency experience meets the EED requirement for dual certification in SPE and EED. Synthesizes experience in curriculum, instruction and classroom management. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EED | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 593 or SED 593 or SPE 593 |
| EED | 596 | Residency/Student Teaching | Student teaching in elementary (EED), secondary (SED), or special education school classrooms. Synthesized experience in curriculum, instruction and classroom management. | Y | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-8 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 596 or SED 596 or SPE 596 |
| EED | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EEE | 120 | Digital Design Fundamentals | Number systems, conversion methods, binary and complement arithmetic, Boolean algebra, circuit minimization, ROMs, PLAs, flipflops, synchronous sequential circuits. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): degree-seeking student; minimum 12 hours; Credit is allowed for only CSE 120 or EEE 120 OR Visiting University Student |
| EEE | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-4 | | |
| EEE | 202 | Circuits I | Principles for analyzing linear and nonlinear circuits. Uses SPICE and MATLAB. Design and measurement of linear analog electrical systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): degree-seeking student; Pre- or corequisite(s): MAT 274 or 275 with C or better if completed; PHY 131 with C or better if completed OR Visiting University Student |
| EEE | 203 | Signals and Systems I | Introduces continuous and discrete time signal and system analysis, linear systems, Fourier, and z-transforms. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): degree-seeking student; EEE 202; MAT 242 with C or better or Pre- or corequisite(s): MAT 342 or 343 with C or better if completed OR Visiting University Student |
| EEE | 230 | Computer Organization and Assembly Language Programming | Register-level computer organization. Instruction set architecture. Assembly language. Processor organization and design. Memory organization. IO programming. Exception/interrupt handling. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prereq(s) w/min C: degree-skg stdnt: CSE 100 or 110; CSE or EEE 120 OR Sftwre Engr or Engr Mgt maj; CSE 110; SER 232 OR Elec Engr maj; CSE 100 or 110; CSE or EEE 120 OR Com Sci & Engr grad; Credit allowed for CSE or EEE 230 OR Visiting University Student |
| EEE | 241 | Fundamentals of Electromagnetics | Vector analysis, differential operators, fourier analysis, scalar, vector fields, electro/magneto statics, time-varying fields, boundary value problems, dielectric, magnetic materials, Maxwell's equations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): degree-seeking student; MAT 267 or 272 with C or better; MAT 274 or 275 with C or better; PHY 131 with C or better; Pre- or corequisite(s): EEE 202 OR Visiting University Student |
| EEE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-4 | | |
| EEE | 304 | Signals and Systems II | Communication, signal processing, control systems, continuous, discrete transforms, sampling theorem, analog, digital modulation, filter design, signal processing applications, state space. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 203 OR Visiting University Student |
| EEE | 307 | Signal Processing for Digital Culture | Signal processing for non-majors. Digital filters, Fourier and z transform, DFT and FFT, digital signal processing computing, interdisciplinary DSP applications. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): non-ECEE major; MAT 210, MAT 265, or MAT 270; Credit is allowed for only EEE 307 or EEE 394 (Signal Analysis for the Digital Culture) |
| EEE | 333 | Hardware Design Languages and Programmable Logic | Develops digital logic with modern practices of hardware description languages. Emphasizes usage, synthesis of digital systems for programmable logic, VLSI. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 120 or CSE 120; EEE 202 OR Visiting University Student |

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| EEE | 334 | Circuits II | Design of analog and digital circuits. Diodes/BJTs/Mosfets. Digital and analog circuit building blocks. Fundamentals of mixed signal circuits. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, BHSE undergraduate student or Computer Systems Engineering or Computer Systems Engineering (Information Assurance) student; EEE 202 OR Visiting University Student |
| EEE | 335 | Analog and Digital Circuits | Analog, digital microelectronic circuits and systems. Amplifiers, frequency response, gate sizing, timing analysis, sequential digital circuits. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student or Computer Systems Engineering or Computer Systems Engineering (Information Assurance) major; EEE 334 OR Visiting University Student |
| EEE | 341 | Engineering Electromagnetics | Time-varying electromagnetic fields, waves in homogeneous and stratified media, transmission lines, waveguides and cavity resonators, radiation and antennas. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 203; EEE 241 OR Visiting University Student |
| EEE | 350 | Random Signal Analysis | Probabilistic and statistical analysis as applied to electrical signals and systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; MAE 318 OR pre- or corequisite: EEE 203; OR Fulton Engineering graduate student OR Visiting University Student |
| EEE | 352 | Properties of Electronic Materials | Schrodinger's wave equation, potential barrier problems, bonds of crystals, the band theory of solids, semiconductors, superconductor dielectric, and magnetic properties. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; CHM 114, 115, 116 or 118; EEE 241; PHY 241 with a C or better OR Visiting University Student |
| EEE | 360 | Energy Systems and Power Electronics | Conventional and alternate energy sources for power systems, three-phase analysis, AC generators, transformers, induction, DC motors, power electronic speed control. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 202; Pre- or corequisite(s): EEE 241 OR Visiting University Student |
| EEE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-4 | | |
| EEE | 404 | Real-Time DSP Systems | Digital signal processors, translating signals and systems concepts into real-time multimedia and communications applications, real-time algorithms. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; CSE 230 or EEE 230; EEE 203 |
| EEE | 405 | Machine Learning Basics with Deployment to FPGAs | Machine learning has become an important element in many areas of engineering. Provides a good mathematical background and gives experience with using key packages and methods in Machine Learning (ML). FPGAs provide an efficient method to deploy machine learning models. Some programming language background, Java, C, C++, Python, or MatLab Verilog/System Verilog background is helpful but not required; that content will be provided. Students are not required to purchase an FPGA; units are available. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): EEE 203; MAT 342 or 343; PHY 131; Corequisite(s): EEE 350; Credit is allowed for only EEE 405 or EEE 498/591(Machine Learn Basics w/Deployment to FPGAs) or EEE 498/591(Machine Learn Basics w/ App to FPGAs) OR Visiting University Student |
| EEE | 407 | Digital Signal Processing | Time and frequency domain analysis, difference equations, z-transform, FIR and IIR digital filter design, discrete Fourier transform, FFT, and random sequences. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 203; MAT 342 or 343 with C or better OR Visiting University Student |
| EEE | 419 | Python for Rapid Engineering Solutions | Rapid engineering solutions using Python libraries and functions readily available on the internet. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): EEE 203; MAT 342 or 343; PHY 131; Corequisite(s): EEE 350; Credit is allowed for only EEE 419 or EEE 498 (Python for Rapid Engineering Solutions) or EEE 591 (Python for Rapid Engineering Solutions) OR Visiting University Student |
| EEE | 425 | Digital Systems and Circuits | Digital logic gate analysis and design. Propagation delay times, fan out, power dissipation, noise margins. Design of MOS and bipolar logic families, including NMOS, CMOS, standard and advanced TTL, ECL, and BiCMOS. Inverter, combinational and sequential logic circuit design, MOS memories, VLSI circuits. Computer simulations using PSPICE. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 335 OR Visiting University Student |
| EEE | 433 | Analog Integrated Circuits | Analysis, design, and applications of modern analog circuits using integrated bipolar and field-effect transistor technologies. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 335 OR Visiting University Student |

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| EEE | 434 | Quantum Mechanics for Engineers | Angular momentum, wave packets, Schrodinger wave equation, probability, problems in one dimension, principles of wave mechanics, scattering, tunneling, central forces, angular momentum, hydrogen atom, perturbation theory, variational techniques. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 352 OR Visiting University Student |
| EEE | 435 | Fundamentals of CMOS and MEMS | Introduces basic CMOS processing and fabrication tools. Covers the fundamentals of thermal oxidation, CVD, implantation, diffusion, and process integration. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 352 OR Visiting University Student |
| EEE | 436 | Fundamentals of Solid-State Devices | Semiconductor fundamentals, pn junctions, metal-semiconductor contacts, metal-oxide-semiconductor capacitors and field-effect transistors, bipolar junction transistors. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 352 OR Visiting University Student |
| EEE | 437 | Optoelectronics | Basic operating principles of various types of optoelectronic devices that play important roles in commercial and communication electronics; light-emitting diodes, injection lasers, and photodetectors. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 352 |
| EEE | 439 | Semiconductor Facilities and Cleanroom Practices | Microcontamination, controlled environments, cleanroom layout and systems, modeling, codes and legislation, ultrapure water, production materials, personnel and operations, hazard management, advanced concepts. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 352 OR Visiting University Student |
| EEE | 443 | Antennas for Wireless Communications | Fundamental parameters; radiation integrals; wireless systems; wire, loop, and microstrip antennas; antenna arrays; smart antennas; ground effects; multipath. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 341 |
| EEE | 445 | Microwaves | Waveguides; circuit theory for waveguiding systems; microwave devices, systems, and energy sources; striplines and microstrips; impedance matching transformers; measurements. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 341 (EEE 340) OR Visiting University Student |
| EEE | 448 | Fiber Optics | Principles of fiber-optic communications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 341 OR Visiting University Student |
| EEE | 455 | Communication Systems | Signal analysis techniques applied to the operation of electrical communication systems. Introduction to and overview of modern digital and analog communications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 350 OR Visiting University Student |
| EEE | 459 | Communication Networks | Fundamentals of communication networks. Study of Seven-Layer OSI model. Focus on functionality and performance of protocols used in communication networks. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 203; Corequisite(s): EEE 350 OR Visiting University Student |
| EEE | 460 | Nuclear Power Engineering | Radioactivity and decay. Radiation interactions and dose. Nuclear reaction, fission and fusion theory. Fission reactors, four factor formula, moderation. Nuclear power, TMI, Chernobyl. Nuclear fuel cycle. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; CHM 114 or 116; MAT 274 or 275 with C or better; PHY 241 or 361 with C or better |
| EEE | 463 | Electrical Power Plants | Generation of electric power using fossil, nuclear, and renewable, including solar, geothermal, wind, hydroelectric, biomass and ocean, energy sources. Power plant thermal cycle analysis. Cogeneration and combined cycles. Economics, operations, and design of electric power stations. Energy storage. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE or BHSE undergraduate student; CHM 114 or 116; MAE 241 or PHY 241 with C or better; MAT 274 or 275 with C or better OR Visiting University Student |
| EEE | 465 | Photovoltaic Energy Conversion | Photovoltaics for production of electricity from solar energy. The grand energy challenge. Solar radiation and utilization. Fundamentals of semiconductors for photovoltaics: crystal structures, band theory, doping, carrier statistics, optical absorption, and p-n junctions. Principles of solar cells including loss mechanisms and design principles. Current solar cell technologies. Manufacturing of silicon solar cells. Solar modules, arrays and systems. Economic analysis of solar photovoltaic systems. Terawatt-scale deployment of solar cells. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 352; Credit is allowed for only EEE 465 or 498: Solar Energy |
| EEE | 470 | Electric Power Devices | Analyzes devices used for short circuit protection, including circuit breakers, relays, and current and voltage transducers. Protection against switching and lightning over voltages. Insulation coordination. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 360 OR Visiting University Student |
| EEE | 471 | Power System Analysis | Review of transmission line parameter calculation. Zero sequence impedance, symmetrical components for fault analysis, short circuit calculation, review of power flow analysis, power system stability, and power system control concepts. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 360 |

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| EEE | 472 | Power Electronics and Power Management | Principles of switch mode power conversion, analysis, design and control of dc-dc converters, PWM rectifiers and inverters, power management, power electronics applications in information technology, renewable energy systems, motion control and lighting. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 203 OR Visiting University Student |
| EEE | 473 | Electrical Machinery | Operating principles, modeling and speed control of DC, brushless DC, and AC machines; power converters for DC and AC motors drives. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 360 |
| EEE | 480 | Feedback Systems | Analysis and design of linear feedback systems. Frequency response and root locus techniques, series compensation, and state variable feedback. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 203 or MAE 318 OR Visiting University Student |
| EEE | 481 | Computer-Controlled Systems | Implements computer-based, embedded, control systems using MATLAB xPC Target toolbox. Small-scale, representative projects demonstrate theoretical issues and provide hands-on expertise. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 203 and EEE 230/CSE 230, or MAE 318 OR Visiting University Student |
| EEE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-12 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student |
| EEE | 488 | Senior Design Laboratory I | Design process: research, concept, feasibility, simulation, specifications, benchmarking, and proposal generation. Technical communications and team skills enrichment. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | L | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergrad student; ENG 102, 105 or 108, EEE 241; EEE 334; EEE 350; three courses from the following list: EEE 304, 333, 335, 341, 352 or 360 |
| EEE | 489 | Senior Design Laboratory II | Implement, evaluate, and document EEE 488 design. Social, economic, and safety considerations. Technical communications and team skills enrichment. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | L | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE senior or postbaccalaureate undergraduate student; EEE 488; ENG 102, 105, or 108 with C or better |
| EEE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-6 | | Prerequisite(s): Barrett Honors Electrical Engineering BSE senior |
| EEE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-6 | L | Prerequisite(s): Barrett Honors Electrical Engineering BSE senior; ENG 101, 105, or 107 with C or better |
| EEE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 433 |
| EEE | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-7 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student |
| EEE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-3 | | Prerequisite(s): Electrical Engineering BSE senior |
| EEE | 505 | Time-Frequency Signal Processing | Joint time-frequency analysis of time-varying signals and systems; linear and quadratic time-frequency representations; applications in current areas of signal processing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 506 | Digital Spectral Analysis | Principles and applications of digital spectral analysis, least squares, random sequences, parametric, and nonparametric methods for spectral estimation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 507 | Multidimensional Signal Processing | Processing and representation of multidimensional signals. Design of systems for processing multidimensional data. Introduces image and array processing issues. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 508 | Digital Image and Video Processing and Compression | Fundamentals of digital image perception, representation, processing, and compression. Emphasizes image coding techniques. Signals include still pictures and motion video. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 509 | DSP Algorithms and Software | Linear systems review, digital filter design, software aspects, DFT, FFT, random signals, programming aspects, applications projects, MATLAB and Java simulations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |

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| EEE | 510 | Multimedia Signal Processing | Speech/audio coding algorithms. LPC, CELP, MPEG, Cell phone, DTV, cinema, and surround sound standards. MPEG/JPEG introduction. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 511 | Artificial Neural Computation | Networks for computation, learning function representations from data, learning algorithms and analysis, function approximation and information representation by networks, applications in control systems and signal analysis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Schools of Engineering graduate student |
| EEE | 512 | System-Level Design for Heterogeneous Multiprocessor Architectures | In-depth introduction to multicore computing architectures ranging from low-power multiprocessor systems-on-chip (MpSoC) to high-performance chip-multiprocessors (CMP). Fundamental topics on modeling, analysis, and optimization of multicore systems; particular attention on low-power and communication-centric design of multicore systems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student; Credit is allowed for only EEE 512 or EEE 598 (System-Level Design for Multicore Architectures) |
| EEE | 515 | Machine Vision and Pattern Recognition | Covers the field of computer vision, whose broad goal is to create algorithms and systems for processing of visual signals (e.g., images, videos) for low-level, mid-level, and high-level perceptual tasks. Presents the broad principles and techniques for devising computer vision algorithms starting from understanding the imaging process for a pin-hole camera; understanding lenses, image-statistics such as gradients and edges, 3D structure estimation, motion estimation, illumination modeling to perceptual tasks such as shape recognition, texture modeling, face recognition, activity recognition, and scene recognition. The class is a mixture of in-class lectures and discussions, and individual and group projects. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student; Credit allowed for only AME 515 or EEE 515 or EEE 598 (Computational Image Understanding & Pattern Analysis) |
| EEE | 516 | Physics-Based Computer Vision | Covers topics in physics-based computer vision and graphics. Includes work on visual computing systems including computational cameras, illumination systems, 3D scanners, rendering/animation and displays. Starting with the basics of traditional photography and the imaging pipeline, proceeds to explore new ways to capture visual information by co-designing camera hardware and software algorithms. Topics covered include plenoptic or multi-modal imaging, coded and compressive sensing, light transport and rendering, programmable illumination, and computational displays. Focuses on understanding and evaluating new imaging technology for specific applications including autonomous vehicles, entertainment and graphics, computer vision and visual recognition, and robotics. Course content delivered via lectures along with written and programming assignments as well as a final project. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Herberger Arts, Media and Engineering grad student or Fulton Engineering grad student; Credit is allowed for only AME 516 or AME 598 (Comp Cam, Ltg & Disp) or EEE 516 or EEE 598 (Comp Cam, Ltg & Disp) or EEE 598 (Phys-based Comp Vision) |
| EEE | 517 | Sensors and Machine Learning | Integrated sensor devices and algorithms; microphone arrays, chemical sensing, mobile sensing; accelerometers and magnetometers, nanopore sensors, and flexible and patch sensors. Signal pre-processing for sensors; feature extraction; image sensing; voice processing; filters; frequency analysis; autocorrelation; principal components; k means algorithm; sensor fusion; neural nets; applications to health, security and mobile systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student; Credit is allowed for only EEE 517 or EEE 598 (Sensor & Machine Learning Apps) |
| EEE | 518 | Fundamentals of Semiconductor Packaging | Multidisciplinary foundation course in addressing electrical, thermal, materials, chemical, manufacturing and reliability problems in semiconductor packaging. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only CHE 518 or EEE 518 or MAE 518 or MSE 548 |
| EEE | 520 | VLSI Design for Reliability | Modeling and design solutions for very large-scale integration (VLSI) reliability. Statistical design under static and dynamic variability. Aging effects and resilient design techniques. Radiation effects in VLSI. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student; Credit is allowed for only CEE 520 or EEE 520 or EEE 598 (VLSI Design for Reliability) |
| EEE | 521 | Low-Power Bioelectronics | Begins with fundamental theory and techniques for low-power analog circuit design especially subthreshold CMOS and BJT circuits (e.g., translinear circuits), then moves to biomedical applications and bio-inspired systems focused upon neuromorphic circuits. Also touches on concepts such as wireless challenges for implants, energy harvesting and electrochemistry. Students have the opportunity to have their final projects fabricated in a commercial CMOS process. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or SBHSE, SCAI, SEMTE or SSEBE graduate student |

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| EEE | 522 | Radio Frequency Test | Covers current production test schemes for mixed-signal and RF circuits, the economics of production test, and recent research techniques in reducing the production test cost. Prior knowledge of Matlab is necessary to be successful in this class. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 523 | Advanced Analog Integrated Circuits | Analysis and design of analog integrated circuits: analog circuit blocks, reference circuits, operational-amplifier circuits, feedback, and nonlinear circuits. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Ira A. Fulton Schools of Engineering graduate student |
| EEE | 524 | Communication Transceiver Circuits Design | Communication transceivers and radio frequency system design; fundamentals of transceivers circuits; RF, IF, mixers, filters, frequency synthesizers, receivers, CAD tools, and lab work on IC design stations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Ira A. Fulton Schools of Engineering graduate student |
| EEE | 525 | VLSI Design | Analysis and design of Very Large Scale Integrated (VLSI) circuits. Physics of small devices, fabrication, regular structures, and system timing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Ira A. Fulton Schools of Engineering graduate student |
| EEE | 526 | VLSI Architectures | High throughput and low-power VLSI architectures for signal processing. Array processor systems; data path design and optimization; memory design; high-level synthesis; low-power design at system level, algorithm level, and architecture level. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Schools of Engineering graduate student |
| EEE | 527 | Analog to Digital Converters | Detailed introduction to the design of Nyquist rate, CMOS analog to digital converters. Requires knowledge of analog integrated circuits (analog circuit blocks, reference circuits, operational-amplifier circuits, feedback, and nonlinear circuits) to be successful in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Ira A. Fulton Schools of Engineering graduate student |
| EEE | 528 | Sensors for the Internet of Things and Wearable Devices | Fundamentals, concepts of system analysis and design, and principles that apply to phase-locked loops (PLLs) used in frequency synthesis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EEE | 529 | Semiconductor Memory Technologies and Systems | Design of semiconductor memory technologies and systems, from the device cell structures to the array and architecture design, with emphasis on the industry trends and cutting-edge technologies including SRAM, DRAM and FLASH technologies and emerging memory technologies such as STT-MRAM, PCRAM and RRAM. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton Electrical, Comp & Energy Engr (ECEE), POLY, SBHSE, SCAI, SEMTE, or SSEBE graduate student; Credit is allowed for only EEE 529 or EEE 598 (Semicondctr Memory Tech & Sys) or CEN/CSE 591 (Memory Sys: Device, Circuit & Architecture) |
| EEE | 530 | Advanced Silicon Processing | Thin films, CVD, oxidation, diffusion, ion-implantation for VLSI, metallization, silicides, advanced lithography, dry etching, rapid thermal processing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Schools of Engineering graduate student |
| EEE | 531 | Semiconductor Device Theory I | Transport and recombination theory, pn and Schottky barrier diodes, bipolar and junction field-effect transistors, and MOS capacitors and transistors. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Schools of Engineering graduate student |
| EEE | 532 | Semiconductor Device Theory II | Advanced MOSFETs, charge-coupled devices, solar cells, photodetectors, light-emitting diodes, microwave devices, and modulation-doped structures. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Schools of Engineering graduate student |
| EEE | 533 | Semiconductor Process/Device Simulation | Device simulation concepts: conventional and advanced MOS devices, bipolar transistors, heterostructures including HEMTs and solar cells. Process simulation concepts: oxidation, ion implantation, diffusion. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 534 | Semiconductor Transport | Carrier transport in semiconductors. Hall effect, high electric field, Boltzmann equation, correlation functions, and carrier-carrier interactions. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 535 | Electron Transport in Nanostructures | Nanostructure physics and applications. 2-D electron systems, quantum wires and dots, ballistic transport, quantum interference, and single-electron tunneling. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 536 | Semiconductor Characterization | Measurement techniques for semiconductor materials and devices. Electrical, optical, physical, and chemical characterization methods. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 537 | Semiconductor Optoelectronics | Electronic states in semiconductors, quantum theory of radiation, absorption processes, radiative processes, nonradiative processes, photoluminescence, and photonic devices. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--------------------------------|-------|-----------------|---|
| EEE | 538 | Optoelectronic Devices | Provides graduate students with detailed theory and practical knowledge of semiconductors materials and optoelectronic devices such as light-emitting diodes, lasers, photodetectors and solar cells. Also discusses the applications of these devices. Offers not only classroom lectures but also demonstration of real-world experiments in research laboratories at ASU. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 539 | Intro Solid-State Electronics | Crystal lattices, reciprocal lattices, quantum statistics, lattice dynamics, equilibrium, and nonequilibrium processes in semiconductors. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 540 | Fast Computational Electromagnetics | Method of moments, finite difference time-domain, finite element methods implemented using fast algorithms (wavelets, FMM, Nystrom) to gain high efficiency. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 541 | Electromagnetic Fields and Guided Waves | Polarization and magnetization; dielectric, conducting, anisotropic, and semiconducting media; duality, uniqueness, and image theory; plane wave functions, waveguides, resonators, and surface guided waves. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 543 | Antenna Analysis and Design | Impedances, broadband antennas, frequency independent antennas, miniaturization, aperture antennas, horns, reflectors, lens antennas, and continuous sources design techniques. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 544 | High-Resolution Radar | Fundamentals; wideband coherent design, waveforms, and processing; stepped frequency; synthetic aperture radar (SAR); inverse synthetic aperture radar (ISAR); imaging. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 545 | Microwave Circuit Design | Analysis and design of microwave attenuators, in-phase and quadrature-phase power dividers, magic tees, directional couplers, phase shifters, DC blocks, and equalizers. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 546 | Advanced Fiber Optics | Theory of propagation in fibers, couplers and connectors, distribution networks, modulation, noise and detection, system design, and fiber sensors. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 547 | Microwave Solid-State Circuit Design I | Applies semiconductor characteristics to practical design of microwave mixers, detectors, limiters, switches, attenuators, multipliers, phase shifters, and amplifiers. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 548 | Coherent Optics | Diffraction, lenses, optical processing, holography, electro-optics, and lasers. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 549 | Statistical Machine Learning: From Theory to Practice | Explores the design, analysis and construction of algorithms that can learn from data and make inferences or predictions about future outcomes. Covers the theory and practice of machine learning (ML) focusing on a methodical approach that highlights the role of statistical and computational methods in analysis of data. Includes a near equal dose of theory and practice with the goal of providing a thorough grounding in the fundamental methodologies and algorithms in machine learning. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton ECEE, POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student; Credit is allowed for only EEE 549 or EEE 598 (Statistical Machine Learning: Theory to Practice) |
| EEE | 550 | Transform Theory and Applications | Introduces abstract integration, function spaces, and complex analysis in the context of integral transform theory. Applications to signal analysis, communication theory, and system theory. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 551 | Information Theory | Entropy and mutual information, source and channel coding theorems, applications for communication and signal processing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |

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| EEE | 552 | Digital and Wireless Communications | Complex signal theory, digital modulation, optimal coherent and incoherent receivers, channel codes, coded modulation, Viterbi algorithm. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 553 | Coding and Applications | Introduces algebra, block and convolutional codes, decoding algorithms, turbo codes, coded modulation, private and public key cryptography. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 554 | Probability and Random Processes | Applies statistical techniques to the representation and analysis of electrical signals and to communications systems analysis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 556 | Detection and Estimation Theory | Combines the classical techniques of statistical inference and the random process characterization of communication, radar, and other modern data processing systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 557 | Broadband Networks | Physics of wireless and optical communications. Broadband multiplexing and switching methods. Blocking and queuing analysis. Network optimization, routing, and economics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 558 | Recent Advances in Communications | Cellular systems, path loss, multipath fading channels, modulation and signaling for wireless, diversity, equalization coding, spread spectrum, TDMA/FDMA/CDMA. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 559 | Wireless Networks | Design principles of cellular networks. Multiple access control protocols for wireless systems. Wireless routing and TCP/IP. Mobile management. Call admission control and resource allocation (e.g., power control and rate control). Wireless security. Future-generation wireless networks. A previous course in random signal theory is required to be successful in this class. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton ECEE, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 560 | Mathematical Foundations of Machine Learning | Serves as a primer in statistical learning theory and as a platform for exploring emerging algorithms and theory in large-scale data analytics and learning. This study is at the intersection of information processing, statistical theory and computational sciences. Contains a healthy mix of topics from all of these disciplines. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student; Credit is allowed for only EEE 560 or EEE 598 (Statistical Machine Learning: From Theory to Algorithms) |
| EEE | 562 | Nuclear Reactor Theory and Design | Principles of neutron chain reacting systems. Neutron diffusion and moderation. One-, two-, and multigroup diffusion equation solution methods. Heterogeneous reactors. Nuclear fuel steady-state performance. Core thermal-hydraulics. Core thermal design. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 563 | Nuclear Reactor System Dynamics and Diagnostics | Time-dependent solution to neutron diffusion equation. Reactor kinetics and reactivity changes. Dynamics, stability, and control of reactor systems. Modeling neutronic and thermal processes. System characterization in time and frequency domains. Reactor surveillance and diagnostics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 564 | Interdisciplinary Nuclear Power Operations | Nuclear power plant systems. Studies interrelationship and propagation of effects that systems and design changes have on one another, especially in relation to nuclear power plant safety and operations. Case studies and design projects. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 565 | Solar Cells | Introduction to the generation and utilization of electricity from solar energy. Exploration of the science and engineering of direct conversion (photovoltaics), including the design, fabrication, and operation of solar cells, and the construction and performance of solar cell modules. Prior knowledge of properties of electronic materials is required to be successful in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 566 | Advanced Device Modeling and Simulation | Understanding semi-classical and quantum transport theory in conjunction with device simulations at the nanoscale. Prior knowledge of semiconductor device theory, quantum mechanics and classical semiconductor device simulation is necessary to be successful in this class. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student; Credit is allowed for only EEE 566 or EEE 598 (Advanced Device Modeling) |

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| EEE | 571 | Power System Transients | Simple switching transients. Transient analysis by deduction. Damping of transients. Capacitor and reactor switching. Transient recovery voltage. Travelling waves on transmission lines. Lightning. Protection of equipment against transient overvoltages. Introduces computer analysis of transients. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 572 | Advanced Power Electronics | Analyzes device operation, including thyristors, gate-turn-off thyristors, and transistors. Design of rectifier and inverter circuits. Applications such as variable speed drives, HVDC, motor control, and uninterruptible power supplies. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 573 | Electric Power Quality | Sinusoidal waveshape maintenance; study of momentary events, power system harmonics, instrumentation, filters, power conditioners, and other power quality enhancement methods. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 574 | Computer Solution of Power Systems | Algorithms for digital computation for the Newton and fast-decoupled power flow problem, and fault analysis. Sparse matrix and vector programming methods, creation of elimination trees, network equivalencing, solution of the least squares problem, introduction to state estimation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 575 | Power System Stability | Dynamic performance of power systems with emphasis on stability. Modeling of system components and control equipment. Analysis of the dynamic behavior of the system in response to small and large disturbances. Knowledge of EEE470, 471 and 473 (or equivalents) is required to be successful in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 576 | Power System Dynamics | Dynamic performance of power systems with emphasis on control. Modeling of control equipment, FACTS devices, wind generators, and nonlinear loads. Design of power system stabilizers. Prior knowledge of electric power devices, power system analysis, and electrical machinery is required to be successful in this course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton ECEE, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 577 | Power Engineering Operations and Planning | Economic dispatch, unit commitment, dynamic programming, power system planning and operation, control, generation modeling, AGC, and power production. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 579 | Power Transmission and Distribution | High-voltage transmission line electric design; conductors, corona, RI and TV noise, insulators, clearances. DC characteristic, feeders voltage drop, and capacitors. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 581 | Filtering of Stochastic Processes | Modeling, estimation, and filtering of stochastic processes, with emphasis on the Kalman filter and its applications in signal processing and control. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 582 | Linear System Theory | Controllability, observability, and realization theory for multivariable continuous time systems. Stabilization and asymptotic state estimation. Disturbance decoupling, noninteracting control. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-12 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 585 | Security and Privacy in Networked Systems | Comprehensive understanding of critical cyber security and privacy threats as well as corresponding solutions in emerging wireless networks, mobile systems, social networks, Internet-of-Things, critical infrastructures, cloud computing, big data analytics, wearable and edge computing, and mobile health. Requires prior knowledge of communications systems or computer networking to be successful in this course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Elect, Comp and Energy Engr (ECEE) or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student; Credit is allowed for only EEE 585 or EEE 598 (Adv Topics in Wireless & Internet Security) or EEE 598 (Selected Topics in Network Security) |
| EEE | 586 | Nonlinear Control Systems | Stability theory, including phase-plane, describing function, Liapunov's method, and frequency domain criteria for continuous and discrete, nonlinear, and time-varying systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 587 | Optimal Control | Optimal control of systems. Calculus of variations, dynamic programming, linear quadratic regulator, numerical methods, and Pontryagin's principle. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |

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| EEE | 588 | Design of Multivariable Control Systems | Practical tools for designing robust MIMO controllers. State feedback and estimation, model-based compensators, MIMO design methodologies, CAD, real-world applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 589 | Convex Optimization | Linear algebra and convex optimization. Vector spaces, matrix algebra, linear programming, Lagrange multipliers, Karush-Kuhn-Tucker (KKT) conditions, duality theory and algorithms for convex optimization. Newton's method, gradient and steepest descent methods. Algorithms for unconstrained, equality constrained and inequality constrained problems, which include interior point methods. Applications to approximation and data fitting and some geometric problems. Applications to signal processing, communications and control systems. Background in linear algebra necessary to be successful in this course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or SBHSE, SCAI, SEMTE or SSEBE graduate student; Credit is allowed for only CEE 533 or EEE 589 or MAE 521 |
| EEE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-12 | | Prerequisite(s): Electrical Engineering MS, MSE, or PHD students |
| EEE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-12 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-12 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-12 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-4 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-12 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 606 | Adaptive Signal Processing | Principles and applications of adaptive signal processing, adaptive linear combiner, Wiener least-squares solution, gradient search, performance surfaces, LMS/RLS algorithms, block time/frequency domain LMS. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 607 | Speech Compression and Recognition | Speech and audio coding algorithms for applications in wireless communications and multimedia computing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 625 | Advanced VLSI Design | Practical industrial techniques, circuits, and architectures appropriate to high-performance and low-power digital VLSI designs such as microprocessors. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 627 | Oversampling Sigma-Delta Data Converters | Introduces design and analysis of sigma delta oversampled data converters from an IC design perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--------------------------------|-------|-----------------|---|
| EEE | 641 | Advanced Electromagnetic Field Theory | Cylindrical wave functions, waveguides, and resonators; spherical wave functions and resonators; scattering from planar, cylindrical, and spherical surfaces; Green's functions. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 643 | Advanced Topics in Electromagnetic Radiation | High-frequency asymptotic techniques, geometrical and physical theories of diffraction (GTD and PTD), moment method (MM), radar cross section (RCS) prediction, Fourier transforms in radiation, and synthesis methods. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-12 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-12 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 686 | Adaptive Control | Main topics covered: adaptive identification, convergence, parametric models, performance and robustness properties of adaptive controllers, persistence of excitation, and stability. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-12 | | Prerequisite(s): Electrical Engineering MS, MSE, or PHD student or Master of Engineering student |
| EEE | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-12 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 731 | Advanced MOS Devices | Threshold voltage, subthreshold current, scaling, small geometry effects, hot electrons, and alternative structures. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-12 | | Prerequisite(s): Electrical Engineering PhD students |
| EEE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-15 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-15 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EET | 406 | Control System Technology | Control system components, analysis of feedback control systems, stability, performance, and application. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3-4 | | Pre-requisites: EST 310; MAT 266; Credit for EET 506 or EET 406 |
| EET | 408 | Digital Real-Time Control | Analysis, simulation, and design of discrete systems. Approach taken in this class begins with the analysis, simulation and design of a continuous system, which yields an s-based, transfer function compensator. Then, this compensator is transformed into a z-based transfer function, which can be realized with a difference equation in a microcontroller. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EET 406 OR Visiting University Student |
| EET | 430 | Instrumentation and Measurement Systems | Instrumentation and measurement techniques, sensors operating principles. Signal and error analysis. Signal conditioning and data acquisition. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: EST 310; Credit is allowed for only EET 430 or 530 |

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| EET | 506 | System Dynamics and Control | Time, frequency, and transform domain analysis of physical systems. Transfer function analysis of feedback control systems performance and stability. Compensation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EET 406 or EET 506 |
| EET | 508 | Digital Real-Time Control | Sample data control techniques and applications to process control. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student OR Fulton Schools of Engineering senior student with minimum 3.00 ASU GPA |
| EET | 530 | Electronic Test Systems and Applications | Analysis, design, and application of electronic test equipment, test systems, specifications, and documentation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: Graduate (degree or non-degree) students; Credit is allowed for only EET 430 or EET 530 |
| EGR | 101 | Foundations of Engineering Design Project I | Introduces engineering as a profession, critical thinking in engineering design and modeling, team dynamics, engineering communication. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | |
| EGR | 102 | Foundations of Engineering Design Project II | Development and experimental verification of engineering models, engineering design, data acquisition, critical analysis of data, introduction to CADD, engineering communications. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 101; Pre- or corequisite(s): MAT 170 or higher OR Visiting University Student |
| EGR | 104 | Critical Inquiry in Engineering | Critical thinking. Systematic evaluation of information as input to well-informed decision making. Close reading and substantive writing in a technical setting. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | L | Pre- or corequisite(s): ENG 102, 105, or 108 with C or better if completed; Credit is allowed for only EGR 104 or TWC 104 OR Visiting University Student |
| EGR | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-4 | | |
| EGR | 201 | Use-Inspired Design Project I | Design, professionalism, and engineering practice developed in a multidisciplinary project setting. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 102; MAT 265 or 270 with C or better OR Visiting University Student |
| EGR | 202 | Use-Inspired Design Project II | Design, problem solving, and engineering practice developed in a multidisciplinary project setting. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 201 with C or better; Pre- or corequisite(s): EGR 104 or TWC 104 with C or better if completed OR Visiting University Student |
| EGR | 216 | Engineering Electrical Fundamentals | Introduces modeling of electrical systems using mathematical and scientific principles. Covers electrical circuit analysis techniques including Kirchhoff's and Ohm's laws, series and parallel circuit elements, equivalent elements and circuits, and nodal analysis. These techniques are developed for DC, AC, and transient conditions. Also introduces the basic structure of a modern electronic measurement system and relates this structure to measurement accuracy, precision and resolution. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): MAT 265 or 270 with C or better; Credit is allowed for only EGR 216 or RAS 216 OR Visiting University Student |
| EGR | 217 | Engineering Mechanics Fundamentals | Provides a foundation in the theory and principles of statics and dynamics. Examines the effect of forces acting on particles and rigid bodies. Extensively uses vector mechanics. Statics addresses the topics of equilibrium in two and three dimensions, to include distributed loads, trusses, frames, friction and the moment of inertia. Dynamics addresses kinematics and kinetics of particles. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): PHY 121 with C or better OR Visiting University Student |
| EGR | 218 | Materials and Manufacturing Processes | Applies material properties and manufacturing processes to the design and fabrication of engineered artifacts. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): CHM 113 or 114 with C or better OR Visiting University Student |
| EGR | 219 | Computational Modeling of Engineering Systems | Introduces computing that develops software to find solutions to engineering problems. Students write and document code to solve problems in data acquisition, modeling of physical systems, and optimization. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): MAT 266 or 271 with C or better; Pre- or corequisite(s): MAT 274 or 275 OR Visiting University Student |
| EGR | 240 | CADD and Solid Modeling | Uses 3-D solid modeling software to model mechanical parts and produce valid engineering drawings, including use of geometric dimensioning and tolerancing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | |
| EGR | 280 | Engineering Statistics | Applications-oriented introduction to statistics with computer-based experience using statistical software for formulating and solving engineering problems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | CS | Prerequisite(s): MAT 265 or 270 with C or better OR Visiting University Student |
| EGR | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-4 | | |
| EGR | 303 | Mechanical Systems Project I | Analyze, design, implement and characterize a mechanical system through an in-depth mechanical system design project. Project includes modeling, analysis and measurement of the dynamic behavior of the mechanical system. Develops professional and engineering skills in this project setting. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 202 with C or better; EGR 217 with C or better; EGR 219 with C or better OR Visiting University Student |
| EGR | 304 | Embedded Systems Design Project I | Design, implement and debug an embedded electromechanical system through an in-depth design project. Develops professional and engineering skills in this project setting. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 202 with C or better; EGR 216 or RAS 216 with C or better; EGR 219 with C or better; Credit is allowed for only EGR 304 or RAS 304 OR Visiting University Student |

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| EGR | 305 | Robotics Systems Project I | Analyze, design, implement and debug a robotic electromechanical system through an in-depth robotic system design project. Develops professional and engineering skills in this project setting. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 202 with C or better; EGR 216 with C or better; EGR 219 with C or better |
| EGR | 306 | Automotive Systems Project I | Analyze, design, implement and verify an automotive system through an in-depth design project. Develops professional and engineering skills in this project setting. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 202 with C or better; EGR 217 with C or better; EGR 219 with C or better OR Visiting University Student |
| EGR | 307 | Humanitarian Engineering Project I | Provides students with the opportunity to work on a real-world project that is or will be taking place "in the field," in a part of the world with fewer material resources than most places in the United States. Builds the skill sets of students who are interested in pursuing development-related work after graduation. Course is team-based, project-focused and extremely hands-on. Emphasizes skills development on equal par as working with peers, mentors and in-field partners. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): minimum junior standing OR Visiting University Student |
| EGR | 313 | Mechanical Systems Project II | Applies design principles to conceptualize, implement and characterize a fluid and/or thermodynamic system in a project setting. Project emphasizes communication with project stakeholders; applying an appropriate design approach in the context of a fluid and/or thermodynamic system; critical thinking in developing system specifications and evaluating a prototype relative to these specifications; and increasing technical competence. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 303 with C or better; EGR 340 with C or better OR Visiting University Student |
| EGR | 314 | Embedded Systems Design Project II | Applies design principles to conceptualize, implement and characterize an embedded electromechanical system in a project setting. Project emphasizes communication with project stakeholders; applying a human-centered design approach in the context of an embedded system; critical thinking in developing system specifications and evaluating a prototype relative to these specifications; and increasing technical competence. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 304 or RAS 304 with C or better; Credit is allowed for only EGR 314 or RAS 314 OR Visiting University Student |
| EGR | 315 | Robotic Systems Project II | Applies design principles to conceptualize, implement and characterize an electromechanical robotic system in a project setting. Project emphasizes communication with project stakeholders; applying a human-centered design approach in the context of a robotic system; critical thinking in developing system specifications and evaluating a prototype relative to these specifications; and increasing technical competence. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 305 with C or better; EGR 455 with C or better |
| EGR | 316 | Automotive Systems Project II | Applies design principles to conceptualize, implement and characterize an automotive system in a project setting. Project emphasizes communication with project stakeholders; applying a human-centered design approach in the context of an automotive system; critical thinking in developing system specifications and evaluating a prototype relative to these specifications; and increasing technical competence. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 306 with C or better |
| EGR | 317 | Humanitarian Engineering Project II | Applies design principles to conceptualize, implement and characterize an engineered system that addresses a humanitarian objective in a project setting. Project emphasizes communication with project stakeholders, applying an appropriate design approach, thinking critically in developing system specifications and evaluating a prototype relative to these specifications, and increasing technical competence. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): minimum junior standing |
| EGR | 321 | Water Resource Systems | Fundamentals of water supply and surface water hydrology in the context of the engineering, design and analysis of water resources systems. Places particular emphasis on those aspects of water systems that apply in the context of the developing world as well as in the context of environmentally sustainable systems. Course delivery is designed for engineering students with a broad understanding of engineering fundamentals but without specialist civil engineering knowledge. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 217 with C or better; EGR 219 with C or better |
| EGR | 325 | Water and Wastewater Treatment | Essential elements of aquatic chemistry, water pollution and water and wastewater treatment technologies. Provides a fundamental basis for understanding sustainable water and wastewater treatment processes and their design considerations. Includes critical evaluation of contemporary issues concerning our water environment and the associated regulatory framework to strengthen and emphasize importance of adequate practices used in operation and design of engineered water and wastewater treatment systems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): CHM 113 with C or better; EGR 321 with C or better; Credit is allowed for only EGR 325 or ERM 302 OR Visiting University Student |
| EGR | 330 | Design of Electrical Systems | Overview of electrical system architectures and components used in design of smart electrical and electromechanical systems. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 216 with C or better; EGR 219 with C or better OR Visiting University Student |

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| EGR | 334 | Analog-Digital Interface | Signal processing and operational tools that lie between sensors and digital data processors developed from a system perspective. Includes selection, deployment and analysis of sensors, analog signal processors and converters as well as their appropriate power supplies and the impact of all these components on system performance and cost. Uses experimental and simulation tools to demonstrate typical-use cases for medical, military, industrial and consumer applications. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 330 with C or better OR Visiting University Student |
| EGR | 338 | Microcontrollers in Smart Systems | Microcontroller implementation of smart systems. Microcontrollers applied to control dynamic systems, including the interface with sensors and actuators as well as developing simple open- and closed-loop control laws. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 330 with C or better |
| EGR | 340 | Engineering Thermo-Fluids I | First and second laws of thermodynamics, systems, processes, equations of state, property tables. Fluid statics, conservation of momentum, Bernoulli's equation, applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): PHY 121 with C or better; Pre- or corequisite(s): MAT 274 or 275 with C or better if completed OR Visiting University Student |
| EGR | 343 | Mechanics of Solid Materials | Studies strength and physical performance, such as deformations and load-carrying capacity, of natural and artificial solid structures. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 217 with C or better; EGR 218 with C or better OR Visiting University Student |
| EGR | 360 | Concepts in Automotive Engineering | Fundamental engineering principles as they apply to the design of ground vehicles used for the transportation of individuals or materials. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 202; Credit is allowed for only EGR 360 or EGR 394 (Intro to Concepts in Automotive Engineering) |
| EGR | 363 | Automotive Powertrains and Thermal Systems | Internal combustion engine (ICE) design in the context of automotive systems and heat management in vehicle systems, including thermal design of engine and transmission cooling systems. Operating characteristics and efficiencies of the ICE, terminology and abbreviations used in the automotive industry, contemporary fuels and the latest hybrid technology, CAFE standards and EPA vehicle emissions standards, lubrication systems and fluids appropriate for a given design, and current and future standards requirements. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre- or corequisite(s): EGR 340 with C or better if completed |
| EGR | 370 | Welding Survey | Theory and practical application of the most widely used industrial welding processes; introductory welding, fundamental welding metallurgy, weldment design and weld cost estimating; lab experiences using SMAW, GTAW, GMAW, FCAW, RSW, SW, OFC, OAW, PAC, and brazing. Aligns with the American Welding Society (AWS) SENSE standards. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Fulton Engineering undergraduate student OR Visiting University Student |
| EGR | 371 | Best Practices for Humanitarian Engineering | Technological and process-based best practices for engineering students to gain applied competence in low-cost and low-tech appropriate methods and technologies for small-scale technical problems in local and international humanitarian development contexts. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Fulton Schools of Engineering major; junior or senior standing |
| EGR | 380 | Advanced Computer Aided Design and Drafting (CADD) and Solid Modeling | Advanced techniques and practices of solid modeling and drafting, including motion, Finite Element Analysis (FEA), and sheet metal. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 240; Credit is allowed for only EGR 380 or EGR 394 (Advanced CADD & Solid Modeling) OR Visiting University Student |
| EGR | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-4 | | |
| EGR | 401 | Professional Design Project I | First half of a comprehensive project experience based on cumulative knowledge and skills gained in earlier coursework. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | L | Prerequisite(s): EGR 313, EGR 314, EGR 315, EGR 316, MFG 318, or RAS 314 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only EGR 401 or RAS 401 |
| EGR | 402 | Professional Design Project II | Second half of a comprehensive project experience based on cumulative knowledge and skills gained in earlier course work. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 401 or RAS 401 with C or better taken within one previous term; Credit is allowed for only EGR 402 or RAS 402 |
| EGR | 425 | Unit Treatment Technologies and Systems | Addresses fundamental concepts of unit treatment technologies and the scientific and engineering principles that govern the proper design, operation and management of these systems. Course is divided into two overlapping major categories of unit treatment technologies: air-pollution controls and soils/groundwater remediation. Enhances understanding of the unit treatment technologies by reviews of dimensional analysis, mass transport mechanisms, mass balances, modeling, kinetics and reactors. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 325 with C or better; Credit is allowed for only EGR 425 or ERM 402 OR Visiting University Student |

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| EGR | 426 | Integrated Solid Waste Systems | Addresses the fundamental concepts of solid waste, pathways and transformation processes following the from cradle-to-grave approach. Follows the life of the solid waste from point of generation, reclamation and treatment to point of disposal. Emphasizes describing the present solid waste systems as an integrative set of functional units. Considers physical, chemical and biological transformations of the solid waste, together with the existing technologies and practices for management, treatment and disposal of the solid waste. Includes a specific overview of sustainable solid waste practices such as waste minimization, pollution prevention, reuse and reclamation, together with current domestic and foreign regulations. Addresses planning and design of solid waste operations and facilities. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 325 with C or better; Credit is allowed for only EGR 426 or ERM 432 or ERM 532 OR Visiting University Student |
| EGR | 427 | Principles of Hazardous Waste and Materials | Trains future environmental engineers and professionals in fundamental hazardous waste and materials concepts. Addresses regulatory requirements; materials hazard communication; material safety concepts; types of hazardous waste/materials (chemical, radioactive, and infectious); risk assessment and routes of exposure; personal protective equipment; prudent practices; treatment; storage and disposal of hazardous waste/materials through the lens of the cradle-to-grave concept. Gains knowledge about the hazardous waste enforcement processes. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 325 with C or better; Credit is allowed for only EGR 427 or ERM 401 or ERM 501 OR Visiting University Student |
| EGR | 430 | Design, Fabrication, and Architecture of Electronic Devices | Comprehensive introduction to the design, operation, production and application of the most common semiconductor devices and categories of integrated circuit. Demonstrates the close interaction among materials, semiconductor physics and circuit performance, especially in terms of the applications and economics of digital systems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 330 with C or better OR Visiting University Student |
| EGR | 431 | Power Management | Devices and techniques to supply and manage power in electrical systems. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 330 with C or better |
| EGR | 432 | Engineering Thermo-Fluids II | Thermodynamic analysis of mixtures and power cycles. Design and analysis of fluid systems, conduction heat transfer, and introduction to convection and radiation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 340 with C or better; Credit is allowed for only EGR 432 or MET 432 OR Visiting University Student |
| EGR | 433 | Transforms and Systems Modeling | State-space and transform-domain modeling and analysis of electrical and electromechanical systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 216 or RAS 216 with C or better; EGR 455 or RAS 455 with C or better; MAT 274 or 275 with C or better; Pre- or corequisite(s): MAT 342 or 343; Credit is allowed for only EGR 433 or RAS 433 OR Visiting University Student |
| EGR | 438 | RF Systems | Applies fundamental principles of electromagnetics to design and analyze engineered RF systems and applications. Introduces and describes transmission lines, Smith Charts, s-parameters, waves in free space, reflection and refraction and their use in engineering systems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): PHY 331; Credit is allowed for only EGR 438 or EGR 494 (Fundamentals of RF) |
| EGR | 444 | Engineering Design | Applies fundamentals of mechanics in analysis and synthesis of machine components and systems, with emphasis on stress and failure. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 343 with C or better OR Visiting University Student |
| EGR | 445 | Mechanical Engineering Systems | Design and modeling of multicomponent electromechanical systems. Applications of computers, controllers, electronics using system hardware and software development. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 219 with C or better; EGR 444 with C or better |
| EGR | 455 | Robotic Systems I | Analysis and design of robotic systems focusing on kinematics, dynamics, coordinate transformations and modeling. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 217 with C or better; EGR 219 with C or better; Credit is allowed for only EGR 455 or EGR 545 or EGR 598 (Robotic Systems I) or RAS 455 or RAS 545 OR Visiting University Student |
| EGR | 456 | Robotic Systems II | Design of robotic systems focusing on dynamics, modeling and controlling a robot. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 455 or RAS 455 with C or better; Credit is allowed for only EGR 456 or EGR 546 or EGR 598 (Robotics Systems II) or RAS 456 or RAS 546 OR Visiting University Student |
| EGR | 463 | Vehicle Electrical Systems and Hybrid Systems | Basic theory and operation of hybrid electric drive systems of motor vehicles. Covers fundamentals of next generation electrification including: batteries technology, charging, power electronic operation. Emphasizes the principals of HEV energy management strategies and HEV modeling fundamentals. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 216 with C or better; EGR 363 with C or better OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|----------------------|-------|-----------------|--|
| EGR | 465 | Ground Vehicle Dynamics | Basic understanding of vehicle dynamics principles and a sufficient knowledge to analyze vehicle dynamic performance and associated chassis system design concepts. Understanding of various dynamical equations of motion governing vehicle behavior as well as computer simulation. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 363 with C or better OR Visiting University Student |
| EGR | 475 | Alternative Energy | Covers basic principles, thermodynamics and economics of alternative energy conversion technologies including solar photovoltaics, concentrating solar, wind, biomass, nuclear, fuel cells and energy storage. Briefly discusses conventional heat and power systems as they pertain to alternative energy integration. Introduces operating characteristics of renewable energy technologies through simulation and then reinforces through hands-on demonstrations and experiments with renewable energy systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EEE 202, EGR 216, EGR 340, or PHY 151 with C or better; Credit is allowed for only EGR 475 or EGR 598 (Alternative Energy) OR Visiting University Student |
| EGR | 476 | Microgrid Design and Operation | Design, modeling, integration, operation and maintenance of microgrids. Simulation-based design is coupled with hands-on integration to provide a comprehensive approach to microgrid systems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EEE 202, EGR 216, EGR 340, or PHY 151 with C or better; Credit is allowed for only EGR 476 or EGR 598 (Microgrid Design and Operation) OR Visiting University Student |
| EGR | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-12 | | |
| EGR | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-6 | | Prerequisite(s): Barrett Honors student |
| EGR | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| EGR | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-4 | | |
| EGR | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-3 | | |
| EGR | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 501 | Applied Linear Algebra for Engineers | Linear algebra with applications to robotic systems, data analysis and machine learning. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EGR 501 or EGR 598 (Applied Linear Algebra for Engineers) or MAE 501 or MSE 501 |
| EGR | 520 | Engineering Analysis I | Analytical methods for evaluation of engineering systems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 521 | Engineering Analysis II | Mathematical techniques for developing solutions of engineering problems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 520; Credit is allowed for only EGR 521 or EGR 598 (Engineering Analysis II) |
| EGR | 522 | Statistics for Quality Control in Manufacturing | Seven QC tools and control charts for data analysis and interpretation; Process capability, 6-Sigma, Lean Manufacturing, Quality system, Case study. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only EGR 522 or EGR 598 (Statistics for Engineers) |
| EGR | 523 | Finite Element Modeling and Analysis | Analyzes machine elements, frames and aerospace structures employing finite element analysis and software. Includes sensitivity analysis and estimating accuracy. Introduces the fundamentals of finite element analysis as well as providing hands-on experience using finite element software to model, analyze and design structures. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only EGR 494 (Finite Element Modeling Analysis) or EGR 523 or EGR 598 (Finite Element Modeling & Analysis) |
| EGR | 525 | Lean Systems | Creates a framework and model of lean engineering and a methodology for applying lean practices to systems engineering as a basis for lean product development. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 530 | Principles of Systems Engineering | Engineering is increasingly about complex systems. Addresses scale, scope and complexity increase that engineers need to consider to bring together technical and social issues in a highly integrated way as they design flexible, adaptable, robust systems that can be easily modified and reconfigured to satisfy changing requirements and new technological opportunities. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 535 | Innovation and Design of Engineering Academic Settings (IDEAS) | Innovation plays an important role in the evolution of the field of engineering education. Explores innovation processes in a variety of contexts, including (but not limited to) engineering education research and methods, theory, dissemination, teaching and training within formal and informal academic settings. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---------------------------------|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|----------------------|-------|-----------------|---|
| EGR | 545 | Robotic Systems I | Analysis and design of robotic systems focusing on kinematics, dynamics, coordinate transformations and modeling. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EGR 455 or EGR 545 or EGR 598 (Robotic Systems I) or RAS 455 or RAS 545 |
| EGR | 546 | Robotic Systems II | Design of robotic systems focusing on dynamics, modeling and controlling a robot. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EGR 456 or EGR 546 or EGR 598 (Robotics Systems II) or RAS 456 or RAS 546 |
| EGR | 550 | Mechatronic Systems | Presents a clear and comprehensive approach to the area of mechatronic systems, including the sensors, actuators, microcontrollers and applications which are found at the heart of everyday products and devices. Provides a systems-level approach to integrating these elements into a functioning device. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only EGR 550 or RAS 550 |
| EGR | 555 | Mechatronics Device Innovation | Project-based course on the design of mechatronic devices to address needs identified by hospital-based clinicians. Students work in teams with physicians to develop a novel mechatronic device while in parallel an entrepreneurial mindset is fostered. The design process includes: needs finding; problem identification; prior art searches; strategy and concept generation; estimation; sketching; sketch modeling; machine elements, ergonomics and prototyping. Emphasizes the development of creative designs that is motivated by analytical models. Also includes lectures on specific aspects pertinent to novel devices including intellectual property, marketing, licensing and startups and lean launchpad for startups, provided by Skysong Innovations. Significant communication component as students present ideas in class and at an industry forum. Students also write a publication quality final paper, which they are encouraged to submit to a conference or journal. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EGR 494 (Mechatronics Device Innovation) or EGR 555 or EGR 598 (Mechatronics Device Innovation) or RAS 555 |
| EGR | 556 | System Control and Optimization | Topics include state-space models, Lyapunov stability, controllability and observability, optimization and optimal control, and nonlinear systems and control. Includes both theories and real-world engineering examples/demos, and students apply the advanced control system approaches to self-selected course projects. Prior knowledge in classical linear control theory is necessary to be successful in this course. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EGR 556 or EGR 598 (System Control & Optimization) or MAE 506 or RAS 556 |
| EGR | 557 | Foldable Robotics | Organized around new types of robots being developed in research labs and industry across the country, foldable robots are designed and built using layered, flat sheets of a wide variety of materials and folded up to create both form and motion. Design of these devices begins with initial prototypes and proceeds through implementation and optimization, with a focus on application-specific projects that seek to solve problems of cost, parallelism, complexity and time using a relatively fast and easy prototyping method. Students delve deeper into the analytical problems associated with foldable mechanisms in topics such as design, kinematics, manufacturing, dynamics, simulation, optimization and stiffness analysis. Familiarity with programming fundamentals, scripted languages like Python or Matlab, linear algebra, differential equations, calculus, trigonometry and vector math is strongly suggested. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Ira A. Fulton graduate student; Credit is allowed for only EGR 494 (Foldable Robotics) or EGR 557 or EGR 598 (Foldable Robotics) or RAS 557 |
| EGR | 560 | Vehicle Dynamics and Control | Covers modeling, estimation, control and optimization of a typical vehicle (sub)system dynamics. Recent advances in automotive technology, such as vehicle electrification and automated/connected driving, further complicate vehicle (sub)systems as nonlinear multi-input-multi-output systems with unmodeled dynamics, structure uncertainties and external disturbances. Thus, effective vehicle control design requires to sophisticatedly combine advanced control theory with knowledge of vehicle characteristics. To achieve this goal, the course introduces a variety of modeling, advanced control, estimation and optimization techniques for typical vehicle (sub)systems. Discusses applications of control theories to various vehicle (sub)system dynamics through examples inspired by pertinent research projects. Extensively utilizes co-simulation between Matlab/Simulink and CarSim® for vehicle dynamics analysis, vehicle control design and verification. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only EGR 560 or EGR 598 (Vehicle Dynamics and Control) |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|----------------------|-------|-----------------|--|
| EGR | 565 | Qualitative Methods for Engineering Education Research | Provides a deep, empirical exposure to interpretive research methods in engineering education research. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Engineering PhD student |
| EGR | 572 | Quantitative Methods for Engineering Education Research | Specific quantitative analysis techniques used in the field of engineering education, with special focus on instrument design, ANOVA and multiple regression. Prior coursework or experience with basic statistical techniques is necessary to be successful in this course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Engineering PhD student |
| EGR | 574 | Engineering Education Systems in Context | Provides a systems understanding of current trends in engineering education research to engage engineering education research graduate students with the latest developments in the field in which they will situate their research projects. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Engineering PhD student |
| EGR | 576 | From Then Until Now: Examining Inequities in STEM | Provides a novel opportunity for students to learn about inequities that have persisted in STEM and to challenge the way inclusion is cultivated. Challenges students to become aware of the past, give context to the present and think creatively about new ways forward. Additionally, takes an entrepreneurial approach toward being inclusive. As both teachers and students, in developing critical consciousness, it is imperative that we refute the banking approach to education and constantly work to critically consider our realities. Adopts an inclusive, student-centered pedagogy. Facilitates learning through activities that provide exposure to and experience with critical content. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or non-degree seeking graduate student; Credit is allowed for only EGR 576 or EGR 598 (From Then Until Now: Examining Inequities in STEM) |
| EGR | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 581 | Simulating Manufacturing Systems | Specific modeling and simulation tools used to understand and optimize manufacturing systems operations, with an emphasis on both model building and statistical interpretation of model output. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only EGR 581 or EGR 598 (Simulating Manufacturing Systems) or MFG 581 |
| EGR | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 602 | Principles of Independent Research | Practice of key components of independent research that include project planning, literature survey, interview, data collection and analysis, proposal development, technical writing and presentation. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Manufacturing Engineering PhD or Systems Engineering PhD student |
| EGR | 608 | Advanced Simulation | Simulation has a central role in design, operation, optimization and evolution of complex systems. There are many tools but they have a common need for rigorous science/math, parameterized models and realistic validation. Uses and compares five common platforms. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Engineering PhD student |

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| EGR | 611 | Complex Engineering Systems | Advanced concepts in design and evaluation of engineering systems: subsystems, systems architectures and seamless integration of subsystems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Engineering PhD student |
| EGR | 671 | Applications of Qualitative Methods for Engineering Education Research | Provides a deep, situated exposure to making and handling data in qualitative engineering education research projects. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Engineering PhD student; EGR 565 |
| EGR | 673 | Applications of Quantitative Methods for Engineering Education Research | Applies quantitative analysis techniques to an engineering education research project. Specific focus on data collection, instrument development, and ANOVA/regression analysis techniques. Prior coursework or experience with basic statistical techniques is necessary to be successful in this course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Engineering PhD student; EGR 572 |
| EGR | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ELL | 504 | Instructional Design for Culturally and Linguistically Diverse Students | Provides a foundation in instructional design to meet the academic and linguistic needs of culturally and linguistically diverse students, with a focus on English language learners. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BLE 404 or ELL 504 or SPE 404 |
| ELL | 515 | Structured English Immersion (SEI) Methods | Examines current educational practices and historical legal issues. Prepares teacher candidates with a provisional Structured English Immersion endorsement. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BLE 220 or BLE 408 or ELL 515 |
| ELL | 516 | Advanced SEI Methods for ELLs | More fully prepares teachers for linguistically diverse classrooms in which there are students learning through SEI methodology. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ELS | 501 | Environmental Life Sciences: Grand Challenge: Global Climate Change | Introduces first-year graduate students to a range of fields related to the Environmental Life Sciences graduate program. Co-instructed by an interdisciplinary faculty team, combines overview lectures and active discussion of current literature in the fields of inquiry. Culminates in synthetic collaborative research proposals on topics that foster transdisciplinary approaches to environmental life science questions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ELS | 535 | Sustainable Ecosystems | How human activities and management practices alter biodiversity, ecosystem functioning and the provisioning of ecosystem services; use of economic and other social-science perspectives to estimate the value of ecosystem services; evaluation of options for achieving the sustainable flow of services from ecosystems. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only ELS 535 or SOS 535 |
| ELS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | |
| ELS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ELS | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ELS | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ELS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ELS | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ELS | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|------------|--------------------------------------|--|-------------------|-------------------|-----------------|---------------|---------------------------|--------------------------|-------|-----------------|--|
| EMS | 501 | First Workshop and Orientation | Covers the four learning threads of the EMSL program: global context, strategic sustainability, communications and sustainability, and sustainability leadership. Students engage in meaningful group discussions, field trips and hands-on experiences directly tied to sustainability. Faculty, guest speakers and practitioners engage students in critical thought and apply sustainability theories into real-world scenarios. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): Executive Masters for Sustainability Leadership major |
| EMS | 502 | Global Context I | Examine global sustainability issues, determine materiality for their organization and practice communicating this information to critical stakeholders, i.e., translating the complex global context into compelling organizational realities. Applies tools to identify relevant risks and opportunities within their organizational context and investigates potential responses. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 2 | | Pre- or corequisite(s): EMS 501 or SOS 501 |
| EMS | 503 | Strategic Sustainability I | As a foundational course in strategic sustainability, focuses on sustainability as a strategic lens. Explores the interface among strategy, sustainability and ongoing success, developing a framework for strategic sustainability that underpins authentic and transparent strategic efforts. Identifies the different levels and implications of organizational maturity from a strategic sustainability perspective. Engages in systems mapping, planning and prioritizing methods, tools and techniques to identify and assess strategic opportunities. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 2 | | Pre- or corequisite(s): EMS 501 or SOS 501 |
| EMS | 504 | Communications and Sustainability I | This foundational course for professional communications aims to create chief sustainability storytellers. Helps students survey their internal communications environments, understand their target audiences and their unique customer centricities, and develop their voices through the use of proven story structures and techniques. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 2 | | Pre- or corequisite(s): EMS 501 or SOS 501 |
| EMS | 505 | Sustainability Leadership I | Focuses on emerging sustainability leadership. Students meld powerful and traditional leadership skills while challenging their prior knowledge with a multiple lens examination of leadership in a sustainability context. Provides a view of oneself to prepare students to better understand others. Students create the first phase of their personal plans for their unique needs and individual growth toward sustainability leadership. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 2 | | Pre- or corequisite(s): EMS 501 or SOS 501 |
| EMS | 506 | Global Context II | Building on the skills gained in previous course work, explores proactive response strategies to material global sustainability challenges and opportunities. Examine how organizations can evolve from risk avoidance and compliance to innovation and thought leadership and explores what role they can play as sustainability leaders. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): EMS 502 |
| EMS | 507 | Strategic Sustainability II | Uses reframing, re-visioning and backcasting via a sustainability lens as constructs for introducing strategic sustainability across all aspects of an organization both internally and externally. Students apply and integrate various science-based methods, used successfully by organizations large and small, for developing flexible action platforms for sustainable enterprises. Expects students to create a strategic vision and action plan for an organization. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): EMS 503 |
| EMS | 509 | Communications and Sustainability II | Focuses on audiences and looks at how and where students are telling their stories of sustainability. Students map internal, external and target audiences/markets, strategize channels to reach them with their sustainability stories, and create multi-channel communications plans that incorporate modes of engagement for all audiences. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): EMS 504 |
| EMS | 510 | Sustainability Leadership II | Challenges prior definitions of systems, responsibility and community from a sustainability and leadership perspective. Also provides a toolbox for leading with sustainability as a fundamental success platform. Provides information needed for students to better understand others, a necessary skill to be able to persuasively lead others to transform their organization into a sustainable enterprise. The focus shifts away from being centered around oneself and towards a focus on audience/stakeholders. Students continue to develop their personal leadership skills. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): EMS 505 |
| EMS | 511 | Global Context III | Expands student perspectives beyond the needs of their organizations and considers what could be gained from industry and cross-industry collaborations. Assesses the implications of changes in leadership perspectives to their organizational contexts. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): EMS 506 |

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|---------|------------|---|---|-------------------|-------------------|-----------------|---------------|---------------------------|--------------------------|-------|-----------------|---|
| EMS | 512 | Strategic Sustainability III | Focuses on expanding efforts for strategic planning and sustainable success beyond the bounds of a given enterprise through strategic collaboration, partnering, innovation and resource development. Applies strategic sustainability as a tool for developing synergistic collaborations and driving innovation for more sustainable enterprises and enterprise systems. Also develops sustainability-informed collaborative approaches to identify and garner resources for strategic imperatives. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): EMS 507 |
| EMS | 513 | Communications and Sustainability III | Ignites the storyteller within as students learn to think like authors; craft their stories in scenes; and produce their presentations to entertain, educate and engage their audiences to move them to action. Reveals the students' transformation into courageous storytellers in presentations that combine their compelling narratives with captivating visual storytelling. Also creates social media editorial calendars to publish their stories to help express their thought leadership in sustainability online. By the end of this course, students learn how to own any room, from the boardroom and break room to the chat room and living room. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): EMS 509 |
| EMS | 514 | Sustainability Leadership III | Focuses on transformational leadership for global success, which requires students to identify and apply pathways to inspire, persuade and influence others to act toward a shared global vision. Some of the challenges that all future sustainability leaders face are future orientation; reframing organizations to be globally scalable yet locally focused; and redefining success and growth using sustainability as a success lens. These are just a few of the challenging tasks that sustainability leaders face. Importantly, sustainable leadership involves being an effective change leader, and this course provides the tools and learning needed to initiate and sustain change. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): EMS 510 |
| EMS | 515 | EMSL Capstone Course I | Guides students through developing their individualized capstone proposal and facilitates interaction with numerous executive-level sustainability leaders and strategists who work in diverse organizations. During spring break, students have the option to participate in a week-long immersive experience in a major U.S. metropolitan area where they directly interact with and provide feedback to other members of their student cohort. The final assignment is development of a sustainability leadership capstone project. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): Sustainability Leadership EMSL student; minimum 3.00 GPA |
| EMS | 516 | EMSL Capstone Course II | Final and culminating course in the EMSL sequence. As such, via initiation of a sustainability capstone project, students apply knowledge and skills learned in all preceding EMSL courses and, especially, what was learned as part of the preceding course during the "immersive" week taught in a major U.S. metropolitan area such as Washington, DC, or Los Angeles, CA. Builds on the capstone proposal previously developed to implement a sustainability leadership project in a specific organization. Thus, students actually initiate that project, track and report its progress, and reflect on the experience going from plan to implementation. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): EMS 508 or EMS 515 |
| EMS | 522 | Mastering the Global Sustainability Context | Leaders in any organizational context face an increasingly connected and transparent world where social and environmental issues must be weighed in everyday decisions, requiring increasingly more proactive response strategies to meet stakeholder expectations and adapt to market and policy dynamics. Explores iconic sustainability issues and trends and their impact on their organization, institutions, communities and stakeholders. Applies tools to identify the relevant risks and opportunities within their organizational context and evaluate and prioritize relevant solutions and management approaches. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): SOS 508 or 510 |

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| EMS | 523 | Strategic Sustainability and Leadership | As sustainability becomes a core strategic goal of any organization, it impacts all aspects of the organization from informing risk and reward to the definitions and dimensions of innovation and overall success. Explores the interface between strategy and sustainability, developing a framework for strategic sustainability that underpins authentic and transparent strategic efforts. Uses reframing, re-visioning and backcasting via a sustainability lens as constructs for introducing strategic sustainability across all aspects of an organization. Explores and applies multiple sustainability-informed approaches, methods and tools to identify, assess and recommend strategic opportunities and adaptable action-pathways. Upon completion, students should be able to use strategic-sustainability knowledge to integrate and apply emerging sustainability approaches and to create strategic visions and action plans for an organization. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): SOS 508 or 510 |
| EMS | 524 | Sustainability Storytelling and Communications | Fundamentals of applying storytelling to sustainability. Leads students through the power of storytelling and effective communications in modern business, nonprofit and government settings. Discovers the why of storytelling, and the neuroscience and anthropology behind its effectiveness. Students learn about communication styles within leadership, their own personal communication strengths and weaknesses, discern the barriers to persuasive communication and storytelling within sustainability, how to remedy common communication missteps, and how to better understand and engage audiences by making them the "hero of the story." Uses digital tools to create and deliver compelling sustainability communications and presentations to any audience, anywhere to enhance the efficacy of sustainability leadership within and outside of an organization. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): SOS 508 or 510 |
| EMS | 525 | Essentials for Transformative Leadership in Sustainability | Melds traditional leadership applications with powerful skills aimed to develop or reawaken innate desires to effect change. Challenges prior knowledge and assumptions with multiple lenses of leadership within a sustainability context while teaching how to lead others. Critically examines prior definitions of systems, responsibility and community from the perspective of sustainability and leadership and provides a toolbox for leading with sustainability as a fundamental success platform. Students create a personal leadership plan for their unique needs and personal growth toward sustainability leadership. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): SOS 508 or 510 |
| EMS | 586 | Introduction to MSL Capstone | Students select and prepare for their final capstone project in the MSL program. Students have an opportunity to present and discuss their concepts and plans with faculty and with other students in the cohort. Students also learn project management techniques for completing their capstone project. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): Sustainability Leadership MSL student; EMS 502; EMS 503; EMS 504; EMS 505; SOS 501 |
| EMS | 587 | MSL Capstone Preparation | Students take their culminating capstone project from proposal to hands-on implementation. Students connect, network, leverage, test, adapt and finally implement their capstone projects. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): EMS 586 |
| EMS | 588 | MSL Capstone | Students complete and fully implement their capstone projects. | N | RSC | N | GNA | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): EMS 587 |
| EMS | 589 | MSL Capstone Project Preparation | One challenge for sustainability leaders is the translation of an idea to an actionable project or program which can lead to sustainable outcomes. Guides students through the initiation and planning stages of a sustainability project, going from theory to hands-on implementation. The capstone is the student's idea in action, allowing him or her to learn to connect, network, leverage, test, adapt and finally implement sustainability solution. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): EMS 522; EMS 523; EMS 524; EMS 525; SOS 508; SOS 509 |
| EMS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Global Futures | School of Sustainability | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EMS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EMS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Global Futures | School of Sustainability | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EMS | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| EMS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EMS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 101 | First-Year Composition | Discovers, organizes and develops ideas in relation to the writer's purpose, subject and audience. Emphasizes modes of written discourse and effective use of rhetorical principles. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): All students; For students for whom English is not the native language, enroll in ENG 107 (or WAC 107). |
| ENG | 102 | First-Year Composition | Critical reading and writing; emphasizes strategies of academic discourse. Research paper required. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 101 or 107 with C or better OR Visiting University Student |
| ENG | 105 | Advanced First-Year Composition | Concentrated composition course for students with superior writing skills; intensive reading; research papers; logical and rhetorical effectiveness. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ACT English score of 26 or above, or SAT Verbal score of 660 or above (or SAT Verbal score of 620 or above if taken before 2016), or Accuplacer score of 8 or above; Credit is allowed for ENG 101 or ENG 105 OR Visiting University Student |
| ENG | 107 | First-Year Composition | For students for whom English is not the native language. Combines classroom and supplemental instruction to teach academic genres of writing, including definition, summary and analysis. Students for whom English is their first language should enroll in ENG 101. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | |
| ENG | 108 | First-Year Composition | For students for whom English is not the native language. Critical reading and writing; emphasizes strategies of academic discourse. Research writing required. Satisfies graduation requirement of ENG 102. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 101 or 107 with C or better OR Visiting University Student |
| ENG | 110 | Approaching Big Problems | Examines how language helps to shape important issues and big questions in the world today. By studying the process of meaning-making, students work toward understanding these issues better and answering these questions. | N | LEC | Y | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | |
| ENG | 130 | Prototyping Dreams | How do you build your dreams? Explores speculative design and inspirational prototyping as a way to imagine and organize worlds. These prototypes do not have to be functional or material, but they must be functional stories, effectively communicating the creator's vision with others. Surveys a number of creative paradigms for imagining alternative worlds that are more ethical and sustainable, and experiments with techniques for physical, digital, literary and artistic prototyping. | N | LEL | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only AME 130 or ENG 130 OR Visiting University Student |
| ENG | 131 | Poetry in America | Through the lens of American poetry, provides highly engaging learning experiences anchored in four central learning outcomes, or "pillars," which form a foundational approach to close reading poems and other texts: making observations, understanding structure and form, situating texts in history and enjoying language. Additionally, students practice critical and creative analysis and reflect on their goals and progress as readers and writers. | Y | LEC | Y | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Credit is allowed for only ENG 131 or ENG 194 (Poetry in America) |
| ENG | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-3 | | Prerequisite(s): freshman standing; maximum 25 hours |
| ENG | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-4 | | |
| ENG | 200 | Critical Reading and Writing About Literature | Introduces the terminology, methods, and objectives of the study of literature, with practice in interpretation and evaluation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 201 | World Literature | Classical and medieval periods. Selections from the great literature of the world in translation and lectures on the cultural background. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU & H & G | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 202 | World Literature | Renaissance and modern periods. Selections from the great literature of the world in translation and lectures on the cultural background. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 203 | Introduction to Health Humanities | Introduces the field of health humanities. Through readings in cultural studies of literature and other media, history of medicine, bioethics, disability studies, cross-cultural and global health, and related scholarly areas, introduces some of the fundamental challenges and debates in this growing interdisciplinary field. Also addresses questions of medical professional ethics and teaches structural awareness of the sociocultural aspects of health and health care. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| ENG | 204 | Topics in Contemporary Literature | Topics in contemporary literature, which may include narrative and medicine. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 205 | Introduction to Writing, Rhetorics and Literacies | How do we understand the ways in which people in systems--both small and large--social, political, and economic, throughout the world use language and other symbolic resources to carry out work? Three fields of study take this kind of questioning especially seriously: studies in writing, studies in rhetoric, and studies in literacy. Inquiry--that persistent, deliberate commitment to question and to build methods sufficient to that questioning--is a generative force in each of these fields of study. Familiarizes students with such questioning traditions and to help them judge for themselves what each is good for. The goal is to strengthen your own repertoire and decision-making power for producing and circulating work (widely defined across material, print, and digital media) that matters in our risk-ridden world. Quite simply, then, this is a course in asking good questions and in evaluating responses to situations that spur questioning. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 206 | Introduction to Literary Studies | Introduces the terminology, methods and objectives for interpreting and writing about literary and cultural texts. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| ENG | 207 | Elements of English Language and Cultures I | English communication and cultural awareness for international users of English. Relies on the many contexts of English use around the world to teach aspects of grammar, reading, writing, listening and speaking. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 107; ENG 108 |
| ENG | 208 | Elements of English Language and Cultures II | English communication and cultural awareness for international users of English. Relies on the many contexts of English use around the world to teach aspects of grammar, reading, writing, listening and speaking. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 107 with C or better; ENG 108 with C or better |
| ENG | 210 | Introduction to Creative Writing | Beginning creative writing in genres other than poetry and fiction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 211 | Introduction to English Studies | Introduces key terms and conventions for analyzing and interpreting diverse literary and cultural texts. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 213 | Introduction to the Study of Language | Language as code; phonetics, phonology, morphology, and syntax; the lexicon; language acquisition; sociolinguistics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 214 | English Grammar and Usage | Fundamentals of English grammar (word and phrase structure), English usage (punctuation, grammatical correctness), and grammatical and usage theory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 215 | Strategies of Academic Writing | Advanced course in techniques of analyzing and writing academic expository prose. Writing is research based. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 216 | Persuasive Writing on Public Issues | Advanced course in techniques of analyzing and writing persuasive arguments addressing topics of current public interest. Papers are research based. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 217 | Writing Reflective Essays | Critical examination of the influences discourse has on formation of identity; narrative analyses of self and culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 218 | Writing About Literature | Advanced writing course requiring analytical and expository essays about fiction, poetry, and drama. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 220 | Gender, Media and Culture | Introduction to gender and the media including magazines, films, advertising, new media, and other popular culture forms. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & C | Credit is allowed for only ENG 220 or WST 220 |
| ENG | 221 | Survey of English Literature | Medieval, Renaissance, and 18th-century literature. Emphasizes major writers and their works in their literary and historical contexts. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 222 | Survey of English Literature | Romantic, Victorian, and 20th-century literature. Emphasizes major writers and their works in their literary and historical contexts. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 228 | Introduction to Shakespeare | - | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105 or 108 with C or better; Credit is allowed for only ENG 228 or 294 (Shakespeare for Teachers) OR (Introduction to Shakespeare) |

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| ENG | 229 | Love and Lust in Medieval Literature | The medieval period, roughly 600-1500, cannot reasonably be called the "dark ages." Indeed, the Middle Ages provides us with a corpus of literature replete with complex characters struggling to live and love, dealing with sin and lust, unity and diversity, faith and reason within a tumultuous cultural milieu and religious rigor, all of which are feeling the winds of changes. Explores medieval literature, noting the astonishing differences from our own time, as well as surprising similarities. Western civilization, our own 21st century, for better or for worse, is indebted to the love and lust of the medievals. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105 or 108 with C or better; Credit is allowed for only ENG 229 or 294 (Love and Lust in Medieval Lit) |
| ENG | 230 | Introduction to Film Studies | Introduces the style and cultural significance of feature films. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 235 | Introduction to Contemporary Theory | Introduces key ideas and concepts in contemporary critical and cultural theory. In addition to the "posts"--postmodernism, poststructuralism, post-Marxism, postcolonial studies, post-feminism and posthumanism--explores new theoretical formations that have emerged in response to our contemporary social condition, such as queer theory, trauma theory, disability studies, cognitive studies, the new "object-oriented" philosophies and materialist theories. And then there's the "trans" domains--transnationalism, transgender studies and transhumanism--which, like so many contemporary theoretical formations opens up new perspectives on where and how we live, who we are and even what we are. The contemporary theories studied in this course provide the tools for understanding 21st-century life and the limits and enjoyments of our humanity. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 235 or ENG 294 (Literary Theory & Interdisciplinary Studies) or ENG 294 (Introduction to Contemporary Theory) |
| ENG | 241 | Literatures of the United States to 1860 | Surveys literary movements and genres from colonization to the Civil War. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 242 | Literatures of the United States, 1860 to Present | Surveys literary movements and genres from the Civil War to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 243 | Introduction to Writing Family History | Interdisciplinary writing course on theories, methodologies and issues in writing family history. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 244 | Introduction to Researching Family History | Introduces research methods in family history. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 245 | Popular Culture Issues | Selected topics in various forms of popular culture related to written texts. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 287 | Beginning Creative Writing Workshop in Poetry | Beginning writing of poetry. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 288 | Beginning Creative Writing Workshop in Fiction | Beginning writing of fiction. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-4 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 300 | Your Degree in the World | Inquiry-driven course where students examine the place of an English degree within a larger humanities context, and explore the kinds of work they can do in the world with their education. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 1 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 301 | Writing for the Professions | Advanced practice in writing and editing expository prose. Primarily for preprofessional majors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 301 or ENG 302 OR Visiting University Student |
| ENG | 302 | Business Writing | Advanced interdisciplinary writing course designed to improve the workplace writing competence of W. P. Carey School of Business professional and preprofessional students. Lecture, discussion, case studies, cooperative learning, interactive, Internet, student presentations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): W. P. Carey major; ENG 102, 105, or 108 with C or better; minimum 55 hours or junior standing; Credit is allowed for only ENG 301 or ENG 302 OR Visiting University Student |
| ENG | 303 | Classical Backgrounds of English Literature | Readings of Greek and Latin literature in translation as they relate to literature in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 304 | Critical Theories and Methods | Covers ideas and concepts in contemporary critical and cultural theory. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| ENG | 305 | Interpretive Theory | Develops interpretive practices necessary for English studies. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |

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| ENG | 307 | Writing Science Fiction | Writing science fiction, primarily the short story. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 308 | Form and History/Culture | Examines how literary and rhetorical forms are situated both historically and culturally. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 309 | Rhetoric for Writers | Students identify, analyze and employ key concepts and theories of rhetoric to understand and compose written texts. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 310 | Intermediate Creative Writing | Intermediate creative writing in genres other than poetry, fiction, or science fiction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 210 with C or better OR Visiting University Student |
| ENG | 311 | Persuasive Writing | Advanced writing course that focuses on persuasive writing for diverse audiences. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 312 | English in its Social Setting | Introduces the sociolinguistic study of the English language. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L or HU or SB | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 313 | Phonology and Morphology | The study of language sound-structure (phonology) and word-structure (morphology) in the framework of current linguistic theory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; ENG 213 or SLC 201 with C or better OR Visiting University Student |
| ENG | 314 | Modern Grammar | Modern descriptive models of English grammar. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 315 | Medieval Literature in Translation | Medieval literature (insular and continental) in translation, from Beowulf to Malory (excluding Chaucer), emphasizing cultural and intellectual backgrounds. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 316 | Literary Readings of the Hebrew Bible | Literary analysis of two of the main genres of the Hebrew Bible: narrative art and poetry. Students learn the main literary conventions of biblical prose and poetry, and how these conventions are applied or subverted. Each class comprises the study of a literary aspect, close readings, and thematic discussions. Biblical texts are read only in translation. They are situated in the religious, literary and artistic traditions that have developed on their basis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ENG 316, HEB 316, JST 316, REL 316 OR Visiting University Student |
| ENG | 317 | Cross-Cultural Writing | Cultural differences and their impact on writing and/or their role in miscommunication and misinterpretation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 318 | The Life and Death of Languages | The history of language development, spread and contraction as well as thinking on where language may be going in the future. Discusses how languages differentiate and become new languages, how they mix with each other and how the development of writing can change this process. Maintains a focus on the ways speakers from different language communities have found to communicate through pidgin languages, bilingualism and languages of wider communication. Moreover, discusses the invention of new varieties and languages by people who feel their current choices do not fit their needs. Lastly, in considering what might be needed in the future, addresses issues such as machine translation, brain-to-brain communication, aspects of intergalactic communication posed in science fiction and interspecies communication. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 318 or ENG 394 (The Life and Death of Languages) OR Visiting University Student |
| ENG | 319 | Future of English | This transdisciplinary course investigates what varieties of English are currently used by whom and for what purposes, and attempts to predict the future of English and its significance at the individual, national and global levels. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | G | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 319 or ENG 394 (Future of English) OR Visiting University Student |
| ENG | 320 | Medievalism in Modern Culture | Studies the representation of Medieval narratives, characters, themes, myths, and images in modern culture. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 321 | Shakespeare | Readings in Shakespeare's major comedies, tragedies, histories, romances and/or poems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 322 | Westerns: Film and Short Stories | A survey of classical short stories and recent films. Focuses on Wister, L'Amour, Grey and Leonard. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 322 or ENG 494 (Westerns: Films and Short Stories) or ENG 494 (Westerns: Movies and Short Novels) |
| ENG | 323 | Rhetoric and Grammar | Practical course taught in the computer lab. Emphasizes rhetorical strategies and grammar for writers. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 324 | Horror: Film and Short Stories | A survey of major writers since 1800, and of classic filmmakers. The historical development of horror in relation to Gothic and grotesque short stories and films. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| ENG | 325 | Restoration and the 18th Century | Writers and movements in nondramatic literature of the restoration and early 18th century. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 326 | English Drama 1660-1800 | English drama 1660-1800. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | |
| ENG | 327 | English Studies Research | How to evaluate and conduct various research methods for different areas of English studies. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 328 | The Novel to Jane Austen | From origins of prose fiction through the 18th century. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 329 | 19th-Century British Fiction | Includes such authors as Austen, Dickens, Eliot and Conrad. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 330 | 19th-Century British Poetry | Romantic and Victorian poets studied in context. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 331 | American Drama | Major works in the development of American drama from its beginnings to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 332 | Studies in Race and Ethnicity in Literature and Culture | Investigates racial and ethnic dynamics through literature and culture. | Y | LEC | Y | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 333 | American Ethnic Literature | Examines America's multiethnic identity through works of literature that depict American ethnic, gender, and class sensibilities. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 334 | The American Southwest in Literature and Film | Evaluates literary texts and films addressing the diverse literatures and cultures of the American Southwest. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AMS 336 or ENG 334 or ETH 334 OR Visiting University Student |
| ENG | 335 | American Poetry | Themes and developments in American poetry. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 336 | Women, Film and Culture | Critical examination of the way films can reflect, reinforce or challenge mainstream cultural ideas about women. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 336 or WST 330 OR Visiting University Student |
| ENG | 337 | Major American Novels | Major American novels studied in their ethnically diverse literary, historical, and cultural contexts. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 338 | Protest Literature | Examines traditions of social protest literature across a variety of historical periods and literary and rhetorical genres. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, ENG 105, or ENG 108 with C or better; minimum 24 earned hours; Credit is allowed for ENG 394 (Banned Literature), 338 or 440 (American Protest Novels) |
| ENG | 339 | Creating Dramatic Works: Page to Stage to Screen | Practical study of writing, directing, acting and performance techniques essential for the creation of theatrical works for stage, television and theatrical film presentation. | N | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prereq(s): ENG 102, 105, or 108 w/C or better; Credit allowed for only COM 339 or COM 394(Crt Drm Wrk:Pg to Stg&Scrn) or ENG 339 or ENG 394(Crt Drm Wrk:Pg to Stg&Scrn) or IAP 339 or IAP 394(Crt Drm Wrk:Pg to Stg&Scrn) OR Visiting University Student |
| ENG | 342 | 20th-Century British and Irish Literature | Major works in the development of literature since 1900, studied in their historical and cultural contexts. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 343 | Crime: Film and Short Stories | Examines crime in films and in classical and contemporary fiction with a focus on the short story. Explores a range of important topics including the relationship between the law, violence, gender and the legal, political and social impacts of fictional representations of crime and justice. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 344 | Intermediate Family History Research | How to locate records, analyze and interpret evidence, and write a family history narrative. | N | RSC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 345 | Selected Authors or Issues | Different topics may be offered. Film topics with lab may carry 4 credits. May be repeated for credit when topics vary. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3-4 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 347 | Modern Israeli Literature in Translation | Modern Hebrew, or Israeli Hebrew, started at the end of the 19th century in Europe and today it is the language of the State of Israel. During this short period modern Hebrew developed literature with its unique local characteristic, as well as universal ideas. Reads and examines four books against their social and historical background. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ENG 347 or HEB 347 or JST 347 or SLC 347 or ENG/HEB/JST/SLC 394 (Modern Hebrew Literature in Translation) |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| ENG | 348 | The Borders of Language | In-depth focus on language use, multilingualism and social life in borderlands contexts, in and out of school. Explores the historical and contemporary dimensions of language use in the borderlands, including Indigenous languages, English and Spanish, and hybrid forms. Also introduces theories and methods in the field of linguistic anthropology. Students conduct research on everyday linguistic practice and connect it to broader sociopolitical realities. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only ASB 348 or ASB 394 (The Borders of Language) or ENG 348 or ENG 394 (The Borders of Language) or TCL 348 or TCL 394 (The Borders of Language) |
| ENG | 349 | Global Literary Studies | Studies multiple literatures and cultures across the globe, often deploying transnational and comparative methodologies. | Y | LEC | Y | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 350 | Studies in Literary Histories and Traditions | Studies of one or more literary traditions or historical movements | Y | LEC | Y | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 352 | Short Story | Development of the short story as a literary form; analysis of its technique from the work of representative authors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 353 | African American Literature: Beginnings through the Harlem Renaissance | Focuses on the history of African American literature through the Harlem Renaissance, as exemplified in selected slave narratives, poems, and fiction. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AFR 353 (or AFH 353) or AMS 353 or ENG 353 or ETH 353 OR Visiting University Student |
| ENG | 354 | African American Literature: Harlem Renaissance to the Present | Examines the literary productions of African Americans from the Harlem Renaissance (about 1920) to the present focusing on fiction, poetry, drama, and essays. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AFR 354 (or AFH 354) or AMS 354 or ENG 354 or ETH 354 OR Visiting University Student |
| ENG | 355 | European Dramatic Traditions | Development of European drama since Aeschylus. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 356 | The Bible as Literature | Readings in the Jewish and Christian Scriptures in modern translation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 359 | Indigenous American Literature | Selected oral traditions and contemporary works by Indigenous American authors. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 360 | Western American Literature | Critical examination of ideas and traditions of the literature of the western United States, including the novel. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 361 | Scriptwriting | The art of scriptwriting using 10-minute plays as the platform. Designed to help students learn craft techniques and to expose them to the various forms of the 10-minute script. Includes lectures, writing assignments, discussion, and criticism. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 362 | Film and Media Franchises | Students gain an appreciation for film and media franchises by studying their production, reception and cultural significance. | Y | LEC | Y | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, ENG 105, ENG 108, FMS 100, or FMS 200 with C or better, or minimum 45 hours; Credit is allowed for only ENG 362 or FMS 362 OR Visiting University Student |
| ENG | 363 | Transborder Mexican and Chicano/a Literature of Southwest North America | Development of Chicana and Chicano literature; study of genres and themes; attention to literary antecedents. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 363 or TCL 363 OR Visiting University Student |
| ENG | 364 | Women and Literature | Approaches to issues of gender and representation in literature by and about women. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 365 | History of Film | Development of motion pictures. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3-4 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 366 | Literature on Film | Studies literary texts and their adaptation to film. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 367 | Environmental Issues in Literature and Film | Evaluates literary texts and films that address interconnected cultural, historical, and environmental issues. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 368 | Art of the Personal Essay | Writing personal essays drawing on both research and personal experience. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 369 | Science Fiction Studies | Development of science fiction and fantasy literature. May be repeated for credit when topics vary. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 370 | Science, Values, and the Public | Examines science, communication, and a range of public opinion to understand science as a discourse of profound social power. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 35 hours; Credit is allowed for only BIO 315 or ENG 370 |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| ENG | 371 | Rhetoric of the Environmental Movement | Examines how language is used to conceptualize, clarify/obfuscate, and resolve problems among those who concern themselves with the disposition of natural resources. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 373 | Publishing in Literary Magazines | Analyzes the history, publishing preferences, editorial staff, and submission guidelines of literary magazines. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 374 | Technical Editing | Fundamentals of editing technical and professional materials. Role of editors in analyzing, revising, and polishing manuscripts. Successful writer-editor dialogues. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 375 | Titans of Business | Explores leading CEOs and corporations from a humanities perspective. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 376 | Writing a Personal History | Interdisciplinary writing course emphasizing theories, methodologies, and issues of composing personal histories. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 376 or VTS 376 OR Visiting University Student |
| ENG | 377 | Editing Family History for Public Audiences | Fundamentals of editing family writing. Role of editors in analyzing, revising, and polishing manuscripts for publication. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 378 | Environmental Creative Nonfiction | Lectures, discussion, and criticism concerning the literary history of nature writing and techniques of writing environmental creative nonfiction for publication. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 379 | Travel Writing | Studies the genesis of travel writing, what theories inform travel writing, and the various genres of travel writing today. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 384 | Studies in Gender and Sexuality in Literature and Culture | Approaches to issues of gender and sexuality in literary and cultural texts. May focus on historical period, literary movement, genre, single author, literary theory, theme or other field of study. | Y | LEC | Y | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 385 | Career Development for English Majors | Theoretical and practical aspects of career planning related to skills and interests developed in English studies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 386 | American Gothic | The development of modern American Gothic as a literary form from Poe to Oates. Emphasizes the short story. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 387 | Intermediate Creative Writing Workshop in Poetry: Form, Theory, and Practice | Intermediate writing of poetry. Requires term paper or equivalent out-of-class written work. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 287 with C or better OR Visiting University Student |
| ENG | 388 | Intermediate Creative Writing Workshop in Fiction: Form, Theory, and Practice | Intermediate writing of fiction. Requires term paper or equivalent out-of-class written work. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 210 or 288 with C or better OR Visiting University Student |
| ENG | 390 | Methods of Inquiry | Studies in writing, rhetoric and literacy are multiple and diverse because these areas deal with complicated ways people create meaning, circulate meaning, and understand meaning in a variety of contexts and a variety of modal formats. Examines ways of developing research problems and questions, designing studies and conducting, reading and evaluating research in the areas of writing, rhetoric and literacy. Qualitative methods (e.g., case study, ethnographic methods, interviewing); historical methods (e.g., archival, document analysis and artifact interpretation); rhetorical analysis and discourse analysis; feminist approaches to research and analysis; and recent advances in research in the fields of rhetoric, writing and literacy studies. Investigates the many attitudes and assumptions about creativity and cultural work that make methods of inquiry as controversial as they are significant to contemporary public life. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 391 | Writing in Context | How do we understand the ways in which people use written language to carry out work in professional, academic, social and/or personal contexts? How does our understanding of the ways writing is produced for an audience shift between and among these different contexts? More importantly, how do writers adapt their writing practices in order to facilitate audience understanding as well as cultivate an audience's capacity for action? Familiarize students with rhetorical practices that position them to read, assess and respond to the rhetorical demands of a wide range of writing contexts. Strengthens students' existing rhetorical skill sets and problem-setting capacities for producing and circulating work (widely defined across material, print and digital media) that responds to a range of problems in an applied manner. Assesses the rhetorical demands of writing contexts and in developing and producing tailored, audience-specific texts that forward work in complex, interdisciplinary environments. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| ENG | 392 | History of Rhetorical Theory | Begins in ancient Greece with the rise of the art of public oratory (known as rhetoric) and ends in the present, an era dominated by mass media. Engages in a great deal of reading--lots of very old writings as well as some newer ones. Covers a great many topics and ideas; focuses by continually returning to the subject of public discourse. Challenging readings designed to emphasize the connection between systems of philosophy (or "worldview") and systems of communication. By focusing on big ideas, students become a better thinker and communicator in any chosen career. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| ENG | 393 | Theories of Literacy | While theories of literacy have, for the most part, been determined by the primacy of reading and writing script, more recent scholarship in literacy theory and history has served to challenge such limitations. Many contemporary perspectives on literacy view scripted text as one component of complex acts and practices of written communication that occur in social contexts. Studies that examine such communicative acts in their local contexts reveal that literate practices and the texts that are produced are imbued with social and cultural values and traditions and the needs and desires of individuals. As the statements above illustrate, theories of literacy themselves are embedded within the values and assumptions of individuals, institutions, and academic specialization. Examines some of these theories, their influences on academic scholarship and pedagogy, the ideological assumptions that inform them, and how we might view these theories within broader social-cultural landscapes. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-4 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 395 | Combat in Film | Interdisciplinary approach to and qualitative method for analyzing war movies and military dramas as both historical and cinematic narratives that represent the experiences of infantry marines and soldiers in 20th- and 21st-century U.S. wars. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 394 (Combat in Film) or ENG 395 or FMP 395 or HST 306 (Combat in Film) or HST 395 or VTS 395 OR Visiting University Student |
| ENG | 400 | History of Literary Criticism | Major critics and critical traditions in the Western world. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; one ENG 200- or 300-level literature course with C or better OR ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| ENG | 401 | Topics in Critical Theory | Major critical schools of recent decades--postcolonialist, psychoanalytic, deconstructionist, feminist, new historicist. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours OR Visiting University Student |
| ENG | 403 | Semantics | Program and methods of contemporary formal semantics. Characterizes knowledge of meaning as knowledge of truth conditions. The goal of semantics is thus to uncover the rules that allow the speakers of a language to know under what conditions any sentence is true; or in other words, to construct a theory of truth for natural language. Simple fragments including: predication, quantification, definite descriptions, simple temporal and modal expressions, and attitude verbs. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; ENG 213 or SLC 201 with C or better; minimum 56 hours OR Visiting University Student |
| ENG | 404 | Studies in Second Language Acquisition | Specialized topics in second language teaching and learning, including theory, pedagogy, curriculum, and assessment. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; ENG 213 or SLC 201 with C or better; minimum 56 hours OR Visiting University Student |
| ENG | 408 | Gender, Sexualities and Literacies | Presents diverse perspectives on gender, sexualities and literacies from preschool to adulthood. Focuses on race, ethnicities, sexual orientation and gender identities to provide overviews of current research on gender, sexualities and ethnicities and examines how these subjectivities are expressed in multiple modes of communication. Explores representations and performances of gender and sexualities through literacy practices in sociocultural and educational contexts. Explores related issues through textbook readings, videos, websites, activities, online discussions and projects. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): min 45 hrs; Crdit is allwd for only ENG 408 or WST 408 or ENG 494 (Gndr, Sexualities, & Lit) or ENG 598 (Gndr, Sexualities, & Li) or MAS 598 (Gndr, Sexualities, & Li) or WST 494 (Gndr, Sexualities, & Lit) OR Visiting University Student |
| ENG | 409 | Analyzing Rhetoric | Provides students with the tools and methods by which the effectiveness, truthfulness, ethicality, and/or artistry of persuasive speech and language can be evaluated. Students take a systematic approach to analyzing rhetoric on a variety of selected topics. | Y | LEC | Y | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 409 or ENG 494 (Analyzing Rhetoric: Fake News & Alternative Facts) |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| ENG | 410 | Writing for Publication | Lectures and conferences concerning techniques of writing for publication. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 200 and one 200-level literature course with C or better, OR New College undergraduate student with minimum 45 hours |
| ENG | 411 | Advanced Creative Writing | Advanced creative writing in genres other than poetry, fiction, creative nonfiction, or screenwriting. | N | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ENG 310 with C or better |
| ENG | 412 | Creative Nonfiction | Lectures, discussion, and criticism concerning techniques of writing creative nonfiction for publication. | N | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ENG 310, 388 or 411 with C or better |
| ENG | 413 | History of English Language | Development of English from the earliest times to the modern period. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 413 or LIN 517 OR Visiting University Student |
| ENG | 414 | Studies in Linguistics | Specialized topics in linguistics including phonology, syntax, semantics, pragmatics, discourse, language variation, and change. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; ENG 213 or SLC 201 with C or better; minimum 56 hours OR Visiting University Student |
| ENG | 415 | Studies in Medieval Literature and Culture | Medieval English and continental literature in translation, emphasizing cultural and intellectual backgrounds. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours OR Visiting University Student |
| ENG | 416 | Chaucer in Middle English | Yearly alternate between Chaucer's The Canterbury Tales and Troilus and Criseyde. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours OR Visiting University Student |
| ENG | 417 | Virtual Worlds for Global Communication | Explores the nature of virtual worlds and the multiple uses of these three-dimensional environments (also called metaverses) for new literate and global communications in the 21st century. Uses a combination of a textbook; Blackboard; popular virtual worlds, including Second Life (SL), and Internet resources (e.g., Web sites, e-discussion lists, YouTube videos) to explore the potential of virtual worlds. Explores the capabilities of several of the more than 70 virtual worlds for education, recreation, advancing social justice, global communication, socializing and networking. Participants critically examine the affordances of virtual worlds through readings, videos, online discussions, self-paced tutorials and brief reaction papers. Students receive demonstrations and guided tours by the professor and participate in individual and group explorations of virtual worlds | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 36 hours; Credit is allowed for CMN 598 (Virtual Worlds) or ENG 417 or ENG 494 (Virtual Worlds) or MAS 598 (Virtual Worlds) |
| ENG | 418 | Renaissance Literature | Prose, poetry, and drama of the Renaissance Era with an emphasis on cultural history. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| ENG | 419 | Writing for Podcasts | Focuses on digital communication skills, which are highly valued by companies and nonprofits. Increases awareness and understanding of how podcasts require specific attention to context, audience and meaning making. Emphasizes the theory and practical rhetorical conventions for social and digital media. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only ENG 419 or ENG 494 (Writing in Digital Communities) OR Visiting University Student |
| ENG | 420 | Multicultural Autobiographies | Examines the human experience via autobiographies and personal narratives. Multicultural, literary, and psychological perspectives on individual lives. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | (L or HU) & C | Prereq(s): ENG 101, 105, or 107 w/ C or btr; ENG 200 w/ C or btr; one 200-level lit course w/ C or btr OR New College ugrd std; ENG 101, 105, or 107 w/ C or btr; min 45 hours; Credit is allowed for only ENG 420 or IAS 420 OR Visiting University Student |
| ENG | 421 | Studies in Shakespeare | Close examination in selected dramatic and/or nondramatic works. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; ENG 110 or 200 with C or better; one ENG 200- or 300-level literature course with C or better OR ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| ENG | 422 | Special Topics in Shakespeare | Close examination in selected dramatic and/or nondramatic works. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; ENG 110 or 200 with C or better; one ENG 200- or 300-level literature course with C or better OR ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| ENG | 423 | Renaissance Drama | Topics, authors, and themes in the drama of the Tudor and early Stuart periods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| ENG | 424 | Milton | Selected prose and poetry, emphasizing Paradise Lost, Paradise Regained, and Samson Agonistes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours |
| ENG | 425 | Studies in Romanticism | Romanticism in continental, British, and American literature and culture. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours OR Visiting University Student |
| ENG | 426 | British Culture and Empire | Examines British imperial culture in art and literature, 1870-1914, and postcolonial theory. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours |
| ENG | 427 | Studies in 18th-Century Literature and Culture | Literary, social, and cultural issues of the period studied in an interdisciplinary format. May be repeated for credit when topics vary. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours |
| ENG | 428 | The Pre-Raphaelites | Visual and literary works by Victorian Pre-Raphaelites as works in themselves and through relations between images and texts. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours; Credit is allowed for only ARS 435 or ARS 533 or ENG 428 |
| ENG | 429 | Studies in European Literature and Culture | Literary, cultural, and historical issues. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s) with C or better: ENG 101, 105, 107; ENG 200; one ENG 200- or 300-level literature course OR ENG 101, 105, 107; min 45 hours; Credit is allowed for only CEL 429 or ENG 429 or REL 429 or SLC 429 or THE 429 OR Visiting University Student |
| ENG | 430 | Studies in Victorian Literature and Culture | Literary, social, and cultural issues of the period studied in an interdisciplinary format. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| ENG | 431 | Whitman and Dickinson | Evaluates the 19th-century American Literary Renaissance through the specialized examination of its poetry and authors in their historical context. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 w/ C or better; ENG 200 w/ C or better and one 200-level literature course w/ C or better OR New College undergraduate student; ENG 101, 105, or 107 w/ C or better; minimum 45 hours OR Visiting University Student |
| ENG | 432 | The American Renaissance | Novels, poetry, short fiction, and criticism of the major literary figures of the early to mid-nineteenth century. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): ENG 200 with C or better; one 200-level literature course with C or better OR New College undergraduate student; minimum 45 hours OR Visiting University Student |
| ENG | 433 | Literary Magazine Publishing: Canyon Voices | Practical study of literary magazine production. Students learn every facet of curating and producing an issue of Canyon Voices literary magazine, from reading and reviewing submissions, to editing and designing the magazine, to soliciting submissions. In addition, students learn to organize a public literary reading that showcases the artists and writers featured in the magazine and fosters a literary presence in the community. | N | LEL | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| ENG | 434 | Studies in the Literature and Culture of the Americas | Literature and culture of North America, South America, and the Caribbean. May be repeated for credit when topics vary. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours |
| ENG | 435 | Literatures and Cultures of Immigration and Diaspora | Specialized topics in literary and cultural representations of immigration and diaspora studied in an interdisciplinary context. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours |
| ENG | 436 | Studies in Anglophone Literature and Culture | Literary, social, and cultural issues of English-speaking former colonial territories. May be repeated for credit when topics vary. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours OR Visiting University Student |
| ENG | 437 | The American Novel, 1900 - 1960 | Developments in theory and practice of major novelists. | N | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 w/ C or better; ENG 200 w/ C or better and one 200-level literature course w/ C or better OR New College undergraduate student; ENG 101, 105, or 107 w/ C or better; minimum 45 hours OR Visiting University Student |
| ENG | 438 | American Novel Since 1960 | Major novelists of the period. Developments in theory and practice. | N | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 w/ C or better; ENG 200 w/ C or better and one 200-level literature course w/ C or better OR New College undergraduate student; ENG 101, 105, or 107 w/ C or better; minimum 45 hours OR Visiting University Student |
| ENG | 439 | Technoliteracies | Critically explores the nature of digital communications and expanded definitions of what counts as text and as literate expression in the 21st century. Emphasizes the 21st-century skills and abilities required for and fostered by digital communications (e.g., collaboration, multitasking, intertextual analyses) and examines the newest technologies that enable digital communications (e.g., digital storytelling, virtual worlds, social media, digital crafting, video gaming/modding). In doing so, focuses on the intersections of technologies and the arts as literate communications with implications for teaching and learning. Participants explore these topics through readings, videos and Web sites and by reflecting on their own experiences. Students respond to questions/prompts through online discussions, reflective thought papers, and media or virtual presentations. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 36 hours; Credit is allowed for only ENG 439 or ENG 494 (Technoliteracies) or MAS 598 (Technoliteracies) |
| ENG | 440 | Studies in American Literature and Culture | Various genres in their literary, political, theoretical, and historical contexts. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours OR Visiting University Student |
| ENG | 441 | Introduction to Participatory Media | The spread of participatory media, ranging from zines, e-zines, podcasting and video production tools to video games and virtual worlds has led to significant changes in how we communicate, learn, collaborate, network and create. Introduces theory and research on participatory media and the changing nature of "literacy" in a media age to "literacies." Addresses key concepts and issues, such as language, identity, access and community. Explores these topics through engaging in readings, videos and Web sites; by reflecting on their own experiences; and by responding to questions/prompts through online discussions, thought papers, social media or virtual presentations. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 36 hours; Credit is allowed for only CMN 598 (Intro to New Media) or ENG 441 or ENG 494 (Intro to New Media) or ENG 598 (Intro to New Media) or MAS 598 (Intro to New Media) OR Visiting University Student |
| ENG | 442 | Studies in 20th-Century British and Irish Literature and Culture | Major literary genres (novel, poetry, and drama) in their cultural and historical contexts. May be repeated for credit when topics vary. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| ENG | 443 | Gender, Culture and Literacy | Explores the interactions and influences of gender and culture on literacy development and practice. Literacy is defined broadly as including the new literacies (e.g., blogs, wikis, zines or self publications) and multiliteracies (e.g., communication through oral, lyrical, visual, digital or written texts) within a broad view of what counts as text. Addresses varying feminist theories and perspectives on masculinities and gender in relation to literacy in home, school, community and work place settings. Participants explore their own written, digital and oral language practices through readings, videos, Web sites, Blackboard discussions, self-reflections, thought papers and action research essays. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 36 hours; Credit for only ENG 443 or ENG 494 (Gender, Culture & Literacy) or MAS 598 (Gender, Culture & Literacy) or WST 415 or WST 494 (Gender, Culture & Literacy) OR Visiting University Student |
| ENG | 444 | Topics for Interdisciplinary Study of Literature and Culture | Uses methodologies from literary studies and other disciplines to understand a topic or problem. Interdisciplinary areas may include fields such as environmental humanities or American studies, as well as other areas of interdisciplinary study. | Y | LEC | Y | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 445 | Studies in American Realism | Writers and influences that shaped the development of literary realism. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| ENG | 446 | Visual Narratives | Students analyze and compose visual narratives (e.g., picture books, comics, graphic novels, film, animation, video games). | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 446 or ENG 520 OR Visiting University Student |
| ENG | 447 | Experimental Narrative | Examines texts that experiment with form, content and narrative perspective within print, film and digital media. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only ENG 447 or FMS 442 or SLC 450 OR Visiting University Student |
| ENG | 448 | Studies in Irish Literature and Culture | Themes and problems pertaining to Irish literature, film, and social and cultural history. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours OR Visiting University Student |
| ENG | 449 | Masculinities, Femininities and Literacies | Explores perspectives on and representations of masculinities and femininities in literacy development and practice. Addresses, beginning with adolescence, a time of identity exploration, feminist and gender perspectives in relation to oral language, reading, writing and electronic communications in home, school, community, education and work settings. Examines gender performance as a local/global issue. Explores the influence of gender on written, digital and oral language practices through textbook readings, videos, websites, self-reflections, thought papers and/or alternative format responses to weekly questions on the course materials, and Blackboard discussions. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 36 hours; Credit is allowed for only ENG 449 or ENG 494 (Masculinities, Femininities, and Literacies) or MAS 598 (Masculinities, Femininities, and Literacies) or WST 417 or WST 494 (Masculinities, Femininities, and Literacies) |
| ENG | 450 | The British Novel | Focuses on the British novel from the 18th century to the present. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Pre-requisites: ENG 200 with C or better and one 200-level literature course with C or better OR New College undergraduate student and minimum 45 credits |
| ENG | 452 | Studies in the Novel | May be repeated for credit when topics vary. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours OR Visiting University Student |
| ENG | 453 | Studies in the American Novel | Poetics and politics of the novel, 18th through 21st centuries. May be repeated for credit when topics vary. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours |
| ENG | 454 | Gender and Literature | Focuses on the representation of gender in literature. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ENG 454 or WST 454 OR Visiting University Student |
| ENG | 455 | Contemporary Women Writers | Critical examination of literature by contemporary women writers. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| ENG | 456 | Studies in Forensic Linguistics | Focuses on the three main aspects of that branch of applied linguistics, namely language and the law, court cases where language is the central dispute, and linguistic evidence. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 456 or FOR 456 or PAX 456 or SBS 456 |
| ENG | 457 | Studies in American Poetry | May be repeated for credit when topics vary. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours OR Visiting University Student |
| ENG | 458 | Latina/o Literature | Development of Latina/o literature. Study of genres and themes; attention to literary antecedents of the new U.S.-based Latina literature. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & C | Prerequisite(s) with C or better: ENG 101, 105, or 107; ENG 200; one ENG 200- or 300-level literature course OR ENG 101, 105, or 107; min 45 hours; Credit is allowed for only ENG 458 or FMS 464 or TCL 464 OR Visiting University Student |
| ENG | 459 | Studies in African American/Caribbean Literatures | Studies in African American or Caribbean literatures according to genre, period, theory, or selected authors. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & G | Prerequisite(s) with C or better: ENG 101, 105, or 107; ENG 200; one ENG 200- or 300-level literature course OR ENG 101, 105, or 107; minimum 45 hours; Credit is allowed for only AFR 459 or ENG 459 OR Visiting University Student |
| ENG | 460 | Ethnic Women Writers | Concentrates on selected women writers of the U.S. who are Native American, African American, Hispanic, and Asian American. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 200 with C or better; one 200-level literature course with C or better OR College of Integrative Sciences and Arts or New College undergraduate student; minimum 45 hours; Credit allowed for only ENG 460 or WST 467 OR Visiting University Student |
| ENG | 461 | Studies in Women and Literature | Advanced topics in literature by or about women. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours |
| ENG | 462 | Africana Literature | Focuses on the literature of the African Diaspora, including texts from the Caribbean, the Americas, and Africa. May be repeated for credit when topics vary. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & G | Prerequisite(s): ENG 200 with C or better and one 200-level literature course with C or better OR Integrative Sciences and Arts or New College undergraduate student with minimum 45 earned hours |
| ENG | 463 | African American Literature | Thematic and cultural study of African American literature. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 200 with C or better and one 200-level literature course with C or better OR Integrative Sciences and Arts or New College undergraduate student with minimum 45 earned hours |
| ENG | 464 | Great Directors | Studies the work of one or more influential directors. | N | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 465 | Studies in Film | Advanced topics in cinema. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3-4 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 466 | Studies in International Film | Studies non-American narrative film. | N | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 467 | American Film Musicals | A cultural history of American film musicals. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 468 | Environmental Literary Criticism | Evaluates the disparate critical practices that constitute what is the emerging literary project known as "ecocriticism" or "environmental literary criticism." | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 469 | Science and Literature | Historical and theoretical links between science and literature, from Francis Bacon to the present, examined in cultural context. May be repeated for credit when topics vary. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours; Credit is allowed for only DST 469 or ENG 469 OR Visiting University Student |
| ENG | 470 | Studies in Children's Literature | Various critical approaches and recurring themes studied in relation to classical and contemporary children's literature. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; one other ENG course with C or better OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| ENG | 471 | Literature for Young Adults | Prose and poetry that meet the interests and capabilities of junior high and high school students. Stresses recent literature. A passing grade of at least "C" (2.00) required before students are permitted to student teach in English. | N | REC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; ENG 110 or 200 with C or better; one ENG 200- or 300-level literature course with C or better OR ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| ENG | 472 | Rhetorical Studies | Developments in theory and practice of major rhetorical inquiries. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| ENG | 473 | Critical Approaches to Children's Literature | Reads picture books, chapter books and fairy tales and analyzes these texts through multiple critical lenses (e.g., feminist, Marxist, historical, structuralism, formalist). | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 473 or ENG 394 (Reading Children's Literature) |
| ENG | 474 | Review Writing | Advanced writing course exploring rhetorical approaches to writing reviews. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Pre-requisites: Completed ENG 102, 105, or 108 with C or better; Minimum 56 hours |
| ENG | 475 | Popular Periodical Writing | Advanced writing course analyzing and imitating genres in popular periodical writing. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L | Pre-requisite(s): Completed ENG 102, 105, or 108 with C or better. Minimum 56 hours |
| ENG | 476 | Studies in Folklore | Surveys the history, genres, and dynamics of folklore, with emphasis on oral traditions. May be repeated for credit when topics vary. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours OR Visiting University Student |
| ENG | 477 | World Literature | Readings in world literature, mostly outside the United States and England. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | (L or HU) & G | Prerequisite(s) w/ C or better: ENG 101, 105, or 107; ENG 200; one 200-level lit course OR College of Integrative Sciences and Arts or New College ugrd std; ENG 101, 105, or 107; min 45 hours; Credit allowed for only ENG 477 or IAS 477 OR Visiting University Student |
| ENG | 478 | Studies in Modernism | Cultural, historical, and literary issues in American and European modernism. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours |
| ENG | 479 | Studies in Postmodernism | Literary, social, and cultural topics in postmodernism. May be repeated for credit when topics vary. | N | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & G | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours |
| ENG | 480 | Methods of Teaching English: Composition | Methods of instruction, organization, and presentation of appropriate content in the teaching of composition and other writing skills. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; one other ENG course with C or better OR Visiting University Student |
| ENG | 482 | Methods of Teaching English: Language | Methods of instruction, organization, and presentation of appropriate content in language and usage for junior and senior high schools. | N | REC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours OR Visiting University Student |
| ENG | 483 | Methods of Teaching Secondary Literature and Language | Emphasizes educational methods of planning, teaching, and assessing appropriate content in the instruction of secondary literature, literacy, and language usage. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ENG 200 with C or better and one 200-level literature course with C or better OR New College or Integrative Sciences and Arts undergraduate and minimum junior academic level and one 200-level (or higher) English course with C or better |
| ENG | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |

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| ENG | 485 | Digital Tools | Digital (online, electronic) tools as best utilized in language arts curriculum and instruction for junior and senior high schools. Addresses many practical classroom matters; broadens knowledge of Web 2.0 opportunities for teaching and learning. Creates a detailed inventory of the digital tools familiar to secondary students, and compares these to what a clever English teacher can access in a public school classroom. Imaginations, studies, and designs digital tools to enhance student achievement. Uses digital tools to increase student access to history and culture and opportunities for individuals to find and articulate their voices, as well as opens avenues for their creativity. Empowers the English language arts classroom with critical understandings of media, culture and public relations (digital information manipulation) and develops secondary students from passive consumers to literate participants in democracy. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): English (Secondary Education) BA major; ENG 102, 105, 108 and one other ENG course with C or better |
| ENG | 486 | Teaching Text | Approaches to texts (poetry, nonfiction and fiction) as best utilized in language arts curriculum and instruction for junior and senior high schools. Language arts teachers want all of their students to love literature and become immersed in the texts they assign (poems, short stories, plays, nonfiction and informative texts, and novels). Explores activities and philosophies for building a strong reading workshop in the secondary language arts classroom. Through identifying proficient readers, conducting thoughtful conversations about students and reading, and using a variety of ways to invite readers into books, designs and experiences reading workshops based on innovative and effective teaching strategies. Offers hands-on strategies for supporting struggling readers and for teaching reading from a critical lens. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): English (Secondary Education) BA major; ENG 102, 105 or 108 and one other ENG course with C or better; Credit is allowed for only ENG 486 or ENG 598 (Teaching Text) OR Visiting University Student |
| ENG | 487 | Advanced Creative Writing Workshop in Poetry | Advanced writing of poetry. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 310 or 387 with C or better; Credit is allowed for only ENG 411 or ENG 487 OR Visiting University Student |
| ENG | 488 | Advanced Creative Writing Workshop in Fiction | Advanced writing of fiction. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 388 with C or better; Credit is allowed for only ENG 411 or ENG 488 OR Visiting University Student |
| ENG | 489 | Scholarly Products | Students develop culminating projects that demonstrate comprehensive knowledge and command of skills within the field of English studies. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 87 hours OR Visiting University Student |
| ENG | 490 | Literary Forms: Theory and Practice in Poetry | Types, history, analysis of traditional forms, and contemporary adaptations. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 411 or 487 with C or better; Credit is allowed for only ENG 490 or ENG 495 |
| ENG | 491 | Topics for Advanced Research | Students define a conceptual question related to a specific topic in literary scholarship; conduct appropriate research; and craft a response or argument that assesses the question, the evidence and possible responses to it. | Y | LEC | Y | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-6 | | Prerequisite(s): Barrett Honors student |
| ENG | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Liberal Arts and Sciences | Department of English | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ENG | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-4 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 495 | Writing Certificate Portfolio | Preparing a portfolio demonstrating advanced writing skills. Limited to and required of students in the Writing certificate program. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1 | | Prerequisite(s): New College Writing certificate student; Credit is allowed for only AMS 490 or ENG 495 OR Visiting University Student |
| ENG | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-6 | | Prerequisite(s): Barrett Honors student |
| ENG | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-7 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 501 | Approaches to Research | Theories, methods and/or methodologies as well as qualitative and/or quantitative approaches to the specific discipline. Familiarizes students with the areas of research. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only ENG 501 or LIN 501 |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| ENG | 502 | Contemporary Critical Theories | Studies the principles and techniques of contemporary theory and criticism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 503 | History of Narrative | Historical overview of narrative as a mode of discourse and communication. Begins with the study of influential traditional narrative forms from Biblical and classical sources and moves to study innovation in narrative, including flashbacks, interior monologue, nonlinear narrative and frustration of narrative expectations. | N | SEM | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 504 | Cross-Cultural Studies | Theoretical and analytical issues for comparative research across distinct cultural regions and traditions. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 505 | Narrative Research Methods | Addresses narrative and arts-based forms of qualitative research. Focuses on reporting study findings in narrative form. | N | SEM | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 506 | Methods and Issues in Teaching Language | Developing the language skills of native and non-native speakers through a process approach and advanced writing workshops in junior and senior high schools. | N | REC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 507 | Methods and Issues in Teaching Composition | Up-to-date theory, practice, and implementation of secondary writing instruction. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 509 | Studies in Narrative Writing | Writing course focusing on specific kinds of narrative writing (e.g., blogging, travel writing). Regardless of particular topic focus, this course covers basic structural issues in narrative writing and gives students practical and applied experience crafting their own narratives for multiple audiences. | Y | SEM | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 513 | Classic Texts in Leadership and Statesmanship | Encounters classic texts featuring analyses and discussions of important historical leaders and their actions. These texts both situate examples of leadership and statesmanship in their historical context, and highlight timeless principles of wise and effective leadership. Texts include Thucydides' History of the Peloponnesian War, Plutarch's Lives, Cicero's On Duties, Shakespeare's histories, and the writings and speeches of Abraham Lincoln. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CEL 513 or ENG 513 |
| ENG | 514 | Studies in Experimental Narrative | Critical analysis of experimental or unconventional narratives, including nonlinear narrative, surrealist narrative and metanarrative. Course materials include both text and visual narratives. | N | SEM | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 516 | Literary Publishing | Explores various aspects of literary publishing, including market profile of journals, techniques for preparing submissions, role of literary awards and contests. | N | SEM | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 517 | History of the English Language | Surveys the development of the English language, with an emphasis on major linguistic transformations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ENG 413 or ENG 517 or LIN 517 |
| ENG | 518 | Scientific Narratives | Examines how fictional narratives have shaped popular constructions of science and how scientific works can be read as narrative. Coursework emphasizes critical thinking, discussion and argumentative writing. | N | SEM | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 519 | Superstition Review | Students collaborate to complete tasks that lead to the publication of one issue of the national online literary magazine Superstition Review. | N | PRA | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 520 | Visual Narratives | Students analyze and compose visual narratives (e.g., picture books, comics, graphic novels, film, animation, video games) and explore relevant theory and research. | N | SEM | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ENG 446 or ENG 520 |
| ENG | 521 | Writing the Southwest | Cultural representation in twentieth-century narratives of the Southwest United States. Focuses on canonical and noncanonical texts and addresses multiple representations of race, time periods and genres in the Southwest literature. | N | SEM | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 522 | Narratives of Conquest | Critical study of narratives relating/responding to the conquest of the Americas from the fifteenth century to the present. Addresses conquest narratives that reflect the Spanish colonization period (1510-1810) and the United States colonization period (1848-1965) in the Southwest. Chosen texts illuminate themes related to the nature of colonial relationships, notions of barbarie/civilization and empire building | N | SEM | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 525 | Teaching Second Language Writing | Provides a critical introduction to the field of second language writing as well as issues and strategies in the teaching of second language writing in a wide variety of contexts. After exploring various instructional contexts as well as the characteristics of different types of students and their texts, considers various instructional practices and strategies, focusing on course and assignment designs, reading-writing connection, teacher and peer feedback, grammar instruction, classroom assessment, plagiarism and text borrowing strategies, and negotiating language differences. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking)Credit is allowed for only LIN 525, 591 (Teaching 2nd Language Writing) or ENG 525 |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| ENG | 530 | Old English | Study of Old English grammar, syntax, and phonology, with selected readings. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 531 | Old English Literature | Intensive literary, linguistic, and cultural study of Old English literature. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; ENG 530 |
| ENG | 532 | Middle English Dialects | Study of the principal dialects of Middle English, with selected readings. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 533 | Studies in Medieval Literature | Selected topics in English literature from the 11th through the 15th centuries. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 534 | Studies in Renaissance Literature | Selected topics and literary works studied in the contexts of English Renaissance culture. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 535 | Studies in 18th- and 19th-Century British Literature | Selected topics, issues, figures, and genres in British literature and culture of the 18th and 19th centuries. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 536 | Studies in American Literature before 1900 | Selected topics, issues, figures, and genres in 17th-, 18th-, and 19th-century American literature, including the literature of conquest and contact. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 537 | Studies in Modern and Contemporary British Literature | Selected topics, issues, figures, and genres in British literature and culture after 1900. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 538 | Studies in Modern and Contemporary American Literature | Selected topics, issues, figures, and genres in American literature and culture after 1900. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 539 | Studies in Modernist and Postmodernist Literature and Theory | Selected topics in Modernist and Postmodernist studies. May include literary and theoretical texts. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 540 | Teaching Young Adult Literature | Issues and new approaches in teaching contemporary literature in high school. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 541 | Teaching Texts in Secondary Classrooms | English language arts teachers want all of their students to love literature and become immersed in the texts they assign. Explores activities and philosophies for building a strong reading curriculum in the secondary language arts classroom. Through identifying proficient readers, conducting thoughtful conversations about students and reading, and using a variety of ways to invite readers into texts, designs and experiences reading workshops based on innovative and effective teaching strategies. Students learn to create and implement reading units, literature circles, books of choice, literary tea parties, reading portfolios and final projects. Students also learn hands-on strategies for supporting ethnically and linguistically diverse readers and for teaching reading from a critical lens. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ENG 541 or ENG 598 (Teaching the Novel Grades 6-12) |
| ENG | 542 | Studies in North American Ethnic Literatures | Selected works studied in their cultural contexts from authors representing ethnic experiences in the United States. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 544 | Studies in Colonial and Postcolonial Literature | Selected topics, periods, theories, and figures in works by authors representing colonial and postcolonial regions and/or experiences. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 550 | Translation | Surveys theories and practices of translation into English. Considers target, audience and market. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 551 | Rhetorical Traditions | Examines rhetorical traditions spanning ancient to contemporary rhetorics. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 552 | Composition Studies | Selected topics in the history and theories of composition. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 553 | Technologies of Writing | Critical study and cultural analysis of information technologies and their effects on various writing practices. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 554 | Rhetorics of Race, Class, and Gender | Study of interdependent relationships of race, class, and gender in rhetorical constructions of self and community. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 556 | Theories of Literacy | Examines various theories of literacy, their embedded values and assumptions, and their influences on academic scholarship and pedagogy. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 557 | Computer-Assisted Language Learning | Explores the field of computer-assisted language learning. Traces the development of computer-assisted language learning (CALL) over the last three decades. Focuses on research that explores how computer technology can help facilitate second language development; relies primarily on empirical data to do so. Examine established as well as new research methods in CALL. Participants participate in one research study and apply theoretical and practical aspects of CALL in these projects. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only APL 557 or ENG 557 or SLC 557 |
| ENG | 560 | Genre Studies | Critical analysis and study of works from a single genre or comparative analysis and study of multiple genres. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 561 | Film Studies | Analysis and study of film genres, cinematic techniques, and problems of interpretation and representation. | N | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 562 | Forms of Poetry | Types, history, criticism, and schools of theory of metrical form. Analyzes lyric, narrative, and dramatic poetry. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 563 | Forms of Fiction | Types, history, criticism, and schools of theory in the forms of fiction. Analyzes narrative and dramatic structure. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| ENG | 567 | World War II in Film | Offers a comprehensive survey of how film has represented the Second World War. Using a transdisciplinary approach, studies how films from the time of the Second World War to the present have portrayed that conflict. Compares different perspectives on the causes and results of the war, as well as engage in analysis of how important issues such as international political and economic relationships, religion, gender, ethnicity, class, race, technology and the psychological effects of violence get shown in movies about World War II. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ENG 567 or FMS 567 or WWS 567 |
| ENG | 568 | World War II in Literature | Explores the topic of World War II across fiction, non-fiction, film and other film genres. Focus areas and topics of literature covered in the course may vary from semester to semester, depending upon instructor preference. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ENG 568 or WWS 568 |
| ENG | 571 | Foundations for Teaching English Learners | Provides teachers with foundational knowledge of English language learner education including: identification and knowledge of English language learners in school contexts, the role of culture in learning, principles of second language acquisition and teaching, historical and current perspectives and policies related to English learner education, and the role of parents and communities in the education of English learners. | N | LEC | Y | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 580 (1 hour); Credit is allowed for only ENG 571 or ENG 598 (Foundations for Teaching English Learners) |
| ENG | 572 | Strategies for Teaching English Learners | Supports teachers through a review of core knowledge of strategies and correlated assessments for the instruction of English learners. Teachers learn to assess EL language needs and apply appropriate teaching strategies for supporting learning English and content. Primary emphasis is in the integration of EL language and learning needs and implementation of lesson planning, strategies and appropriately leveled instruction. Teachers complete a semester-long inquiry on integrating course content into their teaching practices. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 571; Pre- or corequisite(s): ENG 580 (2 hours); Credit is allowed for only ENG 572 or ENG 598 (Strategy/Assessment/Core for Teaching Eng Learners) |
| ENG | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 581 | Methods of Teaching Secondary Writing | Emphasizes methods of planning, teaching, and assessing appropriate content in the instruction of composition and related skills in secondary classrooms. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| ENG | 582 | Pedagogy | Overview of diverse theories of English instruction, including composition/rhetoric, linguistics and literary, with emphasis upon development and implementation for high school- and community college-level instructors. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): admission to any graduate program |
| ENG | 583 | Methods of Teaching Secondary Literature and Language | Emphasizes educational methods of planning, teaching, and assessing appropriate content in the instruction of secondary literature, literacy, and language usage. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 0-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | Department of English | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 597 | Graduate Capstone Seminar | The capstone seminar is required for graduate students who must complete a culminating experience for a degree or certificate program. | N | RSC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ENG 597 or LIN 597 |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|-----------------------|-------|-----------------|---|
| ENG | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 601 | Job Market Workshop: Designing Your Future | Focuses on the professional training of graduate students who pursue an academic or alt-ac (alternative academic) job. The material enables students to learn more about their professional opportunities and improve their chances on the job market. In a workshop format, some of the professionalization skills may include conference presentations, increasing professional digital presence, using job search tools, applying for internships and postdocs, writing job letters and grant proposals, managing stress, preparing for interviews, interviewing, presenting job talks and teaching demonstrations, and creating work/life balance. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ENG 601 or ENG 791 (Job Market Workshop) |
| ENG | 602 | Advanced Studies in Theory and/or Criticism | Seminar courses on the principles, strategies, and applications of critical, cultural, and/or literary theory and/or criticism. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 603 | Advanced Studies in Comparative Literature | Seminar courses on the problems, methods, and principles of comparative analysis. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 604 | Interdisciplinary Cultural Studies | Seminar courses on work from literature, anthropology, and/or other disciplines, with an emphasis on cultural influences and functions. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 606 | Advanced Studies in English Education | Current research, issues, and trends in English education. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 625 | Advanced Studies in Second Language Writing | Provides opportunities to explore advanced research topics as well as current issues and controversies in the field of second language writing--an interdisciplinary field of inquiry simultaneously situated in applied linguistics, rhetoric and composition, and teachers of English to Speakers of Other Languages. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only ENG or LIN 625 |
| ENG | 632 | Advanced Studies in Medieval and Renaissance Literature and Culture | Seminar in works of the Medieval or Renaissance periods, studied in their cultural contexts. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 635 | Advanced Studies in British Literature | Seminar courses on works produced in or about England, Scotland, and Wales, studied in their cultural contexts. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 636 | Advanced Studies in American Literature | Seminar courses on works produced in or about the United States, studied in their cultural contexts. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 639 | Advanced Studies in Modernism and Postmodernism | Seminar courses on topics in Modernist and Postmodernist studies. May include literary and theoretical texts. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 642 | Advanced Studies in Ethnic, Anglophone, or Post-Colonial Literatures | Seminar courses that consider the influence of cultural or geopolitical developments on the production and circulation of texts. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 651 | Advanced Studies in History and Theories of Rhetoric | Selected topics in the history and/or theory of rhetoric. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 652 | Advanced Composition Studies | Selected topics on particular composition theories, practices, pedagogies, and figures. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 654 | Advanced Studies in Rhetoric, Writing, Technology, and Culture | Advanced study of theoretical, methodological, and pedagogical issues concerning the interrelationships among rhetoric, culture, writing, and writing technologies. | N | SEM | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 655 | Disciplinary Discourses | Investigation of professional and disciplinary issues related to English. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 656 | Studies in Cross-Cultural Discourse | Theoretical and methodological issues in the comparative study of discourses between cultures and communities of practice. | N | SEM | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 662 | Poetic Genres | Creative writing courses in the long poem, the erotic image, death and transfiguration, reading and influence, and others. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 664 | Mixed Genres | Creative writing courses in the prose poem, magical realism, the literature of obsession. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 665 | Creative Methods | Creative writing courses in theory of the novel, poetics, story into film, and others. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 667 | Issues in the Writing Professions | Focuses on career preparation, resources, the role of writing in the community, creative writing, and the Internet. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|---|
| ENG | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | Department of English | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | Department of English | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Liberal Arts and Sciences | Department of English | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENT | 290 | Entrepreneurship: Opportunity to Impact | How do you know if entrepreneurship is right for you? Don't have an idea today but want to work for a start-up? Focuses on developing an entrepreneurial mindset to prepare students for creating or participating in new ventures in the future, whether that is right now or after graduation. While this course does not contain the secret entrepreneurship code or the instruction manual for entrepreneurial success, it does provide a solid foundation of theory and practice that can set a budding entrepreneur on the right path. Students learn foundational entrepreneurship theories, participate in field activities where those theories are being put to the test, as well as learn to critically analyze their own ideas and other venture opportunities. Utilizes a mixture of teaching mediums including readings, videos, guest speakers, simulations, case studies and assignments completed as an individual and in teams. | N | LEL | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | |
| ENT | 305 | Principles of Entrepreneurship | Entrepreneurship, with an interdisciplinary basis, focusing principles that involve the startup of a new organization, as well as its management into a fully established firm. Specific discipline-based concepts range from marketing to finance and strategic management. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): minimum 2.50 GPA; minimum 30 hours OR Visiting University Student |
| ENT | 325 | Entrepreneurial Leadership | Practical, discussion-based course that explores the challenges and complexities of leadership in an entrepreneurial environment, specifically startups, family businesses, traditional small-to-mid-sized businesses and franchises. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W. P. Carey major; ENT 305 with C or better; minimum 56 hours; minimum 2.00 GPA OR Visiting University Student |
| ENT | 340 | Creativity and Innovation | Teaches key concepts and useful tools and techniques of creativity and innovation to students in order to encourage development of creative skills and habits that can propel them in their career or guide them down a path to start a new venture of their own. Coursework and activities involve complex problem solving activities and relevant trend and environmental analysis in order to explore alternative approaches to challenges. Coursework includes both individual and team activities. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 2.50 GPA; minimum 40 hours; Pre- or corequisite(s): ENT 305 with C or better if completed OR Visiting University Student |
| ENT | 360 | Entrepreneurship and Value Creation | In-depth application of entrepreneurial concepts including opportunity recognition, value creation and new business management. Identifies the needs of a market and problem solves to meet those needs through innovation. Covers common mistakes made in the new venture process and how to work to avoid these mistakes. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): Business or Engineering major; minimum junior standing OR non-Business, non-Engineering major; minimum junior standing; minimum 2.50 GPA; Credit is allowed for only ENT 360 or FSE 301 OR Visiting University Student |

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|---------|----------------|---------------------------------------|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|--|
| ENT | 440 | Entrepreneurship | Prepares students for the challenges of assembling and growing high-potential innovative ventures through the use of analytical frameworks that encompass uncertainty inherent in entrepreneurship (or in entrepreneurial activity). In-depth discussion of cases provides a strong empirical foundation. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey BA or BS major; FIN 300, 302, or 303 with C or better; MGT 300, 303, or 310 with C or better |
| ENT | 441 | Entrepreneurial Management | Provides a framework for dealing with issues from an entrepreneur's perspective. Covers all areas of entrepreneurship from idea conception to prototype development, to testing, refining and harnessing resources. Covers readings and cases related to topics of business models, business plans, managing startups, business law, founder's issues, managing growth, broad business functions and overall strategic and financial positioning. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): Business Entrepreneurship BS, Entrepreneurial Leadership BA, Entrepreneurship & Innovation cert, or Small Business & Entrepreneurship cert student; ENT 305 with C or better; ENT 360 with C or better OR Visiting University Student |
| ENT | 445 | Business Model Development | Develops a complete strategic business model emphasizing the planning process undertaken by successful small business owners and entrepreneurs. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey BA or BS major; ENT 440 (or MGT 440) with C or better |
| ENT | 446 | Venture Capital Experience | Students learn the details of the startup funding process and available resources. Exposes the history of venture capital and other types of capital, current trends, and the trends that are anticipated in the future. Students learn due diligence process as performed by investors and applies these concepts to building and growing their own ventures. Coursework includes both individual and team activities and is open to students in any major of study with the required prerequisite. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey BA or BS major; ACC 240, 241, or 242 with C or better OR non-business student; minimum 2.50 GPA; minimum 56 hours; Credit is allowed for only ENT 446 (or MGT 446) or MGT 494 (Venture Capital Experience) |
| ENT | 447 | Lean Launch | Students learn lean and customer development methodologies to test assumptions made about a new business concept that they wish to explore or launch. Teaches how to effectively utilize business models and critically assess the assumptions made through the testing of hypotheses to create innovative and market-ready ventures. Includes weekly presentations of learning points and team activities outside of the classroom. Open to students in any major of study with the required prerequisite. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey BA or BS major; ACC 241, 242, or 271 w/ C or better OR non-Business student; minimum 2.50 GPA; minimum 56 hours; Credit allowed for only ENT 447 (or MGT 447) or HON 447 or MGT 494 (Lean Launch) OR Visiting University Student |
| ENT | 448 | Corporate Entrepreneurship | Covers five general areas of corporate entrepreneurship: entrepreneurial orientation and corporate venturing; franchising the refining of business models; social venturing; and the extension of partnerships (e.g., joint ventures, strategic alliances). | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): Business Entrepreneurship BS or Entrepreneurial Leadership BA major; ENT 305 with C or better; ENT 360 with C or better OR Visiting University Student |
| ENT | 464 | Collaborative Design Development I | Team-based product development course featuring applied projects. Open to senior students from business, engineering, design, and other disciplines. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 5 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ENT 464 (or MGT 464) or GRA 464 or IND 464 (or SOS 474) OR Visiting University Student |
| ENT | 465 | Collaborative Design Development II | Team-based product development course featuring applied projects. Open to senior students from business, engineering, design, and other disciplines. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 5 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ENT 465 (MGT 465) or GRA 465 or IND 465 or SOS 475 OR Visiting University Student |
| ENT | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-12 | | Prerequisite(s): minimum 45 hours |
| ENT | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-6 | | Prerequisite(s): Barrett Honors student |
| ENT | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ENT | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-4 | | |
| ENV | 103 | Introduction to Geology I: Laboratory | 3 hours lab, some field trips. Both GLG 101 and 103 or both GLG 101 and ENV 103 must be taken to secure SQ General Studies credit. | N | LAB | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | SQ | Credit is allowed for only ENV 103 or GLG 103 |
| ENV | 130 | Introduction to Environmental Science | Introduces the interconnected nature of Earth's hydrosphere, lithosphere (soils and rocks), atmosphere, and biosphere. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | SQ | Credit is allowed for only ABS 130 or BIO 130 or ENV 130 OR Visiting University Student |
| ENV | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-3 | | |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|--|
| ENV | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | |
| ENV | 201 | Fundamentals of Environmental Science | Examines the functioning of the earth system and how it has changed over long and short time scales. Emphasizes understanding global processes and how human activities can disrupt these processes, changing the ability of our global environment to support life. Also emphasizes important feedbacks between biological and physical processes and their effects on the biosphere. Discusses the response of natural and managed ecosystems to global change along with prospects for the future. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): BIO 181 and 182 with C or better or BIO 281 and 282 with C or better; CHM 116 with C or better OR Visiting University Student |
| ENV | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | |
| ENV | 300 | Plant Diversity and Evolution | An examination of the major groups of land plants, emphasizing evolutionary history, comparative data, and phylogenetic methods. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | L or SG | Prerequisite(s) with C or better: BIO 181; BIO 182; ENG 101, 105, or 107 OR BIO 281; BIO 282; ENG 101, 105, or 107; Credit allowed for only BIO 303 or ENV 300 or PLB 300 OR Visiting University Student |
| ENV | 302 | Plants and Civilization | Plants and plant products used by people throughout the world. Cultivation, processing, and uses in modern life (beverages, fibers, foods, medicinals, and perfumes). | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | L | Prerequisite(s) with C or better: BIO 181; BIO 182; ENG 101, 105, or 107 OR BIO 281; BIO 282; ENG 101, 105, or 107; Credit is allowed for only BIO 304 or ENV 302 or PLB 302 OR Visiting University Student |
| ENV | 345 | Spatial Analysis in the Environmental Sciences | Develops an understanding of the methods, tools and technologies used to collect, display, analyze and interpret spatial data in environmental science and natural resource management. Provides overview of geographic information system (GIS) applications in these fields. Basics of integrating the global position system (GPS) and remote sensing (RS) into GIS to solve problems in environmental science and natural resource management. | N | LEL | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ENV 201 with C or better |
| ENV | 386 | STEAM Service Learning | Guided process in which students deepen their understanding of their STEAM content area through knowledge-based problem solving that provides a service to others in the community. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ACO 386 or ENV 386 or FOR 386 or LSC 386 or PTX 386 or LSC 494 (Service Learning in the Life Sciences) |
| ENV | 388 | STEM Research Fundamentals | Teaches research skills in the natural sciences. Topics covered include the basic research techniques of the study organism and system, experimental design, literature searches, statistical analysis and preparation of scientific papers and posters. | N | LEL | Y | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 320, BIO 182, or MAT 272 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only ENV 388 or FOR 388 or LSC 388 or PLB 388 or PTX 388 OR Visiting University Student |
| ENV | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ENV | 410 | Soil Science | Fundamental principles of soil science, including physical, chemical, biological and ecological properties. Applies these principles to explain the importance of soil as both a natural resource and ecosystem. Discusses the role of soils as the heart of terrestrial ecosystems, both natural and managed, and the importance of this key natural resource to environmental health and biological productivity. Explores how human activity and global change are impacting this vital natural resource and ecosystem that is crucial to life on earth. The laboratory component also introduces applications and standard methodology for investigating these principles. | N | LEL | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | | Prerequisite(s): BIO 320 with C or better; CHM 116 with C or better; PHY 101 or higher with C or better OR Visiting University Student |
| ENV | 414 | Fundamentals of Forensic Entomology | Provides an introduction to the field of forensic entomology; the use of insects (and other arthropods) in legal investigations. Investigates how insects can be used in food contamination, neglect and abuse cases, with a focus on their use in death investigations. Identifies forensically important insects, in partnership with proper collection and rearing techniques. Along with understanding insect biology, students gain an understanding of how forensic entomology is utilized in law and in the courtroom. Students take an in-depth look at what questions insects can help answer and determine how to calculate a time of colonization (TOC) and how that can relate back to a time of death. Also focuses on scientific writing skills, assessed with the completion of a mock crime scene and production of a case report. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | | Prerequisite(s): FOR 286 with C or better; minimum 45 hours; Credit is allowed for only ENV 414 or FOR 414 or BIO 494/ENV 494/FOR 494 (Fundamentals of Forensic Entomology) OR Visiting University Student |

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| ENV | 415 | Field Techniques in Natural Resource Management | Teaches students relevant practices in environmental science field work. Introduces the scientific principles and theories that underlie field techniques and the legal framework that created the need for these techniques. Provides a basic understanding of field work in natural resource management, including both the scientific rationale and the legal requirements involved with these techniques. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ENV 415 or ENV 494 (Field Techniques in Natural Resource Management) or LSC 598 (Field Techniques in Natural Resource Management) OR Visiting University Student |
| ENV | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): minimum 45 hours |
| ENV | 485 | Environmental Impact Assessment | An understanding of federal and state environmental laws, including the scientific processes that are incorporated into decision making, is critical for a variety of careers in the environmental sciences. Provides an overview of these laws and processes and develops the specific written and oral communications skills needed for many environmental, biophysical and natural science professions. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; ENV 201 with C or better OR Visiting University Student |
| ENV | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-6 | | Prerequisite(s): Barrett Honors student; minimum 45 hours |
| ENV | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better; minimum 45 hours |
| ENV | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ENV | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-6 | | Prerequisite(s): Barrett Honors student; minimum 45 hours |
| ENV | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-7 | | Prerequisite(s): minimum 45 hours |
| ENV | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-3 | | Prerequisite(s): minimum 45 hours |
| EPA | 532 | Becoming an Informed Consumer of Educational Research | Development of critical analyses skills in the examination and synthesis of educational research. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPA | 555 | Translating Research for Educational Change | Teaches educators how to translate research to promote educational change in their schools and districts. Three concepts emerge to empower practitioners to translate research to their individual schools and communities: (1) a needs assessment to understand the context (student population, community, networks); (2) an emphasis on the generalizability of research to provide an understanding of which findings are most applicable to specific contexts at which times and under which conditions; and (3) explicit training on ways of knowing to encourage practitioners to develop their own theoretical perspectives and test them against the academic research. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPA | 556 | Data Analysis for Education Decision Makers | Prepares educators to use the sources of information (i.e., results, reports and interactive programs) at their disposal to make educational decisions. Dynamic content is adapted based on the real-world information sources brought forth by the course participants. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPA | 559 | Systematic Inquiry for Problem Solving | Trains participants to produce a policy analysis aimed at addressing a problem they identify within their own organizations. Participants identify a problem, gather, analyze data and evidence to draw conclusions, and clearly and succinctly report their findings and recommendations to policymakers. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | CatalogNbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|------------|--|--|-------------------|-------------------|-----------------|---------------|----------------------------------|---|-------|-----------------|---|
| EPA | 565 | Critical Topics in Education Policy | Critical topics in contemporary educational policy debates in the USA. Explores the dominant ideological and theoretical perspectives about what should be the purposes of schooling. Students analyze the humanist, core-curriculum, vocational, pragmatic as well as the standards-based, market-driven, professionally led, and networked models of reform, theories of change, implementation challenges, and the critiques leveled against these approaches. Students analyze critical topics such as policy formation, leadership, teachers unions, academic performance and community involvement. Encourages students to learn critical "policy skills" and reach reflexive and research-based conclusions about what are the requirements to develop "good school systems" and what their individual and collective contributions could be. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPA | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| EPA | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| EPA | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | REC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPA | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPA | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| EPA | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | |
| EPA | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| EPA | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPA | 701 | Proseminar in Educational Policy I | Small class emphasizing discussion, student presentations and written research papers on the fundamentals of education policy analysis. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EPA 691 (Pro-Sem in Educ Pol Study) or EPA 691 (Pro-Seminar in Ed Policy Analysis I) or EPA 701 |
| EPA | 702 | Proseminar in Educational Policy II | Small class emphasizing discussion, student presentations and written research papers on the fundamentals of education policy analysis. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): EPA 701; Credit is allowed for only EPA 691 (Pro-Seminar in Ed Policy Analysis II) or EPA 702 |
| EPA | 704 | Proseminar in Evaluation and Evaluation Research | Applied program evaluation emphasizing discussion, student collaborations and the development and implementation of an evaluation plan. | N | SEM | Y | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EPA 691 (Pro-Seminar in Program Evaluation I) or EPA 691 (Pro-Seminar in Program Evaluation II) or EPA 704 |
| EPA | 752 | Research Design | Focuses on learning the principles of researching design through discussion, presentations by students and written research papers. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EPA 691 (EPE Research Design) or EPA 691 (Introduction to Quantitative Research Design) or EPA 752 |
| EPA | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPA | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|----------------------------|---|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|--|
| EPA | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPA | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | N | RSC | Y | Z3 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPA | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPD | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPD | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPD | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPD | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPD | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPD | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPD | 700 | Research Methods | Course on research methods in a specific discipline. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): EPD 710, 712, or 714 with C or better |
| EPD | 710 | Current Research in Design | Review and critical evaluation of contemporary literature and research in design, environment and the arts. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Design, Environment and the Arts PhD OR Design, Environment and the Arts (Digital Culture in Design) PhD OR Environmental Design and Planning (Healthcare and Healing Environments) PhD student |
| EPD | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPD | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPD | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPD | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPD | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPD | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPD | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|---|---------------------------------------|-------|-----------------|---|
| EPD | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | The Design School | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ERM | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-3 | | |
| ERM | 201 | Environmental Management | Develops an understanding of the fundamentals of environmental science, environmental issues and major environmental standards. Topics covered include basic ecology, population dynamics, environmental resources, environmental pollution and its prevention, the environmental management regulatory framework, sustainability, pollution prevention, waste minimization, and environmental management systems. Provides the foundational knowledge used by environmental professionals who manage environmental problem solving for industry, regulatory agencies, municipalities, consulting firms, military installations, academic institutions and nonprofit organizations specializing in environmental advocacy. Overview course covering elements that are developed in more depth in other ERM courses. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | |
| ERM | 203 | Environmental Regulations | Explains and discusses federal environmental laws and regulations that apply to the field of environmental management. Addresses the most important Arizona state and county/local regulations that impact decision making in the environmental management practice area. Emphasizes the federal-level requirements, including laws that are most likely to be used by professionals who are not lawyers and working in positions having environmental management and engineering assignments. Uses case studies to help students learn how the laws are applied and implemented in practical situations. Develops an understanding of the fundamentals of environmental laws and regulations. Provides essential knowledge used by environmental and engineering professionals who manage regulatory issue problem solving for industry, government, consulting firms, military installations, academic institutions and nonprofit organizations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): any SG or SQ course |
| ERM | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-4 | | |
| ERM | 302 | Water and Wastewater Treatment Technology | Explores the development of treatment technologies for drinking water and wastewater. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): MAT 210 or higher with C or better; PHY 111 with C or better; Pre- or corequisite(s): CHM 116; Credit is allowed for only EGR 325 or ERM 302 OR Visiting University Student |
| ERM | 364 | Toxicology and Biohazards in Emergency Management | Introduces poisons. Dose response routes of exposure and toxicokinetics. Diseases associated with natural disasters. Clinical presentation of treatments. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | |
| ERM | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-4 | | |
| ERM | 401 | Hazardous Waste Management | Definition of hazardous waste, RCRA and CERCLA regulations, hazardous waste classification system. Overview of hazardous waste management. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): CHM 113 or higher with C or better; ERM 203 with C or better or Environmental Engineering BSE major; Credit is allowed for only EGR 427 or ERM 401 or ERM 501 OR Visiting University Student |
| ERM | 402 | Unit Treatment Technologies | Addresses various treatment technologies for contaminated air, water, and soil. Emphasizes design based upon medium, type of contamination, and concentration. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): ERM 302 with C or better or CEE 361; Credit is allowed for only EGR 425 or ERM 402 OR Visiting University Student |
| ERM | 406 | Environmental Chemistry | Applies basic chemical principles to understanding the reaction, fate and transport of chemicals in water, soil, air and living organisms. Considers major environmental issues in three areas: energy use and sustainable options to fossil fuels; atmospheric pollution including photochemical smog, ozone depleting substances, acid rain and climate change; and water pollution and water management options. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): CHM 116 with C or better; MAT 170 or higher with C or better; Credit is allowed for only CHM 302 or ERM 406 or ERM 526 or ERM 598 (Environmental Chemistry) OR Visiting University Student |
| ERM | 407 | Occupational Hygiene | Overview of occupational health hazards, including recognition, evaluation, and control. Includes regulatory status and health standards. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): CHM 113 or higher with C or better OR Visiting University Student |
| ERM | 426 | Environmental Issues | Explores the science and policy implications of contemporary problems that threaten the environment. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ERM 426 or ERM 520 OR Visiting University Student |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------------|-------|-----------------|--|
| ERM | 428 | International Environmental Management | Examines environmental management issues faced by countries outside of the United States and compares approaches to solving these problems from a technological, economic and political basis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | G | Prerequisite(s): minimum 45 hours; Credit is allowed for only ERM 428 or ERM 528 |
| ERM | 432 | Sustainable Solid Waste Management | Addresses engineering and management principles associated with integrated solid waste systems. Follows the life of the solid waste from point of generation, reclamation and treatment to point of disposal. Emphasizes the functional units of a solid waste system and the relationships among them. Addresses the physical, chemical and biological transformations of the solid waste, together with the existing technologies and engineering practices for collection, management, treatment and disposal of the solid waste. Emphasizes the sustainable practices such as waste minimization, pollution prevention, reuse and reclamation of the solid waste. Also discusses existing domestic and foreign regulations guiding the proper solid waste management techniques, as well as planning and design of solid waste system operations and facilities. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): MAT 170 or higher with C or better; minimum junior standing; Credit is allowed for only EGR 426 or ERM 432 or ERM 532 OR Visiting University Student |
| ERM | 480 | Senior Project | Capstone project experience refining skills in communication, research and information retrieval, critical analysis and criticism, and demonstrating technical competence in each student's area of study. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): ERM 203 with C or better; ERM 302 with C or better; Pre- or corequisite(s): ERM 402 |
| ERM | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-12 | | |
| ERM | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-6 | | Prerequisite(s): Barrett Honors student |
| ERM | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ERM | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-4 | | |
| ERM | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-3 | | |
| ERM | 501 | Principles of Hazardous Materials and Waste Management | Foundation for courses in curriculum. Topics include definitions of toxic and hazardous substances and wastes, RCRA classification, and OSHA criteria. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EGR 427 or ERM 401 or ERM 501 |
| ERM | 502 | Regulatory Framework for Toxic and Hazardous Substances | Examines federal, state, and local regulations for hazardous materials and wastes. Includes history and trends in regulatory development. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ERM 502 or ERM 527 or ERM 494 (Regulatory Framework for Toxic & Hazardous Substances) |
| ERM | 503 | Principles of Toxicology | Interaction of chemicals with life and environment. Mechanisms of toxic action, dose-response relationships, toxicity testing models, predictive toxicology, and epidemiology. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ERM | 506 | Chemistry of Hazardous Materials | Chemistry and toxicology of hazardous chemicals. Topics include proper handling, storage, transportation, and disposal. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ERM 494 (Chemistry of Hazardous Materials) or ERM 506 |
| ERM | 507 | Industrial Hygiene | Emphasizes chemical hazards in industrial settings. Topics include recognizing and measuring hazards, control techniques, and regulatory standards. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ERM | 520 | Sustainability and Sustainable Development | Explores broad field of environmental sustainability with U.S. and international coverage of green living practices. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ERM 426 or ERM 520 |
| ERM | 522 | Air Pollution and Toxic Chemicals | Examines issues in the measurement analysis and control of toxic chemicals in air pollution. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ERM | 523 | Soils and Groundwater Contamination | Theoretical and practical hydrogeology as it applies to cleaning up contamination. Investigative techniques, monitoring, risk assumptions, and assessment methodology. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------------|-------|-----------------|--|
| ERM | 526 | Environmental Chemistry | Focuses on exploring basic chemical principles to understand reactions in the environment, fate and transport of chemicals in water, soil, air and living organisms. Considers major environmental issues in three areas: energy use and sustainable options to fossil fuels; atmospheric pollution including photochemical smog, ozone depleting substances, acid rain and climate change; and water pollution and water management options. Course is divided in three thematic parts: (1) energy, (2) atmosphere and (3) water. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CHM 302 or ERM 406 or ERM 526 or ERM 598 (Environmental Chemistry) |
| ERM | 527 | Environmental/Resources Regulations Concepts | Environmental regulations related to water, land use, endangered species, NEPA and other policy issues. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ERM 502 or ERM 527 or ERM 494 (Regulatory Framework for Toxic & Hazardous Substances) |
| ERM | 528 | International Environmental Management | Studies environmental issues and laws outside the U.S., impact of free trade, and multinational corporations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ERM 428 or ERM 528 |
| ERM | 532 | Sustainable Solid Waste Management | Addresses engineering and management principles associated with integrated solid waste systems. Follows the life of the solid waste from point of generation, reclamation and treatment to point of disposal. Emphasizes the functional units of a solid waste system and the relationships among them. Addresses the physical, chemical and biological transformations of the solid waste, together with the existing technologies and engineering practices for collection, management, treatment and disposal of the solid waste. Emphasizes the sustainable practices such as waste minimization, pollution prevention, reuse and reclamation of the solid waste. Also discusses existing domestic and foreign regulations guiding the proper solid waste management techniques, as well as planning and design of solid waste system operations and facilities. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): Fulton Schools of Engineering or School of Sustainability or Urban and Environmental Planning graduate student or enrolled in ERM 4+1 program; Credit is allowed for only EGR 426 or ERM 432 or ERM 532 |
| ERM | 533 | Water and Wastewater Treatment Technologies | Covers the most essential elements of aquatic chemistry, water pollution and water and wastewater treatment technologies to graduates in environmental and resource management and other interested parties. Provides a fundamental basis for understanding sustainable water and wastewater treatment operations. Includes critical evaluation of contemporary issues concerning our water environment and the associated regulatory framework in the lectures to strengthen and emphasize the importance of adequate practices used in the management of engineered water and wastewater treatment systems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): graduate student in Ira A. Fulton Schools of Engineering, the School of Sustainability, or Urban Planning |
| ERM | 535 | Water Law and Policy | Regulatory framework that governs use of surface water and groundwater, including federal and state laws, interstate compacts and international treaties. Emphasizes the history and development of water resources in the arid American West. Explores the impact of climate change, population growth and competing interests of sectors such as agriculture, municipalities, tribes and hydropower in terms of policy implications for water use. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ERM | 540 | International Environmental Law and Policy | Studies international environmental agreements, enforcement mechanisms, and the role of NGOs and international organizations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ERM | 541 | Environmental Health | Explores the effects of environmental factors on human health and strategies to mitigate those effects. Topics covered include: COVID-19; environmental epidemiology; zoonotic and vector-borne diseases; food-borne and water-borne diseases; air pollution related diseases; diseases associated with toxic metals, elements, pesticides and other chemicals; food protection; institutional health and safety; control of insects and rodents; swimming pool sanitation; healthy homes; contagious diseases (i.e., influenza and Ebola) and health effects of climate change. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ERM 494 (Environmental Health) or ERM 541 or ERM 598 (Environmental Health) |
| ERM | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ERM | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| ERM | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ERM | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ERM | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ERM | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ERM | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ESS | 501 | Social Theory and the Environment | Investigates key conceptual domains of environmental social science from interdisciplinary and comparative perspectives. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ESS | 502 | Political Ecology: Theory and Research | Investigates key theories and research of political ecology through the conceptual domains of environmental social science from interdisciplinary and comparative perspectives. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ESS | 513 | Institutions | Studies formal and informal institutional arrangements for the governance of natural resources using case studies, experiments, and formal models. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ESS | 577 | Interdisciplinary Writing Seminar | If you want your work to make a difference in the world, you need to be able to communicate your ideas to diverse audiences in a way that is interesting and accessible. Teaches students to write clearly, persuasively and ethically to people in their disciplines, in other disciplines, and outside academia. Approaches writing as a way to think critically and refine ideas, as well as to communicate them to others. | N | SEM | Y | GNA | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is only allowed for ESS 577 or SOS 577 or SOS 598 (Interdisciplinary Writing) or SOS 598 (Writing Seminar) |
| ESS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ESS | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ESS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ESS | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EST | 210 | Circuit Analysis I | Parallel/Series circuits, ohm's law, network theorems, capacitors/inductors and transient analysis. Overview of electronic devices, BJT's, FETs, op-amps. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisites: MAT 266 (or 271); PHY 112 (or 131) |
| EST | 310 | Circuit Analysis II | Electronic device analysis and introduction to design. Power supplies, diode circuits, FETs, BJT's, op-amps. Emphasizes frequency response. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: EST 210 |
| EST | 315 | Digital Systems II | Digital electronics systems, HDL circuits and systems design techniques, and device applications. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisite: EST 115 and 210; Credit is allowed for only EST 315 or 394 (Digital Electronics II) |
| EST | 350 | Microcontroller Applications | Interfacing of microcontrollers to sensors, switches, indicators, and other human interfaces using the C programming language. Applications involve the integration of both hardware and software. Also addresses applications dealing with open- and closed-loop applications. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EST 315 OR Visiting University Student |
| EST | 370 | Sensors | Overview of sensor technology, including mechanical, magnetic, radiation, thermal, chemical, and biological applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: EST 200; EST 210; UET 331 |
| EST | 380 | Electronic Devices | Covers materials, structures, and technology for the design, production, and application of the major categories of electronic devices. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): UET 331 OR Visiting University Student |

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| EST | 410 | Electronic System Design | Analysis and design of Op-amps, power amplifiers, and digital logic families, Feedback design using frequency response. Computer analysis and design. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EST 310 OR Visiting University Student |
| EST | 465 | Statistical Process Control | Introduces statistics, seven QC tools, and control charts for data analysis and interpretation; process capability, 6-sigma, lean manufacturing, and quality system. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Fulton Schools of Engineering undergraduate student; senior standing; Credit is allowed for only EST 465 or EST 565 OR Visiting University Student |
| EST | 470 | Capstone Design I | Small-group projects designing, building, evaluating, and analyzing components, assemblies, and systems. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: EST 345; EST 370; EST 372 |
| EST | 471 | Capstone Design II | Continuation of a small-group project encompassing designing, building, evaluating, and analyzing components, assemblies, and systems. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EST 470 |
| EST | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-3 | | |
| EST | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student OR Fulton Schools of Engineering senior student with minimum 3.00 ASU GPA |
| EST | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-12 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student OR Fulton Schools of Engineering senior student with minimum 3.00 ASU GPA |
| ETH | 100 | Ethnic and Indigenous Lives | Undertakes an introductory comparative analysis of ethnic groups to understand cultural diversity within the United States. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | |
| ETH | 300 | Principles of Ethnic Studies | Familiarizes students with a range of analytical and theoretical frameworks in the field of ethnic studies. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | C | |
| ETH | 310 | Critical Research Methods | Examines methodological approaches common to programs in such disciplines as American Studies, Ethnic Studies, and Women's Studies. Critical qualitative, historical, archival, and feminist methodological approaches to the study of diverse United States populations comprise the focus of this course. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB | Pre-requisite: Minimum 40 hours |
| ETH | 333 | Class in America | Explores social class and inequality in the U.S. including history, culture, work, politics, globalization and intersections of gender, race, ethnicity and place. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only AMS 334 or ETH 333 or WST 334 OR Visiting University Student |
| ETH | 334 | The American Southwest in Literature and Film | Evaluates literary texts and films addressing the diverse literatures and cultures of the American Southwest. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AMS 336 or ENG 334 or ETH 334 OR Visiting University Student |
| ETH | 353 | African American Literature: Beginnings through the Harlem Renaissance | Focuses on the history of African American literature through the Harlem Renaissance, as exemplified in selected slave narratives, poems, and fiction. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AFR 353 (or AFH 353) or AMS 353 or ENG 353 or ETH 353 |
| ETH | 354 | African American Literature: Harlem Renaissance to the Present | Examines the literary productions of African Americans from the Harlem Renaissance (about 1920) to the present focusing on fiction, poetry, drama, and essays. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AFR 354 (or AFH 354) or AMS 354 or ENG 354 or ETH 354 OR Visiting University Student |
| ETH | 380 | Race, Gender, and Class | In-depth examination of how social inequalities are reproduced and perpetuated. Explores the intersections of race, class and gender in culture and society. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): WST 100 or WST 300 or minimum 30 hours; Credit is allowed for only AMS 380 or ETH 380 or WST 380 OR Visiting University Student |
| ETH | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| ETH | 428 | Peoples and Cultures of the American West, to 1848 | Provides an integrated understanding of change over time within and between the native, Mexican, Anglo, Asian and African American communities of the region by looking into the major formative historical forces affecting these populations individually and collectively. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only AMS 428 or ETH 428 or LAS 428 or MAS 598 (Chicano Cultures in Southwest) OR Visiting University Student |

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| ETH | 430 | Gender on the Borderlands | Examines women's status in the U.S.-Mexico borderlands through key issues such as migration, labor, violence, education, and culture. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR WST 100 or 300 with C or better; Credit is allowed for only ETH 430 or LAS 430 or WST 430 or JHR 598 (Gender on the Borderlands) OR Visiting University Student |
| ETH | 433 | Race and Sexualities in Social Justice Movements | Investigates queer communities, social control and political resistance. Topics include collective responses to trauma/violence, heteronormativity, and variants of institutionalized racism and sexism. Gives special attention to race and sexuality intersections as well as the politics of coming out, LGBT activism, antiracist movements, the role of allies, and social movement strategies. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prereq(s): ETH 100, HRC 200, or WST 100 w/C or better OR ENG 102, 105, or 108 w/C or better; minimum 36 hours; Credit is allowed for only ETH 433 or JHR 433 or WST 433 or ETH/WST 494 (Race, Sexuality, & Soc Justice Mvmts) OR Visiting University Student |
| ETH | 449 | Hate Speech, Manifestos, and Radical Writings | Examines writings, speeches and texts that provoke radical or even revolutionary social change. At its core, this course asks: What is the radical and what does it do? How do radical writings function as texts, speech acts, inspirational documents, testimonies, accounts of madness, frightening moments, calls to arms, peacekeeping entities or speaking truth to power? Examines injurious speech and provocative writings that span a range of social movements and topics, including radical feminism, radical queer, Black power, indigenous rights, art and performance, anti-technology, animal rights, violence, madness and revolutionary resistance. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): minimum 35 hours; minimum 2.50 GPA; Credit is allowed for only AMS 449 or ETH 449 or WST 449 OR Visiting University Student |
| ETH | 450 | Latina/os, Schooling and Social Inequality | Advanced interdisciplinary understanding of the issues facing Chicano, Mexican American and Latino communities in relation to K-16 schooling in the southwestern United States. Examines various schools of thought that have shaped social discourse and policies, develops a critical perspective on the social and political issues affecting education, and identifies issues--both historical and contemporary--affecting Chicanos in public education. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | C | Prerequisite(s): minimum 45 hours; Credit is allowed for only AMS 450 or ETH 450 or LAS 450 or AMS 429 (Latino/a School & Social Inequity) |
| ETH | 469 | Abject Bodies and the Politics of Trash | Examines the possibilities inherent in "theorizing from the gutter"; looking at the world not from a lofty "Ivory Tower" but from the slime, the muck, the dumpster, the trash heap, the wasteland, the discarded and the downtrodden. Takes its theoretical framework from a radical 1960s manifesto called SCUM Manifesto by Valerie Solanas and from the French feminist philosophies of Julia Kristeva, who theorized the abject as a relationship with the grotesque that reveals the deep-seated fear of death. Uses these theoretical positions to examine trash, both abstractly and literally. Works through a variety of concepts ranging from actual trash, garbage, waste, toxic sludge, pollution and dirt, and tackles more abstract notions of trash such as the knowledge produced on the fringe in circuses, amusement parks, "trailer trash" zones, freak shows and the bodies of those marked as "Other" or different. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only AMS 469 or ETH 469 or JHR/MAS 598 (Abject Bodies and the Politics of Trash) or WST 469 OR Visiting University Student |
| ETH | 473 | Indigenous and Latina/Chicana Representation | Examines from an interdisciplinary perspective contemporary issues experienced by Indigenous and Chicana/Latina women in the U.S. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only ETH 473 or LAS 473 or WST 473 |
| ETH | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | |
| ETH | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| ETH | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ETH | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| ETH | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | IND | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| ETH | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-3 | | |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| EVE | 214 | Environmental Engineering Mechanics | Concepts of engineering statics and dynamics in the context of environmental processes. Includes application of calculus-based physics, where differentiation and integration are applied to basic physical relationships; introduces hydrostatics; and material, force and energy balances. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 3 | | Prerequisite(s): MAT 266 or MAT 271; PHY 121; PHY 122 OR Visiting University Student |
| EVE | 261 | Introduction to Environmental Processes | Environmental laws and regulations; mass and energy balances; concepts of water and wastewater treatment, air quality and control, and solid and hazardous waste management. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 3 | | Prerequisite(s): CHM 116 with C or better OR Visiting University Student |
| EVE | 290 | Statistics and Probability for Environmental Data | Covers descriptive statistics and probability distributions, plotting data, hypothesis testing, analysis of variance, correlation, linear regression, experimental design and introduction to time series analysis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 3 | CS | Prerequisite(s): MAT 266 or 271 with C or better; Credit is allowed for only EVE 290 or EVE 394 (Environmental Statistics and Probability) OR Visiting University Student |
| EVE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-4 | | |
| EVE | 302 | Environmental Engineering Fundamentals: Physical and Chemical Processes | Physical and chemical processes in the environment emphasizing environmental chemistry, and fate and transport of substances in and between water, air, soil, and sediment. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 3 | | Prerequisite(s): Environmental Engineering BSE major; EVE 261 with C or better OR Visiting University Student |
| EVE | 303 | Environmental Engineering Fundamentals: Microbiological Processes | Role of microbiology in the environment including detection and identification of organisms, bacterial growth, microbial metabolism, biogeochemical cycles, and applications to environmental engineering | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 3 | | Prerequisite(s): Environmental Engineering BSE major; EVE 261 with C or better OR Visiting University Student |
| EVE | 304 | Environmental Engineering Processes Lab | Laboratory experiments, data analysis and interpretation of environmental processes in air, water, and other environmental engineering focus areas. | N | LAB | N | GNA | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 2 | | Prerequisite(s): Environmental Engineering BSE major; EVE 302 OR Visiting University Student |
| EVE | 314 | Data Science for Environmental and Civil Engineers | Data collection, processing, analysis, visualization and sharing in the context of environmental and civil engineering applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 3 | | Prerequisite(s): Environmental Engineering BSE major; EVE 290 or IEE 380; Credit is allowed for only EVE 314 or EVE 394 (Data Science for Environmental and Civil Engineers) OR Visiting University Student |
| EVE | 354 | Materials in the Environment | Covers the materials of interest and relevance for environmental engineering. Presents the properties of the materials found in buildings, products and structures of the built environment, as well as contaminants in the natural environment and materials used for environmental remediation, to explain why certain materials are used for specific applications. Then, analyzes material production and fate from a life-cycle perspective, considering material flow analysis, risk assessment and environmental impact. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 4 | | Prerequisite(s): Environmental Engineering BSE major; EVE 261 with C or better; Credit is allowed for only CEE 353 or CNE 353 or EVE 354 or EVE 394 (Materials in the Environment) OR Visiting University Student |
| EVE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-4 | | |
| EVE | 411 | Sustainable Energy, Materials and Technology | Covers technology and environmental challenges associated with traditional energy sources as well as the opportunity to improve the environment through more sustainable approaches to energy production. Beyond this, also covers the role energy plays in modern society, the correlation between energy and economic development, and the technological and nontechnological barriers to advancing alternative, more sustainable approaches to energy generation. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): EVE 261; Credit is allowed for only EVE 411 or SOS 324 OR Visiting University Student |
| EVE | 452 | Environmental Investigation and Remediation Design | Engineering practice and design covering environmental laws and regulations, environmental sources of contamination, contaminated site investigation and characterization, risk assessment, and remediation technologies. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 3 | | Prerequisite(s): Environmental Engineering BSE major; EVE 302; EVE 303 OR Visiting University Student |
| EVE | 461 | Unit Operations in Drinking Water Treatment | Characterization of surface water and groundwater, and selection and design of conventional and advanced unit processes for drinking water treatment. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 3 | | Prerequisite(s): Environmental Engineering BSE major; EVE 302; Credit is allowed for only CEE 462 or EVE 461 or EVE 494 (Unit Operations in Drinking Water) OR Visiting University Student |
| EVE | 465 | Unit Operations in Wastewater Treatment | Characterization of wastewater quality and quantity, and selection and design of unit processes for wastewater treatment and reuse. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 3 | | Prerequisite(s): Environmental Engineering BSE major; EVE 302; Credit is allowed for only CEE 462 or EVE 465 or EVE 494 (Unit Operations in Wastewater) OR Visiting University Student |
| EVE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-12 | | Prerequisite(s): minimum 45 hours |

| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|-------------------------------|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|--|
| EVE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | GNA | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-6 | | Prerequisite(s): Barrett Honors student |
| EVE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | RSC | Y | GNA | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| EVE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-4 | | |
| EVE | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-7 | | Prerequisite(s): minimum 45 hours |
| EVE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-3 | | Prerequisite(s): minimum 45 hours |
| EVE | 500 | Research Methods | Course on research methods in a specific discipline. | Y | RSC | Y | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVE | 568 | Environmental Risk Assessment | Risk assessment is an increasingly important set of tools used to inform environmental, engineering and public health regulatory decisions. Additionally, risk assessment can be used to navigate complex decisions and prioritize resource allocation when those resources are scarce. Framework for analyzing risks in engineering and environmental health applications including microbial, chemical and engineering failure risks. Probability and statistics concepts needed to complete a risk assessment including curve-fitting, Monte Carlo analysis, sensitivity analysis, and techniques for interpreting both sparse and large datasets. Additionally, summarizes the principles of toxicology and microbiology to inform case study projects. Explores risk perception, management and communication approaches for applications to multiple scenarios including water and wastewater treatment, indoor air quality and failure analysis. | N | IND | N | GNA | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 3 | | Prerequisite(s): Civil, Environmental and Sustainable Engineering MS or Civil, Environmental and Sustainable Engineering MSE or Environmental Engineering MS student |
| EVE | 571 | Water Quality Modeling | Identifies point and nonpoint source pollution in urban and agricultural watersheds, models the fate and transport of this pollution in watersheds, and evaluates strategies for their mitigation. Additionally, touches on water quality standards and the U.S. regulations governing the pollution sources and control strategies. Focuses on nutrient and sediment pollution of surface waters, but also introduces these concepts for other pollutants and groundwater systems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 3 | | Prerequisite(s): Civil, Environmental and Sustainable Engineering MS or Civil, Environmental and Sustainable Engineering MSE or Environmental Engineering MS student |
| EVE | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVE | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVE | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | N | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVE | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|---|
| EVE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVE | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVE | 599 | Thesis | Supervised research focused on preparation of a thesis, including literature review, research, data collection and analysis, and writing. | N | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVO | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-7 | | |
| EVO | 501 | Current Topics in Evolutionary Biology | Broadly conceived presentation of papers and current research in evolutionary biology in a journal-club style format. | N | LEC | N | OP2 | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVO | 539 | Computing for Research | Works mainly with command-line programs, focusing on sequence-based analysis. An interactive flipped course, with required hands-on aspects both in class debugging and troubleshooting and for out-of-class assignments where students work on problem solving and implementation. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 439 or BIO 498 (Computing for Rsrch) or BIO 539 or BIO 598/EVO 598/MCB 598 (Computing for Rsrch) or EVO 539 or MCB 539 |
| EVO | 557 | Practical Applications in Computational Life Sciences | Working group to troubleshoot challenges in computational life sciences. | N | LEC | Y | OP2 | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 498 (Pract Apps in Comp. Life Sci) or BIO 557 or BIO 598 (Pract Apps in Comp. Life Sci) or EVO 557 or EVO 598 (Pract Apps in Comp. Life Sci) |
| EVO | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVO | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVO | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVO | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVO | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVO | 601 | Principles of Evolution | Introductory course for graduate students; covers the principles of evolutionary biology from theoretical, empirical, and historical perspectives. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 522 or EVO 601 |
| EVO | 610 | Research Areas of Evolution | Broadly conceived description of the current research areas of evolutionary biology. Expected of all first-year evolution students. | N | SEM | Y | YGB | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVO | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVO | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|-----------------------------|-------|-----------------|---|
| EVO | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVO | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 101 | Foundations of Health and Fitness Science | Student-centered instructional course designed to excite and propel the student into the development of a successful academic and professional career path in the fields of health coaching, fitness or wellness. Presents a general overview of the career opportunities for students in the health and fitness fields with group and individual assignments that enable participants to more thoroughly explore options related to their goals. Divided into 3 major sections: academic preparation, professional development and career exploration. Assists students to develop their own individual blueprint for accomplishing their professional goals and understand the skills they need to develop along the way to be successful. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only EXW 101 or EXW 290 or EXW 300 OR Visiting University Student |
| EXW | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| EXW | 214 | Flexibility Instructional Competency Laboratory | Science and methods of instruction related to flexibility exercises and activities. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): Exercise and Wellness major or enrolled in Personal Fitness Training certificate |
| EXW | 215 | Resistance Training and Recovery Techniques | Detailed instruction designed to teach students to safely and properly perform a variety of muscular strengthening exercises. Introduces and reviews fundamental principles of physiology and kinesiology underlying the ability to properly perform a wide variety of resistance training exercises and to properly instruct individuals of varying ages and physical abilities in safe and effective performance of those movements. Additionally, covers the purpose for the cool-down and recommendations for recovery techniques to allow participants to prepare for additional bouts of physical activity. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | |
| EXW | 216 | Muscular Strength Instructional Competency Laboratory | Science and methods of instruction related to resistance training and muscular strength activities. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): Exercise and Wellness major or enrolled in Personal Fitness Training certificate |
| EXW | 217 | Cardiorespiratory and Flexibility Training | Comprehensive foundational course designed to teach students how to safely and effectively instruct a wide variety of cardiorespiratory and flexibility exercises one-on-one, and to groups of individuals of varying ages and physical abilities. Provides a basic understanding of the effects of cardiorespiratory exercises on the body and the general scientific principles relative to improving cardiorespiratory fitness. Prepares students to assess joint range of motion and provide specific recommendations for flexibility routines designed to increase joint range of motion and improve the comfort of a client participating in physical activity programs. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | |
| EXW | 218 | Cardiovascular Instructional Competency Laboratory | Science and methods of instruction for cardiovascular exercise and fitness activities. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): Exercise and Wellness major or enrolled in Personal Fitness Training certificate |
| EXW | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| EXW | 302 | Fundamentals of Wellness | Overview of fundamental health, exercise and wellness concepts. Emphasizes personal wellness assessment and application. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| EXW | 321 | Consumer Health | Provides preprofessional primary/secondary educators and community health education specialists with (1) a model for making informed consumer health-related decisions; (2) current information involving consumer related topics, emphasizing necessity of current information for making informed decisions; (3) mechanisms for continued consumer awareness. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only EXW 321 or HEP 361 (EXW 361) |
| EXW | 325 | Fitness for Life | Analyzes physical fitness and benefits of exercise with emphasis on application of strategies for fitness and wellness evaluation, behavior change, and lifelong program planning. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): ENG 101; minimum 30 hours OR Visiting University Student |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|-----------------------------|-----------------------------|-------|-----------------|--|
| EXW | 330 | Kinesiological Foundations of Movement | Study and consideration of human movement with emphasis on kinesiology principles and their application to movement and fitness. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): Recreational Therapy BS major; BIO 160 or 201 with C or better OR BIO 160 or 201 with C or better; Pre- or corequisite(s): EXW 101 or KIN 101 with C or better if completed OR Visiting University Student |
| EXW | 331 | Violence Prevention | Examines violence prevention strategies and violence prevention content. Examines the literature to understand principles for use in the development of violence prevention curriculum in school and community settings. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only EXW 331 or HEP 371 (EXW 371) |
| EXW | 335 | Physical Activity and Physiological Concepts | Helps health and fitness professionals/educators understand the basics of exercise physiology, bioenergetics, exercise science and human performance. Topics are designed to provide a base of knowledge so students can progress to design physical activity programs that increase physical function and improve overall health. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 215 with C or better; EXW 217 with C or better; minimum 45 hours OR EXW 214 with C or better; EXW 216 with C or better; EXW 218 with C or better; minimum 45 hours OR Visiting University Student |
| EXW | 342 | Health Behavior Change | Examines major theories of health behavioral change. Develops intervention strategies and techniques employed to facilitate health behavioral change. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): PSY 101; minimum 45 hours; Credit is allowed for only CHS 340 (EXW 340) or EXW 342 or HSC 340 OR Visiting University Student |
| EXW | 344 | Impact of Physical Activity on Health and Disease | Examines the influence of physical activity, fitness and sedentary behavior on the risk of chronic disease and mortality. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): BIO 160 or 201 with C or better; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| EXW | 351 | Substance Abuse Prevention | Prepares preprofessional primary/secondary school and community health educators to prepare and deliver substance abuse prevention education and programming. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only EXW 251 (or EXW 312) or EXW 351 |
| EXW | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| EXW | 400 | Stress Management for Wellness | Examines the stress response and management from a behavioral perspective as it pertains to individuals or groups. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): PSY 101; minimum 60 hours OR Visiting University Student |
| EXW | 412 | Pediatric Obesity | Covers a variety of aspects related to pediatric obesity including the causes and consequences in terms of physiologic, genetic, psychosocial, environmental and economic. Also discusses potential interventions such as behavioral, pharmacologic, surgical and public health and policy. Evidenced-based course where research guides class lectures and discussions. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 315 or KIN 340; Credit is allowed for only EXW 412 or KIN 446 or EXW 494 (Pediatric Obesity) or KIN 494 (Pediatric Obesity) |
| EXW | 420 | Exercise Testing | Theoretical basis and practical application of pre-exercise screening, exercise testing, estimates of energy expenditure, and interpretation of results. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s) with C or better: Kinesiology BS; KIN 334; KIN 340; min 60 hours OR Sports Science & Performance Prog BS; SSP 315; SSP 325; min 60 hours OR all other majors; EXW 215; EXW 217; EXW 330; KIN 340; min 60 hours OR Visiting University Student |
| EXW | 425 | Exercise Prescription for Health and Wellness | Comprehensive course allowing students to apply the principles of exercise prescription to improve the health and fitness of apparently healthy adults and adults with risk factors, stable chronic conditions, and/or comorbidities. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 335, KIN 340, or SSP 315 (EXW 315) with C or better OR Visiting University Student |
| EXW | 426 | Exercise for Neuromuscular Conditions | Covers the impact of various neurological and neuromuscular conditions on the physiological function, motor control, exercise capacity and health of the human body. Students research and apply evidence-based best practices for exercise prescription for persons with such conditions with the goal of maximizing functional abilities and capacity, independence and health-related physical fitness and preventing or treating secondary conditions. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | L | Prereq(s): ENG 101, 105, or 107 w/C or better; EXW 330, KIN 334 or PRM 364; KIN 340 or SSP 315 (EXW 315); Credit for EXW 426 or EXW 494/KIN 494/EXW 598 (Neuro-muscular Exer Prescrip) or EXW 598 (Exer for Neuromuscular Cond) OR Visiting University Student |
| EXW | 427 | Exercise Prescription for Cardiometabolic Health | Provides a case study approach to examine evidence-based applications required to safely prescribe exercise for individuals at risk for, or who present with, common chronic cardiometabolic diseases or conditions. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prereq(s): EXW 420 w/C or better, or both KIN 340 and 352 with B or better; Pre- or coreq(s): KIN 447 w/C or better if completed; Credit is allowed for only EXW 427 or EXW 494/598 (Ex Rx: Cardiorespiratory & Metabolic Cond) OR Visiting University Student |
| EXW | 442 | Motivational Interviewing | Provides a structure for understanding, critiquing and application of core concepts associated with motivational interviewing. Assigns each student to formally interview a volunteer, review the audio/visual stream, and evaluate the efficacy via accepted software and hardware instruments. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): CHS 340 or EXW 342 with C or better; Credit is allowed for only EXW 442 or EXW 494 (Motivational Interviewing) |

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| EXW | 446 | Worksite Wellness | Provides an understanding of how to successfully start, grow and sustain worksite wellness initiatives designed to improve health outcomes, increase employee engagement, and address corporate needs. Develops skills needed to communicate and evaluate worksite wellness program value effectively. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 101 with C or better; Pre- or corequisite(s): CHS 340 with C or better if completed OR Visiting University Student |
| EXW | 450 | Social Determinants of Health and Health Behavior | Examines broad determinants of health that influence the well-being of individuals and communities (e.g., early life, education, employment, culture, policy, the built and food environments, stress and socioeconomic status). | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | (L or SB) & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 60 hours OR Visiting University Student |
| EXW | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): Exercise and Wellness major; EXW 420 with C or better; minimum 2.00 GPA OR Health Education and Health Promotion major; EXW 284 with C or better; EXW 476 (or EXW 436) with C or better |
| EXW | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): Barrett Honors student |
| EXW | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| EXW | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| EXW | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-3 | | |
| EXW | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 501 | Research Statistics | Statistical procedures; sampling techniques, hypothesis testing, and experimental designs as they relate to research publications. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 510 | Obesity Perspectives and Prescriptions | Examines the impact of obesity, body fatness and fat distribution on health from various physiological, psychological, social and cultural perspectives. Explores the importance of the obesogenic environment in the etiology of obesity as well as its role in the prevention and management of obesity. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EXW 510 or EXW 598 (Obesity Perspectives and Prescription) or HEP 410 (EXW 410) |
| EXW | 515 | Advanced Exercise Physiology | Comprehensive and in-depth investigation of human physiology to exercise circumstances. Provides content on the immediate and long-term adaptations to exercise with special reference to exercise metabolism, immune function, skeletal muscle, cardiovascular and pulmonary systems. Also includes critical analysis of the effect of exercise on human physiologic function with in-depth examination of current literature. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Clinical Exercise Physiology MS major or Exercise and Wellness MS major; Credit is allowed for only EXW 515 or KIN 494 (Advanced Exercise Physiology) or KIN 598 (Advanced Exercise Physiology) |
| EXW | 535 | Advanced Exercise Assessment and Prescription | Theory and practice of laboratory methods in applied exercise physiology. Procedures for assessment and prescription for individuals with chronic disease. | N | LEL | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 536 | Physiological Aspects of Physical Activity and Chronic Disease | Role of physiological mechanisms associated with acute and long-term physical activity and its influence on chronic disease and wellness. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 538 | Exercise, Diet and Weight Control | Examines effects of exercise and diet on body fat and energy balance, with special emphasis on obesity treatment and prevention. Topics include fad/popular diets, exercise and fat balance, weight-loss maintenance, body weight set-point, metabolic adaptations to calorie restriction, causes of weight gain and increasing obesity prevalence, health benefits of exercise and diet independent of weight loss. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 540 | Mindfulness, Stress and Health | Overview of the theory, measurement, research and efficacy of mindful awareness practices and programs on stress reduction, health outcomes and health behavior. Includes an experiential learning component focused on practices and content consistent with mindfulness-based stress reduction. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EXW 540 or EXW 598 (Mindfulness Stress and Health) |
| EXW | 542 | Health Promotion | Examines the major theories of behavior change and their application to improving health behaviors. Includes practical application through intervention development and critical evaluation of the literature. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 544 | Fitness/Wellness Management | Development of the fitness/wellness industry. Planning, organizing, promoting, and managing fitness/wellness programs. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
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| EXW | 554 | Planning and Implementation in Health Promotion | Covers selected topics in health promotion across a variety of domains of health. Program planning concepts include the application of planning frameworks, needs assessments, and theory in health promotion program planning and development. Also focuses on practical issues related to health promotion program implementation such as implementation planning, resource management and program marketing. Also covers process evaluation and quality improvement strategies. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EXW 554 or HEP 454 (EXW 454) |
| EXW | 556 | Program Evaluation in Health Promotion | Comprehensive and systematic introduction to the key concepts and methodologies of program evaluation, specifically related to health programs. Discusses approaches to program evaluation in relation to the program's stage of development, resources and informational needs for decision-making. Focus includes program evaluation literature related to physical activity and nutrition. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 554; Credit is allowed for only EXW 556 or HEP 456 (EXW 456) |
| EXW | 560 | Cardiopulmonary Rehabilitation | Exercise testing and prescription for cardiac and pulmonary patients as well as pharmacology, electrocardiography, pathophysiology of chronic diseases, and leadership of patients in cardiac rehabilitation and pulmonary rehabilitation programs. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 562 | Functional Assessment and Exercise Prescription for Older Adults | Assessment of functional capacity and prescription of exercise that is appropriate for older adults including healthy, frail, diseased and very old. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): MS Clinical Exercise Physiology or Exercise and Wellness major |
| EXW | 564 | Aging and Lifestyle Behaviors | Provides an overview of health behaviors in older adults. Centers on the perceptions and behaviors of older adults in reference to illness prevention, health promotion and reactions to acute and chronic illness and the context in which these behaviors occur. Specifically examines the psychological, familial, cultural and contextual factors which influence older adults' personal health practices and illness behaviors. Considers the older person as an individual in a complex system, engaged in decision making and his/her subsequent actions to maintain or improve health status. Solidifies concepts through the use of in-class case studies and discussions. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Pre-requisite: EXW 542 |
| EXW | 565 | Cardiovascular and Pulmonary Physiology | In-depth study of the physiology of exercise with special regard to cardiovascular and pulmonary responses in healthy and chronically diseased individuals. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): MS in Clinical Exercise Physiology major |
| EXW | 568 | Management and Treatment of Chronic Disease for the Clinical Exercise Physiologist | Studies the physiology, pathophysiology and pharmaceutical interventions of common chronic disease incorporating the current research for recommendations on appropriate exercise prescription for this population. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Clinical Exercise Physiology MS student |
| EXW | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 597 | Capstone Project | For non-thesis students in the MS degree program to provide a culminating field experience or non-research project for students to apply the coursework and healthy aging concepts. | N | RSC | N | YGB | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): EXW 500; EXW 501; EXW 536; EXW 542; EXW 591 |
| EXW | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| EXW | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 635 | Physical Activity and Aging | Examines and discusses the physiological effects of aging on the major systems of the body and the health related research on physical activity and aging. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 640 | Analysis of Variance for Exercise and Wellness | Analyzes variance methods with an emphasis on research measures of human performance. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 642 | Exercise Epidemiology | Covers the historical and current perspectives of physical activity and exercise epidemiology as applied to population health. Examines public health surveillance information and evaluates and synthesizes strategies to increase physical activity across health care and community settings. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 643 | Correlation/Regression/Multivariate Statistics | Graduate-level statistics course for PhD/master's students who will be doing research in the area of exercise and wellness. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 645 | Advanced Applied Methods and Data Analysis | Heavily applied focus on implementing research methods and statistical modeling techniques in the health promotion sciences. Addresses practical issues in specifying, interpreting and presenting research findings using appropriate statistical techniques. Addresses reporting standards (e.g., CONSORT, STROBE, PRISMA) and practical issues related to manuscript submission. Covers analytical methods including multiple regression and logistic regression, ANOVA, mediation and moderation, exploratory factor analysis, multilevel models for hierarchical data and intensive longitudinal data, basic time-to-event analyses (i.e., survival), and meta-analysis; also remains flexible to address critical and emerging methodologies in the health promotion sciences. Covers statistical methods in a conceptual nature with a focus on the use of statistical software packages (primarily SPSS) and interpretation of outputs. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 640 |
| EXW | 655 | Physical Activity and Public Health | In-depth analysis of the role of physical inactivity as a public health problem and public health approaches to the study and practice of increasing physical activity. Includes analysis of public health strategies for increasing physical activity at the community, national and international levels. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EXW 655 or EXW 598 (Pa Pub Health) |
| EXW | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 701 | Advanced Research Methods | Provides doctoral students in Nutrition and Health Promotion with instruction in methods to enhance scientific writing skills in the health sciences and guidance through the process required to organize and submit a fundable research grant proposal. | N | SEM | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 700 |
| EXW | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | GNA | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): Exercise and Nutritional Sciences PhD student |
| EXW | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Health Solutions | College of Health Solutions | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 101 | Personal Growth and Relationships | Learn how to set and achieve personal growth goals in addition to learning the science behind attraction, dating, love and how to build and maintain healthy relationships. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | |
| FAS | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-3 | | Pre-requisites: Freshman Standing; Maximum 25 hours |
| FAS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | |

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| FAS | 201 | Careers in Family and Human Development | Introduces the program in family and human development and aids in career exploration and development for majors and nonmajors who may be interested in declaring this as a major. Students learn what careers and jobs family and human development students typically enter and what skills can be translated into practice for a career in different professions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1 | | Credit is allowed for only FAS 201 or SOC 201 |
| FAS | 264 | Sociology of Gender | Examines how society influences perceptions of difference and identity within institutions and interactions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & C | Prerequisite(s): ENG 101, 105, 107, or 111 with C or better; Credit is allowed for only FAS 264 or SOC 264 OR Visiting University Student |
| FAS | 290 | Introduction to Social Science Research | Students learn the fundamentals of how social research is conducted and use critical thinking skills to access, analyze, interpret and summarize research. Students gain an appreciation for the value of social research in our everyday lives. Explores both qualitative and quantitative methods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): CDE 232, FAS 101, or SOC 101 with C or better; Credit is allowed for only FAS 290 or SOC 290 OR Visiting University Student |
| FAS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | |
| FAS | 301 | Introduction to Parenting | Integrated approach to understanding parenting and parent-child interactions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | |
| FAS | 324 | Sociology of Work and Organizations | Historical and comparative examination of changes in the structure and meaning of work and current shifts in people's work lives with a focus on race, ethnicity, gender, social class and social networks. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only FAS 324 or SOC 324 OR Visiting University Student |
| FAS | 331 | Modern Family Relationships | Family structures and processes. Explores the science on dating, cohabitation, marriage, parenting, divorce, finances (and more) in multiple family forms, including single-parents, multi-generational, LGBTQ+, childless and blended families. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): FAS 101, PSY 101 or SOC 101 OR Visiting University Student |
| FAS | 332 | Human Sexuality | Relationship of sexuality to family life and to major societal issues. Emphasizes developing healthy, positive, and responsive ways of integrating sexual and other aspects of human living. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | |
| FAS | 361 | Applied Research Methods | Learn how to apply methodological approaches to social research questions. Learn to evaluate, interpret, synthesize, produce and present research. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | L or SB | Prerequisite(s): CDE 232, FAS 101, or SOC 101 with C or better; ENG 101, 105, or 107 with C or better; PSY 230, SBS 304, SOC 390, or STP 226 with C or better; Credit is allowed for only FAS 361 or SOC 391 OR Visiting University Student |
| FAS | 370 | Family Ethnic and Cultural Diversity | Integrative approach to understanding historical and current issues related to the structure and internal dynamics of diverse American families. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & C | Credit is allowed for only AFR 370 or FAS 370 OR Visiting University Student |
| FAS | 390 | Supervised Research Experience | Practical, firsthand experience within current faculty research projects in family studies or child development or sociology. May be repeated for total of 6 hours. | Y | RSC | Y | GNA | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FAS 390 or SOC 399 OR Visiting University Student |
| FAS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | |
| FAS | 410 | Military Family Systems in a Democracy | In-depth overview of recent research, issues, trends relating to military families and the interactions within the military culture and societal cultures. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): FAS 101 or PSY 101 or SOC 101; minimum 30 hours OR Visiting University Student |
| FAS | 435 | Advanced Topics in Modern Family Relationships | Applies critical evaluation to research on relationships and families. Analyzes and discusses contemporary topics related to families, including LGBTQ+ rights, racial justice, immigration and healthcare decisions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; FAS 331 with C or better; minimum 45 hours; Credit is allowed for only FAS 435 or SOC 435 OR Visiting University Student |
| FAS | 436 | Sexuality in Mid-Life and Beyond | Analyzes physical changes, myths and stereotypes, gender issues, and relationship issues pertaining to sexuality in the middle and older adult years. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 60 hours; 6 hours of PSY and/or SOC courses |
| FAS | 440 | Fundamentals of Marriage and Family Therapy | Introduces the fundamental orientations of marriage and family therapy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | |
| FAS | 460 | Leadership, Research, and Collaboration in Community Change | Advanced understanding of leadership and the development of proposals for innovative plans that enhance the well-being of children, youth and families. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): minimum 60 hours; Credit is allowed for only FAS 460 or FAS 498 (Leadership Research & Collaboration in Change) or SOC 460 |
| FAS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | |
| FAS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-6 | | Prerequisite(s): Barrett Honors student |
| FAS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| FAS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | |

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| FAS | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-6 | | Prerequisite(s): Barrett Honors student |
| FAS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-7 | | |
| FAS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-3 | | |
| FAS | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEL | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 503 | Academic Professional Development | Becoming and working as a academic, including how to write a vita, choose a thesis topic, or find dissertation data. | N | REC | N | GNA | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 505 | Applied Regression Analysis | Multiple linear regression topics relevant to social science data analysis. Computer applications. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only FAS or SOC 505 |
| FAS | 507 | Categorical Data Analysis | Logistic regression and related topics relevant to categorical data analysis in social sciences. Computer applications. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only FAS or SOC 507 |
| FAS | 508 | Structural Equation Analysis for the Social Sciences | Theory and application of structural equation modeling. Path analysis and latent variable models such as CFA, multiple group analysis and models for longitudinal data. Projects involve conducting analyses and writing results. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only FAS or SOC 508 |
| FAS | 509 | Event History Analysis | Proportional hazards models and other methods for analyzing longitudinal data and establishing hazard rates of events for exploratory variables. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only FAS or SOC 509 |
| FAS | 510 | Bayesian Analyses in the Social Sciences | Discusses principles and practices of Bayesian approaches to statistical inference and modeling. Topics include: philosophical underpinnings of Bayesian inference; associated interpretations of probability; univariate and multivariate models prevalent in the social sciences; Markov chain Monte Carlo estimation; data-model fit; model comparisons procedures; missing data analyses. Course consists of lectures, demonstrations of software, reading assignments, homework assignments and a project. Exposes students to key concepts in Bayesian methods and gains technical foundations necessary to be consumers and contributors to applied and methodological research. Assumes previous knowledge of statistics through multiple regression, and recommends additional topics: multivariate statistics, latent variable modeling, probability theory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CDE 591 (Bayesian Analyses in the Social Sciences) or CDE 591 (Introduction to Bayesian Analyses) or FAS 510 or SOC 510 |
| FAS | 512 | Secondary Data Analysis | Works with existing data to produce a publishable article. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only FAS or SOC 512 |
| FAS | 520 | Structural Equation Modeling with Longitudinal Data | Emphasizes practical applications of longitudinal data analyses from a structural equation modeling perspective. In addition to discussing concepts related to longitudinal methods and design, students learn how to prepare data, model longitudinal data using software (e.g., Mplus), interpret output and report results of analyses. Example topics include panel models with observed and latent variables, measurement and structural invariance testing across time and group, fixed-effects panel models and mediation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): EDP 654, FAS 508, or PSY 533; Credit is allowed for only CDE 591 (Structural Equation Modeling - Longitudinal Data) or FAS 520 |
| FAS | 521 | Latent Growth and Longitudinal Mixture Models | Emphasizes practical applications of longitudinal data analyses from a structural equation modeling perspective as well as practical applications of growth mixture models. In addition to discussing concepts related to longitudinal methods and design, students learn how to model longitudinal data using software (e.g., Mplus), interpret output and report results of analyses. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): EDP 654, FAS 508, or PSY 533; Credit is allowed for only CDE 598 (Latent Growth & Mixture Models-Longitudinal Data) or FAS 521 |
| FAS | 531 | Theoretical Issues in Family Sciences | Historical and current approaches to theory development, evaluation, and application in family studies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 539 | Research Issues in Family Interaction | Critical review of current and past research in the area of family dynamics. Emphasizes interactional processes within the family. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 570 | Introduction to Marriage and Family Therapy | Introduces major marriage and family therapy orientations. Reviews history, theory, application, and outcome research for each orientation. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-MFT student |
| FAS | 571 | Assessment in Marriage and Family Therapy | Assessment and outcome evaluation of couples and families involved in marital and family therapy. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-MFT student |
| FAS | 572 | Advanced Techniques in Marriage and Family Therapy | In-depth review of assumptions and advanced techniques associated with contemporary marriage and family therapy approaches. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-MFT student |

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| FAS | 573 | Dysfunctional Families | Critical review of current theory and empirical evidence connecting marital and family interaction patterns with aberrant behavior. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-MFT student |
| FAS | 574 | Family Theory for Marriage and Family Therapy | Examines the theoretical orientations within the family therapy field, including the evolution, premises, and assumptions of each. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-MFT student |
| FAS | 575 | Applied Issues in Couples - Therapy | Examines issues unique to therapeutic work with couples, including lifespan transition, multicultural issues, divorce, parenting, and remarriage. Seminar. Enroll requirements: Pre-requisites: Admission into MAS-MFT program. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-MFT student |
| FAS | 576 | Applied Issues in Human Development for MFT: Psychopathology | Recognition and diagnosis of maladaptive behavior according to DSM criteria across human development. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-MFT student |
| FAS | 577 | Applied Issues in Children and Adolescents in Marriage and Family Therapy | Examines developmental factors that lead to disorders in children and adolescents, with an emphasis on a systemic framework. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-MFT student |
| FAS | 578 | Applied Issues in Sexuality for Marriage and Family Therapy | Examines the major methods used to assess and treat sexual issues and the treatment of sexual disorders. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-MFT student |
| FAS | 579 | Applied Research in Marriage and Family Therapy | Critical examination of research concepts, quantitative and qualitative research designs, and applicability in clinical settings. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-MFT student |
| FAS | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 581 | Professional Issues and Ethics | Examines legal and ethical concerns of marriage and family therapists, emphasizing licensing standards and the Code of Ethics. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-MFT student |
| FAS | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 586 | Capstone I | Professional exploration and goal specification for non-thesis capstone project. | N | PRA | N | GNA | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree-seeking graduate student in the Sanford School of Social and Family Dynamics; Credit is allowed for only FAS 586 or SOC 586 |
| FAS | 587 | Capstone II | Develops professional expertise and area of focused interest. | N | RSC | N | GNA | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): FAS 586 or SOC 586. Credit is allowed for only FAS 587 or SOC 587 |
| FAS | 588 | Capstone III | Applies developed expertise and knowledge to professional goal. | N | PRA | N | GNA | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): CDE 501 or SOC 501; CDE 531 or SOC 585; FAS 500 or SOC 500; FAS 587 or SOC 587; 12 additional graduate-level hours in CDE, FAS, and/or SOC; Credit is allowed for only FAS 588 or SOC 588 |
| FAS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|------------------------------------|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| FAS | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FIN | 123 | ASU Financial Literacy | A practical approach to financial challenges faced by ASU students. Emphasizes financial choices likely to be encountered while at ASU, as well as issues to be encountered immediately upon graduation. Topics include credit cards, student loans, credit scores, saving, investing, insurance, transportation, housing, taxes, goal setting and budgeting. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 1 | | |
| FIN | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Finance | 1-4 | | |
| FIN | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Finance | 1-4 | | |
| FIN | 300 | Fundamentals of Finance | Theory and problems in financial management of business enterprises. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prereqs w/C or better:WPC maj or non-WPC maj w/min 2.5 GPA &min 56 hr; ACC 231,232 or 261; ECN 212; ECN 221,231,IEE 380 or STP 280; MAT 210,251,265 or 270; Pre/coreq:ACC 241,242 or 271; Credit allowed for FIN 300,302 or 303 OR Visiting University Student |
| FIN | 302 | Managerial Finance | Theories and techniques used for business decisions in working capital management, capital budgeting, financial control, and long-term financing. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prereqs w/C or better: WPC Finance major; ACC 231, 232, 261; ECN 211, 213; ECN 212, 214; ECN 221, 231; MAT 211, 266, 271; Pre/coreqs: ACC 241, 242, or 271 w/C or better if complete; Credit allowed for only FIN 302 or 303 OR Visiting University Student |
| FIN | 303 | Honors Finance | Covers basic principles of finance, practical tools for financial decision making, and evaluation methods employed by the firm. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s) with C or better: WPC Honors student; ACC 231, 232, or 261; ECN 211 or 213; ECN 212 or 214; ECN 221 or 231; MAT 211 or 271; Pre- or corequisite(s): ACC 241, 242 or 271 with C or better if completed; Credit allowed for only FIN 302 or 303 |
| FIN | 331 | Financial Markets and Institutions | Analyzes financial markets and intermediaries. Theory of financial intermediation, interest rate theory, money and capital market instruments, and government regulation. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prereqs w/C or better: W.P. Carey BS major or Business minor; ACC 231, 232, or 261; ECN 211 or 213; ECN 212 or 214; ECN 221 or 231; MAT 211, 266, or 271; Pre/coreqs: ACC 241, 242, or 271 with C or better if completed OR Visiting University Student |
| FIN | 361 | Advanced Managerial Finance | Builds on FIN 302. Advanced material on capital budgeting, cost of capital, CAPM, asset valuation, capital structure, and financial policy. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): W.P.Carey Finance BS student; FIN 302 with C or better OR Visiting University Student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------|-----------------------|-------|-----------------|---|
| FIN | 380 | Personal Financial Management | Dynamic analysis of personal financial planning, including time value of money, stock and bond investment, and retirement and estate planning. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): minimum 2.00 GPA; minimum 56 hours, OR nondegree-seeking student; minimum 2.00 GPA, OR graduate student; Not for Finance major credit OR Visiting University Student |
| FIN | 385 | Personal Insurance Planning | Fundamentals of personal risk and insurance. Understanding and evaluating personal insurance coverage. Helpful for an insurance license. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): W. P. Carey major; FIN 300, 302, or 303 with C or better OR Visiting University Student |
| FIN | 386 | Estate Planning Strategies | Estate planning concepts, issues and strategies. Evaluates a personal estate plan and identifies needed components. Planning for client objectives and wealth. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): W. P. Carey major; FIN 300, 302, or 303 with C or better; FIN 380 with C or better; Pre- or corequisite(s): FIN 385 with C or better if completed OR Visiting University Student |
| FIN | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Finance | 1-4 | | Prerequisite(s): W.P. Carey BS non-Finance major; FIN 300, 302, or 303 with C or better OR Visiting University Student |
| FIN | 420 | Personal Portfolio Management | Managing a portfolio of securities through the investment process. Valuing stocks, bonds, managing risk, and considering tax and inflation consequences. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): Business (Financial Planning) BA major; FIN 300, 302, or 303 with C or better; FIN 380 with C or better OR Visiting University Student |
| FIN | 421 | Security Analysis and Portfolio Management | Security analysis theory and practice. Selection and management of financial asset portfolios. Securities markets and portfolio risk-return analysis. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): W. P. Carey Finance BS major; ACC 340 with C or better; FIN 303 or 361 with C or better OR Visiting University Student |
| FIN | 427 | Derivative Financial Securities | Study of stock options, index options, convertible securities, financial futures, warrants, subscription rights, and arbitrage pricing theory. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): W. P. Carey Finance BS major; ACC 340 with C or better; FIN 303 or 361 with C or better OR Visiting University Student |
| FIN | 431 | Management of Financial Institutions | Asset/liability and capital management in financial institutions. Influence of market factors and regulatory agencies. Emphasizes commercial banks. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): W. P. Carey Finance BS major; ACC 340 with C or better; FIN 303 or 361 with C or better OR Visiting University Student |
| FIN | 455 | Entrepreneurial Finance | Examines principles of entrepreneurial finance with a focus on the underlying economics and institutions involved. Provides insight into evaluating new ventures and practical financial tools for the entrepreneur. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): W. P. Carey Finance BS major; ACC 261 or 340 with C or better; FIN 303 or 361 with C or better; Credit is allowed for only FIN 455 or FIN 555 OR Visiting University Student |
| FIN | 456 | International Financial Management | Exchange rate determination, financial markets, managing multinational corporations, capital budgeting, and hedging currency risk exposure from an international perspective. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | G | Prerequisite(s): W. P. Carey Finance BS major; ACC 340 with C or better; FIN 303 or 361 with C or better OR Barrett Honors student; Finance BS major; FIN 303 with C or better OR Visiting University Student |
| FIN | 460 | Personal Finance Cases and Modeling | Capstone course. Case method training to simulate situations as a financial planner for self and for clients. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): Business (Financial Planning) BA major; ACC 435 with C or better; FIN 385 with C or better; FIN 386 with C or better; Pre- or corequisite(s): FIN 420 with C or better if completed |
| FIN | 461 | Financial Cases and Modeling | Case-oriented capstone course in managerial finance. Contemporary issues of liquidity management, capital budgeting, capital structure, and financial strategy. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | L | Prerequisite(s): Finance BS major; ACC 340 with C or better; ENG 101, 105, or 107 with C or better; FIN 303 or 361 with C or better; minimum 87 hours; Pre- or corequisite(s): FIN 421 with C or better if completed OR Visiting University Student |
| FIN | 471 | SIM Fund | Under faculty supervision, students manage over \$500,000 of the ASU Foundation's assets over the course of the year. Must take for a total of 3 hours. | N | LEC | Y | Z1 | W. P. Carey School of Business | Department of Finance | 1-3 | | Prerequisite(s): FIN 303 or 361 with C or better OR Visiting University Student |
| FIN | 472 | Investment Banking Industry Scholars | Provides conceptual basis for performing analysis, providing advice and making decisions in elite financial services firms. Must take for a total of 3 hours. | N | LEC | Y | GNA | W. P. Carey School of Business | Department of Finance | 1-3 | | Prerequisite(s): application and selection process; Credit is allowed for only FIN 472 or FIN 494 (Investment Banking Industry Scholars) |
| FIN | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | GNA | W. P. Carey School of Business | Department of Finance | 1-12 | | Prerequisite(s): W.P. Carey BS student; FIN 300, 302 or 303 with C or better |
| FIN | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | IND | Y | Z1 | W. P. Carey School of Business | Department of Finance | 1-6 | | Prerequisite(s): Barrett Honors student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------|-----------------------|-------|-----------------|---|
| FIN | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | W. P. Carey School of Business | Department of Finance | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| FIN | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Finance | 1-4 | | Prerequisite(s): W. P. Carey Finance BS major; ACC 261 or 340 with C or better; FIN 303 or 361 with C or better OR Visiting University Student |
| FIN | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | W. P. Carey School of Business | Department of Finance | 1-3 | | Pre-requisites: W.P. Carey Finance students with professional status |
| FIN | 501 | Basics of Finance: The Art of Managing Resources to Create Value | Develops analytical techniques and financial theories used to make optimal decisions in a corporate setting. Designed for students with limited business experience and without an undergraduate business degree. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): degree-seeking graduate student |
| FIN | 502 | Managerial Finance | Develops analytical techniques and financial theories used to make optimal decisions in a corporate setting. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 2-4 | | Prerequisite(s): W. P. Carey MS Finance or MBA student; ACC 502 with C or better |
| FIN | 509 | Quantitative Methods in Finance I | Empirically investigates properties of financial data such as basic probability theory, matrix algebra, ordinary least squares, and maximum likelihood estimation. Explores these methods both through algebraic derivation and programmed implementation in PYTHON. Provides the basis for portfolio optimization by focusing on the estimation and testing of financial factor models. | N | SEM | N | GNA | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): Finance MS student |
| FIN | 520 | Valuation Techniques | Improves the understanding of valuation concepts and how to apply them. Shows how to value assets using free cash flow and economic value-added methods. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 1-4 | | Prerequisite(s): Degree-seeking graduate student; FIN 502 with C or better |
| FIN | 525 | Investment Strategies | Presents the fundamental principles of risk and return, portfolio diversification, asset allocation, efficient markets, active portfolio management, portfolio evaluation. Reviews selected alternative investment strategies such as hedge fund investments. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 1-4 | | Prerequisite(s): W. P. Carey Finance MS or MBA student; FIN 502 with C or better |
| FIN | 530 | Derivatives | Intermediate- to advanced-level course in derivative assets such as options, forward and futures contracts, swaps and financial engineering. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 1-4 | | Prerequisite(s): W. P. Carey Finance MS student; FIN 502 with C or better |
| FIN | 535 | Quantitative Methods in Finance II | Investigates financial data by using techniques such as autoregressive and vector-autoregressive models, dimension-reduction techniques motivated by latent factor models and machine learning dimension-reducing techniques. Explores these methods using algebraic derivation and implementation in PYTHON. Builds on the statistical and programming skills developed in FIN 509 and emphasizes forecasting for the optimization of portfolios. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): Finance MS student; FIN 509; Credit is allowed for only ECN 502 or FIN 535 |
| FIN | 540 | Advanced Financial Management | Offers a comprehensive exploration of the revolutionary developments occurring in the world's financial markets. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 1-4 | | Prerequisite(s): Degree-seeking graduate student; FIN 502 with C or better |
| FIN | 545 | Advanced Corporate Finance | Studies major decision-making areas and selected topics in corporate finance. Attempts to develop decision-making ability in these areas using both lectures and cases. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 1-4 | | Pre-requisite: W. P. Carey degree-seeking graduate student; Credit is allowed for only FIN 545 or FIN 591 (Advanced Corporate Finance) |
| FIN | 550 | Fixed Income | Intermediate- to advanced-level course in fixed income instruments and associated relative valuation of the securities. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 1-4 | | Prerequisite(s): Degree-seeking graduate student; FIN 502 with C or better |
| FIN | 555 | Entrepreneurial Finance | Provides an overview of the economics and institutions involved in entrepreneurial finance. Focuses on the financing of new ventures. Consists primarily of case analysis, supplemented with in-class exercises and lecture material. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 1-4 | | Prerequisite(s): W.P. Carey degree-seeking graduate student; Credit is allowed for only FIN 455 or FIN 494 (Entrepreneurial Finance) or FIN 555 |
| FIN | 560 | International Finance | Examines the financial issues of an international investment decision. Main topics include foreign exchange market, investment alternatives in the international capital markets, and the management of foreign exchange risk. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 1-4 | | Prerequisite(s): Degree-seeking graduate student; FIN 502 with C or better |
| FIN | 565 | Risk Management in Banks and Financial Institutions | Provides a risk management view of financial institutions (also known as financial intermediaries). Traditionally, banking courses have focused on an overview of the financial services industry, sector by sector, concentrating on balance sheet presentations and overlooking management decision making and risk management. In contrast, this course emphasizes a risk management approach. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 1-4 | | Pre-requisite: W. P. Carey degree-seeking graduate student |
| FIN | 575 | Finance Capstone | Provides a culminating experience as a step in completing the degree. Applies finance principles related to the investment, risk management and financing policies of the firm to develop decision-making ability in these areas. Emphasizes analysis of finance problems through selected readings and case studies. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 1-4 | | Pre-requisite: W. P. Carey degree-seeking graduate student; Credit is allowed for only FIN 575 or 591 (Finance Capstone) |

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| FIN | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Finance | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FIN | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | W. P. Carey School of Business | Department of Finance | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FIN | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Finance | 1-12 | | Prerequisite(s): W. P. Carey degree-seeking graduate student |
| FIN | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | GNA | W. P. Carey School of Business | Department of Finance | 1-12 | | Prerequisite(s): FIN 502 with C or better |
| FIN | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | W. P. Carey School of Business | Department of Finance | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FIN | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Finance | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FIN | 781 | Theory of Finance | Fundamental tools of financial economics; asset pricing, arbitrage, option pricing, capital structure, dividend policy, asymmetric information, and transaction-cost economics. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FIN | 782 | Theory of Finance II | Fundamentals of corporate finance, contract theory, agency problems, and game theory applications in Finance. | N | SEM | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): W. P. Carey graduate student |
| FIN | 783 | Empirical Asset Pricing | Asset pricing models in finance; efficient market hypothesis, empirical factor models, option pricing basics. | N | SEM | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): W. P. Carey graduate student |
| FIN | 785 | Financial Economics of Capital Markets | Asset pricing theory, equilibrium asset pricing models, and the equity premium puzzle; incomplete and imperfect markets. | N | SEM | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): W. P. Carey graduate student |
| FIN | 786 | Corporate Finance | Issues in corporate finance covering topics that impinge on corporate finance, financial contracting, intermediation; empirical corporate finance; microstructure. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 3 | | Pre-requisite: W. P. Carey degree-seeking graduate student |
| FIN | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | W. P. Carey School of Business | Department of Finance | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FIN | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | W. P. Carey School of Business | Department of Finance | 1-12 | | Pre-requisite: W.P. Carey degree-seeking Graduate student |
| FIN | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | W. P. Carey School of Business | Department of Finance | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FIN | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | IND | Y | Z3 | W. P. Carey School of Business | Department of Finance | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FIN | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | W. P. Carey School of Business | Department of Finance | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FIS | 101 | SFIS: The ASU Experience | Welcomes freshman students enrolled in the Innovation in Society major at ASU. Introduces the array of resources available to them as ASU students, stimulates them to reflect on their choice of major, and provides an opportunity to hear about the career trajectories and interests of faculty and alumni from the School for the Future of Innovation in Society. Capped at sections of 20 students to promote discussion and a sense of community. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 1 | | |
| FIS | 111 | Welcome to the Future | Explores the ways in which the future inspires, shapes and motivates the present. Illustrates how possible futures are used by people and institutions to advance agendas, shape conversations and sell products. Examines how science, technology and other forces are mobilized to create change. Empowers students to play a role in shaping our collective future. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | |
| FIS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-4 | | |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|----------------------------------|--|-------------------|-------------------|-----------------|---------------|---------------------------|--|-------|-----------------|---|
| FIS | 201 | Innovation in Society | Examines the vast implications of innovation, why it is so powerful, and why it really matters. Introduces the theories and processes of innovation as they relate to socio-political change. Students gain knowledge about the history and future of innovation and explore how innovation is entangled with social, political and ethical issues. By identifying and applying analytical tools, students learn to account for the diverse workings and effects of innovation. This course strives to debunk the myth that innovation happens automatically. Rather, different actors rally to create innovations that shape our society, economy and cultures--and that those innovations are not inevitable and could be otherwise. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | H | |
| FIS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-4 | | |
| FIS | 305 | Ways of Knowing | Students research, beginning with the concept of research itself and its various purposes, highlighting knowledge and how it is created in different disciplinary approaches. Exposes historical and philosophical underpinnings of how research is conceptualized, presented and implemented, including what constitutes information, knowledge and evidence. Introduces material that is in a traditional research design and methodology course; however, the emphasis uniquely focuses on knowledge creation, innovation, the nature of disciplinary knowledge and its impact on society. Explores the epistemological differences in problem identification and approaches to inquiry in the disciplinary perspectives of engineering, the sciences and in the social sciences. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| FIS | 307 | Navigating Futures | Foresight methods and their potentials as entry-points into public discussions about near- and mid-range technoscientific developments. Four elements constitute the organizing axis of the course: (1) the history of foresight exercises in government agencies and business organizations; (2) the methods of four forms of foresight exercises (technology foresight, science and technology studies, anticipatory governance and scenario development); (3) a comparative assessment of these dominant forms; and (4) a group-based application exercise using one of the foresight methods. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| FIS | 308 | Politics, Markets and Innovation | Studies the roles that governments, markets and other factors play in promoting, disseminating and regulating science-based technological innovation. Includes examining the theoretical literature on factors that structure markets and shape diffusion, as well as case studies that illustrate the processes and mechanisms that govern innovations in society. In addition to studying the role of governments, firms and universities, also considers the role of publics as consumers who adopt innovations but also as citizens who may be skeptical of them. Includes case studies in agriculture, health care, biotechnology and digital rights. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| FIS | 331 | Technology and the Modern World | Explores how technological systems are developed and embedded in the modern world with an eye to playing a role in creating better futures. Examines how machines and techniques can shape institutions, relationships and values. Challenges students to envision futures that they want and work to develop strategies for moving us (and our systems) toward those futures. Analyzes technologies past, present and imagined, and describes the ways in which technologies shape our world and the ways in which we shape those technologies. Through repeated practice in class students play a productive role in and even facilitate conversations that tease out the relationships between values and technological systems. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): minimum 45 hours |
| FIS | 332 | Risk and the Future | Examines the evolving global risk landscape that is resulting from rapidly increasing global connectivity, tight coupling and massive complexity. Develops an understanding of how innovation in society is changing the risk landscape and considers how innovation in approaches to risk can help navigate this emerging landscape. Topics include technological risk, sociopolitical risk, catastrophic risk, existential risk, converging technologies, perception and uncertainty, anticipation, precaution, uncertainty and risk innovation. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |

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| FIS | 334 | Science, Technology and Inequality | Conceptual and theoretical frameworks; provides empirical case studies that contribute to understandings of science and technology as they are used in society. The applications of science and technology in society need to be understood as instrumental to the creation and maintenance of inequality within and between societies. Science and technology does not merely cause or alleviate inequality, but are more profoundly implicated in social relations regarding distribution and access to the benefits of different technologies as well as exposure to risks from science and technology projects in society. The more pervasive and obdurate sources of social distribution are enshrined and entrenched in these scientific and technological systems. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | C | Prerequisite(s): minimum 45 hours; Credit is allowed for only FIS 334 or JUS 334 |
| FIS | 335 | Designing Knowledge | Provides a foundational understanding of how social organizations make and use knowledge. From research laboratories to biotechnology companies to statistical agencies, many organizations are specifically designed to be knowledge enterprises, enterprises whose primary purpose is to produce knowledge. All organizations in modern societies also operate knowledge systems: systems whose purpose is to create, validate, circulate, communicate and apply knowledge in the making of decisions. Examines how these forms of organization work and contribute to modern societies. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| FIS | 336 | Science and Technology Policy | Science and technology are powerful forces in the modern world. They have been hailed as a way to address everything from world hunger to old age. This does not, however, happen automatically, nor does it always work out the way one presumes. Governments make numerous decisions that affect the direction and application of science and technology, and government policies are affected by a myriad of social, political, and cultural factors. This class will explore the variety of ways in which governments make these policies, how the policies shape the development of science and technology and their applications, and how policy may be shaped to create better futures. Governments around the world have coalesced around the idea that science and technology are necessary for the promotion of the good life. We will examine how they put this idea into action by looking at five interrelated topics: Food, Security/Military, Health, Economy, and Sustainability. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | |
| FIS | 337 | Innovation and Global Development | Persistent inequality and poverty continue to plague nations including the USA even in the 21st century. Global development is a complex idea that attempts to address interrelated paradigms of culture, economy, equity, governance, history, societal dynamics, as well as technological issues. Using the framework of the Sustainable Development Goals 2030 (SDGs) this course examines, analyzes and critiques indicators of SDGs as well as explores innovative measures of development that nations around the world are planning and implementing in order to improve the lives of their citizens now and for the future. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | G | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| FIS | 338 | The Moviegoer's Guide to the Future | Unique introduction to cutting-edge technologies and their socially responsible and ethical development and use. Whether you are majoring in science, engineering, the social sciences, the humanities, innovation and entrepreneurship, business, design, film, communication, or the arts, this class enables a better understanding of how particular skills, knowledge and interests can help ensure the socially responsible development and use of emerging science and technology. Uses science fiction movies to explore emerging trends in science and technology and their ethical, responsible and beneficial development. Instructs how to describe how responsible innovation is relevant to developing just and vibrant global futures; discusses a wide range of emerging technologies and their ethical and responsible development; and articulates the importance of taking a transdisciplinary approach to ethical and beneficial entrepreneurship. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FIS 338 or FIS 394 (The Moviegoer's Guide to the Future) OR Visiting University Student |
| FIS | 351 | Public Management and Administration | Examines the context and role of the public manager and the development of the field of public administration. | N | LEC | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FIS 351 or PAF 300 OR Visiting University Student |

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| FIS | 371 | Innovation for Impact: Impact Journey | Builds on the ideas, concepts and experiences engaged in earlier course work. Innovation allows for amazing possibilities, and within each one of us is the potential to create, apply, research and scale innovation to realize impact goals. Grounded in a use-inspired framework with a focus on transforming society, engages innovation for impact with a particular focus on what constitutes and how one achieves sustainable and scalable outcomes. | N | SEM | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 1 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| FIS | 372 | Innovation for Impact: Inquiry Journey | Builds on the ideas, concepts and experiences engaged in earlier course work. Grounded in a use-inspired framework with a focus on transforming society, engages innovation for impact with a particular focus on meaning making, grounded claims, and what it means to gather, analyze, construct and advance meaningful assertions and storied truths that advance productive claims about the potential of an innovation to realize impact goals. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 1 | | Prerequisite(s): minimum 45 hours |
| FIS | 373 | Innovation for Impact: Innovation Journey | Builds on the ideas, concepts and experiences engaged in earlier course work. Grounded in a use-inspired framework with a focus on transforming society, engages innovation for impact with a focus on imagining, designing, developing and optimizing a particular innovation such that it is likely to realize impact goals. Beyond product-centric perspectives that locate change within the innovation, this journey emphasizes an ecological perspective that positions innovation as a shared accomplishment distributed across the designed innovation, engaged participants, prepared facilitators and a responsive ecosystem. | N | SEM | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 1 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| FIS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-4 | | |
| FIS | 403 | Governing Emerging Technologies | Examines the variety of ways in which societies make collective decisions or govern science and technology. Focuses on a particular category of science and technology: the set of emerging technologies like nanotechnology, artificial intelligence and robotics, genetic modification and synthetic biology, cognitive science and neurotechnology, geoengineering, and others that pose particular problems of high stakes, high uncertainty and ambiguous novelty. Closely allied with the research agenda of numerous faculty in the School for the Future of Innovation in Society, especially those in the Center for Nanotechnology in Society, the Risk Innovation Lab, and others; exposes students to inquiry and skills directly from the research front. Students perform numerous research tasks. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| FIS | 431 | Technology, Security and Insecurity in Global Politics | Focuses on the international political aspects of technological change; examines the impact of technological innovation and political change on the international political system. The overall goal is to create an awareness of and ability to analyze and synthesize world events, the particular role of technology, and consider the myriad ways that globalization and technology as a main driver could be changing the international system of nation-states. Technological innovation often takes place within a political context, including international politics, as nation-states and other entities develop technologies within the context of competition and power. There are several issues that run throughout the course as major themes. One is the role of technology in political and social change, and the impact of the latter on the former. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): minimum 45 hours |
| FIS | 432 | Problem Solving Through Strategic Thinking | Students learn how to ask questions, brainstorm and communicate ideas, while dealing with uncertain outcomes and unpredictable risks caused by the ideas and solutions they propose. In understanding which ideas and solutions stick and which don't, students learn how different factors influence the birth, life and death of ideas and the socio-technical systems in which ideation exists. Does it matter who asks the questions and proposes the ideas, who is trying to participate, who was there first, if there is a profit or other conflicting motive and the context and the interests that result in certain solutions being picked over others? This course uses exploration learning approaches, where students follow a progression through what they discover, from understanding who they are as individuals, to how ideas are formed and hypothesis made about proposed solutions. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): minimum 45 hours |

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| FIS | 444 | Environment and Justice | Explores issues of environment and justice. Topics include justice and environmental racism, future generations, nonhuman life, global/non-Western societies. | N | LEC | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | L & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only FIS 444 or JUS 444 |
| FIS | 480 | Innovation in Society Studio | Facilitates experiential learning and allows students to work with clients in the field of technology, innovation and sustainability. Through team projects with identified stakeholders, students engage, plan, design, implement and assess projects while learning interpersonal skills and managing client relationships. Students gain real-world experience and develop skills in project management, including planning, implementing and evaluating a complete project cycle. Allows students to manage both client-based projects and team relationships to complete projects. Students carry out project-based research, conduct interviews and meetings, make site visits, develop work plans and scope of works, negotiate clear deliverables with clients, implement projects and give public presentations. Presentations are grounded in the idea of conducting effective science communication. | N | SEM | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): FIS 305 OR Visiting University Student |
| FIS | 481 | Innovation for Impact: Application Journey | As a culminating experience, course brings together the previous experiences and emerging expertise to investigate, innovate and cultivate an impact innovation to achieve impact goals. Starting with building a grounded appreciation for a particular impact outcome, participants then design an innovation to realize a better future state, grounding this work in lessons with respect to logic models, design fictions, agile startups, and rapid prototyping. Some participants simply test a component and produce a reflective analysis, while others expand credit requirements and iterate to achieve transformative outcomes. | N | SEM | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): FIS 371; FIS 372; FIS 373 |
| FIS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | |
| FIS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-6 | | Prerequisite(s): Barrett Honors student |
| FIS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| FIS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | College of Global Futures | School for the Future of Innovation in Society | 1-4 | | |
| FIS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | RSC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-7 | | |
| FIS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-3 | | |
| FMP | 101 | Orientation to Film | Orientation to university and school resources and procedures. Academic success strategies, mentorship, goal setting. Community-building exercises. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1 | | Prerequisite(s): Film (Filmmaking Practices) BA or Film and Media Production BFA major; freshman standing; Credit is allowed for only FMP 101 or THE 125 (THF 125) OR Visiting University Student |
| FMP | 180 | Principles of Production Technology | Introduces the basic terms, functions, theories and applications of film and media-making equipment and technology related to camera, sound and editing. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | |
| FMP | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-4 | | |
| FMP | 201 | Film: The Creative Process I | History, elements, and techniques of theatrical film: cinematography, directing, acting, scriptwriting, producing, and criticism. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | HU | |
| FMP | 210 | Principles of Filmmaking | Introduces majors to the world of professional film and media production. Examines all aspects of the process from a practical, real-world perspective. Students learn the importance of each phase of the creative process through the five stages of filmmaking: development, preproduction, production, postproduction, and marketing/distribution. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Film and Media Production BFA major; FMP 180 with C or better OR Visiting University Student |
| FMP | 211 | Film Industry Intensive | Dynamically dated courses and experiences designed to bring students in contact with working industry professionals in film and media. | Y | LEL | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-3 | | Credit is allowed for only FMP 211 or FMP 294 (Producing Independent Film and Media) or FMP 294 (Pro Casting Practices: Advice from Professionals) |
| FMP | 215 | Beginning Post-Production for Film & Television: Adobe Premier Pro | Introduces the basics of post-production for digital narrative media, including instruction on Adobe Premiere Pro. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Credit is allowed for only FMP 215 or FMP 394 (Non-Linear Editing for Film and Media) |

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| FMP | 220 | Film and Media Post-Production I | Required 45-hour lab designed to teach students how to use the Avid Media Composer editing program and supporting software with an emphasis on editing techniques and workflow. Part of the Avid Learning Partner program, taught by a Certified Avid Instructor. Satisfies the Media Composer 100-level certification as part of Avid's official curriculum. Upon completion of this course, students take an exam to become an Avid Certified User. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Film and Media Production student OR Visiting University Student |
| FMP | 222 | Education in Film | Critically examines how teachers, students, administrators and educational issues are dramatized and represented in popular media. Explores professional teacher preparation, socio-cultural contexts of education systems and learning, and the use of cinema as social critique. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | L | Prerequisite(s): ENG 101 (or ENG 102) with C or better. Credit is allowed for only FMP 222 or FMP 294 (Education in Film) |
| FMP | 225 | Principles of Visual Effects Compositing | Introductory look into the theory and practice of creating visual effects for film, television and games. Focuses on principles of 2D visual effects as derived and modernized from traditional special effects practices as seen in pre-digital film making. Students view, discuss and critique effects from films in the 20th and 21st centuries and engage in the creation of visual effects shots in a variety of styles employing a number of standard techniques. Covers the use of Adobe Photoshop and After Effects; however, considers some use of 3D applications in the second half of the semester. At the heart of good visual effects is a critical eye and attention to detail that is gained through critique of professional and student works on a weekly basis. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | |
| FMP | 240 | Introduction to Animation for Film | Introduces history, theory, technique and practices of 2D and 3D animation. Covers types of animation and how to create projects for a broad variety of end uses (e.g., motion graphics, TV/film, Web, games). Students create short projects that serve as exercises to study animation techniques as well as more in-depth projects of student design. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Credit is allowed for only FMP 240 or FMP 294 (Introduction to Animation) |
| FMP | 250 | Sex and Violence in Film and TV: Ethics Survey | Sex and violence portrayals in media; examines societal evolution, technological development, market imperatives, production codes, and industry realities and practices. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | |
| FMP | 255 | Media Authorship | Surveys the manipulation, editing, compression, encoding and search engine optimization of digital sound and video media. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | CS | Credit is allowed for only FMP 255 or FMP 294 (Media Authorship) OR Visiting University Student |
| FMP | 261 | Principles of Screenwriting | Explores fundamental skills of script writing for entertainment industry screen media, including: standard script writing software, formatting and technical standards; exercises in character creation and dramatic conflict; and analysis and understanding of common narrative structures of feature-length, series and short-form content. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Pre- or corequisite(s): THF 160 OR Visiting University Student |
| FMP | 280 | Introduction to Film and Media Production | A hands-on production course where students learn first-hand how to make films in a structured, informative environment that works through all phases of production, focusing on collaboration and application of basic mediamaking skills and technology. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Pre- or corequisite(s): FMP 180 or 194 (Principles of Production Technology) OR Visiting University Student |
| FMP | 285 | Portfolio Preparation and Review I | Introduces the basics of Digication e-Portfolio platform, including preparation and presentation of sophomore portfolio milestone for faculty review and admission to upper-division. | N | PRA | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1 | | Prerequisite(s): Film and Media Production BFA major; minimum 32 hours OR Visiting University Student |
| FMP | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEL | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-4 | | |
| FMP | 300 | Short Film Production | Specialized study of conventional film techniques; emphasizes the creative process through project-based, hands-on learning. Group and individual exercises cover all phases of short film production from creative inspiration to online distribution. | Y | LEL | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Film (Film and Media Production) BA, Film (Filmmaking Practices) BA, or Film and Media Production BFA major; FMP 280 with C or better OR Visiting University Student |
| FMP | 315 | Sound Design for Film and Media I | Introduces creative and technical aspects of sound design for film and digital media production, including introduction to Avid Pro Tools software. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prereq(s): Film (Film & Med Prod) BA, Film (Filmmak Pract) BA, or Film and Media Production BFA major; Pre- or corequisite(s): FMP 280 or 300; Credit is allowed for only FMP 314 or FMP 294 (Sound Design: Film) OR Visiting University Student |
| FMP | 318 | Directing for Film and Media I | In-depth analysis of directing theory, textual analysis, visualization, shot composition and spatial connection, staging, rehearsal techniques, and camera movement. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Film (Film and Media Production) BA or Film and Media Production BFA major; FMP 300 with C or better OR Visiting University Student |

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| FMP | 320 | Film and Media Post-Production II | In-depth analysis of editing theory, storytelling, nonlinear editing techniques and equipment, basics of visual and audio effects and color grading using the Avid Media Composer editing program and supporting software with an emphasis on storytelling and aesthetics. Part of the Avid Learning Partner program, taught by a Certified Avid Instructor. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Film (Film and Media Production) BA or Film and Media Production BFA major; FMP 220 with C or better; Pre- or corequisite(s): FMP 300 OR Visiting University Student |
| FMP | 325 | Intermediate Visual Effects Compositing | Offers the opportunity to work with a broad variety of projects with assets ranging from excellent quality to those that are more difficult to work with. In addition to work with pre-prepared assets, students also get the opportunity to create their own effects sequences from scratch (including capturing footage). Students learn best practices for capturing all needed elements on the day of the shoot as well as planning the sequence before recording. Covers work in both 2D and 3D visual effects including: matte painting (2D and 3D), set extensions and additions, blue/green screen compositing, and 3D animation for the addition of elements into a shot. The first section of the class consists of short individual assignments aimed at teaching basic core VFX skills, finishing with the production of a class-produced VFX short film. Class member assignments are based off of individual skill and interest. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): FMP 225 with C or better OR Visiting University Student |
| FMP | 330 | Professional and Technical Writing for Film/TV Industry | Professional (noncreative) writing skills that prepare students for a career in the entertainment industry. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): FMP 261 with C or better; minimum 56 hours OR Visiting University Student |
| FMP | 335 | Careers in Film and Media Industry | Basics of starting a freelance career in the film and media industry; the necessary tools and skills needed to move that career forward through the creation of various business and professional tools; and the various techniques needed to succeed in a variety of production environments. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Digital Culture (Film) BA, Film BA, Film and Media Production BFA major, or Film and Media Production minor; FMP 201 or 285 with C or better OR Visiting University Student |
| FMP | 340 | Approaches to International Cinema | Offers a historical survey of major film movements from across the world's national cinemas from the silent era to this day. Explores key cinematic works, situating them in their aesthetic, cultural and political contexts, and tracing their impact on the global cinematic culture. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 w/C or better; Credit is allowed for only FMP 340 or FMP 394 (Approach to Int'l Cinema) or FMS 341 or FMS 394 (Approach to Int'l Cinema) or SLC 340 or SLC 394 (Approach to Int'l Cinema) OR Visiting University Student |
| FMP | 345 | Cinematography I | Cinematographer's role, photographic and visual theory, framing, shot composition, cameras and equipment, crew management, basic lighting for film and video. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): The Sidney Poitier New American Film School major; FMP 201 or 280 with C or better; Pre- or corequisite(s): FMP 300 OR Visiting University Student |
| FMP | 350 | Directing for Documentary Media | Introduces directing students to the various practices, approaches and techniques of professional documentary media making, including creation of short-form projects that highlight both individual and collaborative perspectives on real-life figures, events and communities. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): FMP 280 or 300 with C or better; Credit is allowed for only FMP 350 or FMP 394 (Documentary Production) OR Visiting University Student |
| FMP | 355 | Transborder Digital Media Making | Covers digital media-making with a focus on issues relating to the U.S.-Mexico border region, specifically within the Phoenix community. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FMP 355 or TCL 355 or FMP 394 (Intro to Transborder Digital Media Making) or TCL 394 (Intro to Transborder Digital Media Making) |
| FMP | 360 | The Filmmaker's Voice | Explores the various ways in which film artists demonstrate their unique perspective and ability, via extended analysis of noted works defined by strong artistic vision, discussion of cultural and historical values, and development of each student's creative voice. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Dance BFA, Digital Culture (Film) BA, Film BA, Film (Film and Media Production) BFA, or Theatre BA major or Film minor; minimum junior standing OR Visiting University Student |
| FMP | 361 | Writing the Short Film | An advanced exploration of screenwriting where students focus on story creation, structure, themes, character development, conflict, pace, tone and dialogue in a mentored and peer-sharing environment, culminating in the creation of two short film screenplays designed to develop the student's unique screenwriting voice. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): FMP 261 with C or better OR Visiting University Student |
| FMP | 365 | Developing a Series | Acquaints students with the development process for episodic series (network, cable, Web, on-demand). Also explores the many facets of the television industry (creative, financial, cultural, historical) and surveys the advances in television content along with an analysis of the cultural impact of television on society. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Digital Culture (Film) or Film major or Film & Media Production minor or Film & Media Production concentration; FMP 261 w/ B or better; Credit is allowed for only FMP 365 or FMP 394 (Developing a TV Series) OR Visiting University Student |

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| FMP | 370 | Producing for Film and Media | Provides the information and techniques to understand the process of being a producer in the film and media industries. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): FMP 300 with C or better; Credit is allowed for only FMP 370 or FMP 494 (Producing Film) OR Visiting University Student |
| FMP | 380 | Film Production Crew | Provides practical, hands-on experience in the creation of film and digital media for all students in film programs, in support of projects required by upper-division coursework or otherwise approved and supervised by faculty. | N | PRA | Y | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-3 | | Prerequisite(s): Film (Filmmaking Practices) BA, Film (Film and Media Production) BA, or Film and Media Production BFA major; FMP 300 with C or better; minimum 2.50 cumulative GPA OR Visiting University Student |
| FMP | 385 | Portfolio Project Development | Provides the opportunity for all Film and Media Production majors to conceive, develop and complete the intellectual property that will form the basis of their senior portfolio projects. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 2 | | Prerequisite(s): Film (Film and Media Production) BA or Film and Media Production BFA major; FMP 285 with C or better; Credit is allowed for only FMP 385 or FMP 398 OR Visiting University Student |
| FMP | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEL | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-4 | | |
| FMP | 395 | Combat in Film | Interdisciplinary approach to and qualitative method for analyzing war movies and military dramas as both historical and cinematic narratives that represent the experiences of infantry marines and soldiers in 20th- and 21st-century U.S. wars. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 394 (Combat in Film) or ENG 395 or FMP 395 or HST 306 (Combat in Film) or HST 395 or VTS 395 OR Visiting University Student |
| FMP | 398 | Capstone Development | Provides the opportunity for all Film and Media Production majors to conceive, develop and complete the intellectual property that will form the basis of their required final capstone projects. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 2 | | Prerequisite(s): Film (Film and Media Production) BA or Film and Media Production BFA major; FMP 300 with C or better; minimum junior standing; Credit is allowed for only FMP 385 or FMP 398 OR Visiting University Student |
| FMP | 400 | Advanced Short Film Production | Advanced production course for students to make short films in support of senior portfolio. | N | LEL | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): FMP 300 with C or better OR Visiting University Student |
| FMP | 401 | Senior Practicum | Weekly advising and consulting with faculty and peers on senior portfolio projects, professional development and career planning. | N | PRA | Y | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1 | | Prerequisite(s): FMP 385 with C or better; senior standing |
| FMP | 403 | Independent Film | Considers the history of avant-garde, alternative and independent film making in American cinema, with an emphasis on shifting technology, industrial practices and cultural innovations. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| FMP | 404 | World Cinema | Films and filmmakers from Europe, Asia, Australia, the Far East, South America, and the Caribbean. Emphasizes cultural content and filmmaking philosophies. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | G | Prerequisite(s): ENG 102, 105 or 108 with C or better |
| FMP | 405 | Film and Television: Pioneers, Practices and Innovations | Examines major historical figures, generic conventions and institutional practices in the global film, television and media industries. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| FMP | 411 | Welcome to Hollywood | Students gain a sense of how the entertainment industry works by examining the product life cycle of filmed entertainment products including inception, development, casting, packaging, financing, production, marketing and distribution. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only FMP 411 or FMP 494 (Welcome to Hollywood) OR Visiting University Student |
| FMP | 415 | Sound Design for Film and Media II | Advanced sound design and delivery for film and media, including post-production sound, music, effects, ADR, and other elements; advanced use of Avid Pro Tools and other industry standard audio recording and producing hardware and software. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): FMP 315 with C or better; Credit is allowed for only FMP 415 or FMP 494 (Advanced Sound Design Film and Media) or FMP 598 (Advanced Sound Design Film and Media) OR Visiting University Student |
| FMP | 417 | Business and Legal Practices in Entertainment | Examines standard business and legal elements of the film and media entertainment industry, including historical, theoretical and ethical frameworks for understanding current practices. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| FMP | 418 | Directing for Film and Media II | Expands on effective techniques for working with actors and on the director's preparation for shooting scenes and films. Students learn while directing with professional set protocols in this hands-on, set-driven class. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Film (Film and Media Production) BA or Film and Media Production BFA major; FMP 318 with C or better OR Visiting University Student |
| FMP | 420 | Film and Media Post-Production III | In-depth analysis of editing theory, storytelling, nonlinear editing techniques and software, advanced sound design and color grading using the Avid Media Composer editing program and supporting software with an emphasis on storytelling and aesthetics. Students receive critiques of their work after each project to determine the development of their proficiency of craft and creativity. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Film (Film and Media Production) BA or Film and Media Production BFA major; FMP 320 with C or better OR Visiting University Student |

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| FMP | 445 | Cinematography II | Advanced cinematographic and motion picture photography techniques, including study of advanced lighting, integration of digital technologies, new hardware and software, and professional development for directors of photography, camera assistants, and grip/electric department personnel. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): FMP 345 with C or better; Credit is allowed for only FMP 445 or FMP 494 (Advanced Study: Cinematography) OR Visiting University Student |
| FMP | 461 | Advanced Screenwriters Workshop | For advanced screenwriting students to create screenplays for television, film and new media in support of senior projects and professional portfolios. | N | LEL | Y | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): FMP 385, FMP 398, or THF 397 with C or better; Pre- or corequisite(s): FMP 361; Credit is allowed for only FMP 461 or FMP 494 (Writing the Feature) or FMP 598 (Writing the Feature) OR Visiting University Student |
| FMP | 465 | Series Writers Workshop | Offers selected students the opportunity to develop and refine material for a proposed episodic series through collaborative workshops and writing sessions that are equivalent to the development processes utilized in various industry paradigms (network, cable, Internet/on-demand). | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): FMP 365 or 394 (Developing a TV Series) with C or better; Digital Culture (Film) or Film major or Film & Media Prod. minor or BIS (Film & Media Prod.); minimum junior standing. Credit for only FMP 465 or 494 (Television Writing Workshop) |
| FMP | 475 | Producing Series | Function and responsibilities of episodic series producers and production executives for television-based platforms (network, cable, internet/on-demand). Explores a close examination of the business of television, specifically budget, license fees, distribution, and union obligations. Other topics include the structure of studios and networks, producing and marketing series for traditional and new media platforms, and general entertainment business practices. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Film (Film & Media Production) BA, Film (Filmmaking Practices) BA, or Film and Media Production BFA major; minimum junior standing OR Visiting University Student |
| FMP | 480 | Film Lab I: Production | Production and principal photography for student-generated collaborative short film/media projects for senior portfolio. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Film (Film and Media Production) BA or Film and Media Production BFA major; FMP 385 or 398 with C or better OR Visiting University Student |
| FMP | 481 | Film Lab II: Post-Production | Completion of principal photography and all phases of editing/post-production on student-generated collaborative short film/media projects for senior portfolio, including final delivery and exhibition. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Film (Film and Media Production) BA or Film and Media Production BFA major; FMP 480 with C or better OR Visiting University Student |
| FMP | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-12 | | Prerequisite(s): minimum 45 hours |
| FMP | 485 | Portfolio Preparation and Review II | Helps students in the advanced development, design, preparation and presentation of senior portfolio milestone for faculty review, as well as mentors fellow students in early portfolio development. | N | PRA | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1 | | Prerequisite(s): Film and Media Production BFA major; senior standing OR Visiting University Student |
| FMP | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-6 | | Prerequisite(s): Barrett Honors student |
| FMP | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| FMP | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEL | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-4 | | Prerequisite(s): Film and Media Production student or Filmmaking Practices student or Film and Media Production minor OR Visiting University Student |
| FMP | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-7 | | |
| FMP | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-3 | | Pre-requisites: Film & Media Production or Filmmaking Practices student |
| FMP | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | SEM | Y | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FMP | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| FMP | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-4 | | Pre-requisite: Fine Arts Graduate student |
| FMS | 100 | Introduction to Film and Media Studies | Introduces the narrative structure, visual style and cultural elements of film and media. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | |
| FMS | 110 | Introduction to New Media | Explores the cultural effects of new media technologies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | |
| FMS | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-3 | | |
| FMS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-4 | | |
| FMS | 200 | Film and Media History | Introduces the technological, aesthetic, social and economic aspects of media history. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & H | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| FMS | 209 | Screenwriting Fundamentals | Studies the creativity and the technique of screenwriting for the conventional narrative film and for TV; student writing exercises culminate in a script for micro cinema. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | |
| FMS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-4 | | |
| FMS | 300 | Television Studies | Examines approaches to studying the culture and history of American television. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| FMS | 302 | U.S. Media Industries | Examines the business of contemporary U.S. film, television, and new media and its relationship to artistic vision and production through research and analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; FMS 100 OR Visiting University Student |
| FMS | 309 | Intermediate Screenwriting | Utilizing the elements of storytelling, students develop and write a treatment and the first act of a screenplay. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): Film and Media Studies student; ENG 102, 105 or 108 with C or better; FMS 100 with C or better; FMP 261, FMS 209 or THP 261 with C or better OR Visiting University Student |
| FMS | 340 | Contemporary American Film and Popular Culture | Analyzes American films, television programs, and music as popular cultural documents. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; FMS 100 with C or better OR Visiting University Student |
| FMS | 341 | Approaches to International Cinema | Offers a historical survey of major film movements from across the world's national cinemas from the silent era to this day. Explores key cinematic works, situating them in their aesthetic, cultural and political contexts, and tracing their impact on the global cinematic culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 w/C or better; Credit is allowed for only FMP 340 or FMP 394 (Approach to Int'l Cinema) or FMS 341 or FMS 394 (Approach to Int'l Cinema) or SLC 340 or SLC 394 (Approach to Int'l Cinema) OR Visiting University Student |
| FMS | 345 | Asian Pacific Americans and Film | In-depth examination of the representations of Asian Pacific Americans in narrative, popular, experimental, and documentary film. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU & C & H | Prerequisite(s): APA 200, APA 210, FMS 100, or minimum 24 hours; Credit is allowed for only APA 345 or FMS 345 OR Visiting University Student |
| FMS | 349 | Israeli Wars in Israeli Movies | From its first day, the State of Israel has been in a state of war with the Arab countries. Every few years, the fighting erupted into an open war. At the beginning of the country, there was a consensus that the wars were forced on the Israelis, and therefore, the heavy toll on human life was unavoidable. Since the Six Day War, 1967, and the political change in 1977, Israeli society is split in attitude toward war. The absolute belief in the political and military leaders was shaken, and new political agendas entered the political arena. To this divided society, the Intifadas occurred with the waves of terrorism. These events added fire to the heated debates in Israel. One means of expression is through the cinema. In this course, students watch, analyze, and discuss selected movies on the Israeli wars and terrorism in the streets of Israel. Through these movies, produced by Israelis, we'll try to understand the mood and attitude of the Israelis toward war, enemies, and political and military leaders. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only FMS 349 or HEB 349 or JST 346 or HEB 394 (Israeli Wars in Israeli Movies) OR Visiting University Student |
| FMS | 351 | Emerging Digital Media | Analyzes modern cultural and digital technologies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| FMS | 352 | Chicana/o Film | Explores how Chicano and Chicana filmmakers have interpreted the Chicano experience through the medium of film. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | C | Credit is allowed for only FMS 352 or TCL 352 |
| FMS | 354 | Critical Studies in Animation | Provides critical and practical tools for analyzing mainstream, experimental, and hybrid animation aesthetics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): FMS 100 OR Visiting University Student |

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| FMS | 360 | Media Genres | Studies in select media genres. | Y | LEC | Y | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR FMS 100 or 200 with C or better OR minimum 45 hours OR Visiting University Student; Credit is allowed for only FMS 360 or FMS 394 (Sci Fi Cinema: Technology, Genre & Culture) |
| FMS | 362 | Film and Media Franchises | Students gain an appreciation for film and media franchises by studying their production, reception and cultural significance. | Y | LEC | Y | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, ENG 105, ENG 108, FMS 100, or FMS 200 with C or better, or minimum 45 hours; Credit is allowed for only ENG 362 or FMS 362 OR Visiting University Student |
| FMS | 365 | Video Games and Narrative | Covers fundamental concepts of video game narrative design, with an emphasis on the role of story and narrative in game development and production. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only FMS 365 or FMS 394 (Screenwriting for Games) or FMS 394 (Video Games and Narrative) or FMS 394 (Writing for Video Games) OR Visiting University Student |
| FMS | 370 | Signs of Aliens: Semiotics of Film and Popular Culture | Introduces semiotics and cultural studies; looks at various meanings ascribed to the sign of the alien. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Credit is allowed for only FMS 370 or TCL 370 |
| FMS | 374 | Film and Media Visionaries | In-depth examination of the career and body of work of an innovator in media, whether a producer, director or screenwriter. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| FMS | 375 | LGBTV: Television, Sexuality and Gender | Some of TV's most popular shows now feature lesbian, gay, bisexual and transgender (LGBT) characters. This course looks at representations of LGBT characters and personalities, with a focus on the specificities of the television industry. Looks at LGBT representations on reality shows, sitcoms and dramas in relation to the economic and regulatory structures of the TV business to understand the complex functions of sexual identity in the television industry. Addresses particular texts and images as they relate to TV's industrial practices, paying attention to cultural, political and aesthetic issues of minority representations. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; FMS 100 with C or better; Credit is allowed for only FMS 375 or FMS 394 (LGBTV: Television and Sexuality) OR Visiting University Student |
| FMS | 377 | Baseball, Film, and American Dreams | Critical viewing and analysis of both narrative and documentary baseball film. Genre typically explores American values and national culture, and changes in our concepts of gender roles, race, aging, social class. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; FMS 100 OR Visiting University Student |
| FMS | 380 | Race and Gender in U.S. Media | Critical analysis of how media shapes perceptions of race and gender in U.S. society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU & C | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| FMS | 385 | Ecomedia | Spanning from environmental animation to earth imaging to indigenous media, considers how films, television and other media depict environmental issues, landscapes and technologies. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only FMS 385 or FMS 394 (Media and the Environment) OR Visiting University Student |
| FMS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-4 | | |
| FMS | 409 | Advanced Screenwriting | Utilizing the elements of storytelling, students outline, develop, and write a feature-length screenplay. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; FMS 100 with C or better; FMS 209 with C or better OR Visiting University Student |
| FMS | 411 | Screenwriting Adaptation Studies | Explores the many issues related to narrative adaptation across movies and other media such as television, various Internet phenomena and gaming. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): Film and Media Studies major, minor or BIS Film and Media Studies concentration; ENG 102, 105, or 108 with C or better; FMP 261 or FMS 209 with C or better; Credit is allowed for only FMS 411 or FMS 494 (Screenwriting Adaptation Studies) |
| FMS | 412 | Story Analysis for Film and Television | Investigates Hollywood's creative development process from submission to shooting script. Critiques the scripts of award-winning films, and evaluates the necessary elements of a well-told story. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): Film and Media Studies major, minor, or Film and Media Studies BIS concentration; ENG 102, 105, or 108 with C or better; FMP 261 or FMS 209 with C or better; Credit is allowed for only FMS 412 or FMS 494 (Story Analysis for Film and TV) |

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| FMS | 423 | Italian Organized Crime in Films and History | Through an analysis of historical, anthropological, literary, political and cinematic texts, explores representations of the Italian organized crime in Italian and American films from the early 20th century to today. Discovers different "Mafias" originating in Italy, but whose reach extends much further, such as the Cosa Nostra in Sicily, the Camorra in Naples, and the 'Ndrangheta in Calabria. Examines the fiction, stereotypes, myths and legends surrounding the mafia through a scrupulous analysis of some of the most important American and Italian films portraying mafia culture. Italians have used the medium of film to address the issue of the mafia, raising awareness about the harsh reality of life in the mafia and the ways in which it reaches into every aspect of Italian politics and society. Explores how Italian mafia films subvert international fascination with the mafioso by disrupting the glamorized myths that are mainly perpetuated by American popular cinema. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better or min 45 hours; Credit for only FMS 423 or ITA 423 or SLC 423 or ITA 494/SLC 494 (Italian Organized Crime in Films & History) or FMS 494/ITA 494/SLC 494 (Mafia & Film) OR Visiting University Student |
| FMS | 426 | Films of India | Examines classic, Bollywood and diasporic films of India from 1950 to the present. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): any 200-level or higher course in APH, ARS, ENG, FMS, HST, or MHL with B or better; Credit is allowed for only ARS 444 or ARS 544 or FMS 426 or ARS 494 (Films of India) or ARS 494 (South Asian Cinema) |
| FMS | 427 | Identity and World Film | Examines how films around the world represent gender, race, ethnicity, and sexual orientation through the lens of genres and their variations and how genres reinforce or critique stereotypes. | N | PRA | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | C | Prerequisite(s): any 200-level or higher course in APH, ARS, ENG, FMS, HST, or MHL with B or better; Credit is allowed for only ARS 440 or ENG 465 or FMS 427 OR Visiting University Student |
| FMS | 430 | Artists in Film: Artists' Biopics | Examines artists' "biopics," biographical films about artists, chronologically from the subgenre's first appearance in 1936 to recent films. Explores relationships between film and history and between film and myths of creativity; major directors' attraction to artists' biopics; stereotypes of artists (e.g., genius, deviant); and how notions of creativity are inflected by gender, race and national identity. Assignments include weekly readings and film viewings and one short paper; optional documentaries and films are also available. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): any 200-level or higher course in APH, ARS, ENG, FMS, HST, or MHL with B or better; Credit is allowed for only ARS 443 or FMS 430 |
| FMS | 440 | Los Angeles: Movies and Culture | Explores film treatment of the historical culture of Los Angeles. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & C | Prerequisite(s): BA Film and Media Studies major or minor or BIS Film and Media Studies concentration; ENG 102, 105 or 108 with C or better; FMS 100 with C or better |
| FMS | 441 | Global Cinema | Examines how film represents three important dimensions of globalization: its relationship to national culture, terrorism, and immigration. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105 or 108 with C or better; FMS 100 with C or better |
| FMS | 442 | Experimental Narrative | Examines texts that experiment with form, content and narrative perspective within print, film and digital media. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only ENG 447 or FMS 442 or SLC 450 OR Visiting University Student |
| FMS | 445 | Holocaust, War and German Memory | Examines representations of the Holocaust from across different media (literature, film, architecture, memoir, photography) and from across multiple generations of German engagement with this period in history. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, ENG 105, ENG 108, FMS 100, FMS 200, JST 210, or JST 230 with C or better; Credit is allowed for only FMS 445 or GER 445 or JST 445 or SLC 445 OR Visiting University Student |
| FMS | 446 | Weimar-Era German Film | Examines early film production in Germany during the period of the Weimar Republic. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, ENG 105, ENG 108, FMS 100, or FMS 200 with C or better; Credit is allowed for only FMS 446 or GER 446 or SLC 446 OR Visiting University Student |
| FMS | 450 | Technology, Culture, and Media | Studies the socio-political relationships among technology, culture, and media. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105 or 108 with C or better; FMS 100 with C or better |
| FMS | 455 | Comedy as Social Discourse | Focuses upon the way that comedy can speak with particular clarity to the American condition from behind the microphone and, by extension on the big and small screens. By examining how comic conventions, personae and sensibilities in standup respond to change in social and political sensibilities at specific historical moments, we tease out why comedy, perhaps more than any other genre, can get people to engage (and to think about) a variety of human experiences--often in spite of themselves. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; FMS 100 with C or better; Credit is allowed for only FMS 455 or FMS 494 (Comedy as Social Discourse) |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|-----------------------|-------|-----------------|---|
| FMS | 460 | Masculinity and Film | Examines the representation of masculinity and the male body in film. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105 or 108 with C or better; FMS 100 with C or better |
| FMS | 461 | Film Theory and Criticism | Examines the major positions and issues in film theory from an historical perspective. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, ENG 105, ENG 108, or FMS 100 with C or better; Credit is allowed for only FMS 461 or SLC 440 OR Visiting University Student |
| FMS | 464 | Latina/o Literature | Development of Latina/o literature. Study of genres and themes; attention to literary antecedents of the new U.S.-based Latina literature. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & C | Prerequisite(s) with C or better: ENG 101, 105, or 107; ENG 200; one ENG 200- or 300-level literature course OR ENG 101, 105, or 107; min 45 hours; Credit is allowed for only ENG 458 or FMS 464 or TCL 464 OR Visiting University Student |
| FMS | 466 | Constructing the Border on Film | Explores the U.S.-Mexico border on film, examining how border images have been constructed and shaped over time. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | C | Credit is allowed for only FMS 466 or TCL 466 |
| FMS | 468 | Crime and Violence in American Film and Television | Addresses three primary aspects of crime and violence in film and television: representation, societal attitudes, effects on audience. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): Film and Media Studies student; ENG 102, 105, or 108 with C or better; FMS 100 with C or better OR Visiting University Student |
| FMS | 471 | Latinos In Hollywood | Studies representations of Latinos in film; stereotyping, politics of metaphor, allegory, star discourse, self-representation, resistance, and independent film. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU & C | Credit is allowed for only FMS 471 or TCL 471 |
| FMS | 474 | Women and Power in Media | Examines the relationship between power and gender for women and other feminized subjects in media. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, 108, FMS 100, or 200 with C or better; OR minimum 45 hours; Credit is allowed for only FMS 474 or FMS 494 (Fighting Femmes: Women and Power in Popular Culture) OR Visiting University Student |
| FMS | 475 | Latin American Film | Examines the role of film in contemporary Latin American culture; films viewed and analyzed as casebook examples. Focuses on the aesthetics and generic conventions of contemporary Latin American films. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, 108, FMS 100, or SLC 202 with C or better; Credit is allowed for only FMS 475 or SLC 475 or SPA 475 or THE 475 or FMS 494/SLC 494/SPA 494/THE 494 (Latin American Film) OR Visiting University Student |
| FMS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | |
| FMS | 490 | Capstone Seminar | Capstone seminar. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): BA Film and Media Studies major; minimum 56 hours; ENG 102, 105 or 108 with C or better; FMS 100 with C or better |
| FMS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-6 | | Prerequisite(s): Barrett Honors student |
| FMS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | Department of English | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| FMS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-4 | | |
| FMS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-7 | | |
| FMS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-3 | | |
| FMS | 502 | Hollywood Film Historiography | Explores historiographic and critical scholarship on Hollywood as an industrial, cultural, and aesthetic enterprise. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FMS | 503 | Media Industries | Examines the business of contemporary U.S. media practices including film, television, Web-based media, music, video games, mobile phones, and other interactive media. Explores the changing economic structures of these media industries and their relationship to artistic vision and production. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FMS | 504 | Film Analysis | Introduce formal and cultural issues important to understanding movies. | N | REC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only FMS 504 or MLS 504 |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|-----------------------|-------|-----------------|---|
| FMS | 507 | Crime and Violence in American Film (Online) | This course is available online only. Focuses on historiographic and critical scholarship on three aspects of crime and violence in American film: (1) regulation and censorship; (2) representation and society; and (3) theories about the effects on audiences of viewing crime and violence in films. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): Film and Media Studies MAS student |
| FMS | 508 | Race, Gender and Sexuality in Media | Investigates the diverse ways in which race and gender are represented in American film history and culture. In a broader context, also analyzes how the meaning of race and gender, and their intersectionality, has shifted and changed across time and space, and how cinema has contributed to these shifts. Gives attention to the relationships among visual style, narrative structure, generic convention and identity. Students become more literate about the power of film to reflect and refract ideologies of race and gender, and to analyze how these identities impact the experiences of individuals and groups in our society. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FMS | 510 | Digital Media Studies | Digital media technologies have radically shifted U.S. society and culture. Almost all forms of media are now digital, even broadcast television and movie theatres now use digital technologies. To understand our new media landscape, we must understand technology and computation in addition to media theory. Provides the interdisciplinary tools necessary for analyzing digital media. Outlines foundational concepts with particular emphasis on analyzing hardware and interface design and understanding computational elements such as algorithms. Then examines these issues by exploring algorithm advertising and marketing as well as interactivity and collaboration in videogame spaces. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FMS | 511 | Fundamentals of Cinema & Television Narrative Online | Studies the creativity and the technique of screenwriting for the conventional narrative film and for television. Student writing exercises culminate in a script for micro-cinema. Seminar. Prerequisite: online student in MAS American Media and Popular Culture | N | SEM | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): Film and Media Studies MAS student |
| FMS | 512 | Intermediate Cinema and Television Narrative (online) | Focuses on the feature-length screenplay; students complete the first act and treatment of an original feature. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): Film and Media Studies MAS student |
| FMS | 520 | Cultural History of US Television: Theory & Method | Engages both the theory and methods of cultural studies as implemented in television studies and U.S. television history (from the 1940s to the present). | N | SEM | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) |
| FMS | 522 | Los Angeles: Movies and Culture | Focuses on historiographic and critical scholarship of industry, genre and representation in post-war, self-reflexive Hollywood cinema. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FMS | 523 | Authorship in Film and Media | Explores the notion of authorship in film, television, and digital media by engaging with a number of critical methodologies such as auteurism, structuralism, post-structuralism, feminism. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FMS | 527 | Identity and World Film | Examines how films around the world represent gender, race, ethnicity, and sexual orientation through the lens of genres and their variations and how genres reinforce or critiques stereotypes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking): Credit is allowed for only ARS 540, FMS 527 or (ARS 494, ENG 465, FMS 494 or ARS 598 Identity and World Film) |
| FMS | 535 | Comedy as Social Discourse | Focuses upon the way that comedy can speak with particular clarity to the American condition from behind the microphone and, by extension, on the big and small screens. By examining how comic conventions, personae and sensibilities in stand-up respond to change in social and political sensibilities at specific historical moments, we tease out why comedy, perhaps more than any other genre, can get people to engage (and to think about) a variety of human experiences--often in spite of themselves. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only FMS 535 or FMS 598 (Comedy as Social Discourse) |
| FMS | 543 | Artists in Film: Artists' Biopics | Examines artists' "biopics," biographical films about artists, chronologically from the subgenre's first appearance in 1936 to recent films. Explores relationships between film and history and between film and myths of creativity; major directors' attraction to artists' biopics; stereotypes of artists (genius, deviant, etc.); and how notions of creativity are inflected by gender, race and national identity. Assignments include weekly readings and film viewings and one short paper; optional documentaries and films are also available. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ARS 443 or ARS 543 or FMS 430 or FMS 543 or ARS 598 (Artists in Film: Biopics) |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--|---------------------------------------|-------|-----------------|--|
| FMS | 567 | World War II in Film | Offers a comprehensive survey of how film has represented the Second World War. Using a transdisciplinary approach, studies how films from the time of the Second World War to the present have portrayed that conflict. Compares different perspectives on the causes and results of the war, as well as engage in analysis of how important issues such as international political and economic relationships, religion, gender, ethnicity, class, race, technology and the psychological effects of violence get shown in movies about World War II. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ENG 567 or FMS 567 or WWS 567 |
| FMS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FMS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FMS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 105 | Physical Evidence and the Crime Scene | First course in a two-semester series of laboratory and lecture courses focusing on introducing non-scientists to forensic science. Explores the investigative and laboratory technologies behind common forensic techniques utilized in crime scene documentation and reconstruction, the identification and value of physical evidence, documentation and collection of evidence, comparative analysis, and the latest technologies in mobile device forensics. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 4 | SQ | |
| FOR | 106 | Biology Behind the Crime Scene | Second of two courses offering the non-scientist an introduction to the forensic sciences. Focuses on the biology and chemistry in analytical techniques used in the crime lab such as quantitative DNA analysis, toxicology and controlled substance analysis. Also covers topics related to death investigation, as well as plant and pollen identification as they relate to forensic science and criminal investigations. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 4 | SQ | |
| FOR | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-3 | | |
| FOR | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-4 | | |
| FOR | 200 | Forensic Science Seminar | Introduces key concepts and skills needed to succeed in the program and the forensic science professional field. Students review the CSI effect, the forensic science program at ASU, and begin planning for their culminating experience. Additionally, introduces forensic science professional organizations, basic scientific writing skills, and hearing from experts in the field. | N | SEM | N | Z2 | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1 | | Pre- or corequisite(s): FOR 286 with C or better if completed OR Visiting University Student |
| FOR | 210 | Sociology of Murder | Sociological perspectives on various forms of murder and types of murderers. Also considers forms of punishment for murder. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | SB | Credit is allowed for only FOR 210 or SOC 210 |
| FOR | 286 | Principles of Forensic Science | Introduces the ways in which science is applied within the legal system. In particular, students examine the diverse disciplines and techniques that comprise forensic science through detailed discussion of each of the major sections recognized by the American Academy of Forensic Sciences (AAFS): anthropology, criminalistics, digital & multimedia sciences, engineering & applied sciences, general, jurisprudence, odontology, pathology/biology, psychiatry & behavioral science, questioned documents and toxicology. Defines and discusses the roles of these disciplines along with ethics and best practices in their application. Students also participate in laboratory activities related to these disciplines and gain an understanding of how to write a case report and provide expert testimony. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 4 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better; CHM 113 with C or better; CHM 116 with C or better OR Visiting University Student |
| FOR | 290 | Historical Perspectives of Forensic Science | Explores the history and evolution of forensic science and its use in criminal investigations. Topics include: the "discovery" of DNA, the societal impact of forensic science, increased use of forensic science in criminal investigations, and a timeline of technological advances that has helped propel forensic science into popular culture. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Credit is allowed for only FOR 290 or FOR 294 (Historical Perspectives of Forensic Science) |
| FOR | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-4 | | |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--|---------------------------------------|-------|-----------------|--|
| FOR | 298 | Honors Directed Study | Independent study or practicum under the supervision of a faculty member. | N | PRA | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-6 | | Prerequisite(s): Barrett Honors student |
| FOR | 350 | Computer Forensics | Concepts of computer forensics, forensic analysis techniques, computer forensic tools and software for forensic investigators, network forensics, data forensics, mobile device forensics, malware forensics, cyber crimes and fraud, computer security incident response. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): ACO 100 or higher with C or better OR CIS 105 with C or better OR Visiting University Student |
| FOR | 360 | Statistical Applications in Forensic Science | Statistical concepts and methods applicable to forensic science and the evaluation of forensic evidence. Emphasizes the practical application to forensic contexts and communication of results. Explores statistical concepts and methodologies including hypothesis testing, confidence intervals, correlation, probability and regression within forensic science contexts. Introduces through applied examples advanced topics related to forensic science such as likelihood ratios, classification, evidence evaluation, error limits and DNA population probabilities. | N | LEL | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): FOR 286 with C or better; STP 226 with C or better OR Visiting University Student |
| FOR | 370 | Fundamentals of Forensic Analysis | Builds on foundational material learned in previous coursework while focusing on the procedures and techniques used in forensic science laboratories. Applies lecture material to hands-on laboratory exercises based on current practices across forensic science subdisciplines including chemistry, biology and criminalistics. Covers quality assurance procedures specific to these areas of forensic science in the lecture and laboratory sections. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 4 | | Prerequisite(s): BIO 182 with C or better; BIO 305 or FOR 286 with C or better; CHM 116 with C or better OR Visiting University Student |
| FOR | 377 | Forensic Analytical Chemistry Laboratory | Focuses on common analytical techniques currently used in forensic laboratories and provides further hands-on experience with methods and instrumentation utilized in a modern crime laboratory. Applies gained knowledge to lab exercises designed with crime laboratory evidence types and protocols in mind. | N | LAB | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 2 | | Prerequisite(s): FOR 375 or LSC 375 with C or better; FOR 376 or LSC 376 with C or better |
| FOR | 380 | Analysis of Nonhuman Forensic DNA Evidence | Nonhuman biological materials are so pervasive in the environment that they often contaminate victims, perpetrators and crime scenes by means of direct deposit or secondary transfer. As the reliability, sensitivity and specificity of animal, plant and microbial DNA assays improve with the advent of new technologies, the potential probative value of DNA information from nonhuman biomaterials also increases, especially for establishing or refuting alibis, determining the chronology of a criminal event and for crime scene reconstruction. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Pre- or corequisite(s): LSC 347 with C or better if completed; Credit is allowed for only FOR 380 or LSC 380 OR Visiting University Student |
| FOR | 386 | STEAM Service Learning | Guided process in which students deepen their understanding of their STEAM content area through knowledge-based problem solving that provides a service to others in the community. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ACO 386 or ENV 386 or FOR 386 or LSC 386 or PTX 386 or LSC 494 (Service Learning in the Life Sciences) |
| FOR | 388 | STEM Research Fundamentals | Teaches research skills in the natural sciences. Topics covered include the basic research techniques of the study organism and system, experimental design, literature searches, statistical analysis and preparation of scientific papers and posters. | N | LEL | Y | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): ACO 320, BIO 182, or MAT 272 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only ENV 388 or FOR 388 or LSC 388 or PLB 388 or PTX 388 OR Visiting University Student |
| FOR | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-4 | | |
| FOR | 400 | Comparative Forensics | Familiarizes students with the comparative methods used in the forensic analysis of fingerprint, questioned document and firearms evidence. Discusses the theory and principles of individualization as assessed in forensic casework. Exposes the operation and theory of the scientific instruments used when performing comparative analysis. Reinforces learning objectives through case studies, practical exercises, outside projects and guest lectures. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): BIO 182 with C or better; CHM 116 with C or better; Pre- or corequisite(s): BIO 305 or FOR 286 with C or better if completed OR Visiting University Student |
| FOR | 401 | Forensic Toxicology | Focuses on toxicology as it pertains to forensic science. Topics include: the history of toxicology; the pharmacodynamics and pharmacokinetics of drugs and alcohol in the human body; as well as the legal applications of toxicology. Also discusses ethics, quality control and quality assurance, and courtroom testimony (as they relate to forensic toxicology). May address other topics such as environmental toxicology, poisons, and current topics related to forensic toxicology. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Pre- or corequisite(s): BIO 305 or FOR 286 with C or better if completed OR BIO 353 with C or better if completed; LSC 347 with C or better if completed; Credit is allowed for only FOR 401 or PTX 401 OR Visiting University Student |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--|---------------------------------------|-------|-----------------|---|
| FOR | 402 | Forensic Biology | Focuses on molecular genetics and biology pertaining to forensic science. Course subject matter includes: the history of forensic biology, serological techniques, DNA and DNA analyses, topics in molecular genetics, and forensic biology in the crime lab. Also discusses ethics, quality control and quality assurance, and courtroom testimony (as they relate to forensic biology). Addresses other topics such as current court cases and topics related to forensic biology. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Pre- or corequisite(s): BIO 305 or FOR 286 with C or better if completed; LSC 347 with C or better if completed; LSC 348 with C or better if completed OR Visiting University Student |
| FOR | 403 | Comparative Forensics Laboratory | Largely focuses on the application of physical examination of various types of evidence including fingerprints, tape, footwear, handwriting, paper, cartridge casings and bullets. Provides hands-on experience in latent print, trace, questioned document and firearms analysis. These analyses include the utilization of stereozoom microscopes, comparative microscopes, compound microscopes, alternative light sources and other hand tools employed by forensic scientists. | N | LAB | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1 | | Pre- or corequisite(s): BIO 305 or FOR 286 with C or better if completed; FOR 400 with C or better if completed OR Visiting University Student |
| FOR | 404 | Forensic Toxicology Laboratory | Focuses on best practices and contemporary protocols and practices used by forensic toxicology labs. Offers topics and exercises dealing with drugs of abuse including alcohol, prescription medications, over the counter medications, and other substances which may be found in the body by the forensic toxicologist. | N | LAB | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1 | | Pre- or corequisite(s): BIO 305 or FOR 286 with C or better if completed; FOR 401 with C or better if completed; Credit is allowed for only FOR 404 or PTX 404 OR Visiting University Student |
| FOR | 405 | Techniques in Forensic Biology Laboratory | Covers the basic practical concepts of forensic biology and those used in a biological context at crime scenes. Laboratory exercises include blood pattern analysis, serology, presumptive tests, comparison of hair evidence and DNA analysis. | N | LAB | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1 | | Prerequisite(s): BIO 181; BIO 182; CHM 113; CHM 116; Pre- or corequisite(s) with C or better if completed: BIO 305 or FOR 286; FOR 402; LSC 347; LSC 348 OR Visiting University Student |
| FOR | 406 | Moral Dilemmas | Philosophical analysis of moral dilemmas arising in professional and public settings. Ethical decision making in business, educational, human service, and scientific communities. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only FOR 406 or IAS 406 or PHI 406 OR Visiting University Student |
| FOR | 410 | Testimony and Ethics in the Forensic Sciences | Focuses on the relationship between forensic science and the courtroom. Students learn the accepted standards and professional practices as they relate to forensic scientists and other forensic practitioners. Topics include ethical obligations of a forensic scientist, quality assurance practices and the accreditation process. Students also review the role the expert witness plays within the court system while obtaining an understanding of behavioral and ethical issues that can be encountered from crime scene investigation through to the courtroom. Includes mock trial scenarios. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; FOR 370 with C or better OR Visiting University Student |
| FOR | 413 | Sacred Crimes: Religion and Violence | Religion is capable of doing great good in the lives of humans, leading them to personal betterment and positive social contributions. Yet, throughout human history religion has also led some individuals to engage in acts of violence and other dangerous behaviors. This course explores the history of several religious traditions and texts and their complicated connections to violence and criminality. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | G & H | Prerequisite(s): ENG 102, 105, or 108 w/ C or better; Credit is allowed for only CRJ 423 or FOR 413 or REL 413 or FOR 494 (Sacred Crimes: Religion, Violence & Crim) or REL 494 (Sacred Crimes: Religion, Violence & Crim) OR Visiting University Student |
| FOR | 414 | Fundamentals of Forensic Entomology | Provides an introduction to the field of forensic entomology; the use of insects (and other arthropods) in legal investigations. Investigates how insects can be used in food contamination, neglect and abuse cases, with a focus on their use in death investigations. Identifies forensically important insects, in partnership with proper collection and rearing techniques. Along with understanding insect biology, students gain an understanding of how forensic entomology is utilized in law and in the courtroom. Students take an in-depth look at what questions insects can help answer and determine how to calculate a time of colonization (TOC) and how that can relate back to a time of death. Also focuses on scientific writing skills, assessed with the completion of a mock crime scene and production of a case report. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 4 | | Prerequisite(s): FOR 286 with C or better; minimum 45 hours; Credit is allowed for only ENV 414 or FOR 414 or BIO 494/ENV 494/FOR 494 (Fundamentals of Forensic Entomology) OR Visiting University Student |
| FOR | 425 | Analytical Chemistry for Life Sciences | Presents an analysis of chemicals, including the theoretical and practical considerations regarding the separation, detection and quantitative determination of chemicals. Illustrates the application of different analytical procedures using some of the common chemicals of concern in the forensics and environmental fields. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): CHM 234 with C or better; CHM 238 with C or better; Credit is allowed for only FOR 425 or LSC 425 OR Visiting University Student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--|---------------------------------------|-------|-----------------|--|
| FOR | 426 | Analytical Chemistry for Life Sciences Lab | Students learn basic principles of analytical chemistry and explore a wide range of common techniques and methods with applications to forensic science and life sciences. Places specific focus on techniques common in modern analytical laboratories, including gas chromatography, mass spectrometry, FTIR and NMR spectroscopic techniques. Other topics include interpretation of analytical data and evaluation of error and uncertainty in measurements. | N | LAB | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 2 | | Prerequisite(s): CHM 234 with C or better; CHM 238 with C or better; Corequisite(s): FOR 425 or LSC 425; Credit is allowed for only FOR 426 or LSC 426 OR Visiting University Student |
| FOR | 447 | Molecular Genetics Laboratory | Investigative lab involving DNA isolation, PCR, gel electrophoresis, enzyme digestion and ligation, transformation, and hybridization analysis. | N | LAB | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FOR 447 or LSC 447 |
| FOR | 449 | Latin American Cinema: The Dead and the Disappeared | Studies Latin American politics and culture through film with particular focus on recent periods of Latin American history in which there have been social upheavals, dictatorships and state repression, and dirty wars. Discusses film as an art form with specific aesthetic goals, a tool to effect change within society, a mode of cultural and social expression, and a vehicle for reconciling collective trauma and preserving memory. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | G & H | Prerequisite(s): ENG 102, 105, or 108 w/C or better; Credit allowed for only FOR 449, LAS 449, SPA 449, FOR 494 (Lat Am Cinema: Dead & Disap), LAS 494 (Lat Am Cinema: Dead & Disap), SPA 494 (Lat Am Cinema: Dead & Disap) OR Visiting University Student |
| FOR | 454 | History of Genocide | Examines the individuals and institutions responsible for the most infamous episodes of state-sanctioned violence in the 20th century. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | G & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only FOR 454 or HST 454 or REL 454 OR Visiting University Student |
| FOR | 456 | Studies in Forensic Linguistics | Focuses on the three main aspects of that branch of applied linguistics, namely language and the law, court cases where language is the central dispute, and linguistic evidence. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 456 or FOR 456 or PAX 456 or SBS 456 |
| FOR | 475 | Principles of Toxicology | Presents the fundamental principles of toxicology and its application to both human and environmental situations. Starts with the means of defining and quantifying toxic effects through dose response curves (e.g. LD50, EC50, LOEL, NOEL). Then focuses on absorption pathways for toxicants as well as the degradation metabolism pathways for toxicants. Finally focuses on the mechanism of toxic action for common poisons and environmental pollutants. Emphasizes toxicants that students are likely to encounter in forensics and environmental fields. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): BCH 361 or 371 with C or better; Credit is allowed for only FOR 475 or LSC 475 or PTX 475 |
| FOR | 480 | Advanced Topics in Human Forensic DNA Typing | Examines the science of current forensic DNA typing methods by focusing on the technology behind STR, Y-STR and mtDNA typing, real-time PCR, serology tests, capillary electrophoresis, expert systems and statistics. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): LSC 347 with C or better; Credit is allowed for only FOR 480 or LSC 480 OR Visiting University Student |
| FOR | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | YGB | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-12 | | Prerequisite(s): minimum 45 hours |
| FOR | 485 | Forensic Science Capstone | Culmination course integrating all components of Forensic Science major courses demonstrating knowledge and competency in the field of forensic science. Includes Forensic Science Assessment Test (FSAT) preparation and FSAT completion. | N | LEL | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): FOR 410 with C or better; 6 additional hours of upper-division FOR coursework with C or better; senior standing |
| FOR | 486 | Peer Mentoring in the Forensic Sciences | Advanced students learn and apply mentoring skills in teaching labs. | N | SEM | Y | YGB | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| FOR | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-6 | | Prerequisite(s): Barrett Honors student |
| FOR | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| FOR | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-4 | | |
| FOR | 496 | Forensic Science Service Learning | Brings a multidisciplinary approach for connecting forensic science with the public. Students use what they have learned throughout their degree to bring this knowledge to the public through a variety of avenues. Consists of various service learning opportunities that may include working on cold cases, lesson plan and activity design with high school educators and educating the general public. | N | PRO | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): FOR 370 with C or better; minimum 45 hours |
| FOR | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-6 | | Prerequisite(s): Barrett Honors student |
| FOR | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--|---------------------------------------|-------|-----------------|--|
| FOR | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-3 | | |
| FOR | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 501 | Forensic Toxicology | Includes the history of toxicology; the pharmacodynamics and pharmacokinetics of drugs and alcohol in the human body, as well as the legal applications of toxicology. Also discusses ethics, quality control and quality assurance, and courtroom testimony (as they relate to forensic toxicology). | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 502 | Forensic Botany | Teaches students the historical and potential uses of plants and other organisms traditionally included with plants as evidence in forensic investigations. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 503 | Forensic Entomology | Presents current information on the role of arthropods in decomposition, the role of forensic entomology in criminal and civil investigations and the increasing importance of science on society. Provides an understanding of the importance and role that arthropods play in civil and criminal investigations. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 525 | Forensic Science and Governance | Focus on quality assurance and control within a crime laboratory and covered topics specific to laboratory directors and the management of all activities within the laboratory critical to meeting local, regional and national standards. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 532 | Principles of Pharmacology | Aspects of pharmacology using an integrated approach to familiarize students with natural and synthetic therapeutic agents used in medicine. | N | LEL | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 540 | Advanced Topics in Human Forensic DNA Typing | Examines the science of current forensic DNA typing methods by focusing on the technology behind STR, Y-STR and mtDNA typing, real-time PCR, serology tests, capillary electrophoresis, expert systems and statistics. | N | LEL | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 550 | Ethics in Forensic Science | Covers several professional codes of ethics and common ethical dilemmas that may confront criminalists and other forensic scientists. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 560 | Quantitative Methods in Forensic Science Research | Focuses on developing foundations for using statistical analyses as research tools in the forensic sciences, with special emphasis placed on the fundamentals. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 565 | Laboratory Leadership, Policy and Practice | Focuses on essential laboratory management functions, knowledge and skills required to successfully function as a laboratory manager and/or senior-level scientist in clinical, academic, research and applied science laboratories (e.g., forensic science laboratories). Topics include quality assurance and quality control; laboratory accreditation and audits; standards for specific accrediting bodies including but not limited to CLIA, CAP, ASCLD/LAB, OSHA; documentation and sample accessioning; laboratory safety and chemical hazard programs; validation studies and protocol development; certification of individual scientists; and overall laboratory management "best practices." | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only FOR 565 or LSC 565 or PTX 565 |
| FOR | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|--------------------------------|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| FOR | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | RSC | Y | Z3 | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 599 | Thesis | Supervised research focused on preparation of a thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FRE | 101 | Elementary French I | Introduces the French language and culture through a variety of topics from everyday life. Focuses on the development on all four communicative: listening, speaking, reading and writing. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Students may not enroll in FRE 101 if credit with C or better earned in FRE 102, FRE 110, FRE 201, FRE 202 or FRE 210 OR Visiting University Student |
| FRE | 102 | Elementary French II | Introduces the French language and culture through a variety of topics from everyday life. Focuses on the development on all four communicative: listening, speaking, reading and writing. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): FRE 101 with C or better OR French Placement Test score of 281-340; Students may not enroll in FRE 102 if credit with C or better earned in FRE 110, 111, 201, 202, 210, 305, 311, 312, 321, 322, 411, or 412 OR Visiting University Student |
| FRE | 110 | Intensive French I | Proficiency-based course that provides an intensive introduction to the French language and culture. Introduces the language and culture through a variety of topics from everyday life. Focuses on the development on all four communicative skills. Class time is spent mainly on communicative activities based on active listening and speaking practice of everyday French as used in different social situations, with much use of various print, video and Web-based media. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 6-8 | G | Credit is allowed for only FRE 110, FRE 101 or FRE 102 with a C or better OR Visiting University Student |
| FRE | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| FRE | 201 | Intermediate French I | Grammar review, with emphasis on development of skills of speaking, reading, writing, and listening comprehension. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): FRE 102, 110, or 111 with C or better OR French Placement Test score of 341-394; Students may not enroll in FRE 201 if credit with C or better earned in FRE 210 OR Visiting University Student |
| FRE | 202 | Intermediate French II | Continuation of grammar review with emphasis on development of skills in speaking, reading, writing, and listening comprehension. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): FRE 201 with C or better OR French Placement Test score of 395-476; Students may not enroll in FRE 202 if credit with C or better earned in FRE 210 OR Visiting University Student |
| FRE | 210 | Intensive French II | Second semester of an intensive, proficiency-oriented language course designed to develop functional proficiency in French in a dynamic communicative environment. Class time is spent mainly on a variety of communicative activities based on active listening and speaking practice of everyday French as used in different social situations, with much use of various print, video and Web-based media. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 6-8 | G | Prerequisite(s): FRE 102 with B or better OR FRE 110 with C or better OR French Placement Test score of 395-476; Students may not enroll in FRE 210 if credit with C or better earned in FRE 201 or FRE 202 |
| FRE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| FRE | 305 | Readings in French Literature | Survey of francophone literature designed to teach reading with facility and comprehension. Vocabulary building, familiarity with literary terms, their meaning and use, and introduction to textual analysis of literary genres are major elements. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): FRE 202 or 210 with C or better; Students may not enroll in FRE 305 if credit earned in FRE 321 or FRE 322 OR Visiting University Student |
| FRE | 311 | Oral and Written Expression I | Practices interpersonal and interpretive writing and speaking, emphasizing current usage and promoting facility in the expression of ideas. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): FRE 202 or 210 with C or better OR French Placement Test Score of 477+ OR Visiting University Student |
| FRE | 312 | Oral and Written Expression II | Practices presentational writing and speaking, emphasizing current usage and promoting facility in the expression of ideas. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): FRE 202 or 210 with C or better OR Visiting University Student |

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|---------|------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| FRE | 315 | French Phonetics | Practice and theory of French pronunciation. Emphasizes standard French, although an overview of regional varieties is offered. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Pre-requisites: FRE 311 |
| FRE | 319 | Business French | Introduces the structure, vocabulary, and practices of the French business world. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): FRE 311; FRE 312 |
| FRE | 321 | French Cultural Masterpieces I | Masterpieces of French literature of the Middle Ages through the 18th century, and related films. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & H | Prerequisite(s): ENG 101, 105, or 107 with C or better; FRE 305 with C or better; FRE 311 with C or better; Pre- or corequisite(s): FRE 312 OR Visiting University Student |
| FRE | 322 | French Cultural Masterpieces II | Masterpieces of French literature and film from the 19th to 21st century. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; FRE 305 with C or better; FRE 311 with C or better; Pre- or corequisite(s): FRE 312 OR Visiting University Student |
| FRE | 325 | French Language and Culture Through Film | Reviews French vocabulary and grammar through French films, with emphasis on listening comprehension and oral and written production. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): FRE 202 or 210 with C or better; Pre- or corequisite(s): FRE 311 or 312 OR Visiting University Student |
| FRE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| FRE | 411 | Advanced Spoken French | Improvement of spoken French. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): FRE 311; 6 hours of 300-level French OR Visiting University Student |
| FRE | 412 | Advanced Written French | Improvement of composition skills. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): FRE 312; 6 hours of 300-level French |
| FRE | 414 | French and Italian Popular Culture | Popular culture no longer holds the ancillary role traditionally reserved for whatever does not carry the definition of high culture. That popular culture is instead able to provide us with very relevant insights on the identity of a nation and a people is now widely accepted. As a consequence, this class aims at examining popular culture-related artifacts in Italy and France in order to shed a light on crucial issues such as the culture of food and its historical and social significance; the meaning of fashion and design within an urban context, with a special attention to gender roles; the importance of the comics, given in particular the exceptional success the bande dessinée genre is currently enjoying in France throughout the whole age range of the population; the show business with a particular attention to music; and the social function and role of sport with respect to the two dominant sports in both countries (soccer and cycling). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better OR minimum 45 hours; Credit is allowed for only FRE 414 or ITA 414 or SLC 414 OR Visiting University Student |
| FRE | 415 | French Civilization I | Political, intellectual, social, economic, and artistic development of France from its origins to the end of the 17th century. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Pre-requisites:6 hours of upper-division French |
| FRE | 416 | French Civilization II | Political, intellectual, social, economic, and artistic development of France from the 18th century to present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | pre-requisites:6 hours of upper-division French |
| FRE | 421 | Structure of French | Phonology, morphology, syntax, semantics, and varieties of French. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): FRE 311 or 312 OR Visiting University Student |
| FRE | 453 | Theater of the 19th Century | From Romantic drama to the Symbolist Theater. Representative plays of Hugo, Musset, Vigny, Dumas, Becque, Rostand, Feydeau, and Mirbeau. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Pre-requisites: FRE 322; 6 hours of 300-level French courses |
| FRE | 461 | Modern Narrative | Representative authors from Gide to the new Nouveau Roman. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Pre-requisites: FRE 322; 6 hours of 300-level French courses |
| FRE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| FRE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| FRE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| FRE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| FRE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| FRE | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FRE | 521 | History of the French Language | Principal phonological, morphological, and semantic developments of French from Latin to present, with emphasis on Old and Middle French. Some familiarity with Latin is recommended. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| FRE | 550 | French for Reading Knowledge | Teaches non-speakers of foreign language, or those with only basic notions of the language, how to read in a foreign language at an advanced level. Consists of a concise overview of grammar as well as reading comprehension practice for students who plan to take the Graduate Foreign Language Exam or others who would merely like to learn to read in a foreign language. Focuses only on reading and not on listening, speaking or writing as in a traditional language course. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only FRE 494 (French for Reading Knowledge) or FRE 550 or FRE 598 (French for Reading Knowledge) |
| FRE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FRE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FRE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FRE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FRE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FRE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FRE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FSE | 100 | Introduction to Engineering | Introduces the engineering design process; working in engineering teams; the profession of engineering; engineering models, written and oral technical communication skills. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 2 | | |
| FSE | 104 | EPICS Gold Feasibility and Planning | First of a sequence of two one-credit service-learning courses in which EPICS GOLD groups are formed from students potentially representing all engineering, computer science and construction disciplines as well as other ASU majors, including sustainability, business, liberal arts, sciences and others. Groups of 4-5 students work together to assess the feasibility and sustainability of their proposed plans for long-term projects that solve problems and benefit clients and often, the larger community. Project work centers on the engineering, technology, computing, sustainability, business and other needs of a not-for-profit community partner; interdisciplinary group interaction is an integral element for the project success. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1 | | Prerequisite(s): Fulton Schools of Engineering student OR New College student OR Visiting University Student |
| FSE | 150 | Perspectives on Grand Challenges for Engineering | Explores social dimensions of developing engineering solutions to meet local and global challenges. Introduces National Academy of Engineering (NAE) Grand Challenges for engineering and Grand Challenge Scholars Program. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 3 | SB | Prerequisite(s): Admission to the Engineering Grand Challenge Scholars Program OR Visiting University Student |
| FSE | 181 | Technological, Social, and Sustainable Systems | Introduces the importance and role of technological, social, and sustainable systems in the modern world. Provides a framework for the theory and practice of sustainable engineering. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 3 | HU | Credit is allowed for only SOS 181, FSE 181, or CEE 181 |
| FSE | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 0.25-4 | | |
| FSE | 201 | Engineering Undergraduate Teaching Assistant | Theory and rationale of active learning and teaching strategies that stimulate intellectual development. Leadership, teaching, teamwork and communication skills needed to facilitate effective undergraduate learning in engineering. Implementation of these skills in a classroom setting. | N | PRA | Y | YGB | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1 | | Prerequisite(s): Ira a Fulton School of Engineering major; minimum sophomore standing OR Visiting University Student |

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| FSE | 250 | Grand Challenges Scholars Program (GCSP) Gold | Continues to explore students' chosen Grand Challenges Scholars Program (GCSP) theme area (i.e., sustainability, health, security or joy of living), develop and enhance professional skills, communicate and showcase their accomplishments and progress in GCSP, and identify future opportunities to achieve the GCSP competencies. Also offers opportunities for students to connect with other students and faculty within the GCSP community and receive mentorship from the GCSP faculty director. Emphasizes self-reflective learning, developing important professional skills in preparation for research and/or internship opportunities, and making connections between interests, goals, skill, and GCSP experiences. | Y | LEC | Y | GNA | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1 | | Credit is allowed for only FSE 250 or FSE 294 (Grand Challenges Scholars Program (GCSP) Gold) |
| FSE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 0.25-4 | | |
| FSE | 301 | Entrepreneurship and Value Creation | In-depth application of entrepreneurial concepts including opportunity recognition, value creation and new business management. Identifies the needs of a market and problem solves to meet those needs through innovation. Covers common mistakes made in the new venture process and how to work to avoid these mistakes. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 3 | | Prerequisite(s): Business or Engineering major; minimum junior standing OR non-Business, non-Engineering major; minimum junior standing; minimum 2.50 GPA; Credit is allowed for only ENT 360 or FSE 301 OR Visiting University Student |
| FSE | 310 | Transfer Success in Engineering | Introduces the unique elements, culture, challenges and opportunities at ASU and within the Ira A. Fulton Schools of Engineering. Helps students succeed as engineering students and ultimately as engineers. | N | SEM | N | GNA | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1 | | Prerequisite(s): Fulton Engineering undergraduate student; Credit is allowed for only FSE 310 or FSE 394 (Transfer Success in Engineering) OR Visiting University Student |
| FSE | 350 | Grand Challenges Scholars Program (GCSP) Maroon | Offers opportunities for students in the Grand Challenges Scholars Program (GCSP) who are getting ready to complete their GCSP journey to connect their GCSP experiences to their career goals and next steps in their professional life beyond college. Focuses on reflecting on their GCSP experiences, communicating GCSP accomplishments to future employers and preparing to graduate as a Grand Challenges Scholar. Also offers opportunities for students to connect with the GCSP community and receive mentorship from the GCSP faculty director. Emphasizes self-reflective learning, developing important professional skills in preparation for career opportunities, and making connections between GCSP experiences and future professional goals and activities. | Y | LEC | Y | GNA | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FSE 350 or FSE 394 (Grand Challenges Scholars Program Maroon) OR Visiting University Student |
| FSE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 0.25-4 | | Prerequisite(s): Fulton Engineering undergraduate student OR Visiting University Student |
| FSE | 399 | Cooperative Work Experience | Work periods with industrial firms or government agencies alternated with full-time course work. Not open to students from other colleges. | N | PRA | Y | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1-15 | | Prerequisite(s): Fulton Engineering undergraduate student OR Visiting University Student |
| FSE | 404 | EPICS Gold: EPICS in Action | Second of a sequence of two one-credit service-learning courses in which Engineering Projects in Community Service (EPICS) teams are formed from students potentially representing all engineering, computer science and construction disciplines as well as other ASU majors, including sustainability, business, liberal arts, sciences and others. Groups of 4-5 students in this class work together to develop design solutions for representatives of community partners. The students are expected to continue their prior work in designing engineering solutions that solve problems and benefit clients and often, the larger community. Interdisciplinary group interaction is an integral element for the project success. Students may be continuing a project from a previous FSE 104 or FSE 404 class, or they are invited to begin work on a new project. Encourages student participation for multiple consecutive semesters on a project. Groups are composed of freshmen through seniors. | Y | PRA | Y | GNA | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1-2 | | Prerequisite(s): Fulton Engineering student; minimum junior standing OR EGR 102 OR FSE 104 OR FSE 494 (EPICS Gold: EPICS in Action) OR Visiting University Student |
| FSE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1-12 | | |
| FSE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1-6 | | Prerequisite(s): Barrett Honors student |
| FSE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| FSE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 0.25-4 | | |

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| FSE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1-3 | | |
| FSE | 501 | Technology Entrepreneurship | Fundamental principles and concepts of technology entrepreneurship. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) |
| FSE | 502 | Strategic Enterprise Innovation | Strategies, techniques, and practices of process, product, and management innovation across the enterprise. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 3 | | Prerequisite(s): Ira A. Fulton Schools of Engineering graduate student or Innovation and Venture Development MS student |
| FSE | 508 | Engineering and Construction Failures | Engineering, construction and ethics failures. Focuses on failures in the built environment. Students tailor the assignments and projects to their specific engineering or construction discipline. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 3 | | Prereq(s): degree- or nondegree-seeking graduate student; Credit allowed for only CON 508 or FSE 508 or CEE 598 (Engineering and Construction Failures) or CON 494 (Engineering and Construction Failures) or CON 598 (Engineering and Construction Failures) |
| FSE | 570 | Data Science Capstone | Brings together a highly diverse and interdisciplinary group of students to engage in client-driven group projects involving technical and nontechnical aspects of data science. Although one instructor coordinates the class, a number of faculty deliver guest lectures to provide a variety of perspectives on data science. Assembles students into interdisciplinary groups to address projects and generate a project written report and oral presentation. Taken during the final semester of study. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 3 | | Prerequisite(s): Data Science, Analytics and Engineering MS student |
| FSE | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FSE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FSE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FSE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1-4 | | Prerequisite(s): Fulton Engineering graduate student |
| FSH | 108 | Digital Literacy for the Arts | Effective, efficient, practical and innovative computer-aided visual communication has become essential for business in the contemporary art market. Serves as an introduction to computing in art and design fields. Students use computers to create, design, analyze and problem solve through the exploration of visual design software, fundamental elements of computer-aided design, and peer feedback. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | CS | Credit is allowed for only ART 108 or ART 194 (Digital Literacy for the Arts) or FSH 108 or FSH 194 (Digital Literacy for the Arts) |
| FSH | 122 | Apparel Construction I | Prepares students for a career in the apparel industry or for continued study in graduate school. Introduces core concepts of fashion materials and construction: cutting, sewing and finishing techniques for creating garment prototypes. Focuses on the fashion industry as well as apparel construction and production. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | |
| FSH | 125 | Survey of the Fashion Industry | Prepares the student to know how the fashion industry operates and what to expect when working in it. From manufacturing to retail, it is important for all members of the fashion industry to understand how the processes interrelate. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Prerequisite(s): Fashion BA major; Credit is allowed for only FSH 125 or HDA 125 OR Visiting University Student |
| FSH | 135 | Foundations in Fashion Design Communications | Immerses students in the language and practices of fashion design through drawing communications. Through in-class exercises, students learn to analyze, describe and critically think about editorial and design-related content. Provides an opportunity to consider and practice figure and clothing essentials such as creating line, shapes, shading, folds, forms, proportions, silhouettes, prints and color theories. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | |
| FSH | 175 | Merchandising Essentials | Introduces merchandising concepts that support assortment planning, pricing strategy, open-to-buy management and inventory management as a fashion merchandiser. Teaches technical retail math concepts and explains their conceptual functions in industry context. Utilizes a mix of lecture to introduce key topics and computer-lab workshop to practice application of merchandising concepts. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | |

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| FSH | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| FSH | 200 | Textiles Survey Lab | Complements and supports the learning objectives and outcomes for the textiles survey lecture. Includes identification of fibers, yarns and fabrics using various methods of scientific testing and other activities to enrich students' understanding of textiles' characteristics and properties and their end uses. | N | LAB | N | GNA | Herberger Institute for Design and the Arts | School of Art | 1 | | Credit is allowed for only FSH 200 or FSH 294 (Textiles Lab) |
| FSH | 201 | Textiles Survey | Offers a broad survey of textiles as they relate to art, fashion and their place in human culture. Topics explore material content, weaves and textile properties; the artistic and social history of textiles; modern textile manufacturing and consumption; and innovations in textile invention for science and industry. The goal is for students to more fully understand the underlying content and structure of textiles in order to better appreciate the overwhelming variety of textiles that have been created over time, place, gender, ethnicity, purpose and methodology. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | |
| FSH | 203 | Fashion Illustration I | In this studio setting, students practice drawing the fashion figure from a live model, both in leotard and in clothing, facilitating understanding of drape, shape, shadow, silhouette and how it relates to fashion design. Demonstrates and practices fundamental skills of visual communication and problem solving, including fabric rendering and proportion and how it relates to the fashion designer's sketch. Brief lectures, demos and critiques are an integral component of each class. Materials used in class include, yet are not limited to, charcoal and gouache. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 110, ART 111, or FSH 135 OR Visiting University Student |
| FSH | 204 | Social Aspects of Fashion | Introduces ways of examining clothing and fashion in context. How do we read images and representations of clothing and how do they manipulate the meaning of the garment and its wearer? In what ways is this visual language used to select and produce fashion? What influences how we dress on a daily basis and over time? These are just some of the questions about appearance, clothing and culture that are used to embark on a participatory research project and as a point of departure for class discussions and related readings. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | L or HU or SB | Prerequisite(s): ENG 101, 102, 105, 107, or 108 with C or better OR Visiting University Student |
| FSH | 206 | Fashion Design I | Provides a foundation for the design process through drafting, flat pattern, construction and draping the professional way. In this hands-on setting, students apply principles of art to clothing design. Develops an understanding of the design concept based on the relationship of the two-dimensional pattern shape to the three-dimensional body. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): FSH 122 (FSH 202) OR Visiting University Student |
| FSH | 208 | Fashion Technology I | Introduces the fundamental concepts, procedures and techniques used for manipulating images and documents in digital imaging software and data management software for fashion applications. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): FSH 108, FSH 194 (Digital Literacy for the Arts), or INT 121 OR Visiting University Student |
| FSH | 222 | Apparel Construction II | Provides quality preparation for a profession in the apparel industry. In this hands-on setting, students continue to work on the core concepts of sewing, construction and finishing techniques for fashion garment as demonstrated in class. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): FSH 122 (FSH 202) with C or better; Credit is allowed for only FSH 222 or FSH 394 (Fashion Construction II) OR Visiting University Student |
| FSH | 224 | Accessories Design | Introduces the principles of developing a brand of fashion accessories. Provides the opportunity to develop student's own designs for a range of handbags, belts, shoes, scarves and hats. Through practical and experimental exercises, covers how to research accessory styles and trends to develop ideas and concepts. Students gain an understanding of what it takes to design their own brand and look into the world of accessory manufacturing by hearing from designers working in the industry. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): FSH 122 (FSH 202) with C or better; FSH 206 with C or better; Credit is allowed for only FSH 224 or FSH 394 (Intro to Accessory Design) OR Visiting University Student |
| FSH | 275 | Merchandising Applications | Explores and practices the application of merchandising concepts in real-world settings. Exposes challenges facing the ever-changing fashion industry and specific challenges faced in fashion merchandising. Further develops students' creativity, critical thinking and retail math skills to address merchandising challenges. As a foundation to applying merchandising concepts, students study business models that are vertically integrated including mono-brand, multi-brand, and fashion resell models. Further examines channels of client engagement and distribution (e.g., omni-channel, e-commerce or private showroom). Interactive course engages students through vivid experiences, interaction with experienced professionals and application of retail math concepts that bring merchandising to life. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): FSH 175 OR Visiting University Student |

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| FSH | 280 | Fashion Merchandising | Examines the business side of the fashion industry with a focus on fashion marketing and the fundamentals of merchandising and retailing. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only FSH 280 or MKT 280 |
| FSH | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| FSH | 300 | Global Fashion Industry | Considers the textile and apparel industries in a global context. Examines issues from several viewpoints providing the facts and data needed to consider the ramifications of events with unbiased perspectives. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | G | Prerequisite(s): Fashion BA major; FSH 208; minimum 54 hours OR Fashion minor; minimum 54 hours OR Supply Chain Management BS major; minimum 54 hours OR Visiting University Student |
| FSH | 303 | Fashion Illustration II | Studies fashion illustration as a means of communicating, documenting and promoting fashion. Focuses on refining the fashion figure, rendering fabrics and apparel, and exploring a variety of illustration media and techniques. Also explores the evolution of fashion illustration and illustrators. Emphasizes page design and layout for advertising and promotion. Builds upon previously learned skills and acquired concepts, expanding students' abilities to illustrate fashion figures and render garments and fabrics, and create two-dimensional collections. Enables students to clearly communicate design ideas, and effectively present their designs to critics in junior- and senior-level design courses. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): FSH 203; Credit is allowed for only FSH 303 or FSH 394 (Fashion Illustration II) OR Visiting University Student |
| FSH | 304 | Equity and Inclusion in Fashion | Provides an overview of equity, inclusion and accessibility within the fashion industry through the lens of design, technology, talent, media and retail. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FSH 304 or FSH 394 (Equity and Inclusion in Fashion) OR Visiting University Student |
| FSH | 306 | Fashion Design II | Reviews the principles of flat pattern making and the use of a library of block patterns and pattern manipulations. Develops advanced pattern-making skills. Introduces the torso, jacket and pant blocks. Students develop a strong understanding of flat pattern principles by applying these techniques to create designs for apparel. Students focus on conceptual design through sketching, then apply that two-dimensional idea into patterns to continue the design process through to a garment. Students work in full scale and half scale and learn techniques to move easily between the two. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): FSH 206 with C or better; FSH 222 or FSH 394 (Fashion Construction II) with C or better; Credit is allowed for only FSH 306 or FSH 394 (Fashion Design II) OR Visiting University Student |
| FSH | 308 | Fashion Technology II | Covers the C.A.D. system, Optitex. Students learn how to pattern-make, develop, grade and manipulate patterns in a digital scape through Optitex. Once the patterns are completed, students take those patterns to fit and develop within the 3D prototyping capabilities inside the software. This is an exciting new era that is emerging within the fashion/apparel industry! | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): FSH 208; Credit is allowed for only FSH 308 or FSH 394 (Fashion Technology II) OR Visiting University Student |
| FSH | 322 | Apparel Construction III | Continues and advances students' preparation for a profession in the apparel industry or for continued study in graduate school. In this hands-on setting, students work on concepts of patternmaking, draping, construction and finishing techniques for assigned projects, emphasizing knits: contemporary sportswear, athleisure wear, weekend wear, lingerie. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): FSH 222 or FSH 394 (Fashion Construction II) with C or better; Credit is allowed for only FSH 322 or FSH 494 (Fashion Construction III) OR Visiting University Student |
| FSH | 325 | Personal Style and Wardrobe | Methods of clothing selection, coordination, and evaluation for personal style and wardrobe strategies. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Prerequisite(s): non-Fashion BA major; Credit is allowed for only FSH 325 or FSH 394 (Personal Style and Wardrobe) OR Visiting University Student |
| FSH | 326 | Fashion Styling | Focuses on the teachings of different sectors of the fashion industry in the styling division. Oversees aspects of what it means to be a fashion stylist/wardrobe stylist in the fashion industry with a comprehensive detailed outline of the responsibilities in the field. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FSH 326 or FSH 394 (Fashion Styling) OR Visiting University Student |

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| FSH | 331 | 18th- and 19th-Century European Jewelry Design | The 18th century was defined by stylish sociability that included beautiful dress, sumptuous interiors and exquisite, fashionable jewelry. Who were the influencers for jewelry design during this period? How was society defined by these ornaments? What were the rules of engagement? Did these opulent ornaments affect social strategies? How did jewelry materials evolve into more modern and recognizable forms? All of these questions are answered in this course. The cultural history of jewelry design mirrors the historical and collective customs of society from the established aristocracy, to the rising middle classes, to the expansion of cultural awareness among every world citizen when travel became widely available. So much so, that upon the turn of the 19th century, jewelry design shifted from appearing as solely a status of power and wealth to an eloquent symbol of worldly knowledge and cultural awareness. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ARS 331 or FSH 331 or ARS 394 (18th & 19th Century European Jewelry Design) OR Visiting University Student |
| FSH | 335 | Fashion and Dress in Art | Explores fashion and dress from the Renaissance to the modern period and considers dress as commenting on society, gender, race and current events. Explores case studies of art works and of selected decades in European history. Looks at dress in paintings for women, men and children in the context of the ways in which dress variously defined gender, race and class identities, social life and economic wealth in different periods of history. Considers issues of style; changes in clothing production (such as brocades, cotton, silk, furs); and the function of accessories in defining identities in art. Examines fashion magazines, historical events and social change and dress as distinct from fashion. Finally, seeks to understand how art serves to heighten the meaning, display and performance of fashion in terms of the portrait subjects and the intended spectators. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ARS 335 or ARS 394 (Fashion and Dress in Art, Ren. to 20th Century) or FSH 335 or FSH 394 (Fashion and Dress in Art, Ren. to 20th Century) OR Visiting University Student |
| FSH | 360 | Sustainable Systems in Fashion | Examines the systems surrounding fashion including design, marketing, manufacturing, supply chains, and so forth, and discusses the impacts these systems have on the environment and society. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FSH 360 or FSH 394 (Sustainable Systems in Fashion) OR Visiting University Student |
| FSH | 375 | Fashion Branding Strategies | What is branding? What makes a fashion brand unique? In the trend-oriented fashion world, branding is what encourages consumers to pick one brand over another. For instance, to spend \$100 for a plain white t-shirt from their favorite designer with just one small logo, over the plain white t-shirt from a high-street brand. Branding also enables sneakers to transcend function and wearability to cultural icon status. Fashion branding transforms a company from a business selling product into a trusted friend. How is a brand created? It is a sum of the creative direction bridging product, packaging and consumer interactions that create a holistic identity. Students gain exposure into the evolution of fashion branding, including iconic brand strategies and market disrupters. Covers how to interweave marketing messages and brand communication strategies to utilize storytelling as a central tool in creating a strong brand identity. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FSH 375 or FSH 394 (Branding for Future Fashion Professionals) OR Visiting University Student |
| FSH | 380 | Fashion Forecasting | Uses lecture and workshop formats to explore the many facets of trend research and forecasting. Topics include trend research, managing inspiration sources and trend ideas, product adoption and turning a trend forecast into a fashion plan. Examines the application of trend forecasting, who does it and how it fits into various careers. Takes a hands-on approach with discussion and additive projects. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FSH 380 or FSH 394 (Fashion Forecasting) OR Visiting University Student |
| FSH | 385 | Fashion Visual Merchandising | Explores visual merchandising principles and techniques used to strengthen a fashion brand's image, engage an audience and optimize profitability. Examines the ideas and practices of business analysis, conceptualization and implementation of store merchandising and displays, and how visual presentations directly impact business. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FSH 385 or FSH 394 (Fashion Visual Merchandising) OR Visiting University Student |
| FSH | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| FSH | 396 | Professional Practices for Fashion | Guest speaker series engages students with fashion industry professionals from across the field who have agreed to participate and discuss their career development paths, their jobs and personal information and provide general advice about working in the fashion industry. Provides students with a better understanding of careers in fashion and pathways to finding them. | N | LEC | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FSH 394 (Professional Practices for Fashion) or FSH 396 OR Visiting University Student |

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|---------|----------------|--------------------------------------|--|-------------------|-------------------|-----------------|---------------|---|---------------|-------|-----------------|---|
| FSH | 397 | Fashion Capstone Development | Guides students in the development of a detailed capstone project proposal. Capstone projects are completed with faculty/staff guidance in subsequent fashion capstone course. Students arrive at a project to be completed in one or two semesters that represents the culmination of their education. | N | LEC | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 1 | | Prerequisite(s): minimum 60 hours OR Visiting University Student |
| FSH | 406 | Fashion Design III | Fashion draping is a key essential part of fashion design and an art form that requires precision, concentration and imagination. Helps students develop their artistic and manual skills and learn many of the intermediate and upper-intermediate principles and methods of draping on the dress form, which is discussed and practiced via series of draping exercises and projects. Requires students during studio sessions to complete creative in-class exercises, including draping muslins/calico and transferring to paper patterns. Once their skills foundation has been developed, students put these techniques to practice by making a finished garment of their own design. All of this provides students with a proficiency in the draping process and understanding that all design processes rely heavily on the skills covered in this class. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): FSH 202; FSH 203; FSH 206; FSH 303; FSH 306; Credit is allowed for only FSH 406 or FSH 494 (Fashion Design III) OR Visiting University Student |
| FSH | 412 | Power Play | Students design and create an alter ego costume for a current or past patient at The Phoenix Children's Hospital. The process is filmed throughout to create a documentary; students are interviewed and filmed. Students participate in a required fashion show and reveal event, gaining intensive experience in the creation and design of adaptive clothing. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum sophomore standing; Credit is allowed for only FSH 412 or FSH 494 (Power Play Fashion Show) OR Visiting University Student |
| FSH | 435 | Contemporary Fashion | Identifies and analyzes contemporary fashion designers and brands in relation to fashion research and inspiration for design and branding. Provides a comprehensive understanding to their approach to silhouettes, construction innovation, textiles, garment details and accessories. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| FSH | 475 | Communication Strategies for Fashion | Provides an understanding of professional public relations (PR) practices for the fashion industry where consumer perception is integral. In their work with fashion designers, retailers and manufacturers, PR practitioners are involved in almost every aspect of fashion, from forecasting trends and working on designer collections, to launching new lines and helping clients grow their brand. Fundamental skills involve public relations writing and marketing strategy. Students research and write various PR documents including pitches, press releases, fact sheets, backgrounders, bios and blogs focusing on fashion-related topics. Students focus on web-based PR strategies, including social media campaigns and online pressrooms. The course is run as a fashion public relations agency, and students choose a real or fictitious fashion brand (a new client) which they use as the target organization for all assignments. Requires students to complete a full brand strategy and develop both a traditional and digital communications plan for the organization. They need to produce and create all the components of a press kit, as well as a series of public relations writing assignments that include everything from press releases to media pitches. They work on social media calendars and create a social media influencer campaign for the brand. For the final presentation, students learn how to plan and promote a fashion event from start to finish. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FSH 394 (PR for Fashion) or FSH 475 OR Visiting University Student |
| FSH | 477 | Fashion Collection Development | Focuses on the process of designing a fashion collection. Collection development is a "holistic," studio-based practice that requires integration of all the technical skills acquired by students: different types of research, ideation, conceptualization, fabric sourcing, fabric manipulation, surface design, sketching, technical drawing, illustration, design and execution. Provides a step-by-step approach to designing a fashion collection and guides students through different stages of the process. Gives special attention to organization and line planning to create a cohesive fashion collection for a catwalk show or digital exhibition space. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): FSH 203; FSH 306; Credit is allowed for only FSH 477 or FSH 394 (Fashion Collection Development) OR Visiting University Student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|---|---------------|-------|-----------------|---|
| FSH | 480 | Fashion Retail Development | Get ready for the future of retail. Explores the tools, technologies and management strategies that are used behind the scenes to run a fashion business. Includes learning the fundamentals of managing a fashion retail business across various channels. Takes a hands-on approach to examining the process of managing brick and mortar stores, e-commerce, social commerce, direct-to-consumer and experiential retail methods. Students' understanding of retail channel strategies builds on a basic exploration of financial planning and supply chain operations. Uses a combination of emerging and time-proven strategies to gain a holistic understanding of retail channel management. Approaches include mock buying scenarios and store experience creation as a part of fashion management. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FSH 394 (Fashion Retail Management) or FSH 480 OR Visiting University Student |
| FSH | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): minimum 45 hours |
| FSH | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-6 | | Prerequisite(s): Barrett Honors student |
| FSH | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| FSH | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| FSH | 495 | Fashion Capstone | Formally structures the relationship between students conducting independent capstone projects and faculty/staff mentors. A variable credit practicum course, students implement, document and evaluate their capstone project. Acceptance into this course depends on the successful completion and acceptance of a project proposal and formal instructor approval in prerequisite course. | N | PRA | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3-9 | | Prerequisite(s): FSH 397 or 477 |
| FSH | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours |
| FSH | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-3 | | Prerequisite(s): minimum 45 hours |
| GAP | 10 | Academic Skills I for International Pathways | Non-credit course designed for international ASU-USA Pathways students from any discipline who want to develop both their general English language competence and the academic skills which they need in order to succeed in their for-credit studies. The curriculum has been organized around tasks that students need to master in order to perform and interact appropriately in an international English-medium higher education setting. | N | LEL | N | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 11 | Academic Skills II for International Pathways | Non-credit course designed for international ASU-USA Pathways students from any discipline who want to continue to develop both their general English language competence and the academic skills which they need in order to succeed in their for-credit studies. The curriculum has been organized around tasks that students need to master in order to perform and interact appropriately in an American higher education setting. | N | LEL | N | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 12 | Academic Skills III for International Pathways | Non-credit course designed for international ASU-USA Pathways students from any discipline who want to refine both their general English language competence and the academic skills which they need in order to succeed in their for-credit studies. The curriculum has been organized around tasks that students need to master in order to perform and interact appropriately in an American higher education setting. | N | LEL | N | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 20 | Academic Foundations for International Pathways I | Designed for international ASU-USA Pathways students, this non-credit course develops oral linguistic fluency and accuracy along with listening comprehension skills needed for academic success. In addition, this course creates cultural awareness in the American university setting. | N | LEL | N | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 21 | Academic Foundations for International Pathways II | Designed for international ASU-USA Pathways students, this non-credit course continues developing oral linguistic fluency and accuracy along with listening comprehension skills needed for academic success. In addition, this course creates cultural awareness in the American university setting. | N | LEL | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 22 | Academic Foundations for International Pathways III | Designed for international ASU-USA Pathways students, this non-credit course refines oral linguistic fluency and accuracy along with listening comprehension skills needed for academic success. In addition, this course creates cultural awareness in the American university setting. | N | LEL | Y | GNA | Office of the Provost | Global Launch | 3 | | |

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| GAP | 30 | Communication Bridge for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills and cultural awareness needed to comprehend and practice theories of communication skills in public, small group and interpersonal settings. Also supports, linguistically and culturally, students' study of speech communication processes such as problem solving, decision making and information sharing. | N | LEL | N | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 31 | Math Bridge for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills needed to comprehend and apply math terminology in various math contexts through in-class problem-solving activities and presentations. | N | LEL | N | GNA | Office of the Provost | Global Launch | 1 | | |
| GAP | 32 | Computer Information Systems Bridge for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills needed to understand and apply concepts and terminology related to the role of computers in business and society and use of word processing, spreadsheets, database, presentation and application software. In addition, the course supports the students' linguistic ability to discuss computers in terms of ethics and social issues as well as technology and business. | N | LEL | N | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 33 | Global Management Bridge for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills, communication skills and cultural awareness needed to comprehend and apply basic concepts related to management in a global environment including global politics, legal systems and sociocultural environments. | N | LEL | N | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 34 | Information Technology Bridge I for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills needed to understand and apply concepts and terminology related to the role of information technology, programming and application software. In addition, the course supports the students' linguistic ability to discuss information technology in terms of ethics and social issues. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 35 | Information Technology Bridge II for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course is a continuation of support for student development of language skills needed to understand and apply concepts and terminology related to the role of information technology, programming and application software. In addition, the course supports the students' linguistic ability to discuss information technology in terms of ethics and social issues. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 36 | Computer Software Engineering Bridge I for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills needed to understand and apply concepts and terminology related to Java programming, particularly those that include multiple methods, control flow, array, basic sorting algorithms, static methods, variables and object-oriented programming approach. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 37 | Computer Software Engineering Bridge II for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course is a continuation of support for student development of language skills needed to understand and apply concepts and terminology related to Java programming, particularly those that include multiple methods, control flow, array, basic sorting algorithms, static methods, variables and object-oriented programming approach. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 41 | History Bridge for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills and cultural awareness needed to comprehend global history by exploring topics such as: changes in communication, communities, demography, economics, environment, politics, religion, technology, warfare and women around the world. | N | LEL | N | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 42 | Sociology Bridge for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills needed to understand and apply concepts and terminology related to the fundamentals of sociology. Also supports, linguistically and culturally, students' study of social organization, interaction and social change. | N | LEL | N | GNA | Office of the Provost | Global Launch | 3 | | |

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| GAP | 43 | Chemistry Bridge for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills and cultural awareness needed to comprehend and apply basic principles and concepts of chemistry, particularly for the needs of students in the physical, biological and earth sciences. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 44 | Biology Bridge for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills and cultural awareness needed to comprehend and apply basic principles and concepts of biology including the method of scientific inquiry and behavior of matter and energy in biological systems. | N | LEL | N | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 45 | Physics Bridge for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills and cultural awareness needed to comprehend and apply basic principles and concepts of physics, including kinematics, Newton's laws, the relationship of energy and momentum, as well as the dynamics of particles, solids and fluids. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 46 | Applied Academic English I | Designed for international ASU-USA Pathways students, this course supports student development of language skills and cultural awareness needed to comprehend, practice and apply language skills needed for success in specific and current academic-credit courses. | N | LEL | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 47 | Applied Academic English II | Designed for international ASU-USA Pathways students, this course continues supporting student development of language skills and cultural awareness needed to comprehend, practice and apply language skills needed for success in specific and current academic-credit courses. | N | LEL | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 80 | Math for Business Bridge for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills and cultural awareness needed to comprehend and practice topics in math for business analysis. | N | LEL | N | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 81 | Human Systems Engineering Bridge for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills and cultural awareness needed to comprehend and apply basic principles, methods and theories of psychology and applications to engineering problems relevant to human systems, with particular attention to the intersection of psychology and engineering. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 82 | Engineering Bridge I for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills and cultural awareness needed to comprehend and apply basic principles and concepts of engineering as a profession, including discussing critical thinking in engineering design, modeling, team dynamics and engineering communication. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 83 | Engineering Bridge II for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course is a continuation of support for student development of language skills and cultural awareness needed to comprehend and apply basic principles and concepts of engineering as a profession, including discussing critical thinking in engineering design, modeling, team dynamics and engineering communication. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 90 | Macroeconomics Bridge for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills, higher-level thinking skills and cultural awareness needed to comprehend and analyze the structure and functioning of the American economy as well as the basic economic institution and factors that determine national income and employment levels. | N | LEL | N | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 91 | Microeconomics Bridge for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills, higher-level thinking skills and cultural awareness needed to comprehend and analyze the structure and functioning of the American economy as well as the basic economic institution and factors that determine national income and employment levels. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 20 | Language Foundations | Entry-level course explores the grammatical, syntactic and cultural underpinnings of the English language for international students studying English as a foreign language. | N | LEC | N | GNA | Office of the Provost | Global Launch | 0 | | |
| GBL | 22 | Special Programs Training | - | N | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 24 | Special Programs Field-Based Learning | - | N | LEC | N | GNA | Office of the Provost | Global Launch | 3 | | |

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| GBL | 25 | Special Programs English for Specific Purposes | - | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 26 | Special Programs Project Work | - | N | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 27 | Special Programs Current Issues and Topics | - | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 28 | Academic Culture | Multidisciplinary approach to American academic culture. Designed for international students who will be matriculating into an American university and explores such themes as study skills, using academic resources and participating fully in academic life. | N | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 40 | Basic 1 Listening/Speaking | On completing the Basic 1 Listening/Speaking course, a student will be able to (1) follow directions and comprehend main ideas and supporting details of short, simple passages and conversations spoken slowly; and (2) speak informally to express basic needs, habits and descriptions in a comprehensible manner demonstrating level-appropriate fluency and control of pronunciation, grammar, and vocabulary. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GBL | 41 | Basic 1 Reading/Writing | On completing the Basic 1 Reading/Writing course, a student will be able to (1) recognize main ideas and find supporting details in selected reading passages of a few pages; and (2) produce a guided writing with a personal point of view, demonstrating level-appropriate control of grammar, word forms, and punctuation. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GBL | 42 | Basic 1 Structure | This course covers helping verbs, pronouns, adjectives, count/non-count nouns, and tenses (present, present progressive and simple past). | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 43 | Basic 1 Communication | International students studying English as a foreign language study the fundamentals of English communication. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 50 | Basic 2 Listening/Speaking | On completing the Basic 2 Listening/Speaking course, a student will be able to follow instructions, directions, and comprehend the main ideas and supporting details of 1-3 minute announcements and conversations with controlled speech and delivery; and (2) speak informally in basic social situations in a comprehensible manner demonstrating level-appropriate fluency and control of pronunciation, grammar, and vocabulary. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GBL | 51 | Basic 2 Reading/Writing | On completing the Basic 2 Reading/Writing course, a student will be able to (1) recognize main ideas, find supporting details, and recognize the organizational pattern in short and page-length reading passages; and (2) produce a composition, based on a model, with a personal point of view, demonstrating level-appropriate control of grammar, word form, and punctuation. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GBL | 52 | Basic 2 Structure | Learn grammar for everyday writing and speaking--present, progressive and future tenses, irregular verbs in the past tense, modal verbs, pronouns, order of adjectives, and comparisons. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 53 | Basic 2 Communication | Learn to communicate effectively at the basic level in a variety of everyday situations and develop communication skills necessary for success in today's world. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 60 | Intermediate 1 Listening/Speaking | On completing this course, a student will be able to (1) comprehend the main ideas and supporting details of 1-5 minute listening passages, conversations, instructions, and directions with controlled speech and delivery; and (2) speak informally in common social situations in a comprehensible manner demonstrating level-appropriate fluency and control of pronunciation, grammar, and vocabulary. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GBL | 61 | Intermediate 1 Reading/Writing | On completing this course, a student will be able to (1) recognize the main ideas and find supporting details in selected reading passages of a few pages; and (2) produce an organized composition, with a personal or an objective point of view, demonstrating level-appropriate control of mechanics and grammar. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GBL | 62 | Intermediate 1 Structure | Improve grammar for everyday writing and conversation, present perfect and present perfect continuous and future tenses, noun clauses and grammar to cover frequency, duration, possibility and necessity. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 63 | Intermediate 1 Communication | International students studying English as a foreign language continue to build on the fundamentals of English communication, including working on vocabulary expansion, pronunciation, idiom decoding, fluency and verbal accuracy. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 64 | Intermediate 1 Business: Introduction | International students studying English as a foreign language, learn the fundamental vocabulary, concepts and cultural customs of business in an American context. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |

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| GBL | 65 | Intermediate English for Social Sciences | In this communicative, content-driven course, international students studying English as a foreign language learn how to speak, write and critically analyze the vocabulary, concepts and context for American social sciences. Designed for students at an intermediate level of English proficiency. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 66 | Intermediate English for STEM | In this communicative, content-driven course, international students studying English as a foreign language learn how to speak, write and critically analyze the vocabulary, concepts and context for STEM studies. Designed for students at an intermediate level of English proficiency. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 70 | Intermediate 2 Listening/Speaking | On completing this course, a student will be able to (1) comprehend the main ideas and supporting details of 5-10 minute general topic listening passages with modified speech and delivery; and (2) speak formally and informally on a variety of general topics in a comprehensible manner demonstrating level-appropriate fluency and control of pronunciation, grammar, and vocabulary. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GBL | 71 | Intermediate 2 Reading/Writing | On completing this course, a student will be able to recognize the main ideas and supporting details and distinguish between fact and opinion in a reading passage of several pages; and (2) produce a composition, based on a writing task, with an objective point of view demonstrating level-appropriate control of mechanics and grammar. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GBL | 72 | Intermediate 2 Structure | Focus on an overview of all the tenses. This course also covers passive voice and sequence of tenses with adverbial clauses. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 73 | Intermediate 2 Communication | Learn to communicate effectively at the intermediate level in a variety of everyday situations and develop communication skills necessary for success in today's world. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 74 | Intermediate 2: Business Management | International students studying English as a foreign language discover key concepts and ideas related to business management. Students have the opportunity to speak, read and write about, as well as listen to, accessible levels of business management materials, including work and motivation, company structure and recruitment. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 75 | Intermediate American Culture Studies Special Topic | - | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 76 | Intermediate Bridge to ASU | - | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 80 | Advanced 1 Listening/Speaking | On completing the Advanced 1 Listening/Speaking course, a student will be able to (1) comprehend the main ideas and supporting details of brief academic lectures and instructions spoken naturally; and (2) speak formally and informally on academic topics in a comprehensible manner demonstrating level-appropriate fluency and control of pronunciation, grammar, and vocabulary. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GBL | 81 | Advanced 1 Reading/Writing | On completing the Advanced 1 Reading/Writing course, a student will be able to (1) recognize the main ideas and supporting details and determine logical inferences in selected general reading passages of several pages; and (2) produce a composition, based on an assigned writing task, with an objective point of view, demonstrating level-appropriate word choice and control of mechanics and grammar. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GBL | 82 | Advanced 1 Structure | This course covers complex sentence structure, participial phrases, reduced adjective clauses and appositives, infinitives and gerunds, hypothetical conditionals, and the subjunctive. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 85 | English for Humanities and Design Studies | In this communicative, content-driven course, international students studying English as a Foreign Language continue to build their learning of ways to speak, write and critically analyze the vocabulary, concepts and context for humanities and design studies. Designed for students at an advanced level of English proficiency. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 90 | Advanced 2 Core Listening/Speaking | On completing this course, a student will be able to (1) comprehend the main ideas and supporting details of complex but abbreviated academic lectures and instructions spoken naturally; and (2) speak formally and informally on academic topics in a comprehensible manner demonstrating level-appropriate fluency and control of pronunciation, grammar, and vocabulary. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 9 | | |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|-----------------------------|-----------------------------|-------|-----------------|---|
| GBL | 91 | Advanced 2 Core Reading/Writing | On completing this course, a student will be able to (1) recognize the main ideas and supporting details, and determine logical inferences in authentic and selected academic and general reading passages of several passages; and (2) produce a well-developed essay, based on an assigned writing task, with an objective point of view, demonstrating level-appropriate word choice and control of mechanics and grammar. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GBL | 92 | Advanced 2 Structure | This course covers complex sentence structure, participial phrases, reduced adjective clauses and appositives, infinitives and gerunds, hypothetical conditionals, and the subjunctive. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 93 | Advanced Communication Special Topic | Learn to communicate effectively at the advanced level in a variety of everyday situations and develop communication skills necessary for success in today's world. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 94 | Business English Special Topic | Learn to communicate effectively in a variety of business situations and develop English skills necessary for success in today's business world. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 95 | Advanced American Culture Studies | Learn about American culture and develop communication skills necessary for success in today's world. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 96 | Academic English Studies Special Topic | Learn the Academic English necessary for success at an American university or college. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 98 | Professional English Special Topic | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GCO | 510 | Fieldwork Preparatory | Prepares students for fieldwork experiences and equips them with the necessary skills and behaviors to successfully integrate into a variety of clinical settings, including codes of ethics and conduct, HIPAA privacy issues and professionalism. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): Genetic Counseling MS student |
| GCO | 530 | Genetic Counseling Fundamentals | Covers history and evolution of genetic counseling; genetic counseling specialties and the role of a genetic counselor; autonomy and informed consent; psychosocial dimensions of the genetic counseling process and various theoretical perspectives of genetic counseling; and the informed decision-making process. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Genetic Counseling MS student |
| GCO | 540 | Foundations of Medical Genetics | Covers foundational principles, concepts and applications of medical genetics from the clinical perspective, including normal/abnormal DNA structure, function and replication; pathogenic and benign variants and consequences of abnormal processes on human disease and human variation; and cytogenetic mechanisms for chromosomal and genomic conditions. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCO | 560 | Practice of Genetic Counseling | Covers managing genetic counseling cases for different genetic specialties including: prenatal, pediatric/general genetics, adult genetics and genomic medicine. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Genetic Counseling MS student |
| GCO | 570 | Clinical Genetics | Examines major clinical features and natural history of a broad range of genetic diseases including common pediatric and adult syndromes and complex conditions. Covers the diagnostic process and treatment options, including gene therapy and gene editing. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Genetic Counseling MS student; GCO 540 with B- or better |
| GCO | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCO | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCO | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCO | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | |
| GCO | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCO | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| GCO | 599 | Thesis | Supervised research focused on preparation of a thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCO | 610 | Laboratory Fundamentals & Population Screening | Provides fundamental knowledge and understanding of the methodologies utilized for biochemical, cytogenetic and molecular genetic testing. Demonstrates the roles and responsibilities of a genetic counselor in a laboratory setting. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Genetic Counseling MS student |
| GCO | 620 | Genetic Counseling Techniques | Covers skills necessary to assist clients with successful psychological integration of genetic information. Reviews the psychosocial development of an individual throughout the lifespan and communication strategies for discussing a genetic diagnosis with children, adolescents and families. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Genetic Counseling MS student |
| GCO | 625 | Cultural, Ethical & Legal Aspects of Genetics | Develops cultural competency and skills for identifying and responding to cultural aspects of genetic counseling interactions. Explores ethical challenges including health disparities, direct-to-consumer genetic testing, improper informed consent, and genetic research study inequities and violations. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Genetic Counseling MS student |
| GCO | 630 | Advanced Genetic Counseling Techniques | Covers advanced genetic counseling skills and new genetic counseling techniques such as identifying and responding to client resistance, adherence and non-adherence, and successful promotion of client adaptation to a genetic disorder. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Genetic Counseling MS student |
| GCO | 650 | Cancer, Cardiac Genomics and Precision Medicine | Covers underlying etiology of cancer as a genetic disorder, natural history and management strategies for rare and common hereditary cancer syndromes, hereditary component to cardiac conditions, genetic contribution to psychiatric disorders, fundamental concepts related to pharmacogenomics, and application of precision medicine. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCO | 659 | Embryology and Genetics | Provides an understanding of embryology, genetics and physiology concepts. Covers application of normal/abnormal human physical development, human reproduction, teratology and developmental genetics to clinical practice in preconception/prenatal and pediatric genetics. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): College of Health Solutions or Edson College of Nursing and Health Innovation graduate student; Credit is allowed for only DNP 659 or GCO 659 |
| GCO | 660 | Professional Issues for Genetic Counselors | Prepares students for the American Board of Genetic Counseling (ABGC) certification exam. Covers techniques for mentoring and training others, effective transition into the workforce, and strategies for lifelong learning and self care. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Genetic Counseling MS student |
| GCO | 683 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCO | 691 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 102 | Introduction to Human Geography | Systematic study of human use of the Earth. Spatial organization of economic, social, political, and perceptual environments. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | |
| GCU | 113 | United States and Arizona Social Studies | Introduces American (including Arizona) institutions integrating geography, government, history and economic perspectives. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & H | Credit is allowed for only GCU 113 or HST 113 |
| GCU | 114 | World Social Studies | Introduction to the world from the integrated social science perspectives of history, geography, and government. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G & H | Credit is allowed for only HST or GCU 114 |
| GCU | 121 | World Geography | Description and analysis of areal variations in social, economic, and political phenomena in major world regions. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 4 | SB & G | |
| GCU | 171 | The Thread of Energy | Follows the thread of energy through every aspect of our lives. Discusses the technical, social, legal, and policy contexts of all energy resources, including present and unconventional fossil fuels, nuclear power, and renewable resources. Addresses energy use throughout history, the influence of energy on quality of life, the role it plays in political strategies and environmental quality, how it shapes our neighborhoods and cities, its contribution to our personal comfort and national security, and how its importance is reflected in the worlds of business and the humanities. Its dual role is as a stand-alone introduction to energy, and as a first step to more advanced studies of energy in the natural, technical, and social sciences. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | Credit is allowed for only GCU 171 or SOS 171 OR Visiting University Student |
| GCU | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| GCU | 240 | Introduction to Southeast Asia | Interdisciplinary introduction to the cultures, religions, political systems, geography, and history of Southeast Asia. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | (HU or SB) & G | Credit is allowed for only ASB 240 or GCU 240 or HST 240 or POS 240 or REL 240 or SGS 240 OR Visiting University Student |
| GCU | 241 | The Global Economy in Transition | Production, distribution, and consumption of various types of commodities of the world and relationships to the activities of humans. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| GCU | 253 | Introduction to Cultural and Historical Geography | Cultural patterns, including such phenomena as language, religion, and various aspects of material culture. Origins and diffusion and division of the world into cultural areas. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | |
| GCU | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| GCU | 322 | Geography of U.S. and Canada | Spatial distribution of relevant physical, economic, and cultural phenomena in the United States and Canada. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & C | |
| GCU | 323 | Geography of Latin America | Spatial distribution of relevant physical, cultural, urban and economic phenomena in Mexico, Central America, South America and the Caribbean. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| GCU | 325 | Geography of Europe | Broad and systematic overview of Europe, emphasizing physical, economic, and cultural phenomena. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | |
| GCU | 326 | Geography of Asia | Spatial distribution of relevant physical, economic, and cultural phenomena in Asia, excluding the former Soviet Union. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | |
| GCU | 328 | Geography of Middle East and North Africa | Spatial distribution of relevant physical, economic, and cultural phenomena in the Middle East and North Africa. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | |
| GCU | 332 | Geography of Australia and Oceania | Spatial distribution of relevant physical, economic, and cultural phenomena in Australia, New Zealand, and Pacific Islands. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | |
| GCU | 344 | Geography of Hispanic Americans | Examines the homelands, migrations, settlements, landscapes, roles, and selected cultural traditions of Hispanic Americans. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & C | |
| GCU | 350 | The Geography of World Crises | Contemporary world crises viewed from a perspective of geographic concepts and techniques. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | |
| GCU | 351 | Population Geography | Demographic patterns; spatial, temporal, and structural investigation of the relationship of demographic variables to cultural, economic, and environmental factors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| GCU | 356 | Central American Studies | Part of the summer ASU study abroad Costa Rica Program, which is a language and social sciences immersion program in the capital city, San Jose. A summer offering permits students to enroll in the program without conflicting with full course loads during the fall or spring semester. However, the course is proposed as a stand-alone course that can be offered in a regular semester as well. | N | REC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | Credit is allowed for only ASB 356 or GCU 356 or POS 354 or SBS 356 or SOC 356 |
| GCU | 357 | Social Geography | Environmental perception of individuals and groups. Stresses the spatial aspect of social and physical environments. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| GCU | 359 | Cities of the World I | Historical evolution of urban patterns and structures in the Middle East, India, Southeast Asia, China, Japan, and Europe. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G & H | |
| GCU | 361 | Urban Geography | External spatial relations of cities, internal city structure, and spatial aspects of urban problems in various parts of the world, particularly in the United States. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only GCU 361 or PUP 360 OR Visiting University Student |
| GCU | 362 | Journey Stories: People and Place in Motion | Explores journeys, storytelling and geographies--real and imagined. Draws on novels, novellas, short stories, film and video in illuminating stories and storytelling as transformative of self, place and culture in human and more-than-human worlds. Enjoins journey stories through the trilogy movement, place and identity; signature themes in cultural geography that resonate across the arts, humanities and social sciences. Students respond to artfully rendered journeys in personal ways via word, image and sound, creating their own journeys en route. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | HU | Prerequisite(s): minimum 45 hours; Credit is allowed for only GCU 362 or PUP 362 or PUP 394 (Journey Stories: People & Place in Motion) OR Visiting University Student |
| GCU | 364 | Energy in the Global Arena | Production, transportation, and consumption of energy, emphasizing the electric power industry and its environmental problems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | |
| GCU | 373 | Introduction to Geographic Information Science | Introduces theoretical and computer-based aspects of Geographic Information Systems, involving data analysis and map generation. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 4 | SG | Pre-requisite: PSY 230 or SBS 304 |
| GCU | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| GCU | 414 | Teaching Geography Standards | Introduces Arizona Geography Standards for K-12 educators, emphasizing exciting curricula and illustrated with best practices by master teachers. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | |
| GCU | 421 | Geography of Arizona and Southwestern United States | Geography of the Southwest with an emphasis on Arizona. Divided into physical geography, history, people, and economy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & C | |

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| Subject | CatalogNbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| GCU | 424 | Geography of Mexico and Middle America | Central America and Mexico. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | |
| GCU | 425 | Geography of the Mexican American Borderland | Geography of a binational and bicultural region. Examines settlement, boundary issues, ethnic subregions, population change, industrial development, and urban growth. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | (L or SB) & G | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| GCU | 426 | Geography of Russia and Surroundings | Examines the geography of Russia and other post-Soviet states. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | |
| GCU | 432 | Geography of China | Examines the physical, economic, cultural, social, demographic, agricultural, political, historical, and environmental aspects of the geography of China. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | |
| GCU | 433 | Geography of Southeast Asia | Examines the biophysical and social features of Southeast Asian nations and peoples. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | |
| GCU | 441 | Economic Geography | Spatial distribution of primary, secondary, and tertiary economic and production activities. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB | |
| GCU | 442 | Geographical Analysis of Transportation | Networks, modes, economics, and flows at the urban, national, and international scales. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB | |
| GCU | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |
| GCU | 485 | International Field Studies | Organized field study, culture and language in specified international locations. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | G | Pre-requisite: Junior standing; Credit is allowed for only GCU 485 or GPH 485 or LAP 485 or POR 485 or PUP 485 or 585 |
| GCU | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-6 | | Prerequisite(s): Barrett Honors student |
| GCU | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| GCU | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| GCU | 496 | Geographic Research Methods | Scientific techniques used in geographic research. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; GCU 102 with C or better; GIS 205 with C or better; GPH 111 with C or better OR Visiting University Student |
| GCU | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-3 | | |
| GCU | 510 | Solar Energy and Policy | Elucidates and amplifies the importance, role and mechanisms of solar energy policy. Underscores the significance of policy in the successful deployment of solar energy. Complements other courses in the curriculum of the Professional Science Masters (PSM) in Solar Energy, which is largely centered on engineering concepts and techniques. Content is guided by the principle that technical considerations alone are inadequate to stimulate future expansion of solar energy. Additionally, it is stressed that policy considerations are critical to any potential transition to a solar energy economy. Typically taken in conjunction with DC summer workshop "Science Outside the Lab," but may be taken by others as stand-alone course. Course consists of lectures and discussions of policy instruments at the national, state and local scales. Visiting experts from the energy industry provide their personal experience and real-world perspective. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GCU 510 or GCU 598 (Solar Energy & Public Policy) or SEC 510 or SEC 598 (Solar Energy & Public Policy) |
| GCU | 514 | Human Dimensions of Sustainability | Concepts and definitions of the human dimensions of sustainability; the role of attitudes and values in shaping sustainability goals, practices, and programs; the diversity of values and socio-cultural contexts relating to sustainability; bottom-up and top-down sustainable policy development, social data collection methodologies. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GCU 514 or SOS 514 |
| GCU | 515 | Human Migration | Economic, political, social, and geographic factors underlying population movements. Migration selectivity, streams and counter-streams, labor migration, and migration decision making. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| GCU | 526 | Sustainability Science: Interactions Between Human and Environmental Systems | Addresses core ideas in sustainability science--an emerging field of research dealing with the interactions between human and environmental systems. The problem that motivates the course is the challenge of sustainability: improving the well-being of present and future generations in ways that conserve the planet's life support systems over the long term. Students critically discuss a set of presentations and papers covering the field in a systematic way, drawing on and integrating contemporary research from earth systems science, resource economics, institutional analysis, ecology, geography, development studies, health sciences, engineering, and other disciplines. Covers from the theory of sustainability to its multiple applications in the field and explores the impacts of different value systems on both theory and applications. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 526 or GCU 526 or SOS 526 or BIO 591 (Sust Sci: Int Btwn Hum &Env Sys) or GCU 591 (Sust Sci: Int Btwn Hum &Env Sys) or SOS 591 (Sust Sci: Int Btwn Hum &Env Sys) |
| GCU | 528 | Geographic Problems and Context | Investigates different forms of geographic problem solving and contemporary trends in geographic research. Emphasizes applied research and questions at the forefront of the field, and the range of techniques being applied by practitioners. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 529 | Contemporary Geographic Thought | Comparative evaluation of current philosophy concerning the nature and trends of geography. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 542 | Geographical Analysis of Transportation | Examines the geographical aspects of transportation systems. Looks at the geography of networks; transport costs and rates; different modes of transport, trade, economic development, and technology. Studies the movement of freight and passengers at the individual, urban, national, and international scales. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 585 | Geographic Research Design and Proposal Writing | Prepares students to undertake creative geographic research culminating in the generation of new knowledge. Serves as a foundation for the student in achieving the objective of a productive and successful degree. To accomplish this, instruction stresses a research framework, ethical practice, and the generation of an original research proposal. Specific learning objectives are: to produce an area of specialization statement, literature review, problem statement, description of methods and final proposal; to develop the skills needed to conceive and plan a research project; to communicate ideas effectively in written and oral form; to develop and articulate informed opinions about research designs; to learn about academic publishing format and process; and to understand and engage in ethical research practices. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Pre-requisite: Graduate student |
| GCU | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |
| GCU | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | IND | Y | Z3 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 596 | Geographic Research Methods | Prepares students to conduct geographic research by teaching scientific techniques used to study problems in the field of geography. Provides a strong foundation in geographic research methodologies. Covers critical reading and analysis of peer-reviewed research, types of research methodologies, and elements of research design. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---------------------------------------|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| GCU | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | IND | Y | Z2 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 671 | Introduction to Geographic Teaching | Intensive course in geographic education, scientific method in research on geographic education, research trends, resources for teaching, best practices. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 672 | Physical Geography for Teachers | Transfer of matter and energy exhibited in the Earth's climate, hydrology, soils, biogeography, and landforms; case studies; virtual field trips. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 673 | Human Geography for Teachers | Analyzes cultural, economic, urban, historical, transportation, population, political, and development geography; case studies; virtual field trips. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 674 | Geographic Techniques for Teachers | Introduces geographic techniques, including GPS, GIS, remote sensing, cartography, qualitative, and field methods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 675 | World Geography for Teachers | Systematic overview of geographic knowledge about different world regions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 676 | North American Geography for Teachers | Systematic overview of geographic knowledge about different North American regions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 677 | Geography Across the Curriculum | Intensive course on intergrating reading, writing, and mathematics standards with geography content; selected case studies; best practices. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 683 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | IND | Y | Z3 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | IND | Y | Z2 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|-----------------------|---------------|-------|-----------------|--------------|
| GDE | 30 | Basic Foundations for English Language Learners | Introduces a foundation of basic English language to international learners. Focuses on the structures of English, sentence parts and sentence formation, for basic conversations and basic writing skills related to everyday English. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 10.5 | | |
| GDE | 35 | Basic Communication for English Language Learners | Builds on a foundation of basic English language for international learners. Further develops the structures of English needed in basic conversations and basic writing skills related to everyday English. Introduces learners to past forms. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 10.5 | | |
| GDE | 40 | Basic Language Skills for English Language Learners | Refines and expands basic English language skills for international learners. Builds on reading, written and verbal skills to develop learners' language abilities in everyday English. Learners carry out conversations on a variety of personal topics. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 10.5 | | |
| GDE | 45 | Basic Achievement for English Language Learners | Further refines and consolidates basic English language skills for international learners. Emphasizes language skills in reading, writing, listening and speaking to expand learners' knowledge and language use in a wide variety of topics in home, family, friends, work, school, free time and more related to everyday English. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 10.5 | | |
| GDE | 50 | Intermediate Foundations For English Language Learning | Introduces a foundation of intermediate English language to international learners. Builds on the basic structures of English to refine learners' language abilities for everyday and academic English language skills. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 10.5 | | |
| GDE | 55 | Intermediate Communication For English Language Learning | Builds on a foundation of intermediate English language for international learners. Emphasizes and refines communication skills to build learners' language abilities in academic English. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 10.5 | | |
| GDE | 60 | Intermediate Language Skills for English Language Learners | Refines and expands intermediate English language skills for international learners. Emphasizes and refines reading, written and verbal skills to build learners' language abilities in academic English. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 10.5 | | |
| GDE | 65 | Intermediate Achievement for English Language Learners | Further refines intermediate English language skills for international learners. Emphasizes and refines academic English language skills in reading, writing, listening and speaking. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 10.5 | | |
| GDE | 70 | Academic Thinking for English Language Learners | For advanced learners of the English language. Learners apply critical thinking skills to complex texts and receive instruction in the characteristics of persuasion in academic writing and speaking, as well as instruction in advanced language skills commonly found in persuasive rhetoric. Upon successful completion of the course, learners understand the aspects of persuasion, and how best to organize summary and response compositions. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 10.5 | | |
| GDE | 75 | Academic Analysis for English Language Learners | Develops advanced language skills and refines the critical thinking skills necessary in academic coursework. Learners build on prior learning to further develop their reading, writing, listening and speaking skills to successfully analyze and respond to academic topics and texts. Learners acquire advanced academic skills and vocabulary in order to be able to form opinions and arguments. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 10.5 | | |
| GDE | 80 | Academic Persuasion for English Language Learners | For advanced learners of the English language. Learners apply critical thinking skills to complex texts and receive instruction in the characteristics of persuasion in academic writing and speaking, as well as instruction in advanced language skills commonly found in persuasive rhetoric. Upon successful completion of the course, learners understand the aspects of persuasion, and how best to organize summary and response compositions. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 10.5 | | |
| GDE | 86 | Undergraduate Academic Achievement for English Language Learners | Designed for undergraduate-bound international students. Consolidates the English language skills needed to be successful in a rigorous, academic undergraduate program. Refines advanced academic skills introduced in prior language courses through collaboration, communication, compositions and response to course concepts. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 10.5 | | |
| GDE | 88 | Graduate Academic Achievement for English Language Learners | Designed for graduate-bound international students. Consolidates the English language skills needed to be successful in a rigorous, academic graduate program. Learners draw from advanced, complex academic texts to review the literature and to compose evidenced-based writing and speaking assignments related to their fields of study. Expects learners to demonstrate an advanced command of the English language and advanced academic skills. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 10.5 | | |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| GDE | 96 | English for Undergraduate Admission and Achievement | Advanced English language learners refine, demonstrate and are assessed on academic English language skills. Successful completion of the course meets the ASU admissions requirement for proof of English proficiency for international students. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GDE | 98 | English for Graduate Admission and Achievement | Advanced English language learners refine, demonstrate and are assessed on academic English language skills. Successful completion of the course meets the ASU admissions requirement for proof of English proficiency for international students to graduate programs. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GER | 101 | Elementary German I | Reading, writing, speaking, and understanding of basic German, with emphasis on pronunciation and grammar. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Students may not enroll in GER 101 if credit with C or better earned in GER 102, GER 110, GER 201, GER 202 or GER 210 OR Visiting University Student |
| GER | 102 | Elementary German II | Reading, writing, speaking, and understanding of basic German, with emphasis on pronunciation and grammar. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): GER 101 with C or better OR German Placement score of 231-328; Credit is allowed for only GER 102 or GER 110 or GER 111 OR Visiting University Student |
| GER | 110 | Intensive German I | Students learn to read, listen, write and speak German. Develops ability to communicate in German using a variety of tools. Uses German to ask and answer questions; name and describe persons, things, places and events; deals with certain situations; narrates orally and in writing; writes letters and postcards; fills out forms; and comprehends some texts. Expands knowledge of the cultures of the German-speaking countries. Students contribute to the class discussions what they might already know. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 6-8 | G | Students may not enroll in GER 110 if credit with C or better earned in GER 101, GER 102, GER 201, GER 202 or GER 210 |
| GER | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| GER | 201 | Intermediate German I | Intensive review of grammar, with emphasis on the development of the skills of speaking, listening comprehension, reading, and writing. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): GER 102, 110, or 111 with C or better OR German Placement Test score of 329-443 OR Visiting University Student |
| GER | 202 | Intermediate German II | Intensive review of grammar, with emphasis on the development of the skills of speaking, listening comprehension, reading, and writing. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): GER 201 with C or better OR German Placement Test score of 444-547; Credit is allowed for only GER 202 or GER 210 OR Visiting University Student |
| GER | 210 | Intensive German II | Helps develop reading, writing, listening and speaking skills and strategies with activities both inside and outside of class. Guides student further into learning about the cultures of the German-speaking countries. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 6-8 | G | Prerequisite(s): GER 102 or 111 with B or better OR GER 110 with C or better OR German Placement Test score of 408-469; Credit is allowed for only GER 201 or GER 202 or GER 210 |
| GER | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| GER | 310 | Making Sense of German Grammar | Contextualized German grammar in written and spoken German. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): GER 202 or 210 with C or better OR German Placement Test score of 548 and above OR Visiting University Student |
| GER | 311 | Express Yourself in German | Builds and refines conversational skills in German through a focus on important contemporary issues. Strengthens active vocabulary knowledge, trains listening and speaking skills, and develops strategies to understand and respond in everyday German situations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): GER 202 or 210 with C or better OR German Placement Test score of 548 and above OR Visiting University Student |
| GER | 312 | Explore German Culture | Discovers how advancing reading proficiency in German can grant access to an array of ideas from the realms of literature, film, science, politics, history and sustainability. Each semester, students contribute to building a unique syllabus based on individual class interests. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): GER 202 or 210 with C or better OR German Placement Test score of 548 and above OR Visiting University Student |
| GER | 313 | Create in German: Writing, Speaking, Performing | Invites all students on a journey through a variety of writing and speaking adventures in German. From academic to creative writing, and from theater to presentational speaking, offers opportunities to bring all language skills to life. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): GER 202 or 210 with C or better OR German Placement Test score of 548 and above OR Visiting University Student |
| GER | 315 | Germanic Mythology | Religious and spiritual beliefs and practices of the ancient Germanic peoples as reflected in their culture, including the pantheon of their gods, as well as the reception of these beliefs through and including contemporary times. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| GER | 319 | Work with German | Navigates the German business world in real-life situations. Apply for a job, be a trainee and develop a business project in German. Communicate effectively and with cultural awareness in a professional context. Organize and present clear, effective business communications and vocabulary applicable to modern business usage. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): GER 202 or 210 with C or better or German Placement Test score of 548 or higher OR Visiting University Student |
| GER | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| GER | 416 | German Civilization | From 1600 through 1945. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H & G | Pre-requisite: A 300-level German course |
| GER | 420 | Discover - Discuss - Design: German Language and Culture | Covers current research approaches to the German-speaking world such as environmental, migration and memory studies to help students articulate a unique question about the German-speaking world based on their individual interests. Over the course of the semester, students explore their focal area by designing a project that can take a variety of forms, from the classic research paper to digital exhibitions, audio-visual media, or artworks. Develops research skills, discovers interdisciplinary approaches, and discusses outcomes with peers and the community. The majority of course materials and language of instruction are in German. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; GER 312 with C or better OR Visiting University Student |
| GER | 421 | German Literature Survey, 800-1800 | From the beginning to Classicism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): GER 310 with C or better |
| GER | 422 | German Literature Survey, 1800-Today | From Romanticism to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; GER 310 with C or better OR Visiting University Student |
| GER | 431 | German Humor | Popular and literary texts (collections of jokes, pranks and comedies) in the print and visual media provide a basis of comparison for students to reflect critically on the function of humor in German culture from the sixteenth century until the present. Exposes the different types and functions of German humor and understands both the historical and the contemporary theoretical debate on the study of (German) humor. Taught almost exclusively in German, with reading and writing assignments done in the target language. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): Two 300-level GER courses with C or better; Credit is allowed for only GER 431 or GER 494 (German Humor and Comedy) |
| GER | 441 | Fairy Tales | Foundational texts from the oral and written traditions collected and edited by the Brothers Grimm and those created by Hans Christian Andersen in the 19th century, as well as the reception of these tales primarily in the print and visual media of Germany, Europe and the United States, provide a basis of comparison for students to critically reflect on the function of the tales in the 19th century and particularly in the contemporary 20th- and 21st-century global communities. Students perceive the myriad ways in which ancient tales can be re-imagined to reflect different sociocultural environments (more than 50% of the material comes from outside the U.S.) and understand the contemporary theoretical debate on the study of these tales and popular culture. Taught in English with German minors/majors doing some of the reading and writing assignments and the final paper/project in the target language. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GER 441 or SLC 441 OR Visiting University Student |
| GER | 445 | Holocaust, War and German Memory | Examines representations of the Holocaust from across different media (literature, film, architecture, memoir, photography) and from across multiple generations of German engagement with this period in history. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 102, ENG 105, ENG 108, FMS 100, FMS 200, JST 210, or JST 230 with C or better; Credit is allowed for only FMS 445 or GER 445 or JST 445 or SLC 445 OR Visiting University Student |
| GER | 446 | Weimar-Era German Film | Examines early film production in Germany during the period of the Weimar Republic. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, ENG 105, ENG 108, FMS 100, or FMS 200 with C or better; Credit is allowed for only FMS 446 or GER 446 or SLC 446 OR Visiting University Student |
| GER | 447 | German Modernism | Examines examples of modernism in literature, art and film from German-speaking Europe. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GER 447 or SLC 447 |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| GER | 455 | Berlin: Migration, Arts and Activism | Deals with the culture and politics, arts and activism of migrants in Germany based on the example of Berlin, using historical and contemporary examples. Critically engages with such concepts as migration and identity, transnationalism, assimilation, multilingualism, artivism, activism, xenophobia and racism. Examines examples from various art forms, including film and the creative arts, literature, media and social media to help understand the impact of migration and immigrants on Germany and German society and compares it to experiences in other countries, especially the U.S. A focus on Berlin allows an in-depth and focused micro-observation of the differences and commonalities of various immigrant groups and responses of the local communities in a defined urban space. In order for students to reflect on the impact of migration in German society and the migrants themselves, also looks at migration through the lens of movements for social change and justice. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only GER 455 or SLC 455 |
| GER | 465 | Intercultural Communicative Competence | Focuses on the importance of culture(s) and the ways in which culture(s) effects and interrelates with communication. Communicating across cultures is very important in order for us to be able to function in a globalized, diverse world, e.g., workplace, city. Using our own experiences and discussions as well as the readings, course increases our sensitivity, understanding and awareness of our own culture(s) as well as other culture(s). Approaches the study of intercultural communicative competence in a theoretical and practical way. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only GER 465 or SLC 465 or GER 494 (Intercultural Communicative Competence) or SLC 494 (Intercultural Communicative Competence) |
| GER | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| GER | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| GER | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| GER | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| GER | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | N | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| GER | 550 | German for Reading Knowledge | Teaches non-speakers of foreign language, or those with only basic notions of the language, how to read in a foreign language at an advanced level. Consists of a concise overview of grammar as well as reading comprehension practice for students who plan to take the Graduate Foreign Language Exam or others who would merely like to learn to read in a foreign language. Focuses only on reading and not on listening, speaking, or writing as in a traditional language course. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GER | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GER | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GER | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GER | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GER | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| GER | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 202 | Drones to Satellites: Observing Earth from Above | Seeing the Earth from above has a profound effect on how we view our planet. Introduces Earth observation using platforms like drones, airplanes and satellites. Covers how images and data of our Earth are acquired from above and how they can be processed and interpreted to understand our world. Students gain practical skills for generating information from images to better understand how human beings use and alter Earth's surface. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | CS | Credit is allowed for only GIS 202 or GIS 294 (Drones to Satellites: Observing Earth from Above) |
| GIS | 205 | Geographic Information Science I | Introduces spatial thinking, a cross-disciplinary foundation for geographic information science (the science of dealing with spatial/geographical data; their manipulation, interpretation and use in problem solving); geospatial technologies (the specific technologies underpinning geographic information science); and spatial analysis (the science of solving spatial problems). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | CS | |
| GIS | 211 | Geographic Information Science II | History and basic aspects of GIS including map and data file structure, conversions, and synthesis with a computerized environment. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 4 | CS | Prerequisite(s): GIS 205 with C or better OR Visiting University Student |
| GIS | 220 | Mathematical Principles in GIS | Covers the basic math principles needed to excel in GIS and spatial analysis. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): MAT 117, 119, 142, 170, 210, 211, 251, 265, or 270 with C or better |
| GIS | 222 | Programming Principles in GIS I | Basic principles of programming for GIS in python covering data processing, analysis, and application development. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): MAT 170, 210, 270, 271, or 272 with C or better OR Visiting University Student |
| GIS | 270 | Statistics for Geography and Planning | Descriptive and inferential statistical methods for analysis of data in geographical sciences and urban planning. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): MAT 117, 119, 142, 170, 210, 211, 251, 265, or 270 with C or better OR Visiting University Student |
| GIS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| GIS | 311 | Geographic Information Science III | GIS as a basis for microcomputer spatial analysis and synthesis. Includes digitizing, database organization, spatial retrieval, and graphics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 4 | CS | Prerequisite(s): GIS 211 with C or better OR Visiting University Student |
| GIS | 322 | Programming Principles in GIS II | Fundamental data structures and algorithms for the integration, management, processing and analysis of geographically referenced data. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): GIS 222 with C or better OR Data Science BS major; CSE 110, CSE 205, or GIS 222 with C or better OR Visiting University Student |
| GIS | 341 | Cartography and Georepresentation | Study and creation of maps. Fundamental mapping principles (projection, scale, generalization, symbolization) and computer-based cartographic production. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | CS | Prerequisite(s): GIS 205 with C or better OR Visiting University Student |
| GIS | 351 | Air Photo Interpretation | Subset, remote sensing, includes photography, films, aerial geometry, image components, stereoscopy, photogrammetry, ground truthing; interpret physical, cultural, economic, intelligence information. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): minimum 45 hours |
| GIS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| GIS | 412 | Spatial Decision Support Systems | Theoretical and technical requirements for implementing spatial decision support tools. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): GIS 222 with C or better; GIS 311 with C or better |
| GIS | 431 | Spatial Databases | Covers data modeling concepts, the relational data model for the storage and retrieval of spatial and nonspatial information. The data retrieval emphasizes the industry-standard query language SQL and Spatial Query Languages. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Pre-requisite: GIS 311; GIS 322 |
| GIS | 441 | Geographics: Interactive and Animated Cartography and Geovisualization | Advanced cartography, stressing influence and application of the computer on geographic representation. Emphasizes creation of maps for the Internet. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | CS | Prerequisite(s): GIS 222 with C or better |
| GIS | 451 | Geodesign and Urban Planning | Geodesign is a design and planning method which tightly couples the creation of design proposal with impact simulations informed by geographic contexts, systems thinking and digital technology. Covers the fundamental theory, concepts and frameworks of geodesign. Students become familiar with the geodesign process by reviewing case studies including specific case study applications from University of New South Wales and Arizona State University. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): GIS 205 or PUP 301 with C or better; Credit is allowed for GIS 451 or GIS 551 or PUP 451 or PUP 551 or GIS/PUP 494 (Geodesign and Urban Planning) or GIS/PUP 598 (Geodesign and Urban Planning) OR Visiting University Student |

| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| GIS | 461 | Fundamentals of Spatial Optimization | Covers the fundamentals of optimization for spatial analysis. Introduces math-based optimization methods, specifically linear programming, integer programming, and branch and bound. Provides the basics for use and application of GIScience and spatial analysis methods for suitability analysis and network analysis. Objectives include: reviewing basics of linear algebra; formulating and solving optimization problems using linear and integer programming; applying raster and vector GIS methods to site suitability analysis, shortest path, and service area problems; and integrating GIS into problem formulation and result visualization. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): GIS 205 or 211; MAT 170, 270, 271, or 272 with C or better; Credit is allowed for only GIS 461 or GIS 561 or PUP 481 or PUP 581 OR Visiting University Student |
| GIS | 462 | Location Analysis and Modeling | Provides an overview of mathematical models for location optimization in the context of GIScience. Applies linear and integer programming (a type of linear algebra), computer programming, and GIS to optimize systems of points, lines and polygons for emergency services, natural resource management, private and public facilities, and undesirable and desirable facilities. Objectives include: formulating, solving, and interpreting location problems; understanding differences among a variety of location analysis and modeling problems and methods; and linking GIS and optimization software for preparing inputs and visualizing results. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): GIS 211 with C or better; GIS 461 with C or better; Credit is allowed for only GIS 462 or GIS 562 or GCU 598 (Location Models) |
| GIS | 469 | Multivariate Statistics for Social Sciences | Provides instruction and hands-on experience with statistical methods for examining the effects of multiple variables. Focuses on multivariate techniques and how statistical techniques can lead to a better understanding of substantive issues. As this is an applied course, lectures and coursework focus more on the application and interpretation of multivariate techniques than on the mathematics behind the statistical techniques. Topics typically include data visualization, correlation, simple regression, multiple regression, logistic regression, multinomial regression, ordinal regression, and principal component analysis. Also teaches how to conduct these statistical techniques and undertake basic programming in the R computer program. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): DAT 300, ECN 221, GIS 270, PSY 230, SOC 390, or STP 226 with C or better; Credit is allowed for only CDE 469 or GIS 469 or SOC 469 or CDE 498/GIS 494 (Multivariate Statistics for Social Sciences) OR Visiting University Student |
| GIS | 470 | Advanced Statistics for Geography and Planning | Statistical techniques applied to the analysis of distributions and relationships. Introduces models and theory in geography. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | CS | Prerequisite(s): DAT 300 or GIS 270 with C or better OR Visiting University Student |
| GIS | 471 | Spatial Statistics for Geography and Planning | Basics of spatial data analysis. Topics include point pattern analysis, spatial autocorrelation, spatial regression, and kriging. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prereqs w/C or better: CDE 469, GIS 469, GIS 470, SOC 469, or CDE 498/GIS 494 (Multivar Stat Soc Sci); GIS 211 or 494 (GIS Methods NonMajors) OR Data Sci BS major; DAT 301 or GIS 470; GIS 211 or 494 (GIS Methods NonMajors) OR Visiting University Student |
| GIS | 472 | Spatial Regression Analysis | Students gain insight into the scope of spatial regression methods, apply them in an empirical setting, and properly interpret the results of spatial regression analysis. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Pre-requisite: GIS 471; Credit is allowed for only GIS 472 or GPH 598 (Spatial Regression) |
| GIS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |
| GIS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-6 | | Prerequisite(s): Barrett Honors student |
| GIS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-6 | | Prerequisite(s): Barrett Honors student |
| GIS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| GIS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-7 | | |
| GIS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-3 | | |
| GIS | 501 | GeoDesign in Practice | Covers the basic topics of GeoDesign in practice including data, analysis, geocoding, mapping and projected implementation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): GIS 601 and 602 (or PUP 576) |
| GIS | 505 | GeoDesign Principles | Systematic exploration and evaluation of alternative complex human-environmental systems using spatially and temporally explicit theories, data and methods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 2 | | Prerequisite(s): GIS 601 and 602, or PUP 576; Credit is allowed for only GIS 505 or PUP 505 |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| GIS | 512 | Spatial Decision Support | Designs and implements a spatial decision support system and analyzes and understands the theoretical underpinnings that form these systems. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): Degree- or Nondegree-seeking graduate; Credit is allowed for only GIS 412 or GIS 512 |
| GIS | 520 | GIScience Issues and Debates | Examines the underlying theories, current issues and debates surrounding the development and foundation of GIScience as a discipline. Discusses the history of the development of the field, the fundamentals and applications of spatial concepts to problem solving, and explores the trajectories of the field with respect to emerging geospatial technologies. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 521 | Geographic Information Science Programming | In-depth look at programming within GIS. Focuses on programming and methodology, utilizing specific software, and basic scientific computing. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 531 | Spatial Databases | Advanced data modeling concepts, the relational data model for the storage and retrieval of spatial and non-spatial information. Data retrieval emphasizes the industry-standard query language SQL and spatial query languages. Covers research topics for graduate students. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): Degree- or Nondegree-seeking graduate; Credit is allowed for only GIS 431 or GIS 531 |
| GIS | 551 | Geodesign and Urban Planning | Geodesign is a design and planning method which tightly couples the creation of design proposal with impact simulations informed by geographic contexts, systems thinking and digital technology. Covers the fundamental theory, concepts and frameworks of geodesign. Students become familiar with the geodesign process by reviewing case studies including specific case study applications from University of New South Wales and Arizona State University. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; Credit is allowed for GIS 451 or GIS 551 or PUP 451 or PUP 551 or GIS/PUP 494 (Geodesign and Urban Planning) or GIS/PUP 598 (Geodesign and Urban Planning) |
| GIS | 561 | Fundamentals of Spatial Optimization | Covers the fundamentals of optimization for spatial analysis. Introduces math-based optimization methods, specifically linear programming, integer programming, and branch and bound. Provides the basics for use and application of GIScience and spatial analysis methods for suitability analysis and network analysis. Objectives include: reviewing basics of linear algebra; formulating and solving optimization problems using linear and integer programming; applying raster and vector GIS methods to site suitability analysis, shortest path and service area problems; and integrating GIS into problem formulation and result visualization. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GIS 461 or GIS 561 or PUP 481 or PUP 581 |
| GIS | 562 | Location Analysis and Modeling | Provides an overview of mathematical models for location optimization in the context of GIScience. Applies linear and integer programming (a type of linear algebra), computer programming, and GIS to optimize systems of points, lines and polygons for emergency services, natural resource management, private and public facilities, and undesirable and desirable facilities. Objectives include: formulating, solving and interpreting location problems; understanding differences among a variety of location analysis and modeling problems and methods; and linking GIS and optimization software for preparing inputs and visualizing results. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): GIS 561; Credit is allowed for only GIS 462 or GIS 562 or GCU 598 (Location Models) |
| GIS | 563 | Local Statistical Modeling | Understands the processes that generate the data we observe in the real world. If these processes vary over space, we term this spatial non-stationarity and traditional global models are no longer applicable. A set of local spatial models has been developed to examine spatial non-stationarity and one of the most widely used of these is Geographically Weighted Regression (GWR) and its variants. Investigates GWR and the wider context of spatial non-stationarity. Topics include: setting the scene; introduction to GWR; discussion of context; further issues in GWR; software for GWR; workshop on GWR 4; model selection in GWR; inference in GWR; semi-parametric GWR and multiscale GWR (MGWR); software for multiscale GWR; inference for MGWR; multicollinearity and GWR; some myths about GWR; big models; an example of the 2016 U.S. presidential election. Examination is by project (60%) and two presentations (40%). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GIS 563 or GIS 598 (Local Statistical Modeling) |
| GIS | 571 | Spatial Statistics for Geography and Planning | Instructs on a variety of descriptive and inferential spatial statistics. Covers the conceptual foundations of spatial statistics, computes spatial statistics using software, and applies spatial statistical testing to a variety of research problems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed only for GIS 571 or GIS 591 (Spatial Statistics for Geography and Planning) |
| GIS | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| GIS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |
| GIS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 601 | Introduction to Geographic Information Systems | Introduces GIS theory and practice for professionals. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 2 | | Prerequisite(s): Geographic Information Systems MAS student |
| GIS | 602 | Intermediate GIS | Introduces visualization, spatial analysis and open source tools. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 2 | | Prerequisite(s): Geographic Information Systems MAS student |
| GIS | 603 | Spatial Statistics and Modeling | Introduces spatial statistics and modeling. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 2 | | Prerequisite(s): Geographic Information Systems MAS student |
| GIS | 604 | Implementation in the Corporate and Public Sectors | GIS use in the corporate and public sectors including proposal development. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 2 | | Prerequisite(s): Geographic Information Systems MAS student |
| GIS | 605 | GIS Project Planning and Implementation | Moving from project proposal to implementation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 2 | | Prerequisite(s): Geographic Information Systems MAS student |
| GIS | 606 | GIS Project Presentation | Development of technical reports and presentations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 2 | | Prerequisite(s): Geographic Information Systems MAS student |
| GIS | 610 | Programming the GIS Environment | Programming fundamentals for desktop GIS and custom applications. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): Geographic Information Systems MAS student |
| GIS | 630 | GIS Technologies | Uses of GIS technology for data collection and management. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): Geographic Information Systems MAS student |
| GIS | 640 | GIS for Business | Uses of GIS in business practice including site suitability, demographic data and business analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): Geographic Information Systems MAS student |
| GIS | 650 | GIS for the Internet | Programming GIS for the Internet and mobile applications. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): Geographic Information Systems MAS student |
| GIS | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |
| GIS | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| GIS | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 799 | Dissertation | Supervised research focused on preparation of a dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIT | 135 | Graphic Communications | Processes involved in design, asset generation, transmission, production and evaluation of visual content. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | |
| GIT | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-4 | | |
| GIT | 210 | Creative Thinking and Design Visualization | Fundamental methods, concepts and techniques of creative thinking, ideation and problem solving, including communication and societal influences. Examines drawing and design visualization, from sketching to data graphics. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | |
| GIT | 211 | 3D Media Production | Introduces basic 3D workflows and techniques. Topics covered include visual storytelling and composition, project workflows, 3D modeling, virtual cameras, texturing, shading and rendering. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 230 with C or better or Applied Science (Graphic Information Technology) BAS or Applied Science (Internet and Web Development) BAS major OR Visiting University Student |
| GIT | 215 | Introduction to Web Authoring | Website planning and evaluation using industry-standard languages. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Credit is allowed for only GIT 215 or GIT 310 OR Visiting University Student |
| GIT | 230 | Digital Illustration in Publishing | Raster and vector illustration in publishing. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Pre- or corequisite(s): MAT 117 or higher with C or better if completed OR Visiting University Student |
| GIT | 250 | Introduction to Commercial Print | Provides an overview of current print technology, a basic understanding of the print process and current workflows. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): Applied Science (Graphic Info Tech) BAS, Applied Science (Internet & Web Dev) BAS, Graphic Info Tech BS, Graphic Info Tech (Full-Stack Web Development) BS or Graphic Info Tech (User Experience) BS major OR Visiting University Student |
| GIT | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-4 | | |
| GIT | 295 | Introduction to Technical Imaging | Explores imaging technologies utilized in industry. Covers basic imaging concepts, chip technologies, optics, motion analysis, high-speed video, thermal imaging, and science relating to light and latent imaging. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | |
| GIT | 303 | Digital Publishing | Web and print publication design and production using industry-standard composition software, proofing, and output devices. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 230 with C or better or Applied Science (Internet and Web Development) BAS or Applied Science (Graphic Information Technology) BAS major OR Visiting University Student |
| GIT | 310 | Web Foundations | 7.5-week course covers fundamental methods, concepts and techniques of semantic and validated Web development as well as aesthetic Web design. Includes Photoshop, HTML5 and CSS technologies. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): Applied Science (Graphic Information Technology) or Internet and Web Development) BAS major; minimum junior standing; Credit is allowed for only GIT 215 or GIT 310 or GIT 337 (or GIT 237) |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--------------------------------|-------|-----------------|--|
| GIT | 312 | Computer Animation and Motion Graphics | Covers basic 2D/3D animation and motion graphic techniques and principles. Topics covered include project workflows, key frames, path animation, motion principles, hierarchical structures, animated textures, lights, and cameras. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | CS | Prerequisite(s): GIT 211 OR Visiting University Student |
| GIT | 314 | Multimedia Design, Planning and Storyboards | The creative process of generating ideas, conceptualizing projects, planning, designing, story boarding, and presenting interactive multimedia products. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 230 with C or better; minimum junior standing OR Applied Science (Graphic Information Technology) BAS or Applied Science (Internet and Web Development) BAS major OR Visiting University Student |
| GIT | 315 | Digital Video Techniques | Covers video production, including planning, pre-production, production, post-production and online video technologies and how video is an integral part of the graphic information industry. Concentrates on commercial and client-driven video production. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): Applied Science (Graphic Information Technology) BAS major or Applied Science (Internet and Web Development) BAS major or GIT 230 with C or better OR Visiting University Student |
| GIT | 333 | Printing Technology | Theory and application of sheet and web press technology for offset-lithography, flexography, screen process, and digital printing. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 250 OR Visiting University Student |
| GIT | 334 | Image Editing and Manipulation | Theory and application of advanced image editing and raster techniques for reproduction and dissemination. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 230 with C or better or Applied Science (Graphic Information Technology) BAS or Applied Science (Internet and Web Development) BAS major OR Visiting University Student |
| GIT | 335 | Computer Systems Technology | Computer technology: hardware, software, storage, networking, Internet, telecommunications, and information systems. Requires independent research. Not for credit for BS Graphic Information Technology major. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): minimum junior standing; Not for credit for the Graphic Information Technology BS degree OR Visiting University Student |
| GIT | 337 | Web Content Design | User-centered design principles for visual content on the World Wide Web with emphasis on content strategy, user experience, coding and interactivity. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 215 with C or better; GIT 230 OR Applied Science (Graphic Information Technology) BAS or Applied Science (Internet and Web Development) BAS major; Credit is allowed for only GIT 310 or GIT 337 OR Visiting University Student |
| GIT | 340 | Information Design and Usability | Design and technology solutions for increasing Website usability and methods of organizing information to improve the user experience. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): minimum junior standing OR Visiting University Student |
| GIT | 350 | Cross-Media Design | Strengthens design elements and principles. Explores, creates and critiques cross-media design work for print and digital outputs. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 303; Credit is allowed for only GIT 350 or GIT 494 (Cross-Media Design Solutions) OR Visiting University Student |
| GIT | 384 | Commercial Photography | Digital image capture, and output in a commercial studio emphasizing publishing workflow. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 230 with C or better or Applied Science (Graphic Information Technology) BAS or Applied Science (Internet and Web Development) BAS major OR Visiting University Student |
| GIT | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-4 | | |
| GIT | 402 | New Media Internet Technologies | Project-based exploration of new media Internet technologies from a graphic technology prospective. Emphasizes how, why, and when new media can be used to enhance a Web site and the user's experience. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only GIT 402 or GIT 502 |
| GIT | 411 | Visual Narrative in Motion Graphics | Students acquire project experience refining skills in communication, research, critical analysis and criticism, while exploring visual story construction, graphic workflows and process pipelines for motion-based applications. Topics include story conceptualizing and structures, project management, visual composition and motion graphic techniques. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 312 OR Visiting University Student |
| GIT | 413 | Professional Portfolio Design and Presentation | Digital media portfolio design and production to include planning, audience analysis, content selection, authoring tools and formats, production, copyright considerations, marketing and delivery. Should be taken in the last semester of the program. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): Applied Science (Internet and Web Development) BAS major or GIT 303; senior standing; Pre- or corequisite(s): GIT 480 OR Visiting University Student |
| GIT | 414 | Web Site Design and Internet/Web Technologies | Design, authoring, standards, protocols, tools and techniques for development for different Web-based technologies. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 310 or 337 with C or better; Credit is allowed for only GIT 414 or GIT 515 OR Visiting University Student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--------------------------------|-------|-----------------|---|
| GIT | 415 | Advanced Digital Video Techniques | Advanced video creation and editing techniques including motion graphics, green screen technology, audio sweetening, crew and commercial production. Course culminates with a completed video production that is commercial and professional in nature. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 315 |
| GIT | 417 | Advanced Web Markup and Scripting | Industry-standard programming languages and techniques to add user interactivity to graphic information Web sites and Web applications. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 310 or 337 with C or better; Credit is allowed for only GIT 417 or GIT 519 OR Visiting University Student |
| GIT | 418 | Multimedia Authoring, Scripting and Production | Extended application of industry-standard scripting languages and techniques to add user interactivity to graphic information websites and web applications. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 417 with C or better OR Visiting University Student |
| GIT | 432 | Graphic Industry Business Practices | Business practices related to the graphics industry; business models, cost and rate analysis, marketing and management approaches. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): minimum senior standing; Credit is allowed for only GIT 432 or GIT 532 or GIT 598 (Graphic Industry Business Practices) OR Visiting University Student |
| GIT | 435 | Website and E-Commerce Strategies | E-Commerce site management, marketing analytics and e-commerce business models. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only GIT 435 or GIT 535 or GIT 598 (Website & E-Commerce Strategy) OR Visiting University Student |
| GIT | 437 | Color Reproduction Systems | Scientific analysis for the engineering of color reproduction systems and color models used in the graphics industry. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 334; Credit is allowed for only GIT 437 or GIT 573 |
| GIT | 445 | 360 Production | Overview of 360 photo and video capture and editing, immersive storytelling, and 360/VR. Students explore immersive storytelling (spherical/360/180) by producing various forms of VR video and photos and examining their use in communication, entertainment and industrial applications. Emphasizes technical skills required to produce immersive content from capture to distribution using industry standard NLE and specialty software. In addition, students actively research and analyze the role of this emerging technology and communication medium. Requires prior knowledge of video editing. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 315; Credit is allowed for only GIT 445 or GIT 494 (360 Production) or GIT 545 or GIT 598 (360 Production) OR Visiting University Student |
| GIT | 450 | Digital Workflow in Graphic Industries | Digital production system analysis for content creation, automation output of graphic information to print and Web, including networking and job tracking. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 215 or 303; Credit is allowed for only GIT 450 or GIT 550 or GIT 598 (Digital Workflow Graphic Industr) OR Visiting University Student |
| GIT | 480 | Senior Project | Capstone project experience refining skills in communication, research and information retrieval, critical analysis and criticism, and demonstrating technical competence in each student's area of study. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): minimum senior standing |
| GIT | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | PRA | Y | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-12 | | |
| GIT | 490 | Advanced Commercial Photography | Studio-based class focusing on set design, advanced photographic techniques, raw workflow, marketing, business, and digital rights management. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 384 |
| GIT | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-6 | | Prerequisite(s): Barrett Honors student |
| GIT | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| GIT | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-4 | | |
| GIT | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-3 | | |
| GIT | 500 | Research Methods | Course on research methods in a specific discipline. | Y | RSC | Y | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIT | 502 | New Media Internet Technologies | Project-based exploration of new media Internet technologies from a graphic information technology prospective. Emphasizes how, why and when new media can be used to enhance a Web site and the user's experience while maintaining branding cohesively across all technologies. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GIT 402 or GIT 502 |
| GIT | 515 | Website Design and Technologies | Standards, tools and techniques for creating websites, with emphasis on designing for multiple devices and systems. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GIT 414 or GIT 515 |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--------------------------------|-------|-----------------|---|
| GIT | 519 | Advanced Scripting for the Web | Uses industry-standard markup and scripting languages to develop interactive websites and applications. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GIT 417 or GIT 519 |
| GIT | 532 | Graphic Industry Business Practices | Business practices related to the graphics industry; business models, cost analysis, marketing and management approaches. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GIT 432 or GIT 532 or GIT 598 (Graphic Industry Business Practices) |
| GIT | 535 | Website and E-Commerce Strategies | Covers researching, designing, marketing and managing an e-commerce website. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GIT 435 or GIT 535 or GIT 598 (Website & E-Commerce Strategy) |
| GIT | 537 | Current Issues in Cross Media Production | Directed group study of selected current issues relating to cross-media production for the graphic information industries. Requires graduate group leadership. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): Graphic Information Technology MS student or Technology (Graphic Information Technology) MSTech student |
| GIT | 538 | Personnel Development for the Graphics Industry | Employee training and development specific to production and management in the graphics industry. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): graduate student in Technology (Graphic Info Tech) |
| GIT | 540 | Cross-Media Design Solutions | Universal design theory, creative problem solving, and case study applications for print, Web, and new media products of the graphics industry. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): Graphic Information Technology MS or Technology (Graphic Information Technology) MSTech or User Experience MS student |
| GIT | 542 | Usability and User Experience | Design and technology solutions focusing on how information is organized graphically to communicate and how website usability is employed to improve human interaction with inline information. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): Graphic Information Technology MS or Technology (Graphic Information Technology) MSTech or User Experience MS student |
| GIT | 545 | 360 Production | Overview of 360 photo and video capture and editing, immersive storytelling, and 360/VR. Students explore immersive storytelling (spherical/360/180) by producing various forms of VR video and photos and examining their use in communication, entertainment and industrial applications. Emphasizes technical skills required to produce immersive content from capture to distribution using industry standard NLE and specialty software. In addition, students actively research and analyze the role of this emerging technology and communication medium. Requires prior knowledge of video editing required. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GIT 445 or GIT 494 (360 Production) or GIT 545 or GIT 598 (360 Production) |
| GIT | 550 | Digital Workflow in the Graphics Industry | Digital production system analysis for content creation, automation output of graphic information to print and Web, including networking and job tracking. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GIT 450 or GIT 550 or GIT 598 (Digital Workflow Graphic Industr) |
| GIT | 551 | Immersive Experience Design I | Focuses on the practices of design for immersive experiences using different media including but not limited to extended reality technologies. Students work on interdisciplinary projects using and developing their skills on composition/aesthetics of environmental design; programmatic/spatial requirements in both real and virtual universes; modeling/simulation of spaces/objects in 3D animated environments, motion graphics, 3D printing/rapid prototyping, storytelling and world building. Develops abilities to manage projects, work effectively in teams and transform research into creative/technological products. | N | LAB | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only DSC 551 or GIT 551 |
| GIT | 560 | Capstone | Hands-on project in user experience. Requires a report based on research or applied work as a culminating experience. | N | SEM | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): User Experience MS student; Credit is allowed for only GIT 560 or HSE 560 or TWC 560 |
| GIT | 573 | Color Metrology | In-depth study and analysis of systems used to manage color reproduction in the graphic arts industry and information technology. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GIT 437 or GIT 573 |
| GIT | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIT | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|--|
| GIT | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIT | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIT | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIT | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIT | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLE | 501 | Global Thinking in Education | An online course introducing students to the analyses of worldwide factors that affect a range of issues in education including access, quality and sustainability across countries and education systems. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLE | 502 | Inquiry in Global Education | Students learn to locate; interpret and critically analyze global education research literature (including comparative, qualitative, and quantitative approaches); develop problem statements and conduct a literature review. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLE | 503 | Evaluating Global Education Policies and Programs | Examines principles, methods and practices of evaluating education programs and policies in international settings. Focuses on types of evaluation, evaluation design, data collection and monitoring, and utilization of findings. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLE | 504 | Exploring Global Issues in the Global Education Research Literature | Reviews, identifies and synthesizes the empirical research literature. Students write a conceptual literature review in an area of interest of global significance. review, identify and synthesize the empirical research literature and will write a conceptual literature review in an area of interest of global significance. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLE | 505 | Evidence in Global Education Inquiry | Covers the basic research methods associated with global education inquiry. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Global Education MEd student; GLE 501; GLE 502; GLE 503 |
| GLE | 506 | Applied Inquiry in Global Education: Developing Proposals for Field Research | Guides students in the development of a proposal for an applied inquiry study to explore and analyze an education problem in the student's interest in an area of global import. Such issues may include but are not limited to education access, quality and sustainability. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Global Education MEd student; GLE 501; GLE 502; GLE 503 |
| GLE | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): Global Education MEd student; GLE 501; GLE 502; GLE 503 |
| GLE | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLG | 101 | Introduction to Geology I (Physical) | Basic principles of geology, geochemistry, and geophysics. Rocks, minerals, weathering, earthquakes, mountain building, volcanoes, water, and glaciers. Both GLG 101 and 103 or both GLG 101 and ENV 103 must be taken to secure SQ General Studies credit. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | SQ | |
| GLG | 102 | Introduction to Geology II (Historical) | Basic principles of applied geology and the use of these principles in the interpretation of geologic history. Both GLG 102 and 104 must be taken to secure SG General Studies credit. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | SG & H | |
| GLG | 103 | Introduction to Geology I: Laboratory | 3 hours lab, some field trips. Both GLG 101 and 103 or both GLG 101 and ENV 103 must be taken to secure SQ General Studies credit. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1 | SQ | Credit is allowed for only ENV 103 or GLG 103 |
| GLG | 104 | Introduction to Geology II: Laboratory | Lab techniques involving map interpretation, cross sections, and fossils. Both GLG 102 and 104 must be taken to secure SG General Studies credit. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1 | SG | Corequisite(s): GLG 102 OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------------|-------|-----------------|--|
| GLG | 108 | Water Planet | Overview of the processes that control water supply to natural ecosystems and human civilizations. Part I introduces the basic science that helps us understand the water planet, including the hydrologic cycle, glaciers and ice; rivers, oceans, and natural hazards associated with water such as flooding, landsliding and tsunamis. Part II covers some of the management and resource allocation topics that face humanity today, including droughts, groundwater contamination, impacts on fisheries, conflicts over water, patterns of water use, and effects of global climate change on future water supplies. Uses water issues facing Arizona and California as examples. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 4 | SQ | Credit is allowed for only GLG 108 or SOS 182 OR Visiting University Student |
| GLG | 110 | Dangerous World | Geological studies as they apply to interactions between humans and Earth. Includes geological processes and hazards, resources, and global change. Both GLG 110 and 111 must be taken to secure SQ General Studies credit. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | SQ & G | |
| GLG | 111 | Dangerous World Laboratory | Basic geological processes and concepts. Emphasizes geology-related environmental problems concerning Arizona. Both GLG 110 and 111 must be taken to secure SQ General Studies credit. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1 | SQ | |
| GLG | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | |
| GLG | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | |
| GLG | 301 | Earth Science in Arizona and the Southwest | Place-based application of geology and allied Earth system sciences to explore and interpret the landscapes, rocks, geologic history, climate, resources, and natural hazards of Arizona and the Southwest. Integrates case studies of the interactions of Southwest cultures and societies (past and present) with Earth systems, and inquiry into the future sustainability of Southwestern communities and lifeways. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): ENG 101, 105 or 107 with C or better; GLG 101, 102, 110, GPH 111 or SES 121; MAT 117 or higher; Credit is allowed for only GLG 301 or GLG 394 (Earth Sci in AZ & SW) or SOS 372 OR Visiting University Student |
| GLG | 304 | Minerals, Energy, and Society | Studies the science and technology of the minerals and energy industries, how these industries interact with society, and how these interactions may change in the future. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): ENG 101, ENG 105 or ENG 107 with C or better; GLG 101, GLG 102, GLG 110, GPH 111, SES 121, or minimum junior standing; Credit is allowed for only GLG 304, GLG 394 (Minerals, Energy & Society) or SOS 373 |
| GLG | 305 | Dynamic Earth | Focuses on the 4.6-billion year physical and geochemical evolution of Earth, with emphasis on planetary interior and surface processes through time that have resulted in current concentrations of fundamental chemical elements necessary to sustain modern civilization. Specific topics include: (1) elemental abundances and differentiation of the early solar system and Earth; (2) formation of Earth's compositional and rheologic layers; (3) interactions among planetary spheres with focus on biogeochemical cycles; (4) multi-scale tectonics (plate tectonics, continental deformation, igneous and earthquake processes, and mountain building). Provides an essential scientific context for understanding Earth system processes fundamental to environmental science. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): CHM 101 or higher with C or better; both GLG 101 and 103 with C or better, or both GLG 110 and 111 with C or better, or both SES 121 and 123 with C or better; MAT 170, 210, 251, 265, or 270 with C or better OR Visiting University Student |
| GLG | 310 | Structural Geology | Geologic structures and the mechanical processes involved in their formation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): GLG 101 or SES 121 with C or better; MAT 170, 171, 210, 251, 265, or 270 with C or better OR Visiting University Student |
| GLG | 321 | Mineralogy | Crystal chemistry, crystallography, mineral identification, origin and occurrence of minerals, systematic mineralogy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3-4 | | Prerequisite(s): CHM 113 (or both CHM 111 and 117 or 114) with C or better; MAT 170, 210, 265 or 270 with C or better |
| GLG | 325 | Oceanography | Introduces marine geology, chemistry, and physical and biological oceanography. Methods of oceanic exploration, environmental and social aspects of oceans. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s) w/ C or better: BIO 100, BIO 182, BIO 282, SES 220, SES 225, or both GLG 101 & 103, or both SES 121 & 123; CHM 101, 113, 114, 117, or both CHM 107 & 108; Credit allowed for only BIO 325 or CHM 385 or GLG 325 OR Visiting University Student |

| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---------------------------------------|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------------|-------|-----------------|--|
| GLG | 327 | Earth's Critical Zone | The Earth's near surface environment (the "critical zone") supports most life and is the dynamic interface between the solid Earth and its fluid envelopes where much of the geologic record is produced. We now know that we face rapid climate change and the consequences of changes in land use, water resources, and ecosystems. Critical to planning a response to, or mitigation of, environmental change is understanding how the Earth surface works. Focuses on how changes to the environment manifest themselves in the critical zone-- in the form and function of the Earth's surface (landforms, water resources, soils, ecosystems). Offers a quantitative introduction to the form and function of the processes impacting the Earth's critical zone to build an understanding of the interactions of physical, chemical and biotic processes in shaping the surface and determining fluid, solute and sediment fluxes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s) with C or better: CHM 101 or higher or PHY 101 or higher; both GLG 101 and 103, or both SES 121 and 123, or SES 225; MAT 170, 171, 210, 251, 265, or 270; Credit is allowed for only GLG 327 or SOS 374 OR Visiting University Student |
| GLG | 340 | Geologic Hazards of the Mediterranean | Covers geological studies as they apply to interactions between humans and Earth, focusing on geological hazards. Hazards present risks to life, property, global commerce and infrastructure. Such hazards are now more likely than ever to cause large death tolls and impact the global economy, due to increasing population density and the emergence of a global marketplace. Italy is a country that is exposed to a wide range of geologic hazards, such as volcanic eruptions, earthquakes and landslides. Because of its natural geologic setting and long history of scientific leadership, Italy has one of the world's most well-established scientific communities to study and mitigate geologic hazards. These issues are addressed and discussed from both a scientific and human perspective, with primary focus placed on Italian case studies and the role of Italian institutions in hazard science. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only GLG 340 or GLG 394 (Geologic Hazards of the Mediterranean) |
| GLG | 362 | Geomorphology | Land forms and processes that create and modify them. Lab and field study of physiographic features. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): GLG 101, GLG 110, or SES 121 with C or better; MAT 170 with C or better OR Visiting University Student |
| GLG | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | |
| GLG | 404 | Fundamentals of Planetary Geology | Surveys planetary topics, including impacts, tectonics, and volcanism on planetary objects, and use of spacecraft data, including geological mapping. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): GLG 101, GLG 102, SES 121, or SES 122 with C or better OR Visiting University Student |
| GLG | 406 | Geology of Mars | Geological evolution of Mars through analyses of spacecraft data, theoretical modeling, and study of terrestrial analogs; emphasizes current work. Possible field trips to examine Arizona geology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | |
| GLG | 410 | Computers in Geology | Geological computer skills including data processing, visualization, presentation, numerical analysis, software and hardware applications. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | CS | Prerequisite(s): GLG 101 or SES 121 with C or better |
| GLG | 418 | Geophysics | Solid earth geophysics; geomagnetism, gravity, seismology, heat flow. Emphasizes crust and upper mantle. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): MAT 272 or 267 with C or better; PHY 131 with C or better; PHY 132 with C or better OR MAT 272 or 267 with C or better; PHY 151 with C or better OR Visiting University Student |
| GLG | 419 | Geodynamics | Emphasizes application of continuum principles to geological problems, including lithospheric stresses, heat transfer, fluid mechanics, and rock rheology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Pre-requisite(s): MAT 267 or MAT 272 with C or better; PHY 131 and 132 (or PHY 151) with C or better |
| GLG | 420 | Volcanology | Distribution of past and present volcanism, types of volcanic activity, mechanism of eruption, form and structure of volcanoes, and geochemistry of volcanic activity. | N | PRA | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Pre-requisite: Engineering, Math or Science major; Minimum Junior standing |
| GLG | 422 | Planetary Volcanology | Studies the effects of planetary environments and magma compositions on styles of volcanism and the nature of volcanic products on the terrestrial planets and outer planet satellites. Overview of volcanism on specific planetary objects, analysis of spacecraft image data, basic mathematical volcanic modeling, and reviews of key papers. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): GLG 420 with C or better |
| GLG | 424 | Petrology | Origin of igneous and metamorphic rocks. Optical mineralogy, hand specimen identification, and thin-section analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): GLG 321 with C or better OR Visiting University Student |
| GLG | 430 | Paleontology | Introduces concepts and analytical techniques in biogeology, paleobiology, paleoecology, and paleoenvironmental reconstruction from the fossil record. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): GLG 102 or SES 12 with C or better; GLG 104 or SES 124 OR Visiting University Student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------------|-------|-----------------|--|
| GLG | 435 | Sedimentology and Stratigraphy | Examines the fundamental principles and tools utilized in the study of sedimentology and stratigraphy. Focuses on the origin, transportation and deposition of sediment, and the processes that lead to the formation of sedimentary textures, structures and stratal packages. Emphasizes description, analysis and interpretation of lateral and vertical changes in sedimentary strata, both in the field and in laboratory exercises, as it pertains to spatial and temporal variability in depositional mechanisms and environments. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): GLG 102 or SES 122 with C or better OR Visiting University Student |
| GLG | 441 | Ore Deposits | Origin, occurrence, structure, and mineralogy of ore deposits. | N | PRA | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): GLG 101 or SES 121 with C or better; GLG 310 or 321 with C or better OR Visiting University Student |
| GLG | 451 | Field Geology I | Geological mapping techniques using topographic maps and aerial photos. Intensive field-based instruction. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; GLG 310 with C or better; Pre- or corequisite: GLG 321 OR Visiting University Student |
| GLG | 452 | Field Geology II | Geological mapping techniques using topographic maps and aerial photos. Intensive field-based instruction. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; GLG 310 with C or better; GLG 321 with C or better; GLG 451 with C or better OR Visiting University Student |
| GLG | 455 | Advanced Field Geology | Geologic mapping in igneous, sedimentary, and metamorphic terrains of the Basin and Range province of Arizona. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3-4 | | Prerequisite(s): GLG 310 with C or better; Pre- or corequisite(s): GLG 451 with C or better if completed OR Visiting University Student |
| GLG | 460 | Astrobiology | Origin, early evolution, distribution, and future of life on Earth and elsewhere in the cosmos. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): AST 112, BIO 182, BIO 282, GLG 102, SES 122, or SES 126 with C or better; one 300-level course in AST, BIO, CHM, GLG, MIC, PHY, or SES with C or better OR Visiting University Student |
| GLG | 461 | Geomicrobiology | Past and present interactions among microbial life, geological materials, and biogeochemical cycles involving carbon, sulfur, phosphate, nitrogen, and metals. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Credit is allowed for only GLG 461 or MIC 461 |
| GLG | 464 | Solving Environmental Problems | Capstone course intended primarily for seniors in the Earth and Environmental Studies degree program. Hybrid self-study design project workshop guided by faculty, in which student teams research and develop plans for a viable solution to a real environmental problem in the American Southwest. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): Earth and Environmental Studies BA major; GLG 305 with C or better; GLG 327 with C or better; senior standing |
| GLG | 470 | Hydrogeology | Geology of groundwater occurrence, aquifer and well hydraulics, water chemistry and quality, contaminant transport, remediation. Emphasizes quantitative methods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | |
| GLG | 471 | Hydrology | Descriptive and quantitative hydrology; hydrologic cycle, models, and systems. Rain-runoff models. Hydrologic design. Concepts, properties, and basic equations of groundwater flow. Emphasizes quantitative methods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): CEE 341 or MEE 340 or GLG 362 with C or better; Credit is allowed for only CEE 440 or CEE 545 or CEE 598 (Hydrology) or GLG 471 or GLG 490 (Hydrology) OR Visiting University Student |
| GLG | 476 | Earth's Past Climates: The Key to our Sustainable Future | Dynamic interactions among the oceans, earth surface and atmosphere that control Earth's climate in its present state, in the context of past climates and projections for future climates. Assesses the factors that affect the trajectory of future climate change, and the sources and measurement of the critical climate parameters that are essential for guiding decisions for a sustainable future. Also considers recent climate science-related controversies, as well as assessments of scientific statements related to these controversies. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only GLG 476 or GLG 576 or SOS 476 or SOS 576 or GLG 494 (Climate Sci Sustain) or GLG 598 (Climate Sci Sustain) or SOS 494 (Climate Sci Sustain) or SOS 598 (Climate Sci Sustain) |
| GLG | 481 | Geochemistry | Origin and distribution of the chemical elements. Geochemical cycles operating in the Earth's atmosphere, hydrosphere, and lithosphere. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): BCH 341, CHM 341, CHM 346, or GLG 321 with C or better; Credit is allowed for only CHM 481 or GLG 481 OR Visiting University Student |
| GLG | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | |
| GLG | 485 | Meteorites and Cosmochemistry | Chemistry of meteorites and their relationship to the origin of the Earth, solar system, and universe. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): CHM 341, CHM 346, or GLG 321 with C or better; Credit is allowed for only GLG 485 or CHM 485 |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------------|-------|-----------------|---|
| GLG | 489 | Field Geochemistry | Explores basic field measurements and sampling techniques for environmental systems, with a focus on carbon cycling in the Colorado River. Surveys a variety of geochemical principles, including: equilibrium aqueous speciation, acid-base chemistry, solution-mineral equilibrium systems, oxidation-reduction reactions, organic and environmental geochemistry and biogeochemical cycles. Applies chemical principles and analytical techniques to answer questions about environmental systems and processes. | N | LEL | N | GNA | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | L | Prerequisite(s): CHM 302, GLG 321, or GLG 481 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only CHM 489 or GLG 489 OR Visiting University Student |
| GLG | 490 | Topics in Geology | Special topics in a range of fields in geology. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-3 | | |
| GLG | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-6 | | Prerequisite(s): Barrett Honors student |
| GLG | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| GLG | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | |
| GLG | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-3 | | |
| GLG | 546 | Advanced Watershed Hydrology | Watershed processes leading to runoff generation and the transformation of meteorological forcing through a hydrologic system. Emphasizes physical mechanisms and their treatment in numerical models. Quantification of uncertainty in hydrological modeling through probabilistic methods. Provides hands-on experience with data analysis and hydrologic models. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GLG 546 or GLG 598 (Advanced Watershed Hydrology) or CEE 546 |
| GLG | 549 | Ecohydrology of Semiarid Landscapes | Interactions between terrestrial plants and limiting resources in arid and semiarid environments. Temporal and spatial aspects of plant-water relations. Process-oriented discussion and examples using simple and complex numerical models. Provides experience with data analysis and instrumentation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CEE 549 or CEE 598 (Ecohydrology of Semiarid Landscapes) or GLG 549 or GLG 598 (Ecohydrology of Semiarid Landscapes) |
| GLG | 576 | Earth's Past Climates: The Key to our Sustainable Future | Dynamic interactions among the oceans, earth surface and atmosphere that control Earth's climate in its present state, in the context of past climates and projections for future climates. Assesses the factors that affect the trajectory of future climate change, and the sources and measurement of the critical climate parameters that are essential for guiding decisions for a sustainable future. Considers recent climate science-related controversies and assessments of scientific statements related to these controversies. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GLG 476 or GLG 576 or GLG 494/598 (Climate Science for Sustainability) or SOS 476 or SOS 576 or SOS 494/598 (Climate Science for Sustainability) |
| GLG | 581 | Isotope Geochemistry | Geochemistry and cosmochemistry of stable and radioactive isotopes; geochronology; isotope equilibria. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLG | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLG | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLG | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLG | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLG | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLG | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------------|-------|-----------------|--|
| GLG | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLG | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLG | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLG | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLG | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPE | 10 | English Verbal Skills for International Scholars | Helps international graduate students (prospective ITAs) as well as other graduate students or visiting scholars at ASU improve their spoken English (pronunciation and fluency). Helps familiarize students with American classroom culture and helps them become effective classroom teachers. Each student receives an individual pronunciation assessment to help him or her focus on areas needing improvement. There is direct instruction and practice of pronunciation (e.g., sound, stress, rhythm, intonation). By participating in and leading class discussions, by working in small groups or pairs and by preparing for videotaped presentations, students improve English fluency. | N | LEC | Y | YGB | Office of the Provost | Global Launch | 3 | | |
| GPE | 11 | International Scholar Teacher Training | Familiarizes international graduate students (prospective ITAs) at ASU with American classroom culture and helps them become effective classroom teachers. Exposes various methods of teaching commonly used in the American university classroom. | N | LEL | N | YGB | Office of the Provost | Global Launch | 3 | | |
| GPE | 30 | Special Programs: Language Foundations | Designed for noncredit, special program international students. Helps students develop the skills needed to write, read and communicate effectively in the English language in professional settings. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 6 | | |
| GPE | 31 | Special Programs: Extended Project Work | Designed for special program international students. Helps students effectively apply the four language skills--reading, writing, speaking and listening--in real-world, professional settings. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 6 | | |
| GPE | 32 | Special Programs: Field-Specific English Language Skills | Designed for special program international students. Takes field-specific English language and develops the reading, writing and communication skills in order to successfully navigate professionally within a global context. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 6 | | |
| GPE | 88 | English for University Success: Writing, Reading and Research | Designed for international students who have attained an advanced level of English through Global Launch's intensive English program. Further refines and expands literacy and critical thinking skills needed to thrive in an American institution of higher learning. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GPE | 89 | English for University Success: Academic Thinking | Designed for international students who have attained an advanced level of English through Global Launch's intensive English program. Further refines and expands critical thinking skills and verbal and written expression needed to thrive in an American institution of higher learning. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GPE | 90 | Business Presentation Skills | Develops ability to verbally persuade, inform and motivate an audience. Covers integral key competencies such as: identifying audience, researching and organizing information, preparing and delivering effective visuals, and communicating concisely in English. Coupled with activities which include impromptu business-themed presentations, evaluations by the professor and feedback from peers. | Y | LEC | Y | YGB | Office of the Provost | Global Launch | 6 | | |
| GPE | 91 | Academic and Business Writing Skills | Develops the skills needed to write clearly and effectively, in both academic and business settings, through the exploration of efficient techniques and writing processes for targeting specific audiences with impactful content. | Y | LEC | Y | YGB | Office of the Provost | Global Launch | 6 | | |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| GPE | 92 | Critical Thinking Through Case Studies and Reading Strategies | Teaches international students reading and critical thinking strategies required for a master's-level program. Teaches how to read and understand dense textbooks, articles and magazines in a timely fashion and identify the important information. | Y | LEC | Y | YGB | Office of the Provost | Global Launch | 6 | | |
| GPE | 93 | American Business and Cross-Cultural Communication | Improves international students' ability to compare and contrast aspects of American business culture with other cultures in order to understand similarities and differences. | Y | LEC | Y | YGB | Office of the Provost | Global Launch | 6 | | |
| GPE | 94 | Business Listening and Conversation | Improves the student's ability to effectively communicate orally at a master's level. Covers speaking and listening strategies and skills necessary to participate in discussions related to business topics. Students learn to control the input they receive and produce coherent and appropriate responses. | Y | LEC | Y | YGB | Office of the Provost | Global Launch | 6 | | |
| GPE | 95 | Academic and Technical Writing | This non-credit course helps graduate-bound international students develop the English skills needed to write clearly and effectively, in both academic and technical settings, through the exploration of efficient techniques and writing processes for targeting specific audiences with relevant and thoughtful content. | N | LEL | Y | YGB | Office of the Provost | Global Launch | 6 | | |
| GPE | 96 | Graduate Presentation and Communication Skills | Designed for graduate-bound international students, this non-credit course helps students develop the skills needed to communicate in English effectively in a variety of graduate academic situations. | N | LEL | Y | YGB | Office of the Provost | Global Launch | 6 | | |
| GPE | 97 | Graduate Reading Skills | Utilizing topics from students' chosen field of study, this non-credit course is designed to give graduate-bound international students a thorough grounding in strategies and techniques for efficient and effective reading in English of complex, dense texts expected of graduate degrees. Graduate students build foundations for critically analyzing texts and applying them to relevant contexts, while amassing a graduate-level English lexis. | N | LEL | Y | YGB | Office of the Provost | Global Launch | 6 | | |
| GPH | 111 | Introduction to Physical Geography | Spatial and functional relationships among climates, landforms, soils, water, and plants. Both GPH 111 and GPH 112 must be taken to secure SQ General Studies credit. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SQ | |
| GPH | 112 | Introduction to Physical Geography Lab | Includes some local or virtual field trips. Both GPH 111 and GPH 112 must be taken to secure SQ General Studies credit. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | SQ | Pre- or corequisite(s): GPH 111 OR Visiting University Student |
| GPH | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-3 | | Prerequisite(s): Freshman standing; maximum 25 hours OR Visiting University Student |
| GPH | 210 | Society and Environment | Examines the interaction among social processes, key environmental issues, and nature's role as a resource at global and regional scales. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | G | Credit is allowed for only GPH 210 or SOS 210 |
| GPH | 211 | Landform Processes | Laboratory science class on earth-surface processes, with exercises emphasizing how erosion, transportation, and deposition modifies landforms. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 4 | SQ | |
| GPH | 212 | Introduction to Meteorology | Fundamentals of weather and climate, including basic atmospheric processes and elements. Students whose curricula require a lab course must also register for GPH 214. Both GPH 212 and 214 must be taken to secure SQ General Studies credit | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SQ | |
| GPH | 213 | Climate and Weather | Fundamentals of meteorological/climatological analysis, including terminology and symbology. Recommended for meteorology/climatology program students. Both GPH 213 and GPH 215 must be taken to secure SG General Studies credit. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SG | |
| GPH | 214 | Introduction to Meteorology Laboratory | Introduces basic meteorological/climatological data and measurements. Suggested concurrent enrollment in GPH 212. Both GPH 212 and 214 must be taken to secure SQ General Studies credit. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | SQ | |
| GPH | 215 | Climate and Weather Laboratory | Fundamentals of meteorological/climatological map analysis and interpretation. Recommended for meteorology/climatology program students. May be taken concurrently with GPH 213. Both GPH 213 and GPH 215 must be taken to secure SG General Studies credit. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | SG | |
| GPH | 267 | Extreme Weather | Introductory survey of extreme weather and climate processes and the often disastrous consequences at the intersection of human operations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| GPH | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| GPH | 314 | Global Change | Response of Earth's natural systems (atmosphere, hydrosphere, lithosphere, biosphere) to past environmental change, and effects of potential future changes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | HU & G | Prerequisite(s): minimum 45 hours OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| GPH | 381 | Geography of Natural Resources | Nature and distribution of natural resources and the problems and principles associated with their use. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | G | |
| GPH | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| GPH | 405 | Energy and Environment | Sources, regulatory and technical controls, distribution, and consequences of the supply and human use of energy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only GPH 405 or GPH 505 |
| GPH | 409 | Synoptic Meteorology I | Diagnostic techniques and synoptic forecasting. Includes techniques of weather analysis, map interpretation, and satellite and radar analysis. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 4 | | Prerequisite(s): GPH 212 with C or better; GPH 214 with C or better; MAT 265 or 270 with C or better; Pre- or corequisite(s): PHY 121 or 150 OR Visiting University Student |
| GPH | 410 | Synoptic Meteorology II | Diagnostic techniques and synoptic forecasting. Includes techniques of weather analysis, map interpretation, and satellite and radar analysis. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 4 | | Prerequisite(s): GPH 409 with C or better |
| GPH | 412 | Physical Meteorology | Physical processes in the earth-atmosphere system on regional and global scales; concepts and analysis of energy, momentum, and mass balances. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): GPH 111; MAT 270; PHY 121/122 with C or better; Credit is allowed for only GPH 412 or GPH 591 (Physical Meteorology) |
| GPH | 413 | Meteorological Instruments and Measurement | Design and operation of ground-base and aerological weather measurement systems. Collection, reduction, storage, retrieval, and analysis of data. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): GPH 213 with C or better or Visiting University Student |
| GPH | 414 | Climate Change | Surveys three climate research areas: paleoclimatology, theories (e.g., greenhouse warming), numerical modeling. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | G | Prerequisite(s): GPH 111 or 213 or 314 with C or better |
| GPH | 418 | Landforms of the Western United States | Studies landforms and geomorphic processes in the western United States, including lecture, topographical maps, aerial photographs, satellite imagery, and field trips. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| GPH | 422 | Plant Geography | Plant communities of the world and their interpretation, emphasizing North American plant associations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): BIO 181 or GPH 111 or PLB 200 with C or better; Credit is allowed for only BIO 430 or GPH 422 or PLB 422 |
| GPH | 433 | Alpine and Arctic Environments | Regional study of advantages and limitations of the natural environment upon present and future problems involving resource distribution, human activities, and regional and interregional adjustments. | N | PRA | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | G | Credit is allowed for only GPH 433 or 598 (Alpine & Arctic Environments) |
| GPH | 444 | Arizona Landscapes | How to interpret and analyze Arizona's amazing landscapes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only GPH 444 or GPH 494 (Arizona Landscapes) OR Visiting University Student |
| GPH | 474 | Dynamic Meteorology I | Large-scale atmospheric motion, kinematics, Newton's laws, wind equation, baroclinics, vorticity, and the midlatitude depression. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s) with C or better: GPH 212; GPH 214; MAT 267 or 272; PHY 131; PHY 132 OR GPH 212; GPH 214; MAT 267 or 272; PHY 151 OR Visiting University Student |
| GPH | 475 | Dynamic Meteorology II | Topics in climate dynamics. General circulation, numerical modeling, teleconnection phenomena, and surface-atmosphere interaction. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): GPH 474 with C or better |
| GPH | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |
| GPH | 491 | Geographic Field Methods | Field techniques, including use of aerial photos, large-scale maps, and fractional code system of mapping; urban and rural field analysis to be done off campus. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | |
| GPH | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-6 | | Prerequisite(s): Barrett Honors student |
| GPH | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| GPH | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| GPH | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-3 | | |
| GPH | 511 | Fluvial Processes | Geographical aspects of processes of river erosion, transportation, sedimentation: emphasizing spatial characteristics of forces, resistance, landforms, sediment; includes computer applications. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| GPH | 513 | Meteorological Instruments and Measurement | Design and operation of ground-based and aerological weather measurement systems. Collection, reduction, storage, retrieval and analysis of data. Final project requires designing a field research measurement program for a hypothetical research question. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GPH 413 or GPH 513 or GPH 598 (Meteorological Instrmntn M) |
| GPH | 563 | Urban Climates | Explores the urban climate system and its relationship with the built infrastructure of cities, including the causes, consequences and mitigation options for urban heat islands. Topics include the urban energy balance; materials in the urban environment; waste heat from energy consumption in cities; scales of urban-influenced climate modification; and implications for human comfort/health, air quality and energy consumption. Intended for graduate students in geographical sciences, urban planning, design, engineering, and related disciplines interested in learning about the urban climate system. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GPH 563 or GPH 598 (Urban Climates) or GPH 598 (Urban Heat Island) |
| GPH | 569 | Digital Analysis of Remotely Sensed Data | Focuses on the digital image processing of remotely sensed data for earth resource analysis and applications. Provides the skills and knowledge to apply digital remote sensing techniques for biophysical and environmental planning and problems. Through laboratory work, students have opportunities to practice concepts and techniques learned in the lecture part. Requires a reasonable background in college algebra and basic statistics. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only GPH 394 (Digital Analysis of Remotely Sensed Data), 569 or 598 (Digital Analysis of Remotely Sensed Data) |
| GPH | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 596 | Advanced Spatial Statistics | Multivariate and advanced statistical techniques including Box-Jenkins modeling and spectral analysis. Requires project papers and presentations. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 597 | Geography Capstone | Allows students to create a culminating experience that reflects the breadth and depth of their MA experience. By doing so, students have the opportunity to articulate the value of the degree to potential employers. Students have several options to fulfill the capstone requirement; they may submit a research paper, a professional portfolio, or a creative component. | N | LEL | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): GCU 528; GCU 596 |
| GPH | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|------------|----------------------------------|---|-------------------|-------------------|-----------------|---------------|---|--|-------|-----------------|--|
| GPH | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GRA | 101 | Designing Life | Helps students develop strategies to successfully navigate their education experience. Focuses on critical and reflective thinking. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| GRA | 111 | Graphic Design History I | Surveys development of visual communication from its origins to the 20th century. Investigates significant technological, industrial, and social influences. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU | |
| GRA | 112 | Graphic Design History II | Surveys contemporary and 20th-century graphic design. Investigates relationships among graphic design and related disciplines, technological, industrial, and social influences. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): GRA 111 with C or better |
| GRA | 121 | Principles for Graphic Design I | Graphic design as a language and process for creative thinking and realization. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Environmental Design or Graphic Design major; Corequisite(s): GRA 111 OR Visiting University Student |
| GRA | 122 | Principles for Graphic Design II | Continued exploration of graphic design as a language and process for creative thinking and realization. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): GRA 121 with C or better; Environmental Design or Graphic Design major. Corequisite(s): GRA 112 |
| GRA | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| GRA | 220 | Design Drawing I | Drawing as language to explore and communicate ideas. Development of drawing aptitude as language and process for graphic design thinking. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Graphic Design BSD major; GRA 101 with C or better; GRA 111 with C or better; GRA 112 with C or better; GRA 121 with C or better; GRA 122 with C or better; minimum 3.00 GPA OR Visiting University Student |
| GRA | 221 | Letterform | Drawing of letterforms with focus on proportion and structure. Introduces letterform nomenclature and classifications. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Graphic Design BSD major; GRA 101 with C or better; GRA 111 with C or better; GRA 112 with C or better; GRA 121 with C or better; GRA 122 with C or better; minimum 3.00 GPA OR Visiting University Student |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|---|-------------------|-------|-----------------|--|
| GRA | 222 | Visual Communication I | Theoretical and applied studies in shape, drawing, and color. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Graphic Design BSD major; GRA 101 with C or better; GRA 111 with C or better; GRA 112 with C or better; GRA 121 with C or better; GRA 122 with C or better; minimum 3.00 GPA OR Visiting University Student |
| GRA | 223 | Typography | Theoretical exercises in spatial and textural qualities of type. Problems in tension, activation, and balance. Exercises in simple typographical applications. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Graphic Design BSD or Pre-Graphic Design major; GRA 220 with C or better; GRA 221 with C or better OR Visiting University Student |
| GRA | 224 | Visual Communication II | Transition from theoretical to applied problems. Emphasizes refinement of visual skills. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Graphic Design BSD or Pre-Graphic Design major; GRA 220 with C or better; GRA 222 with C or better OR Visiting University Student |
| GRA | 225 | Communication/Interaction Design Theory | Theory related to the design of communication artifacts and interaction within various media environments. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| GRA | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| GRA | 321 | Technology for Design I | Explores the process of technology in design. Projects interface with GRA 361. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Graphic Design student; Corequisite(s): GRA 361 OR Visiting University Student |
| GRA | 322 | Technology for Design II | Emphasizes advanced technology in design problems. Projects interface with GRA 362. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): GRA 321 with C or better; Corequisite(s): GRA 362 |
| GRA | 345 | Design Rhetoric | Develops critical thinking and expression of ideas in concise and persuasive written and spoken form. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | L | Prerequisite(s): Archtctrl Stdies, Dsign Stdies, Dgtal Cltre (Dsign), Envir Dsign, Grphic Dsign, Indstrial Dsign, Interior Dsign, or Landscape Archtctre major, or Dsign Studies minor; ENG 102, 105, or 108 w/ C or better OR Visiting University Student |
| GRA | 361 | Visual Communication III | Explores methodologies of strategic communication, development of visual systems, and information design ideation processes leading to applied projects in print and digital media. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Graphic Design student; GRA 223 with C or better; GRA 224 with C or better; Corequisite(s): GRA 321 OR Visiting University Student |
| GRA | 362 | Visual Communication IV | Comprehensive studio projects with emphasis on production processes leading to multidisciplinary applied projects in print, 3-D space, and digital media. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Pre-requisites: Graphic Design student; GRA 361 with C or better; Co-requisite: GRA 322 |
| GRA | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| GRA | 401 | Creative Environment | Explores and investigates theories of the psychology of space, psychology of people in space, and the psychology of objects as it pertains to creativity and the creative environment. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| GRA | 421 | Exhibit Design | Familiarization with the processes associated with the design of exhibits, especially visual communication in 3-D. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Graphic Design BSD major; GRA 362 with C or better OR Visiting University Student |
| GRA | 422 | Motion Graphics and Interaction Design | Discusses and explores theory related to the design of motion graphics and interaction through lectures and studio projects. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Graphic Design BSD major; GRA 322 with C or better OR Visiting University Student |
| GRA | 423 | Advanced Interaction Design | Advanced discussion and exploration of theory related to the design of interaction. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisite: GRA 422 |
| GRA | 424 | Advanced Media | Advanced exploration of digital media for communication. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): GRA 422 with C or better |
| GRA | 440 | Finding Purpose | Career orientation in the creative professions, including value clarification, decision making, lifestyle planning, goal setting, and expression of individual talents. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| GRA | 461 | Visual Communication V | Comprehensive studio projects with emphasis on design processes, including research, writing, critical thinking, practice, presentation, and analysis. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Graphic Design BSD major; GRA 362 with C or better OR Visiting University Student |
| GRA | 462 | Visual Communication VI | Comprehensive studio projects pursued in cooperation with a public organization or private enterprise. All projects culminate in an exhibit. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Graphic Design BSD major; GRA 461 with C or better OR Visiting University Student |
| GRA | 464 | Collaborative Design Development I | Team-based product development course featuring applied projects. Open to senior students from business, engineering, design, and other disciplines. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ENT 464 (or MGT 464) or GRA 464 or IND 464 or SOS 474 OR Visiting University Student |

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| GRA | 465 | Collaborative Design Development II | Team-based product development course featuring applied projects. Open to senior students from business, engineering, design, and other disciplines. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ENT 465 (MGT 465) or GRA 465 or IND 465 or SOS 475 OR Visiting University Student |
| GRA | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | PRA | N | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): Graphic Design major; GRA 362 with C or better |
| GRA | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | | Prerequisite(s): Barrett Honors student |
| GRA | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| GRA | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| GRA | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-3 | | |
| GRA | 501 | Creative Environment and Collaborative Leadership | Explores and investigates creativity and group collaboration leadership as it applies to the creative process. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): graduate Herberger Institute for Design and the Arts major |
| GRA | 521 | Advanced Visual Communication Design Studio I | Students translate data, stories and references that they collect in their research into masterful visual narratives. This studio is an inquisitive environment for exploring ways to frame information and weave stories with graphic design. Students acquire new knowledge as individuals and as a group. Emphasizes studio-based research, conceptual development and articulation of process, voice and a high level of design execution. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Master of Visual Communication Design major. Credit is allowed for only GRA 521 or GRA 590 (Advanced Visual Communication Design Studio I) |
| GRA | 522 | Advanced Visual Communication Design Studio II | Encourages students to develop a framework for understanding the role of design systems, tools and objects as cultural artifacts and their reflection on social diversity. In particular, students focus on the cultural experience of collaborative consumption as it is fostered through visual communication design. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): GRA 521. Credit is allowed for only GRA 522 or GRA 590 (Advanced Visual Communication Design Studio II) |
| GRA | 526 | Visiting Designers | Series of workshops (three per semester) in which students work closely with professionals and scholars in design and related disciplines. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisites: Master of Science in Design or PhD in Environmental Design & Planning student |
| GRA | 561 | Methods in Visual Communication I | Introduces methodology in visual communication. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisites: Master of Science in Design or PhD in Environmental Design & Planning student |
| GRA | 562 | Methods in Visual Communication II | Advanced theories and methodologies in visual communication. Emphasizes visual search as the synthesis of theory and practice. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): GRA 561 with C or better |
| GRA | 563 | Thesis Document Design | Emphasizes the construction of the final thesis document as a visual communication object and/or medium. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisites: Master of Science in Design student |
| GRA | 581 | Internship in Teaching Design | Develop assignments, conduct critiques, structure dialogue, make presentations, and assist in the instruction of studio and lecture courses. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisites: Master of Science in Design student |
| GRA | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GRA | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GRA | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GRA | 621 | Advanced Visual Communication Design Studio III | Structured around the Design School traveling-studio model, this studio challenges students to work together to identify new design opportunities. For approximately one week during the semester, students travel to an off-campus location to examine a local condition there for which new design solutions are needed. Students return to ASU and continue working on the project for the semester. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): GRA 522 |

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| GRA | 622 | Advanced Visual Communication Design Studio IV | As a culmination of study at the master level, the student is responsible for the development of an individually determined, semester-long project in response to defined objectives, periodic commentary by committee, and formal review. Students meet regularly with a faculty member to discuss assignments. Final faculty review and project book containing a written as well as graphic theoretical component are the forms of final presentation for this contribution to the field of visual communication design. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): GRA 621 |
| GRD | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Graduate College | Graduate College | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GRD | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Graduate College | Graduate College | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GRD | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Graduate College | Graduate College | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GRD | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | GNA | Graduate College | Graduate College | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GRD | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Graduate College | Graduate College | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GRD | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | N | LEC | Y | Z1 | Graduate College | Graduate College | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GRD | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | GNA | Graduate College | Graduate College | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GRK | 101 | Elementary Ancient Greek | The beginnings of the ancient Greek language, the language of Homer, Sophocles, Plato and the New Testament. Grammar and vocabulary, with an emphasis on reading ability. For beginning students only. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | |
| GRK | 140 | Greek and Latin Roots in Bioscientific Terminology | Introduces students to the ancient Greek and Latin root words most commonly used in biological, medical, and other scientific terminology, and gives practice identifying them in context. The knowledge of these root words enables students to memorize with greater ease and increased retention the bioscientific terminology they encounter in other coursework as well as in their medical or scientific profession. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Credit is allowed for only BIO 140 or GRK 140 or LAT 140 or SLC 140 OR Visiting University Student |
| GRK | 142 | Ancient Greek Civilization | Ancient Greek civilization and culture. Studies (in roughly equal parts) the art, archaeology, literature, culture and history of ancient Greece from prehistoric times until after the conquests of Alexander the Great (the Hellenistic Age). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Credit is allowed for only GRK 142, GRK 194 (Ancient Greek Civilization) or SLC 142 |
| GRK | 201 | Intermediate Ancient Greek | Ancient Greek syntax and grammar, equipping the student to read the foundational texts of Greco-Roman antiquity. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): GRK 101 with C or better |
| GRK | 223 | Introduction to Greek and Roman Mythology | Familiarizes students with the characters and events of ancient Greek and Roman myths through their literary manifestations, and moves beyond mere narrative to consider the possible interpretations and functions of these myths, thus revealing the central concerns of ancient society and giving insights into the working of our own society and its literary and artistic traditions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Credit is allowed for only GRK 223 or LAT 223 or SLC 223 |
| GRK | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| GRK | 301 | Ancient Greek Literature I | Readings in ancient Greek prose; advanced grammar. May be repeated for credit. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): GRK 201 with C or better OR Visiting University Student |
| GRK | 302 | Ancient Greek Literature II | Readings in ancient Greek poetry. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): GRK 201 with C or better |
| GRK | 344 | Classics and Comics | Explores the connections between the classical tradition of Ancient Greek and Roman literature and the modern American superhero comic book tradition. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 101 or 105 or 107 with C or better; Credit is allowed for only GRK 344 or LAT 344 or SLC 344 or GRK/LAT/SLC 394 (Classics and Comics) or SLC 494 (Classics and Comics) |
| GRK | 346 | Ancient Greece II: Late Classical and Hellenistic Period | Traces the transformation of the Greek world between the end of the Peloponnesian War (404 B.C.) and the absorption of the last major Greek state by growing power of Rome (30 B.C.), with special attention to how Greeks in this period lived and thought and how the period's political and economic changes helped to create new forms of culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only GRK 346 or HST 346 or SLC 346 |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| GRK | 347 | Ancient Greece I: Bronze Age through the Peloponnesian War | Traces Greek History from its prehistoric beginnings through the Peloponnesian War (431-404 B.C.), with a special focus on the Archaic (ca. 800-480 B.C.) and Early Classical periods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only GRK 347 or HST 347 or SLC 345 OR Visiting University Student |
| GRK | 351 | Tales of Troy | Provides an in-depth exploration of the ancient Greek archaic primary source material, including literary, art historical and archaeological sources. Uses stories about the Trojan War as a theme for the course, but does not limit exploration of the literature, art, history and culture of archaic Greece. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GRK 351 or GRK 394 (Tales of Troy) or LAT 394 (Tales of Troy) or SLC 351 or SLC 394 (Tales of Troy) OR Visiting University Student |
| GRK | 352 | The Rise and Fall of Ancient Athens | Comprehensive coverage of the cultural and historical world of the ancient Greek civilization from the end of the Greco-Persian wars in 479 BCE through the rise and decline of Athens (including the Peloponnesian War with Sparta) to the final defeat of the Greek cities by Philip of Macedon in 338 BCE. This holistic study addresses not only the history of this period but also its literature, art and philosophy, with an emphasis on how these phenomena relate to one another. This period advanced to the state that was regarded by later civilizations as their peak, and which inspired Rome and Europe in the Renaissance. Athens, as the cultural center of Greece at this time, boasted the tragedies of Aeschylus, Sophocles, and Euripides, the comedies of Aristophanes, the history of Thucydides, the philosophy of Plato, and the artistic achievement of the Parthenon. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GRK 352 or GRK 394 (Glory that was Greece) or LAT 394 (Glory that was Greece) or SLC 352 or SLC 394 (Glory that was Greece) OR Visiting University Student |
| GRK | 353 | Alexander and His Empires | Comprehensive coverage of the cultural and historical world of the ancient Greek civilization from the ascent of Alexander the Great to the Macedonian throne in 338-336 BCE, through the existence of the kingdoms that followed his conquests, until their final subjugation by the Roman Empire in 31 BCE. This holistic study addresses not only the history of this period, but also its literature, art, religion, philosophy and science, with an emphasis on how these phenomena relate to one another. This was a period of massive economic and military expansion (including colonization), accompanied by social dislocation and cultural and scientific innovation. In these respects, this period has much to teach us today. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GRK 353 or GRK 394 (Alexander and His Empires) or SLC 353 or SLC 394 (Alexander and His Empires) OR Visiting University Student |
| GRK | 360 | Greece and Rome at War | Covers ancient Greek and Roman warfare and features military historical staples like strategy, tactics, logistics, battles and leadership. Other topics that intersect this exploration of ancient warfare include ethnolinguistic identity, state formation, religion, gender, imperialism, military theory, medicine, monumental building and slavery. Students acquire wide knowledge of the relevant history and are encouraged to critically think about essential themes in historical studies. Also features a strong interactive component, including group discussions, theory-crafting and presentations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only GRK 360 or HST 397 or LAT 360 or SLC 360 OR Visiting University Student |
| GRK | 362 | Ancient Greek Religion | Surveys ancient Greek religion, including its gods, ritual practices and festivals. Analyzes the development of the religion over time, and how both ancient and modern figures interpreted its meaning. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 101 (or ENG 105 or 107) with C or better; Credit is allowed for only GRK 362, REL 360, SLC 362 or SLC 394 (Ancient Greek Religion) |
| GRK | 363 | Ancient Magic and Witchcraft | Examines magical spells, curses, amulets and other materials from ancient Greece and Rome. Students read anthropological discussions of magic worldwide to understand how ancient magic operated, what its function was within Greco-Roman society, and how it developed over the centuries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GRK 363 or LAT 363 or SLC 363 or GRK 394/LAT 394/REL 394/SLC 394 (Magic and Witchcraft in Antiquity) OR Visiting University Student |
| GRK | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| GRK | 444 | Heroes, Ancient and Modern | Explores the heroic literature of the ancient Greeks and Romans, then traces the classical tradition and reception of the classical hero in medieval and modern texts. Incorporates history, art history and material culture from the relevant societies to supplement study of the texts involved. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only GRK 444, LAT 444, SLC 444 or SLC 494 (Heroes: Ancient and Modern) |
| GRK | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| GRK | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| GRK | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |

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| GRK | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| GSC | 501 | War, Conflict and Security | Explores the rapidly changing and highly complex geopolitical, technological and strategic context within which modern conflict and war occur. Introduces the profound social, political, economic and cultural implications of the changing nature of war and conflict. Provides an overview of the historical background of war and conflict, and some of the classic philosophical and military-strategic theories and conceptions of war. Introduces the institutional framework, the Westphalian state-based system of modern international law and relations, within which much of the theory and practice of modern conflict and war has developed. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GSC | 502 | Security Studies | Continues the exploration of the rapidly changing and highly complex geopolitical, technological and strategic context within which modern conflict and war occur; the profound social, political, economic and cultural implications of the changing nature of war and conflict. Provides an overview of several fundamental themes that run through the history of war and strategy, and discusses the increasing importance of nonmilitary "soft power" in managing conflict situations. Also introduces the importance of regional knowledge in conflict as a critical operational competence (using the Russian invasion of Crimea and Ukraine as a case study), as well as the broader challenges of civilizational conflict and the importance of identity and narrative in modern conflict. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GSC | 503 | Future of War | Provides an overview of key issues and ideas associated with the future of war. Each week presents a set of readings related to a particular theme including how the future of war has been visualized, new domains of conflict, new and emerging technologies; shifting power dynamics, and varied national views and doctrines. Readings and video elements also explore various case studies and scenarios as well as fictional treatments. Students gain an understanding of core theories, concepts and considerations, providing them with a foundation for engaging the complexity of war and its future. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GSC | 504 | Understanding Conflict and War | Provides a critical overview of different definitions and meanings of war and armed conflict. Engages key theories used to understand conflict including realism, neorealism, liberalism and constructivism. Considers core issues in the field, linking empirical studies with explanations for what drives, sustains and resolves conflict including reviewing the fact that democratic states tend not to go to war with each other (the democratic peace); the structure and logic of arms races; escalation and alliance; and core ideas regarding peace, conflict management and conflict resolution. Many of the issues and theories reviewed in this class are linked with case studies and concrete examples. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GSC | 505 | Law of War | Provides an overview of key elements of the law of war, also known as international humanitarian law (IHL) and the law of armed conflict (LOAC). Engages basic questions of international law, reviewing its history, sources and structure. Covers jus ad Bellum, the rules governing how states legally go to war as well as jus in bello, the established ideas regarding how to manage actions during armed conflict. Covers key principles within the law of war, including distinction, proportionality and necessity as well as reviewing the differences between international and noninternational armed conflicts and other key ideas. Reviews the systems through which the law of war is enforced and also considers basic theoretical and practical issues regarding compliance. In general, links the ideas, practices, rules and understandings of the law of war with specific cases and concrete examples. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GSC | 506 | U.S. Politics of Security | Builds a foundational understanding of the complex system of formal and informal actors and structural forces that shape U.S. security policy. Starts with both theoretical and case study examinations of the role domestic politics plays in the production of policy decisions. Analyzes critical institutional actors and relationships between actors, including: the President and Congress, the National Security Council and interagency, and the civilian-military relationship. Finally, investigates key structural forces placed on the policy-making process by the American society, and the relationship between policymakers and the public. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| GSC | 507 | Global Politics of Security | Offers several approaches to understanding the global politics of security, including: the structure of international and multinational security institutions and actors including nongovernmental organizations (NGOs), the United Nations' Security Council, peacekeeping missions, regional organizations (NATO, EU, Inter-American System, ASEAN) and others. Also considers the roles of private military and intelligence contractors and corporations working on issues of direct and indirect relation to security issues. Through specific case studies and examples, reviews the operation of these bodies and their complex relationships. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GSC | 508 | Comparative Studies of Conflict | Provides a critical overview of key theories on the causes, justifications and structures of political conflict and the use of violence. Begins by outlining core issues within the problem of social order, that is, how to think about managing governance and power. Reviews the idea of "collective action" and its link with force and violence, ideas that are contrasted with nonviolence as a political strategy. Then considers civil wars and interstate wars, comparing these forms of organized violence, as well as the current challenges of armed nonstate actors (within an international system premised on states) and an overview of the meaning of peace. Links the issues and theories reviewed in this class with case studies and concrete examples as a means of linking key ideas with their practical and policy implications. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GSC | 509 | Emerging Technologies and Global Security | Provides an introduction to the implications of accelerating changes in military and security technologies, fueled by rapid developments in five core technology systems: nanotechnology, biotechnology, information and communications technology (ICT), robotics and applied cognitive science. Also introduces the idea of revolutions in military affairs, a concept that has been used to frame discussions about the strategic implications of new technologies from drones to cyber. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GSC | 510 | Governance in Post-Conflict and Transitional Contexts | One of the most pressing current global security policy issues involves understanding and implementing strategies, mechanisms and processes to address post-conflict and transitional contexts. How do societies create and manage representational governance after the fall of authoritarian regimes? How can institutions be rebuilt and reconstituted? How can a social order address the justice demands of victims of brutal political violence whose suffering was often a key element of prior systems of rule? Provides a critical introduction to the field of post-conflict reconstruction and transitional justice. Reviews the tense and uncertain nature of post-conflict environments and their challenges, engages the security questions raised by peacekeeping and stability operations. Also considers the difficulties of governance and reconstruction in the aftermath of conflict. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GSC | 511 | Terrorism and Insurgency | Provides a critical overview of the use of terror by governments, insurgents and other nonstate actors. Engages the definition of terrorism and provides an overview of key practices and strategies. Reviews key theories as to the causes, meaning and impact of the deployment of terror as a strategy by distinct groups. This involves a consideration of state terror, insurgencies and global terror networks. Links many of the core ideas reviewed in this class with a set of case studies designed to ground the broader discussion of terror within specific situations and contexts. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GSC | 512 | Global Trends | Takes a broad look at emerging global patterns as they relate to governance, security and social order. Examines a number of interrelated topics, including: globalization and various forms of backlash; populist movements; socioeconomic inequality both within and between societies; the shifting of economic power from the global west to the global east; demographic changes and the resource strain that results; democratic backsliding, protests and social unrest; and the weakening of state-society relations. Situates these conflicting trends within a bigger question: What does it all mean for global stability? Do these new challenges signify the erosion of an aging order, and if so, what emerges from the upheaval? | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------------|-------|-----------------|---|
| GSC | 550 | Capstone | Serves as the culminating experience of the Masters in Global Security (MAGS). The capstone course allows each student to explore a research area, interest, theme or question. Final written products will be developed individually based on consultation with faculty. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; GSC 501 |
| GSC | 560 | Overview of Cybersecurity | Provides an overview of key issues and ideas associated with cybersecurity. Each week presents a set of readings related to particular themes including: the principles of cybersecurity and the special challenges posed by an interconnected world; key elements of internet architecture; outline of cyberattacks and cyberdefense; public and private internet governance and protection; espionage; and an overview of cyberwar. Provides a general overview of questions and core concepts regarding the cyber domain, the nature and structure of the internet and how to understand the special risks, benefits, offensive and defensive elements of an increasingly interconnected world. Reviews a set of core theories, concepts and considerations to provide students who may have little background in the area and do not need any technical proficiency with a foundation for engaging the complex nature of cybersecurity and its rising significance for global security. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GSC 560 or GSC 598 (Overview of Cybersecurity) |
| GSC | 561 | Cybersecurity Threats and Trends | Provides an overview of cybersecurity threats and trends. Each week presents a set of readings related to particular themes including: an overview of hacking and data breaches; special challenges and risks associated with protecting critical infrastructure on a state and federal level; and the complex, global threats posed by cybercrime. Also explores the risks associated with rapidly expanding social media and interconnectedness currently and into the future as well as providing an overview of key legal and ethical issues associated with cybersecurity policy. Provides a general overview of these issues in an effort to outline major issues regarding cybersecurity threats and how to best think about their impact on global security. Assists students in developing a strong conceptual foundation for engaging these issues and their broad policy implications. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GSC | 562 | Cybersecurity, Global Politics and Resiliency | Provides an overview of global cybersecurity preparation and resiliency. Because international cybersecurity threats change rapidly and because complete protection for most systems is impossible in an interconnected world, a significant amount of cyber policy focuses on improving mechanisms of preparation and enabling multiple forms of resiliency. The general idea is that attacks cannot be prevented or fully anticipated so creating more flexible, redundant and multi-faceted systems is a useful policy. Each week's readings are related to themes including: understanding core vulnerabilities, types of attackers and targets, modes of deterrence and encryption systems and tools. Engages the special challenges raised by attribution and outlines how to conceptualize and ensure system resiliency. Provides a critical overview of central ideas, concepts and terminology for better engaging of cybersecurity preparation and resiliency as a key element of global security. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GSC | 563 | Cybersecurity Planning and Strategy | Provides an overview of cybersecurity planning and strategy. Since cybersecurity is a constantly evolving field, many aspects of planning are in a state of continual evolution. Many believe that broad-based, flexible strategies are necessary to enable key actors and institutions to engage in adequate policies to ensure general cybersecurity preparedness. Class themes include: an overview of key institutions and actors, central concepts of threat analysis, public and private cyberpolicy, and elements of international regulation. Also engages issues of cybersecurity strategy, the special challenges of non-state actors and ways to conceptualize and engage the future of cybersecurity. Reviews essential ideas and concepts, gains familiarity with key actors and institutions, and engages the complex interplay of governmental, intergovernmental, commercial and non-state actors engaged in cyber threats and protective action. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): GSC 560 |
| GSC | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | CatalogNbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| GSC | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GSC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GTD | 501 | Global Technology and Development | Major theories of economic, political, and social development, with particular emphasis on the impact of current technologies and globalization. | N | LEC | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GTD | 503 | Technology and the International Political System | Historical development of international political system, with emphasis on role of technology. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GTD | 504 | Technology and Development in Zones of Conflict | Examines the special context of technology and development in zones of conflict that face wars among other nations, civil strife and dramatic political change. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GTD | 505 | Social Science Inquiry for Global Development | Research design and processes in the social sciences including development of problem statements, effective literature reviews, diverse techniques of primary and secondary data collection and analysis, and design and development of research proposals. | N | LEC | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GTD | 506 | Applied Project Methods in Global Development | Surveys theoretical frameworks, research methods and knowledge mobilization techniques for research and creative applied projects in global development. | N | LEC | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GTD | 507 | Technology and Development in The Middle East | Examines historical and current patterns of political and socioeconomic development in the Middle East, including the role of technological development and current events. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GTD 507 or GTD 598 (Political Development in the Middle East) |
| GTD | 508 | Technology and Development in Latin America | Examines historical and current patterns of political and socioeconomic development in Latin America, including the role of technological development and current events. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GTD 508 or GTD 598 (Technology and Development in Latin America) |
| GTD | 509 | Technology and Development in North Africa | Examines historical and current patterns of political and socioeconomic development in North Africa, including the role of technological development and current events. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GTD 509 or GTD 598 (Technology and Development in North Africa) |
| GTD | 510 | Technology and Development in Sub-Saharan Africa | Examines historical and current patterns of political and socioeconomic development in Sub-Saharan Africa, including the role of technological development and current events. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GTD 510 or GTD 598 (Technology and Development in Sub-Saharan Africa) |
| GTD | 511 | Development Policy and Practices | Since the Bretton Woods Agreements in 1944, enormous energy has been devoted to generating the right tools for global development policy. Yet, little attention is given to the relationship between these tools, the practice of development and actual outcomes. At best, it is understood as a "gap" between the theory of development policy and practices. There is no reflection on what the good development policy looks like or what collective learning we have thus far. Informs students on the complexity of policy making and its relationship to development practices through time. Creates an intellectual space to discuss the practices of global development; uses case studies to enhance students' creativity and skill needed in managing and negotiating critical development challenges. Approaches development policy (models, strategies and project design) primarily as a tool to legitimize power relation rather than to orient practice for desired development outcomes. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| GTD | 512 | International Governance and Development of Nuclear Technologies | Examines the historical context, present development and possible futures of nuclear technologies around the world. Topics include the origins of the modern nuclear era (1945-present), the nuclear fuel cycle including waste management, nuclear energy for security and modernization, nuclear catastrophes, and new possibilities in nuclear technologies, as well as international policies, national imperatives and local concerns with nuclear development. Students gain a better understanding of the complex political, environmental, cultural and economic values that inform and shape the development and implementation of, as well as resistance to, nuclear technologies. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GTD 512 or GTD 598 (Technology and Development in Global Nuclear Energy) |
| GTD | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GTD | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GTD | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GTD | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | GNA | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GTD | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Global Futures | School for the Future of Innovation in Society | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GTD | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GTD | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 501 | Perspectives on Aging and the Life Course | Uses life course perspective to appreciate age over time and examine demographics, theories and changes of aging, and gerontological issues. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 502 | Research and Program Evaluation Issues in Aging | Focuses on critical thinking and empirical research in aging, along with program evaluation. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 503 | Diversity in Aging | Examines various assumptions and parameters of diversity, autonomy, interdependence, ethical standards and communication with older individuals | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 504 | Caregiving Issues for Families and Professionals | Focuses on family communication, common health problems, and family dynamics that affect the structure of the complex caregiving experience. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 505 | Interdisciplinary and Community Collaboration in Aging | Focuses on community collaboration with the family and older individuals to provide comprehensive care in aging. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 506 | Administrative Systems Management in Aging | Focuses on administration and management of long-term care providers in nursing facilities; subacute and post-acute care; assisted living; senior housing; and community-based care. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 507 | Care Coordination Across the Continuum of Care | Focuses on care coordination of older adults across the continuum of care. Content includes an examination of the components of care coordination and the skills needed to address the needs of older adults with complex health challenges. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 508 | Mental Health Assessment and Intervention | Focuses on the aging experience and examines principles of gerontological counseling theory and practice. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 509 | Interventions to Support Aging in Place | Focuses on creating supportive interventions to assist older adults in maintaining independence in their home environments. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 510 | Innovations in Program Development and Policy | Focuses on creating age-friendly communities using innovative interventions and programs to promote older adult independence and quality of life. Also explores the influence of policy on care of older adults. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| HCA | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 100 | Introduction to the Science of Health Care Delivery | Introduces the science of health care delivery in the United States. Presents basic concepts in health services, health care organizations, and the delivery of safe, accessible, high-quality health care. Solidifies concepts through the use of assignments, exams and discussions. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | |
| HCD | 101 | Introduction to Population Health | Introduces population health in the United States. Familiarizes students with the broad discipline of population health and how it influences community and individual health status. Discusses the role of various agencies in population health, methods of measurement and evaluation, major population health issues in the United States, and factors that contribute to individual and community health. Solidifies concepts through the use of in-class discussion, group work and individual analysis. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only HCD 101 or POP 100 (or PBH 100) OR Visiting University Student |
| HCD | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| HCD | 201 | Economics for Health Majors | Introduces economics and demonstrates the relevance of economic principles to the study of health care delivery systems and public health. Combines elements of a traditional introductory economics curriculum with broad coverage of microeconomics and specific application to current issues in health care delivery and public health policy. Prepares students for further study of health economics. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only HCD 201 or PBH 201 OR Visiting University Student |
| HCD | 300 | Biostatistics | Biostatistics and its use in health and health services research. Familiarizes students with statistical concepts and methods to analyze and interpret data and conceptually addresses statistical theory. Introduces Excel software to manage data and perform statistical tests. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | CS | Prerequisite(s): completion of General Studies MA requirement with C or better; minimum 30 hours; Credit is allowed for only HCD 300 or PBH 300 OR Visiting University Student |
| HCD | 302 | Health Care Management | Broad concepts and skills of management; application of these techniques to health care organizations, nonprofit and community-based organizations. Students appreciate the variability of management styles and personalities and begin to develop their own style. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 30 hours OR Visiting University Student |
| HCD | 303 | Global Health Care Systems | Examines health care delivery systems internationally and explores contemporary issues affecting the institutions that provide health care and the people who seek health services. Covers the historical development of international health care systems, the organization and financing of systems of care, and the policy process and priority setting. Also covers current efforts at health care reform. Provides students with the necessary professional skills to be effective participants in efforts to evaluate and improve the delivery of health care nationally and internationally. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | G | Prerequisite(s): minimum 30 hours OR Visiting University Student |
| HCD | 304 | Health Care Finance | Covers health care financing with an emphasis on the financial drivers of the U.S. health care system. Provides an overview of key accounting practices, financial statements and managing budgets. Covers cost containment strategies and the ethics of financial management. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): HCD 300 with C or better OR Visiting University Student |
| HCD | 330 | Health Care Systems in the U.S. | Presents and integrates the organization, financing, and delivery of health services in the United States from the professional, organizational, community, and systems perspectives. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 30 hours OR Visiting University Student |
| HCD | 332 | Population Health Policy and Legislation | Provides a historical and current overview of the federal/state/local law and policy-making processes that are relevant to population health, including how policies are implemented in society and the impact of those policies on health outcomes. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 30 hours OR Visiting University Student |
| HCD | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |

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| HCD | 400 | Interpreting the Scientific Literature | Emphasizes clinical relevance and application of searching and interpreting the literature, using case studies as examples. Applies these skills through in-class activities and through written report at the conclusion of the course. These tools ultimately assist the student with critical thinking and application of concepts to clinical scenarios. Class is held in a computer lab to facilitate class engagement. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| HCD | 401 | Leadership and Professionalism | Leadership, leadership theory and inter-professionalism in practice. Applies didactic content to case studies and activities designed to promote critical thinking and effective teamwork. Solidifies concepts through the use of assignments, exams and discussions. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only HCD 401 or MED 450 OR Visiting University Student |
| HCD | 402 | Health Economics | Examines decisions made by patients, practitioners, health care administrators, and public policy makers using economic tools and models. Gives particular emphasis to using economic models to understand and predict decision making under scarcity and imperfect information, which provides insight into the successes and pitfalls of a health care system. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): ECN 211, ECN 212, HCD 201, or PBH 201; minimum 45 hours; Credit is allowed for only HCD 402 or PBH 402 |
| HCD | 403 | Process Engineering | Core concepts in process engineering, specifically related to systems improvement and patient safety. The Institute of Medicine (IOM) advocates for integrating process engineering within health care to optimize health care outcomes. The IOM addresses multiple dimensions of health, including efficiency, effectiveness, safety, equity, patient-centeredness and access. These domains provide the framework from which faculty approach course content. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| HCD | 404 | Advanced Concepts in the Science of Health Care Delivery | Applies the themes of science, systems and leadership across the continuum of health and health care. Application and discussion of core competencies to facilitate critical thinking. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| HCD | 405 | Health Technology | Develops essential skills in identifying, analyzing and evaluating information technology applications in health care. Examples include electronic health records, computerized prescriber order entry, and computerized clinical decision support. Discusses the use of health technology in a variety of care settings, including outpatient and inpatient, and facilitate access to health care in resource-poor communities through the use of efficient technology. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |
| HCD | 420 | Population Health Management | Presents an overview of population health and its management. Emphasizes a solutions-based perspective, consistent with the Quadruple Aim. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only HCD 420 or IBC 420 |
| HCD | 422 | Health Disparities and Access to Health | Racial and ethnic health disparities in the United States. Explores disparities in healthcare seen at the provider and system level and their effects on health in the community. Also considers the historical context of racial and ethnic health disparities and the demographic and conceptual issues surrounding health disparities research. Reflects on the effects of behavior, socioeconomic status and group-specific disparities on community health status. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only HCD 422 or PBH 422 OR Visiting University Student |
| HCD | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | YGB | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): Science of Health Care Delivery BS major; minimum junior standing; minimum 2.00 GPA |
| HCD | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): Barrett Honors student |
| HCD | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| HCD | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| HCD | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-7 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| HCD | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-3 | | |

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| Subject | CatalogNbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|------------|--|---|-------------------|-------------------|-----------------|---------------|-----------------------------|-----------------------------|-------|-----------------|---|
| HCD | 501 | Biostatistics and Data Management | Provides an understanding of the statistical tools and principles of research design and methods in health behavior research in health environments. Encompasses an overview of quantitative, qualitative and mixed designs and focuses on the interpretation and communication of health behavior research through published reports and presentations. Incorporates research approaches and methodologies utilized in an array of content areas. Helps students gain a strong conceptual understanding and application of the statistical tools and research methods used to answer research questions of interest to health and health behavior researchers; it does not focus on mathematical treatments of underlying assumptions and formulae and related statistical problems sets or exercises. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 502 | Health Care Systems and Design | Introduces direct health care delivery structures and processes within and across health care settings, and their impact on the patient, family and community experience of the health care system and services. Examines the interaction among people, resources, delivery systems and built environments using perspectives, tools and strategies from multiple disciplines to evaluate strengths, gaps and opportunities for system improvements. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 510 | High-Value Patient-Centered Care | Evidence-based strategies for clinicians and health care administrators to implement into their workplace setting to promote healthy lifestyle behaviors and ultimately promote high-value, patient-centered care. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 511 | Health Economics, Policy, and Payment Models | Economics provides a framework to understand and predict human decision making under scarcity, uncertainty and imperfect information. Examines concepts central to health care economics and their application to important decisions made by patients, families, practitioners, administrators and policy makers. Uses an individual family's scenario through a progressive case study to evaluate how incentives and information affect the health and health care of each family member. Each meeting integrates basic economic principles, existing facts and knowledge from economic research, and individual perspectives and experience regarding how these concepts apply to health care policy. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Degree- or Nondegree-seeking graduate; Credit is allowed for only BMD 511 or HCD 511 |
| HCD | 517 | Economic Evaluation in Health Care | This course will provide students with an introduction to economic evaluation in health care, including its use as a tool to assist with government decision making. The course will focus on the concepts and the methods involved in cost-effectiveness/utility analysis. It will facilitate the development of skills required to critically appraise economic evaluations and illustrate how to apply the concepts involved to assess health interventions. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): International Health Management MIHM student |
| HCD | 520 | Population Health | Presents population health within a framework of health care delivery, public health, health promotion and prevention, health policy, and community programs and resources. Emphasizes a solutions-based perspective consistent with the Triple Aim. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 521 | Law and Health Promotion | Analyzes case studies which illustrate the impact of policy and law on health promotion strategies and health outcomes. Includes discussions of the theoretical foundations supporting legal, ethical and economic decision making related to health promotion and real-world examples of the impact of current policies. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 527 | Health Care Economics and Financial Management | This course combines health economics and health care financial management. There is an introduction to double entry accounting to provide a working knowledge of cash and accrual accounting, plus an analysis of balance sheets, profit and loss statements and cash flow statements. How to construct a budget in a health care environment is a core skill in this course. The health economics component of the course introduces students to important economic concepts such as opportunity cost and supplier-induced demand and illustrates how these concepts can be applied to the health care industry. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): International Health Management MIHM student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|-----------------------------|-----------------------------|-------|-----------------|--|
| HCD | 532 | Health Care Management and Finance | Health care organizations are very complex institutions and require sophisticated understanding of modern management techniques. Provides a comprehensive overview of health care management concepts and principles with a focus on developing individual management skills. Centered on the management function and its unique purpose for an organization. Emphasizes planning, organizing, motivating and controlling, and how to acquire competency in these functions. Also addresses health care finance, which is an essential management competency. | N | LEC | Y | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 537 | Comparative Health Care Systems | The first part of this course focuses on the principles and practice of health system analysis, the sources and utilisation of information relating to the development, organisation and operation of health services, and frameworks for assessing the performance of different health systems. Then, drawing on material from the health systems of affluent and developing countries, we examine the constitutional, legal, economic, social, and political environments within which health care systems operate and the various patterns that emerge. We review patterns of health service organisation and management: health policy development and planning; characteristics of personal, community and environmental health services and their activities; health service financing arrangements, including health insurance systems; and, the health workforce. The impact of some recent attempts at health system reform in different countries is assessed and proposals for future re-structuring are critically reviewed. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): International Health Management MIHM student |
| HCD | 540 | Process Engineering for Health Care Quality and Safety | Provides an introduction to the science of health care delivery, an exciting field that focuses on how to achieve the quality care that providers want to deliver and patients expect to receive. Too often quality care is compromised by inadequately designed systems of care. Provides an overview of the health care delivery system and then introduces the major components of the field. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 547 | Health Leadership and Workforce Management | This course critically examines a range of theories, models and approaches to leading and managing at different levels in health service organisations. It provides tools to identify and respond to management problems in the context of major changes in priorities and services in health and its workforce. Whether you come from a clinical, public health or other disciplinary background we consider how you can draw upon that understanding and your current organisational setting to strengthen your health leadership capacity and workforce management skills. Topics include: the shifting role of managers in health services; management and leadership theories and models; influence, power and management ethics; managing in resource constrained environments; diversity in health service settings; managing teams and motivating staff; conflict management and improving health worker performance; workforce planning and capacity building. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): International Health Management MIHM student |
| HCD | 550 | Capstone | Discusses the results from student capstone projects, done in teams, and these projects related to broad topics explored during the prior coursework in the program. Capstone projects are identified early in the master's program in conjunction with and overseen by the degree leaders and the industry partners, and often a health care organization or health agency. These projects are worked on through the year with final written and verbal reports due in the last half of the semester. | N | RSC | N | GNA | College of Health Solutions | College of Health Solutions | 1-2 | | Prerequisite(s): HCD 502 with C or better |
| HCD | 557 | Clinical Governance and Risk Management | This course provides an overview of emerging health policy with particular attention to clinical governance. The course consists of three components. The first component targets the main constituents of clinical governance, including practice design, analysis and improvement, error reporting and investigation, public accountability and open disclosure, multi-disciplinary teamwork and clinical leadership. The second component introduces the tools of clinical process redesign. These tools can help managers make practical improvements to practices in their units. The third component targets risk management by providing an overview of the kinds of risks faced by health service managers, and by outlining different views of risk (adverse effect versus opportunity capital). The course is comprised of three case studies that engage students in addressing specific but generalisable manifestations of the three components that make up the course. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): International Health Management MIHM student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|-----------------------------|-----------------------------|-------|-----------------|--|
| HCD | 560 | Systems Metabolic Physiology | Studies vertebrate energy metabolism in the context of systems physiology. With a particular focus on mammals and especially humans, discusses macronutrient storage, mobilization and utilization at the whole organism level. Presents theory and practice of several methodologies used to measure metabolic turnover, including indirect calorimetry, mass balance, isotopic tracers and doubly labeled water. Topics include metabolic rate and fuel selection during rest, locomotion and environmental stress such as energy scarcity or oversupply. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 3.00 GPA; degree- or nondegree-seeking graduate student |
| HCD | 561 | Cellular Energetics and Metabolism | Focuses on the thermodynamics and kinetics of energetic processes at the cellular level. Discusses the metabolism of macronutrients by cells, principally skeletal muscle, cardiac muscle, adipose and liver. Presents membrane transport, energy storage and mobilization, non-oxidative/oxidative pathways of ATP synthesis and energy dissipation processes. Develops and uses concepts of metabolic control, energetic efficiency, metabolic scope and signaling to explore classic and current biomedical literature. Particularly emphasizes mitochondrial metabolism, including the chemiosmotic theory, proton leak, superoxide (free radical) production, interactions between the glycolytic and oxidative pathways, and the central role mitochondria play in health, disease and mortality. Describes the theory and practice of several methodologies central to the study of energy metabolism. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 3.00 GPA; degree- or nondegree-seeking graduate student |
| HCD | 563 | The Metabolic Syndrome | Provides a comprehensive understanding of the metabolic syndrome from an environmental, genetic and molecular perspective. Also discusses the treatment of this complex disease including lifestyle changes, pharmacological interventions and surgical procedures. Evidenced-based course where research guides class lectures and discussions. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 564 | Translational Biomedical Sciences Seminar and Data Club | Combined seminar and data club related to translational biomedical sciences. | N | SEM | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 3.00 GPA; degree- or nondegree-seeking graduate student |
| HCD | 567 | Infectious Diseases Challenges: Epidemiology and Control | Throughout history new pathogens such as HIV, SARS and pandemic influenza have emerged to challenge human populations. This course will introduce you to the challenges of controlling or managing infectious diseases through an appreciation of key factors such as differing modes of transmission, the impact of travel and behavior on transmission, the importance of surveillance in achieving disease prevention and control, key steps in outbreak investigation and current disease control and management strategies. Dengue fever, hepatitis A virus, HIV, influenza, measles, meningococcal meningitis, rota virus, SARS and TB will be used to learn about preparing for and containing diseases with potentially catastrophic impact to the health and economic stability. This course supports you achieving a range of capabilities that you will need if you are planning to have a career in epidemiology and infectious disease control. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): International Health Management MIHM student |
| HCD | 570 | Process Engineering | Provides an overview of process engineering and the specifics of Lean Six Sigma as it applies quality improvement/process improvement in health care. The current health care system cannot deliver the necessary quality to ensure safety or consistent outcomes in predictable and controllable ways. It is essential to understand the impact of process engineering to improve the performance of health care delivery, and to understand the steps to performing a Lean Six Sigma process improvement project. This course builds on the quality improvement techniques introduced in earlier course work. Also enables students to obtain their Green Belt Certification in Lean Six Sigma. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 575 | Leadership and Professionalism | Integrates principles of leadership theory, innovation leadership, change leadership and systems thinking through didactic and experiential learning. Identifies characteristics of successful leaders in health and health care, develops competence and confidence in creativity and innovation, and identifies ways to implement meaningful change in the dynamic health care environment. Applies theories to case studies in health and health systems to promote critical analysis, discussion and reflection on topics that provide the framework for future coursework. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| HCD | 577 | Infection Prevention Control in the Health Care Setting | Antimicrobial resistance is an urgent global health priority. In the near future common treatable infections may become untreatable. Currently 1 out of 20 hospitalised patients contracts a health care associated infection, of which around 50% are preventable. These infections add to the functional disability and emotional stress of the patient and in some cases, lead to disabling conditions that reduce their quality of life. In addition, they contribute to increased hospital stays and added expense to the health care system. Infection prevention and control in health care settings is now of national priority endorsed by the Australian Government, Ministries of Health, the Australian Commission of Quality and Safety in Health Care, health care facility accreditation organisations, as well as internationally by the World Health Organization. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): International Health Management MIHM student |
| HCD | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 587 | Outbreak Investigation and Intelligence | The course will provide a grounding in epidemiological pattern recognition (epidemic, endemic, sporadic) in infectious diseases for first-outbreak responders, surveillance officers, or policy makers from medicine, allied health, public health, emergency management, law enforcement, military or others from relevant backgrounds. Case studies in risk assessment, risk mitigation, response and prevention will be studied. These will cover Ebola virus disease, MERS-CoV, avian influenza and salmonellosis; distinguishing natural from unnatural epidemics, surveillance tools, rapid intelligence and analysis methods. Data quality in resource limited settings and implications for risk assessment will be examined. Understanding of modelling and forecasting of infectious diseases based on known transmission dynamics and patterns will also be explored. Preparation of first line responders to optimise usage of infectious diseases intelligence techniques will be covered, including prioritisation of data sourcing/mining, strengthening, mapping disease transmission patterns to modes of transmission, and ultimately epidemic control measures. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): International Health Management MIHM student |
| HCD | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 602 | Health Informatics for Future Health Care Professionals | Offers an overview of the field of health informatics, designed specifically for health science students, health services students, and current and future interdisciplinary clinicians. Combines perspectives from medicine, computer science, information science, organization science, Science and Technology Studies and human-centered computing for use of computers and information in health care and the health sciences. Covers applications and general methodology in health informatics using current topics in the field. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCI | 150 | Introduction to Health Innovation | Introduces health care innovation including diffusion of innovation, technology and current health care innovative ideas and practices. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | |

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| HCI | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-4 | | |
| HCI | 250 | Health Entrepreneurship and Value Creation | Change your mindset. Focuses on recognizing and questioning your assumptions, learning how to gather and accept feedback, and designing pivots to improve innovative and entrepreneurial outcomes. Seeks value creation opportunities in health and health care settings through opportunity recognition, value creation and business modeling. Students create an innovative change idea, demonstrate proficiency in lean startup methodologies, and "pitch or ditch" a ready-to-launch idea. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | |
| HCI | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-4 | | |
| HCI | 298 | Honors Directed Study | Independent study or practicum under the supervision of a faculty member. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-6 | | Prerequisite(s): Barrett Honors student |
| HCI | 311 | Health Innovation: Foundational Concepts | Provides foundational knowledge for leading health innovation. Organized around the Seven Pillars of Innovation: innovation process, leadership structure, outcomes, evidence-based practice, finance, policy, and technology and communication. Emphasizes principles of health innovation, in addition to characteristics, skills and knowledge required for the innovator. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): ENG 102,105, or 108 with C or better; minimum 45 hours OR Visiting University Student |
| HCI | 313 | Philosophy of Science in Health Care: Understanding Paradigms of Health and Healing | Philosophy of science and its application to health and healing paradigms. Employs selected schools of thought and individual philosophers within philosophy of science to closely examine health and healing paradigms. Discusses concepts such as "life" and "death". Explores questions: What is science? What is health? Examines the way in which philosophy of science informs perceptions and definitions of health and healing in individuals and populations. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours OR Visiting University Student |
| HCI | 344 | Management and Leadership in Health Organizations | Focuses on management, administration and leadership strategies in health institutions with an emphasis on organizational innovation and entrepreneurial thinking. Managing in health organizations includes unique challenges related to labor relations, practice codes of conduct, federal privacy considerations, and accreditation regulations. Includes a review of leadership methods, labor laws and practices for effective management in health- and health care-related organizations. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCI 311 with C or better OR Visiting University Student |
| HCI | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-4 | | Prerequisite(s): minimum 45 hours |
| HCI | 412 | Transforming Health Care: A Systems Perspective for Innovation | Investigates the essential elements of systems thinking as a framework for innovation in addressing current and future issues in health care. Demonstrates systems thinking to present and future problems in health care and utilizes the knowledge and understanding of behavioral and learning styles to facilitate innovation in diverse systems. Stresses the importance of collaboration to the systems perspective, in addition to the value of individual worldviews. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours OR Visiting University Student |
| HCI | 421 | Health Care Policy: The Innovator's View | Innovation perspective on policy decision making in the health care environment. This perspective views policy-making as a fluctuating, dynamic and evolving process as seen through a lens of innovation principles. Explores the relationship between politics and policy and discusses factors influencing policy development. Identifies methods to formulate and implement policy and presents models to evaluate, analyze and modify health care policy. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours OR Visiting University Student |
| HCI | 425 | Facilitating Innovation to Achieve Outcomes | Principles of facilitation that promote and enable the implementation of innovation to achieve outcomes. This approach identifies facilitation as requiring collaboration, continuous evaluation, and a focus on identifying and measuring health outcomes. Discusses characteristics of effective teams, innovation leadership behaviors that impact change, and involvement of end users. Compares and contrasts traditional project management processes with innovative facilitation techniques. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCI 311 with C or better OR Visiting University Student |
| HCI | 428 | Technology: A Tool to Advance Innovation in Health Care | Explores the role of technology in achieving the Triple Aim: improved quality, improved patient experience and decreased cost. Compares and contrasts tools of technology that hold the potential to advance innovation in health care. Examines the relationship among the users, their behaviors and technology and how this interaction advances communication, automation, organization and standardization. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours OR Visiting University Student |
| HCI | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): minimum 45 hours |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| HCI | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-6 | | Prerequisite(s): Barrett Honors student |
| HCI | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| HCI | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-4 | | Prerequisite(s): minimum 45 hours |
| HCI | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-6 | | Prerequisite(s): Barrett Honors student |
| HCI | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-3 | | Prerequisite(s): minimum 45 hours |
| HCI | 538 | Innovation and the Individual | Role of the innovator, including the essential insight, leadership styles, vision, ethical wisdom, resiliency and the development of an attitude supportive of risk taking. Examines and correlates different situational challenges with types of intelligence, behaviors, learning styles. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCI | 540 | Understanding and Applying Principles of Evidence-Based Practice | Understanding how application of evidence-based practice principles assists health care professionals to provide the best care. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCI | 542 | Systems Thinking in a Complex Environment | Explores systems thinking theories and methodologies in the context of the complex and often chaotic environment of health care. Examines opportunities and challenges for innovation and innovative leadership in the health care system. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCI | 543 | Approaches to Health Care Innovation | Theory-based survey course introduces approaches to lead innovation in an organization. Many change initiatives are designed by those not completing the work, leaving workers isolated, restricted and powerless. Teaches health care leaders to value collaboration with and seeking input from those who will carry out the work. Analyzes approaches to planned change: positive deviance, appreciative inquiry and creation of a learning organization. Students construct a change plan using an appropriate approach to address a health care problem. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCI | 544 | Information Technology (IT) for Health Care Innovation | Transforming health care through the development of sound information technology strategies is critical to the success of most health care organizations today. Examines information technology trends and their strategic application in health care. Learners create a plan for engaging IT resources and capabilities, and for executing an IT-based strategy for solving a problem in health care. Topics covered include: strategic processes, digital transformation, IT assets, design thinking, value creation, IT governance and transition change management. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCI | 545 | Public Speaking for Innovation: Building Your Presence and Making the Case for Change | Builds presence as a speaker and a leader. Public speaking has evolved dramatically over the last few years. Now it is about creating a public presence; e.g., on YouTube, Facebook live, TED Talks. Public speaking for innovation is a combination of finding and building one's presence as a speaker--and translating that to an ability to explain and persuade, making the case for change. Students build their presence and gain the foundational knowledge necessary to successfully explain and persuade in various modalities of media, from speaking in person to video creations. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCI | 548 | Advanced Principles and Concepts of Innovation | Explores and analyzes the innovation in complex systems, focusing on developing specific skills for successful innovations. Specifically addresses strategies to overcome barriers and resistance to innovation in health care. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCI 538 with C or better |
| HCI | 550 | Health Care Policy and Innovation | Introduces the political, organizational, and economic dimensions of health care policy, emphasizing strategies for innovative policy and practice. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCI | 552 | Financing for Innovation | Provides an overview of healthcare economics; develops budgeting, planning, and management skills; and culminates in financial analysis skills necessary to facilitate management decision making or writing business plans or grant proposals. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCI | 554 | Outcomes Evaluation | Outcomes measurement, management, and evaluation for health care practitioners and/or leaders. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCI | 561 | Innovation Methods | Explores methods to generate innovation for use in a health care setting. Provides tools and practice in generating ideas, exploring utilizing appreciative inquiry, and demonstrating competencies related to the theories and processes of innovation. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| HCI | 563 | Capstone: Final Innovation Project | Applies the concepts learned in MHI core courses and presents evidence of knowledge in innovation principles, applications and strategies for implementation and evaluation. Develops an innovation project in the form of a presentation. Provides a comprehensive methodology for completing all aspects of an innovation opportunity. Student-directed demonstrations of the application of learned leadership skills and techniques for facilitating team and individual implementation. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 5 | | Prerequisite(s) with C or better: HCI 538; HCI 540; HCI 542; HCI 544; HCI 548; HCI 550; HCI 552; HCI 554; HCI 561 |
| HCI | 570 | Innovation Proposal: Culminating Experience for Health Care Innovation Certificate | Applies concepts learned and operationalizes skills acquired throughout the Health Care Innovation certificate. Students envision emerging paths toward an outcome by first presenting a problem they have identified within a health care organization, and creating collaborative relationships and developing strategies to initiate change in their chosen setting. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): HCI 538; HCI 542; HCI 554; HCI 561 |
| HCI | 571 | Health Care Innovation Leadership Portfolio: Culminating Experience | Examines and applies personal leadership potential. Focuses on the effective development and facilitation of human networks to advance innovation in the health care space. Challenges students to appraise and analyze personal leadership strengths, challenges and opportunities. Explores strategies to evaluate students' current networks; develops the students' emergent professional networks. Gives focus to building relationships necessary to advance innovation in the health care space. Students develop and implement an action plan to advance their personal leadership growth and network utilization. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCI 538; HCI 543; HCI 545; NLM 562 |
| HCI | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | N | PRA | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCI | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCI | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCI | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 210 | Ethics for the Health Care Professional | Health care ethics emphasizing analysis and ethical decision making at clinical and health policy levels for health care professionals. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | HU | |
| HCR | 220 | Introduction to Health Professions and the U.S. Health Care System | Introduces the historical, social, political, economic and interprofessional contexts in which health care professions and the United States health care system evolved. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | H | |
| HCR | 221 | Foundational Concepts for Health Care Coordination | Focuses on the foundational elements of health care coordination. Discusses the health care coordination process including assessment, implementation and evaluation. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| HCR | 230 | Culture and Health | Cultures of diverse groups and health/illness. Cross-cultural communication, awareness of own cultural influences, indigenous and alternative healing practices. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | C & G | |
| HCR | 231 | Fundamentals of Community Health | Provides a framework for understanding community health concepts. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| HCR | 240 | Human Pathophysiology | Chemical, biologic, biochemical, and psychological processes used in study of structural and functional alterations in health with selected therapeutics. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): BIO 201 with C or better; BIO 202 with C or better; CHM 101 or higher with C or better; MIC 205 with C or better; MIC 206 with C or better OR Visiting University Student |
| HCR | 241 | Foundations of Integrative Health | Discusses the similarities and differences of the biomedical and integrative health care systems providing an overview of integrative health. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| HCR | 245 | Sleep, Sleep Disorders and Behavior | Focuses on the nature, organization, function and biopsychosocial determinants of sleep and sleep disorders across the lifespan, emphasizing the social and behavioral processes that influence them. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | SB | |

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| HCR | 259 | Compliance and the Health Care Industry | Introduces health care compliance as an industry and a profession. Explores the complex federal and state laws that regulate the delivery and reimbursement practices of the U.S. health care system. Also explores federally legislated mandates for formal compliance programs, program elements, and the organizational steps for program implementation in specific health care settings. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Students may not enroll in HCR 259 if credit with C or better earned in both HCR 260 and HCR 261 OR Visiting University Student |
| HCR | 262 | Health Care Licensure, Professional Development and Practice | Introduces interprofessional practice, professional licensure, education and training, certification and scope of practice within the health care industry. Explores compliance standards and accreditation as they relate to the authority and scope of licensure boards, which are designed to safeguard the public health. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | |
| HCR | 263 | Introduction to Medical Billing and Compliance | Introduces the complex process of medical coding and billing practices and related federal regulations and programs. Provides learners with a fundamental understanding of medical coding and billing processes including terminology, stakeholders and regulatory impact. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 259 or 260 with C or better OR Visiting University Student |
| HCR | 264 | Regulatory Essentials of Compliance Program Design | Offers a comprehensive overview of the regulations that impact the health care delivery industry. These regulations include: protections against fraud and abuse, patient rights and privacy, protected health information (PHI) and electronic protected health information (ePHI), and occupational health and safety. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 259 or 261 with C or better OR Visiting University Student |
| HCR | 265 | Health Care Compliance Essentials | Comprehensive study of the creation, management and evaluation of all aspects of a formal health care compliance program. Learners investigate and discuss roles of the compliance officer and compliance committee, risk analysis, recommendations for and implementation of corrective action. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 259 OR Visiting University Student |
| HCR | 280 | Team-Based Research Practicum | Small-group (e.g., team, project, lab, clinic, center-based) health, nursing, health care and health innovation-related study and research experiences, led by a faculty mentor. | Y | PRA | Y | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 15 hours OR Visiting University Student |
| HCR | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-4 | | |
| HCR | 298 | Honors Directed Study | Independent study or practicum under the supervision of a faculty member. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-6 | | Prerequisite(s): Barrett Honors student |
| HCR | 301 | Research Methods for the Health Care Professional | Explores basic concepts of qualitative and quantitative research design utilizing methods of assessment, planning, implementation and evaluation. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): PSY 230, SOC 390, STP 226, or SWU 321 with C or better if completed; TWC 347 or 362 with C or better if completed OR Visiting University Student |
| HCR | 302 | Social Determinants of Health | Addresses issues of social determinants and health disparities at the local, national and global levels. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): HCR 301 with C or better if completed; TWC 347 or 362 with C or better if completed OR Business (Health Care) BA major or Health Care Coordination BIS emphasis or Health Care Coordination minor OR Visiting University Student |
| HCR | 303 | Assessing Needs, Assets and Capacity for Health Education | Assesses needs, assets and capacity for health education at the individual, family and community levels. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 210 with C or better; HCR 230 with C or better; Pre- or corequisite(s): CDE 232 with C or better if completed OR Visiting University Student |
| HCR | 310 | Fundamentals of Human Trafficking | Covers the complex problem of human trafficking including types of human trafficking, terminology, victim identification, policy implications, and the role of health providers and governmental and community agencies. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only HCR 310 or HCR 394 (Fundamentals of Human Trafficking) OR Visiting University Student |
| HCR | 321 | Advanced Concepts for Health Care Coordination | Presents advanced concepts for health care coordination, including: interprofessional teamwork, medication reconciliation, patient/family engagement and other tools that facilitate best practices for health care coordination. Students also learn models for health care coordination, and concepts and practices to facilitate transitions of care. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Business (Health Care) BA major OR HCR 221 with C or better OR Visiting University Student |
| HCR | 331 | Communication within Communities | Focuses on the integral nature of communication in health care, including the role communication plays in shaping individual, social and cultural beliefs and expectations about health. Provides skills for effective communication when working with individuals, groups and the media. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| HCR | 335 | Program Development and Management for Community Health | Incorporates models, research and resource management to plan, strategize and evaluate community programs that promote healthy lifestyle choices in various, as well as specific, geographic communities. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): General Studies Literacy course; minimum 45 hours OR Visiting University Student |

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| HCR | 336 | Environmental Community Health | Examines the interdependent relationship between the health of the environment and the health of communities. Includes a focus on specific communities, as well as agencies and laws involved in the health of communities. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 231 with C or better OR Visiting University Student |
| HCR | 341 | Biological, Manipulative, and Body-Based Therapies | Analyzes the principles and practices of select biological and body-based therapies and modalities and their use in the health care system. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): any BIO course or any CHM course OR Visiting University Student |
| HCR | 342 | Mind-Body and Energy Therapies and Modalities | Analyzes the principles and practices of select mind-body and energy therapies and modalities and explains and distinguishes their use in the health care system. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): any BIO course or any CHM course OR Visiting University Student |
| HCR | 343 | Historical and Cultural Foundations of Integrative Health Care | Distinguishes commonalities and differences between early healing traditions and investigates the utility for today's health care system. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Business (Health Care) BA major OR HCR 241 (or HCR 340) with C or better OR Visiting University Student |
| HCR | 350 | Introduction to Clinical Research | Provides an introduction to the biomedical and clinical research field and associated operational processes. Examines clinical trial development phases, regulatory protections for human subjects, clinical research team specializations, research organizations, good clinical practice, institutional review board functions, and research funding mechanisms. Explores specialized career positions for nursing and allied health professionals. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| HCR | 360 | Data Security and Privacy in Health Care Compliance | Focuses on administrative practices that ensure the security of computerized systems and the protection of health information. Topics include communication and reporting, as well as specific regulations and authorities such as the Health Insurance Portability and Accountability Act (HIPAA) Privacy and Breach rules, and HIPAA Security and Meaningful Use Attestation. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 259 with C or better OR Visiting University Student |
| HCR | 361 | Risk Management in Health Care Compliance | Risk management practices as they relate to the oversight of operations and processes within the health care industry. Utilizes various tools to predict, analyze and mitigate practices that may lead to industry noncompliance. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 259 with C or better OR Visiting University Student |
| HCR | 362 | Monitoring and Auditing for Health Care Compliance | Ongoing health care compliance evaluation process critical to a successful compliance program. Provides the knowledge to utilize monitoring and auditing systems to ensure health care operations conform to established standards or comply with federal, state or local rules and regulations. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 259 with C or better OR Visiting University Student |
| HCR | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-4 | | |
| HCR | 400 | Evidence-Based Practice for the Health Care Professional | Methods of clinical and scientific inquiry. Focuses on the application of an evidence-based practice approach. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 301; TWC 347 or 362, OR Applied Science (Health Innovation) BAS major OR Visiting University Student |
| HCR | 402 | Advocacy for Health and Health Education | Discusses and analyzes existing or proposed policies on health and strategies for influencing the policy-making process. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 303 with C or better |
| HCR | 406 | Health Literacy for Health Care Professionals | Prepares students to use best practices for health communication that promote consumer health literacy. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 210 or MED 320 (HCD 320); HCR 230 or HSC 210 (HCD 210) OR Applied Science (Health Innovation) BAS major; Pre- or coreq(s): HCR 301 w/C or better if completed or Applied Science (Health Innov) BAS major OR Visiting University Student |
| HCR | 410 | Fundamentals of Human Lactation | Focuses on the fundamental aspects of breastfeeding and lactation using research findings and evidence-based practices. The physiologic and psychosocial concepts surrounding breastfeeding focus on supporting families to achieve optimal health outcomes. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): BIO 160 or 201; Credit is allowed for only HCR 410 or HCR 494 (Human Lactation and Breastfeeding) OR Visiting University Student |
| HCR | 420 | Professional Role Development: Health Care Coordination | Professional role development including role transition, leadership and project management for health care coordination. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Business (Health Care) BA major OR HCR 221 (or HCR 320) with C or better; HCR 321 with C or better OR Visiting University Student |
| HCR | 422 | Policy and Financial Principles in Health Care Coordination | In-depth look at the history of health care policy in the United States from World War II to the present focusing on how Medicare, Medicaid and the Affordable Care Act impact health care system and patient reimbursement. Also discusses elements of insurance, managed care and universal care. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Business (Health Care) BA major OR HCR 221 with C or better OR Visiting University Student |

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| HCR | 426 | Health Care Coordination Capstone | Applies higher-level critical thinking, teamwork, effective communication, informatics and design process required to develop a "real-world" health care coordination solution that will be a catalyst for change by improving safe patient-centered transitions, lowering readmission rates, increasing patient safety, and/or decreasing the cost of care. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 321 with C or better; HCR 400 with C or better; HCR 422 with C or better |
| HCR | 430 | Foundation to Health Care Systems | Explores the impact of the current U.S. health care system on the health of individuals, families and communities. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 231 (HCR 330) or 259 or 260 with C or better OR Visiting University Student |
| HCR | 435 | Leaders in Community Health | Prepares students to assume a leadership role in health promotion in communities. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 231 with C or better; Pre- or corequisite(s): HCR 335 with C or better if completed OR Visiting University Student |
| HCR | 439 | Community Health Capstone | Provides the opportunity to explore the health status of communities and to develop strategies for community health improvement. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s) with C or better: HCR 231, 331, 335, 336. Pre- or corequisite(s): HCR 430, 435 with C or better if completed |
| HCR | 440 | Interprofessional Approaches to Integrative Health Care | Prepares learners to develop and lead interprofessional teams with a focus on roles and responsibilities of integrative health care providers and practitioners. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Business (Health Care) BA major OR HCR 241 (or HCR 340) with C or better OR Visiting University Student |
| HCR | 441 | Legal and Ethical Issues Impacting Integrative Health Care | Examines current laws, government regulations, ethical principles and case studies to understand issues and consumers' use of integrative modalities. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 241 with C or better OR Visiting University Student |
| HCR | 449 | Integrative Health Care Capstone | Provides the opportunity to design a healing environment project that reflects the philosophy, mission and values of a health care organization in relation to underlying philosophy and beliefs of integrative health care. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 241 and 341 and 342 and 343 and 400 and 440 all with C or better; Pre- or corequisite(s): HCR 441; TWC 443 |
| HCR | 460 | Investigations and Disclosures in Health Care Compliance | Types of disclosures required by and investigations conducted by regulatory and accrediting agencies overseeing health care entities. Introduces oversight activities, enforcement and potential penalties incurred by health care entities. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 362 OR Visiting University Student |
| HCR | 461 | Corrective and Preventive Action Plans | Use of corrective and preventive actions (CAPA) in meeting the challenges of a compliant health care services operation. Covers design and implementation of CAPA to respond to deviations or errors in the health care environment. Identifies problems, implements corrective actions, evaluates consequences and employs preventive measures. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): HCR 460 OR Visiting University Student |
| HCR | 463 | Capstone Project Health Care Compliance | Culminating course integrating all components of health care compliance core courses and demonstrating knowledge and competency in the field of health care compliance. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Pre- or corequisite(s): HCR 460; HCR 461 |
| HCR | 471 | Interprofessional Education and Community Health | Community-engaged service learning exposes students to community health and interprofessional education through the delivery of team-based services with vulnerable populations. Students build on their professional practice skills as they develop interprofessional competencies. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prereq(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only CRD 471 or HCR 471 or CRD/HCR/PRM 494 (Interprofessional Education & Community Health) or CRD 598 (Interprofessional Education & Community Health) OR Visiting University Student |
| HCR | 472 | Interprofessional Education and Complex Health | Complex health community-based experiential learning with immersive "real-world" learning opportunities. Students dedicate hours at pre-approved placement sites serving a community; apply new (and advance prior) complex health knowledge and skills; benefit from an expanded scope of supervised practice experience while providing targeted complex health interventions that address health and health care disparity needs, improve care quality, and reduce care costs for individuals, families, communities, and/or populations with complex health needs. Students practice values and ethics, communication, roles and responsibilities, teams and teamwork, and leadership competencies essential for interprofessional collaborative practice and team-based care. Online and in-person collaborative learning includes: seminars, course readings, discussions, and reflection assignments to facilitate critical thinking and a deeper understanding of the delivery of complex health interprofessional team-based care in the community. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prereqs with C or better: CRD 471, HCR 471, or CRD/HCR 494 (Interprof Ed & Comm Hlth) OR Hlth Care Coord major; HCR 210; HCR 220; HCR 230; Credit for only CRD 472 or HCR 472 or CRD/HCR 494/598 (Interprof Ed & Complex Hlth) OR Visiting University Student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| HCR | 473 | Interprofessional Education and Comprehensive Systems Health | Community-engaged experiential learning integrates students into comprehensive systems health and interprofessional education through the creation of team-based community impact projects with vulnerable populations. Students refine their professional practice and leadership skills as they integrate interprofessional competencies. | N | LEC | Y | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-3 | | Prereqs w/min C: CRD 471, CRD 472, HCR 471, HCR 472 or CRD/HCR494 (Interprf Ed&Comm Hlth or Interprf Ed&Cmplx Hlth) OR Hlth Care Coord, Comm Hlth or Integrative Hlth BS; HCR210; HCR220; HCR230; Credit for CRD 473 or HCR 473 OR Visiting University Student |
| HCR | 480 | Advanced Team-Based Research Practicum | Small-group (e.g., team, project, lab, clinic, center-based) health, nursing, health care and health innovation-related study and research experiences, led by a faculty mentor. Advanced research practices designed for upper-division undergraduate students. | Y | PRA | Y | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HCR | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | |
| HCR | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-6 | | Prerequisite(s): Barrett Honors student |
| HCR | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| HCR | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | PRA | Y | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-4 | | |
| HCR | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-6 | | Prerequisite(s): Barrett Honors student |
| HCR | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-7 | | |
| HCR | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-3 | | |
| HCR | 543 | Food Safety and Protection | Covers food safety from the point of view of retail food safety inspectors. Addresses careers in food safety and protection, food and waterborne pathogens, food safety laws and regulations, hazard analysis, food safety inspection steps, investigations, report writing and response to food emergencies. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 544 | Assessing Food Safety and Developing Policy Procedures and Training | Provides overview for the knowledge, skills and abilities required for assessing food safety and developing food safety policies, procedures and training. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 543 |
| HCR | 545 | Foundations of Biospecimen Repository Administration | Examines the biospecimen repository industry from a business perspective. Students learn the scientific basis, collaborative nature, required personnel, timelines and processes that underlie the business environment of biospecimen repositories and their administration. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 546 | Management of Biospecimen Repository Operations | Examines the biospecimen repository industry from an operational perspective. Students learn the process aspects of repository start-up through collection, maintenance and disbursement of specimens. Key elements include personnel training, planning, quality control, risk management, project management and safety implementation. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 545 |
| HCR | 547 | Biospecimen Resource and Technology Management | Examines the biospecimen repository industry from a technology and resource perspective. Students learn the planning and selection of technology and resources for the support of the start-up and long-term maintenance of a biospecimen repository. Key elements include technology and resources assessment and choice, cost-benefit analysis, initial budget, long-term and short-term planning. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 545 |
| HCR | 548 | Regulation and Ethics in Biospecimen Repository Administration | Examines the biospecimen repository industry from an ethical and regulatory perspective. Students learn the ethical and consenting challenges of biospecimen collection, storage and disbursement. Examines relevant historical case histories to inform current policies and practices. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 549 | Scientific Innovation and Biospecimen Repository Administration | Explores the driving effects of scientific innovation on biospecimen administration management. Students learn how scientific advancements increase the demand of high-quality biospecimens and high-quality data, referred to as next-generation biorepository research. Examines tracking pre-analytical variables, adequate preservation and storage methods, controlled biospecimen and data custodianship, governance with ethical and scientific oversight of operations. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 545 |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| HCR | 550 | Quality Assurance and Safety in Food and Dietary Supplements | Covers current applicable regulations and the regulatory framework that ensure the safety and quality of dietary supplements for the consumer. Reviews FDA regulations including Good Manufacturing Practices (GMP), quality in the development and manufacture of dietary supplements, labeling requirements, advertising, product quality, premarket notification, marketing, and postmarketing of dietary supplements. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 551 | Clinical Research Monitoring | Introduces clinical trial monitoring processes and procedures. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): HCR 561 with C or better if completed |
| HCR | 552 | Medical Device Development and Regulation | Comprehensive examination of the regulatory framework for the design, development, approval/clearance and marketing of medical devices in the United States throughout the product lifecycle. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): HCR 561 with C or better if completed |
| HCR | 553 | Quality Assurance and Clinical Research | Explores basic quality assurance techniques, standards and applications in the clinical research arena. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): HCR 561 with C or better if completed |
| HCR | 555 | Pharmaceutical Safety and Risk Management | Comprehensive examination of regulatory, legal, and scientific factors in pharmacovigilance and risk management and risk mitigation. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): HCR 561 with C or better if completed |
| HCR | 557 | Clinical Research Design and Methods | Explores basic clinical trial biostatistical methods in concert with clinical trial design and methods. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): HCR 561 with C or better if completed |
| HCR | 558 | Technical Writing for the Regulatory Professional | Focuses on teaching and applying writing and presentation skills critical for regulatory professionals. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): HCR 561 with C or better if completed |
| HCR | 560 | Regulatory Science Capstone | Culmination course integrating all components of regulatory core courses demonstrating knowledge and competency in the field of regulatory science. | N | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-3 | | Pre-requisite: Regulatory Science and Health Safety Master of Science student |
| HCR | 561 | Responsible Conduct of Clinical Research | Introduces concepts and policies for the responsible conduct of research (RCOR), institutional review boards, and dissemination of findings. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 562 | Clinical Research Data Management and Technology Implementation | Orientation to database design and management, technology assessment methods, auditing procedures for continuous quality improvement (CQI), and cost-effectiveness analysis (CEA). | N | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): HCR 561 with C or better if completed |
| HCR | 563 | Fundamentals of Regulatory Affairs | Principles of clinical research management and regulatory affairs. Overview of national/international regulatory systems and agencies, and trends in conducting clinical research. | N | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): HCR 561 with C or better if completed |
| HCR | 564 | Global Regulatory Affairs Leadership | Links students to international networks; exposes students to regulators of therapeutic products in different jurisdictions and provides networking within a global industry to enhance the confidence of students to influence global regulatory policy development. Enables students to network with senior executives and experienced regulatory affairs professionals in the global therapeutics industry. Provides skills, knowledge and global connections to discuss and develop strategies to address principles and issues facing global pharmaceutical regulatory affairs and its role in the maintenance of public health. Students develop a deep understanding of therapeutic product regulation across the world and acquire the skills to lead change management in international regulatory issues. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HCR 564 or HCR 598 (Global Regulatory Affairs Leadership) |
| HCR | 565 | Clinical Research Operations | Development, implementation, and operations of FDA clinical research trials, including budgeting, contract negotiations, site evaluation, marketing, project management, and reporting. | N | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 566 | Clinical Research Management Capstone | Culmination course integrating CRM degree coursework by demonstrating knowledge and competency in clinical research management planning, operations, and implementation processes. | N | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 551 with C or better; HCR 561 with C or better; HCR 563 with C or better; HCR 565 with C or better; HCR 574 with C or better; 15 additional hours of HCR graduate-level courses with C or better |
| HCR | 567 | Research Management and Contemporary Research Topics | Management and leadership principles integrated with contemporary research topics will be introduced. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): HCR 561 with C or better if completed |
| HCR | 568 | Health Care Project Management | Designed for graduate students and managers who desire to improve their effectiveness as project managers in the health care context. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 570 | Introduction to International Health Systems, Professions, and Research | Introduces systems of international healthcare delivery, professions that provide healthcare delivery, and international research principles and practices. | N | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 571 | Cultural Diversity and Healthcare Delivery | In-depth exploration of culturally diverse aspects of population health, including culture-bound syndromes, folk practices, assessment approaches, and interactions. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 572 | International Healthcare Delivery Capstone | Culminating course integrating all International Health requirements that produce culturally responsive implementation and evaluation plan for the student's clinical practice. A portion of the course will be held in Mexico. | N | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 574 | Scientific and Research Review Boards | The role and responsibilities of Scientific and Research Review Boards in the conduct of human research. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): HCR 561 with C or better if completed |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| HCR | 575 | Management and Negotiation of Clinical Trial Budgets and Contracts | Examines best practices in contracting, negotiating and budgeting for industry-sponsored clinical trials. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): HCR 561 with C or better if completed |
| HCR | 576 | Drug Discovery, Development and Regulations | Covers the drug discovery and development process from bench to market, including bench and animal research, FDA approval for human studies (Investigational New Drug submission), Phase I-IV clinical studies, New Drug Application, marketing and post approval surveillance. Reviews applicable regulations, laws, guidance documents, good clinical practices related to drug development in the U.S. and globally. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Regulatory Science and Health Safety MS student or Clinical Research Management student |
| HCR | 577 | Global Regulatory Affairs | Covers regulatory authorities, processes, procedures, International Conference on Harmonisation (ICH) guidelines and documentation for the marketing approval of new medical products in the U.S., European Union (EU), Asia and emerging countries. Reviews global regulatory submissions, focusing on the organization and requirements of the Common Technical Document (CTD) global sections. Also reviews global trends, ethical considerations, country-specific considerations and cultural considerations. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Regulatory Science and Health Safety MS student or Clinical Research Management student |
| HCR | 578 | Legal Aspects of Clinical Research | Reviews the legal implications related to conducting clinical research. Covers current topics and legal issues, standards, duty of care, informed consent, research contracts, malpractice, negligence, informed consent, liability, clinical trials and criminal law, disclosures of clinical information, and liability. Students review and discuss recent research cases and litigation on a wide range of legal issues. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Regulatory Science and Health Safety MS student or Clinical Research Management student |
| HCR | 579 | Translational Research in Drug Discovery and Development | Reviews the translation of new drug research from bench to FDA approval. Provides an overview and history of the translational process in the discovery of new drugs and biologics used in the treatment of medical conditions. Topics include: addressing the gaps in drug development, new approaches to speed the process from bench to FDA approval, and the provision evidence-based medicine for sustainable pharmaceutical products utilized in medical treatment. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Regulatory Science and Health Safety MS student or Clinical Research Management student |
| HCR | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | SEM | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 610 | Genomics and Population Health | Covers genetics and genomics, diverging into two tracks of subject matter interest. Emphasizes the effects of social determinants on population health and genetic expression, ethical, social and legal implications in the doctoral track; and emphasizes the planning and operational aspects of clinical trials and precision health care in the master's degree track. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 605; Credit is allowed for only HCR 610 or NUR 610 |
| HCS | 501 | Foundations in Health Care Simulation | Explores theoretical foundations of health care simulation education and delivery. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree-seeking graduate student |
| HCS | 502 | Health Care Simulation Educational Assessment and Debriefing Methods | Explores assessment and debriefing practices in health care simulation education. Provides opportunity to analyze and plan debriefing strategies that support reflective, student-centered learning. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCS 501 |
| HCS | 503 | Principles of Operations Management in Health Care | Engages students in the business practices and principles essential to health care simulation program operations. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCS 501 |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| HCS | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): HCS 501; HCS 502; HCS 503 |
| HCS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRO | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): HCS 501; HCS 502; HCS 503 |
| HDA | 101 | ASU and Herberger Institute Experience | Introduces all new first-time ASU students to the unique elements, culture, challenges and opportunities of their university and the Herberger Institute for Design and the Arts. Explains and defines success with integrity, ASU resources and involvement, the importance of arts to society and the community, personality and learning style, and success in college and beyond. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1 | | Prerequisite(s): Herberger Institute for Design and the Arts majors |
| HDA | 111 | Art and Society | Introduces the interplay between art and society, particularly how one influences the other. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | |
| HDA | 125 | Survey of the Fashion Industry | Prepares the student to know how the fashion industry operates and what to expect when working in it. From manufacturing to retail, it is important for all members of the fashion industry to understand how the processes interrelate. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | HU | Prerequisite(s): Fashion BA major; Credit is allowed for only FSH 125 or HDA 125 OR Visiting University Student |
| HDA | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-4 | | |
| HDA | 210 | Creativity and Innovation in Design and the Arts | Designed to get students thinking in a focused manner about creative practice and process. Many young designers and artists arrive at higher education in their discipline having taught themselves or having received a piecemeal education in the directed application of ideas. Aids students in knowing why and how they are creative. Covers types of creativity, how inspiration happens, how to take a project from idea to reality, how to work creatively in teams and how to fuse creative ideas with an understanding of environment to help realize work in socially useful ways. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | |
| HDA | 225 | Fashion Design | Expands upon fashion design fundamentals learned earlier to encompass additional aspects of the fashion industry, which includes fashion as business, and as a sociological and cultural phenomenon. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | Prerequisite(s): HDA 125 with C or better |
| HDA | 252 | Foundations Arts and Design Entrepreneurship | Develops entrepreneurial knowledge and skills supporting the self-actualization, self-efficacy and market acumen of artists and designers. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | Prerequisite(s): Herberger Institute for Design and the Arts student OR Visiting University Student |
| HDA | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-4 | | |
| HDA | 296 | Creative Futures: Studio | Develops skills in creating fully realized design ideas and creative ventures, while consciously developing skills in self-analysis, cultural competencies and communication. Through the coursework, readings and projects, students develop new methods and systems of thought for dealing with challenging, complex, collaborative projects. In sequence with the sequel course, these courses are designed as a critical "making" component of the BS in Technological Leadership. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | |
| HDA | 310 | Socially Engaged Practice | Students gain a wide literacy in the community arts field through reading, discussion and technical practice. Examines theories and techniques of community-based project development. Pairs artists with communities to create art rooted in the needs, values, desires, triumphs and challenges of that community. Helps prepare the artist of the 21st century with skills to apply artistic practices in diverse contexts. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | Prerequisite(s): minimum 42 hours OR Visiting University Student |
| HDA | 311 | Work and Careers in the Cultural and Creative Industries | Introduces fundamental questions in the study of work and careers in the cultural and creative industries, including an overview of historical changes in the relationship between the individual and his or her work environment; comparisons between different types of work arrangements (part-time, freelance, internships); and practical implications for contemporary workers. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | Prerequisite(s): minimum 45 hours |
| HDA | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-4 | | |
| HDA | 397 | Capstone Development | Prepares students for a successful capstone project. Students develop a formal proposal and identify a mentor for the project. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1 | | Prerequisite(s): The Arts BA major; minimum 56 hours |
| HDA | 410 | Design and the Arts Corps Seminar | Explores specific strategies and approaches to socially engaged art practices through readings, visiting artist presentations and direct engagement with community-based projects. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only HDA 410 or HDA 510 OR Visiting University Student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|---|
| HDA | 420 | Design and the Arts Business Administration | Design and the arts business seminar course that covers core business principles for design or arts businesses such as human resources, legal issues, accounting and finance. Asks with each of these areas how these disciplines uniquely work within design or arts settings. Investigates global business topics and discusses why ethics is integral to every design or arts business enterprise. Provides a broad understanding of design or arts business activities and practices, allowing more effective participation in business discussions in the future. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| HDA | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-12 | | |
| HDA | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-6 | | Prerequisite(s): Barrett Honors student |
| HDA | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-6 | | Prerequisite(s): Barrett Honors student |
| HDA | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-4 | | |
| HDA | 496 | Creative Futures: Advanced Studio | Develops advanced skills in creating fully realized design ideas and leading creative ventures, while consciously developing skills in self-analysis, cultural competencies and communication. Through the coursework, readings and projects, students develop new methods and systems of thought for dealing with challenging, complex, collaborative projects. In sequence with a prerequisite course, these courses are designed as a critical "making" component of the BS in Technological Leadership. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3-6 | | Prerequisite(s): HDA 296 with C or better OR Visiting University Student |
| HDA | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| HDA | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-3 | | |
| HDA | 510 | Design and the Arts Corps Seminar | Explores specific strategies and approaches to socially engaged art practices through readings, visiting artist presentations and direct engagement with community-based projects. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HDA 410 or HDA 510 |
| HDA | 511 | Purpose, Collaboration and Accountability | Help students identify their personal purpose and how that connects to arts, culture, design and cross-sectoral work. Also builds capacity for arts and design-based modalities of collaboration that unite people across sectors, art forms, and institutional systems. Addresses hybrid business models, creative facilitation skills, deep listening, co-designing processes and projects, while analyzing the ethics of work aimed at public good outcomes. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HDA | 512 | Proposal Development | Students create a draft proposal for their culminating applied projects, research their chosen topic, make a case for how the project intersects with a gap in the field, and learn how to pitch ideas. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-2 | | Prerequisite(s): Creative Enterprise and Cultural Leadership MA student |
| HDA | 513 | Applied Creative Research and Evaluation Methods | Working on a real-world project related to art and design in collaboration with a field partner, students learn to construct robust research questions and identify appropriate methods to pursue an area of inquiry. Introduces principles of equitable evaluation and research to prepare students to understand how their work in the broad art and design fields engages with and impacts communities. Explores various methods including qualitative interviews, focus groups, observation and design thinking approaches. Emphasizes understanding how art and design intersect with the converging contexts of place and community, field and discipline, economy and policy. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HDA | 514 | Creativity and Impact, Opportunities for Change | Art and design work, organizational structures, and collaboration opportunities are expanding. Disrupts frameworks of art and design work to introduce pressing questions and new ways of working aimed at more effective and sustainable engagement with other sectors. Organized around five core themes: context/equity, cross-sector work, changemaking and leadership, structures of work, evaluation and accountability. Discussion is tied to pressing current issues through regular engagements with local and national field leaders, ASU faculty and National Accelerator for Cultural Innovation fellows. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | Prerequisite(s): Creative Enterprise and Cultural Leadership MA student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|---|
| HDA | 521 | Counting Arts and Culture: Reasoning with Empirical Evidence | Builds understanding of economic concepts as applied to the arts and culture sector, with specific attention to how art and culture enterprises work as businesses, how such enterprises function in our wider economic system, which are growing and which disappearing (and why), all toward the goal of building the student's capacity to lead arts and culture enterprise in a complex economic environment. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HDA | 522 | Media Literacy and Distribution | Addresses the impact that digital distribution has had on traditional media business models and the way media and our culture are changing because of it. Also looks at the way in which industries are adapting to this change in the media landscape. Three distinct sections: content literacy, production and distribution metrics, economic and cultural implications. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HDA | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HDA | 581 | Emerging Media Colloquium | Focuses on professional and community development outcomes for the graduate programs in emerging media. Students have significant contact with partners and guests from industry and community, are able to discuss and expand their interests and views with their faculty and peers, share and discuss progress on research and professional projects, create a personal professional development plan, and refine and present their portfolio of work for public review. In addition, this course serves as a point of connection between student cohorts and faculty for the purposes of social/community development and wellness. | N | SEM | Y | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1 | | Prerequisite(s): Design (Experience Design) MSD or Digital Culture (Extended Reality Technologies) MS student |
| HDA | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HDA | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HDA | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HDA | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HDA | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HDA | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HDA | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HDA | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HEB | 101 | Elementary Modern Hebrew I | Reading, writing, speaking, and understanding of basic modern Hebrew, with emphasis on pronunciation and grammar. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | |
| HEB | 102 | Elementary Modern Hebrew II | Reading, writing, speaking, and understanding of basic modern Hebrew, with emphasis on pronunciation and grammar. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): HEB 101 with C or better OR Visiting University Student |
| HEB | 133 | Elementary Biblical Hebrew | Offers an introduction to Biblical Hebrew, the language in which most of the books of the Hebrew Bible/Old Testament are written. Provides the basic tools to understand and translate Biblical Hebrew texts. Covers the alphabet, basic vocabulary, morphology and syntax. Emphasizes a linguistic, literary and historical approach to the biblical text. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Credit is allowed for only HEB 133 (HEB 131) or JST 133 (JST 131) or REL 133 (REL 131) |
| HEB | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| HEB | 201 | Intermediate Modern Hebrew | Intensive review of grammar, with emphasis on the development of the skills of speaking, listening comprehension, reading, and writing. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): HEB 102 with C or better OR Visiting University Student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| HEB | 202 | Intermediate Modern Hebrew | Intensive review of grammar, with emphasis on the development of the skills of speaking, listening comprehension, reading, and writing. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): HEB 201 with C or better |
| HEB | 233 | Intermediate Biblical Hebrew | Completes the study of Biblical Hebrew grammar. Prepares students to translate simple texts from Hebrew Bible and use critical editions of the biblical text. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): HEB 133 (HEB 131), JST 133 (JST 131), or REL 133 (REL 131) with C or better; Credit is allowed for only HEB 233 (HEB 132) or JST 233 (JST 132) or REL 233 (REL 132) OR Visiting University Student |
| HEB | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| HEB | 313 | Advanced Modern Hebrew I | Continues developing speaking, reading, and writing skills in modern Hebrew, with a focus on different aspects of the Israeli culture studied in literature, cinema, and music. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): HEB 202 with C or better OR Visiting University Student |
| HEB | 314 | Advanced Modern Hebrew II | Continues developing speaking, reading, and writing skills in Modern Hebrew, with a focus on different aspects of the Israeli culture studied in literature, cinema, and music. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): HEB 202 OR Visiting University Student |
| HEB | 316 | Literary Readings of the Hebrew Bible | Literary analysis of two of the main genres of the Hebrew Bible: narrative art and poetry. Students learn the main literary conventions of biblical prose and poetry, and how these conventions are applied or subverted. Each class comprises the study of a literary aspect, close readings, and thematic discussions. Biblical texts are read only in translation. They are situated in the religious, literary and artistic traditions that have developed on their basis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ENG 316, HEB 316, JST 316, REL 316 OR Visiting University Student |
| HEB | 333 | Biblical Hebrew Literature I | Advanced study of Biblical Hebrew. Deepens understanding of the grammar and composition of the Hebrew Bible. Translates texts of different literary genres (narrative, legal, poetic, prophetic) and different periods. Introduces the basic principles of textual criticism and different approaches to interpret the texts of the Hebrew Bible. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): HEB 233 (HEB 132), JST 233 (JST 132), or REL 233 (REL 132) with C or better; Credit is allowed for only HEB 333 (HEB 231) or JST 333 (JST 231) or REL 333 (REL 231) OR Visiting University Student |
| HEB | 334 | Biblical Hebrew Literature II | Readings in prophetic and wisdom texts of the Hebrew Bible and cognate literature (Dead Sea Scrolls, inscriptions, etc.). Addresses advanced topics in Biblical Hebrew language and literature, as well as in translation and interpretation. Topics and texts change annually. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): HEB 333 (HEB 231), JST 333 (JST 231), or REL 333 (REL 231) with C or better; Credit is allowed for only HEB 334 (HEB 232) or JST 334 (JST 232) or REL 334 (REL 232) OR Visiting University Student |
| HEB | 347 | Modern Israeli Literature in Translation | Modern Hebrew, or Israeli Hebrew, started at the end of the 19th century in Europe and today it is the language of the State of Israel. During this short period modern Hebrew developed literature with its unique local characteristic, as well as universal ideas. Reads and examines four books against their social and historical background. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ENG 347 or HEB 347 or JST 347 or SLC 347 or ENG/HEB/JST/SLC 394 (Modern Hebrew Literature in Translation) |
| HEB | 348 | Israeli Society and Culture | Different partitions of the Israeli society, based on ethnic origin, by religious affiliation or by political association. Depicts how Israel is an absorbing immigration state. Israel is a welfare state and the course covers aspects of a welfare state, such as health, retirement, public transportation, art, higher education and more. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only HEB 348 or HEB 394 (Israeli Culture and Society) or JST 348 or REL 311 or SLC 348 OR Visiting University Student |
| HEB | 349 | Israeli Wars in Israeli Movies | From its first day, the State of Israel has been in a state of war with the Arab countries. Every few years, the fighting erupted into an open war. At the beginning of the country, there was a consensus that the wars were forced on the Israelis, and therefore, the heavy toll on human life was unavoidable. Since the Six Day War, 1967, and the political change in 1977, Israeli society is split in attitude toward war. The absolute belief in the political and military leaders was shaken, and new political agendas entered the political arena. To this divided society, the Intifadas occurred with the waves of terrorism. These events added fire to the heated debates in Israel. One means of expression is through the cinema. In this course, students watch, analyze, and discuss selected movies on the Israeli wars and terrorism in the streets of Israel. Through these movies, produced by Israelis, we'll try to understand the mood and attitude of the Israelis toward war, enemies, and political and military leaders. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only FMS 349 or HEB 349 or JST 346 or HEB 394 (Israeli Wars in Israeli Movies) OR Visiting University Student |
| HEB | 375 | Contemporary Culture of Israel | Intense study of aspects of historical, social, political, and cultural modern life in Israel. Beginning of Zionism to present day. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | |
| HEB | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|--|
| HEB | 411 | Judaism and the Beginnings of Christianity | Studies the beginnings of Christianity in relation to Judaism: their common context, the process of their distinction and their mutual influence. Through a historical and thematic approach, explores the parallel construction of Jewish and Christian identities. Combines readings from primary sources (Hellenistic Judaism, Qumran, New Testament, Early Christianity, Rabbinic Judaism) and up-to-date scholarly literature. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Prerequisite(s): ENG 101,105,107,108 or HST 100,102 or REL 100 or SLC 142, 202 w/ C or better; Credit is allowed for only HEB/JST/REL 411 or HEB 394 (Judaism & the Origins of Christianity) or HEB 494 (Judeo-Hellenistic Lit) OR Visiting University Student |
| HEB | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| HEB | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| HEB | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | N | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| HED | 510 | Introduction to Higher Education | Overview of American higher education, including philosophical, political, and social aspects. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 527 | Seminar: Student Affairs Administration | Organizational models, administrative competencies and skills, and emerging challenges of student affairs administration. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 573 | Applied Inquiry in Higher Education | Provides an overview of research, evaluation and assessment practices in higher education and strategies for utilizing these practices as professionals in higher education. Focuses on learning about and demystifying the process of scientific inquiry, with the intent of translating that knowledge to regular practice in a higher education professional career. It is not a highly technical methods course--no advanced knowledge of statistics or qualitative techniques is assumed--but instead gives practitioners a foundation in educational research design as well as the tools to be literate, thoughtful, critical and frequent consumers of research. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Higher and Postsecondary Education MEd student |
| HED | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 603 | Foundation of Data Analytics in Higher Education | How decisions are made in higher education and how data and analytics can support university leaders. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 604 | Analytics Process and Technology in Higher Education | Process and technology used to facilitate data-informed decision making in higher education. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student; HED 603 |
| HED | 605 | Data Management and Preparation for Higher Ed Analytics | Data preparation and management for data-informed decision making in higher education institutions. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; HED 603 |
| HED | 606 | Advanced Analytic Methods for Higher Education | Advanced analytic methods, including data mining, in support of data-informed decision making in higher education institutions. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; HED 603 |
| HED | 607 | Visualization and Presentation for Higher Education | Principles of effective presentation and visualization of data for exploratory, predictive and persuasive purposes. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 608 | Trends in Advanced Analytic Methods for Higher Education | Emerging advanced analytic method in use within higher education. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; HED 603 |
| HED | 620 | Diversity, Equity and Social Justice in Higher Education | Overview of the demographic of college students, faculty, and staff. Addresses issues of access, persistence and development. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|----------------------------------|---|-------|-----------------|--|
| HED | 634 | The American Community College | Philosophy, history, curriculum, faculty, students, organization, financing, research, policy and current issues. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 644 | Higher Education Finance and Budgeting | Financial planning and budgeting in higher education institutions. Issues related to financing public and private colleges and universities. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 649 | Law and Policy in Higher Education | Analyzes legal issues related to higher education; examines key court decisions. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 679 | The American College Student | Overview of American college student from demographic, background characteristics, and values/attitudes/perspectives. Includes access, persistence, and degree completion. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 688 | Organizational Theory | Major views of organizations and their influence on role definition and participant behaviors in educational organization. | N | SEM | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 689 | Leadership in Higher Education | Theory and practice of leadership and administration in higher education institutions. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HEP | 100 | Introduction to Health and Wellness | Current concepts in health, exercise, and wellness. Emphasizes personal health, theories, attitudes, beliefs, and behaviors. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | SB | Credit is allowed for only HEP 100 (EXW 100) or KIN 100 |
| HEP | 102 | Foundations of Health Education and Health Promotion | Foundational course for those who anticipate working in the health field. Learners gain a broad understanding of historical, cultural and philosophical underpinnings of health promotion. They refine necessary skills for working as health professionals, including effective researching, writing and critical thinking. Explores principles of a preventive approach to health and wellness. Introduces the importance of evidence-based practice. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | |
| HEP | 241 | Health Education Methods for Injury Prevention and Preparedness | Unintentional injuries affect people throughout the lifespan. Examining factors that influence injury helps to determine effective education and prevention efforts. Explores strategies for preventing unintentional injuries for adults and children. Examines topics in injury prevention for the development of health promotion resources and practices in the following settings: home, sports, recreational and transportation. Also includes emergency preparedness education focused on helping people prevent and mitigate the effects of emergency/unforeseen incidents at the individual, family and community levels. Specifically, explores the CDC Crisis & Emergency Risk Communication (CERC) program as a tool for developing effective communication strategies regarding emergency situations. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | |
| HEP | 251 | Preventing HIV and Substance Misuse | Provides an introductory examination of Human Immunodeficiency Virus (HIV), substance misuse and addiction. Explores health education and promotion approaches to preventing both HIV and substance misuse and examines the biological, historical and societal implications of these diseases. Prepares learners to deliver HIV and substance misuse prevention education. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only EXW 351 or HEP 251 (EXW 312) |
| HEP | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| HEP | 303 | Human Sexuality for Health Education | Provides preprofessional primary/secondary teachers and health education specialists with knowledge of the physiological, psychological and social aspects of human sexuality for health education. Provides content knowledge and curriculum development strategies to support educators in creating human sexuality curriculum for school and community health settings. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |

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| HEP | 348 | Methods of Health Education | Covers how to develop sound, effective, appropriate instruction and learner experiences utilizing backwards planning, formative and summative assessment methods, educational psychology, and appropriate instructional methods to facilitate the mastery of health-related knowledge, skills, attitudes and behaviors in health education and health promotion. Focuses on understanding best practice pedagogy and the diverse learner; structuring the learning environment; developing appropriate student learning objectives; selecting appropriate instructional methods; and developing a quality lesson, assessments, presentation and unit plan. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| HEP | 350 | Substance Use and Addictive Behaviors | Examines substance use patterns throughout the U.S. Explores regional trends, historical influences and policy impacts. Presents effective prevention and intervention practices. Emphasizes the importance of reducing stigma associated with substance use. Learners engage in scientific inquiry and research. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BIO 160 or 201 with C or better OR Visiting University Student |
| HEP | 361 | Digital Health Communication and Education | Application-based course explores digital health communication and education. Evaluates the ways in which digital platforms are used to share health information. Teaches how to utilize social media to teach others about evidence-based health information. Examines misinformation and effective ways to challenge it. Creates evidence-based digital health communication campaign. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only EXW 321 or HEP 361 (EXW 361) OR Visiting University Student |
| HEP | 371 | Conflict Management and Mediation and Violence Prevention | Explores conflict mediation and violence prevention interventions. Prepares students to address conflict, deal effectively with difficult people, and incorporate effective conflict management and mediation skills in various personal and professional settings. Examines and applies principles of the public health approach of violence prevention programming. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only EXW 331 or HEP 371 (EXW 371) |
| HEP | 380 | Body Image and Wellness | Explores body image in American culture from physical, psychological, historical, and societal perspectives. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 30 hours OR Visiting University Student |
| HEP | 384 | Preinternship for Health Education and Health Promotion | Professional development course designed to help students prepare for senior-year experiential learning courses: internships and applied projects. Facilitates strengthening of interpersonal competencies and professional self-marketing through resume development, communication and networking. Prepares students for either the Internship or the Applied Projects course through Internship Learning Agreement or Applied Project Proposal documentation, respectively. | N | LEC | N | YGB | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): College of Health Solutions major; minimum 75 hours |
| HEP | 386 | Assessing Strengths and Needs for Health Education and Promotion | Experiential course in which students assess a health issue in their home communities. Students select a health topic on which they focus throughout the course. They conduct a needs and strengths assessment, collecting both primary and secondary data; volunteer for an organization working on the health issue they choose; create a plan to actualize an evidence-based intervention; and develop a mission statement, goals and SMART objectives. The result is a foundational health promotion program plan that may be further developed in a subsequent course. | N | PRA | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): HEP 102 with C or better; minimum 45 hours; Credit is allowed for only HEP 386 or HEP 394 (Health Education and Health Promotion Capstone 1) |
| HEP | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| HEP | 410 | Obesity Perspectives and Prescriptions | Examines the impact of obesity or body fatness on health from multiple perspectives. Provides a structure for understanding, critiquing and synthesizing the information and misinformation about obesity, weight loss and health. Challenges students to examine potential obesity solutions from a wellness perspective by considering obesity as a normal physiological response within a pathological environment and explores several applications for prevention and treatment of obesity. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BIO 160 or 202 with C or better; PSY 101 with C or better; Credit is allowed for only EXW 510 or EXW 598 (Obesity Perspectives and Prescription) or HEP 410 (EXW 410) OR Visiting University Student |
| HEP | 443 | Emotional Health and Interpersonal Relationships | Explores factors associated with the development of emotional health and well being. Emphasizes pre-professional primary/secondary teachers and health education specialists teaching and promoting emotional health within a school or community setting. Encourages pre-professional primary/secondary teachers and health education specialists to deepen their commitment to effective curriculum principles related to emotional health. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| HEP | 444 | Epidemiology | Introduces epidemiological concepts and prepares the student to read, comprehend, and report epidemiological research. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): any CS statistics course with C or better; Credit is allowed for only HEP 444 or POP 598 (Epidemiology) OR Visiting University Student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|-----------------------------|-----------------------------|-------|-----------------|--|
| HEP | 448 | Foundations of School Health Education | Illustrates health education in K-12 and post-secondary educational settings. Explores various resources for health education specialists, including the CDC's Division of Adolescent and School Health, the School Health Index, the Health Education Curriculum Analysis Tool, and the Coordinated School Health Approach. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |
| HEP | 452 | Health Advocacy in Health Education | Learn how to make change happen to improve health for individuals and communities. Identifies and discusses features of coalitions and partnerships that support advocacy and policy change. Describes and applies methods and resources for advocating in health promotion, including photovoice, positive deviance and digital advocacy. Outlines and practices key strategies for communicating with diverse audiences. Introduces a strengths-based, community-led paradigm for generating systems change. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| HEP | 454 | Health Promotion Program Planning and Implementation | Applies theory-based concepts and methods of health promotion (HP). Covers selected topics in HP across a variety of domains of health. Program planning concepts include the use of planning frameworks, needs assessments, and the use of theory in health promotion program planning. Also covers practical issues related to health promotion program implementation such as resource management and program marketing. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): CHS 340 (EXW 340) with C or better; ENG 101, 105, or 107 with C or better; HEP 102 (EXW 102) with C or better; Credit is allowed for only EXW 554 or HEP 454 (EXW 454) OR Visiting University Student |
| HEP | 456 | Health Promotion Program Evaluation | Covers program evaluation concepts including how to plan an evaluation, how to analyze and interpret data, and how to report evaluation results. Students learn a basic framework for conducting a program evaluation, various research/evaluation designs, and data analysis and statistics. Topics are covered in enough detail so that the student may understand how inferences are made regarding program evaluation. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): HEP 454 (EXW 454) with C or better; Credit is allowed for only EXW 556 or HEP 456 (EXW 456) OR Visiting University Student |
| HEP | 466 | Health Promotion Program Management and Administration | Develops skills necessary to become an effective grant writer and health promotion manager. Identifies sources of funding, conducts needs assessment research, and tailors grant proposals for health promotion programs. Uses team and individual processes to build knowledge and skills for managing and administering health education/promotion programs. Aligned with specific competencies and objectives required for Certified Health Education Specialists (CHES) offered by the National Commission for Health Education Credentialing. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| HEP | 476 | Community Health | Applies major concepts of community health with an emphasis on contextual tailoring. Defines and explores the community science paradigm. Defines and applies cultural competence. Presents features and current trends for health and health care in the U.S., including key policies, family health, minority health and environmental influences. Reinforces the commitment to evidence-based practice. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): HEP 454 (EXW 454) with C or better OR Visiting University Student |
| HEP | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | |
| HEP | 486 | Applied Projects in Health Education and Health Promotion | Provides an opportunity for self-directed, structured practice in health education and health promotion with faculty support and supervision. Students develop and/or implement a health education and health promotion project of their own design, based on self-identified interests and long-term career plans. Applies specific competencies of health education specialists, preparing students to enter the workforce as confident and practiced health professionals. Requires permission to enroll from the course instructor, based on approval of the applied project proposal prepared during the preinternship course. | Y | PRA | Y | GNA | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): HEP 384; HEP 452 (EXW 452); HEP 454 (EXW 454) OR Visiting University Student |
| HEP | 490 | CHES Exam Preparation | Prepares qualifying students for the Certified Health Education Specialist (CHES) examination offered by the National Commission for Health Education Credentialing. Provides a review of the Eight Areas of Responsibility for Certified Health Education Specialists. Increases knowledge of health education and health promotion concepts to prepare for the CHES examination. | N | LEC | N | YGB | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): Community Health BS major or HEP 454 with C or better; minimum 45 hours OR Visiting University Student |
| HEP | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): Barrett Honors student |
| HEP | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): Barrett Honors student |
| HEP | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|---|--|-------|-----------------|--|
| HEP | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-3 | | |
| HHE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HHE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Herberger Institute of Design and the Arts Graduate student |
| HIN | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| HIN | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| HON | 171 | The Human Event | Landmarks in the social and intellectual development of the human race, with emphasis on critical thinking and argumentative writing. Enrollment restricted to Barrett students. | N | LEC | N | OPT | Barrett, The Honors College | Barrett, The Honors College | 3 | L or HU | Prerequisite(s): Barrett Honors student; maximum 75 hours |
| HON | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | Barrett, The Honors College | Barrett, The Honors College | 1-3 | | Prerequisite(s): Barrett Honors student |
| HON | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Barrett, The Honors College | Barrett, The Honors College | 1-4 | | Prerequisite(s): Barrett Honors student; maximum 60 hours |
| HON | 272 | The Human Event | Covers the Renaissance through the modern period. | N | LEC | N | OPT | Barrett, The Honors College | Barrett, The Honors College | 3 | (L or HU) & H | Prerequisite(s): HON 171 with C or better |
| HON | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Barrett, The Honors College | Barrett, The Honors College | 1-4 | | Prerequisite(s): Barrett Honors student |
| HON | 370 | History of Ideas | Advanced and intensive survey of key social and intellectual currents in the development of humanity as reflected in both philosophical and creative works with an emphasis on critical thinking and discussion, as well as argumentative writing. | N | SEM | N | GNA | Barrett, The Honors College | Barrett, The Honors College | 3 | L or HU | Prerequisite(s): Barrett Honors student; Credit is allowed for only HON 171 or HON 272 or HON 370 |
| HON | 378 | Culture and Society in England, Ireland, and Scotland | Chronologically explores texts, events, and sites for historical and cultural impact on development of England, Ireland, Scotland, and their countries' relationships with each other. | N | SEM | N | OPT | Barrett, The Honors College | Barrett, The Honors College | 3 | HU & H & G | Prerequisite(s): Barrett Honors student |
| HON | 379 | Romantics, Victorians, and Moderns | Examines the development and impact of various literatures, arts, and ideas in England, Ireland, and Scotland from the Romantic through the Modern period. | N | SEM | N | OPT | Barrett, The Honors College | Barrett, The Honors College | 3 | HU & G | Prerequisite(s): Barrett Honors student |
| HON | 380 | Aesthetics and Society | Advanced, interdisciplinary seminar explores the unique roles of aesthetics in society through philosophy, cultural studies, art, music, literature, film, and/or other media forms, with themes such as the politics of beauty, art and emotion, or creative production and reception. | N | SEM | N | GNA | Barrett, The Honors College | Barrett, The Honors College | 3 | HU | Prerequisite(s): Barrett Honors student; HON 171, 272, or 370 |
| HON | 381 | Science and Social Worlds | Advanced multidisciplinary seminar examining the historical, cultural and political roles of science in society, including the politics of scientific knowledge production, the ethics of new technologies, and philosophical approaches to the study of health and medicine. | N | SEM | N | GNA | Barrett, The Honors College | Barrett, The Honors College | 3 | | Prerequisite(s): Barrett Honors student; HON 171 and 272 (or HON 370 or 394: History of Ideas; Credit is allowed for only HON 381 or 394: Science and the Self |
| HON | 386 | Writing about Self and Place | Cultural curiosity and literary expression align in intellectually provocative ways that deepen our understanding of the interplay between self and place. Examines the ways in which conceptions of individual and national identity and cultural environments inform each other. Students read and analyze modern travel writing to learn literary strategies that they then employ when reflecting upon and documenting their experiences as individuals studying the culture of a place. Learning activities include engaging with a variety of creative nonfiction writing and creating personal narratives. | N | SEM | N | GNA | Barrett, The Honors College | Barrett, The Honors College | 3 | | Prerequisite(s): Barrett Honors student; HON 370 OR both HON 171 and 172; Credit is allowed for only HON 386 or HON 394 (Identity and Place) or HON 394 (Writing about Self and Place) |
| HON | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Barrett, The Honors College | Barrett, The Honors College | 1-4 | | Prerequisite(s): Barrett Honors student; minimum 30 hours |
| HON | 447 | Lean Launch | Students learn lean and customer development methodologies to test assumptions made about a new business concept that they wish to explore or launch. Teaches how to effectively utilize business models and critically assess the assumptions made through the testing of hypotheses to create innovative and market-ready ventures. Includes weekly presentations of learning points and team activities outside of the classroom. Open to students in any major of study with the required prerequisite. | N | LEC | N | GNA | Barrett, The Honors College | Barrett, The Honors College | 3 | | Prerequisite(s): W.P. Carey BA or BS major; ACC 241, 242, or 271 with C or better OR non-Business student with minimum ASU 2.50 GPA; minimum 56 hours; Credit is allowed for only ENT 447 (or MGT 447) or HON 447 or MGT 494 (Lean Launch) |
| HON | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Barrett, The Honors College | Barrett, The Honors College | 0-12 | | Prerequisite(s): Barrett Honors student |
| HON | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Barrett, The Honors College | Barrett, The Honors College | 1-6 | | Prerequisite(s): Barrett Honors student |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|-----------------------------|-------|-----------------|---|
| HON | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Barrett, The Honors College | Barrett, The Honors College | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better; minimum 75 hours |
| HON | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Barrett, The Honors College | Barrett, The Honors College | 1-4 | | Prerequisite(s): Barrett Honors student; minimum 45 hours |
| HON | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | Y | LEC | Y | OPT | Barrett, The Honors College | Barrett, The Honors College | 1-6 | | Prerequisite(s): Barrett Honors student |
| HON | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Barrett, The Honors College | Barrett, The Honors College | 1-7 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| HON | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Barrett, The Honors College | Barrett, The Honors College | 1-3 | | Prerequisite(s): Barrett Honors student |
| HPS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| HPS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| HPS | 311 | Origins, Evolution, and Creation | History of opposition to evolutionary thinking with special reference to American creationism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Credit is only allowed for BIO 344 or HPS 311 |
| HPS | 313 | Probability, Evidence, and Decision | Philosophical topics in epistemology and practical reasoning; probability and its use in representing and reasoning about belief, evidence, and rational choice. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): MAT 117 or 142 or higher; minimum 30 hours; Credit is allowed for only HPS 313 or PHI 313 |
| HPS | 314 | Philosophy of Science | Structure and justification of scientific theories, explanation, and theory change. Roles of observation and laws, theoretical concepts and entities, reduction, probability, confirmation, space and time, and causation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | HU | Credit is allowed for only HPS 314 or PHI 314 OR Visiting University Student |
| HPS | 322 | History of Science I | Development and application of scientific thinking from ancient times through the 17th century. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | HU & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only BIO 328 or HPS 322 OR Visiting University Student |
| HPS | 323 | History of Science II | Development and application of scientific thinking from the 18th century to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | HU & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only BIO 317 or HPS 323 OR Visiting University Student |
| HPS | 330 | History of Biology: Conflicts and Controversies | Focuses on 19th and 20th centuries, considering biology as a discipline. Evolution, problems of heredity, development, and cell theory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | H | Credit is allowed for only BIO 316 or HPS 330 OR Visiting University Student |
| HPS | 331 | History of Medicine | Scientific study of the human body, changing theories of disease, evolution of practical opinions on treatment, and the emerging institutionalization of medical practice. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | HU & H | Credit is allowed for only BIO 318 or HPS 331 OR Visiting University Student |
| HPS | 332 | The Darwinian Revolution | Origin, nature, and subsequent history of the ideas of Charles Darwin. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | |
| HPS | 336 | Exploration and Science | 500-year survey of exploration as a historical process and cultural activity of Western civilization, with emphasis on its links with modern science. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | SB & H | |
| HPS | 340 | Biology and Society | Explores interactions between biological sciences and society, e.g., biomedical, environmental, ethical, historical, legal, philosophical, political, and social issues. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better OR BIO 281 with C or better; BIO 282 with C or better; Credit is allowed for only BIO 311 or HPS 340 OR Visiting University Student |
| HPS | 349 | Nature, Sustainability and Religion | Explores how world religions have conceptualized the natural world, what they have contributed to the current environmental crisis and how they might also serve as inspiration to address the crisis. By focusing on Judaism, Christianity and Islam, the course introduces students to the field of religion and ecology and explores its relationship to other academic disciplines such as environmental philosophy and ethics, justice studies and gender studies. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only HPS 349 or JST 349 or REL 349 or SOS 349 or JST, REL, or SOS 394 (Religion and Ecology) or JST, REL, or SOS 394 (Religion and Environment) |
| HPS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| HPS | 410 | Biomedical Research Ethics | Considers issues related to values in science such as collaboration, finances, legal issues, media, mentoring, ownership of ideas, scientific integrity. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only BIO 416 or HPS 410 OR Visiting University Student |
| HPS | 452 | Philosophy of Biology and Medicine | Examines fundamental topics in the philosophy of biology and their implications for medicine. Examples include biological mechanisms and evidence-based medicine, species concepts and race, reductionism and the nature of individuality, and theories of function and health. Uses these topics throughout the semester to address two overarching questions about whether biology is fundamentally different from physics and whether medicine can be reduced to applications of biology. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): minimum 25 hours; Credit is allowed for only BIO 452 or HPS 452 or PHI 452 or BIO/HPS/PHI 394 (Philosophy of Biology and Medicine Introduction) or BIO/HPS/PHI 494 (Philosophy of Biology and Medicine) OR Visiting University Student |

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| HPS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | |
| HPS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| HPS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| HPS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| HPS | 495 | Undergraduate Research | Supervised research in biology/microbiology/molecular biosciences and biotechnology/or plant biology. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-3 | | Pre-requisite: Junior or senior standing |
| HPS | 496 | Undergraduate Thesis | Guided research culminating in the preparation of an undergraduate thesis based on supervised research done in this and previous semesters. | N | RSC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): junior or senior standing; Credit is allowed for only BIO 496 or HPS 496 or MBB 496 or MIC 496 OR Visiting University Student |
| HPS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-7 | | |
| HPS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-3 | | |
| HPS | 516 | History of Biology | Covers themes such as the voyages of discovery, systematics, and classification; morphology and embryology; Darwin and evolutionary biology; the rise of genetics; molecular and organismal approaches of post-WWII biology; recent history of biology. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 518 or HPS 516 |
| HPS | 520 | Masters of Nonfiction | Students read and critically discuss works by well-known nonfiction writers to improve their own writing skills. Consists of weekly writing exercises, reviewed with workshop-style discussions centered on individual authors, themes or genres such as history, journalism, personal essays, biography, character profiles, travelogues, book reviews and op/ed commentary. | N | LEC | Y | GNA | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HPS 520 or HSD 520 or HST 520 |
| HPS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HPS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HPS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HPS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HPS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HPS | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HPS | 615 | Biology and Society Lab | This course brings together graduate students, postdocs, and faculty members in biology and society. Sessions include panel discussions of biology and society topics from multiple perspectives, student-led discussions of important literature, practice presentations of papers for national meetings, discussion of dissertation and thesis ideas, and other activities that help to forge an active intellectual lab group. | N | LAB | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 615 or HPS 615 |
| HPS | 620 | Research Prospectus Writing | Workshop-style course where students develop and peer review graduate-level project prospectuses, such as those for NSF grant proposals, journal articles, theses, and dissertations. Appropriate for graduate students in Biology and Society, History and Philosophy of Science, the life sciences, and related programs. | N | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HPS 620 or BIO 620 |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| HPS | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HPS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HPS | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HPS | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HRC | 200 | Introduction to Social and Cultural Analysis | Introduces social and cultural analysis. Focuses on key terms and analytical categories for interdisciplinary work in social and cultural analysis and related fields such as American studies, ethnic studies, women and gender studies and Latin American studies. Examines a range of forms of oppression and privilege from a social justice perspective. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | |
| HRC | 310 | Social and Cultural Analysis: Method and Theory | Covers how scholars in social and cultural studies think, argue, research and write. Traces the changing definition of fields such as American studies, ethnic studies, and women and gender studies. Studies these fields in relationship to 20th-century social movements and related theoretical categories including Marxism, cultural studies and class; feminism, gender and sexuality; and post-Colonialism, race and ethnicity. Covers basic archival and ethnographic research techniques underlying interdisciplinary research methods in these fields. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | C | Prerequisite(s): minimum 36 hours OR Visiting University Student |
| HRC | 480 | Capstone: Practices and Approaches | Focuses on a wide variety of interdisciplinary theories, methodologies and epistemologies that focus on social identities, power, privilege and activism. Students complete a scholarly research paper or project in their area of interest and engage with cutting-edge texts in the field. Encourages students to apply knowledge acquired throughout their undergraduate course of study, including the intersectional analysis of race, class, gender and sexuality and transnational theories. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L | Prerequisite(s): AMS 201, ETH 100, HRC 200, or WST 100; ENG 101, 105, or 107 with C or better |
| HRC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| HRC | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| HRC | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-3 | | |
| HSC | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| HSC | 210 | Cultural Aspects of Health | Examines how culture influences health, health care practices, barriers to health care, interactions with health care professionals, and health disparities in the U.S. Addresses the need for cultural competence among health practitioners. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | C | |
| HSC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| HSC | 300 | Complementary Health Care | Evaluates the major components of complementary and alternative health care models and evidenced-based recommendations related to complementary health care. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 56 hours OR Visiting University Student |
| HSC | 310 | Health Communication | Focuses on communicating topics related to health through an examination of theoretical frameworks, communication techniques, and different technologies including ehealth and mhealth. Addresses communication through channels that promote the health of individuals and communities. Topics may include clinician to client communication, peer to peer communication, health literacy, health in the media, and effective public health communication. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|-----------------------------|-----------------------------|-------|-----------------|---|
| HSC | 340 | Changing Health Behaviors | Comprehensive review of the theoretical bases of health behavior change. Students gain the knowledge to identify behaviors associated with optimal health and wellness and to develop theory-based intervention strategies and techniques to effectively influence behavior change. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prereq(s): Comm Health or Exer & Wellness or Health Sci or Health Sci (Healthy Lifestyles Coach) BS major or Health Wellness Coach cert student; min 30 hours; Credit allowed for only CHS 340 (EXW 340) or EXW 342 or HSC 340 OR Visiting University Student |
| HSC | 355 | Eating for Lifelong Health | Examines dietary choices throughout the life span and how they impact personal health and wellness. Raises awareness of thoughts and behaviors related to food and physical activity. Recognizes potential behavioral and social factors that impact participation in wellness programs. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | SB | Prerequisite(s): NTR 100 or 241 OR Visiting University Student |
| HSC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| HSC | 400 | Practicum in Health Sciences | Supervised experience in area of student specialization. Students are placed with an agency, organization, business, and/or facility that meets their specific academic goals. | N | PRA | Y | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Health Sciences Senior student |
| HSC | 410 | Supporting the Health of Older Adults | Focuses on community and national policies and programs that affect the health of older adults, programs to improve access to health care as well as to improve overall health, issues related to family and professional caregiving, and future challenges related to caring for older adults. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |
| HSC | 412 | Health Issues in Later Life | Focuses on health issues that primarily affect adults ages 50 years and over as related to nutrition, physical activity, environmental toxins. Focuses on exploring those factors known to promote healthy aging. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |
| HSC | 420 | Evaluation of Health Sciences Research | Investigates methods of inquiry in health sciences and techniques for critiquing and interpreting research within the context of evidence-based practice. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): POS 401 (or PSY 230 or 231 or SOC 390 or STP 226 or 231 or 420) OR Medical Studies major with HCD 300 (or HSC 320) |
| HSC | 432 | Legal Issues in Health Care | Legal doctrines provide protection of consumers, health care providers, and health care institutions with regard to health care delivery including access and cost. Provides an overview of the legal obligation and rights of private and public stakeholders in the delivery and receipt of health care services. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| HSC | 440 | Health Coaching Concepts and Skills | Health and wellness coaching skills and competencies for health professionals with emphasis on the practical application of behavioral health coaching theories, motivational interviewing and goal-attainment skills to empower clients and promote sustainable healthy lifestyle changes. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): CHS 340 (EXW 340), EXW 342, HSC 340, or NTR 350; Credit is allowed for only HSC 440 or NTR 530 or HSC 598 (Health Coaching Concepts and Skills) OR Visiting University Student |
| HSC | 441 | Applied Health Coaching Techniques | Complements previously learned coaching theory, skills and techniques related to guiding individuals and groups through meaningful lifestyle changes by emphasizing the use of evidence-based coaching approaches. Using a mentor, self-assessment and peer feedback model, students practice, compare and contrast diverse coaching methodologies emphasizing motivational interviewing techniques and cultivating their coaching voice. Students are assigned coaching clients, schedule coaching sessions, follow-up with clients, practice professional boundaries setting, become acquainted with ethical issues and referral processes, and validate their knowledge and skills when working with people with chronic disease who require lifestyle management strategies to improve their conditions. Program faculty provide mentorship and feedback regarding student's coaching performance. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): HSC 440 with C or better; Pre- or corequisite(s) with C or better if completed: EXW 325 or 335; EXW 344; HSC 355 (or NTR 355); NTR 241 OR Visiting University Student |
| HSC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | YGB | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): minimum 2.00 GPA; minimum junior standing |
| HSC | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): Barrett Honors student |
| HSC | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| HSC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| HSC | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| HSC | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-3 | | |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|-----------------------------|--|-------|-----------------|---|
| HSC | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-4 | | |
| HSD | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 501 | Science and Technology Policy | Covers the role and nature of science and technology in democratic societies, and how policy impacts their development, use and potential risks and benefits. Addresses the history of science and technology policy in the U.S. and how science-based research and innovation are integrated into the design and implementation of government decision making. Students study the history and actions leading to the formation of a science and technology-related policy of their choice. Drawing on multiple areas of expertise, the course emphasizes the need for novel yet informed approaches to science and technology policy in today's rapidly changing world. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 502 | Advanced Science and Technology Policy | Explores innovation systems; the relationship between science and technology policy, equity and equality; the theory and practice of policy implementation; the utility of public value mapping; and the nature of technological fixes. Begins to explore the policy challenges and opportunities presented by emerging and converging technologies, and a changing governance and geopolitical landscape. Students study the implementation of a specific previously selected science and technology policy. Brings a transdisciplinary approach to science and technology policy that is uniquely relevant to today's increasingly technologically complex world. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): HSD 501 with B or better |
| HSD | 503 | Governing Emerging Technologies | Examines the governance of science and technology through a focus on emerging technologies whose potential consequences in society are apparent only in anticipation and whose manifestations are still being shaped by local, domestic, and international institutions. These emerging technologies include nanotechnologies, synthetic biology, and other technologies associated with genetic modification, and information and cognitive science and neuro-technologies. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 504 | Analysis of Large-Scale Socio-Technological Systems | Provide skills and methods to analyze the design and management of large-scale socio-technological systems and the societal impacts of large-scale technological systems change. Emphasizes assessing the intertwining of lives and livelihoods in large-scale technological systems and the risks and vulnerabilities associated with large-scale systems failures, including the effects of both technological failures and natural hazards. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 505 | Science and Technology Policy Workshop | Provides the capstone experience for the Professional Science Master's in Science and Technology Policy. Builds on theoretical and analytical work carried out in the program's required courses, providing an integrative experience that requires students to synthesize knowledge gained in prior coursework and apply it to real-world policy problems and settings. By blending exposure to national science and technology policy officials and nationally recognized academic experts, the workshop both advances student learning beyond that possible in the classroom while encouraging students to expand their abilities to connect theoretical and practical insights. At the same time, the workshop provides a natural transition from the student's formal classroom learning to their required applied policy internships, which commences upon the end of the workshop. | N | SEM | N | YGB | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 512 | Solar Energy Policy Workshop | Successful and rapid development of solar energy requires the training of a highly skilled technical workforce that is also well versed in the socioeconomic (e.g., social, economic, behavioral, policy) and commercial aspects of solar energy. Provides practical policy experience. Explores the relationships among science, policy and societal outcomes in a place where many important decisions about these things are made: Washington, D.C. During the one-week course, students meet and interact with the people who fund, regulate, shape, critique, publicize and study solar energy and science, including congressional staffers, funding agency officers, lobbyists, regulators, journalists, academics, museum curators, and others. | N | SEM | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 2 | | Prerequisite(s): Solar Energy Engineering and Commercialization PSM student; Credit is allowed for only HSD 512 or HSD 594 (Solar Energy Policy Workshop) |

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| HSD | 515 | Science, Technology and Public Affairs | Explores the political, economic, cultural, and moral foundations of science and technology policy and governance in democratic society. | N | LEC | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 515 or GLG 547 or HSD 515 or PAF 547 or SOS 516 |
| HSD | 517 | Uncertainty and Decision Making | Knowledge is always incomplete, yet decisions must be made. Explores uncertainty and its relation to decision making, with a particular focus on the ways that science and science-derived information is applied with the intent of improving decisions. Explores the many meanings and origins of uncertainty, using theoretical and case-based approaches. A central theme is the relation among uncertainty, scientific prediction, and decision making, especially in politically charged issues, for example as related to management of the environment. Ultimately understands how effective decisions can be made in the face of inevitable uncertainties and contested knowledge. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASB 517 or BIO 517 or BIO 591 (Uncertainty & Decision Making) or HSD 517 or POS 527 or SOS 518 |
| HSD | 520 | Masters of Nonfiction | Students read and critically discuss works by well-known nonfiction writers to improve their own writing skills. Consists of weekly writing exercises, reviewed with workshop-style discussions centered on individual authors, themes or genres such as history, journalism, personal essays, biography, character profiles, travelogues, book reviews and op/ed commentary. | N | LEC | Y | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HPS 520 or HSD 520 or HST 520 |
| HSD | 521 | Writing True Stories that Matter | Researchers, policy wonks, grant writers, program managers, aspiring politicians, decision makers and writers of all ages: Everyone needs to know how to find and write a strong, effective, true story. This course helps students and professionals transform research, experiences and ideas into compelling nonfiction narratives so that readers are both educated and entertained. In this semester-long workshop, the instructor proceeds, step-by-step, through the entire writing true stories process, from finding the story to recreating scenes and building a scene-by-scene structure that is informative and cogent. Participants learn how to read with a writer's eye and recognize and utilize structural patterns. Explains, illustrates and practices literary techniques like dialogue, flash descriptions, inner point of view, and the art of imbedding information in story. | N | SEM | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HSD 521 or COM 598 (Writing True Stories That Matter: Creative Nonfiction) or HSD 598 (Writing True Stories That Matter: Creative Nonfiction) |
| HSD | 540 | Responsible Innovation and Research | Responsible Innovation (RI) and Research is a vision of how values can best be incorporated into the practice of science, technology and innovation (STI). It touches on a host of other similar concepts like Public Interest Technology, Tech for Good, Just Tech and others. At their core, RI and its cognates understand that STI is not a value-free endeavor, and thus it is better to recognize those values and work with them to help assure that our investments in STI are attuned to the goals of science policy as well as to broader public values and the pursuit of a more just, democratic society. Emphasize bringing students to the forefront of the emerging scholarship around RI and related concepts, including perspectives grounded in justice, equity, diversity and inclusion; communicating with colleagues and publics about values and RI in the practice of STI; and performing a real-world project, inquiry or intervention around RI. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 550 | Prototyping Futures | In this project-based course, students work in interdisciplinary teams to explore and envision the future of communities, industries, technologies and other elements of our society. In this process, students develop their understanding of the application of extended reality technologies, practices and methodologies for design, and tools for applying research to constructing prototypical scenarios for the future, in addition to gaining experience in effective collaboration. This course is about critical, methodological and narrative skills--the ability to move fluidly through domains, create low-fidelity prototypes, and devise creative solutions to complex problems by envisioning new realities. The development of deep technical skills in a chosen field follows in each program. | N | LEL | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AME 550 or DSC 550 or HSD 550 |

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| HSD | 551 | Future-Focused Research Methods | In times of discontinuous change, deep ambiguity and high levels of novelty, the future is characterized by radical uncertainty. Making decisions, choosing policies or organizing community action is complicated by the range of complex potential futures in play. As researchers and practitioners concerned with socio-technical change, what are the tools and methods to grapple with and make sense of uncertainty? This class surveys the field of foresight, drawing from a broad array of scholarly traditions, to catalogue the different methodological approaches to navigate change. Looks to scholars who approach the sociology of time, the dynamics of socio-technical systems, innovation studies, social psychology and futures studies to explore the concept of the future with an eye toward the implications for research methods. Utilizes different ways of thinking about the future to support and develop cognitive, social and organizational capacities to imagine and enact different futures. In doing so, the epistemology of the future is foregrounded, probing the nature and consequences of anticipatory knowledge production. | N | SEM | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 552 | Worldbuilding and Imagination | To make a convincing future, you need to create a convincing world. Storytellers, artists, game designers, politicians and scientists all engage in the practice of building worlds in order to inspire, to question, and sometimes to terrify us. They create narratives, experiences and simulations of places, real and imagined, that combine scientific, cultural and aesthetic forms of knowledge. Why? This course explores the theory and practice of worldbuilding as a way to time travel to the future and the past, as well as to other configurations of the present. It also allows us to better understand the systems we live in and define plans of action to change them for the better. In this way, worldbuilding is a way to create collective visions for the future that inspire change today. Students study a variety of future worlds and build their own through collaborative projects that involve writing, making and public engagement. | N | SEM | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 555 | Strategic Design Futures | Designers are increasingly addressing more strategic and long-term situations, while non-designers are increasingly interested in using design approaches to address diverse challenges. Strategic design is a practice that focuses on formulating strategies (problem setting) rather than only implementing strategies (problem solving). Strategic design is closely related to contemporary and emergent design practices such as user experience design, design thinking, service design, speculative design, behavioral design, and co-design, which are increasingly explored, adopted and adapted in projects and organizations. Students understand and practice a variety of strategic design methods and mindsets with the aim of changing and envisioning futures. With hands-on activities and real-world context, students use and develop core strategic design skills such as visualization, sensemaking, synthesis, speculation and facilitation. Some design tools that may be used include storyboards, user flows, journey mapping, participatory ideation, visioning, service blueprints, prototyping-testing. Includes seminar discussions and hands-on activities with a "live project." | N | PRO | N | Z1 | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only DSC 555 or DSC 598 (Strategic Design Futures) or HSD 555 |
| HSD | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | |
| HSD | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | GNA | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRA | Y | GNA | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| HSD | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Global Futures | School for the Future of Innovation in Society | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 601 | HSD I: Human Dimensions of Science and Technology | Interdisciplinary synthesis, theoretical foundations, and methods for humanistic and social science research on science and technology. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 602 | HSD II: Science, Power and Politics | Interdisciplinary synthesis, theoretical foundations, and methods for humanistic and social science research on science and technology. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 610 | Colloquium | Regular meeting for the entire HSDST community. Includes outside speakers, student and faculty member presentations, and community discussions. | N | SEM | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRA | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Global Futures | School for the Future of Innovation in Society | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Global Futures | School for the Future of Innovation in Society | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 101 | Introduction to Human Systems Engineering | Introduces basic principles, methods and theories of psychology and applications to engineering problems relevant to human systems. Gives particular attention to the intersection of psychology and engineering. Students learn brain anatomy and physiology, sensation and perception, cognition, social systems and research methods so that they are able to design systems consistent with human capabilities and limitations. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | SB | |

| Subject | CatalogNbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------|-------|-----------------|--|
| HSE | 223 | Applied Biology of Human Behavior | Introduces the biological basis of human behavior and implications for human systems engineering. Structure and function of the nervous system as well as the behavioral effects of the physiological processes outside the brain (for example, hormones secreted by glands). Biological processes involved in many aspects of our behavior such as eating, sleeping, sexual behavior, emotional responses, sensory perception, learning and memory, language and cognitive functions, mental illness and drug abuses. Introduces a wide range of techniques and methods used to investigate the biological foundations of behavior. Prepares students for advanced courses in neuroscience, psychology or related fields. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | SB | Prerequisite(s): HSE 101 or PSY 101 with C or better OR Visiting University Student |
| HSE | 224 | Applied Social Science | Covers social behaviors, social cognition and emotion critical for engineered systems that interact with humans (artificial intelligence, robots). Students learn how human beings behave, think and feel in daily social situations and think about how that information can be used to create effective human systems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | SB | Prerequisite(s): HSE 101 or PSY 101 with C or better OR Visiting University Student |
| HSE | 225 | Human Systems Integration | Reviews human systems integration (HSI), which is basically systems engineering from a human-centered perspective. Research, theory and methodological approach as applied to a variety of systems ranging from transportation systems to medical and military systems. Discusses handbook chapters and specific examples of human systems integration. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): HSE 101 or PSY 101 with C or better; Credit is allowed for only HSE 225 or IEE 225 OR Visiting University Student |
| HSE | 230 | Statistics for Human Systems Research I | Basic methods of exploratory data analysis (including graphics) and statistical computing methods, including a detailed look at hypothesis testing, effect size and power analysis, as well as some methods for dealing with categorical and discrete data. Introduces both correlation/regression and analysis of variance (ANOVA), as well as common statistical software. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | CS | Prerequisite(s): HSE 101 or PSY 101 with C or better; MAT 117 or higher with C or better OR Visiting University Student |
| HSE | 290 | Experimental Methods for Human Systems Research | Introduces the basics of research methodology as applied in human systems engineering. Quantitative and experimental design from an applied perspective. Guided study of the process of conducting research within human systems engineering. Project topics range from research question generation and literature review to reporting of results. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | L | Prerequisite(s): ECN 221, ECN 231, EGR 280, HSE 230, IEE 380, PSY 230, STP 226, STP 420, or STS 401 with C or better; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| HSE | 323 | Perceptual Systems | In-depth exploration of methods by which humans receive and interpret information from the world by vision, audition, taste, smell, touch and movement. Emphasizes the integration of behavioral and neural research with potential applications to engineering practice. Topics cover a wide range from the biological basis of sensory information processing to the behavioral aspects of perception, and to the applications of perceptual theories to disciplines like computer vision, display technologies, graphic design and sound processing. Solid foundation for further coursework and research in neuroscience or psychology; students also gain knowledge that could be useful in various professions. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | SB | Prerequisite(s): HSE 101 or PSY 101 with C or better; minimum junior standing |
| HSE | 324 | Applied Cognitive Science | Human cognition and how it bears on the design of technological and social systems. Although focuses on applications, requires student to delve into the basic literature that informs these applications and produce a literature review that draws on both applied and theoretical work. Many weeks involve a hands-on experience with a method or technique, and weekly quizzes emphasize critical thinking about these examples. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | SB | Prerequisite(s): HSE 101 or PSY 101 with C or better OR Visiting University Student |
| HSE | 325 | Human-Computer Interaction | Theories, methods, and findings concerning the usability of computer systems and the design of effective user interfaces. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): HSE 101 or PSY 101 with C or better OR Visiting University Student |
| HSE | 390 | Qualitative Research Methods | Reviews basics of qualitative research with applications to human systems engineering. Covers fundamental concepts of reliability and validity, and considers best practices in survey, questionnaire, interview and observation methods. Introduces and applies content analysis and grounded theory approaches for analyzing and interpreting qualitative data (e.g., interview transcripts and open-ended survey responses). All concepts are taught with an applied focus and real-world examples. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; HSE 290 or PSY 290 with C or better OR Visiting University Student |
| HSE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-4 | | Prerequisite(s): minimum 45 hours |
| HSE | 422 | Human Factors in Sport | Examines how psychological principles can be applied to enhance the performance of athletes and coaches. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): HSE 101 or PSY 101 with C or better; minimum junior standing OR Visiting University Student |

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| HSE | 423 | Human Factors in Transportation | Examines human performance and human-machine design issues in aviation and ground transportation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): HSE 101 or PSY 101 with C or better; minimum junior standing OR Visiting University Student |
| HSE | 424 | Human Automation Interaction | Current perspectives and techniques for modeling human-automation interaction to improve system design and system integration. Topics discussed include basic principles in human-technology interaction, key concepts to consider when designing and assessing supervisory control automation, and promising approaches for integrating increasingly autonomous automation, such as adaptive algorithms and embodied agents, into human systems. | N | SEM | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): HSE 101 or PSY 101 with C or better; minimum junior standing; Credit is allowed for only HSE 424 or HSE 524 OR Visiting University Student |
| HSE | 425 | Human Factors in Medical Systems | Comprehensive introduction to human factors issues related to healthcare systems, medical training, and medical device design. Topics range from psychological and physiological aspects of human behavior like perceptual and cognitive functions, motor behavior, learning, motivation, physiology, and ergonomics to applied issues in the context of medicine and healthcare like human-computer interactions in medical information systems, the ergonomic design of medical devices, evaluation of medical device usability, team training in healthcare and the organization of medical environment. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): HSE 101 or PSY 101 with C or better; minimum junior standing; Credit is allowed for only HSE 425 or HSE 525 OR Visiting University Student |
| HSE | 426 | Training and Expertise | Reviews principles and features of expertise and the acquisition of skilled performance, such as knowledge, deliberate practice, self-regulation, feedback and training. Discusses and applies methods of evaluating expert performance (e.g., cognitive task analysis) and designing effective training systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): HSE 101 or PSY 101 with C or better; minimum junior standing OR Visiting University Student |
| HSE | 427 | Designing for Learning | Reviews principles of learning with applications to human systems engineering. Covers fundamental cognitive, metacognitive and motivational aspects of learning, and their applications in instructional design frameworks. Applies concepts to the design of multimedia instruction, educational technologies and similar learning resources. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): HSE 101 or PSY 101 with C or better; minimum junior standing OR Visiting University Student |
| HSE | 428 | Judgment and Decision Making | Reviews basic principles of human judgment and decision making with applications to human systems engineering. Covers "intuitive" vs. "rational" ways of thinking, heuristics and common biases (e.g., correspondence bias, self-serving bias). Also covers examples of effective thinking such as intelligence, creativity, transfer and relational reasoning. All concepts are taught with an applied focus. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): HSE 101 or PSY 101 with C or better; minimum junior standing OR Visiting University Student |
| HSE | 429 | Product Design and Evaluation | Applies human systems engineering methods to product design and evaluation. Consumer behavior, consumer research methods, systems and design thinking, how to conduct interviews, observational research, contextual analysis, questionnaire design and analysis, opportunity identification, usability testing and creativity. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): HSE 101 or PSY 101 with C or better; minimum junior standing; Credit is allowed for only HSE 429 or HSE 529 OR Visiting University Student |
| HSE | 430 | Statistics for Human Systems Research II | Statistical methods commonly used in human systems engineering research. Emphasizes (1) connecting research designs and statistical analysis, (2) interpreting and breaking down significant effects, (3) addressing practical problems associated with doing research in applied contexts, (4) using statistical methods to understand the connection between variables in a complex system, and (5) the use of statistical software. Primarily focuses on analysis of variance (ANOVA) but introduces other techniques (including mediation analysis, structural equation modeling and cluster analysis). Recommended for preparation for both graduate study and careers in related industry. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | CS | Prerequisite(s): HSE 230 or PSY 230 or PSY 231; Credit is allowed for only HSE 430 or PSY 530 OR Visiting University Student |
| HSE | 477 | Human Systems Engineering Capstone Experience | Applied psychology from a systems perspective. Requires a report based on research and/or applied work as a culminating experience. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): Human Systems Engineering BS or Human Systems Engineering (User Experience) BS major; senior standing; Pre- or corequisite(s): HSE 290 or PSY 290; HSE 324 or PSY 324 |
| HSE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-12 | | |
| HSE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-6 | | Prerequisite(s): Barrett Honors student |
| HSE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |

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| HSE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| HSE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-3 | | |
| HSE | 520 | Methods and Tools in Applied Cognitive Science | Provides a hands-on approach to understanding and using advanced methodologies commonly implemented in the field of cognitive science. | N | SEM | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 521 | Methods and Tools in Human Systems Engineering | Specific methods and tools used in the field of human systems engineering, with computer-based experience through both writing and using human factors tools and software. | N | SEM | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 524 | Human Automation Interaction | Covers different perspectives and techniques for improving automation design and system integration. Covers basic principles in human-technology interaction, key concepts in supervisory control automation, and promising approaches for increasingly autonomous automation such as adaptive algorithms and embodied agents (robots). Emphasizes literature review, concept synthesis and communication skills through writing, in-class presentations and in-class discussion. | N | SEM | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HSE 424 or HSE 524 |
| HSE | 525 | Health and Human Systems Engineering | Covers different perspectives and techniques in medical human factors and health systems engineering to improve system design and system integration in healthcare. Covers basic principles in human-technology interaction, macroergonomics, and job design in the context of healthcare, health organizations, and health technologies. Emphasizes synthesis of reading materials, problem scoping and communication skills through writing and discussion. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HSE 425 or HSE 525 |
| HSE | 529 | Product Design and Evaluation | Covers User Experience (UX) design that includes usability, usefulness, emotional impact and meaningfulness in the context of product design. Topics include: understanding needs, designing solutions, prototyping candidates, and evaluating UX | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HSE 429 or HSE 529 |
| HSE | 530 | Intermediate Statistics for Human Systems Engineering | One-way and factorial designs, contrasts, post-hoc tests, probing of interactions, mixed designs, power, computer applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HSE 530 or HSE 598 (Statistics for Human Systems Research III) or PSY 530 |
| HSE | 531 | Data Analytics: Modeling Human Subjects Data | Principles and methods of analyzing human subjects data. Improves analytical and communication skills for scientific research; acquires and develops skills in using the open-source statistical computing platform R; and builds confidence in wrangling, analyzing and visualizing human subjects data. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HSE 531 or HSE 598 (Data Analytics) |
| HSE | 540 | Foundations of Applied Cognitive Science | Provides a critical background in the theory and organization of the field of cognitive science. | N | SEM | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 542 | Foundations of Human Systems Engineering | A wide variety of methodologies utilized by and applications of the broad field of human systems engineering. | N | SEM | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 560 | Capstone | Hands-on project in user experience. Requires a report based on research or applied work as a culminating experience. | N | SEM | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): User Experience MS student; Credit is allowed for only GIT 560 or HSE 560 or TWC 560 |
| HSE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | SEM | Y | Z1 | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| HSE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | IND | Y | Z2 | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSM | 502 | The Health Service System and the Business of Health Care | Acquaints students with the various organizations and actors across the value chain of health care. Assesses provider, supplier, payor and IT multiple perspectives. Exposes the major concepts needed to understand the health sector globally (key business and clinical functions). Students emerge being able to be dropped down into a conversation about a health care company or problem and understand a large proportion of what is being discussed. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSM | 506 | Managing Health Care Organizations | Examines the dynamics within health care organizations. Provides a deep-dive into the best practices and key considerations for health care managers as they seek to operate within and modify their organizations. Employing concepts from organizational behavior and systems theory, provides students with a framework to define and resolve operational challenges associated with the management of a health care organization. Asks students to think as senior manager or consultants and propose solutions that are evidence based, feasible and demonstrate knowledge of the key contingencies associated with the context. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): W. P. Carey MBA student |
| HSM | 512 | Healthcare Economics | Economics of production and distribution of healthcare services, with special emphasis on the impact of regulation, competition, and economic incentives. | N | LEC | Y | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): HSM 502 with C or better |
| HSM | 550 | Health Care Marketing | Marketing is a set of processes, relationships and co-creations meant to create, communicate and deliver value to the customer. Takes a customer-centric approach to health care marketing. Examines the changing roles in health care, organizations' approaches to patient-centricity, patient empowerment, responsibilities and experience. In addition, considers patient metrics such as patient engagement, customer effort, net promotion and patient satisfaction measures used by the U.S. government's Centers for Medicare and Medicaid Services. Considers marketing from the patient/provider, organizational and network/system points of view, organizational buying and selling processes, and the development and navigation of health care networks/systems from a marketing organization, service provider's and customer experience perspectives. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): W. P. Carey MBA student |
| HSM | 552 | Health Care Supply Chain Management | Examines the variety of organizations that constitute the health sector value chain with an emphasis on suppliers, distributors, IT intermediaries, group purchasing organizations, regulatory bodies, and payers. Key considerations include the design of stakeholder relationships along the value chain and the extent to which business and clinical considerations drive decision making and influence outcomes. Topics include strategic sourcing and contracting, stakeholder incentives and risk across the value chain, physician/professional perspectives and the management of the value chain relationships necessary to achieve high quality, ethical behavior and safe patient care. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HSM 552 or HSM 598 (Healthcare Supply Chain Management) |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|--------------------|---|
| HSM | 575 | Entrepreneurship, Innovation and Strategy in the Health Care Sector | Problems with health care quality, access and costs bedevil all countries. Focuses on the creation of global business innovations in health care that can better meet these needs. At its end, students should understand the opportunities for different kinds of health care innovations and how to create viable strategies and business models to meet them. Enables students to craft business models that attain alignment between an entrepreneurial health care venture and the Six Factors that shape this sector: financing, structure, public policy, consumers, technology and accountability. Covers these issues in every part of the sector, including insurance, services, IT, medical devices, biotechnology, diagnostics and pharmaceuticals. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): W. P. Carey MBA student |
| HSM | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Economics | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HST | 100 | Global History to 1500 | Surveys human origins; early civilizations in Africa and Eurasia; the ancient Mediterranean; the pre-Columbian Americas; the rise of Islam and Muslim empires; medieval Europe; the Indian sub-continent and imperial China, to 1500. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H & G | |
| HST | 101 | Global History Since 1500 | Surveys Africa, the Americas, and Eurasia; changes in communication, communities, demography, economics, environment, politics, religion, technology, warfare, and women. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H & G | Credit is allowed for only HST 101 or SGS 111 OR Visiting University Student |
| HST | 102 | Europe and the Mediterranean: Ancient and Medieval | Origins and development of European societies and institutions from the ancient world through the Middle Ages. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | |
| HST | 103 | Early Modern Europe: Renaissance to Enlightenment | The development of European societies and institutions from the Renaissance and Reformation through the Age of Enlightenment. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & H | |
| HST | 104 | Modern Europe: French Revolution to European Union | The development of European societies and institutions from the French Revolution to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & G & H | |
| HST | 106 | Asian Civilizations | Civilizations of China, Japan, and India from antiquity to the 17th century. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & G & H | |
| HST | 108 | Introduction to Japan | Historical survey of the people, culture, politics, and economy of Japan, supplemented by audiovisual presentations. Intended for nonmajors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | |
| HST | 109 | United States to 1865 | Growth of the Republic from colonial times through the Civil War period. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & H | |
| HST | 110 | United States Since 1865 | Growth of the Republic from the Civil War to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | |
| HST | 111 | Introduction to Asia | Offers a basic introduction to the geography, history, cultures, states, and societies of South and Southeast Asia as well as China, Japan, and Korea. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H & G | Credit is allowed for only HST or REL 111 |
| HST | 112 | Foundations of Democracy | Introduces an interdisciplinary study of democracy with special attention to its historical development as a form of government. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | Credit is allowed for only HST 112 or POS 112 |
| HST | 113 | United States and Arizona Social Studies | Introduces American (including Arizona) institutions integrating geography, government, history and economic perspectives. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Credit is allowed for only GCU 113 or HST 113 |
| HST | 114 | World Social Studies | Introduction to the world from the integrated social science perspectives of history, geography, and government. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Credit is allowed for only GCU or HST 114 |
| HST | 130 | The Historian's Craft | Introduces the ways historians ask questions and propose answers. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Credit is allowed for only HST 130 or HST 330 OR Visiting University Student |
| HST | 141 | Russian Civilization: From Tsars to Putin | For centuries, Russians have argued about who they are as a people and a nation by turning to their history, religion, literature, arts and language. With a foundation in Russian history and geography and using primary sources, we survey debates over Russian history and civilization to understand how Russians have imagined themselves and their nation and empires. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & G & H | Pre- or corequisite(s): ENG 101, 105, or 107 with C or better if completed; Credit is allowed for only HST 141 or RUS 141 or SLC 141 OR Visiting University Student |
| HST | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-3 | | Pre-requisites: Freshman standing; Maximum 25 hours |
| HST | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|--|
| HST | 203 | Historical Themes in Latin America | General introduction to selected themes in Latin American history. May be repeated for credit when topics vary. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | |
| HST | 204 | Historical Themes in the US | General introduction to selected themes in United States history. May be repeated for credit when topics vary. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | |
| HST | 210 | American Social History | American society from the colonial period to the present. Ethnicity, race, age, and sex as factors in historical experience. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or SB) & H | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| HST | 211 | Jews and Judaism in America | Chronological analysis of Jews and Judaism in American history and letters. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H & C | Credit is allowed for only HST 211 or JST 211 or REL 211 |
| HST | 214 | The World's Game: History and Culture of Soccer | Provides a survey of the cultural significance and global reach of soccer, both historically and in contemporary culture. Students study materials from around the world in several mediums; they view films that explore the cultural impact of the game; read literary works that focus on soccer; and engage with scholarly articles and contemporary news media dedicated to the game. Provides a comprehensive sense of the history, personalities, rivalries, fandom, and even the finances and scandals related to the world's game. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G | Prerequisite(s): Credit is allowed for only HST 214 or HST 294 (The Beautiful Game: History & Culture of Soccer) or SLC 214 or SLC 294 (The Beautiful Game: History & Culture of Soccer) |
| HST | 230 | Introduction to Jewish Civilization | Overview of Jewish civilization from antiquity to the present. Answers the following questions: Who are the Jews? What do Jews believe? How did Jews interact with non-Jews? What was the lasting contribution of Jews to the world? In the attempt to answer these questions, provides the skills of being a good college student. Presents Judaism as an evolving civilization with an overarching distinctive culture but with a variety of subcultures and ethnic diversity. Presents the Jewish civilization through literature, films, music, and internet resources, with an overview of its complexity and diversity. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H & G | Credit is allowed for only HST, JST or REL 230 |
| HST | 240 | Introduction to Southeast Asia | Interdisciplinary introduction to the cultures, religions, political systems, geography, and history of Southeast Asia. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & G | Credit is allowed for only ASB 240 or GCU 240 or HST 240 or POS 240 or REL240 or SGS 240 OR Visiting University Student |
| HST | 245 | Introduction to India and South Asia | Provides an introduction to the history and major contemporary political, economic, social, religious and cultural features of the South Asia region at large and of selected South Asian nations in particular. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H & G | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only HST 245, POS 245, REL 245, SGS 245 or SLC 245 |
| HST | 260 | Introduction to Islam | Examines Islamic beliefs, ceremonies, festivals, and institutions. Assumes no prior knowledge about Islam. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Credit is allowed for only HST 260 or REL 260 |
| HST | 272 | Heretics, Saints and Emperors: Christianity in the Ancient World | Origins, development and expansion of Christianity; major themes and tensions from the New Testament world to the beginning of the Middle Ages. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only HST 272 or REL 272 (REL 372) OR Visiting University Student |
| HST | 280 | History of Science, Technology and Innovation | Fast-paced introduction to the intertwined histories of science, technology and innovation as they shape the globe from the ancients to the present. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| HST | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |
| HST | 300 | Experience of America's Modern Wars | Surveys the history of America's wars, military and veterans from the American Revolution through today. Also exposes how American society has understood the role of the military and those who served, both during and after their service in American wars. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only HST 300 or VTS 301 or HST 394 (Veterans, Society and Service: Core I) OR Visiting University Student |
| HST | 301 | Global History of Health | Examines disease and health transitions in broadest context of human history, from primate ancestors to hunter-gatherers, to transcontinental contact, colonialism, industrialization, urbanization. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 301 or HST 301 or SSH 301 OR Visiting University Student |
| HST | 302 | Studies in History | Specialized topics in history. Explores countries, cultures, and issues in history, and their interpretation in historical scholarship. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 302 or JST 302 OR Visiting University Student |
| HST | 303 | Studies in Asian History | Specialized topics in Asian history. Explores countries, cultures, and issues in history, and their interpretation in historical scholarship. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 304 | Studies in European History | Specialized topics in European history. Explores countries, cultures, and issues in history, and their interpretation in historical scholarship. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 304 or JST 304 OR Visiting University Student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| HST | 305 | Studies in Latin American History | Specialized topics in Latin American history. Explores countries, cultures, and issues in history, and their interpretation in historical scholarship. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 306 | Studies in United States History | Specialized topics in United States history. Explores regions, cultures, and issues in history, and their interpretation in historical scholarship. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 306 or JST 306 OR Visiting University Student |
| HST | 307 | Studies in African History | Specialized topics in African history. Explores countries, cultures, and issues in history, and their interpretation in historical scholarship. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 308 | History and Philosophy of Sustainability | Examines sustainability issues in a broadly interdisciplinary way, but with a special emphasis on humanities perspectives, focusing on human ideas, values and institutions as they have evolved over time. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102 or 105 or 108 with C or better; minimum 25 hours; Credit is allowed for only HST 308 or PHI 322 or SOS 309 or BIO/HST/PHI/SOS 394 (History & Philosophy of Sustainability) |
| HST | 309 | Exploration and Empire | Surveys European discovery, exploration, and imperialism in the early modern and modern periods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 310 | Film as History | In-depth study of moving image media as recorder, object, and writer of history. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 312 | History of Women in Science and Medicine | In-depth inquiry into the history of gender issues in Western science and medicine from Greco-Roman antiquity through the beginning of the 21st century. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU or SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 314 | American Cultural History Since 1865 | Culture, including ideas, ideals, the arts, and social and economic standards, from the age of industrialism to modern U.S. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & H | Prerequisite(s): ENG 102, 105 or 108 with a C or better; minimum 30 hours; Credit is allowed for only AMS 321 or HST 314 OR Visiting University Student |
| HST | 315 | Political History of the U. S. | American political history since independence, focusing post-1865. Evaluates major trends in issues, presidential leadership, elections, and state politics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 316 | 20th-Century U.S. Foreign Relations | U.S. relations with foreign powers from the late 19th century to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 30 hours |
| HST | 317 | History of Postwar U.S. Conservatism | Traces the origins of U.S. conservatism as it developed in the work of U.S. and European thinkers, intellectuals and authors after WWII. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 317 or HST 294 (American Conservatism) or POS 317 OR Visiting University Student |
| HST | 318 | History of Engineering | The history of engineering from the earliest record to modern times, examining the social, cultural, and economic effects on society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or SB) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours OR Visiting University Student |
| HST | 319 | History of Aviation | The history of aviation, focusing on technical, political, economic, social and cultural aspects. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only HST 319 or HST 306 (Aviation History) OR Visiting University Student |
| HST | 320 | U.S. Urban History since 1850 | History of the city in American life from the mid-19th century to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 321 | Constitutional History/US to 1865 | Origin and development of the American constitutional system from colonial period through the Civil War. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 322 | Constitutional History of the United States Since 1865 | Development of the U.S. constitutional system from Reconstruction to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | H | |
| HST | 323 | Historical Studies in Race, Crime, and the Law | Studies the historical relationship between the criminal justice system in the United States and a segment of society that has traditionally faced official and unofficial discrimination: American racial minorities. Focuses on the experiences of Mexican Americans and African Americans with the criminal justice system. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 101 with C or better; ENG 102 with C or better; Credit is allowed for only AFR 335 or HST 323 or TCL 335 OR Visiting University Student |
| HST | 324 | Food in Latin America | Uses food as a critical lens for studying Latin American culture and history and looks at how the evolution of human development, and especially the food that we eat, is influenced by social, political and economic context. Studies the production and commodification of food in Latin America, and its globalization. Also covers how Latin American cuisine sheds light on the formation of cultural identity and perceptions of nationalism. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 305 (Food) or HST 324 or LAS 324 OR Visiting University Student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|--------------------|--|
| HST | 325 | Immigration and Ethnicity in the United States | Origins, historical development, and future of a multiethnic society, 1492 to 2050. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 326 | The Global History of the Trans-Atlantic Slave Trade | Reading- and writing-intensive course that employs critical thought to look at the origins, development, abolition, and impact of Atlantic slave trade as a global economic enterprise and great human tragedy; slavery experience. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): AFR 200 or HST 109 or minimum 45 hours; Credit is allowed for only AFR 305 (or AFH 305) or HST 326 OR Visiting University Student |
| HST | 327 | Women in U.S. History, 1600 to 1880 | Historical discussion of American women of diverse racial, religious, and ethnic groups and classes; focuses on changing definitions of women's roles. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & C & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 328 | Women in U.S. History, 1880-1980 | Historical discussion of American women of diverse racial, religious, and ethnic groups and classes; focuses on changing definitions of women's roles. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & C & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 329 | Women in 20th-Century U.S. West | Nuanced exploration of how women of various cultures have contended for and shaped the U.S. West, including the West of imagination. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | H & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 330 | Historical Thinking | Advanced examination of the ways historians ask questions and propose answers. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 130 or HST 330 OR Visiting University Student |
| HST | 331 | Mexican American History to 1900 | Mexican American history from pre-Hispanic origins to frontier journeys north through 19th-century life in the U.S. Southwest. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H & C | Prerequisite(s): ENG 102, 105 or 108 with a C or better; minimum 30 hours; Credit is allowed for only HST 331 or TCL 331 OR Visiting University Student |
| HST | 332 | Mexican American History Since 1900 | Traces the formation of Mexican American communities across the rural and urban U.S. and examines 20th-century immigration from Mexico. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H & C | Prerequisite(s): ENG 102, 105 or 108 with a C or better; minimum 30 hours; Credit is allowed for only HST 332 or TCL 332 OR Visiting University Student |
| HST | 333 | African American History to 1865 | In-depth examination of African Americans' roles in American history, thought, and culture from slavery to 1865. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only AFR 363 or HST 333 OR Visiting University Student |
| HST | 334 | African American History Since 1865 | In-depth examination of African Americans' role in American history, thought, and culture from 1865 to present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & C & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only AFR 364 or HST 334 OR Visiting University Student |
| HST | 335 | History of Black Women in America | Advanced examination of the challenges that black women have faced historically in America and how they have responded to those challenges socially, politically, economically, and culturally. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): AFR 200, WST 100, WST 300, or minimum 45 hours; Credit is allowed for only AFR 302 or HST 335 or WST 302 OR Visiting University Student |
| HST | 336 | Islamic Civilization | Global historical survey of Islamic cultures and societies up to the modern period. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only HST 336 or REL 365 OR Visiting University Student |
| HST | 337 | American Indian History to 1900 | Cultural, economic, political, and social continuity and change of American Indian communities to 1900. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & C & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 338 | American Indian History since 1900 | Cultural, economic, political, and social continuity and change of American Indian communities from 1900 to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & C & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 339 | Islam in the Modern World | Examines the worldwide transformations of Islamic religion, cultures, and societies in the modern period. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only HST 339 or REL 366 OR Visiting University Student |
| HST | 340 | American Military History | Studies the role of the military in American life during war and peace from colonial times to the present day. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 341 | U.S. West 19th Century | Social, political, and economic development of the trans-Mississippi West, beginning with the Louisiana Purchase and ending in 1900. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105 or 108 with a C or better; minimum 30 hours; Credit is allowed for only HST 341 or HIS 320 |
| HST | 342 | U.S. West 20th Century | Role of the western states in U.S. history since 1890 emphasizing politics, the environment, industry and labor, and ethnic minorities. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--|---|-------|---------------------|---|
| HST | 343 | American Southwest | Development of the region from 1848 to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or SB) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 344 | Arizona | Emergence of the state from early times to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 30 hours |
| HST | 345 | Environmental History | Examines the interaction between humans and the natural world in the United States from the late 19th century to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L | Prerequisite(s): ENG 102, 105, 108, or 112 with C or better OR Visiting University Student |
| HST | 346 | Ancient Greece II: Late Classical and Hellenistic Period | Traces the transformation of the Greek world between the end of the Peloponnesian War (404 B.C.) and the absorption of the last major Greek state by growing power of Rome (30 B.C.), with special attention to how Greeks in this period lived and thought and how the period's political and economic changes helped to create new forms of culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only GRK 346 or HST 346 or SLC 346 |
| HST | 347 | Ancient Greece I: Bronze Age through the Peloponnesian War | Traces Greek History from its prehistoric beginnings through the Peloponnesian War (431-404 B.C.), with a special focus on the Archaic (ca. 800-480 B.C.) and Early Classical periods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only GRK 347 or HST 347 or SLC 345 OR Visiting University Student |
| HST | 348 | Rome | History and civilization of Rome from the beginning of the Republic to the end of the Empire. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 349 | Early Middle Ages | Political, socioeconomic, and cultural developments of Western Europe from the 5th through 10th centuries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 350 | Later Middle Ages | Political, socioeconomic, and cultural developments of Western Europe from the 11th through 15th centuries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 351 | Renaissance Europe | Culture of the Renaissance in Italy and Northern Europe from the 14th to the early 16th centuries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU or SB) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 352 | Europe's Reformations | Causes and implications of the major Protestant, Catholic, and Radical religious reformations in 16th- and 17th-century Europe. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU or SB) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 353 | Old Regime in Europe | Society and culture of Europe during the 17th and 18th centuries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 354 | Revolutionary Europe | Political, social, economic, and intellectual currents in Europe from the French through the Russian Revolutions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 355 | Total War and the Crisis of Modernity | Forces of change and instability in early 20th-century Europe. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 356 | Europe since 1945 | Europe in its world setting since World War II, emphasizing major political and social issues from 1945 to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 357 | Historical Perspectives on Philosophy and Religion | Comprehensive, advanced study of central concepts in the philosophy of religion in the history of Western philosophy. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105 or ENG 108 with C or better; minimum 30 hours; Credit is allowed for only HST 357 or PHI 391 or REL 391 |
| HST | 358 | Jewish History from Antiquity to 1492 | Continuity and change in political, legal, economic and sociocultural history of the Jews from ancient through medieval times. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 359 | Jewish History from 1492 to 1948 | Jewish history from early modern through modern times, highlighting emancipation, enlightenment, and Jewish responses to modernity. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 360 | The Crusades: Religion & Conflict in the Middle Ages | Examines the origins, the development, and the outcomes of the movement that we call "crusades" by connecting the military aspect of the crusades to broader developments. Focuses primarily, but not exclusively, on the period 1095-1453. Geographically covers chiefly the Mediterranean, and, to a lesser extent, northeastern Europe. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105 or 108 with a C or better; minimum 30 hours; Credit is allowed for only HST 360 or HST 394 (Crusades in the Middle Ages) OR Visiting University Student |
| HST | 361 | Witchcraft and Heresy in Europe | Background, origins, and development of the Inquisition; persecution of women and marginal groups. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & H | Prerequisite(s): ENG 102, 105 or 108 with a C or better; minimum 30 hours; Credit is allowed for only HST 361 or REL 374 OR Visiting University Student |
| HST | 362 | Sex and Society in Classical and Medieval Europe | Family life, sex roles, and marriage, and their relationship to political, economic, and religious change in classical and medieval Europe. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 363 | Sex and Society in Early Modern Europe | Family life, sex roles, and marriage and their relationship to political, economic, and religious change in early modern Europe. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |

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| HST | 364 | Sex and Society in Modern Europe | Family life, sex roles, and marriage, and their relationship to political, economic, and social changes in modern Europe. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or SB) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 365 | World Wars I and II: Europe's Eastern Front | In-depth study of the history of the Eastern Front in Europe in the two world wars. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, ENG 105 or ENG 108 with C or better; Minimum 30 hours; Credit is allowed for only HST 365 or HST 394 (WWI and WWII Eastern Front) |
| HST | 366 | England to 1689 | In-depth examination of the political, economic, and social development of the English people to the late 17th century. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 367 | From Empire to Brexit: Modern Britain | Examines the politics, societies and cultures of Britain (England, Scotland, Wales and Ireland) and the British Empire from the late seventeenth century to the present, with a focus on how interactions with the wider world shaped Britain. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| HST | 368 | Culture and Imagination in European History | Topics in European cultural and intellectual history. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 369 | History and Memory of the Holocaust | In-depth study of the history of the genocide of Jews, the rise of modern antisemitism within the context of Nazi Germany, and the memory and memorialization of the Holocaust post 1945. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 369 or JST 369 or REL 312 or HST 304 (Shoah: History, Memory, and Representation) or HST 394 (History of the Holocaust) |
| HST | 370 | Eastern Europe in Transition | Democratization, privatization, and identity transformations since the fall of communism in contemporary Eastern Europe and the former Soviet Union. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 371 | Language Hegemony and Culture | Historical and cultural analysis of language and the ideological constructs imposed upon resident populations in the Southwest North American region since 1540. Analyzes the suppositions, ideologies, premises and mechanisms by which Spanish and English became imposed among Native peoples and later national populations of Mexicans during the 19th century and continuing with their descendants and migrating populations crossing the bifurcated border. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 371 or HST 371 or SLC 371 or SPA 371 or TCL 371 or ASB/HST/SLC/SPA/TCL 394 (Language Hegemony & Culture in SW North America) |
| HST | 372 | Modern Middle East | In-depth examination of the effect of the West and modernization on Middle Eastern governments, religion, and society in the 19th and 20th centuries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): minimum 24 hours OR Visiting University Student |
| HST | 373 | Roman History I: Foundations and Republic | Traces the growth of Roman power from Rome's humble beginnings in the eighth century B.C. to its domination of the Mediterranean and the transformation of the Roman Republic into the Roman Empire after the Battle of Actium (31 B.C.). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 373 or LAT 373 or SLC 373 |
| HST | 374 | Roman History II: The Roman Empire | The Roman Empire from the reign of the first emperor, Augustus (27 B.C.-A.D. 14), to that of Justinian (A.D. 527-565), focusing on the lives of the Roman emperors, the society and culture of the empire, and the profound changes that eventually contributed to the empire's collapse. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 374 or LAT 374 or SLC 374 |
| HST | 375 | Colonial Latin America | Ancient civilization, exploration and conquerors, and colonial institutions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 375 or LAS 375 |
| HST | 376 | Modern Latin America | In-depth examination of the development of independent Latin American republics since 1821. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 376 or LAS 376 OR Visiting University Student |
| HST | 377 | Sports in United States History | Focuses on major themes in American sports history, organized topically around fall sports. Themes encourage students to think critically about relationships among sport and society, identity, community, media, capitalism and education. Lectures, discussions, readings and films explore race, gender, class and sexuality as categories of analysis, and the role of sport in constructing ideas about the body along gender and racial lines. Also highlights social justice issues in sport as well as athlete activism throughout the twentieth century. Explores the ways in which the participation of Black, Latino/a and Native American athletes has both mirrored and diverged from Black, Latino/a and Native American citizens' participation in society throughout United States history. Also studies the process through which the equal opportunity to participate in school sports became defined as a civil right and, more recently, a human right. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |

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| HST | 378 | Poverty, Inequality and Social Justice in Latin America | With persistently high levels of poverty and inequality, Latin America is often considered the most unequal region in the world. This course explores the economic, political, social and geographic origins of poverty and inequality in Latin American countries since independence. It also studies efforts to address the problem by governments, non-governmental organizations, the international community, religious groups and activists. Explores these themes in more detail through a case study of one Latin American country and a global intensive experience at the end of the course. By reflecting on the Latin American experience, students gain insights for wealthy countries like the United States where inequality is on the rise. | N | LEC | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only HST 378 or JHR 378 or JUS 378 or LAS 378 OR Visiting University Student |
| HST | 379 | History of College Sports | Student-controlled intercollegiate contests quickly transformed into big-time college sports by the early twentieth century, revolutionizing the sports industry in the United States as well as the landscape of higher education. The American college sports enterprise is unique; nowhere else in the world does a large, amateur, revenue-generating system of school sports exist. After an exploration of the origins of intercollegiate athletics and the creation of the modern National Collegiate Athletic Association, topics include integration, women's intercollegiate athletics, the big business of amateurism, and scandal. Video lectures, readings and films introduce students to these often controversial topics, grounding them in the historical record. Many of the current debates concerning college sports have been taking place for more than a century. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 379 or HST 306 (History of College Sports) |
| HST | 380 | Studies in the History of Science | Major themes in the history of science with varying topics. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 381 | Studies in the History of Ideas | Major themes in the history of ideas with varying topics. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 382 | Studies in the History of Innovation and Technology | Studies the development and impact of innovation processes and technology on society, culture, and environment throughout history. Specific themes and topics vary. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 383 | China | Political, economic, social, and cultural history of the Chinese people from early times to the 17th century. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 30 hours; Credit is allowed for only CHI 333, HST 383 or SLC 333 |
| HST | 384 | Modern China: 1700 to the Present | Political, economic, social, and cultural history of the Chinese people from the 17th century to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 384 or SLC 334 OR Visiting University Student |
| HST | 386 | Interpreting China's Classics | Study of selected Confucian and/or Taoist classics and ways they have been read in both Asian and Western scholarship. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 30 hours; Credit is allowed for only CHI 336, HST 386 or SLC 336 |
| HST | 387 | Japan | Political, economic, social, and cultural history of the Japanese people from early times to the 17th century. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or SB) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 388 | Japan | Political, economic, social, and cultural history of the Japanese people from the 17th century to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 389 | Japan Society and Values/Premod | Effects of economic and social transitions on personal and social values as reflected in the dramatizations of contemporary events. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 390 | Jewish Philosophy | The history of Jewish philosophy from its origins in the Hebrew Scriptures to postmodern expressions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105 or 108 with a C or better; Minimum 30 hours; Credit is allowed for only HST 390, JST 314, PHI 390 or REL 314 |
| HST | 391 | Modern Southeast Asia | Vietnam, Laos, Cambodia, Thailand, Burma, Malaysia, Singapore, Brunei, Indonesia, and Philippines since 1750: imperialism, revolution, and independence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Pre-requisite(s): ENG 102, 105 or 108 with a C or better; Minimum 30 hours; Credit is allowed for only HST 391 or SGS 381 |
| HST | 392 | Modern India | In-depth study of modern India and its neighboring countries from the 18th century to the present. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 392 or HST 303 (Modern South Asia) or HST 394 (Modern South Asia) |
| HST | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 30 hours OR Visiting University Student |

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| HST | 395 | Combat in Film | Interdisciplinary approach to and qualitative method for analyzing war movies and military dramas as both historical and cinematic narratives that represent the experiences of infantry marines and soldiers in 20th- and 21st-century U.S. wars. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 394 (Combat in Film) or ENG 395 or FMP 395 or HST 306 (Combat in Film) or HST 395 or VTS 395 OR Visiting University Student |
| HST | 397 | Greece and Rome at War | Covers ancient Greek and Roman warfare and features military historical staples like strategy, tactics, logistics, battles and leadership. Other topics that intersect this exploration of ancient warfare include ethnolinguistic identity, state formation, religion, gender, imperialism, military theory, medicine, monumental building and slavery. Students acquire wide knowledge of the relevant history and are encouraged to critically think about essential themes in historical studies. Also features a strong interactive component, including group discussions, theory-crafting and presentations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only GRK 360 or HST 397 or LAT 360 or SLC 360 OR Visiting University Student |
| HST | 404 | Conquest and Encounters in Colonial Latin America | How did Hernan Cortés and Francisco Pizarro defeat the Aztec and Inca Empires? Despite numeric inferiority, limited provisions, and little knowledge about the Americas, Cortés and Pizarro defeated advanced civilizations that had experienced warriors and millions of inhabitants. Possible explanations include the conquistador's valor, advanced weaponry, superior military strategy, Indian allies, and biological attacks. In their encounters with native peoples of the Americas, Europeans were not always conquerors. Álvaro Núñez Cabeza de Vaca and Lope de Aguirre failed both in their attempt to conquer a large Indian civilization and in their effort to find mineral wealth. A few Europeans such as Bartolomé de Las Casas spoke out against the abuses committed against the Indians during the conquest. Explores these issues from the perspective of both Europeans and native peoples and looks at the long-term impact for Latin America and its peoples. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours; Credit is allowed for only HST 404 or LAS 404 OR Visiting University Student |
| HST | 405 | Colonial American History to 1763 | Political, economic, social, and cultural history of the colonial era. Concentrates on English colonies, with some consideration of Spanish, French, and other colonial regions in North America. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; Minimum 55 hours |
| HST | 406 | American Revolution/1763-1789 | Causes, course, and consequences of the American Revolution culminating in the ratification of the Constitution. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 407 | Early U.S. Republic/1789-1850 | Political, social, economic, and cultural development of the United States from the Revolution to 1850. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or SB) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours OR Visiting University Student |
| HST | 408 | Civil War and Reconstruction | Explores the causes, conduct, and consequences of the American Civil War, concentrating on the years 1848 to 1877. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or SB) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours OR Visiting University Student |
| HST | 409 | Emergence Modern U.S. 1877-1918 | Triumph of modern political, social, and economic structures and values, 1877-1918; role of region, religion, race, and ethnicity. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 412 | Contemporary U.S., 1973- Present | End of the Cold War, political crises, and cultural transformations in the U.S. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 413 | Contemporary America | The United States from 1945 to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or SB) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours OR Visiting University Student |
| HST | 414 | Political History and Leadership | Research seminar in political values and leadership. Combines lecture, readings and guest lectures by leaders in business, public affairs and the media. Culminates in a substantial written research effort. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours; Credit is allowed for only HST 414 or POS 414 |
| HST | 419 | 20th Century Chicano/a History | Historical development of the Chicano community in the 20th century. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only HST 419 or LAS 419 |
| HST | 423 | The Tudor Monarchy | Political, cultural, and social foundations of 16th-century England. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 424 | The Stuart Monarchy | Political, social, economic, and cultural developments in 17th-century England. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 426 | The British Empire | British imperialism and colonialism in Africa, the Americas, Asia, and the South Pacific. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 427 | French Revolution/Napoleonic Era | Conditions in Pre-Revolutionary and Revolutionary France; organization of France under Napoleon and impact of French changes upon Europe. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |

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| HST | 429 | Modern Germany | Germany since 1871. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 430 | The Ottoman Empire in the Classical Period | Focuses on the largest and most powerful Islamic polity from the late Middle Ages until the early twentieth century; its formation, institutions, social and cultural life, and its multifaceted impact on Europe and the Near East. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102 or 105 or 108 with C or better; minimum 55 hours; Credit is allowed for only HST 430 or HST 495 (The Ottoman Empire in the Classical Period) or HST 498 (The Ottoman Empire in the Classical Period) |
| HST | 432 | Eastern Europe the Balkans, 20th Century | Politics and culture in Eastern Europe and the Balkans from World War I to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 435 | The Russian Empire | Development of Russian imperial institutions and civil society from the 17th to the early 20th centuries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 436 | Rise & Fall of Soviet Communism | In-depth study of Communist revolutionaries' rule of Russia, focusing on utopian culture, Stalinist terror, heroism in war, and the breakup of the former Soviet Union. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours OR Visiting University Student |
| HST | 438 | Modern Spain | Cultural, economic, political, and social development of modern Spain. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 439 | Athenian Democracy | Discussion-based seminar familiarizes participants with the origins, characteristic institutions and political ideology of the Athenian democracy of the 5th and 4th centuries BCE. Engages selected topics in the study of Athenian democracy and gives participants an idea of the substance of contemporary debates within scholarship. Topics will include: The origins of the Athenian democracy; women, slaves, and other subordinate social groups within the democracy; elite critique of democratic ideology and episodes of outright civil war; leaders and masses; the role of the court system within the democracy; democracy and the Athenian empire; and violence in Athenian society. The goal of the course, in addition to a greater familiarity with the Athenian democracy, will be a research paper with a well-chosen topic and a distinctive thesis. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | H | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| HST | 441 | Latin America and the World Economy | Globalization did not begin in the late twentieth century, but rather global trade has linked Latin America with the rest of the world for over five hundred years. The region has been an active and important participant in the world economy since Columbus's first voyage in 1492. This course explores the social, cultural, economic, and environmental impact of such participation on both Latin America and the rest of the world. It is organized both chronologically and thematically. We will study both colonial and post-colonial trade. The commodities studied include sugar, rubber, bananas, and cocaine. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L & G & H | Prerequisite(s): ENG 101, 105 or 107 with C or better; minimum 45 hours; Credit is allowed for only HST 441 or JHR 441 or LAS 441 OR Visiting University Student |
| HST | 443 | The United States and Latin America | Latin American struggle for diplomatic recognition, attempts at political union, participation in international organizations since 1810, and relations between the United States and Latin America. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 444 | Latin American Independence | History of independence movements throughout the Western hemisphere from the late 18th century until the mid-19th century. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, 108, or 112 with C or better; minimum 55 hours |
| HST | 445 | 20th-Century Cuba | History of Cuba from colonial era to formation of the early republic; political, economic, social development in late 20th century. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 447 | Modern Mexico | In-depth examination of political, economic, social, and cultural developments in Mexico from 1810 to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105 or 108 with a C or better; minimum 55 hours; Credit is allowed for only HIS 423 or HST 447 |
| HST | 448 | Mexican/U.S. Border | Analyzes the evolution of the Mexican/U.S. border region from the mid-19th century to the present. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 449 | Mexican Immigration to the U.S. | Assesses the evolution of immigration and emigration public policy since the mid-19th century. Seeks to contextualize the relationship between immigration and other elemental nation-state issues as the economy, education, identity, and civil rights. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | (L or SB) & H & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 451 | Chinese Cultural History I | China's classics in translation studied both for their intrinsic ideas and for the origins of Chinese thought. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 55 hours; Credit is allowed for only CHI 451, HST 451 or SLC 451 |

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| HST | 452 | Chinese Cultural History II | Evolution of Confucian thought, its synthesis with Taoism and Buddhism, and modern reactions against, and uses of, Confucian traditions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 55 hours; Credit is allowed for only CHI 452 or HST 452 or SLC 452 |
| HST | 454 | History of Genocide | Examines the individuals and institutions responsible for the most infamous episodes of state-sanctioned violence in the 20th century. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only FOR 454 or HST 454 or REL 454 OR Visiting University Student |
| HST | 456 | The Vietnam War | Intersection of American and Asian histories in Vietnam, viewed from as many sides as possible. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours OR Visiting University Student |
| HST | 459 | Gandhi and the Politics of Nonviolence | In-depth study of Gandhi and the Gandhian political philosophy and practice of nonviolence. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102 (or ENG 105 or 108) with C or better; minimum 55 hours. Credit is allowed for only HST 459 or HST 498, Gandhi: Politics of Non-Violence |
| HST | 460 | World War II | Explores the causes, conduct and consequences of World War II. When did World War II start? How was it fought, and what did that mean for soldiers, the homefront and millions of civilians in Japanese or German occupied regions? What did the world that emerged in its wake look like? The course explores these fundamental questions with an emphasis on multiple explanations of the causes of the war in Asia and Europe and the contingency of Allied victory. Explores the war as both a total and a global war in which perceptions of race, class and gender shaped the experience of combatants and noncombatants, many of whom died in indiscriminate bombing campaigns. Racial ideologies also led to the brutalization of soldiers, which in turn fueled the violence against civilians, as exemplified by the Holocaust and Japanese war crimes. Finally, the course turns to the global order emerging after the war and the different narratives that emerged from it. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only HST 460 or HST 494 (Introduction to World War II Studies) or HST 494 (World War II Studies) or JST 460 or WWS 460 OR Visiting University Student |
| HST | 465 | Women in Europe, 1750 to Present | European women's diverse religious, ethnic, national, and economic roles in society, culture, and politics, 1750 to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & H | Prerequisite(s): ENG 102, 105, 108 with C or better; minimum 55 hours |
| HST | 480 | Methods of Teaching History: Classroom Resources | Methods in instruction, organization, and presentation of the subject matter of history and closely allied fields. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; ENG 102, 105, or 108 with C or better; minimum 56 hours |
| HST | 481 | Methods of Teaching History: Community Resources | Identify community-based resources for teaching history, work with resources, and learn how to integrate them into the secondary classroom. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; HST 480 or SED 480 with C or better; minimum 56 hours |
| HST | 482 | Writing and the History of Science, Ideas and Technology | Writing-intensive course examines intersections between texts and major themes in the history of science and technology. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | |
| HST | 485 | History in the Wild | History outside of conventional academic texts and purposes. Students craft historical narratives in ways that engage an audience beyond the professor, present information in forms other than (but not excluding) writing, and identify and use sources found outside of archives. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours OR Visiting University Student |
| HST | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| HST | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better; HST 300 or 495 with C or better |
| HST | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours OR Visiting University Student |
| HST | 495 | Methods of Historical Inquiry | Capstone course in history as an academic discipline, including formulation of research questions, use of primary and secondary sources to evaluate, form and support historical arguments. Students draft and revise a scholarly research paper. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L | Prerequisite(s): History or History of Science, Tech and Innovation or Jewish Studies or Secondary Education (History) major; ENG 102, 105, or 108 with C or better; minimum 55 hrs; Credit allowed for only HST 495 or JST 490 OR Visiting University Student |

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| HST | 496 | South, Southeast, and East Asia in the Global Matrix | In this capstone seminar, Asia studies majors take up broad comparative themes, integrating knowledge from previous coursework and executing a research project culminating in a major paper. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Asia Studies BA or History BA major; ENG 102, 105, or 108 with C or better; minimum 55 hours OR Visiting University Student |
| HST | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-3 | | |
| HST | 502 | Public History Methodology | Introduces historical research methodologies, techniques, and strategies used by public historians. Readings, short papers, and guest speakers. Required for students in the public history concentration. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): History MA or PHD student |
| HST | 504 | Digital Humanities: Critical Theory and Methods | Digital technologies are now intricately woven into our lives--whether it's in terms of authoring a paper in a text editor, sending texts and emails, or doing data analysis. Popular narratives of the "big" and the "new" celebrate and sometimes bemoan the ways that these tools shape our communication, access to information, habits and even our physical bodies. Focuses on the histories of these technologies, their affordances and limits for humanities scholarship. Students learn how to leverage digital technologies, but also how to critically read them. Broad ranging; in addition to surveying the "big tent," students are encouraged to utilize their final projects to engage with specific disciplinary digital tools and methods relevant to their scholarly work. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CDH 501 or HST 504 or REL 504 |
| HST | 515 | Studies in Historiography | Methods and theories of writers of history. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Pre-requisite: History MA or PHD student |
| HST | 520 | Masters of Nonfiction | Students read and critically discuss works by well-known nonfiction writers to improve their own writing skills. Consists of weekly writing exercises, reviewed with workshop-style discussions centered on individual authors, themes or genres such as history, journalism, personal essays, biography, character profiles, travelogues, book reviews and op/ed commentary. | N | LEC | Y | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HPS 520 or HSD 520 or HST 520 |
| HST | 525 | Historical Resource Management | Identification, documentation, and interpretation of historic period buildings, sites, and districts. Emphasizes interdisciplinary efforts among historians, architects, and anthropologists. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Pre-requisite: History MA or PHD student |
| HST | 527 | Historical Administration | Preparation of historians in administration of archives and historical sites, museums, societies, and offices in government agencies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Pre-requisite: History MA or PHD student |
| HST | 532 | Community History | Techniques and methods of community history emphasizing local resources. Required for community history option. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Pre-requisite: History MA or PHD student |
| HST | 573 | Museum Administration | Formal organization and management of museums, governance, personnel matters, fund raising and grantsmanship, legal and ethical issues. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASB 573 or HST 573 |
| HST | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HST | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Pre-requisite: History MA or PHD student |
| HST | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HST | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HST | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HST | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1 | | Pre-requisite: History MA or PHD student |

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| HST | 597 | Capstone | Allows students to build a culminating experience that reflects the breadth and depth of their MA experience and to articulate the value of the degree to potential employers or admissions committee members. | N | LEL | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): HST 502, 641, 642, or 643; HST 591; HST 640; 24 graduate hours |
| HST | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HST | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Pre-requisite: History MA or PHD student |
| HST | 640 | Historical Methods | Core readings course engages key historical monographs focused on historical methods. Provides core content knowledge and an understanding of debates and trends in the field. Provides a basic understanding of existing literature in the field. Develops ability to analyze historical methods and develop scholarly historical arguments. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): History MA or PhD student; Credit is allowed for only HST 640 or HST 500 (Historical Methodology) |
| HST | 641 | North American History | Core readings course engages key historical monographs focused on historical methods. Provides core content knowledge and an understanding of debates and trends in the field. Provides a basic understanding of existing literature in the field. Develops ability to analyze historical methods and develop scholarly historical arguments. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): History MA or PhD student; Credit is allowed for only HST 641 or HST 598 (US to 1877) |
| HST | 643 | Global History | Core readings course engages key historical monographs focused on global history. Provides core content knowledge and an understanding of debates and trends in the field. Provides a basic understanding of existing literature in the field. Develops ability to analyze historical methods and develop scholarly historical arguments. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): History MA or PhD student; Credit is allowed for only HST 643 or HST 598 (World and Global History) |
| HST | 644 | Area Studies in History | Core readings course engages key historical monographs focused on a geographic or thematic area of study. Topic varies by semester. Provides core content knowledge and an understanding of debates and trends in the field. Provides an understanding of existing literature in the field. Develops ability to analyze historical methods and develop scholarly historical arguments. | Y | LEC | Y | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): History MA or PhD student; Credit is allowed for only HST 644 or HST 598 (European Core I: Pre-Modern Europe) or HST 598 (Medieval and Early Modern Europe) or HST 598 (Pre-Modern Europe and the World) |
| HST | 682 | Advanced Research Skill | Designed for students who are demonstrating a non-linguistic skill such as: quantitative methods of analysis, geographic information system mapping, documentary editing, training in archival management, oral history interview techniques and historic preservation, or interdisciplinary training in fields relevant to the student's research interests such as geography, anthropology, sociology, political science or public administration, literature, ethnic studies, women's studies, ecology. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1 | | Prerequisite(s): History MA or PhD student; Credit is allowed for only HST 682 or HST 692 (Documentary Editing Advanced Research) |
| HST | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HST | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Pre-requisite: History MA or PHD student |
| HST | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Pre-requisite: History MA or PHD student |
| HST | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HST | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Pre-requisite: History MA or PHD student |
| HST | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-15 | | Pre-requisite: History MA or PHD student |

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| HST | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1 | | Pre-requisite: History MA or PHD student |
| HST | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-15 | | Pre-requisite: History MA or PHD student |
| HUL | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 0.25-4 | | |
| HUL | 250 | Introduction to Interdisciplinary Research | Introduces undergraduate students to transdisciplinary and interdisciplinary academic inquiry so that they may expand their understanding of and capacity to tackle the grand social challenges facing the world today. Equips students to engage in the interdisciplinary and intergenerational collaborative inquiry through the pedagogy of the Humanities Lab, which explores and seeks to address those grand social challenges. | N | LEL | N | GNA | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU or SB | |
| HUL | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| HUL | 300 | Humanities Lab: Engaged | Labs critically engage with grand social challenges using a collaborative, interdisciplinary and hands-on inquiry process. Student-faculty teams design and conduct original investigations and then develop a means to publicly share the proposed solutions based on their work. | N | LAB | Y | GNA | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| HUL | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| HUL | 400 | Humanities Lab: Immersive | Labs critically engage with grand social challenges using a collaborative, interdisciplinary and hands-on inquiry process. Undergraduate and graduate student, faculty and outside collaborators work together as an intergenerational team to design and conduct original investigations. The teams then synthesize their work, respond to review feedback, and develop a means to publicly share their proposed solution(s) based on their work. | N | LAB | Y | GNA | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| HUL | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| HUL | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| HUL | 549 | Humanities Lab: Transformative | Labs critically engage with grand social challenges using a collaborative, interdisciplinary and hands-on inquiry process. Undergraduate and graduate students, faculty and outside collaborators work together as an intergenerational team to design and conduct original investigations with graduate students closely mentoring undergraduate students. The teams synthesize their work, respond to review feedback, and develop a means to publicly share their proposed solution(s) based on their work. | N | LAB | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HUL | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HUL | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| HUL | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HUL | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------------|-------|-----------------|---|
| IAL | 501 | Principles of Character-Driven Leadership | Provides the core concepts of character-driven leadership defined as the commitment to do the right thing, the right way for the right reasons. Focuses on values; individual, organizational and national, along with ethics; culminating with a clear understanding of leadership. Led by a former U.S. Army, Lieutenant General with leadership experience of over 36 years in the Army and 6 years in higher education. Explores the "leader in me" by examining the values that they embrace and the causes that they believe in, along with understanding "the environment I lead in" and the criticality of comprehending where they lead and who they lead. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAL | 502 | The Making of U.S. National Security Policy | Core requirement for the master's degree in International Affairs and Leadership. Takes students through the realistic process of developing and implementing U.S. national security policy. Presented by a former senior national security professional, outlines the origins and current structure of America's national security architecture. Using actual policy decisions, students exercise the process of analysis, decision making and translating into action, elements of the country's national security agenda. Also includes intensive analysis of the intent and outcome of such critical policy decisions and the leadership exercised by the participating decision makers. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAL | 503 | Applied International Leadership: Case Studies | Builds on the theoretical and practical foundation of leadership development conveyed in previous course work. During the semester, students engage with faculty and with each other in multiple in-depth applied leadership scenarios, examining various aspects of leadership in international settings. The semester culminates in individual student presentations analyzing a complex international leadership challenge. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; IAL 501 |
| IAL | 504 | U.S. Diplomacy in Action: The Embassy Country Team | Led by a former U.S. Ambassador, students constitute a U.S. Embassy Country Team for a specific country and manage a reality-based diplomatic agenda. Students are assigned the actual roles of Embassy team members, and together with their "Ambassador," Students practice how U.S. foreign policy is developed and executed in the field. Through readings, case studies and insights of outside foreign policy experts and U.S. Foreign Service Officers, students are challenged to understand current bilateral policies and relations between the United States and the country assigned for the course. Students also develop new, creative programs for the future that promote U.S. interests and also improve the understanding between the people of the country and the United States. Case studies and class simulation exercises of policy making and program management help students understand good and bad character-driven decisions and leadership. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAL | 505 | Key Issues in Today's Global Economy | Projects forward what the economic and business environment will offer to graduates of the IAL master's program as they enter the job market. "Character-driven leadership" course content prepares students for success in their chosen career field. Led by a former U.S. Ambassador with extensive experience in economic and commercial diplomacy as well and private sector international business for and over 30 years. Through readings, case studies and insights of economic and business leaders, challenges students to consider not only possible future trends that offer growth and opportunities, but also economic and business developments that threaten setbacks, insecurity and failures. Case studies and class simulation exercises of policy making inform students of good and bad character-driven decisions and leadership in the business and policy world. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------------|-------|-----------------|--|
| IAL | 508 | Transatlantic Relations: Does Europe Still Matter? | Presents IAL students with a brief review of the rich history of the development of the Atlantic Alliance since the end of World War II, the end of the Cold War, and cooperation since the tragedy of the attacks on 9/11. But most importantly, this course projects forward what direction the U.S. and Europe are moving in the future. Challenges students to analyze and consider "over the horizon" trends and opportunities, but also the risks of conflict and how to mitigate and solve challenges. Case studies present "character-driven leadership" by U.S. and European leaders as they manage issues of cooperation and competition. Through readings, case studies and insights of European leaders, U.S. and European academic experts, and practitioners in government, business and Non-Governmental Organizations (NGOs), students develop their own policy proposals. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAL | 509 | Western Hemisphere: Good Neighbors, Tough Challenges | Elective course toward the MA in International Affairs and Leadership. Explores the opportunities and challenges facing the United States in its relationships with its regional neighbors, including Canada, Mexico, Central America, the Caribbean and South America. The lectures and readings consider how the region's social, cultural and economic history shapes its relations with the U.S. and the rest of the world. In a series of papers, students analyze how U.S. interests in the region can be best articulated in light of these factors. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAL | 511 | Human Rights and Real Politik | Elective course for the master's degree in International Affairs and Leadership. With a heavily discussion-based format, explores the origins of the human rights movement, watershed moments, and contemplates what may be next. Based on the foundation that respecting human rights is not simply the right moral choice, but one that has economic and national security implications: that the world is more prosperous and more secure when freedom and rights are universally afforded. Also addresses contemporary human rights crises, particularly from a leadership standpoint. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAL | 512 | Setting the Global Counterterrorism Agenda | Elective for the master's degree in International Affairs and Leadership. Analyzes, discusses and proposes tactics and strategies for countering global terrorism, mainly, but not exclusively from the U.S. perspective. Presented by a former senior U.S. government counter-terrorism professional, focuses on U.S. counter-terrorism strategy against Middle East terrorism since 9/11. On hand of actual policy decisions, students exercise the process of decision making and translating into action, elements of the U.S. counter-terrorism agenda in partnership with allies and even adversaries. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAL | 514 | Transnational Challenges: Combatting Human Trafficking | Offers a practical, global, interdisciplinary examination of the many issues surrounding human trafficking and modern slavery. Includes an overview of the legal perspectives on human trafficking, as well as various perspectives and alternative approaches to addressing modern day slavery. Discusses the roles of government, investors and consumers in detail, providing students the opportunity to explore diverse methods in understanding the complexity of human trafficking and modern slavery. Through class discussions and writing assignments, challenges students to critically think about methods for combatting the multitude of factors that contribute to human trafficking and modern slavery. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAL | 560 | Capstone | In consultation and with the approval of the instructor, students research and identify a specific international affairs leadership challenge they present at the conclusion of the degree program. The capstone product should be a visually rich 20-minute oral presentation that shows analytical rigor and defends a tangible strategic plan for achieving impact and positive change. The oral presentation must be accompanied by written back-up material that substantiates and defends the student's policy analysis and proposal for action. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAL | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAL | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | Prerequisite(s): International Affairs and Leadership MA student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| IAL | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | Prerequisite(s): International Affairs and Leadership MA student |
| IAL | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1 | | Prerequisite(s): International Affairs and Leadership MA student |
| IAL | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAP | 101 | Art, Artist, and Culture | Provides an approach to art, creativity, and culture in global, historical, and contemporary contexts. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | |
| IAP | 102 | Foundations I: Performance Techniques and Composition | Focuses on practice-based studies of contemporary presentational strategies and techniques. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 103 | Foundations I: Interdisciplinary Art Practice | Covers art and performance studies and applications of theory and praxis in contemporary interdisciplinary artworks. Shows students how the creative arts in inquiry and in action applied across disciplines can make a critical difference. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 104 | Foundations I: Fundamentals of Sound Art | Investigates late 20th- and 21st-century sound art and our relationship with it. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 105 | Foundations I: Fundamentals of Visual Art | Focuses on contemporary aesthetic concepts and language for interdisciplinary visual arts application. Introduces core concepts of visual design: the elements and principles of design and the creative process, the basics of drawing, color theory, typography and 2D design. Engages student in the fundamental aspects of design to build an adequate foundation and prepares for the next level of the study of interdisciplinary arts practice. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 201 | Introduction to Interdisciplinary Arts | Considers interdisciplinarity in practical terms in all art forms. Also considers antecedents and cross-cultural issues. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | |
| IAP | 202 | Perspectives on Interdisciplinary Arts and Performance | Social, cultural, and historical examination of interdisciplinary art and performance and a survey of current interdisciplinary work and approaches. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | |
| IAP | 220 | Introduction to Game Studies | Examines the history, evolution, culture, aesthetics, ontology, anatomy, business and fundamentals of studying and building video games and the ways in which they interface with multiple disciplines in the humanities. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only IAP 220 or IAP 294 (Introduction to Game Studies) OR Visiting University Student |
| IAP | 222 | Games and Ethics | Involves students in the process of ethical gameplay design. Analyzes in-game challenges and mechanics with the lenses of various ethical theories. Students not only think deeply about the relationship between ethics and in-game challenges in game design, but also about real-life challenges that they might not have before realized were connected. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Credit is allowed for only IAP 222 or IAP 294 (Games and Ethics) or IAP 294 (Game Over: Ethics and Games) |
| IAP | 264 | Music, Mind and Culture | This interdisciplinary course explores how music and the general subjects of sound, noise, silence, hearing/listening are approached interdisciplinarily through the arts, humanities and sciences. In contemporary scholarship, the study of music crosses different academic fields and disciplines, including: musicology and music history, sociology and anthropology, cultural studies, religion, psychology, biology, ecology, neuroscience, mathematics, physics, technology and engineering, business and economics, philosophy, and aesthetics. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Credit is only allowed for IAP 264 or IAP 294 (Music, Mind, and Culture) |
| IAP | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| IAP | 301 | Energetic Systems of Art: Collaboration in the Arts | Identifies and explores the energetic systems at work in the creation, performance, and perception of art. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | |
| IAP | 302 | Cross-Cultural Perspectives on the Arts | Social and cultural perspectives of art and performance through a survey of historical and contemporary attitudes. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| IAP | 304 | Traditions of the Avant-Garde and Experimental Art | Surveys 20th-century art movements and isms, including futurism, dada, surrealism, constructivism, realism, the Bauhaus, abstract expressionism, minimalism. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| IAP | 305 | 20th and 21st Century Art, Performance, and Media | Surveys artists, movements, and trends in the arts with an emphasis on interdisciplinary performance, media, and technology. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| IAP | 307 | Art and War | Global interdisciplinary survey of the range of work created by artists in response to war, through time. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & G | |
| IAP | 310 | Women in Art | Cultural, historical, and social issues relating to the seeming scarcity of women artists and changing social contexts for women artists. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Pre- or corequisite(s): ENG 101 or 105 with C or better; Credit is allowed for only IAP or IAS 310 |
| IAP | 321 | Music Composition I | Study and implementation of specific compositional theories and procedures. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 45 hours |
| IAP | 322 | Multitrack Digital Recording | Explores the fundamentals of digital multitrack recording. Areas of exploration include basic sound theory, acoustics, psychoacoustics, microphones techniques, audio recording, MIDI, editing, mixing and mastering for stereo or multi-channel projects. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 30 hours OR Visiting University Student |
| IAP | 324 | The Voice and Performance | Involves all aspects of the human voice, including research, creation, and performance. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 325 | Sound Performance: Exploring Alternative Performance Groups | Utilizes innovative sound ensembles to explore all aspects of sound and its place in various art forms. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Pre-requisite: BA Digital Culture major or BA Interdisciplinary Arts and Performance major; Pre/Co-requisite: IAP 201 or 202 |
| IAP | 331 | Performance, Acting, and the Individual | Explores the concepts of the self, the subject, and the author as each pertains to the solo artist. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| IAP | 332 | Technical Production for Interdisciplinary Arts | Develops basic technical knowledge and application of fundamental stagecraft techniques used in the creation and presentation of performance works. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 333 | Directing for Performance | Explores various strategies for performance. Emphasizes nontraditional staging and performance. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 334 | Conceptual Development in the Arts | Conceptual development processes in the arts from initial idea to formal project proposals, grants, and production plans. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): Digital Culture or Interdisciplinary Arts and Performance or Performance and Movement BA major; Corequisite(s): IAP 201 or 202 OR Visiting University Student |
| IAP | 335 | Acting for the Camera | Designed for students who are interested in pursuing a career in front of the camera, and students who are more generally interested in the arts and desire a better understanding of the commercial and film acting industry. It is a practical study of essential television and theatrical film presentation, teaching the student actor essential performance techniques in front of the camera, developing creativity in this performance environment and enhancing performance levels. | N | LEL | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only COM 335 or IAP 335 OR Visiting University Student |
| IAP | 339 | Creating Dramatic Works: Page to Stage to Screen | Practical study of writing, directing, acting and performance techniques essential for the creation of theatrical works for stage, television and theatrical film presentation. | N | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prereq(s): ENG 102, 105, or 108 w/C or better; Credit allowed for only COM 339 or COM 394(Crt Dm Wrk:Pg to Stg&Scrn) or ENG 339 or ENG 394(Crt Dm Wrk:Pg to Stg&Scrn) or IAP 339 or IAP 394(Crt Dm Wrk:Pg to Stg&Scrn) OR Visiting University Student |
| IAP | 341 | History of Anime | Japanese animation is at the nexus of an international multimedia industry worth over \$6.5 billion a year, linked to everything from manga to computer games, Pokemon and plushies. In this comprehensive course, students chronicle the production and reception history of the entire medium, from a handful of hobbyists in the 1910s to contemporary examples. Explores the past century's cultural and technological developments, addresses historiography issues with Japanese academic discourse, and covers previously neglected topics such as wartime instructional animation and work-for-hire for American clients. Founded on the testimonies of industry professionals and drawing on a myriad of Japanese-language documents, memoirs and books, the subjects of inquiry illuminate the anime business from the inside--investigating its innovators, unsung heroes and controversies. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only IAP 341 or IAP 394 (History of Anime) or IAS 341 or IAS 394 (History of Anime) OR Visiting University Student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| IAP | 352 | Seeing and Drawing | Develops drawing and seeing skills that are important not only to visual arts but also to music, dance, and theatre. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 354 | Visual Representation | Explores materials, processes, and aesthetic concepts of art making through various media with readings on cultural perspectives and contemporary theory. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): Digital Culture BA major or Interdisciplinary Arts and Performance BA major; Pre- or corequisite(s): IAP 201 or 202 |
| IAP | 355 | Illusion and Vision | Inquiry into 2-D surfaces for visual representation and personal expression; includes readings on color theory, visual perception, and historical/cultural patterns. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 361 | Digital Editing and Media Literacy | Investigates the approaches used in digital editing with a focus on interactivity, graphics, audio, and desktop video. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | CS | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| IAP | 362 | Games and Narratology | Focuses on design techniques for the writing of nonlinear and interactive stories in the video game development process. Compares and contrasts game writing with other creative writing such as short story, song writing, oral history, poetry, fiction and film. Examines, deconstructs and questions the game design approach commonly referred to as narratology. Inspects key texts in media and cultural studies for attitudes, ideas and thoughts on games and narrative in games. Uses materials, processes, and aesthetic concepts of level design and visual skills needed to create a video game using a game engine. Knowledge of introductory computer science recommended. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| IAP | 363 | Sound, Image, and Media | Interdisciplinary arts projects for experimental approaches to relating sound and visual image, accompanied by survey of historical and contemporary material. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 364 | Documentaries | Media arts projects exploring new and experimental forms of visualization based upon an interdisciplinary survey of historical and contemporary examples. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 365 | Digital Interactivity | Combines graphics, video, and animation with digital authoring tools for creation of interactive multimedia Web sites. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Pre-requisites: Interdisciplinary Arts and Performance or Applied Computing or Digital Culture student |
| IAP | 366 | 3D Modeling and Media Literacy | Explores the fundamentals of producing 3D modeling with a strong focus given to techniques and praxis of 3D design. Students use skills developed over the semester combined with conceptual idea development, their own premise, 21st-century theory, practice and the aesthetic pipeline for digital 3D imagery to culminate in a portfolio that demonstrates the application of their new skills and self-awareness. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): IAP 103 with C or better; IAP 201 or 202 with C or better; Credit is allowed for only IAP 366 or IAP 394 (3D Modeling and Media Literacy) OR Visiting University Student |
| IAP | 367 | Motion Graphics and Animation | Explores the concepts, aesthetics and technical tools of 2D animation in interdisciplinary arts creation. Course structure includes lectures with examples, hands-on demonstrations, online tutorials (homework assignments), and presentations by guest artists working with 2D digital media. Students learn the basics of 2D animation and visualization techniques, working with multiple applications to accomplish interdisciplinary creative and aesthetically strong artworks. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): IAP 103 with C or better; IAP 201 or 202 with C or better; Credit is allowed for only IAP 367 or IAP 394 (Motion Graphics & Animation) OR Visiting University Student |
| IAP | 368 | Digital Graphic Technologies | Employs technology used in contemporary graphic designs to design concepts and techniques for modeling and representation applications. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Pre-requisites: Interdisciplinary Arts and Performance or Applied Computing or Digital Culture student |
| IAP | 371 | Verbal Art | Examines varieties of verbal art in everyday life, literature, oral and literate cultures. Considers diverse cultural forms and values. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 375 | Contemporary Performance: Theories and Practice | Performance course focusing on elements of contemporary and digital performance in relationship to stage, new technologies, video, installations, and public art. Through interdisciplinary strategies, students gain tools to deepen their knowledge and range of performance. Requires students to engage in research, conceptualization, and the creation of new original work, combining classroom workshops, various readings, fieldwork, and production to emphasize interdisciplinarity, collaboration, and personal vision. Once theories and concepts are explored, students work in a conceptually based and physically rigorous environment toward producing new work, culminating in a final performance project. | N | STO | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): Digital Culture BA or Interdisciplinary Arts and Performance BA or Performance and Movement BA major; Corequisite(s): IAP 201 or 202 OR Visiting University Student |
| IAP | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEL | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |

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| IAP | 407 | Utopia/Dystopia: Science Fiction and Media | Five science fiction novels by female authors, along with many science fiction films, provide the lens through which students examine the socio-political, artistic and scientific contexts/concepts of utopian and dystopian novels and cinema. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only IAP 407 or WST 407 or IAP 394 (Utopia/Dystopia: Science Fiction and Media) |
| IAP | 420 | Theatre in America | Examines the major movements and pivotal moments in the history of American theatre from the 1700s to its current state, particularly its efforts to establish an identity that reflects the unique and changing citizenry of the United States. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): minimum 40 hours. Credit is allowed for only AMS 420 or IAP 420 or THE 420 |
| IAP | 421 | Composition: Process, Technique and Style | Advanced study of specific compositional theories and procedures; in-depth analysis of individual work. | N | LEL | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only IAP 421 or IAP 560 or MAS 560 or MAS 598 (Composition: Process, Technique, and Style II) OR Visiting University Student |
| IAP | 431 | Perspectives on Performance and Acting | Focuses on the interaction of the performer with media, alternative stagings, and collaboration with other performers. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 433 | Directing Workshop | Applies experimental directorial techniques to presentations and deconstruction of classical works including European and cross-cultural traditions. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Credit is allowed for only IAP 433 or MAS 598 (Directing Workshop) |
| IAP | 434 | Production Laboratory | Develops original scripts into showcase productions. Students function as theatrical ensemble, participate in all phases of performance and production values. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 441 | Movement for Performance | Explores the relationship of movement as it relates to performance, both historically and cross-culturally. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 462 | Games and Play | Focuses on a study of play and game design. Discusses what play is and why humans need it as it pertains to game design. Considers and analyzes an examination of the dark side of play. Scrutinizes the concept of what critical play is and how games are working within social, political and cultural systems. Studies these concepts as the students design and execute a serious or artistic game demo using the materials, processes, aesthetic concepts of art making and scripting skills needed to create a video game using a 3D game engine. Knowledge of introductory computer science recommended. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 45 hours |
| IAP | 463 | Recording Studio Practicum | Supports advanced media students' work in the recording studio and media lab by refining skills producing recordings that enhance their academic and/or professional portfolios. | N | STO | Y | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1 | | Prerequisite(s): IAP 322 or 469; Credit is allowed for only IAP 463 or IAP 494 (Recording Studio Practicum) |
| IAP | 464 | Media and Diversity | Interdisciplinary art projects exploring identity, perception, and technologies from a basis of class, race, ethnicity, gender, sexuality, and ecology. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & G | |
| IAP | 465 | Media Technologies and the Arts | Practical explorations of media arts interrelated with cultures, society, and technology, addressed through readings, discussion, research, and student arts projects. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 466 | Digital Interactivity, Advanced | Explores applications of embedded microprocessors in making art. Students learn to utilize sensors to gather information about the physical environment in order to generate sonic, visual and tactile responses via microprocessors. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| IAP | 467 | Acoustic Ecology | Investigations into the relationship between audio art and ecology; covers field recording, oral histories, digital editing, and designing audio Web site and databases. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 468 | Digital Graphic Applications | Targeting, planning, design, authoring, development, and presentation of professional digital media graphics for Internet and print. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): Applied Computing BS or Interdisciplinary Arts and Performance BA major; Credit is allowed for only IAP 468 or IAP 569 or MAS 569 OR Visiting University Student |
| IAP | 469 | Advanced Audio Production | Engages advanced media students in the technical, logistical, and aesthetic concerns specific to audio in all forms of digital media. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 471 | Language, Culture, and Performance | In-depth examination of language in myth, poetry, social and aesthetic performance genres. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only IAP 471 or IAP 570 or MAS 570 or MAS 598 (Language, Culture, and Performance) OR Visiting University Student |
| IAP | 473 | Aesthetic Research | Investigates how artists, in all disciplines and from different historical periods, conduct or participate in research. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| IAP | 474 | Art and Film | Focuses on film as an art form in relation to the arts through aesthetics, cinematic theory, period study. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |

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| IAP | 480 | Art as Praxis: From Conceptualization to Production | Capstone course. Students complete an exit project or internship as well as an arts portfolio under the guidance of an instructor and mentor. | N | LAB | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3-6 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| IAP | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | |
| IAP | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| IAP | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| IAP | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| IAP | 496 | Playworks Portfolio | Students devise a career plan, establish a digital portfolio, prepare artist statement, and become familiar with contracts and legal documents associated with a career as a serious independent game developer or studio artist. | N | LEL | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): Arts and Humanities in Games certificate student OR Visiting University Student |
| IAP | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-3 | | |
| IAP | 560 | Composition: Process, Technique, and Style | Advanced study of specific compositional theories and procedures; in-depth analysis of individual work. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IAP 421 or IAP 560 or MAS 560 or MAS 598 (Composition: Process, Technique, and Style II) |
| IAP | 569 | Digital Graphic Applications | Targeting, planning, design, authoring, development, and presentation of professional digital media graphics for Internet and print. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IAP 468 or IAP 569 or MAS 569 |
| IAP | 570 | Language, Culture and Performance | In-depth examination of language in myth, poetry, social and aesthetic performance genres. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IAP 471 or IAP 570 or MAS 570 or MAS 598 (Language, Culture, and Performance) |
| IAP | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | PRA | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAP | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAP | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAP | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAP | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAS | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-3 | | |
| IAS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| IAS | 300 | Career Strategies and Personal Resilience | Analysis of sociological and economic factors of 21st-century work environments, integrated with a psychological understanding of resilience. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better OR New College Applied Science major OR Visiting University Student |
| IAS | 305 | Work and Identity | Explores the relationship between work and identity, as well as the search for meaning in work across generations. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB | |

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| IAS | 340 | Bioethics | Critical examination of moral questions arising in biomedical contexts, particularly due to new technologies and scientific discoveries. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): minimum 45 hours; Credit is allowed for only BIO 312 or IAS 340 or PHI 320 OR Visiting University Student |
| IAS | 341 | History of Anime | Japanese animation is at the nexus of an international multimedia industry worth over \$6.5 billion a year, linked to everything from manga to computer games, Pokemon and plushies. In this comprehensive course, students chronicle the production and reception history of the entire medium, from a handful of hobbyists in the 1910s to contemporary examples. Explores the past century's cultural and technological developments, addresses historiography issues with Japanese academic discourse, and covers previously neglected topics such as wartime instructional animation and work-for-hire for American clients. Founded on the testimonies of industry professionals and drawing on a myriad of Japanese-language documents, memoirs and books, the subjects of inquiry illuminate the anime business from the inside--investigating its innovators, unsung heroes and controversies. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only IAP 341 or IAP 394 (History of Anime) or IAS 341 or IAS 394 (History of Anime) OR Visiting University Student |
| IAS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| IAS | 406 | Moral Dilemmas | Philosophical analysis of moral dilemmas arising in professional and public settings. Ethical decision making in business, educational, human service, and scientific communities. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only FOR 406 or IAS 406 or PHI 406 OR Visiting University Student |
| IAS | 407 | Environmental Philosophy and Policy | Ethical concepts and theories applied to environmental issues: biotic community, biodiversity, degradation, ecofeminism, ecology, economics, population, property rights, and wilderness. Not open to students with credit in PHI 310. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101 or 105 with C or better; Credit is allowed for only IAS 407 or PHI 407 |
| IAS | 409 | Eco-Community Ethics | Traces human interaction with the Earth from hunters and gatherers to the present day, examining groups who have lived within ecological constraints and limits. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Credit is allowed for only IAS 409 or PHI 409 |
| IAS | 410 | Evolution of Ideas | Investigates ideas (paradigms) and revolutions (paradigm shifts). Examines several topics from perspectives of science, arts, humanities, social sciences. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| IAS | 415 | Life in the Universe | Examines the search for life in extreme environments on Earth and in remote locations beyond Earth. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAS | 416 | Black Holes and Beyond | Explores developments in understanding nature's most basic force-gravity-from Aristotelian concepts to modern theories of curved space-time. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAS | 417 | Philosophy of Censorship | Investigates philosophical concepts underlying instances of censorship, both in historical and in contemporary settings. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 30 hours; Credit is allowed for only IAS 417 or PHI 417 or PHI 494 (Censorship: Philoso/Relig/Soc Perspectives) or REL 494 (Censorship: Philoso/Relig/Soc Perspectives) |
| IAS | 420 | Multicultural Autobiographies | Examines the human experience via autobiographies and personal narratives. Multicultural, literary, and psychological perspectives on individual lives. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | (L or HU) & C | Prereq(s): ENG 101, 105, or 107 w/ C or btr; ENG 200 w/ C or btr; one 200-level lit course w/ C or btr OR New College ugrad std; ENG 101, 105, or 107 w/ C or btr; min 45 hours; Credit is allowed for only ENG 420 or IAS 420 OR Visiting University Student |
| IAS | 430 | Science and Religion | Examines evolving relationships between scientific thought and Western and Eastern religious thought. Explores cosmologies, worldviews, and epistemologies. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only IAS 430 or MAS 510 OR Visiting University Student |
| IAS | 450 | Philosophical and Spiritual Issues in Death and Dying | From Plato to Maimonides to Heidegger to Kubler-Ross, scholars, clinicians and spiritual writers have recognized that attitudes about death and dying contribute to understandings of human existence. Recalling the ancient Socratic, biblical and other spiritual traditions of the cura animarum (care for and cure of the soul) and joining contemporary post/secular conversations relevant to integration of body-mind-spirit, this course introduces basic concepts and practices of care ethics and spirituality. Focuses on relations among existential (ontological), therapeutic (psychosomatic), and spiritual (religious) dimensions of care. Theoretically, the course is inter-faith in approach, holistic in scope, and specialized in content. Practically, students examine real-life issues in care ethics and spirituality from multiple perspectives. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only IAS 450 or MAS 550 or PHI 450 or PHI 494 (Issues in Death & Dying) or REL 450 or REL 494 (Issues in Death & Dying) OR Visiting University Student |

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| IAS | 480 | Capstone: Practices and Approaches | Individualized projects developed by the student under the guidance of the capstone coordinator based upon the student's area of concentration. Provides an opportunity to apply the knowledge and skills developed in the course of their program to real-world situations. | N | RSC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | Prerequisite(s): Interdisciplinary Arts and Sciences BA or Philosophy, Religion, and Society BA or Applied Science BAS major |
| IAS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | |
| IAS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| IAS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| IAS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| IAS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | IND | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| IAS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-3 | | |
| IAS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 110 | Introduction to Integrated Behavioral Health | Introduces major clinical concepts and practice models related to team-based medical and behavioral health care integration. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | |
| IBC | 120 | Introduction to Integrated Health Care Systems | Provides an introduction and overview of the American health care system and its driving forces, with a focus on the move to integrated health care systems. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | |
| IBC | 415 | Behavioral Health Over the Lifespan | Common issues and concerns faced throughout the different life stages and the associated behavioral health needs. Presents evidence-based strategies for primary prevention and early intervention. Provides case examples to effectively illustrate the application of the key constructs addressed in the course. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |
| IBC | 420 | Population Health Management | Presents an overview of population health and its management. Emphasizes a solutions-based perspective, consistent with the Quadruple Aim. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only HCD 420 or IBC 420 |
| IBC | 425 | Cognitive and Behavioral Counseling | Frameworks for conceptualizing health behavior change. Reviews evidence-based approaches that address patient's behavioral health needs in primary care and other medical settings. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |
| IBC | 430 | Medical Pathophysiology, Terminology and Behavioral Health | Provides an overview of pathophysiology and medical treatment of common medical conditions in primary care (e.g., diabetes, coronary heart disease, hypertension, asthma, cancer). Emphasizes medical terminology, pathophysiology, common medical treatments and behavioral health issues associated with those conditions that students can expect to see in integrated medical settings, especially integrated primary care. Students learn appropriate medical terminology for symptoms, diseases, treatments and medical tests so they can communicate effectively with inter-professional medical teams. Discusses the role of the behavioral health provider as it relates to these conditions as well. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |
| IBC | 520 | Integrated Health: The Patient-Centered Medical Home (PCMH) | Covers the Patient-Centered Medical Home (PCMH), with an emphasis on alignment in primary care and other integrated health care systems. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 530 | Evidence-Based Integrated Health Care | Provides a health care manager's introduction to evidence-based guidelines for integrated health care design and delivery systems. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 540 | Integrated Health Care Process Improvement | Team-based quality improvement evaluation, measurement and health care system transformation. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 550 | Integrated Health Care Operations | Integrated health care operations, including an in-depth exploration of health care and integrated care systems, planning, program assessment, implementation and change management. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 560 | Integrated Health Care Data Analytics | Data analytic tools and techniques used to plan, implement and improve integrated health care transformation. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 570 | Integrated Health Care Financial Management | Integrated health care financial management. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| IBC | 585 | Team-Based Consultation and Leadership | Team-based leadership and consultation in integrated health care. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 586 | Behavioral Health Professional Writing Style | Focuses on improving overall professional writing skills, with an emphasis on how to write a literature review, use APA format, cite sources ethically and access available writing resources as necessary. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Behavioral Health (Clinical) or Behavioral Health (Management) DBH student; Credit is allowed for only IBC 586 or IBC 590 (Professional Writing Skills) |
| IBC | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | RSC | Y | Z3 | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 601 | Models of Integrated Primary Care | Provides an overview of the primary care environment as well as current models of integrated primary behavioral health care. Reviews and critiques models of health care based on their success in impacted patient health outcomes and improving physician satisfaction, along with fiscal and care delivery systems for each. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 602 | Healthcare Statistics | Provides an overview of contemporary issues in health statistics and develops student proficiency in completing hands-on statistical analyses using Microsoft Excel. Develops proficiency in using Excel to manage data analyses as an ongoing tool to collect and analyze clinical and cost-effectiveness data in primary care and related healthcare settings. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 603 | Brief Interventions in Primary Care | Provides an overview of evidence-based care for the integrated primary care environment. In particular, reviews and applies the most common approaches to addressing co-morbid behavioral and medical conditions, including but not limited to brief psychotherapy, adherence enhancement, lifestyle medicine, and others, using cognitive-behavioral, acceptance and commitment therapy, solution-focused, and motivational interviewing approaches. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IBC 603 or IBC 691 (Brief Interventions in Primary Care) or IBC 702 |
| IBC | 604 | Clinical Medicine/Pathophysiology | Overview of each of the main systems within the human body. Addresses the major diseases (symptoms, diagnosis, and medical treatments) within each system. Students learn appropriate medical terminology for symptoms, diseases, treatments, and medical tests so they can communicate effectively with medical practitioners (nurses and physicians). Content is equivalent to pathophysiology training in an RN program. Also addresses the role of behavioral care providers in medical settings; design and implementation of psychoeducational programs in primary care; stress management techniques for use in medical settings; chronic pain management; identification and treatment of somatization disorder; increasing compliance in noncompliant patients; alternative/complementary medicine; overview of nutrition; and the effects of exercise and nutrition on prevention and treatment of diseases. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|-----------------------------|-----------------------------|-------|-----------------|---|
| IBC | 608 | Psychopharmacology for the Behavioral Care Provider | Provides overview of psychopharmacology to equip the behavioral care provider with the understanding of psychotropic medications necessary to make prescription recommendations to primary care physicians and to participate in medication management for patients being prescribed psychotropics. Basic principles of pharmacology in general, including pharmacokinetics, pharmacodynamics, medication development and the FDA approval process, interaction effects, drug company marketing strategies, appropriate and inappropriate medication usage, over-medication, and off-label medication use. Reviews pharmacokinetics and pharmacodynamics in special populations (children, the elderly, and patients with co-morbid medical and psychological conditions). | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 609 | Clinical Neuropathophysiology | Presents overview of each of the basic neuroanatomy, neurophysiology, and a focus on the manifestations of neurophysiological dysfunction across the life span for Doctor of Behavioral Health (DBH) program behavioral clinicians. Covers the basic human brain anatomy, neurophysiological processes, development, and maturation. Using case studies, presents and discusses evidence-based support for theories of psychiatric disorders and neuropsychopathology. Incorporates evidence-based research findings on the role of genetics, neurophysiological adaptation, epidemiological and societal influences in order to develop understanding of disruptions in normal neurophysiological functioning. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 610 | Behavioral and Psychological Assessment in Primary Care | Presents a comprehensive model of behavioral and psychological assessment for behavioral health clinicians in primary care and related medical settings. Provides behavioral health consultants with the necessary knowledge base and skills to develop an appropriate assessment and treatment plan for a variety of commonly seen complaints in primary care. Places attention on the assessment of both psychiatric and behavioral complaints across the lifespan. Students become familiar with both structured interview and empirically support quantitative measures consistently utilized to enhance our understanding of the presenting complaint. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 611 | Population-Based Behavioral Health Management | Overview epidemiology for health care followed by population-based approaches to behavioral intervention. Epidemiology includes concept of populations; descriptions and definitions of health and disease; measurement of health (measures, morbidity, mortality and health); designs for studying the health of populations and standardization of population health measures. Population-based management includes definitions of medical management; planning health care for populations and population health outcomes; quality of care and economic analysis of population-based interventions; adjunctive treatments as a core component of population-based interventions. Also, advanced application of population-based behavioral interventions with a focus on design, measures, analysis, results and discussion of current approaches. Includes predictive modeling methods for defining populations; interventions focusing on stepped-care approaches; engagement strategies, interventions, measurement, and follow-up. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 612 | Introduction to Behavioral Interventions | Provides a foundational understanding of behavioral health interventions for primary care settings for those students intending to work in administrative, management or allied health positions. Provides a theoretical basis for various psychological schools of thought, as well as an overview of the empirical evidence for those approaches. Reviews models of therapy including: psychodynamic, brief strategic, cognitive-behavioral and solution-focused. Also reviews two intervention strategies typically used in integrated settings: Acceptance and Commitment Therapy (ACT) and Motivational Interviewing (MI). Explores the ways that these approaches serve as the theoretical framework of the Biodyne model. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only IBC 612 or IBC 780 (Introduction to Behavior Intervention) |

| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|--|----------------------|----------------------|--------------------|------------------|-----------------------------|-----------------------------|-------|--------------------|---|
| IBC | 614 | Quality and Performance Measurement, Improvement, and Incentives in Health Care | Overview of health care quality management, emerging models of health care performance measurement, and models of pay for performance incentives in health care designed to reward providers for attaining quality of care goals. Prepares behavioral clinicians to provide services that are consistent with best practices in quality management and performance measurement in health care and to provide care that is consistent with performance incentive programs that are present or on the horizon. A key characteristic of health care reform is increased focus on provider quality of care, accountability for quality via performance measurement, and aligning provider incentives to meet national and regional quality of care performance targets. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 615 | Innovative Technologies in Behavioral Health | Provides a quick overview and answers to basic questions related to both online therapy and telemental health. Gives a downloadable audio recording (MP3) and access to the accompanying video clips that augment a rich sampling of pages extracted from our other coursework. As a composite, this experience introduces our multi-modal learning environment and, more importantly, gives an idea of the issues involved with establishing an online or otherwise remote practice. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only IBC 616 or IBC 780 (Innovative Technologies in Behav. Health Intervention) |
| IBC | 620 | Psychosomatic Illness: Diagnosis & Treatment | Teaches how to successfully diagnose and treat physical illness caused by various forms of psychosocial stress (psychophysiological disorders, PPD). Because patients are often unaware of the nature or degree of stresses that are responsible for their illness, places emphasis on learning how to detect and use clues that patients provide to develop a more complete understanding of the struggles than they are able to perceive for themselves. Focuses on selecting, assessing and treating a patient known to the student who has medically unexplained physical symptoms. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 624 | Integrated Behavioral Health Care for Children and Adolescents | Integrates developmental psychology with pediatric psychology in order to prepare behavioral clinicians to provide screening, assessment, and intervention for children and adolescents in primary care and other medical settings. Presents an overview of developmental stages with an emphasis on critical tasks, while contrasting normal versus abnormal development. Develops societal, familial, and cultural influences. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 626 | Behavioral Health Management | Presents an introduction to the roles and responsibilities of supervisor/manager in a health care organization. Provides behavioral health professionals moving into management with the necessary knowledge base and skills to be an entry-level manager and focuses on the further knowledge acquisition needed to become an experienced, effective manager and leader. In addition, discusses the larger context in which healthcare businesses operate--health care reform, regulations and technological changes. Participants take time to look at personal characteristics, interpersonal styles and presentation that affect how one is perceived and responded to in an organization. Too often we have observed individuals with high-level clinical skills moving into management without the requisite skills and understanding of issues, restricting their ability to be successful. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IBC 626 (or IBC 724) or IBC 780 (Behavioral Health Management) |
| IBC | 630 | Financial Management of Health Care | Covers the fundamentals of health care finance with a concentration on health care system financing and the related operational management issues. Grounds clinical managers in finance principles and assists those students with understanding the financial issues currently faced by stakeholder organizations in the health care system. Focuses on the information and tools needed by managers to address financial issues and challenges as an organizational leader for integrated care. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IBC 630 or IBC 691 (Financial Management in Healthcare) |
| IBC | 633 | Motivational Interviewing for the Behavioral Care Provider | Introduces and develops the core skills of Motivational Interviewing as a method of communication and care delivery to strengthen and build relationships, collaboration and motivations towards positive behavior change. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree-seeking graduate student; Credit is allowed for only IBC 633 or IBC 598 (Motivational Interview for Behav. Care Prov) |
| IBC | 634 | Strategies and Techniques for Behavior Change in Primary Care | Examines and discusses the theoretical and applied health-related research changing nutrition, smoking and physical activity behaviors in clinical practice. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| IBC | 640 | Family and Couples in Primary Care | Explores the systemic dimensions of health care delivery that are relevant to working with families and couples in primary care. Students study models from family therapy and medical family therapy that address family dynamics associated with the management of health and illness, the progression of chronic diseases, and other medical conditions. Reviews strategies for adapting family systemic approaches to provide patient- and family-centered health care in a primary care setting. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 650 | Veterans Health | Provides an introduction to the military and veteran culture and the integrated health care needs and management concerns related to this unique population. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IBC 650 or IBC 691 (Veterans Health) |
| IBC | 660 | Healthcare Legal, Ethical, and Professional Issues | Examines current codes of ethics in behavioral health and medical care in addition to their differences, strengths and weaknesses. Identifies specialized issues relevant for practicing in integrated health care, and explores approaches for avoiding and/or resolving legal, ethical and professional problems commonly faced in clinical practice. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 670 | Integrated Behavioral Health Interventions for Substance Use Disorders | Focuses on the theoretical foundations, research and strategies for identifying, intervening and/or referring patients in primary care and other healthcare settings that present with substance use disorders or problem use. Provides detailed information about the clinical model of SBIRT (Screening, Brief Intervention, and Referral to Treatment), along with strategies for implementing sustainable business models for SBIRT in healthcare environments. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only IBC 670 or IBC 780 (Integrated Behavioral Health Interventions for Substance) |
| IBC | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s) with B or better: Behavioral Health (Clinical) DBH student; HCD 501; IBC 586 or 590; IBC 601; IBC 603; IBC 614 OR Behavioral Health (Management) DBH student; HCD 501; HCD 602; IBC 586 or 590; IBC 601; IBC 614; IBC 626 |
| IBC | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 716 | Health Care Information Management | Provides a comprehensive overview of health care information technology (HIT), including the effects of the external environment and government policies on its evolution; the expanded role of the CIO; the basics of hardware, software and communication systems; the types of operational, management and clinical applications; and the value HIT brings to the enterprise. Included concepts reflect a broad vision of HIT management as a combination of technology, information and manpower leadership. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IBC 716 or IBC 691 (Healthcare Information Management) |
| IBC | 718 | Healthcare Systems: Organization, Delivery and Economics | Provides an overview of the U.S. healthcare system with a focus on economics and policy. Primary goals of the course are to enable students to recognize the relevance of economics to healthcare and to apply economic principles to better understand health-related issues; understand the U.S. healthcare delivery system in the context of social, policy, and economic factors; evaluate the evolving nature of healthcare reform initiatives and their implications for clinical practice, financing, research and policy; analyze public healthcare policy from an economic perspective. Students also focus on behavioral healthcare economics and policy and the economics of behavioral health services in medical settings. Students also understand the medical cost offset effect, including economic benefits of behavioral interventions for co-morbid medical and behavioral conditions, measurement of medical cost-offset, and cost-offset for psychopharmacology and specific behavioral conditions. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| IBC | 720 | Behavioral Health Entrepreneurship | Provides an introduction to the essential entrepreneurship skills for the behavioral healthcare clinician. Focuses on entrepreneurial skills designed to prepare the behavioral clinician to start a new business venture or revitalize an existing organization or business, to meet the needs of the evolving healthcare system and marketplace. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 725 | Effective Consultation in Integrated Health Care | Prepares students to function as effective consultants in integrated care settings. Effective consultation includes the ability to engage, educate, inform, persuade and collaborate with diverse professionals both within the clinic or hospital setting but also in related systems of care. The hospital or clinic setting includes care providers such as PCPs, nurse, allied health administrative support staff, and managers and executives such as medical director, CEO and CFO. The hospital or clinic also includes related departments such as quality improvement, electronic health records/health information technology, billing, finance and actuary. Systems of care include the patient/family, community, health plans, disease prevention or management companies, specialty mental health and substance use disorder providers, community-based resources, large employer group and related EAP providers. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IBC 725 or IBC 691 (Effective Consultation in Behavioral Health) |
| IBC | 728 | Cultural Diversity, Health and Illness | Focuses on the relationship among cultural diversity, health and illness, and multicultural psychotherapy in primary care and other healthcare settings. Prepares behavioral clinicians to identify the relationship between cultural diversity and health and illness and to use effective psychotherapy informed by cultural diversity in primary care and related medical settings. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 732 | Leadership in Health Care | Leadership, management and organizational behavior in health care settings. Organizational behavior theories and concepts related to leadership. Uniqueness of structures, processes and interactions in integrated care programs and how to adapt these to medical settings. Communication skills, teamwork and collaboration. Current challenges to leadership in health care reform. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IBC 732 or IBC 691 (Leadership in Healthcare) |
| IBC | 740 | Integrated Behavioral Interventions, Cost Savings, Medical Cost Offset and Return on Investment | Design, implementation, and evaluation of integrated health care direct financial and cost savings return on investment. Enhances understanding of how evidenced-based care and best practice in management and leadership results in improved patient health outcomes and reduced health care costs. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRA | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IDN | 101 | Elementary Indonesian I | Basic communication, reading, and writing skills. Intensive oral/aural classroom drill supplemented by prose reading. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | | |
| IDN | 102 | Elementary Indonesian II | Basic communication, reading, and writing skills. Intensive oral/aural classroom drill supplemented by prose reading. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | | Prerequisite(s): IDN 101 with C or better OR Visiting University Student |
| IDN | 201 | Intermediate Indonesian I | Systematic review of grammar. Continued development of communication skills with increased emphasis on reading and writing. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): IDN 102 with C or better OR Visiting University Student |
| IDN | 202 | Intermediate Indonesian II | Systematic review of grammar. Continued development of communication skills with increased emphasis on reading and writing. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): IDN 201 with C or better OR Visiting University Student |
| IDN | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| IDN | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| IDS | 140 | The Nature of Knowledge Systems | Introduces students to the structure and divisions of knowledge systems in the university setting. After surveying the different types of disciplines, students learn processes for using knowledge and insights from different sources in an integrative manner. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | HU | |
| IDS | 150 | Introduction to Military Studies | Focuses on the way interdisciplinary scholars in national security at the interface of history and political science ask questions and propose answers. Introduces the basics of research, writing and criticism with an eye toward how solutions are constructed from diverse sources. Evaluates primary and secondary sources including identifying purpose, intended audience and biases. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | |
| IDS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |

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| IDS | 201 | Intellectual Fusion | Introduces students to the history of interdisciplinarity. Examines major theories and methods of interdisciplinarity, and students use these methods to begin to examine complex interdisciplinary problems. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | |
| IDS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| IDS | 298 | Honors Directed Study | Independent study or practicum under the supervision of a faculty member. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | | Prerequisite(s): Barrett Honors student |
| IDS | 300 | Theories and Applications of Organizational Studies | Critical analysis and application of organizational theory and conceptual perspectives to identify and solve problems, emphasizing personal and organizational application. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L or SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum sophomore standing OR Visiting University Student |
| IDS | 301 | Becoming Interdisciplinary | The history of interdisciplinarity and methods of integrating knowledge and insights from multiple perspectives. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Interdisciplinary Studies or Interdisciplinary Studies (Organizational Studies) major OR Visiting University Student |
| IDS | 302 | Integration Skills | Develops integrative skills to create new understandings, models, products and ideas. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Interdisciplinary Studies or Interdisciplinary Studies (Organizational Studies) major; IDS 201 or 301 with C or better OR Visiting University Student |
| IDS | 310 | Integration: Cultural Contexts | Explores how the practice of integrating knowledge, skills and perspectives from multiple sources can be used to better understand cultural diversity in contemporary U.S. society. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | C | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| IDS | 311 | Integration: Global Contexts | Explores how the practice of integrating knowledge, skills and perspectives from multiple sources can be used to better understand global issues. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours |
| IDS | 312 | Integrative Perspectives on Change | Applies integrative and interdisciplinary tools, methods, knowledge and skills to examine ideas, issues and institutions as they change over time. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| IDS | 313 | Integrative Perspectives on a Changing World | Applies integrative and interdisciplinary tools, methods, knowledge and skills to examine global ideas, issues and institutions as they change over time. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| IDS | 314 | Integrative Perspectives on Cultural Dynamics | Applies integrative and interdisciplinary tools, methods, knowledge and skills to examine the shifting dynamics of cultural diversity in the United States. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum 45 hours |
| IDS | 315 | Integration: Social Contexts | Explores how the practice of integrating knowledge, skills and perspectives from multiple sources can be used to better understand human behavior and interactions. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| IDS | 316 | Integration: Humanities Contexts | Explores how the practice of integrating knowledge, skills and perspectives from multiple sources can be used to better understand human thought and creativity. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| IDS | 321 | Interdisciplinary Issues | Focuses on an interdisciplinary topic from the perspective of multiple disciplines. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| IDS | 350 | Military Studies Interdisciplinary Capstone | Students complete an interdisciplinary research or applied project relevant to national security using methods from history and political science. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; IDS 150 |
| IDS | 355 | Peace Corps Seminar | The Peace Corps: its mission, history, concerns and application process. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | G | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| IDS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| IDS | 400 | Interdisciplinary Career Prep | Prepares students for the experiential learning capstone and for future careers in interdisciplinary studies. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1 | | Prerequisite(s): Interdisciplinary Studies BA or Interdisciplinary Studies (Organizational Studies) BA major; Credit is allowed for only IDS 400 or IDS 494 (Interdisciplinary Career Prep) OR Visiting University Student |
| IDS | 401 | Integration: Experiential Learning | Offers students the opportunity to apply their integrative skills in internships, directed projects or other experiential contexts. | Y | RSC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Interdisciplinary Studies or Interdisciplinary Studies (Organizational Studies) major; IDS 201 or 301 with C or better; IDS 302 with C or better; minimum 2.00 GPA OR Visiting University Student |
| IDS | 402 | Senior Seminar | Capstone course helps integrate classroom and experiential learning. Students choose among course topics that address their interests. | N | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): Interdisciplinary Studies student; ENG 101, 105 or 107 with C or better; IDS 302 with C or better; minimum 2.0 GPA |
| IDS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | |
| IDS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | OP4 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | | Prerequisite(s): Barrett Honors student |

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| IDS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| IDS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| IDS | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | | Prerequisite(s): Barrett Honors student |
| IDS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-7 | | |
| IDS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-3 | | |
| IED | 320 | Early Education and Development/Indigenous Children | Assists students in developing their knowledge of the development of Indigenous children and appropriate methods and strategies for effective instruction in preschool/kindergarten classrooms. Explores issues faced by Native American teachers to provide both an effective and meaningful educational experience for Native American and Alaska/Hawaiian Native children. | N | LEL | N | GNA | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only IED 320 or IED 394 (Early Education & Development of Indigenous Children) |
| IED | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| IED | 410 | History American Indian Education | Philosophical and historical review of the development of American Indian education policies in both traditional and contemporary society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & H & C | Credit is allowed for only IED 410 or 510 |
| IED | 430 | Lang/Literacy-Indig Peoples | Examines issues, policies, theoretical foundations, and practices of indigenous peoples and other language minority communities from a sociolinguistics and language reclamation perspective. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | (HU or SB) & C | Credit is allowed for only IED 430 or 530 |
| IED | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-7 | | |
| IED | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-3 | | |
| IED | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 501 | Critical Indigenous Research Methodologies | Examines research, its methods and methodologies through an indigenous framework. Presents different methods, their connections to various research questions, and thoughts of ways to analyze extant educational data. Additionally, examines traditional methodologies, methodological clashes, and the insertion of critical indigenous research methodologies into the framing of the conversation. Offers an historical overview of research in indigenous communities. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR postbaccalaureate student; Credit is allowed for only IED 501 or JUS 691 (Decolonizing Indigenous Research Methods) |
| IED | 502 | Indigenous Knowledges in Education | Provides an overview of the literature on indigenous knowledge systems as they tie into education as broadly defined. Specifically focuses on indigenous knowledge systems and how it encapsulates relationships (between people and each other, humans and their environment, and humans and written and oral learning); responsibility; reciprocity; and respect. Covers both historical understandings of indigenous knowledge systems and the ways that these knowledge systems are currently being taken up by tribal peoples. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or postbaccalaureate student; Credit is allowed for only IED 502 or JUS 691 (Indigenous Knowledges in Education) |
| IED | 503 | Current Issues in Indigenous Education | Examines current issues facing indigenous student academic achievements and their path to higher education in the United States. Focuses on how structural and systematic dynamics influence indigenous education. Exposes students to literature and engages in discussions that allow them to analyze how policy, practice and lived-experiences shape indigenous education. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR postbaccalaureate student |
| IED | 510 | History of Indigenous Education | Philosophical and historical review of the development of indigenous education policies in both traditional and contemporary society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR undergraduate postbaccalaureate student; Credit is allowed for only IED 410 or IED 510 |
| IED | 530 | Language/Literacy-Indig People | Examines issues, policies, theoretical foundations, and practices of indigenous peoples and other language minority communities from a sociolinguistics and language reclamation perspective. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student; Credit is allowed for only IED 430 or 530 |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------|-------|-----------------|--|
| IED | 535 | Community-Based Participatory Action Research | Examines the basic structures of what comprises the research paradigm called Community-Based Participatory Action Research (CBPR). CBPR is research that connects "research experts" with community members with an explicit focus on sharing power, knowledge and ownership of data and its concomitant resources and products. Offers a "how-to" for students in constructing research projects utilizing this lens/framework. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR postbaccalaureate student |
| IED | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 585 | Capstone | Allows students to build a culminating experience that reflects the breadth and depth of their MA experience and allows each student to explore a research area, interest, theme or question within Indigenous education. Develops final written products individually based on consultation with faculty. Each student has a two-faculty member committee to support the capstone project. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR postbaccalaureate student |
| IED | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Social Transformation | 1 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IED | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |

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| IED | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IED | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Social Transformation | 1-15 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IEE | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-4 | | |
| IEE | 210 | Introduction to Industrial Engineering | Comprehensive overview of what industrial engineers (IEs) do in the workforce for both IE and non-IE majors. Topics include quality management, process control charts, queueing analysis, time study, project management, forecasting methods and inventory management. Emphasis on the mathematics used in these listed topics is of paramount importance evaluated by explicit examination and applying the mathematics in an IE context. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): MAT 265 or 270 with C or better OR Visiting University Student |
| IEE | 220 | Business and Industrial Engineering | Introduces business for industrial engineers, including business/financial structures, fundamentals of cost and accounting, role of business/engineering in society. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; Introduction to Engineering course with C or better OR Engineering Management student; minimum 25 hours OR Visiting University Student |
| IEE | 225 | Human Systems Integration | Reviews human systems integration (HSI), which is basically systems engineering from a human-centered perspective. Research, theory and methodological approach as applied to a variety of systems ranging from transportation systems to medical and military systems. Discusses handbook chapters and specific examples of human systems integration. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): HSE 101 or PSY 101 with C or better; Credit is allowed for only HSE 225 or IEE 225 OR Visiting University Student |
| IEE | 300 | Economic Analysis for Engineers | Economic evaluation of alternatives for engineering decisions, emphasizing the time value of money. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergrad student: MAT 265 or 270 with C or better and Introduction to Engineering course with C or better OR Engineering Management Minor/Concentration: MAT 265 or 270 with C or better OR Visiting University Student |
| IEE | 305 | Information Systems Engineering | Overview of computer and information systems applications. Topics include client/server; distributed computing; networks; process modeling; e-commerce; enterprise applications; Internet. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | CS | Prerequisite(s): Fulton Engineering undergraduate student; CSE 205 OR Non-Fulton Engineering undergraduate student; CSE 205; minimum 3.00 GPA OR Visiting University Student |
| IEE | 320 | Extreme Excel | Today's workplace environment for engineers demands advanced skills in using worksheet applications such as Microsoft Excel. Course addresses this important gap in the curriculum to provide support for students who are in need of training on the various capabilities of the software. In particular, students become familiar with various functionalities that are critical for performing their jobs as engineers. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1 | | Prerequisite(s): minimum 45 hours or degree- or nondegree-seeking graduate student OR Visiting University Student |
| IEE | 321 | Professional Engineering Practice | Methods and tools for preparing students for work in industry including ethics, technical writing and communications; understanding how learned undergraduate skills are used in the workplace and in engineering problem solving. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1 | | Prerequisite(s): Engineering Management BSE or Industrial Engineering BSE major; IEE 300 with C or better; IEE 380 with C or better; Pre- or corequisite(s): IEE 369 with C or better if completed OR Visiting University Student |

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| IEE | 369 | Work Analysis and Design | Planning, analysis and design of methods of accomplishing work. Emphasizes human factors, work planning, methods analysis and design, and work measurement. Applications in diverse fields. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | L | Prerequisite(s): Fulton Engineering undergraduate student or Engineering Management minor/concentration; ENG 101, 105, or 107 with C or better; FIN 300 or IEE 300 with C or better OR Visiting University Student |
| IEE | 376 | Operations Research Deterministic Techniques/Applications | Industrial systems applications with deterministic operations research techniques. Resource allocation, product mix, production, transportation, task assignment, networks. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 4 | | Prerequisite(s) with C or better: Indust Engr major; CSE 205; IEE 210; MAT 242, 342, or 343 OR Engr Mngmnt student or Math Concepts of Engr certificate student; CSE 205; MAT 242, 342, or 343 OR Industrial Engr grad student OR Visiting University Student |
| IEE | 380 | Probability and Statistics for Engineering Problem Solving | Applications-oriented course with computer-based experience using statistical software for formulating and solving engineering problems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | CS | Prerequisite(s): Fulton Engineering undergrad stdnt, Engr Management minor, or Math Concepts of Engr cert stdnt; MAT 266 or 271 with C or better OR Industrial Engr grad stdnt or Data Science, Analytics & Engr PhD stdnt OR Visiting University Student |
| IEE | 381 | Lean Six Sigma Methodology | Define, measure, analyze, improve and control (DMAIC) steps of six sigma methodology for business and quality improvement. Reviews the necessary statistical tools and illustrates their integration into the problem-solving process. Overview of lean principles and design for six sigma. Unique features of applying six sigma and DMAIC in transactional and service organizations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): IEE 380 with C or better; Credit is allowed for only IEE 381 or IEE 498 (Six Sigma Methodology) or IEE 498 (Six Sigma Green Belt) OR Visiting University Student |
| IEE | 385 | Engineering Statistics: Probability | Conditional probability, common probability models, Goodness-of-fit tests and reliability models. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate or Mathematical Concepts of Engineering certificate student; IEE 380 with C or better OR Industrial Engineering graduate student OR Visiting University Student |
| IEE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-4 | | |
| IEE | 412 | Introduction to Financial Engineering | Intensive exploration course of three phases: (1) a preparation phase for the terminology and financial lingo to be used throughout the semester, (2) introduction of more advanced financial topics such as portfolio formation, assessment and traditional portfolio theory, (3) several financial engineering topics such as the application of stochastic models to stock and derivatives pricing and financial risk management. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): IEE 380 with C or better OR senior standing OR Visiting University Student |
| IEE | 421 | Urban Operations Research | Covers a sample of operations research (OR) techniques that can be used to model urban problems. Studies two main areas: (1) deterministic decision making, including linear programming and network flow problems, facility location, travel salesman and vehicle routing problems, and scheduling; (2) stochastic decision making, including probabilistic modeling, discrete Markov chains, Poisson process, queuing theory, spatially distributed queues and optimization under uncertainty. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): IEE 376 with C or better; IEE 380 with C or better; IEE 385 with C or better; Credit is allowed for only IEE 421 or IEE 498 (Urban Operations Research) or IEE 521 or IEE 598 (Urban Operations Research) OR Visiting University Student |
| IEE | 426 | Operations Research in Healthcare | Quantitative methods for modeling and analysis of healthcare systems to address operational and tactical decision-making problems. Topics include forecasting, scheduling, decision making, facility location and layout, staffing, quality control and supply chain management in hospitals and healthcare delivery facilities. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisites: IEE 376 and 380 with C or better; Credit is allowed for only IEE 426, 498 (OR in Hospitals), 526 or 598 (OR in Hospitals) |
| IEE | 431 | Engineering Administration | Introduces quantitative and qualitative approaches to management functions, engineering administration, organizational analysis, decision making, and communication. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | L | Prerequisite(s): Fulton Engr undergrad stdt, Dig Cult (Media Processing) BA/BS major, or Engr Mgmt minor or concentration; ENG 101, 105, or 107 w/ C or better; min junior standing; Credit allowed for only IEE 431 or IEE 541 OR Visiting University Student |
| IEE | 437 | Human Factors Engineering | Studies the human psychological and physiological factors that underlie the design of equipment and the interaction between people and machines. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student or minimum 3.0 GPA; Credit is allowed for only IEE 437 or IEE 547 OR Visiting University Student |

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| IEE | 454 | Risk Management | Methods and tools for identifying, assessing, mitigating and controlling risk in business and engineering design activities. Decision tools include cost-benefit analysis, decision trees, value of information, Bayesian statistical decision making, fault trees, and failure modes and effects analysis (FMEA). | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Engineering major or Engineering Management Minor/Concentration; ECN 221 or IEE 380 with C or better; minimum junior standing OR Visiting University Student |
| IEE | 456 | Introduction to Systems Engineering | Foundation course addressing the concepts needed for successful system planning, design and build process. Topics include successfully bringing large-scale systems to completion on schedule and on budget, modeling and cost estimating techniques, risk and variability. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Fulton Engineering student; IEE 300 with C or better; junior or senior standing OR Engineering Management minor or concentration; IEE 300 with C or better; Credit is allowed for only IEE 456 or IEE 556 OR Visiting University Student |
| IEE | 458 | Project Management | Life-cycle processes for selecting and managing large-scale projects to ensure successful completion. Topics include project phases, defining milestones, work breakdown structure, group decision making and teamwork, organizational structure, human resource management, technological and economic feasibility, configuration management, budget control, and resource allocation and scheduling. Use of modern tools for planning and controlling project performance. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s) with C or better: Engineering major or Engineering Mgt minor or concentration; ECN 221 or IEE 380; min junior standing OR non-Engr majors; EEE 350, HSE 230, MAE 301, MFG 480, or STP 420; min junior standing OR Visiting University Student |
| IEE | 461 | Production Control | Techniques for the planning, control, and evaluation of production systems. Forecasting, inventory control, scheduling, enterprise requirements planning, supply chain design, and coordination. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; IEE 376 with C or better; IEE 380 with C or better OR Visiting University Student |
| IEE | 470 | Stochastic Operations Research | Modeling and analysis with emphasis on stochastic operations research. Models for stochastic processes, including Markov chains, queueing and decision analysis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Comp Science BS, Engin Mgmt BSE, Indust Engin BSE, Informatics BS, or Mathematical Concepts of Engin cert student; IEE 376 w/ C or better; IEE 385 w/ C or better OR Industrial Engr graduate student OR Visiting University Student |
| IEE | 474 | Quality Control | Basic statistical process control techniques, capability analysis, design of experiments, and acceptance sampling plans. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): IEE 380 with C or better OR Visiting University Student |
| IEE | 475 | Simulating Stochastic Systems | Analyzes stochastic systems using basic queueing networks and discrete event simulation. Basic network modeling, shared resources, routing, assembly logic. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 4 | CS | Prerequisite(s): Fulton Engineering undergraduate student; CSE 205 with C or better; IEE 385 with C or better OR non-Engineering major; CSE 205 with C or better; IEE 385 with C or better; minimum 3.00 GPA OR Visiting University Student |
| IEE | 477 | System Dynamics and Thinking | Methods for the modeling and analysis of system dynamics; metrics to measure business performance; continuous simulation tools for evaluation of system performance over time. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): CSE 205 with C or better; IEE 380 with C or better; Credit is allowed for only IEE 477 or IEE 498 (System Dynamics Engineering) OR Visiting University Student |
| IEE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-12 | | |
| IEE | 485 | Systems Design Capstone I | Senior capstone project provides students with the skills required to effectively complete a capstone project in design and development. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | L | Prereq(s) with C or better: Engr Mgmt BSE major; ENG 101, 105, or 107 or postbacc; IEE 321; IEE 369; IEE 458 OR Industrial Engr BSE major; ENG 101, 105, or 107 or postbacc; IEE 321; IEE 369; IEE 376; Pre- or coreq(s): Industrial Engr BSE major; IEE 475 |
| IEE | 486 | Systems Design Capstone II | Project in design and development. Individual or team capstone project in creative design and synthesis. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | L | Prerequisite(s): Engineering Management BSE or Industrial Engineering BSE major; minimum senior standing or postbaccalaureate; ENG 101, 105, or 107 with C or better; IEE 485 with C or better |
| IEE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-6 | | Prerequisite(s): Barrett Honors student |
| IEE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |

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| IEE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-4 | | |
| IEE | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-7 | | |
| IEE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-3 | | |
| IEE | 505 | Information Systems Engr | Studies information systems application engineering. Topics include information technology, data modeling, data organization, process mapping, application and database engineering, and user interface development. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton graduate student; Credit is allowed for only IEE 505 or IEE 506 |
| IEE | 506 | Web-Enabled Decision Support Systems | Development and analysis of Web-enabled applications for decision support. Topics include: (1) Web application development using ASP.NET; (2) design for computing scalability, interface usability and cyber security; and (3) use of application development skills and design concepts to develop a decision support system consisting of database, analytical data processing, expert knowledge and reasoning, and user-friendly interface for enabling transitions from data to information, knowledge and decisions. Knowledge of database development is necessary to be successful in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton graduate student; Credit is allowed for only IEE 505 or IEE 506 |
| IEE | 511 | Analysis of Decision Processes | Methods of making decisions in complex environments and statistical decision theory; effects of risk, uncertainty, and strategy on engineering and managerial decisions. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisites: Engineering Graduate student; Credit is allowed for only IEE 498 (Analysis of Decision Processes) or 511 |
| IEE | 512 | Introduction to Financial Engineering | Introductory course on financial engineering covering traditional portfolio theory, forwards, futures, financial stochastic models, option pricing, and risk management. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 520 | Statistical Learning for Data Mining | Surveys data analysis methods for massive data sets and provides experience in analysis with computer software. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; BMI 515, IEE 572, or IEE 578; Credit is allowed for only BMI 555 or CSE 572 or IEE 520 |
| IEE | 521 | Urban Operations Research | Covers a sample of operations research (OR) techniques that can be used to model urban problems. Studies two main areas: (1) deterministic decision making, including linear programming and network flow problems, facility location, travel salesman and vehicle routing problems, and scheduling; (2) stochastic decision making, including probabilistic modeling, discrete Markov chains, Poisson process, queuing theory, spatially distributed queues and optimization under uncertainty. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only IEE 421 or IEE 521 |
| IEE | 526 | Operations Research in Healthcare | Quantitative methods for modeling and analysis of healthcare systems to address operational and tactical decision-making problems. Topics include forecasting, scheduling, decision making, facility location and layout, staffing, quality control and supply chain management in hospitals and healthcare delivery facilities. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisites: Graduate Engineering student; Credit is allowed for only IEE 426, 498 (OR in Hospitals), 526 or 598 (OR in Hospitals) |
| IEE | 530 | Enterprise Modeling | Focuses on social, economic, and technical models of the enterprise with emphasis on the management of technological resources. Includes organization, econometric, financial, and large-scale mathematical models. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: Engineering Graduate student |
| IEE | 533 | Scheduling | Provides the basic theory of scheduling and introduction to the applications domain. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: Engineering Graduate student |
| IEE | 534 | Supply Chain Modeling and Analysis | Techniques for modeling and analysis of supply chains. Inventory management, transportation/location models, value of information, channel alignment, risk pooling, contracts. Requires knowledge of basic statistics and probability and some optimization. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student |
| IEE | 535 | Intro Intl Logistics Systems | Exploratory project-oriented course that addresses domestic and international logistics practices from a high-level descriptive perspective and an analytical model-based perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 541 | Engineering Administration | Introduces quantitative and qualitative approaches to management functions, engineering administration, organizational analysis, decision making, and communication. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: Engineering Graduate student; Credit is allowed for only IEE 431 or 541 |
| IEE | 545 | Advanced Simulating Stochastic Systems | Analyzes stochastic systems using basic queuing networks and discrete event simulation. Basic network modeling, shared resources, routing, assembly logic. | N | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Schools of Engineering graduate student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| IEE | 547 | Human Factors Engineering | Study of people at work; designing for human performance effectiveness and productivity. Considerations of human physiological and psychological factors. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisites: Engineering Graduate student; Credit is allowed for only IEE 437 or 547 |
| IEE | 552 | Strategic Technological Planning | Studies concepts of strategy, strategy formulation process, and strategic planning methodologies with emphasis on engineering design and manufacturing strategy, complemented with case studies. Presents and uses an analytical executive planning decision support system throughout course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: Engineering Graduate student |
| IEE | 556 | Introduction to Systems Engineering | Foundation course addressing the concepts needed for successful system planning, design and build process. Topics include successfully bringing large-scale systems to completion on schedule and on budget, modeling and cost estimating techniques, risk and variability. Graduate students are expected to have a background in and understanding of large-scale systems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only IEE 456 or IEE 556 or IEE 598 (Intro to Systems Engineering) |
| IEE | 561 | Production Systems | Understanding how factories operate, how performance is measured, and how operational changes impact performance metrics. Operational philosophies, increasing production efficiency through quantitative methods. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: Engineering Graduate student |
| IEE | 570 | Advanced Quality Control | Process monitoring with control charts (Shewhart, cusum, EWMA), feedback adjustment and engineering process control, process capability, autocorrelation, selected topics from current literature. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: Engineering Graduate student |
| IEE | 571 | Quality Management | Total quality concepts, quality strategies, quality and competitive position, quality costs, vendor relations, the quality manual, and quality in the services. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: Engineering Graduate student |
| IEE | 572 | Design Engineering Experiments | Analysis of variance and experimental design. Topics include strategy of experimentation, factorials, blocking and confounding, fractional factorials, response surfaces, nested and split-plot designs. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: Engineering Graduate student |
| IEE | 573 | Reliability Engineering | Nature of reliability, time to failure densities, series/parallel/standby systems, complex system reliability, Bayesian reliability, and sequential reliability tests. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: Engineering Graduate student |
| IEE | 574 | Appl Deterministic Oper Rsch | Develops advanced techniques in operations research for the solution of complex industrial systems problems. Goal programming, integer programming, heuristic methods, dynamic and nonlinear programming. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: Industrial Engineering MS, MSE or PhD student |
| IEE | 575 | Appl Stochastic Oper Rsch Mdls | Formulate and solve industrial systems problems with stochastic components using analytical techniques. Convolution, continuous-time Markov chains, queues with batching, priorities, balking, open/closed queuing networks. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: Engineering Graduate student |
| IEE | 576 | Network Optimization and Algorithms | Algorithms to solve network flow problems with an objective to improve computational complexity by using appropriate data structures and computing procedures. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only IEE 576 or IEE 598 (Network Flows and Algorithms) or IEE 598 (Network Optimization and Algorithms) |
| IEE | 577 | Data Science for System Decision Analytics | Focuses on applied data science techniques for the system decision support in PYTHON. Also targets anyone who is interested in data analytics in general or plans to work with data in a future career (such as data scientist and data analytics). Highly encourages some prior knowledge about PYTHON. Focuses on the conceptual understanding of system modeling, statistical and machine learning, and optimization with some mathematical formulation. Also covers the main concept and some implementation of the latest development in data science, such as distributed computing, large-scale optimization, and deep learning. Furthermore, covers how to implement these models for different types of data, such as tabular data, images, text data. Finally, discusses how to interpret these models for decision support of complex systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student |
| IEE | 578 | Regression Analysis | Regression model building oriented toward engineers and physical scientists. Topics include linear regression, diagnostics, biased and robust fitting, nonlinear regression. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Engineering Graduate student |
| IEE | 579 | Time Series Analy/forecasting | Forecasting time series by regression-based, exponential smoothing, and ARIMA model techniques; uses digital computer programs to augment the theory. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: Engineering Graduate student |
| IEE | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| IEE | 581 | Six Sigma Methodology | The six sigma process improvement strategy of define, measure, analyze, improve, and control (DMAIC). Integrates and deploys statistical methods and other six sigma problem solving via the DMAIC framework. Requires background in undergraduate engineering statistics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Engineering Graduate student |
| IEE | 582 | Response Surfaces/Process Opt | Classical response surface analysis and designs including steepest ascent, canonical analysis, and multiple responses. Other topics include process robustness studies, robust design, and mixture experiments. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Engineering MS, MSE or PHD major; IEE 572 with C or better |
| IEE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 585 | Six Sigma Capstone | The DMAIC (define, measure, analyze, improve, control) improvement strategy is applied in the formulation and execution of a six sigma project. | N | PRA | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; IEE 530, 561, 572, 573, or 578; IEE 570; IEE 581 |
| IEE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-12 | | Pre-requisite: Industrial Engineering MS, MSE or PHD student |
| IEE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-4 | | Prerequisite(s): Engineering graduate student |
| IEE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 605 | Foundations of Information Systems Engineering | Introduces science and engineering technologies of information systems design and analysis with focus on industrial engineering applications. Topics include: design and analysis of computational algorithms; and data mining techniques for classification, clustering, feature extraction and data reduction problems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): graduate Industrial Engineering student |
| IEE | 620 | Optimization I | First course of the PhD-level deterministic course series. Covers foundations of optimization and linear programming. Prior working knowledge of linear algebra and knowledge of how to formulate linear programs is required for this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 622 | Optimization II | Introduces computational methods to solve optimization problems with integer variables and the mathematical theory behind them. Follows formulation of integer programming models with a survey of relaxation, decomposition and cutting-plane methods. Discusses various practical problems such as facility location, transportation and distribution problems. Assigns computational examples using the software IBM ILOG OPL. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: IEE 620; Credit is allowed for only IEE 622 or 598 (Optimization II) |
| IEE | 640 | Probability & Stochastic Processes | Presents fundamentals of probability and stochastic processes from a non-measure theoretic point-of-view to develop (a) basic model building and probabilistic reasoning skills, and (b) an understanding of important qualitative characteristics of some basic stochastic processes used to model dynamical systems with noise. Topics include a review of probability theory with particular attention to conditional probability and expectation; Markov chains; Renewal theory and the Poisson process. Considers applications in reliability, inventory theory, queueing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: IEE 470, Graduate Industrial Engineering major; Credit is allowed for only IEE 598 (Prob & Stoch Model) or 640 |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| IEE | 670 | Mathematical Statistics | Introduction to the field of mathematical statistics at a level intended for first-year PhD students in Industrial Engineering. Builds a solid background in the principles, concepts, and techniques of mathematical statistics. Prepares students for advanced study and research in statistics, and is useful for understanding statistical data analysis techniques and developing statistical thinking. Completion of at least one course in probability and statistics is required prior to taking this class. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 672 | Adv Topics-Experimental Design | Multilevel and mixed-level factorials and fractions, design optimality, incomplete blocks, unbalanced designs, random effects and variance components, analysis of covariance. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Engineering MS, MSE or PHD major; IEE 572 with C or better |
| IEE | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-12 | | Pre-requisite: Industrial Engineering MS, MSE or PHD student |
| IEE | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IFT | 100 | Introduction to Information Technology | Project-based introduction to the key concepts, tools and devices underlying today's technologies. Introduces computer hardware, software and system architecture, the Internet, the World Wide Web and information technology ethics. Forms a foundation for future courses offered in the Information Technology major and the information technology discipline. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | |
| IFT | 101 | Information Technology Programming Logic | Introduces basic analysis and synthesis procedures for an understanding of information system logical structures. Topics include: identifying organizational domains for potential automation, informational descriptions (scenarios) of those domains, and program structure and logical designs for potential problem/opportunity resolution. Uses graphical and textual models to express the logic and uses Python to implement the logic. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Credit is allowed for only IFT 101 or IFT 194 (Information Technology Programming Logic) OR Visiting University Student |
| IFT | 103 | Operating System Architecture | Introduces Linux, Windows and Mac operating systems. Begins with an overview of the hardware of modern computer and operating systems. Also introduces user management, memory management, network and disc storage. Provides hands-on practices to introduce computer and operating system virtualization. Provides an isolated environment to practice and do labs on advanced topics in the field of memory management, different portable data file input/output. Students learn Command Line Interface (Bash/Power Shell) to interact with computers and transfer data files from one operating system to another operating system. Also introduces basic computer networking and hardware security. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | |
| IFT | 166 | Introduction to Internet Networking | Introduces the OSI model and the protocol layers associated with information communication technology. Describes the role and purpose of each layer. Covers various network topologies, communications protocols, transmission media, networking hardware and software, network management and troubleshooting. Students gain hands-on experience in basic network configuration. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|------------------------|-------|-----------------|---|
| IFT | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 1-4 | | |
| IFT | 200 | Information Modeling, Storage and Retrieval | Covers the different types of data modeling with emphasis on the relational model. Develop solutions for data modeling problems, starting with identifying user and data requirements. Fundamentals of database design going through the conceptual, logical and physical data modeling steps. Create relational databases in order to store data. Utilize Structured Query Language (SQL) to represent, retrieve, and manage a database. Students learn how applications connect to databases, and interact with them. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 101 with C or better OR Visiting University Student |
| IFT | 202 | Foundations of Information and Computer System Security | Introduces information technology (IT) security aspects and how technology can be vulnerable to unwanted intrusions. Project-based introduction to privacy, ethics, legal, social and professional responsibilities for information technology. Principles of information security and assurance and their implications on access. Tools and methods to identify intrusion, best security practices. Securing communications and applications. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 101 with C or better; IFT 103 with C or better; IFT 166 with C or better OR Visiting University Student |
| IFT | 210 | Introduction to Java Technologies | Introduces Java as a platform for application development. Fundamental concepts of the Java language (classes, objects, conditions, loops, arrays), object-oriented programming and design (inheritance, polymorphism, interfaces), exceptions, and basics of the user interface programming. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 101 with C or better OR Visiting University Student |
| IFT | 220 | Managing Configurations and Active Directory | Introduces the concept of Directory Services by exploring Active Directory from design and implementation. Further explores the role Active Directory plays in managing computer policy and security, user's identity management and authentication, and configuration management of both client computers and servers. Introduces the use of PowerShell scripting. Students implement their own Active Directory domain and then use it to perform various configuration management tasks. Assumes no previous experience with Configuration Management concepts or Active Directory. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 103 with C or better; IFT 166 with C or better OR Visiting University Student |
| IFT | 250 | Introduction to UNIX Utilities | Technical overview (introduction) to Unix-style operating systems such as Linux. Covers a broad range of features of the operating system from core system technologies such as the Filesystem Hierarchy Standard (FHS), to using the shell and common Unix/Linux utilities to accomplish day-to-day computing tasks. Includes output redirection, file manipulation, basic system and environment configuration, and system monitoring. Assumes no prior experience with the Unix operating system. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 103 with C or better OR Visiting University Student |
| IFT | 266 | Network Information Communication Technology | Focuses on the physical layer, data-link layer and network layer of the OSI model. Introduces data communications, including signals and transmission impairments. Also introduces network topologies and local-area networks with particular attention on the network switch. Network layer protocols (IPv4 and IPv6) are included with focus on IPv6. Subnetting (classful and classless) are explored in more detail and Variable Length Subnet Mask (VLSM) is introduced. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 166 with C or better OR Visiting University Student |
| IFT | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 1-4 | | |
| IFT | 300 | Intermediate Database Management Systems | Fundamental methods in managing data-oriented systems. Relational, object and hierarchical data architectures. Query languages including SQL. Semantics of transaction processing. Database system architectures including cloud-based, client-server and embedded databases. Security and privacy issues associated with SQL-structured databases. Modern trends in data management including unstructured data type management, data mining and business analytics. Describes NoSQL data management platforms. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 200 with C or better; Credit is allowed for only ACO 220 or ACO 320 or CSE 412 or IFT 300 (or IFT 433) or SER 322 OR Visiting University Student |
| IFT | 301 | Web Programming for Human Computer Interface | Human-computer interaction design for rich media systems. Design processes, tools and principles for applications that are highly interactive with their users and which include multiple input/output modalities and multimedia. Project-driven course. Key topics include wireframes and persona structures associated with HCI. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 200 with C or better; IFT 210 with C or better OR Visiting University Student |
| IFT | 310 | Information Systems Project Development | Intense review of information technology organizational management; project development for IT infrastructure, management and security systems. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 200 with C or better; IFT 202 or 394 (Intro to Cyber Security) with C or better; IFT 266 or 394 (Networking Character & Protocols) with C or better OR Visiting University Student |

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| IFT | 320 | Managing the Cloud | Provides a hands-on comprehensive study of Cloud concepts and capabilities across the various Cloud service models including Infrastructure as a Service (IaaS), Platform as a Service (PaaS) and Software as a Service (SaaS). Studies the latest solutions for cloud computing developed by Google, Amazon and Microsoft. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 200 with C or better; IFT 202 or 394 (Intro to Cyber Security) with C or better; IFT 266 or 394 (Networking Charac & Protocols) with C or better OR Visiting University Student |
| IFT | 360 | Applications in Artificial Intelligence | Artificial Intelligence (AI) is one of the most exciting technologies, both shaping and challenging the future of our industries and workforce. AI is a multidisciplinary area comprising theoretical, experimental and applied investigations of intelligent systems. Converging technologies along with natural language processing, big data and the Internet of Things (IoT) are driving the growth of AI. An introductory course in AI is a good place to start as it gives students an overview of the components, brings students up to speed on the AI research and developments to date. Covers examples of AI in use today such as Web crawlers, how humans detect financial frauds, self-driving cars, facial recognition systems, and natural language processors. Provides hands-on experience with the AI programming of different intelligent agents. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 200 with C or better; IFT 210 with C or better OR Visiting University Student |
| IFT | 365 | Applied Programming Language for Information Technology | Object-oriented programming (OOP) with a focus on advanced techniques used in developing applications. Emphasizes problem solving using the software development life cycle. Supports application creation and testing through study of programming basics, data structures and OOP fundamentals resulting in a framework of collection classes students use to solve problems and create applications. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 210 with C or better OR Visiting University Student |
| IFT | 366 | TCP/IP and Routing | In-depth study of the TCP/IP protocol suite and router technology. Covers the underlying applications, components and sub-protocols that make up the TCP/IP suite. Emphasizes the fundamentals of routing, router configuration, understanding routing protocols and setting up access control lists. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 266 or 394 (Networking Charac & Protocols) with C or better OR Visiting University Student |
| IFT | 370 | Mobile Computing and Applications for Information Technology | Infrastructure and architecture of mobile computing, wireless protocols, design principles, patterns and practices for mobile app development Android and iPhone platforms. Presents the development processes for both types, focusing on Android development with Java in providing hands-on development of applications in support of an applied practice learning experience. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 210 with C or better; IFT 301 with C or better OR Visiting University Student |
| IFT | 372 | Wireless Fundamentals | Foundational course in wireless networking includes systems-level coverage of advanced information communication technology (ICT) focusing on digital wireless communications systems used in today's ICT networks. Introduces communication techniques that allow high-speed mobile connectivity. Includes topical areas in noise, modulation techniques, signal path loss, basic antenna theory and other similar topics required to understand how a wireless network architecture is developed. Also introduces the characteristics of both Wi-Fi based systems and smart phone-based systems. Specific topics include: binary communications, QPSK, PCM, TDM, QAM, OFDM, OFDMA and the wireless environment. Lays the foundation for fully understanding how to create and develop a wireless network. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 266 or 394 (Networking Character and Protocols) with C or better OR Visiting University Student |
| IFT | 380 | Advanced Systems Configuration Management | Explores in-depth advanced configuration management concepts and methods of deploying, configuring, monitoring and reporting on systems (both servers and workstations). Utilizes widely used CM tools to help illustrate and study patch management, application deployment, OS deployment, remote control, configuration baselines, drift remediation, inventory management and compliance reporting. Uses PowerShell as a scripting language. Assumes previous experience with directory services and PowerShell and introduces query languages without expecting prior experience. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 220 with C or better OR Visiting University Student |
| IFT | 381 | Information System Security | Fundamental course in information systems security that focuses on various security concepts. Students learn about intrusion systems and techniques to identify and help limit incursions. Familiarizes students with the different types of firewalls and their applications in the network. Details software security, hacking techniques and operating systems security. Moreover, emphasizes the initial security and privacy issues of some new technologies such as cloud computing, fog computing, Internet of Things (IoT), and blockchain. Finally, presents the fundamentals of AWS security testing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 202 or 394 (Intro to Cyber Security) with C or better OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|------------------------|-------|-----------------|---|
| IFT | 383 | Shell and Script Programming with UNIX | UNIX operating system programming of shells, environment and 4th-generation languages and tools, such as sed, awk, perl, grep, make. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 250 with C or better OR Visiting University Student |
| IFT | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 1-4 | | |
| IFT | 401 | Information Technology Capstone Project I | First half of a comprehensive project experience based on cumulative knowledge and skills gained in earlier coursework. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s) with C or better: IFT 220; IFT 250; IFT 266 or IFT 394 (Networking Characteristics & Protocols); IFT 300 (IFT 433); IFT 301; IFT 310; IFT 320 (IFT 472); IFT 381; minimum senior standing |
| IFT | 402 | Information Technology Capstone Project II | Second half of a comprehensive project experience based on cumulative knowledge and skills gained in earlier coursework. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 401 with C or better |
| IFT | 410 | Big Data Tools and Practices | Architecture of Hadoop clusters at both the hardware and system software levels. Applies Hadoop and related Big Data technologies such as MapReduce, Pig, Hive and Impala in developing analytics and solving the types of problems faced by enterprises today. Expects programming experience in Java or Python and a general understanding of databases, networking and distributed systems. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 200 with C or better OR Visiting University Student |
| IFT | 420 | Cloud Architecture for Information Technology | Cloud technology has increased usability and reduced the cost of computing for global business environments. Leveraging the interoperability and rapid time to deployment allows for a high level of availability and scalability. Provides an overview of the methodologies and techniques that address cloud automation, design patterns, and optimization which are used to build a well-architected cloud computing environment. Students have the opportunity to learn how to deploy a fault-tolerant, efficient and scalable cloud infrastructure that considers important factors as security, reliability and high availability. Leverages the AWS Academy Cloud Architecting course, which supports students in preparing for AWS Certified Solutions Architect - Associate exam. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 266 with C or better; IFT 320 with C or better; Credit is allowed for only IFT 420 or IFT 560 or IFT 598 (Cloud Architecture for Information Technology) OR Visiting University Student |
| IFT | 421 | Data in the Cloud for Information Technology | Examines the architecture, frameworks and tools used to develop, analyze and communicate data using cloud services. Topics include the benefits, risks and opportunities represented by cloud technologies as well as the unique tools and infrastructure. Also covers cloud data solutions, data acquisition, migration, security, identity management and disaster recovery. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 320 with C or better; Pre- or corequisite(s): IFT 300 with C or better if completed; Credit is allowed for only IFT 421 or IFT 561 or IFT 598 (Data in the Cloud for Information Technology) OR Visiting University Student |
| IFT | 422 | Cloud Security and Operations for Information Technology | Cloud security solutions are required to address availability, authentication, integrity, confidentiality and auditing. It starts with a combination of operating system virtualization, processes automation and dynamic response to changing business conditions. Covers the way traditional models of security, governance, and operations have changed due to the fact that the cloud user and the cloud provider both hold responsibilities for the security measures. Provides an overview of the methodologies and techniques to create and maintain a secure well-operated cloud computing environment. Students have the opportunity to learn how to manage, secure and scale cloud infrastructures and their underlying functions for scaling, container computing, monitoring, database services and account security. Leverages the AWS Academy Cloud Operations course, which supports students in preparing for the AWS SysOps Administrator - Associate exam and (ISC)2 CCSP exam. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 320 with C or better; IFT 381 with C or better; Credit is allowed for only IFT 422 or IFT 562 or IFT 598 (Cloud Security & Operations for Information Tech) OR Visiting University Student |
| IFT | 443 | Analyzing Big Data | Data mining and statistical techniques that arise in data analytic applications. Students learn and practice working with big data using data analytic techniques presented in earlier coursework. Discusses one or more applications associated with data analytic techniques. Practices using advanced techniques that build on the knowledge provided in earlier coursework and knowledge gained from a statistical methods course. Familiarity with databases and statistics are essential. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 410 (IFT 333) with C or better OR Visiting University Student |
| IFT | 458 | Middleware Programming and Database Security | Covers the main concepts of middleware technologies. Includes the various methodologies used to integrate applications, databases and Web services. Students develop multilevel applications using programming/scripting languages (such as PHP, Java, Python, Perl) which access data stored in a database. Middleware programs typically control database access and protect database SQL programs from security breaches. Students access the data from applications and other Web technologies such as XML, as well as protecting the data from unauthorized access. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s) w/C or better: Graphic Info Tech (Full-Stack Web Dvlpmnt) BS major; GIT 215 OR IFT 301; IFT 383; Credit is allowed for only ACO 321 or CSE 414 or IFT 458 or IFT 554 or IFT 598 (Mdlwre Prgmng & Dtabse Sec) OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|------------------------|-------|-----------------|--|
| IFT | 460 | Managing Intelligent Devices in an Enterprise Environment | Systems and devices with unique identifiers that are connected to the Internet. Hands-on study of enterprise-related intelligent applications including energy, logistics, industrial control, retail and agriculture, among multiple domains. Includes the development of working code for real-world Internet of Things (IoT) applications. Requires high-level programming skills. Incorporates a taxonomy of IoT systems with increasing levels of complexity. Programming aspects of IoT devices and rapid prototyping follows the foundational information. Covers IoT data analytics and tools used to manage these intelligent devices. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s) with C or better: IFT 200; IFT 202; IFT 250; Credit is allowed for only IFT 460 or IFT 494 (Managing Intelligent Devices in an Enterprise Env) or IFT 598 (Managing Intelligent Devices in an Enterprise Env) OR Visiting University Student |
| IFT | 466 | Advanced Computer Networks for Information Technology | Redundancy protocols, QoS and the implementation of wide area networks. Focuses on advanced concepts and implementation of EIGRP, OSPF, BGP and extended ACLs. Also covers in detail implementing routing from an IPv6 perspective. Additional topics include cloud computing and SDNs. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 366 with C or better OR Visiting University Student |
| IFT | 475 | Security Analysis | Processes used in cyber security analyses. Presents through exercises techniques to ensure confidentiality, integrity and availability. Includes vulnerability assessments based on faulty software design. Explores malicious code and computer crime, including operating system (OS) root kits. Students are instructed in how to conduct analyses in support of cyber security initiatives. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 381 with C or better OR Visiting University Student |
| IFT | 482 | Network Forensics | Use and creation of advanced network forensics tools: intrusion detection and prevention, honeynets, traffic routing and management, and data reduction and graphing tools. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 381 (IFT 481) with C or better; Credit is allowed for only ACO 331 or IFT 482 or IFT 523 or IFT 598 (Network Forensics) OR Visiting University Student |
| IFT | 483 | Developing Security Policy | Focuses on development of security policy, risk solutions and incident response facilities. Using the information security framework, identifies strategies and processes used in governance, risk management, asset management, human resources and physical security to create, evaluate and audit security policies. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 381 with C or better; Credit is allowed for only IFT 483 or IFT 543 or IFT 598 (Developing Security Policy) OR Visiting University Student |
| IFT | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Information Technology | 1-12 | | |
| IFT | 488 | Systems Administration of UNIX | UNIX administration of system and user services using command line and GUI tools. System security and forensics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 383 with C or better OR Visiting University Student |
| IFT | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Information Technology | 1-6 | | Prerequisite(s): Barrett Honors student |
| IFT | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | Information Technology | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| IFT | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 1-4 | | |
| IFT | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Information Technology | 1-3 | | |
| IFT | 510 | Principles of Computer and Information Technology Architecture | A comprehensive introduction to computer and information technology architectures. Provides a detailed understanding of computer architecture, system software and network architecture, including the relationships among these IT-related entities. Forms a technical foundation for understanding current IT-related technologies and how they work as an integrated system. Begins with the historical study of computing and networks and progresses through computer and networking architecture. Topics include principles of a computer's physical and operating system architecture and its relationship to a network's architecture, including hardware and software functionalities. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IFT | 511 | Analyzing Big Data | Covers how data science can be used as tools to analyze large amounts of data for the purpose of extracting business value. Covers multiple topics with real business examples. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IFT 511 or IFT 598 (Analyzing Big Data) |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|------------------------|-------|-----------------|---|
| IFT | 512 | Advanced Big Data Analytics/AI | Develops a workflow structure and implementation of an end-to-end Machine Learning (ML) environment, from a hands-on DevOps (Development - Operations) perspective. This workflow structure forms the substrate for the layers of algorithms and models that are intended to implement and deliver/monitor analytics and AI products. To that end, the student learns about modern data storage evolutions (e.g., LakeHouses/Delta Lake) and end-to-end management/governance of machine learning/AI models (MLFlow) and products. Also deepens knowledge of advanced data analysis and statistical techniques that arise in data analytic and monitoring applications as students see how the ML work integrates with their substrate development. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 511; Credit is allowed for only IFT 512 or IFT 598 (Advanced Analytics for Big Data/AI) or IFT 598 (Advanced Data Analytics) |
| IFT | 520 | Advanced Information Systems Security | Advanced methods that can be used to make the information secure in different environments. Provides details about modern cryptographic algorithms and their applications to make the IoT, Cloud and Big data information secure. Also provides comprehensive information about how to make wireless networks secure, different case studies and application in a real environment. Finally, covers the human aspect of information security for identifying issues and developing real solutions. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IFT | 523 | Network Forensics for Information Technology | Use and creation of advanced network forensics tools: intrusion detection and prevention, honeynets, traffic routing and management, and data reduction and graphing tools. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 520; Credit is allowed for only ACO 331 or IFT 482 or IFT 523 or IFT 598 (Network Forensics) |
| IFT | 525 | Introducing AI into CyberSecurity for Information Technology | Artificial intelligence (AI) is common in the cybersecurity professional's personal and work life, both in many recognizable and highly perceptible ways as well as those that are not so obvious. As this field continues to grow, it is helpful to understand the related terms and technologies of this always expanding field and to share in discussions about its use in possible and actual presentations. Students learn terminology related to the spectrum of AI technology, including deep learning, machine learning, AI neural networks, and natural language processing, and are introduced to some of the current practical applications of these technologies. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IFT 525 or IFT 598 (Introducing AI into CyberSecurity) |
| IFT | 530 | Advanced Database Management Systems | Teaches advanced concepts of database management systems, for example, further dependencies and higher normal forms, indexing, transaction and locking, concurrency control, database security, backup and recovery, accessing XML data, query optimization techniques, and databases for web applications. Students expand their SQL programming knowledge through focused database design practice with an increasingly complex problem and solution set using Microsoft SQL Server. Introduces NoSQL for SQL developers and about unstructured "big data" databases and hands-on experience with MongoDB. Project-driven course builds on the background presented in Software Development for Information Technology. Familiarity with information modeling and software development process is essential. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IFT | 533 | Data Visualization and Reporting for IT | Covers fundamentals of data visualization theory, different types of visualization charts, how to understand the data to be visualized and chart selection best practices for a given visualization task. Also covers the dashboard design process. Applies concepts to visualize various real and synthetic datasets using various visualization tools such as Python Bokeh and Tableau to create interactive dashboards. Students apply all learned concepts through a course project in which they design and implement dashboards for real visualization tasks and for the purpose of reporting important insights and findings to technical and nontechnical managerial teams. Touches on ETL since data needs to be read and transformed prior to visualization and reporting. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IFT 533 or IFT 598 (Data Visualization & Reporting for IT) |
| IFT | 536 | Natural Language Processing for Information Technology | Practical, advanced-level course introducing the variety of ways to represent and interpret language. Focuses on exploiting representations and identifying appropriate tools, applications and processes to analyze text and speech data, translation, summation, extracting information, semantic mapping and indexing, automatic query resolution, and developing natural interfaces to databases. Natural language processing is an extremely multidisciplinary, therefore includes ideas central to linguistics, computer science, machine learning and statistics. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only IFT 536 or IFT 598 (Natural Language Processing) |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|------------------------|-------|-----------------|--|
| IFT | 540 | Information Systems Development | Proven techniques and methodologies for modeling information requirements and organizational data resources with a strong focus on gleaning information from data. Students learn how to discover, document and structure functional system requirements and user interface requirements at a level appropriate for advanced information technology practitioner, and develop conceptual data models. Covers the phases of a generic systems development life cycle (SDLC), object-oriented analysis and design (OOAD) with UML modeling, and Agile methodologies. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IFT | 543 | Security Compliance for Information Technology | Focuses on the development of security policy, risk solutions and incident response facilities. Using the information security framework, identifies strategies and processes used in governance, risk management, asset management, human resources and physical security to create, evaluate and audit security policies. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only IFT 483 or IFT 543 or IFT 598 (Developing Security Policy) |
| IFT | 545 | Advanced Security Analysis | Advanced inspection of concepts and exercises related to security analysis. Expands analysis techniques to include wireless protocols, interception techniques, man-in-the-middle attacks, forgeries, cloned and replay attacks, cyber warfare, data corruption, data leakage and peer-to-peer networks. Through a variety of exercises, students work with tools and technologies available on the commercial market. The teaching environment is designed to impart the skills required by a corporate security professional. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IFT | 554 | Middleware Programming and Database Security for Information Technology | Introduces the main concepts of middleware technologies. Includes the various methodologies used in developing full-stack applications, the technologies and architectural designs to integrate applications, databases and front ends. Students design secure application access to persistence data stored in a database using middle layer architecture and from applications technologies. Development of the middleware using programming/scripting languages (such as JavaScript, PHP, Java, Python, Perl, and C#). | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 530; Credit is allowed for only ACO 321 or CSE 414 or IFT 458 or IFT 554 or IFT 598 (Middleware Programming & Database Security) |
| IFT | 560 | Cloud Architecture for Information Technology | Covers cloud design concepts such as cloud security, networking, databases, design patterns and architecture. Has a concentration on Amazon Web Services (AWS) and contains most of the materials needed to pass the AWS Certified Cloud Architect - Associate exam. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Pre- or corequisite(s): IFT 510; Credit is allowed for only IFT 420 or IFT 560 or IFT 598 (Cloud Architecture for Information Technology) |
| IFT | 561 | Data in the Cloud for Information Technology | Examines the architecture, frameworks and tools used to develop, analyze and communicate data using cloud services. Topics include the benefits, risks and opportunities represented by cloud technologies as well as the unique tools and infrastructure. Examines and compares cloud solutions, data acquisition, migration, security, identity management and disaster recovery across a variety of current providers. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only IFT 421 or IFT 561 or IFT 598 (Data in the Cloud for Information Technology) |
| IFT | 562 | Cloud Security and Operations for Information Technology | Cloud security solutions are required to address availability, authentication, integrity, confidentiality and auditing. It starts with a combination of operating system virtualization, processes automation and dynamic response to changing business conditions. The way traditional models of security, governance and operations have changed due to the fact that the cloud user and the cloud provider both hold responsibilities for the security measures. Provides an overview of the methodologies and techniques to create and maintain a secure well-operated cloud computing environment. Students have the opportunity to learn how to manage, secure and scale cloud infrastructures and their underlying functions for scaling, container computing, monitoring, database services and account security. Leverages the AWS Academy Cloud Operations course, which supports students in preparing for the AWS SysOps Administrator - Associate exam and (ISC)2 CCSP exam. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 560 with C or better; Credit is allowed for only IFT 422 or IFT 562 or IFT 598 (Cloud Security & Operations for Information Tech) |
| IFT | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 1-12 | | |
| IFT | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Information Technology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IFT | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Information Technology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| IFT | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Information Technology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IFT | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Information Technology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IFT | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IFT | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Information Technology | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IFT | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IGD | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | GNA | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IGD | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IGD | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IGD | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IGD | 601 | Re-Thinking Global Development | Traces and analyzes the origins of international or global development as theory, concept, policy and practice. Studies the key theories that have been influential in development conceptualization and policy, within the context of the history in which they arose; evaluates the results; and considers future trends and scenarios considering the critiques of such mainstream approaches. | N | SEM | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IGD | 602 | Innovation for Inclusive Development | Clear advances in economic, social and political development and wealth generation have been uneven, and have resulted, as well, in an increasing gap between wealth and poverty. Continuing in the same direction could exacerbate existing problems, and in this course, we imagine different future outcomes and how to make policy today for a better future. | N | SEM | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IGD | 603 | Methods for Research in Global Development | Provides a practical introduction to research methods and methodologies in global development. Through hands-on exercises, exposes students to issues around quantitative and qualitative data collection and management, analysis and interpretation of results, and research ethics and practice in development as well as application of research to policy development and its implications. | N | SEM | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IGD | 604 | Colloquium in Innovation in Global Development | This student-centered and faculty-mentored colloquium provides critical opportunities for leadership, organization, planning and implementation of events related to global development studies. Encourages students to propose and plan their own events, focused on issues and topics of importance to them, and utilizing the resources on the ASU campus and Phoenix area. | N | SEM | Y | GNA | College of Global Futures | School for the Future of Innovation in Society | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IGD | 784 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IGD | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IGD | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|--------------------------------------|---|-------------------|-------------------|-----------------|---------------|---|--|-------|-----------------|---|
| IGD | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | RSC | Y | Z3 | College of Global Futures | School for the Future of Innovation in Society | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IGD | 799 | Dissertation | Supervised research focused on preparation of a dissertation, including literature review, research, data collection, analysis and writing. | Y | RSC | Y | Z2 | College of Global Futures | School for the Future of Innovation in Society | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IND | 120 | Drawing for Industrial Design | Drawing as language to explore and communicate ideas. Development of drawing aptitude as language and process for industrial design thinking. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Environmental Design BS or Industrial Design BSD major OR Visiting University Student |
| IND | 121 | Principles for Industrial Design I | Industrial design as a language and process for creative thinking and realization. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Environmental Design or Industrial Design major. Corequisite(s): IND 122 |
| IND | 122 | Principles for Industrial Design II | Continued exploration of industrial design as a language and process for creative thinking and realization. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): IND 120 with C or better; Environmental Design or Industrial Design major. Corequisite(s): IND 121 |
| IND | 227 | Visual Methods for Problem Solving | Introduces conceptual design activity based on the mind-eye-media feedback loop. Graphic language used to represent conjecture, analysis, synthesis of objects, and their contexts. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Industrial Design BSD major; DSC 101 with C or better; IND 120 with C or better; IND 121 with C or better; IND 122 with C or better; minimum 3.00 GPA OR Visiting University Student |
| IND | 228 | Imaging and Visualization | Design activities stressing graphic language abstraction practiced for presentation. Discusses structure of criticism, including description, interpretation, and evaluation. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisites: Industrial Design student; IND 227 with C or better; Co-requisite: IND 261 |
| IND | 242 | Materials and Design | Materials application in design. Introduces characteristics and properties of metals and organic materials, including plastics, and inorganic materials. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| IND | 243 | Design for Ecology and Social Equity | Explores the role of design in the ecological crisis; materials, processes, strategies and methods to design more ecologically friendly and socially equitable products. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| IND | 260 | Industrial Design I | Introduces the method and process of the industrial designer. Determinants necessary in small product design. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Industrial Design BSD major; DSC 101 with C or better; IND 120 with C or better; IND 121 with C or better; IND 122 with C or better; minimum 3.00 GPA OR Visiting University Student |
| IND | 261 | Industrial Design II | Issues of physical form development related to product and design; form development properties of paper, fibers, wood, metal, and plastics. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisites: Industrial Design student; IND 260 with C or better; Co-requisite: IND 228 |
| IND | 316 | 20th-Century Design I | European and American design from 1850 to 2000 with thematic emphases on worldview, technology, transportation, economics and nature. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU & H | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| IND | 317 | 20th-Century Design II | European and American design from 1850 to 2000 with thematic emphases on communication, education, material culture, politics and society. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU & H | Prerequisite(s): minimum 45 hours |
| IND | 327 | Presentation Graphics | Studies methods for portfolio and professional product presentation using graphic media for information transfer. Stresses aesthetic judgment, organization, and craftsmanship . | N | SEM | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Industrial Design BSD major; Corequisite(s): IND 360 OR Visiting University Student |
| IND | 328 | Graphics for Industrial Design | Investigates and applies applications and planning to the development of an identity for a product line structured as a system. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisites: Industrial Design student; IND 327 with C or better; Co-requisite: IND 361 |
| IND | 344 | Human Factors in Design | Man-machine environment systems; human characteristics and behavior applied to design of products, systems, and their operating environment. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| IND | 354 | Principles of Product Design | Influences of physical and mechanical concepts in product design; mechanisms, kinematics, and fastening systems. Concepts of analysis for product design. Influences of concepts on aesthetics. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Digital Culture (Design) BA, Industrial Design BSD, or Pre-Industrial Design major; PHY 111 with C or better |
| IND | 360 | Industrial Design III | Methods of visual thinking, conceptualization, and ideation related to building skill levels in professional design presentation techniques. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Industrial Design BSD major; IND 261 with C or better; Corequisite(s): IND 327 OR Visiting University Student |
| IND | 361 | Industrial Design IV | Emphasizes developing ideas into a complete functional product, including survey and application of aesthetics, human factors, materials, and manufacturing. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Pre-requisites: Industrial Design student; IND 360 with C or better; Co-requisite: IND 328 |
| IND | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
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| IND | 424 | Packaging Design | Reviews how companies package and brand their products to attract consumers. Students examine the packaging design of their choice of product in the marketplace and create packaging design by considering user experience, sustainability aspect, materials and branding. Final-review format includes a full-scale 3D mockup of the packaging redesign, supplemented with graphical data and drawings. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Graphic Design, Industrial Design, or Interior Design major; minimum 60 hours; Credit is allowed for only IND 424 or IND 494 (Packaging Design) or IND 494 (Product Branding for Package Design) |
| IND | 460 | Design Project I | Complete analysis of the product unit as an element of mass production, featuring marketing, technology, human factors, and visual design. Emphasizes professional standards. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Industrial Design BSD major; minimum 60 hours; Credit is allowed for only IND 460 or IND 494 (Product Branding for Package Design) |
| IND | 461 | Design Project II | Product design, with emphasis in systems interaction. Culmination of design process and technique. Encourages individual project direction. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Industrial Design BSD major; IND 460 with C or better |
| IND | 464 | Collaborative Design Development I | Team-based product development course featuring applied projects. Open to senior students from business, engineering, design, and other disciplines. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ENT 464 (or MGT 464) or GRA 464 or IND 464 or SOS 474 OR Visiting University Student |
| IND | 465 | Collaborative Design Development II | Team-based product development course featuring applied projects. Open to senior students from business, engineering, design, and other disciplines. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ENT 465 (MGT 465) or GRA 465 or IND 465 or SOS 475 OR Visiting University Student |
| IND | 470 | Professional Practice for Industrial Design | Business procedures, management techniques, accounting systems, ethics, and legal responsibilities of the design professions. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | L | Prerequisite(s): Design Studies minor student; ENG 101, 105, or 107 with C or better OR Industrial Design BSD major; ENG 101, 105, or 107 with C or better; Corequisite(s): IND 460 OR Visiting University Student |
| IND | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): Industrial Design BSD major; IND 361 with C or better |
| IND | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | | Prerequisite(s): Barrett Honors student |
| IND | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| IND | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| IND | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-3 | | |
| IND | 504 | Contemporary Issues in Industrial Design | Survey of contemporary design issues in industrial design as defined by the faculty and students. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): Master of Industrial Design student; Corequisite(s): IND 521; Credit is allowed for only IND 504 or IND 598 (Industrial Design Seminar: Contemporary Issues) |
| IND | 510 | Foundation Industrial Design Studio | Fundamentals of industrial design, methodology, visualization and representation. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 6 | | Prerequisite(s): Master of Industrial Design student; Credit is allowed for only IND 510 or IND 590 (Foundation Industrial Design Studio) |
| IND | 511 | Core Industrial Design Studio I | Emphasizes developing ideas into a complete functional product, including survey and application of aesthetics, human factors, materials and manufacturing. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 6 | | Prerequisite(s): Master of Industrial Design student; IND 510 with C or better; Credit is allowed for only IND 511 or IND 590 (Core Industrial Design Studio I) |
| IND | 512 | Core Industrial Design Studio II | Industrial design projects with an emphasis on research and visualization techniques. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 6 | | Prerequisite(s): Master of Industrial Design student; IND 511 with C or better; Credit is allowed for only IND 512 or IND 590 (Core Industrial Design Studio II) |
| IND | 516 | The Culture of Objects | Examines the meanings of objects from the perspectives of design, material culture, philosophy and cultural studies. Covers such concepts as form language, planned obsolescence, object fetishism, product semantics, consumer value, production labor and user needs. Explains these ideas theoretically but also with case studies of historical and contemporary objects. Looks behind the scenes and beneath the surface at some of our most familiar and iconic objects. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Master of Industrial Design or Master of Science in Design (Industrial Design or Interior Design or Visual Communication Design) student; Credit is allowed for only IND 516 or DSC 598 (The Culture of Objects) |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|---|-------------------|-------|-----------------|---|
| IND | 521 | Advanced Industrial Design Studio I | Design language, motivation and inspiration, form exploration sketching, rough form study mock-ups, form development, and presentation. Product redesign. Students create new design language proposals for an existing product and redesign the product based on one of these languages. Provides instruction and opportunities to understand product design language and how to redesign existing products with different design guidelines. Results include evidence of concept development (sketches, drawings, models); functional development; human factors and ergonomic considerations; materials and process specifications; sustainability recommendations; and appearance visual materials and models (virtual and physical). Project-based course includes readings, presentations, critical analysis, discussion and the public exhibition and presentation of design work. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Master of Industrial Design major. Credit is allowed for only IND 521 or IND 590 (Advanced Industrial Design Studio I) |
| IND | 522 | Advanced Industrial Design Studio II | New product development with emphasis on design research, problem solving and functional/aesthetic development. Preliminary research about human behavior and health promotion. Based on the research findings, students conduct design research in teams and work on individual design projects. Student project results include evidence of concept development (sketches, drawings, models); functional development; human factors and ergonomic considerations; materials and process specifications; sustainability recommendations; and final appearance visual materials and models (virtual and physical). Project-based course includes readings, presentations, critical analysis, discussion, and the public exhibition and presentation of design work. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): IND 521. Corequisite(s): DSC 501. Credit is allowed for only IND 522 or IND 590 (Advanced Industrial Design Studio II) |
| IND | 532 | Solving Problems with Life Cycle Assessment | Teaches the method known as Life Cycle Assessment (LCA), which quantitatively estimates the environmental health and human health performance of materials, energy sources and processes. This science-based method informs design teams how to reduce or eliminate complex environmental problems caused by the production, use and disposal of physical products and related services. Teaches attributional LCA that conforms to ISO 14040-series LCA guidelines. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Master of Industrial Design student; IND 522 OR Master of Science in Design (Industrial Design) student; Credit is allowed for only IND 532 or IND 598 (Solving Problems with LCA) |
| IND | 544 | Human Factors Systems and Documentation | Advanced topics associated with theory and methods of human factors in design. Individual projects stressing problem organization, evaluation, and documentation. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Herberger Institute of Design and the Arts Graduate student |
| IND | 548 | Design for Sustainable Development | Research on designing systems that are economically viable, ecologically friendly, and socially equitable. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IND | 550 | Furniture Design | Explores furniture design and production methods for industrial design. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Master of Industrial Design student; Credit is allowed for only IND 550 or IND 598 (Furniture Design) |
| IND | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IND | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IND | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IND | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IND | 621 | Advanced Industrial Design Studio III | Structured around the Design School traveling-studio model, this studio challenges students to identify new design concepts that improve society and the natural environment while also delighting users and creating value for business. For approximately one week, students travel to an off-campus location to examine a local condition there for which new design solutions are needed. Students return to ASU and continue working on the project for the semester. Project-based course includes readings, presentations, critical analysis, discussion and the public exhibition and presentation of design work. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): IND 522 |

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| IND | 622 | Advanced Industrial Design Studio IV | Challenges students to create new design concepts that improve society and the natural environment while also delighting users and creating value for business. Requires some independent direction by the student; however, instructor assigns deadlines and expectations for deliverables, and requires cooperation and collaboration among students. Project-based course includes readings, presentations, critical analysis, discussion and the public exhibition and presentation of design work. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): IND 621 |
| IND | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| INT | 111 | Interior Design Issues and Theories | Interiors issues, theories, and philosophies. Emphasizes unique social and cultural factors that shape 20th-century design concepts. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU | |
| INT | 120 | Design Fundamentals I | Development of visual literacy. Introduces drawing and graphic representation as methods of seeing and problem solving. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Architectural Studies, Environmental Design, Interior Design, or Landscape Architecture major; Credit is allowed for only ALA 121 or INT 120 OR Visiting University Student |
| INT | 121 | Introduction to Computer Modeling for Interior Design | Computers in interior design, including software concepts, specific packages, and problem solving, illustration, typography, modeling, and animation. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | CS | |
| INT | 122 | Principles of Design | Applied visual vocabulary: studio experience exploring applications, process and conceptual development of the principles of order and composition. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Environmental Design or Interior Design major; INT 120 with C or better; Corequisite(s): INT 124 |
| INT | 123 | Introduction to Computer-Aided Design and Building Information Modeling | Introduces AutoCAD computer-aided design and Revit building information modeling principles and strategies for designers of the built environment. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| INT | 124 | Design Fundamentals II Lecture | Theory and applications of basic design principles, history and theory of how architecture, interior design and landscape architecture design is impacted by basic design. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): Architectural Studies BSD or Environmental Design BS or Interior Design BSD or Landscape Architecture BSLA major; Corequisite(s): ALA 122 or INT 122; Credit is allowed for only ALA 124 or INT 124 |
| INT | 131 | Design and Human Behavior | Applies conceptual design to issues of programming and space planning, user needs, and behavior. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | SB | |
| INT | 223 | Drafting for Interior Design | Orthographic, paraline, axonometric, and perspective projection; shades and shadows; and basic descriptive geometry for interior designers. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s) with C or better: Interior Design BSD major; INT 111; INT 120; INT 121; INT 122; INT 123; INT 124; INT 131; minimum 3.00 GPA OR Visiting University Student |
| INT | 253 | Interior Materials, Finishes, and Specifications | Survey, evaluation, and specification of materials, finishes, and performance criteria for interiors. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Interior Design BSD major; INT 261 with C or better |
| INT | 261 | Interior Design Studio I | Studio problems in interior design related to behavioral response in personal and small-group spaces. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s) with C or better: Interior Design BSD major; INT 111; INT 120; INT 121; INT 122; INT 123; INT 124; INT 131; minimum 3.00 GPA OR Visiting University Student |
| INT | 262 | Interior Design Studio II | Focuses on environments that entertain or host the public, including but not limited to nightclubs, restaurants, theaters, hotels, city and country clubs, golf facilities, cruise ships and conference facilities. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Interior Design BSD major; INT 261 with C or better OR Visiting University Student |
| INT | 310 | History of Interior Design I | Evolution of interior design as an expression of cultural influences from the ancient periods to 1835. Analysis of interior architecture, planning and lighting of interior spaces, and furniture. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU & H | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| INT | 311 | History of Interior Design II | Evolution of interior design as an expression of cultural influences 1835 to present. Analysis of interior architecture, planning and lighting of interior spaces, and furniture. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU & H | Pre-requisite(s): INT 310 with C or better |
| INT | 341 | Interior Codes: Public Welfare and Safety | Codes and regulations as performance criteria for interior design. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 2 | | Pre-requisite: Interior Design student; Co-Requisites: INT 253; INT 262 |
| INT | 351 | Ambient Environment | Surveys environmental control systems, acoustics, and lighting issues. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Interior Design BSD major; MSE 208, PHS 208, or PHY 101 with C or better; Corequisite(s): INT 352; INT 362 OR Digital Culture (Design) BA major OR Visiting University Student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|---|-------------------|-------|-----------------|--|
| INT | 352 | Construction Methods in Interior Design | Design theory related to analysis, materials, and building techniques of horizontal and vertical construction in interior design. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Interior Design BSD major; Corequisite(s): INT 362 OR Visiting University Student |
| INT | 354 | Construction Documents | Elements of construction drawing sets, application of codes and specifications, and contract administration. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisite: Interior Design student; Co-requisite: INT 363 |
| INT | 362 | Interior Design Studio III | Investigates interior design issues in hospitality and retail environments. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Interior Design BSD major; Corequisite(s): INT 351; INT 352 OR Visiting University Student |
| INT | 363 | Interior Design Studio IV | Explores the poetics of materials and their assemblage in the design of public and private spaces. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Interior Design BSD major; INT 362 with C or better; Corequisite(s): INT 354 |
| INT | 381 | Preinternship Seminar | Preparation of internship materials that produce and enhance a successful internship experience. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite: INT 262 |
| INT | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| INT | 412 | History of Decorative Arts in Interiors | Design of decorative arts as an expression of cultural influences and as an extension of interior spaces. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU | Prerequisite(s): INT 311 with C or better. Credit is allowed for only INT 412 or INT 515 |
| INT | 413 | History of Textiles in Interior Design | Cultural and historical expression of textiles as related to interiors. | N | PRA | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): INT 412 with C or better. Credit is allowed for only INT 413 or INT 516 |
| INT | 415 | Latin American Design | The impact of Latin American culture and civilization on design throughout the Americas. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only INT 415 or INT 494 (Design and Culture in Latin America) OR Visiting University Student |
| INT | 446 | Furniture Design and Production | Design, construction, cost estimating, and installation in interior furniture and millwork. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisite: Graphic Design BSD, Interior Architecture BSD or Industrial Design BSD student |
| INT | 464 | Interior Design Studio V | Studio problems in interior design-related issues in work environments. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Interior Design BSD major; INT 363 with C or better; Corequisite(s): INT 471 OR Visiting University Student |
| INT | 465 | Interior Design Studio VI | Advanced interior design problem solving related to institutional facilities. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Interior Design BSD major; INT 464 with C or better; Corequisite(s): INT 472 OR Visiting University Student |
| INT | 471 | Facilities Management | Facility management process in large-scale organizations. Planning, long-range forecasting, and productivity. Project management methodologies using micro-based software programs. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| INT | 472 | Professional Practice for Interior Design | Business procedures, project control, fee structures, and professional product liabilities. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 2 | | Pre-requisites: Interior Design student; Co-requisite: INT 465 |
| INT | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): Interior Design BSD major; INT 363 with C or better |
| INT | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | | Prerequisite(s): Barrett Honors student |
| INT | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| INT | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| INT | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-3 | | |
| INT | 510 | Foundation Interior Architecture Studio | Fundamentals of interior architectural design, methodology, visualization and representation. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 6 | | Prerequisite(s): Interior Architecture MIA student; Credit is allowed for only INT 510 or INT 590 (Foundation Interior Architecture Studio) |
| INT | 511 | Core Interior Architecture Studio I | Applies design fundamentals in interior architectural problems, including construction, materiality, technology, programmatic and environmental determinants. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 6 | | Prerequisite(s): Interior Architecture MIA student; INT 510 with C or better; Credit is allowed for only INT 511 or INT 590 (Core Interior Architecture Studio I) |
| INT | 512 | Core Interior Architecture Studio II | Applies interior architectural design fundamentals to increasingly complex problems, including specific sites and activities. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 6 | | Prerequisite(s): Interior Architecture MIA student; INT 511 with C or better; Credit is allowed for only INT 512 or INT 590 (Core Interior Architecture Studio II) |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|---|-------------------|-------|-----------------|--|
| INT | 514 | Interior Architecture Issues | Explores the evolving nature of interior architecture by looking at the unique environmental, cultural and social factors that contributed to shape this new and expanding discipline of design. Emphasizes ideas and significant case studies from the period between the 1950s until the present. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only INT 494 (Seminar: Interior Architecture Issues) or INT 514 |
| INT | 519 | Designing with Materials | A comprehensive overview of technical specifications, materiality and interior construction; emphasizes the selection and specification of interior building materials. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Interior Architecture MIA student; Corequisite(s): INT 521; Credit is allowed for only INT 519 or INT 598 (Contemporary Issues in Interior Arch Seminar) |
| INT | 520 | Professional Practice for Interior Architecture | Business procedures, project control, fee structures and professional product liabilities. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 2 | | Prerequisite(s): INT 521; Credit is allowed for only INT 520 or INT 598 (Professional Practice for Interior Design) |
| INT | 521 | Advanced Interior Architecture Studio I | Studio problems in interior architecture related to the integration of building structure and systems with the behavioral response to personal spaces. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Master of Interior Architecture major. Credit is allowed for only INT 521 or INT 590 (Advanced Interior Architecture Studio I) |
| INT | 522 | Advanced Interior Architecture Studio II | Investigates interior architecture issues, including construction, technology, programmatic and environmental determinants. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): INT 521; Corequisite(s): INT 527; Credit is allowed for only INT 522 or INT 590 (Advanced Interior Architecture Studio II) |
| INT | 527 | Contemporary Design Theory | Aesthetic, political, economic, and social theories that have shaped modern design; theory as the basis for design philosophies. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Herberger Institute of Design and the Arts Graduate student |
| INT | 529 | Design Criticism | Applies critical methods to design as material culture and human expression; evaluates achievement versus intention. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Herberger Institute of Design and the Arts Graduate student |
| INT | 541 | Codes and Building Regulations | Codes and regulations as performance criteria for interior design. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): INT 521; Credit is allowed for only INT 541 or INT 598 (Codes and Building Regulations) |
| INT | 547 | Sustainability in Interior Architecture | Attention to the concept of green buildings and a sustainable built environment has been rapidly growing due to environmental issues such as energy consumption, gas emission and exhaustion of natural resources. All these issues drive architects, designers and engineers to reassess conventional architectural design and construction processes. This course explores topics in sustainable design related to interior architecture, while exploring the concept of sustainability and its role in the interior design process. Presents techniques and skills for designing the built environment, including a focus on renewable energy and design solutions that promote building occupants' health, comfort, safety and well being. Also discusses building design rating systems such as LEED and WELL Building Standards. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only INT 547 or INT 598 (Sustainability in Interior Architecture) |
| INT | 550 | Environmental Systems of Interior Architecture | Surveys building environmental control systems, acoustics, materiality and lighting properties. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Herberger Institute for Design and the Arts graduate student; Credit is allowed for only INT 550 or INT 598 (Environmental Systems for Interior Architecture) |
| INT | 554 | Construction Documents for Interior Architecture | Elements of construction drawings sets, application of codes and specifications, and contract administration. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): INT 521; Credit is allowed for only INT 554 or INT 598 (Construction Documents in Interior Architecture) |
| INT | 558 | Lighting Design | Fundamentals of lighting, which includes daylighting and artificial lighting; understanding of lighting as a design element: lighting concepts, design strategies, techniques, documentation, case studies and analysis tools. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Herberger Institute of Design and the Arts graduate student |
| INT | 581 | Preinternship Seminar for Interior Architecture | Preparation of internship materials, which produce and enhance a successful internship experience. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): Master of Interior Architecture student; Corequisite(s): INT 521; Credit is allowed for only INT 581 or INT 598 (Preinternship Seminar for Master of Interior Arch) |
| INT | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): INT 522 with C or better |
| INT | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| INT | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|--|----------------------|----------------------|--------------------|------------------|---|--|--------|--------------------|---|
| INT | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| INT | 602 | Quantitative Research Methods for Interior Architecture | Seminar course in research, with a particular emphasis on quantitative and empirical methods. Students develop an appreciation for and understanding of different conceptual frameworks of design, environment and the arts knowledge; develop a knowledge of a broad range of alternative approaches to interdisciplinary research with emphasis on quantitative methods; become aware of different research methods, tools and approaches; craft a research question and transform it to a plan of research; understand the components of the research process and research proposal; develop improved skill in scholarly writing; become aware of ethical and other critical issues related to research; critically assess the strengths and weaknesses of various research studies and techniques; analyze data using several statistical methods, using statistics software. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Herberger Institute for Design and the Arts graduate student |
| INT | 621 | Advanced Interior Architecture Studio III | Structured around the Design School traveling-studio model, based on design problems emphasizing the global context of interior architecture as it influences interior space and architectural form. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): INT 522 |
| INT | 622 | Advanced Interior Architecture Studio IV | Individual, student-initiated capstone project reflecting a culminating synthesis of interior architecture ideas. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): INT 621 |
| INT | 650 | Diversity and Design | Seminar-based investigation of how different aspects of embodied identities impact how spaces are designed and how people experience spaces. Explores the history of identity politics in relation to the design professions, as well as critiques of design approaches based on a universal body. Students learn about the relationship between design and, among other aspects, gender, race, ethnicity, culture, disability, age, class, gender identity, or sexual orientation. Expects students to recognize and understand what biases impact their work as designers. Critically investigates methods to assess these biases and their impact on users, as well as solutions to avoid or mitigate them. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only INT 598 (Diversity and Design) or INT 598 (Identities and Design) or INT 650 |
| INT | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IPI | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 0.25-4 | | |
| IPI | 196 | Fundamentals of Inquiry | Introduces the fundamentals of using inquiry methods for knowledge creation and extension in the fields of science and technology. Students work together to reach understanding on a large goal question associated with human society and space exploration. As a class, uses a weekly inquiry cycle to step toward the goal: read some content, ask a 'Natural Next Question' (NNQ) that takes us one step further toward the goal, seek content to help answer that question, report on what was learned, and after a few times, summarize the new knowledge with a distillation exercise, and then repeat this inquiry cycle. Strongly focuses on teaching students how to guide their learning by asking productive questions to drive their research, how to find content to answer their questions, how to approach challenging primary content, how to work well in teams, and how to distill and share their learning. | N | LEL | N | GNA | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 3 | | Prerequisite(s): Technological Leadership BS major OR Visiting University Student |

| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| IPI | 241 | Designing and Making (Electronics and Programming) | Humanity's future as an interplanetary species is only made possible through the continued development of new technologies able to provide solutions to difficult problems. Facilitates students developing proficiency in both "making" and "designing." While not an engineering course, seeks to support students in gaining basic technical "makerspace" abilities. More important than the hard skills, students grow in their capacity for technical design thinking--the process by which modern technologies are imagined and developed. Hands-on and project-based. Students learn tools and processes for solving global and interplanetary problems, with special consideration given to the ways that technologies impact society. Students gain basic proficiency in the mechanical, electrical, computer programming and design aspects of technology development in makerspaces, through supervised research and design of creative projects that relate to aerospace engineering, space exploration, and/or an inclusive, interplanetary future. As a part of this course, students gain basic knowledge of CAD modeling and 3D printing, circuits and soldering, Arduino programming, tinkering and debugging methods, creative problem solving, team-based project management, the relationship between technology and society, and basic technological design methods. | N | LEL | N | GNA | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 3 | | Credit is allowed for only IPI 241 or IPI 294 (Designing and Making for an Interplanetary Future) |
| IPI | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 1-4 | | |
| IPI | 296 | Inquiry | To be most effective in work and life, we need to learn how to recognize and solve problems, and to work in teams. Students work together to reach understanding on a large goal associated with human society and space exploration. An example from a previous class is, "What will the Moon be like after human settlement?" As a class, uses a weekly inquiry cycle to step toward the goal: read some content, ask a "natural next question" that takes us one step further toward the goal, seek content to help answer that question, and repeat. Students learn how to understand a complex problem through multiple steps, to approach challenging primary content, to productively critique each other's work, and to think critically. Students meet for 2 hours per week but work extensively outside of class. | Y | LEL | Y | GNA | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| IPI | 341 | Designing and Making (3D Printing and Fabrication) | Humanity's future as an interplanetary species will only be made possible through the continued development of new technologies able to provide solutions to difficult problems. Seeks to facilitate students developing proficiency in both "making" and "designing." While not an engineering course, seeks to support students in gaining basic technical "makerspace" abilities. But more important than the hard skills, students grow in their capacity for technical design thinking--the process by which modern technologies are imagined and developed. Both hands on and project based, students learn tools and processes for solving global and interplanetary problems, with special consideration given to the ways that technologies impact society. Students gain basic proficiency in the mechanical and design aspects of technology development in makerspaces, through supervised research and design of creative projects that relate to aerospace engineering, space exploration and/or an inclusive, interplanetary future. Students gain basic knowledge of CAD modeling, 3D printing, machine design, tinkering and debugging methods, creative problem solving, team-based project management, the relationship between technology and society, and basic technological design methods. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 3 | | Prerequisite(s): Technological Leadership BS major or Technological Leadership minor or BIS Technological Leadership emphasis or IPI 241 with C or better or minimum 45 hours OR Visiting University Student |
| IPI | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 1-4 | | |
| IPI | 400 | Fundamentals of Career Success | Guides Technological Leadership majors through the internship experience, helping them to identify internship goals, conduct an internship search, develop and refine application materials (e.g., resumes, cover letters, LinkedIn profiles) and present themselves professionally throughout the entire search process. Students also develop an understanding and appreciation for the internship experience and how it connects to their career development and goals. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 2 | | Pre- or corequisite(s): HUL 250 or IPI 296 with C or better if completed; Credit is allowed for only IPI 400 or IPI 494 (Foundations of Career Success) OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| IPI | 402 | Technological Leadership Career Exploration | Career-focused facilitation in preparation for students' post-graduation plans, including job search or graduate school acceptance. Focuses on career relationship-building techniques, job-readiness skills and the development of a professional portfolio. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 1 | | Prerequisite(s): IPI 484 with Y grade OR Visiting University Student |
| IPI | 441 | Designing and Making: Advanced Projects | Humanity's future as an interplanetary species is only made possible through the continued development of new technologies able to provide solutions to difficult problems. Facilitates students developing proficiency in both "making" and "designing." Builds on both the basic technical "makerspace" abilities and also the technical design thinking aptitudes from prior coursework. Hands-on and project-based; however, expects students to pursue mastery of advanced topics and skills from the course module map. In addition, expects students to take on a leadership role within their group project. Students gain advanced proficiency in the mechanical, electrical, computer programming and design aspects of technology development through course modules, but students are pushed to pursue self-directed research on topics that apply to creative projects that relate to aerospace engineering, space exploration and/or an inclusive, interplanetary future. | N | LEL | Y | GNA | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 3 | | Prerequisite(s): IPI 241 with C or better; IPI 341 with C or better OR Visiting University Student |
| IPI | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 1-12 | | |
| IPI | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| IPI | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| IPI | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 1-4 | | |
| IPI | 496 | Advanced Inquiry | To be most effective in work and life, we need to learn how to recognize and solve problems, and to work in teams. Students work together to reach understanding on a large goal associated with human society and space exploration. An example from a previous class is, "What will the Moon be like after human settlement?" As a class, uses a weekly inquiry cycle to step toward our goal: read some content, ask a "natural next question" that takes us one step further toward the goal, seek content to help answer that question, and repeat. Each student runs an independent research project using the techniques taught throughout the course. The research project requires some knowledge creation--that is, development of ideas, supported hypotheses, observations and the like, that add to the mass of human knowledge rather than just restating it. | N | LEC | Y | GNA | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 3 | | Prerequisite(s): HUL 250 with C or better; IPI 196 with C or better OR IPI 296 with C or better OR Visiting University Student |
| IPI | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 1-7 | | |
| IPI | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 1-3 | | |
| IPI | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 110 | Dimensions of Social Science | Introductory survey of the disciplinary components of social science, including sociology, political science, economics. Module includes sociology, economics, political science, philosophy. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Credit is allowed for only ISS 110 or ISS 302 |
| ISS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| ISS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| ISS | 301 | Integrated Social Science Research Methods | Overview of the methods of social science inquiry with a view to transcending disciplinary boundaries. Topics include data collection and data management techniques. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum 45 hours |
| ISS | 302 | Scope of Social Science | Surveys the disciplinary components of social science including sociology, political science, economics. Module includes sociology, economics, political science, philosophy. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only ISS 110 or ISS 302 OR Visiting University Student |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| ISS | 304 | Integrated Theories of Social Science | Broad survey of the major foundational theories in the disciplines of social science, including sociological theory, economic theory, political theory, anthropological theory and philosophy. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum 45 hours |
| ISS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | Prerequisite(s): minimum 45 hours |
| ISS | 401 | Statistics for Integrated Social Science | Statistical techniques for the social sciences, including the role and rationale of statistics, descriptive measures, associational measures and inferential statistics. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | CS | Prerequisite(s): MAT 142 or higher OR Visiting University Student |
| ISS | 410 | Integrative Leadership Studies | Explores the concept and practice of leadership by examining general leadership theories and personal leadership skills with a view to transcending disciplinary boundaries. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum 45 hours |
| ISS | 415 | Knowledge Management | Overview of concepts in knowledge management, types of knowledge, processes of knowledge generation, codification and transfer. Role of technology and networks in knowledge management and effective leveraging of organizational intellectual capital. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum 45 hours |
| ISS | 428 | Religion and Global Violence | Examines the tensions and interplay of religious and secular accounts for violence globally; considers theoretical frameworks from the social sciences for understanding such violence. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB & G | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ISS | 437 | Integrative Ethics in Social Science | Investigates ethical issues across professional disciplines in the social sciences with a view to integrating the literature and innovations. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ISS 437 or ISS 512 OR Visiting University Student |
| ISS | 441 | Conflict and Conflict Resolution | Overview of peace theories and peace movements; peace and peacebuilding; the nature and sources of global conflicts; critical security studies (covering human, food and environmental security); mechanisms for peaceful resolution of conflicts; culture of peace; and the relationship between underdevelopment and conflicts, particularly in politically fragile societies. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB & G | Prerequisite(s): minimum 45 hours |
| ISS | 450 | Consumerism and Sustainable Development | Analyzes the impact of the quest for more and better consumer goods as it affects sustainable development and global ecology. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ISS | 456 | Culture, Conflict and War | Explores the complex relationship between culture and conflict through an analysis of past and present conflicts and the role of culture in those conflicts. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | (L or SB) & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| ISS | 482 | Globalization and International Political Economy | Surveys the political, economic and social forces that influence international political and economic relationships. Topics include international economic, technological and cultural competition; international trade and multicultural corporations; and economic relations between more developed and less developed countries. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ISS 482 or ISS 522 |
| ISS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | PRA | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): minimum 87 hours |
| ISS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | | Prerequisite(s): Barrett Honors student |
| ISS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | | Prerequisite(s): Barrett Honors student |
| ISS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ISS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | N | PRA | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-7 | | Prerequisite(s): minimum 87 hours |
| ISS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | N | SEM | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-3 | | Prerequisite(s): minimum 45 hours |
| ISS | 501 | Advanced Integrated Social Research Methods | Advanced review of methods of social science inquiry with a view to transcending disciplinary boundaries. Topics include the scientific method, theory building and hypotheses, measurement and scaling, reliability and validity, and the structure and development of research designs and applications. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 502 | Advanced Seminar in Integrated Social Science | Integrative survey of the disciplinary components of social science as disparate ways of making sense of human experience, including sociology, political science, philosophy and economics. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 504 | Advanced Integrated Theories of Social Science | Cross-disciplinary examination of major social science theories, such as: rational choice, environmentalism, institutionalism, functionalism, sociobiology, world systems approach, Marxism and democratic theory. Emphasizes bridging disciplinary boundaries. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| ISS | 505 | Multivariate Methodologies of Social Science | Applies advanced statistics and statistical modeling in decision making in social research, with emphasis on regression modeling techniques. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 506 | Community Governance, Leadership and Civic Engagement | Explores theory and research on community governance with an emphasis on analyzing leadership in promoting civic engagement. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 508 | Knowledge, Innovation and Social Change | Surveys the sources of knowledge and knowledge generation, facilitating factors for innovations especially in the development of technologies that drive significant, universal and enduring social change. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 510 | Religion, Secularism and Social Dynamics | Analyzes the role of religion and secularism in the modern social sphere, and the social processes that govern religious belief and behavior. Emphasizes reading current research, applying relevant social theories, and deriving scientifically valid explanations for observations about religion. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 512 | Integrative Ethics in Social Science | Investigates ethical issues across professional disciplines in the social sciences through an overview of recent innovations, discoveries and developments. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ISS 437 or ISS 512 |
| ISS | 514 | Cultural Diversity and Gender Understanding | Reviews the epistemological, theoretical and legal premises on the concept of social justice and the cultural, racial, ethnic, gender and other bases for the agitation for social justice, including strategies in pursuit of social justice. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 516 | Conflict Resolution, Peace Studies and Social Movements | Evaluates the intersection of peace, conflict and social movements through a survey of social movements that promote war or peace throughout the contemporary world. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 518 | Science, Technology and Social Systems | Issues, definitions and literature involved in the study of science, technology and the evolution of social systems, emphasizing contemporary issues confronting modern societies and potential solutions to resolving these issues. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 522 | Globalization and International Political Economy | Advanced treatment of the political, economic and social forces that influence international political and economic relationships. Topics include international economic, technological and cultural competition; international trade and multicultural corporations; and economic relations between more developed and less developed countries. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ISS 482 or ISS 522 |
| ISS | 562 | Politics of Development and Underdevelopment | Examines the various perspectives and premises associated with efforts to promote economic and political change in different parts of the world, particularly in poor countries. Topics include population growth; migration and management; food production; shelter; education; industrialization; comparative advantage; foreign aid; and corruption. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | N | PRA | N | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | N | RSC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | N | RSC | N | Z2 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | N | PRA | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | N | SEM | N | Z3 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand). | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | N | RSC | Y | Z2 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ITA | 101 | Elementary Italian I | Fundamentals of the language. Emphasizes listening, speaking, reading, writing, and cultural proficiency. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | |
| ITA | 102 | Elementary Italian II | Fundamentals of the language. Emphasizes listening, speaking, reading, writing, and cultural proficiency. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| ITA | 110 | Intensive Italian I | Proficiency-oriented language course designed to achieve the maximum level of proficiency in an intensive and dynamic communicative environment. Class time is spent on a variety of fast-paced communicative activities focused especially on the development of speaking skills. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 6 | G | Credit is allowed for only ITA 101 or ITA 102 or ITA 110 or ITA 111 |
| ITA | 112 | Italian for Romance Language Speakers | 15-week hybrid course: 3 hours class meetings, 1 hour student self-study. Designed for students with an active competence in Spanish or another Romance language such as French, Portuguese and/or Romanian, who wish to learn the essential elements of the Italian grammar at an accelerated pace, as well as acquire listening, speaking, reading and writing skills. Based upon the theory of "intercomprehension" which implies the speaker's ability to understand the speech of another speaker who communicates in a dialect of the same language or a related language. Due to the linguistic similarities between Spanish, other Romance languages and Italian, students master the four language skills of listening, speaking, reading and writing of in Italian at a faster pace. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | Credit is allowed for only ITA 112 or ITA 194 (Italian for Spanish Speakers) or ITA 194 (Italian for Romance Language Speakers) |
| ITA | 114 | Gateway to Italy | Designed for students who have no previous knowledge of Italian, but wish to attend a study abroad program in Italy or acquire novice proficiency in the Italian language along with basic notions of Italian geography, society and culture. Develops basic vocabulary that enable students to engage in simple, everyday conversations in order to enhance and support their Italian experience, minimize stress and reduce the culture shock. Offers an insight into a wide array of cultural norms and practices of Italy, which are essential for an initial contact with the country and serves as a stepping stone for further study. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Credit is allowed only for ITA 114 or ITA 194 (Gateway to Italy) |
| ITA | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| ITA | 201 | Intermediate Italian I | Emphasizes reading, writing, listening, and speaking proficiency at an intermediate level. Focuses on both spoken and written genres of Italian culture. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): ITA 102 or 110 with C or better; Students may not enroll in ITA 201 if credit with C or better earned in ITA 210 OR Visiting University Student |
| ITA | 202 | Intermediate Italian II | Emphasizes reading, writing, listening, and speaking proficiency at an intermediate level. Focuses on values of Italian culture. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): ITA 201 with C or better; Students may not enroll in ITA 202 if credit with C or better earned in ITA 210 OR Visiting University Student |
| ITA | 210 | Intensive Italian II | Proficiency-oriented language course designed to achieve the maximum level of proficiency in an intensive and dynamic communicative environment. Class time is spent on a variety of fast-paced communicative activities focused especially on the development of speaking skills. Class meets four times a week. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 6-8 | G | Prerequisite(s): ITA 102 with B or better or ITA 110 with C or better; Credit is allowed for only ITA 201 or ITA 202 or ITA 210 |
| ITA | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| ITA | 311 | Speak Italy: Language, People, Culture | Develops oral/aural proficiency through the study of diverse voices from Italian culture and the analysis of spoken multimedia genres and cultural products. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): ITA 202 or 210 with C or better OR Visiting University Student |
| ITA | 312 | Write Italy: Language, People, Culture | Develops reading/writing proficiency through the study of various texts in Italian and the analysis of written multimedia genres and cultural products. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; ITA 202 or 210 with C or better OR Visiting University Student |
| ITA | 315 | Italian Culture: The Good, The Bad and The Ugly | Studies the rich diversity and complexity of Italian culture through analysis of different media, discussion and writing in Italian. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; ITA 202 or 210 with C or better OR Visiting University Student |
| ITA | 319 | Italian for Professions | Conversation and composition course in which students gain the linguistic skills necessary to work in Italy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ITA 202 or 210 with C or better OR Visiting University Student |
| ITA | 321 | Italian Renaissance Culture: Politicians, Merchants, Artists and Courtesans | Studies the new voices of Renaissance culture through analysis of different media, discussion and writing in Italian. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | H | Prerequisite(s): ITA 202 or 210 with C or better OR Visiting University Student |
| ITA | 322 | Modern Italian Culture: Explorers, Scientists, Musicians and Revolutionaries | Studies the contributions of Italian thinkers to the development of modern western culture through analysis of different media, discussion and writing in Italian. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ITA 202 or 210 with C or better OR Visiting University Student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| ITA | 350 | Food and Culture: The Mediterranean Lifestyle in Italy | Analyzes the Mediterranean lifestyle (food and eating practices) in Italy from a historical/cultural, scientific and sociological perspective. Students first examine the history and regional cultures of the Mediterranean diet in Italy as they analyze its rich biological diversity and history of cultural exchange. Students then gain an understanding of the critical nutrients of the Mediterranean diet and of the scientific evidence for its health benefits, especially how it can help prevent chronic diseases like obesity and type 2 diabetes, which affect more than half of all adults in the U.S. In addition, students keep a food log for one week, which they then analyze in terms of the critical nutrients of the Mediterranean diet. Finally, Italian food cannot be studied without preparing it! As UNESCO points out, the sharing of food is an important part of the Mediterranean lifestyle. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit allowed for only ITA 350 or ITA 394 (Food & Culture: Mediterranean Lifestyle in Italy) or SLC 350 or SLC 394 (Food & Culture: Mediterranean Lifestyle in Italy) OR Visiting University Student |
| ITA | 380 | Natural Disasters: Environmental and Cultural Resilience in Italy | The Italian peninsula is home to some of the most diverse physical and geological landscapes on earth. Over time, natural disasters such as earthquakes, volcanic eruptions and landslides have transformed Italian culture, creating a distinct, reciprocal and enduring relationship between nature and Italian society. Studies pivotal natural disasters that have occurred throughout Italian history, including the Mt. Vesuvius, Pompeii and Etna volcanic eruptions; the Messina, Belice Valley, Campania, Friuli and L'Aquila earthquakes; and the Vajont landslide. Identifies and measures the physical and geological features of Italy that make it susceptible to natural disasters. Incorporates a variety of sources designed to give students both a theoretical and practical understanding of Italian culture and natural disasters. Uses class discussions, collaborative projects, creative writing, academic texts, personal narratives, films, videos, guest lectures and current articles. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ITA 380 or SLC 380 or HON/ITA/SLC 394 (Natural Disasters: Environmental & Cultural Resilience) OR Visiting University Student |
| ITA | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| ITA | 413 | Advanced Italian | Development and assessment of advanced spoken and written Italian proficiency through activities using all four skills. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): ITA 311 or 312 with C or better OR Visiting University Student |
| ITA | 414 | French and Italian Popular Culture | Popular culture no longer holds the ancillary role traditionally reserved for whatever does not carry the definition of high culture. That popular culture is instead able to provide us with very relevant insights on the identity of a nation and a people is now widely accepted. As a consequence, this class aims at examining popular culture-related artifacts in Italy and France in order to shed a light on crucial issues such as the culture of food and its historical and social significance; the meaning of fashion and design within an urban context, with a special attention to gender roles; the importance of the comics, given in particular the exceptional success the bande dessinée genre is currently enjoying in France throughout the whole age range of the population; the show business with a particular attention to music; and the social function and role of sport with respect to the two dominant sports in both countries (soccer and cycling). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better OR minimum 45 hours; Credit is allowed for only FRE 414 or ITA 414 or SLC 414 OR Visiting University Student |
| ITA | 420 | Italian Cinema | Major trends of Italian cinema from the post-war period to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L & G | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| ITA | 423 | Italian Organized Crime in Films and History | Through an analysis of historical, anthropological, literary, political and cinematic texts, explores representations of the Italian organized crime in Italian and American films from the early 20th century to today. Discovers different "Mafias" originating in Italy, but whose reach extends much further, such as the Cosa Nostra in Sicily, the Camorra in Naples, and the 'Ndrangheta in Calabria. Examines the fiction, stereotypes, myths and legends surrounding the mafia through a scrupulous analysis of some of the most important American and Italian films portraying mafia culture. Italians have used the medium of film to address the issue of the mafia, raising awareness about the harsh reality of life in the mafia and the ways in which it reaches into every aspect of Italian politics and society. Explores how Italian mafia films subvert international fascination with the mafioso by disrupting the glamorized myths that are mainly perpetuated by American popular cinema. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better or min 45 hours; Credit for only FMS 423 or ITA 423 or SLC 423 or ITA 494/SLC 494 (Italian Organized Crime in Films & History) or FMS 494/ITA 494/SLC 494 (Mafia & Film) OR Visiting University Student |
| ITA | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|---|--|-------|-----------------|---|
| ITA | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| ITA | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ITA | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| ITA | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| ITA | 550 | Italian for Reading Knowledge | Teaches non-speakers of foreign language, or those with only basic notions of the language, how to read in a foreign language at an advanced level. Consists of a concise overview of grammar as well as reading comprehension practice for students who plan to take the Graduate Foreign Language Exam or others who would merely like to learn to read in a foreign language. Focuses only on reading and not on listening, speaking or writing as in a traditional language course. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ITA 494 (Italian for Reading Knowledge) or ITA 550 |
| ITA | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ITA | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IVD | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| IVD | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| IVD | 525 | Fundamentals of Entrepreneurial Leadership | "Experiential" course for students to practice "being" a leader at the personal, interpersonal and community levels. While typical leadership classes leave one knowing about leaders and leadership, this class leaves students being leaders as part of their natural self-expression. The program follows an ontological pedagogy, rather than epistemological one. Ontology is the study of the nature and function of being "as lived" in real time. Epistemology by contrast deals with the varieties, grounds, and validity of knowledge. Leadership skills include mastery of communication at each of the three levels, from personal relationships to large-scale messaging for media and branding; and looking beyond the personal and interpersonal sociological level of analysis to incorporate principles of social and environmental justice into their relationships and the enterprises they lead. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Innovation and Venture Development MS student; Corequisite(s): IVD 560 |
| IVD | 560 | Innovation Studio I: Discovery and Insight | A prerequisite for successful innovation and venture development is a deep understanding of the multidimensional context in which the innovation will be situated, and in which the venture will compete, whether a commercial enterprise or nonprofit. This course gives students the design, business and engineering research and evaluation tools and experience to investigate and immerse themselves in industry or sector customer needs, the competitive landscape and cultural context, as well as ways to predict and mitigate the unintended consequences of their innovation on society and the environment. Teaches students where to begin, how to inquire, how to evaluate information they uncover, and how to use critical thinking and analysis to develop the insights that become the foundation of their venture-development journey. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Innovation and Venture Development MS student |
| IVD | 561 | Innovation Studio II: Problem Reframing | Problem reframing is essential to the innovation process, and to properly diagnosing problems so they can be investigated from multiple perspectives. It entails pushing past conventional assumptions about barriers to success, to find root causes--sometimes different problems altogether--that inspire novel, diverse approaches. Problem reframing is a powerful tool that increases the options and resources available in addressing any challenge. Students learn the difference between root causes and symptoms, understand the systems affected by and affecting their challenge, and learn to see and act on problems as opportunities for breakthrough solutions. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Innovation and Venture Development MS student; IVD 560; Corequisite(s): IVD 525 |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| IVD | 562 | Innovation Studio III: Explore, Fail, Solve | In this iterative, creative "make-to-learn" phase of venture development, students explore prototyping and testing with audiences or end-users to develop feedback loops for real-time evaluation of their ideas, then synthesize learning from both successes and failures to progress toward a solution. Key components include mastery of ideation and creative development, framing strategic questions and success indicators for prototyping of services or products, evaluation of feedback and iteration of progressively more promising ideas, and evaluation of their innovations measured against the success indicators they developed. Students learn and practice prototyping service interactions as well as product innovations. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Innovation and Venture Development MS student; IVD 525; IVD 561. |
| IVD | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IVD | 630 | Scaling Entrepreneurial Leadership | The personal skills required to succeed in a small start-up environment are different from those required to run a successful enterprise or nonprofit. Many entrepreneurs do not have access to the learning that prepares them to both launch and successfully scale their venture. Complexities of board management, fostering a creative culture, codifying a communication system that becomes a source of energy and a north star for the organization, inculcating values of social and environmental justice into a culture and translating them into daily behavior are required capacities which cannot be learned in theory, only in practice. Students master the skills to lead an enterprise through the challenges of the 21st century. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Innovation and Venture Development MS student; Corequisite(s): IVD 562 |
| IVD | 660 | Innovation Studio IV: Business Model | Faced with the challenge of business model generation and prototyping, students need to define the starting points of value proposition, supply chain and customer segments. Later in the process, a clear description of the revenue model, customer relationship, key resources, key activities, key partners and cost structure complement the original value proposition design. The refinement of the newly created business model is made through a process of iteration. Students have an overall comprehension of the strategic innovation process made of (a) strategy, (b) execution, (c) tools and (d) metrics before moving to the stages of scaling and growth of the business. In order to develop a viable business model, students need to understand the costs of development, manufacturing and getting their goods or services to customers. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Innovation and Venture Development MS student; IVD 525; IVD 560; IVD 561; IVD 562; Corequisite(s): IVD 630 |
| IVD | 661 | Innovation Studio V: Scale | SCALE is translated as proportional growth of production and profit aiming at a larger market position. Understanding the timing to scale a business model is crucial to its success and scaling can be discussed in terms of market, process and team. Faced with scaling issues of their business models, students need to build their own framework--or tools--in order to make decisions concerning the whens (time) and hows (market, process, tools) of scaling. Topics covered also include, but not limited to, venture funding strategies, budgeting capital needs, developing e-commerce, CRM analytics, supply chain and operations. At the end of this semester, students present a fully developed venture, with clearly articulated market need, viable innovation based on end-user feedback, business model and plan for scale. Where relevant, students register their intellectual property through ASU, using the university's published guidelines and procedures. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 6 | | Prerequisite(s): IVD 525; IVD 560; IVD 561; IVD 562; IVD 630; IVD 660 |
| IVD | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IVD | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JHR | 100 | Introduction to Social Justice and Human Rights | Interdisciplinary introduction to the study of social justice and human rights through examination of materialism, intersectionality and inequality, advocacy and social change, and critical trauma studies and humanitarianism in transnational and global perspective. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| JHR | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-4 | | |
| JHR | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-4 | | |
| JHR | 305 | Theory and Practice of Social Justice and Human Rights | Interdisciplinary survey of theories and practices of social justice and human rights in transnational and global perspective. Explores various theories of social justice and human rights and examines in-depth case studies of social injustice and human rights challenges. Also explores the future of social justice and human rights in light of global climatic and environmental change. Social sciences theories and methods combine with humanistic philosophy to understand the foundations of social justice and human rights. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | Prerequisite(s): minimum 45 hours |
| JHR | 378 | Poverty, Inequality and Social Justice in Latin America | With persistently high levels of poverty and inequality, Latin America is often considered the most unequal region in the world. This course explores the economic, political, social and geographic origins of poverty and inequality in Latin American countries since independence. It also studies efforts to address the problem by governments, non-governmental organizations, the international community, religious groups and activists. Explores these themes in more detail through a case study of one Latin American country and a global intensive experience at the end of the course. By reflecting on the Latin American experience, students gain insights for wealthy countries like the United States where inequality is on the rise. | N | LEC | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only HST 378 or JHR 378 or JUS 378 or LAS 378 OR Visiting University Student |
| JHR | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| JHR | 425 | The Politics of Immigration | Examines immigration and citizenship in the United States, with a focus on changes in policy, politics and incorporation trends. While a primary focus is on contemporary politics and policies, also spends much time on immigration and citizenship's legal history and on how scholars use history to reveal new, important insights for our understanding of debates today. Starts with a discussion of migration to the U.S. today and considers theories about international migration. Then moves to the history of immigration and citizenship policies and politics in the U.S. and continues up to present day political and national debates and initiatives. Contains a particular focus on the history, politics and debates around "undocumented"/"illegal"/unauthorized populations, on related citizenship and membership politics. With the continuing national debates, also spends additional time throughout the semester analyzing current reform politics and prospects, along with the different interests and constituencies battling for reform. Readings and assignments feature some of the different disciplinary approaches used in the study of immigration, drawing primarily from political science, history, sociology and anthropology. Aims to gain a better understanding of the different approaches and implications for using different types of methodologies. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only JHR 425 or JUS 426 OR Visiting University Student |
| JHR | 433 | Race and Sexualities in Social Justice Movements | Investigates queer communities, social control and political resistance. Topics include collective responses to trauma/violence, heteronormativity, and variants of institutionalized racism and sexism. Gives special attention to race and sexuality intersections as well as the politics of coming out, LGBT activism, antiracist movements, the role of allies, and social movement strategies. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prereq(s): ETH 100, HRC 200, or WST 100 w/C or better OR ENG 102, 105, or 108 w/C or better; minimum 36 hours; Credit is allowed for only ETH 433 or JHR 433 or WST 433 or ETH/WST 494 (Race, Sexuality, & Soc Justice Mvmts) OR Visiting University Student |
| JHR | 441 | Latin America and the World Economy | Globalization did not begin in the late twentieth century, but rather global trade has linked Latin America with the rest of the world for over five hundred years. The region has been an active and important participant in the world economy since Columbus's first voyage in 1492. This course explores the social, cultural, economic, and environmental impact of such participation on both Latin America and the rest of the world. It is organized both chronologically and thematically. We will study both colonial and post-colonial trade. The commodities studied include sugar, rubber, bananas, and cocaine. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | L & G & H | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only HST 441 or JHR 441 or LAS 441 OR Visiting University Student |
| JHR | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): minimum 45 hours |

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| JHR | 485 | Social Justice and Human Rights Capstone | Senior-level culminating course helps students consolidate their capstone assignments into an intellectual portfolio of written work. Although writing is a critical skillset for academic success, learning how to write is often treated as a secondary pursuit acquired "on the job." Assignments once submitted to fulfill course requirements are soon forgotten, and the labor spent on them is forever lost. This course offers a rare and invaluable opportunity to revisit the writing students have produced in their studies, thinking in highly focused ways about what ideas interest them and why. Students grapple with conventions of social scientific writing, understand how to formulate rigorous research questions and practice drafting structured arguments around key concepts. Additionally, students revise and refine existing papers, trace intersections between them and integrate them into a body of work. Students critically engage with others' work, offering constructive annotated feedback on others' papers while applying the same insights to their own writing. By the end of the course, students create a portfolio representing their best and most promising work. They are able to thoughtfully articulate the knowledge they have acquired over the years, as well as point toward possible trajectories for future research. This culminating experience not only equips students for graduate school, but enhances their skills for a range of professional fields--including law, journalism, policy-making, social work and beyond--where rigorous thinking and writing are essential. | N | PRO | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Social Justice and Human Rights BA major; JHR 305 with C or better; senior standing |
| JHR | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| JHR | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| JHR | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| JHR | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-3 | | Prerequisite(s): minimum 45 hours |
| JHR | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): Social Justice and Human Rights MA student |
| JHR | 501 | Proseminar in Social Justice and Human Rights | Classical and contemporary theories of social justice and human rights in the context of current local, national, and international issues. Special reference made to the roles of both governmental and nongovernmental organizations in addressing social justice and human rights issues. | N | SEM | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Social Justice and Human Rights MA student |
| JHR | 502 | Foundations of Social Justice and Human Rights | Provides students with foundational knowledge in the theory, method and practice of social justice and human rights. Defines the meaning and scope of both "human rights" and "social justice" and focuses explicitly on the relationship between them. Students learn about the historical, political and legal foundations of international human rights concepts, laws and institutions and how to apply a social justice perspective to understand the differential distribution of access to human rights according to inequalities of nationality, race, class, gender and more. Drawing on major disciplinary perspectives in anthropology, sociology, political science and law, provides the core knowledge and skills that students need to succeed in the program as a whole. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JHR | 503 | Gender Based Violence and Sex Trafficking | Following passage of the Palermo Protocol, the first modern global treaty on trafficking in the year 2000, sex trafficking has received enormous global attention. Focuses on the period following the passage of this treaty to understand both the causes and consequences of sex trafficking around the world. Are there patterns associated with victimization? Do traffickers use similar tactics for recruitment? What are countries doing to prosecute traffickers and protect victims? Students conduct guided research developing their expertise on trafficking in one country of their choosing, applying the tools and theories from class to evaluate their chosen case. Course adopts an interdisciplinary perspective drawing on work from political science, sociology, anthropology, counseling, psychology and law. Often draws on literature from feminist criminology studies to account for a more nuanced perspective. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Social Justice and Human Rights MA student; Credit is allowed for only JHR 503 or JHR 598 (Gender-based Violence and Sex Trafficking) |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| JHR | 504 | International Law and Organizations | <p>Focuses on the fundamentals of international legal order, global governance structures and the influence of several key actors within this field, which include State actors as well as international organizations. Provides students with a good understanding and interesting insights about the nature, sources and scope of international law; types of international regulatory instruments such as treaties, conventions and other agreements, and their influence within the international arena. Students learn about the roles of international adjudicative bodies like the International Court of Justice (ICJ) and other judicial tribunals in managing global affairs. Focuses on international legal order and global institutional structures; also examines key global political and economic governance organizations and their relationship with States. Specifically, examines international inter-governmental organizations (IGOs) like the United Nations (UN), and its specialized agencies including International Monetary Fund (IMF), World Bank, World Health Organization (WHO), World Intellectual Property Organization (WIPO), and the UN Educational, Scientific and Cultural Organization (UNESCO). Also looks at the role of international nongovernmental organizations (INGOs) such as Amnesty International, Greenpeace, International Red Cross and Red Crescent Movement, and The Global Fund to Fight AIDS, Tuberculosis and Malaria (The Global Fund), and assess their importance as active actors in the area of global governance. Focuses on examining sets of carefully selected case illustrations (current and past) from around the world, along with practical learning activities regarding topical issues, helping students gain deeper and functional knowledge about the various topics discussed and issues examined. Cases and instances explored cut across areas like global peace and security, human rights and social justice, environment, public health and economic development.</p> | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Social Justice and Human Rights MA student; Credit is allowed for only JHR 504 or JHR 598 (International Law and Organizations) |
| JHR | 505 | Migration, Asylum and Refugees | <p>Interdisciplinary course that introduces students to social scientific debates on migration and displacement in the contemporary world. Over the past decade, recurring wars and natural disasters have driven millions to flee from their homes. According to the United Nations High Commissioner for Refugees (UNHCR), the global number of displaced people is over 70 million, the highest ever recorded since World War II. Now more than ever, it is important to critically examine the social, political and legal processes by which people are displaced and disenfranchised. Delves into social scientific perspectives on forced migration, drawing on essential concepts and theories in anthropology, political theory and international relations. Students question the taken-for-granted distinctions between refugees and "economic migrants," and investigate the historical contexts and institutional structures shaping global displacement that have brought us to our present moment. What does the figure of the refugee reveal about modern conceptualizations of citizenship and the nation-state? How do we think about the violence and precarity of displacement beyond metaphors of "exception," and is it possible to protect the rights of asylum-seekers in conjunction with those of vulnerable citizens? How is the suffering of distant others rendered legible to Western audiences, and how do the conditions of humanitarian work serve to further amplify inequalities between the givers and receivers of aid? The purpose is not to provide an exhaustive summary of various disciplinary approaches to migration, asylum and refugees, but rather, to develop some keen insights into the foundational forces shaping migrant lives and the power relations underpinning our endeavor to alleviate displacement.</p> | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Social Justice and Human Rights MA student; Credit is allowed for only JHR 505 or JHR 598 (Migration, Asylum, and Refugees) |
| JHR | 506 | Grant Writing for Social Justice and Human Rights | <p>Seminar in grant writing and fund raising for social justice and human rights. Provide an introduction to the grassroots grant writing and fund raising process, with a particular focus on justice-oriented nonprofit and international nongovernmental organizations.</p> | N | SEM | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JHR | 510 | Problem-Based Seminar in Social Justice and Human Rights | <p>Interdisciplinary seminar examines current problems in social justice and human rights from several different theoretical and analytical viewpoints. May be repeated once for credit.</p> | Y | SEM | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Social Justice and Human Rights MA student |

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| JHR | 511 | Community-Embedded Seminar in Social Justice and Human Rights | Interdisciplinary seminar requiring students to be placed in community organizations dealing with the course issue during the semester. Emphasizes developing effective strategies for partnerships with relevant community organizations and evaluating institutional settings, policies, and procedures from the perspective of social justice and human rights. | Y | SEM | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Social Justice and Human Rights MA student |
| JHR | 515 | Power and Inequality in Academia and Activism | Centers the perspective of racialized and gendered minorities in academia and in activism in an effort to achieve racial and gender justice in academia and beyond. Covers research, teaching and mentorship in academia and inclusive solidarity and egalitarian political imaginaries in activism. Students read empirical research that helps them navigate racial, gendered and epistemic oppression in research, teaching and mentorship. Students also read empirical research that helps them navigate intersecting forms of oppression within and outside of social justice movements. They then apply these skills to their own thesis, applied projects or capstone projects in collaboration with their peer writing groups, which also function as peer accountability and mentoring groups. The goal is to challenge hierarchical power dynamics in academia and in activism by developing an alternative model of mentorship and an egalitarian way of relating rooted in mutual respect, trust and solidarity. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Social Justice and Human Rights MA student; Credit is allowed for only JHR 494 (Navigating academia: Racialized & gendered lenses) or JHR 515 or JHR 591 (Navigating academia: Racialized & gendered lenses) |
| JHR | 525 | Critical Methodologies in Social Justice and Human Rights | Advanced practicum in engaged, community-embedded research and interpretive analysis. Gives students experience in the practice of engaged fieldwork as well as the writing it generates. | N | SEM | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Social Justice and Human Rights MA student |
| JHR | 540 | Critical Humanitarianism | Interdisciplinary lecture course introduces students to social scientific debates on humanitarianism, international aid and the ethics of alleviating suffering in the contemporary world. Since its birth in the 19th century, modern humanitarianism has emerged as a powerful actor in world affairs, not only assisting the vulnerable during moments of crisis but shaping politics and governance in its own right. Critically investigates the historical, cultural, institutional and technological contexts of humanitarian action. Rather than taking the morality of "saving lives" as self-evident, this course explores how moral judgements about life are formed, transformed, appropriated and sometimes ignored in the pursuit of humanitarian interests. How does one situate the emergence of humanitarianism in histories of capitalism and abolitionist movements? What definitions of the human are evoked in calls for humanitarian intervention, and how are these definitions sutured by notions of race? Why does the suffering of others evoke humanitarian sympathies and what are the ethical motivations that guide aid workers? How do we hold these ethical callings in tension with various forms of institutional violence perpetrated in humanitarian contexts? How does race shape the construction of both the subjects and objects of humanitarian aid, and what would it mean to decolonize the world of humanitarianism? The purpose is not to provide an exhaustive summary of all the theoretical approaches and empirical issues in humanitarian studies, but to develop some specific insights into what it means to "do good" and how goodness is invariably entangled in contemporary questions of power, politics, violence and history. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASB/JHR/POS/SBS/SOC 494 (Critical Humanitarianism) or JHR 540 or JHR 598 (Critical Humanitarianism) |
| JHR | 549 | Capstone in Social Justice and Human Rights | Culminating experience for students in the MA in Social Justice and Human Rights program. Analyzes and evaluates literature in the field and recommends practices of social justice and human rights through written and/or media projects. Includes practices of social justice and human rights within and across various organizations and local, global or transnational contexts. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Social Justice and Human Rights MA online student |
| JHR | 550 | Global Justice | Examines key issues of global justice including NSA global surveillance, state-sponsored mass atrocities, forced migration and asylum seeking, and the persistence of global poverty through the critical theoretical lens of non-dual / non-binary thinking. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only JHR 494 (Global Justice) or JHR 550 or JHR 598 (Global Justice) or POS 480 or SBS 480 |
| JHR | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JHR | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|--------------------------------------|--|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|--|
| JHR | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JHR | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JHR | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JHR | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JHR | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JHR | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JHR | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1 | | Prerequisite(s): Social Justice and Human Rights MA student |
| JHR | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JHR | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JMC | 101 | Grammar for Journalists | Grammar course specifically designed to help journalism majors master the essentials of grammar. All majors must achieve an 80 percent in the course, indicating a mastery of grammar, before they can move on to any other journalism course. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Prerequisite(s): Journalism and Mass Communication major or Sports Journalism major; Credit is allowed for only JMC 101 or JMC 194 (Grammar for Journalists) or MCO 101 or MCO 194 (Everyday Grammar) OR Visiting University Student |
| JMC | 102 | Coding for Journalists | Provides a basic understanding of how the Internet works, knowledge of how to create and upload Web pages, and a basic introduction to programming with JavaScript. Assumes no previous knowledge of any of the topics, although requires basic knowledge of how to use a Web browser and navigate the Web. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major; Credit is allowed for only JMC 102 or JMC 194 (Coding for Journalists) or MCO 102 or MCO 194 (Fundamentals of Coding) OR Visiting University Student |
| JMC | 110 | Principles and History of Journalism | Fundamental principles of journalism and the evolution of those principles through the history of the U.S. news media. By understanding the history of journalism, students learn about the most critical values of the profession. This is the first of four "values" courses Cronkite students take during the four-year curriculum. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | SB | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major; Credit is allowed for only JMC 110 or MCO 120 OR Visiting University Student |
| JMC | 115 | Diversity and Civility at Cronkite | Emphasizes the importance of diversity, inclusion, equity and civility to ensure all Cronkite students feel represented, valued and supported. Offers training and awareness on cultural sensitivities, civil discourse, bias awareness and diversity initiatives at the Cronkite School and ASU. Empowers students to approach reporting and communication projects with a multicultural perspective and inspire mutual respect among students from various backgrounds and beliefs within different Cronkite professional paths. | N | SEM | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Prerequisite(s): Digital Audiences BS, Journalism and Mass Communication BA, or Sports Journalism BA major; Credit is allowed for only JMC 115 or JMC 194 (Diversity and Civility at Cronkite) OR Visiting University Student |
| JMC | 120 | Studio Production | Introduces the vocabulary of production. Develops familiarity with the studio equipment, its care and operation, and basic production procedures. Covers the ability to function as a member of a production team; sound attitudes toward assignments and constructive criticism; and an appreciation of production as a tool of the communication process. Discusses career opportunities in the diverse marketplace. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Prerequisite(s): Journalism and Mass Communication major; Credit is allowed for only JMC 120 or 194 (Studio Production) OR Visiting University Student |

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| JMC | 121 | Sports Production | Introduces the vocabulary of production. Develops familiarity with the studio equipment, its care and operation, and basic production procedures. Covers the ability to function as a member of a production team; sound attitudes toward assignments and constructive criticism; and an appreciation of production as a tool of the communication process. Discusses career opportunities in the diverse marketplace. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Prerequisite(s): Sports Journalism major; Credit is allowed for only JMC 121 or JMC 194 (Sports Production) OR Visiting University Student |
| JMC | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-4 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major OR Visiting University Student |
| JMC | 201 | News Reporting and Writing | Introductory news writing course required for all Cronkite majors. Students learn the basic reporting and writing skills needed for further study in print, broadcasting, online or public relations. Students practice reporting and writing news stories with an emphasis on accuracy, newsworthiness, deadlines, objectivity and fairness. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | L | Prerequisite(s): Journalism and Mass Communication BA or Sports Journalism BA major; ENG 101, 105, or 107 with C or better; JMC 101 or MCO 101 with B- or better; JMC 110 or MCO 120 with C or better OR Visiting University Student |
| JMC | 220 | Broadcast Voice and Delivery | Builds vocal skills both for everyday life, and for on-air performance. Focuses on breathing, voice control and pitch, articulation, stress and intonation, resonance, sounding conversational, anchoring, and on-camera body language. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism BA major; Credit is allowed for only JMC 220 or JMC 294 (Broadcast Performance Skills) or JMC 294 (Broadcast Voice and Delivery) OR Visiting University Student |
| JMC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-4 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major |
| JMC | 301 | Intermediate Reporting and Writing | Students produce a wide range of news and enterprise stories that take them into the community to report on police, courts, business and government, among other topics. Students hone their interviewing, reporting and writing skills and pitch their stories to professional and student media outlets. They gain a deeper and more sophisticated understanding of newsworthiness, journalism ethics and law. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | L | Prerequisite(s): Journalism and Mass Communication major; ENG 102, 105, or 108 with C or better; JMC 101 or JMC 194 (Grammar for Journalists); JMC 201 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 302 | Sports Reporting | Students learn how to cover a sports beat in this hands-on class. They develop story ideas and sources and report and write multiple stories on deadline. Expects students to pitch stories to professional outlets with the goal of publication. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Sports Journalism major; ENG 102, 105, or 108 with C or better; JMC 101 or JMC 194 (Grammar for Journalists); JMC 201 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 305 | Multimedia Journalism | Software and digital tools commonly used by multimedia journalists, including shooting and editing photos and video, social media, Web analytics, basic HTML, blogging, and design for the Web. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication BA major; ENG 101, 105, or 107 w/C or better; JMC 101 or MCO 101 w/B- or better; JMC 110 or MCO 120 w/C or better; Credit is allowed for only JMC 305 or JMC 306 or MCO 335 OR Visiting University Student |
| JMC | 306 | Sports Multimedia Journalism | Students learn and employ a range of software and digital tools commonly used by multimedia sports journalists. They shoot and edit photos and video, create social media, analyze and understand audience analytics, and learn basic design for the Web, with a focus on creating content for sports audiences. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Sports Journalism BA major; ENG 101, 105, or 107 with C or better; JMC 101 or MCO 101 with B- or better; JMC 110 or MCO 120 with C or better; Credit is allowed for only JMC 305 or JMC 306 or MCO 335 OR Visiting University Student |
| JMC | 310 | Principles of Strategic Communications | Introduces students interested in careers in public relations, strategic media and related areas to the practices and principles of public relations in corporate, nonprofit, agency, government and other settings. Covers the role of public relations professionals, how the field is changing and career opportunities. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism BA major; JMC 201 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 313 | Introduction to Editing | Hands-on training in editing copy, photos and graphics and writing headlines and other display text for print and digital platforms. Emphasizes editing for accuracy, clarity, brevity, grammar and tone. Students practice AP style, develop news judgment and consider the ethical implications of their work. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major; JMC 101 with B or better; JMC 201 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 315 | Intermediate Reporting and Writing (Broadcast) | Intermediate broadcast news reporting and writing techniques with emphasis on audio. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | L | Prerequisite(s): Journalism and Mass Communication major; ENG 102, 105, or 108 with C or better; JMC 101 or JMC 194 (Grammar for Journalists); JMC 201 with C or better; minimum 2.50 cumulative GPA |

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| JMC | 320 | News Broadcast Producing | Principles of broadcast news producing, delivered via a combined lecture/lab experience and assignments based on editorial judgment, technical skills and industry awareness. Students emerge with strategies for total newsroom management, confidence in producing news content and newscasts under deadline pressure and prepared for a variety of producer-related roles in professional newsroom environments. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication BA or Sports Journalism BA major; JMC 301, 302 or 315 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 325 | Breaking News Multimedia Reporting | Students cover breaking news for azcentral.com, gaining practical experience in an online, multimedia environment. Students are selected by The Arizona Republic and work with professional editors in the Republic Media newsroom. Their work appears on azcentral.com and may appear in the print edition of the newspaper. Students must commit to two full days a week, and they earn pay in addition to class credit. | N | LEL | N | Z2 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication BA or Sports Journalism BA major; JMC 201 with C or better; JMC 305 or 306 with C or better; JMC 366, 367, or 402 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 330 | Television Reporting | Hands-on experience reporting and producing television news packages. Teaches visual storytelling skills including writing, reporting, videography and editing for broadcast and other platforms. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication BA major; JMC 301 or 315 with C or better; JMC 345 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 330 or JMC 331 or JMC 333 OR Visiting University Student |
| JMC | 331 | Television Sports Reporting | Hands-on experience reporting and producing television sports packages. Skills taught include sports writing, reporting and editing for broadcast. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Sports Journalism BA major; JMC 302 with C or better; JMC 346 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 330 or JMC 331 or JMC 333 OR Visiting University Student |
| JMC | 333 | Advanced Bilingual Broadcast Reporting | Students produce bilingual television packages on a wide range of issues of interest to Latino audiences. Students also report and produce an occasional Spanish-language newscast. Students develop advanced reporting, interviewing, visual storytelling and writing skills in English and Spanish, preparing them for entry-level positions in a small/medium market local television newsroom. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication major; JMC 301 or 315 with C or better; JMC 345 with C or better; Credit is allowed for only JMC 330 or JMC 331 or JMC 333 or JMC 494 (Advanced Bilingual Broadcast Reporting) |
| JMC | 345 | Videography | Students conceive, plan, shoot, write and edit television news packages in this hands-on class. Skills taught include sequencing, framing, lighting, sound, story structure, news judgment, storytelling and editing. Students may use school-supplied cameras and editing facilities but must provide a Flash Memory card and portable external FireWire Hard Drive. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication major; JMC 301 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 345 or JMC 346 OR Visiting University Student |
| JMC | 346 | Sports Videography | Develops an understanding of visual sports storytelling and craft compelling sports stories using video and sound. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Sports Journalism BA major; ENG 102, 105, or 108 with C or better; JMC 302 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 345 or JMC 346 OR Visiting University Student |
| JMC | 351 | Photojournalism I | Teaches basic skills required to compose, shoot and prepare still photos for publication. Hands-on, with students shooting a range of assignments from news events to environmental portraits, and producing a portfolio of their work. Students may share a school-supplied Canon camera or provide their own. The camera should be a digital SLR camera body with at least a kit zoom lens, and the camera body must have a manual setting and have the ability to turn off any built-in camera flash. Students need digital media cards of at least 2 GB and an external digital card reader. Students may not use point-and-shoot cameras or cameras with Flash (built-in or external) for this class. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication major; JMC 101 or JMC 194 (Grammar for Journalists); JMC 201 with C or better; minimum 2.50 cumulative GPA; Credit is allowed for only JMC 351 or JMC 352 OR Visiting University Student |
| JMC | 352 | Sports Photojournalism | Students learn photojournalism skills, including composition, shooting and preparing still photos for publication in a sports context. Hands-on, with students shooting a range of sports assignments and producing a portfolio of their work. Students may share a school-supplied Cannon camera or provide their own. The camera should be a digital SLR camera body with at least a kit zoom lens, and the camera body must have a manual setting and have the ability to turn off any built-in camera flash. Students need digital media cards of at least 2 GB and an external digital card reader. Students may not use point-and-shoot cameras or cameras with flash (built-in or external) for this class. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Sports Journalism BA major; JMC 101 or JMC 194 (Grammar for Journalists); JMC 201 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 351 or JMC 352 OR Visiting University Student |

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| JMC | 355 | Podcasting and Audio Storytelling | Explores various styles of journalistic audio storytelling for podcasts, including interviews, narrated reports and non-narrated postcards. Students develop a podcast based on a unique value proposition that fulfills a specific need for their audience. Along the way, students practice audio editing and marketing skills to develop a podcast with intention and longevity. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prereq(s): Journ & Mass Comm BA or Sports Journ BA maj; JMC 301 or 302 w/C or better; min 2.50 GPA; Credit allowed for only JMC 355 or JMC 394 (AudioStory&Prod or Podcast&AudioStory) or MCO 375 or MCO 494/598 (Podcasting) OR Visiting University Student |
| JMC | 366 | Journalism Ethics and Diversity | Explores contemporary news media ethical problems in a seminar setting. Uses journalism ethical perspectives to obtain keys to unlock contemporary dilemmas surrounding the news media. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prereq(s): Journ & Mass Comm major; JMC 101 or 194 (Gramr for Journ); JMC 110 or MCO 120 w/ C or better; min 2.50 GPA; min 25 hours; Credit allowed for only JMC 366 or JMC 367 or MCO 366 or MCO 494(Media Ethics & Diversity) OR Visiting University Student |
| JMC | 367 | Ethics and Diversity in Sports Journalism | Explores ethical problems related to sports media in a seminar setting. Discussion-based course applies journalistic values and principles to contemporary ethical dilemmas in sports media and helps prepare students for work in the profession. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prereq (s): Sports Journ BA major; JMC 101 or 194 (Gram for Journ); JMC 110 or MCO 120 w/ C or better; min 2.50 GPA; min 25 hours; Credit allowed for only JMC 366 or JMC 367 or MCO 366 or MCO 494(Media Ethics & Diversity) OR Visiting University Student |
| JMC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-4 | | Prerequisite(s): Journalism and Mass Communication major or Sports Journalism major; minimum 2.50 GPA OR Visiting University Student |
| JMC | 402 | Mass Communication Law | Provides a grounding in the laws and regulations that govern various aspects of the media with a focus on First Amendment guarantees and privileges and the extent to which those have been limited by courts and lawmakers. Topics include freedom of expression, libel, privacy and obscenity. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prereq (s): Journ & Mass Com or Sport Journ major; ENG 102, 105, or 108 w C or better; JMC 101 or 194 (Gram Journ); JMC 201 w C or better; min 2.50 GPA; min 56 hours; Credit allowed for only JMC 402 or MCO 403 or MCO 503 OR Visiting University Student |
| JMC | 406 | Humphrey Seminar | Identifies, examines and exports role models of leadership in the field of global communications. Explores leadership issues in journalism, strategic communications and management under different cultural and political systems. | N | SEM | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major; minimum 2.50 GPA; Credit is allowed for only JMC 406 or JMC 494 (Humphrey Seminar) or MCO 512 or MCO 598 (Humphrey Seminar) |
| JMC | 410 | Turning Points in TV History | Uses historic television footage to talk about the evolution of news coverage and the ethical decisions journalists face. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism BA major; JMC 101 or MCO 101; minimum 2.50 GPA; Credit is allowed for only JMC 410 or JMC 494 (Turning Points in TV History) OR Visiting University Student |
| JMC | 412 | Opinion Writing | Traces the evolution of a new form of writing that blends the traditions of magazine features and classic newspaper opinion. Students pitch and write features in consultation with editors for Slate, the popular online magazine. Emphasizes curiosity-driven, smart and witty writing that advances an argument with strong voice and intellectual integrity. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication major; JMC 301 with C or better; minimum 2.50 cumulative GPA |
| JMC | 413 | Advanced Editing | Builds on skills learned earlier. Students master editing skills that include AP style, grammar, headline writing and page layout as well as editing graphics and other visuals, editing Web content and uses of social media. Students hone their news judgment and learn to work quickly and accurately on deadline. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major; JMC 313 with C or better; minimum 2.50 GPA |
| JMC | 414 | Digital Graphic Design | Theory, organization, and practice of layout, typography, and design in traditional and multimedia publishing. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major; JMC 305 with C or better; minimum 2.50 GPA OR Visiting University Student |

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| JMC | 415 | Writing for Public Relations | Develops the professional-level writing and strategic skills expected of public relations practitioners. Students learn how to design and produce strategic plans, news releases, media kits and executive communications. They are exposed to communications approaches required for different audiences and media and learn about public relations theory as well as audience research and analysis. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prereq(s) w/C or better: Journ & Mass Comm BA or Sports Journ BA major; JMC 301 or 302; JMC 310; min 2.50 GPA OR Mass Comm grad student; Credit allowed for only JMC 415 or MCO 537 or MCO 598 (Writing for Public Relations) OR Visiting University Student |
| JMC | 417 | Public Relations Campaigns | Students work with professional clients in an agency setting to research, plan and create comprehensive public relations campaign that address clients' needs. Concepts, theories and techniques relevant to public relations campaigns as well as strategic planning, campaign components and technology resources and tools. Analyzes, discusses and responds to current public relations issues and case studies. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication major; JMC 415 with C or better; JMC 436 with C or better; minimum 2.50 cumulative GPA OR graduate Mass Communication student |
| JMC | 419 | Strategic Communications Leadership and Ethics | Communications and the ability to tell an organization's story to a variety of audiences and stakeholders is a key part of corporate strategy. Provides a broad understanding of ethical communications practices in agency and corporate settings, and includes instruction in reputation management, corporate communications, brand management, and stakeholder engagement in a digital context. Especially useful for future communications professionals and those who will work with them such as journalists and business leaders. | N | SEM | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): JMC 301 or 302 with C or better; JMC 305 or 306 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 419 or MCO 519 OR Visiting University Student |
| JMC | 421 | Advanced Digital Storytelling | Explores and practices the art of storytelling for digital audiences. Each student produces a digital project consisting of images, sound and text using various storytelling forms. Projects may consist of narrative multimedia features, news coverage, enterprise or investigative reporting. Emphasizes creating quality journalism, visual impact and creative use of multimedia tools and techniques. The best work is entered in national and regional contests. It is recommended that students have taken other classes or can demonstrate skills in visual journalism (photography, videography or graphics). | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major; JMC 301, 302 or 315 with C or better; JMC 305 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 421 or JMC 494 (Advanced Digital Storytelling) |
| JMC | 422 | Live Sports Event Production | Students receive a tremendous hands-on education in the art and science of live sports event production; they are responsible for producing ASU sports events for Pac-12 Plus live streams. Among the sports covered for Pac-12 Plus include soccer, volleyball, basketball, hockey, wrestling, swimming and others. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Sports Journalism BA major; JMC 121 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 422 or JMC 394 (Live Sports Event Production) OR Visiting University Student |
| JMC | 430 | Sports Marketing and Campaigns | Students create a real-world sports marketing campaign for a client (clients change each semester). Students strategize, plan, and clearly explain to the client how to execute their campaign. Executives from the client judge and ultimately select a winning campaign. | N | LEL | N | Z1 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Sports Journalism BA major; JMC 302 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 434 | Advanced Bilingual Reporting | In this project-based class, students work together to cover various angles of a topic related to Latinos in the U.S. Their digital and video stories, photographs and graphics often result in publication. Students need some ability to report in Spanish, although they do not have to be proficient. Prepares students for work in the Borderlands Bureau of Cronkite News or Cronkite Noticias, the school's Spanish-language news site. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prereq(s) w/ C or better: Journ & Mass Comm or Sprt Journ mjr; JMC 201; JMC 301, 302, or 315; JMC 305; min 2.50 GPA; Credit allowed for only JMC 434 or JMC 494 (Adv Biling Report) or MCO 534 or MCO 598 (Adv Biling Report) OR Visiting University Student |
| JMC | 435 | Latino and Transnational Issues | This fall-only seminar gives students a nuanced understanding of topics such as immigration, trade, health care, politics and cross-border conflict and cooperation, preparing them to report on some of today's most important issues. Students who complete the course are considered for a spring in-depth reporting course, which includes a reporting trip to another country. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication BA or Sports Journalism BA major; JMC 101 or MCO 101 with C or better; JMC 201 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 436 | Public Relations Research | Students learn about the importance of research in communications, conduct research using qualitative and quantitative methods, and analyze data to understand implications within a specific communications context. They also critically evaluate published academic and professional research and are exposed to types of research and their application in the field of public relations. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication BA major; JMC 301 with C or better; JMC 310 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 436 or JMC 494 (Public Relations Research) OR Visiting University Student |
| JMC | 437 | Documentary Production | Students learn the fundamentals of producing documentaries, including research, script writing, production and shooting and editing video. Students produce a long-form documentary. Students become familiar with television documentary history in order to identify trends and learn about legal and ethical issues relevant to video documentary production. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism BA major; JMC 345, 346, or 448 with C or better; minimum 2.50 GPA OR Visiting University Student |

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| JMC | 440 | Magazine Writing | Students report and write stories suitable for magazine outlets. They develop and pitch stories, learn new reporting techniques and employ literary techniques such as description and scene setting in their writing. See class notes for additional information. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication BA or Sports Journalism BA major; JMC 301 or 302 with C or better; minimum 2.50 GPA OR Sports Journalism MA student OR Master of Mass Communication MMC student OR Visiting University Student |
| JMC | 441 | Narrative Writing and Reporting. | Covers the elements of narrative journalism--structure and narrative arc, the use of character, description, dialogue and quotes, context and background, and pacing--and applies them to a long-form story students report and write during the semester. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prereq(s): Journalism&Mass Communication BA or Sports Journalism BA major; JMC 301 or 302 w/C or better; min 2.50 GPA; Credit allowed for only JMC 441 or JMC 494 (Narrative Writing) or MCO 541 or MCO 598 (Narrative Writing) OR Visiting University Student |
| JMC | 442 | Sports and Culture Commentary | Discusses various forms of commentary-based content creation. Students learn how to craft informed opinion in both news and sports across a variety of platforms, including written columns and video and audio commentaries. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism & Mass Communication BA or Sports Journalism BA major; JMC 301 or 302 with C or better; min 2.50 GPA; Credit allowed for only JMC 442 or MCO 542 or JMC 494/MCO 598 (Opinion in the Digital Age) OR Visiting University Student |
| JMC | 444 | Accountability Journalism | Accountability journalism in the digital age -- its history, mission, values, techniques, ethics and future. Students research and analyze notable recent examples of accountability journalism and produce accountability story ideas. | N | SEM | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Prerequisite(s): Journalism & Mass Comm or Sports Journalism BA major; min 45 hours; min 2.50 GPA; Credit is allowed for only JMC 444 or JMC 494 (Accountability Journalism) or MCO 544 or MCO 598 (Accountability Journalism) OR Visiting University Student |
| JMC | 446 | News 21 | Prepares students for the Carnegie-Knight News21 investigative journalism summer fellowship. Immerses students in the selected topic for the annual investigation, conducting deep research, generating data and public records, interviewing experts, developing sources and producing initial reports and multimedia elements. Considers students who perform well in the seminar for paid summer fellowships during which they travel the country to complete their reporting and produce the annual project on an issue of national import. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major; JMC 201 with C or better; JMC 301, 302, or 315 with C or better; min 2.50 GPA; Credit is allowed for only JMC 446 or JMC 494 (News21) or MCO 546 or MCO 598 (News 21 Seminar) |
| JMC | 448 | Non-Narrative Video Storytelling | Teaches students how to create video pieces that effectively communicate a story, information or concept to an audience in non-narrative form that is engaging, interesting and intelligent. Focuses on the various forms of non-narrative storytelling to gain experience creating both longer and shorter pieces with DSLR cameras, advanced editing and graphics that are appropriate to the intended platform. Students learn how to shoot video and stills with a DSLR camera and when to use each in video creation, while advancing skills as a video editor and graphic designer. Students broaden their creativity and range as a video producer in the areas of journalism and mass communication. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication BA or Sports Journalism BA major; JMC 305 or 306 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 448 or MCO 548 OR Visiting University Student |
| JMC | 450 | Issues in Coverage of Business and the Economy | Basics of business and economic reporting, one of the fastest-growing areas of journalism. Students learn what skills are needed to cover business and economic stories as well as the basics of how private companies operate and the factors that drive the economy. Students learn about opportunities in the field and hear from leaders in business journalism. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication BA major or Sports Journalism BA major; JMC 101 or JMC 194 (Grammar for Journalists); JMC 201 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 451 | Photojournalism II | Develops photojournalism and visual storytelling skills through extensive hands-on practice shooting and editing for online and print media. Introduces shooting video with DSLR cameras and becoming proficient at image cropping, writing cutlines and editing using Adobe Photoshop. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism BA major; JMC 305 with C or better; JMC 351 or 352 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 452 | Visual Storytelling | Develops visual storytelling skills, working closely with a professional visual journalist to tell multimedia documentary stories that utilize video, still photos and text. In addition to the basics of storytelling, covers non-traditional techniques, including time-lapse, panos, HDR and star trails. Students should have basic skills in both still photography and videography and are expected to provide their own DSLR camera that can accommodate external mics and that have video capability. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication major; minimum 2.50 GPA; JMC 345 or JMC 351 with C or better |

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| JMC | 453 | Reporting on Business and the Economy | Trains in the basics of reporting about business and the economy. Helps students tell the stories behind companies, people and money, while improving competence in using numbers in stories. Offers the opportunity to have stories appear in print, online or broadcast. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major; JMC 301, 302, or 315 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 453 or JMC 494 (Reporting on Business/Economy) |
| JMC | 455 | Digital Media Entrepreneurship | Students identify a marketable idea and transform it into a product and/or company. In the process, they learn about key concepts of entrepreneurship and practice skills that they can employ as entrepreneurs themselves. Students are exposed to a range of national and regional entrepreneurs and emerge with a deeper understanding of entrepreneurship's importance within the media and communications landscape. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major; minimum 2.50 GPA; JMC 305 with C or better; Credit is allowed for only JMC 455, JMC 494 (Digital Media Entrepreneurship), MCO 555, or MCO 598 (Digital Media Entrepreneurship) |
| JMC | 457 | Advanced Radio Reporting | Develops planning, writing, voicing and detailed editing skills in a variety of radio broadcast formats, including general news, business, as well as hard and soft news feature reporting. Emphasizes pre- and post-production planning, development and execution. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism & Mass Communication BA major; JMC 301, 302 or 315 with C or better; Credit is allowed for only JMC 457 or JMC 494 (Advanced Radio Reporting) or MCO 557 or MCO 598 (Advanced Radio Reporting) OR Visiting University Student |
| JMC | 460 | Advanced Online Media | Builds on and expands basic multimedia knowledge. Students leave the course with heightened Web-language literacy and visual sophistication; fluency with multiple digital tools that create, publish and distribute content; and the requisite storytelling skills to produce work of a professional level on diverse online and mobile platforms. Draws on Adobe Creative Cloud software and other current tools. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism BA major; JMC 305 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 460 or MCO 515 OR Visiting University Student |
| JMC | 465 | Telling Stories with Data | Techniques and tools of reporting using data and public records as well as how to use the Internet and other online sources to find information and sources for stories. Students get experience with computer spreadsheets, database software and statistical techniques as they develop their advanced reporting skills. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism BA major; JMC 301, 302, or 315 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 470 | Depth Reporting | Students learn to conceptualize, report and write or produce long-form, in-depth stories for publication or broadcast. Students learn techniques of investigative reporting, including use of public records and data, as well as advanced interviewing techniques, and discover compelling ways to tell complex stories. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism BA major; JMC 301, 302, or 315 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 473 | The Business and Future of Journalism | Exposes advanced journalism students to broad media management problems; helps students understand how essential the bottom-line and quality journalism are to the entire journalistic enterprise; helps students think about how to balance those two concerns. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication BA major; JMC 101 or MCO 101 with B or better; JMC 201 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 473 or JMC 474 or MCO 470 or MCO 525 OR Visiting University Student |
| JMC | 474 | Advanced Issues in 21st-Century Sports and Media | Exposes challenges facing sports and media in the 21st century, including changing content models, revenue streams, and the evolving relationship between teams and media outlets. | N | SEM | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Sports Journalism BA major; JMC 101 or MCO 101 with B or better; JMC 201 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 473 or JMC 474 or MCO 470 or MCO 526 OR Visiting University Student |
| JMC | 475 | TV Production and Graphics Lab | Students learn main facets of TV production, including all elements of control room and studio work for a daily newscast, as well as building motion graphics for news packages, studio presentations, social media and digital platforms. The Lab works to serve clients as the in-house production team for the Cronkite School and Arizona PBS, while also exploring creative project opportunities in the Downtown Phoenix area. | N | LEL | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3-9 | | Prerequisite(s) with C or better: Journalism & Mass Comm BA or Sports Journalism BA major; JMC 305 or 306; JMC 345, 346, or 448; minimum 2.50 GPA; Credit is allowed for only JMC 475 or JMC 498 (TV Production & Graphics Lab) OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|--|
| JMC | 476 | Public Relations Laboratory | Synthesizes and applies the theories, principles and techniques of public relations. This body of knowledge includes research, planning techniques, types of budgets, organizational systems, management styles, campaign components, types of campaigns, technology, ethics, diverse channels of communication and target audiences. Students: (1) analyze, discuss, then respond to public relations case studies; (2) develop an in-depth understanding of a client's needs; (3) conduct primary and secondary research; (4) work with a client in a team-based approach to prepare a comprehensive campaign proposal to address the client's problem or issue; (5) design and develop media products for client; (6) formally present the proposal to the client and the class. | N | LEL | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3-9 | | Prerequisite(s): Journalism and Mass Communication major; JMC 415 with C or better; JMC 436 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 477 | New Media Innovation and Entrepreneurship Lab | Research and development program designed to help media companies create new and exciting multimedia products and to help students create digital media startups. Brings together students from disciplines across campus, including journalism, business, computer engineering and design. Journalism students conduct research into developing new products and creating prototypes for those products. Students learn by doing, interacting with clients or investors, the director and the lead Web developer. Students schedule meeting times with the director to discuss projects. | N | LEL | Y | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3-9 | | Prerequisite(s): Journalism & Mass Comm or Sports Journalism BA major; JMC 301, 302, or 315 w/ C or better; JMC 305 w/C or better; min 2.50 GPA; Credit allowed for only JMC 477 or JMC 498 (Innov & Entrepreneurship Lab) OR Visiting University Student |
| JMC | 478 | Cronkite News: Phoenix Bureau | Applies and enhances reporting, writing and multimedia skills. | N | LEL | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3-9 | | Prerequisite(s): Journalism and Mass Communication BA or Sports Journalism BA major; JMC 301, 302, or 315 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 479 | Cronkite News: Washington Bureau | Students participate in a full-time regional reporting bureau that gives them the opportunity to work as a Washington correspondent. | N | LEL | Y | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3-9 | | Prerequisite(s): Journalism & Mass Communication BA or Sports Journalism BA major; JMC 301, 302, or 315 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 478 (Cronkite News - Washington Bureau) or JMC 479 OR Visiting University Student |
| JMC | 480 | Cronkite News: Phoenix Sports Bureau | Students gain valuable experience in sports reporting, shooting, editing and voicing packages for partnership outlets. | N | LEL | Y | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3-9 | | Prerequisite(s): Journalism and Mass Communication BA or Sports Journalism BA major; JMC 302 with C or better; JMC 306 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 481 | Cronkite News: Los Angeles Sports Bureau | Students gain valuable experience in sports journalism reporting, shooting, editing and voicing packages for partnership outlets. | N | LEL | Y | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3-9 | | Prerequisite(s): Journ & Mass Comm BA or Sports Journ BA major; JMC 330 or 331 w/ C or better; min 2.50 GPA; Credit is allowed for only JMC 481 or JMC 478 (Cronkite News - L.A. Sports) or JMC 478 (Sports Journ Santa Monica) OR Visiting University Student |
| JMC | 482 | Sports Knowledge Lab | The Sports Knowledge Lab is part of the Global Sport Institute, an international sports research and knowledge lab based at Arizona State that connects people to the power of sport by translating and amplifying complex sports research to broad, global audiences. Under the guidance of the executive editor of the Sports Knowledge Lab, students are responsible for the production and presentation of a variety of curated and original content from across the globe that examines the impact of sport on society and provides context for top sports headlines from around the world. Content includes long-form writing, documentaries, articles, newsletters, data visualization and podcasts. Global Sport Matters provides compelling angles that not only deepen people's understanding of issues that fit within the framework of the Global Sport Matters mission, but provides unique context, knowledge and tools that can lead to change. | N | LEL | Y | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3-9 | | Prerequisite(s): JMC 301, 302, or 315 with C or better; JMC 305 with C or better; Credit is allowed for only JMC 482 or JMC 498 (Sports Knowledge Lab) |
| JMC | 483 | Cronkite News: Digital Production | Students produce stories and multimedia across platforms for Cronkite News and professional news outlets. | N | LEL | Y | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3-9 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major; JMC 301 or 302 or 315 with C or better; JMC 305 with C or better; minimum 2.50 cumulative GPA; Credit is allowed for only JMC 483 or JMC 478 (Cronkite News Digital Production) |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|--|
| JMC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | LEC | N | Z1 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-12 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism BA major; JMC 301 or 302 with C or better; JMC 305 or 306 with C or better; minimum 2.50 GPA |
| JMC | 485 | Television Magazine | Produce a 13-week television magazine program for Arizona PBS focusing on science research at Arizona State University, using long form DSLR video storytelling skills. Opportunity to field produce, research, report, use videography, writing and graphic skills under the direction of instructors. | N | LEL | Y | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3-9 | | Prereq(s) C or better: Journ & Mass Comm or Sprts Journ BA mjr; JMC 301 or 315; JMC 345 or 494 (DSLR Vid Story); min 2.50 GPA; Credit allowed for only JMC 478 (TV Special Prj) or 485 or 494 (Pub Insight Net) or 498 (TV Mag) OR Visiting University Student |
| JMC | 486 | Digital Audiences Lab | Students participate in an immersive professional program experience to grow and engage digital audiences for real clients in an agency-like setting. Conduct audience and competitive research; analyze site and social content performance; create and measure paid and organic social media campaigns; execute SEM campaigns; create and optimize digital content; and make strategic recommendations to clients. | N | LEL | Y | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3-9 | | Prerequisite(s): JMC 301 or 315 with C or better; JMC 305 with C or better; MCO 307 with C or better; Credit is only allowed for JMC 486 or JMC 498 (Digital Audiences Lab) OR Visiting University Student |
| JMC | 487 | Howard Center for Investigative Journalism | Develops the next generation of watchdog reporters through hands-on investigative journalism projects. Students produce in-depth digital and documentary-style journalism that illuminates problems or wrongdoing and holds public officials accountable. The Center partners with national and regional news organizations to disseminate and publish student work. Completion of one Advanced Skills course with C or better (from Journalism and Mass Communication major map) is recommended to succeed in this course. | N | LEL | Y | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3-9 | | Prerequisite(s): JMC 301 or 302 with C or better; JMC 305 or 306 with C or better; Credit is allowed for only JMC 487 or JMC 498 (Howard Center for Investigative Reporting) OR Visiting University Student |
| JMC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-4 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major; minimum 2.50 cumulative GPA OR graduate Mass Communication student OR Visiting University Student |
| JMC | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-7 | | Prerequisite(s): Journalism and Mass Communication BA major; minimum 2.25 GPA; successful completion of English proficiency exam OR Master of Mass Communication student |
| JMC | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-3 | | |
| JPN | 101 | First-Year Japanese I | Basic speaking, listening, reading, writing, computer skills with the Japanese language, as well as cultural knowledge. Hiragana, katakana, 80 kanji. For students without previous Japanese instruction. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Students may not enroll in JPN 101 if credit with C or better earned in JPN 110, 201, 202, 210, 301, 302, 309, 310, 311 or 401 |
| JPN | 102 | First-Year Japanese II | Continued development of JPN 101 skills. 110 additional kanji. Communication skills goal: ACTFL Guideline Novice-High. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): JPN 101 with C or better; Students may not enroll in JPN 102 if credit with C or better earned in JPN 110, 201, 202, 210, 301, 302, 309, 310, 311 or 401 OR Visiting University Student |
| JPN | 110 | Intensive Japanese I | First semester of the one-year intensive Japanese language sequence designed to train novice-level speakers to become competent intermediate speakers who can carry out conversation on familiar topics or handle straightforward situations. Emphasizes both oral and written communication through development of skills in listening, speaking, reading, writing and cultural awareness. Students manage a number of communicative tasks in social situations. Conversations are restricted to a few of the predictable topics necessary for survival; students express themselves in straightforward situations and on familiar topics. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 6-8 | | Students may not enroll in JPN 110 if credit with C or better earned in JPN 101, 102, 201, 202, 210, 301, 302, 309, 310, 311, or 401 |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| JPN | 115 | Japanese Popular Culture: Anime, Manga and Film | Examines different media of Japanese popular culture such as comics (manga), animation (anime) and film for evidence of how the Japanese express their self identity in Japanese society. By separating the media into themes such as technology and the future, war/apocalypse/disaster, violence in society, gender and sexuality, and human relations, understands the Japanese culture (and social consciousness) more intimately. Students view films, read scholarly articles on the subject matter, and actively participate in the course through written papers and discussion. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Credit is allowed for only JPN 115 or SLC 115 |
| JPN | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEL | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| JPN | 201 | Second-Year Japanese I | Continued development in speaking, listening, reading, writing, computer skills with the Japanese language, as well as cultural knowledge. 110 additional kanji. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): JPN 102 or 110 with C or better; Students may not enroll in JPN 201 if credit with C or better earned in JPN 202, 210, 301, 302, 309, 310, 311 or 401 OR Visiting University Student |
| JPN | 202 | Second-Year Japanese II | Continued development of previously taught skills. 110 additional kanji. Communication skills goal: ACTFL Guideline Intermediate-Low to Intermediate-Mid. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): JPN 201 with C or better; Students may not enroll in JPN 202 if credit with C or better earned in JPN 210, 301, 302, 309, 310, 311 or 401 OR Visiting University Student |
| JPN | 206 | Japanese Calligraphy | Introduces Japanese calligraphy using traditional implements, starting with basic brush strokes and stroke order for kanji and kana. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | |
| JPN | 210 | Intensive Japanese II | Second semester of the one-year intensive Japanese language sequence designed to train novice-level speakers to become competent intermediate speakers who can carry out conversation on familiar topics or handle straightforward situations. Emphasizes both oral and written communication through development of skills in listening, speaking, reading, writing and cultural awareness. Students manage a number of communicative tasks in social situations. Conversations are restricted to a few of the predictable topics necessary for survival; students express themselves in straightforward situations and on familiar topics. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 6-8 | | Prerequisite(s): JPN 102 with B or better or JPN 110 with C or better; Students may not enroll in JPN 210 if credit with C or better earned in JPN 201, 202, 301, 302, 309, 310, 311 or 401 OR Visiting University Student |
| JPN | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| JPN | 301 | Third-Year Japanese I | Development of reading skills, using authentic materials to comprehend structure, grammar, idioms, and culture. Expansion of kanji and vocabulary. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): JPN 202 or 210 with C or better; Students may not enroll in JPN 301 if credit with C or better earned in JPN 302 or JPN 401 OR Visiting University Student |
| JPN | 302 | Third-Year Japanese II | Continued development of reading skills, as in JPN 301. Reading proficiency goal: ACTFL Guideline Intermediate-High. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): JPN 301 with C or better; Students may not enroll in JPN 302 if credit with C or better earned in JPN 401 OR Visiting University Student |
| JPN | 309 | Japanese Oral Communication I | Development of interpersonal, interpretive, and presentational oral/aural skills in familiar topics with sociolinguistic skills and understanding of Japanese culture. JPN 309 and 310 must be taken in sequence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): JPN 202 or 210 with C or better OR Visiting University Student |
| JPN | 310 | Japanese Oral Communication II | Continued development of oral/aural skills, with increased emphasis on honorifics. Speaking proficiency outcome goal: ACTFL Guideline Intermediate-High. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): JPN 309 with C or better |
| JPN | 311 | Japanese Composition I | Learning structural guidelines for narrative writing, developing organization skills to support ideas. Writing proficiency outcome goal: ACTFL Guideline Intermediate-High. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): JPN 202 or 210 with C or better |
| JPN | 315 | The Language of Japanese Popular Culture I: Gender and Onomatopoeia/Mimesis | Develops reading and listening skills using Japanese popular culture materials of various genres, including narratives, comics, anime, film and music. Introduces linguistic elements that are not found in regular language textbooks. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): JPN 202 or JPN 210 with C or better; Credit is allowed for only JPN 315 or JPN 394 (The Language of Japanese Popular Culture I) |
| JPN | 316 | The Language of Japanese Popular Culture II: Honorifics and Dialects | Understands Japanese popular culture materials such as anime, music, movies, manga and narratives through their target language of Japanese. Emphasized language areas are honorifics, formal expressions, dialects and slang and vulgar expressions that are tolerable in the classroom environment. Introduces elements of the history, geography and culture of Japan to further students' understanding of the materials. Students improve their receptive skills, i.e., listening and reading, by engaging with these materials, and through the technique of shadowing, also improve their pronunciation, intonation and grammatical accuracy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Pre- or corequisite(s): JPN 301 with C or better if completed; Credit is allowed for only JPN 316 or JPN 394 (The Language of Japanese Popular Culture II) |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| JPN | 333 | Japanese Civilization from the Ice Age to Last Thursday | Provides an overview of the entire sweep of Japanese history and culture from the earliest inhabitants of the Japanese archipelago, circa 30,000 BCE, to the earthquake and tsunami of March 2011 and beyond. Covers the main events, narratives, and individuals of Japanese history through documentary sources and literary works such as plays, novels, poetry and manga. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only JPN 333 or JPN 394 (Japanese Civilization) or SLC 394 (Japanese Civilization) |
| JPN | 354 | Zen and Japanese Culture | Students conduct historical, philosophical and sociological analyses of some of the fundamentals of Zen, mainly those of Japanese tradition. Examines the influence of Zen thoughts on value, culture and society in both pre-modern and modern Japan. Classes consist of lectures, documentary films and discussion sessions. Taught in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only JPN 354 or JPN 394 (Zen and Japanese Culture) or REL 353 or SLC 354 or SLC 394 (Zen and Japanese Culture) OR Visiting University Student |
| JPN | 355 | Religious Practice of People in Modern Japan | Examines the influence of Japanese religions on Japanese value, culture and society while surveying the major religious traditions of modern Japan focusing on Shinto, Buddhism and new religions. Also explores current religious practices in Japan and how religion interacts with the government, community groups and daily lives of people. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only JPN 355 or SLC 355 or JPN 394 (Religious Practice of People in Modern Japan) or SLC 394 (Religious Practice of People in Modern Japan) OR Visiting University Student |
| JPN | 367 | Religion, Philosophy and Culture in Japan | Examines the influence of Japanese thoughts on value, culture and society while surveying the major religious and philosophical traditions in both pre-modern and modern Japan focusing on Shinto, Confucianism, Daoism, Buddhism and New Religions. Classes consist of lectures, documentary films and discussion sessions. Taught in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only JPN 367 or JPN 394 (Religion, Philosophy, and Culture in Japan) or REL 367 or SLC 367 OR Visiting University Student |
| JPN | 370 | Japanese Aesthetics: Art and Beauty in Japan | Surveys the history of Japanese art and beauty and investigates several issues of Japanese aesthetics from historical, philosophical and sociological perspectives. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only JPN 370 or JPN 394 (Japanese Aesthetics: Art & Beauty in Japan) or SLC 370 or SLC 394 (Japanese Aesthetics: Art & Beauty in Japan) OR Visiting University Student |
| JPN | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| JPN | 401 | Reading Modern Japanese Texts | Readings in modern literary and expository texts. Focus varies from year to year. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; JPN 302 with C or better OR Visiting University Student |
| JPN | 414 | Introduction to Classical Japanese | Readings from various genres of pre-20th-century literature, with analysis of the structure of the classical language. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): JPN 302 with C or better OR Visiting University Student |
| JPN | 415 | Advanced Classical Japanese | Close readings of selected premodern texts, with focus on grammatical and stylistic features. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): JPN 414 with C or better |
| JPN | 430 | Buddhist Meditation in East Asia | Surveys various types of Buddhist meditation in different schools, starting from those of India, and more from East Asia, particularly Japan. Investigates the pragmatic function of each meditative technique, how some of the fine/performing/martial arts were integrated with Buddhist ideas to become "meditation in action." | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only JPN 430 or SLC 430 or JPN 494 (Buddhist Meditation in Asia) or SLC 494 (Buddhist Meditation in Asia) OR Visiting University Student |
| JPN | 445 | Readings in Modern Japanese Letters and Culture | Advanced study of selected facets of modern Japanese letters and culture, including literature, material and visual culture, film, and other media. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): JPN 401 with C or better OR Visiting University Student |
| JPN | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| JPN | 485 | Japanese Literature and the Art of Translation | Examines the theory and practice of literary translation with two-fold aims: first, to analyze the ways in which translation has been theorized and practiced in a variety of historical contexts; second, to provide a space in which to discuss, experiment with, and polish original translations of Japanese-language texts in a wide range of written and visual forms. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): JPN 302 with C or better; Credit is allowed for only JPN 485 or JPN 585 OR Visiting University Student |
| JPN | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| JPN | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| JPN | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| JPN | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |

| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|-----------------------------------|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|---|
| JPN | 501 | Proseminar: East Asian Humanities | Provides MA and PhD students with a solid understanding of both the history of their academic discipline, as well as the various methodological approaches employed in the professional study of East Asian literature, history, language and culture. Centers on the close reading and discussion of a wide range of secondary sources, dealing with key issues in the development of East Asian humanities. Topics include premodern and modern discourses of language and literature; the trajectories of academic disciplines and approaches such as philology, sinology/Japanology, area studies and comparative literature; academic theories of space and temporality; translation studies; and book history. In addition to pursuing independent research, participants are expected to make regular presentations summarizing the main points in each week's readings. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CHI 501 or JPN 501 |
| JPN | 502 | Academic Writing | Trains graduate students in research methodology and conventions in academic writing. Centers on fine tuning students' command of the various components in English expository essays within the academic field of East Asian studies. Also addresses various contexts in academic writing, such conferences and proposals targeting audiences beyond the disciplinary boundaries of East Asian studies. | N | SEM | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CHI 502 or JPN 502 |
| JPN | 585 | Advanced Problems of Translation | Theories and practice of translation; strategies for handling a variety of Japanese texts. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Credit is allowed for only JPN 485 or 585 |
| JPN | 586 | History of Japanology | Provides students at the MA level with a deep understanding of the history of Japanese studies in the United States, Japan and Europe; the key issues and debates that have characterized the study of Japan from the eighteenth century to the present; and the methodological approaches employed in the professional study of Japanese literature and culture. Centers on the close reading and discussion of a range of primary and secondary sources (in English and Japanese) dealing with central issues in the development of Japan studies. In addition to pursuing independent research, students are expected to make regular presentations summarizing the main points in each week's readings. The course presumes that participants have the equivalent of 3+ years of college-level Japanese language study and a B.A. (or equivalent) in Japanese literature, language and/or culture. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JPN | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JPN | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JPN | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JPN | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JPN | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JPN | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JPN | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JST | 133 | Elementary Biblical Hebrew | Offers an introduction to Biblical Hebrew, the language in which most of the books of the Hebrew Bible/Old Testament are written. Provides the basic tools to understand and translate Biblical Hebrew texts. Covers the alphabet, basic vocabulary, morphology and syntax. Emphasizes a linguistic, literary and historical approach to the biblical text. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G | Credit is allowed for only HEB 133 (HEB 131) or JST 133 (JST 131) or REL 133 (REL 131) |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|---|----------------------|----------------------|--------------------|------------------|--------------------------------------|---|-------|--------------------|---|
| JST | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-3 | | |
| JST | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |
| JST | 210 | Introduction to Judaism | Beliefs, ceremonies, festivals, and institutions of Judaism emphasizing the contemporary era. Assumes no previous knowledge about Judaism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | Prerequisite(s): ENG 101 or 105 or 107 with C or better; Credit is allowed for only JST 210 or REL 210 |
| JST | 211 | Jews and Judaism in America | Chronological analysis of Jews and Judaism in American history and letters. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H & C | Credit is allowed for only HST 211 or JST 211 or REL 211 |
| JST | 230 | Introduction to Jewish Civilization | Overview of Jewish civilization from antiquity to the present. Answers the following questions: Who are the Jews? What do Jews believe? How did Jews interact with non-Jews? What was the lasting contribution of Jews to the world? In the attempt to answer these questions, provides the skills of being a good college student. Presents Judaism as an evolving civilization with an overarching distinctive culture but with a variety of subcultures and ethnic diversity. Presents the Jewish civilization through literature, films, music, and internet resources, with an overview of its complexity and diversity. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H & G | Credit is allowed for only HST, JST or REL 230 |
| JST | 233 | Intermediate Biblical Hebrew | Completes the study of Biblical Hebrew grammar. Prepares students to translate simple texts from Hebrew Bible and use critical editions of the biblical text. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G | Prerequisite(s): HEB 133 (HEB 131), JST 133 (JST 131), or REL 133 (REL 131) with C or better; Credit is allowed for only HEB 233 (HEB 132) or JST 233 (JST 132) or REL 233 (REL 132) OR Visiting University Student |
| JST | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |
| JST | 302 | Studies in History | Specialized topics in history. Explores countries, cultures, and issues in history, and their interpretation in historical scholarship. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 302 or JST 302 OR Visiting University Student |
| JST | 304 | Studies in European History | Specialized topics in European history. Explores countries, cultures, and issues in history, and their interpretation in historical scholarship. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 304 or JST 304 OR Visiting University Student |
| JST | 306 | Studies in United States History | Specialized topics in United States history. Explores regions, cultures, and issues in history, and their interpretation in historical scholarship. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 306 or JST 306 OR Visiting University Student |
| JST | 314 | Jewish Philosophy | The history of Jewish philosophy from its origins in the Hebrew Scriptures to postmodern expressions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105 or 108 with a C or better; Minimum 30 hours; Credit is allowed for only HST 390, JST 314, PHI 390 or REL 314 |
| JST | 315 | Hebrew Bible (Old Testament) | Nature, content, background, historical situation, and message of the books of the Hebrew Bible in English translation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & H | Prerequisite(s): ENG 102, 105 or 108 with a C or better; minimum 24 hours; Credit is allowed for only JST or REL 315 OR Visiting University Student |
| JST | 316 | Literary Readings of the Hebrew Bible | Literary analysis of two of the main genres of the Hebrew Bible: narrative art and poetry. Students learn the main literary conventions of biblical prose and poetry, and how these conventions are applied or subverted. Each class comprises the study of a literary aspect, close readings, and thematic discussions. Biblical texts are read only in translation. They are situated in the religious, literary and artistic traditions that have developed on their basis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ENG 316, HEB 316, JST 316, REL 316 OR Visiting University Student |
| JST | 318 | Contemporary American Jewish Identities | Analyzes the complexity and diversity of the contemporary American Jewish community in religious and secular affairs. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & C | Prerequisite(s): ENG 102, 105 or 108 with a C or better; minimum 24 hours; Credit is allowed for only JST 318, REL 318 or SOC 375 |
| JST | 333 | Biblical Hebrew Literature I | Advanced study of Biblical Hebrew. Deepens understanding of the grammar and composition of the Hebrew Bible. Translates texts of different literary genres (narrative, legal, poetic, prophetic) and different periods. Introduces the basic principles of textual criticism and different approaches to interpret the texts of the Hebrew Bible. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G | Prerequisite(s): HEB 233 (HEB 132), JST 233 (JST 132), or REL 233 (REL 132) with C or better; Credit is allowed for only HEB 333 (HEB 231) or JST 333 (JST 231) or REL 333 (REL 231) OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|--|
| JST | 334 | Biblical Hebrew Literature II | Readings in prophetic and wisdom texts of the Hebrew Bible and cognate literature (Dead Sea Scrolls, inscriptions, etc.). Addresses advanced topics in Biblical Hebrew language and literature, as well as in translation and interpretation. Topics and texts change annually. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G | Prerequisite(s): HEB 333 (HEB 231), JST 333 (JST 231), or REL 333 (REL 231) with C or better; Credit is allowed for only HEB 334 (HEB 232) or JST 334 (JST 232) or REL 334 (REL 232) OR Visiting University Student |
| JST | 346 | Israeli Wars in Israeli Movies | From its first day, the State of Israel has been in a state of war with the Arab countries. Every few years, the fighting erupted into an open war. At the beginning of the country, there was a consensus that the wars were forced on the Israelis, and therefore, the heavy toll on human life was unavoidable. Since the Six Day War, 1967, and the political change in 1977, Israeli society is split in attitude toward war. The absolute belief in the political and military leaders was shaken, and new political agendas entered the political arena. To this divided society, the Intifadas occurred with the waves of terrorism. These events added fire to the heated debates in Israel. One means of expression is through the cinema. In this course, students watch, analyze, and discuss selected movies on the Israeli wars and terrorism in the streets of Israel. Through these movies, produced by Israelis, we'll try to understand the mood and attitude of the Israelis toward war, enemies, and political and military leaders. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only FMS 349 or HEB 349 or JST 346 or HEB 394 (Israeli Wars in Israeli Movies) OR Visiting University Student |
| JST | 347 | Modern Israeli Literature in Translation | Modern Hebrew, or Israeli Hebrew, started at the end of the 19th century in Europe and today it is the language of the State of Israel. During this short period modern Hebrew developed literature with its unique local characteristic, as well as universal ideas. Reads and examines four books against their social and historical background. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ENG 347 or HEB 347 or JST 347 or SLC 347 or ENG/HEB/JST/SLC 394 (Modern Hebrew Literature in Translation) |
| JST | 348 | Israeli Society and Culture | Different partitions of the Israeli society, based on ethnic origin, by religious affiliation or by political association. Depicts how Israel is an absorbing immigration state. Israel is a welfare state and the course covers aspects of a welfare state, such as health, retirement, public transportation, art, higher education and more. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only HEB 348 or HEB 394 (Israeli Culture and Society) or JST 348 or REL 311 or SLC 348 OR Visiting University Student |
| JST | 349 | Nature, Sustainability and Religion | Explores how world religions have conceptualized the natural world, what they have contributed to the current environmental crisis and how they might also serve as inspiration to address the crisis. By focusing on Judaism, Christianity and Islam, the course introduces students to the field of religion and ecology and explores its relationship to other academic disciplines such as environmental philosophy and ethics, justice studies and gender studies. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only HPS 349 or JST 349 or REL 349 or SOS 349 or JST, REL, or SOS 394 (Religion and Ecology) or JST, REL, or SOS 394 (Religion and Environment) |
| JST | 369 | History and Memory of the Holocaust | In-depth study of the history of the genocide of Jews, the rise of modern antisemitism within the context of Nazi Germany, and the memory and memorialization of the Holocaust post 1945. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 369 or JST 369 or REL 312 or HST 304 (Shoah: History, Memory, and Representation) or HST 394 (History of the Holocaust) |
| JST | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |
| JST | 411 | Judaism and the Beginnings of Christianity | Studies the beginnings of Christianity in relation to Judaism: their common context, the process of their distinction and their mutual influence. Through a historical and thematic approach, explores the parallel construction of Jewish and Christian identities. Combines readings from primary sources (Hellenistic Judaism, Qumran, New Testament, Early Christianity, Rabbinic Judaism) and up-to-date scholarly literature. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | Prerequisite(s): ENG 101,105,107,108 or HST 100,102 or REL 100 or SLC 142, 202 w/ C or better; Credit is allowed for only HEB/JST/REL 411 or HEB 394 (Judaism & the Origins of Christianity) or HEB 494 (Judeo-Hellenistic Lit) OR Visiting University Student |
| JST | 445 | Holocaust, War and German Memory | Examines representations of the Holocaust from across different media (literature, film, architecture, memoir, photography) and from across multiple generations of German engagement with this period in history. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, ENG 105, ENG 108, FMS 100, FMS 200, JST 210, or JST 230 with C or better; Credit is allowed for only FMS 445 or GER 445 or JST 445 or SLC 445 OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|-------------------------------|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|--|
| JST | 459 | Latin American Jewish Culture | Focuses on forms of cultural production in Latin America marked by or under the aegis of Jewish diasporic identity from the late nineteenth century to the present. While Jewish immigrants and Latin Americans of Jewish descent may be found in all Latin American societies, cultural production is found concentrated in countries like Argentina, Brazil, Mexico and Chile. Investigates essentially cultural versions of a sociohistorical consciousness, and ranges across a broad spectrum of Latin American Jewish texts in an investigation of what forms of production have emerged to represent this important immigrant component of Latin American national societies. Examines novels and other literary works, along with photography and films, and looks at theme, motifs, characters that can be identified with what might be called a Jewish consciousness or Jewish sensitivity. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only JST 459 or JST 494 (Jewish Latin American Culture) or SLC 459 or SLC 498 (Jewish Latin American Culture) or SPA 459 or SPA 498 (Jewish Latin American Culture) |
| JST | 460 | World War II | Explores the causes, conduct and consequences of World War II. When did World War II start? How was it fought, and what did that mean for soldiers, the homefront and millions of civilians in Japanese or German occupied regions? What did the world that emerged in its wake look like? The course explores these fundamental questions with an emphasis on multiple explanations of the causes of the war in Asia and Europe and the contingency of Allied victory. Explores the war as both a total and a global war in which perceptions of race, class and gender shaped the experience of combatants and noncombatants, many of whom died in indiscriminate bombing campaigns. Racial ideologies also led to the brutalization of soldiers, which in turn fueled the violence against civilians, as exemplified by the Holocaust and Japanese war crimes. Finally, the course turns to the global order emerging after the war and the different narratives that emerged from it. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only HST 460 or HST 494 (Introduction to World War II Studies) or HST 494 (World War II Studies) or JST 460 or WWS 460 OR Visiting University Student |
| JST | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | |
| JST | 490 | Methods of Historical Inquiry | Capstone course in history as an academic discipline, including formulation of research questions, use of primary and secondary sources to evaluate, form and support historical arguments. Students draft and revise a scholarly research paper. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L | Prerequisite(s): History or History of Science, Tech and Innovation or Jewish Studies or Secondary Education (History) major; ENG 102, 105, or 108 with C or better; minimum 55 hrs; Credit allowed for only HST 495 or JST 490 OR Visiting University Student |
| JST | 491 | History of Antisemitism | Antisemitism means hostility, negative perceptions and persecution of Jews. Examines the evolution of antisemitism in the West from antiquity to modern times. Explains the history of antisemitism by looking at the interplay of religious, economic, cultural and political factors. Gives special attention to the origins of Christianity, the place of Judaism in Christian self-understanding, the power struggle between popes and emperors during the Middle Ages, the involvement of Jews in money lending, the alliance between the Jews and the secular princes, the rise of modern nationalism, and the place of racism in the politics of modern nation states. With a better understanding of the history of antisemitism, ponders the differences and similarities between premodern anti-Judaism and modern antisemitism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| JST | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| JST | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| JST | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|--|
| JST | 495 | Judaism, Science and World Religions | Studies the correlation between science and religion as an interdisciplinary study from a historical perspective. Session topics fall into three distinct units. The first correlates the physical sciences with Western religious theology; the second explores the consequences of the life sciences on religious psychology; and the third examines the impact of the interconnection between sciences and religions in society. Each unit is studied through specific readings, film, lectures, and discussion. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105 or 108 with C or better; JST 210, 230 with C or better or REL 210 with C or better; Minimum 87 hours |
| JST | 496 | Biblical Narratives: Literary Approaches | Presents different trends in synchronic approaches applied to the Bible such as narrative criticism, semiotics, reader-response criticism, and situates them both in the postmodern cultural context and in the history of biblical exegesis. Explores various literary devices in biblical narratives, such as repetition, type-scenes, characterization, the change of points of view, the use of metaphors. Studies each technique on particular biblical texts, literally translated into English, with a special emphasis on how these techniques guide the interpretation and create meaning. Questions the significance of literary approaches for religious or ideological texts, such as the Hebrew Bible. Also considers criticisms raised against these approaches, assesses their limits, and envisions their future. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105 or 108 with C or better; JST 210, 230 with C or better or REL 210 with C or better; Minimum 87 hours |
| JST | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-7 | | |
| JST | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-3 | | |
| JUS | 105 | Introduction to Justice Studies | Introductory overview to the study of justice from a social science perspective. Primary topics include justice theories and justice research. Appropriate for freshmen and sophomores. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Credit is allowed for only JUS 105 or 305 OR Visiting University Student |
| JUS | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-3 | | Pre-requisites: Must have less than or equal to 25 earned hours |
| JUS | 200 | Topics in Concepts and Issues of Justice | Uses critical thinking skills to analyze and comprehend controversial social issues (e.g., abortion, affirmative action, capital punishment, the flat tax, and immigration). | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | |
| JUS | 207 | Homicide and Serial Killers | Explores the scholarship, research and rational analysis of the mass, spree and serial killer. It will examine some of the causes and underpinnings of these killers within the U.S. as well as the major theories and understandings of this phenomenon. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | |
| JUS | 210 | Introduction to Ethnic Studies in the U.S. | Covers diversity of experiences and relations among racial and ethnic groups in the United States. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | C | Credit is allowed for only AFR 212 or APA 210 or JUS 210 or TCL 210 OR Visiting University Student |
| JUS | 214 | The Pursuit of Justice in the 21st Century | Introduces a wide variety of institutions and organizations--locally, nationally and internationally--that seek justice. Provides an understanding of the many ways justice is institutionalized in modern societies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | |
| JUS | 215 | Bob Marley and Reggae: Lyrics of Resistance | Studies political content, influence and impact of Caribbean popular music, in particular the music of Bob Marley. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & G | Credit is allowed for only AFR 215 or JUS 215 |
| JUS | 220 | Introduction to Social Transformation | Introduces key concepts in the study of social change, social innovation, and social transformation. Studies examples of social movements, social activism, community organizing, and coalition building and how such efforts have transformed society and culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Credit is allowed for only APA 220 or JUS 220 or SST 220 |
| JUS | 222 | Drugs and Justice | Provides an historical overview of the development and circulation of certain drugs; explores the more specific effects of drug use and abuse in everyday life; and examines the efforts by governments to both restrict/end and facilitate/expand the drug trade. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | |
| JUS | 235 | Disability, Justice and Advocacy | Overarching history of the disability rights movement and how it is similar to and different from other civil and rights movements. Examines how policies and activism are interconnected within this movement, in addition to looking at other human categories related to disabilities such as gender, sexuality, race and socioeconomic status. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | C | Credit is allowed for only COM 235 or JUS 235 or SST 235 or WST 235 |
| JUS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| JUS | 300 | Race and Racism in Africa/African Diaspora | Advanced study of the concepts of race and racism and how they manifest themselves in the USA, the Caribbean, and Africa. Examines the construction of race, racism, and race relations in Africa and the African Diaspora as well as practices to challenge ethnicity, racism, and racial oppression. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours; Credit is allowed for only AFR 301 (or AFS 301) or JUS 300 |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------|-------|-----------------|---|
| JUS | 301 | Research in Justice Studies | Focuses on developing and evaluating research designs, data collection, and the relationship between validity and reliability. Stresses methods for conducting research. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| JUS | 302 | Statistical Analysis for Justice Studies | Concepts and application of descriptive and inferential statistics, including linear regression, for justice studies research.. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | CS | Prerequisite(s): ENG 102, 105, or 108 with C or better; MAT 117, 142, 170, or General Studies MA course with C or better; minimum 24 hours OR Visiting University Student |
| JUS | 303 | Justice Theory | Examines classic and contemporary philosophies and theories of justice, including legal, social, and criminal justice. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | L | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 24 hours OR Visiting University Student |
| JUS | 304 | Islands of Globalization: Caribbean Politics and Political Economy | In-depth study of the complexities of contemporary Caribbean politics and political economy. Examines the countries that constitute the Caribbean community and common market and the Caribbean Latin American countries such as Cuba and the Dominican Republic and analyzes the historical evolution of the region's political and economic systems and the impact of globalization. Traces the development of the region's political economy from the colonial period to the present; looks at the impact of globalization on contemporary politics, economics, and culture and the region's response. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G & H | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours; Credit is allowed for only AFR 304 (or AFS 304) or JUS 304 |
| JUS | 305 | Principles of Justice Studies | Introductory overview to the study of justice from a social science perspective. Primary topics include justice theories and justice research. Appropriate for juniors and seniors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only JUS 105 or JUS 305 OR Visiting University Student |
| JUS | 308 | Courts and Society | History and development of courts. Relationship between dispute resolution mechanisms and cultural/social structure/processes in which they are embedded. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| JUS | 317 | Genes, Race and Society | An in-depth examination of the biological and social construction of race in western societies. Special emphasis is placed on examining these constructs from a historical perspective. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & H & C | Prerequisite(s): AFR 200 or minimum 30 hours; Credit is allowed for only AFR 317 or JUS 317 |
| JUS | 320 | Community and Social Justice | Discusses and analyzes definitions of community; impact of environment on behavior; promises of community organization for local empowerment. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours |
| JUS | 321 | Wealth Distribution and Poverty | Examines wealth and income distribution in the United States and analyzes ideological and political forces producing an increasingly unequal society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours |
| JUS | 323 | Justice and the Development of the Welfare State | Provides a comprehensive overview of the development of social welfare and relevant issues pertaining to social justice. Introduces upper-division students to different ideas about the meaning of social welfare in the context of the development of the U.S. welfare state. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours |
| JUS | 325 | Globalization and Socio-Economic Justice | Addresses a trend producing increasing interconnectedness of economies and societies, as well as creating new conflicts and divisions. Provides greater understanding of global forces, as well as the effect of these forces on global economic justice. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; minimum 2.00 GPA; Credit is allowed for only JUS 325 or SGS 325 or SOC 325 OR Visiting University Student |
| JUS | 326 | Music as Political Discourse: Reggae, Calypso, and Hip Hop | This is a reading and writing intensive course that employs critical thought that explores African Diaspora popular music as a medium of social and political expression. It examines the political content of Reggae, Calypso and Hip Hop and their role in triggering and influencing popular discourse in the Caribbean and the USA. Course material will analyze the interrelationships among the musical forms and their role in fostering Black and Pan African Cultural Identity, Political Consciousness and World Peace. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & H & G | Prerequisite(s): AFR 200 (or AFS 200); minimum 45 hours; Credit is allowed for only AFR 325 (or AFS 325) or JUS 326 |
| JUS | 327 | Music and Justice: Revolutionary Measures | Examines music and its diverse role in society, including its impact on social and political control as well as its relationship to justice. Since the beginning of recorded history, music has played a significant role in the production of formal and informal social control. Societies use music as part of ritual and religious worship, entertainment, expression, communication and aesthetic pleasure as well as a means of political protest. However, music has also been effectively used by states, from liberal democracies to dictatorships, to compel obedience whether through propaganda or torture in inflicting and/or exacerbating pain and suffering. Indeed, current research reveals the powerful effects of music at a cellular level to mobilize people. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only JUS 327 or JUS 394 (Music, Social Conflict, and Justice) or JUS 494 (Music, Social Conflict, and Justice) OR Visiting University Student |

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|---------|----------------|---------------------------------------|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------|-------|-----------------|--|
| JUS | 329 | Domestic Violence | Critical inquiry into the legal, historical, theoretical, comparative, and treatment literatures on domestic violence; application of contemporary justice and social change theories to research how society defines and organizes against domestic violence. May include consideration of intimate partner abuse, child abuse and neglect, and gender violence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 24 hours OR Visiting University Student |
| JUS | 330 | Survey of African American Politics | In-depth study of the dynamics of the African American political experience. Examines the historical development of African American politics from the anti-slavery era to the Civil Rights breakthrough of the 1960's through the present political climate. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & H | Prerequisite(s): AFR 200 or minimum 45 hours; Credit is allowed for only AFR 330 or JUS 330 OR Visiting University Student |
| JUS | 332 | Politics of Energy Policy and Justice | Examines the social and political dimensions that shape energy and environmental policy. Focuses primarily on the U.S. Introduces elements of regional or global policy where they influence or shape domestic politics and policies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours |
| JUS | 334 | Science, Technology and Inequality | Conceptual and theoretical frameworks; provides empirical case studies that contribute to understandings of science and technology as they are used in society. The applications of science and technology in society need to be understood as instrumental to the creation and maintenance of inequality within and between societies. Science and technology does not merely cause or alleviate inequality, but are more profoundly implicated in social relations regarding distribution and access to the benefits of different technologies as well as exposure to risks from science and technology projects in society. The more pervasive and obdurate sources of social distribution are enshrined and entrenched in these scientific and technological systems. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Social Transformation | 3 | C | Prerequisite(s): minimum 45 hours; Credit is allowed for only FIS 334 or JUS 334 |
| JUS | 335 | Organized Crime | Critical inquiry into organized crime and its illegal activities; analysis and application of contemporary theories; analysis of strategies for reducing the prevalence and power of organized crime in the U.S. and other nations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours |
| JUS | 343 | Culture and Society Transformation | Uses video documentaries and movies to explore the way in which cultural values, economic background and human interaction impact and transform societies. Societal changes in Central and Eastern Europe make a good case study for contrasting and comparing with other societies and understanding global trends and issues in today's world. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G | Prereq(s): ENG 101, 105, or 107 with C or better; Credit for only ASB 345 or ASB 394 (Cult & Soc Transform) or JUS 343 or JUS 394(Cult & Soc Transform) or ROM 343 or SLC 343 or SLC 394 (Cult & Soc Transform) or SOS 344 or SOS 394 (Cult & Soc Transform) |
| JUS | 345 | Peoples and Cultures of the Caribbean | Traces the socio-political history of the wider Caribbean from the 15th century to the present. Focuses on the following broad areas: the early years of European settlement and colonization; the construction of slavery and plantation society; and the transition from colonization to political independence. Critically examines the origins and building blocks of Caribbean society as well as analyzes the linkages between the region and the rest of the African diaspora. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G & H | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours; Credit is allowed for only AFR 345 (or AFS 345) or JUS 345 |
| JUS | 347 | Immigration, Education and the Family | Cultural processes related to immigration and their impact on the social construction of the immigrant family and the education of other children. Immigration theories, immigration debates and discourses, the immigration landscape of the 21st century, conceptualizations of the family, and the methodological challenges family researchers face. Topics include issues pertaining to education and the family and globalization. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only APA 347 or JUS 347 OR Visiting University Student |
| JUS | 350 | Immigration and Justice | Examines immigration policy, history of immigration, refugee issues, labor force participation, gender, family, children, social networks, and transnationalism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| JUS | 351 | Gender and Hip Hop | Interrogates the history and global proliferation of hip hop as a set of cultural and consumer practices including music, dance, art, fashion, language and entrepreneurialism. Uses an intersectional approach to unpack hip hop's contributions to larger social discourses around race, gender, gender expression, sexuality, sexual identity and sexual expression, and youth culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AFR 351 or AFR 394 (Gender and Hip Hop) or JUS 351 or JUS 394 (Gender and Hip Hop) or WST 351 or WST 394 (Gender and Hip Hop) OR Visiting University Student |
| JUS | 352 | The Global Politics of Human Rights | Examines political forces that have shaped gradual construction of an international human rights regime and a universal culture of rights, including civil and political rights, as well as economic, social, and cultural rights. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only JUS 352 or SOC 354 OR Visiting University Student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------|-------|-----------------|--|
| JUS | 353 | Borders, Prisons and Suburbs | Explores how the relationship between race and space has been important to the development of broad patterns of social inequality in the United States. Through a variety of readings, films and other material, examines how ideas of race and space have been important to the making and maintenance of national boundaries, citizenship, regional histories and spatial typologies such as border, ghetto, suburb and prison. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): minimum 24 hours; Credit is allowed for only AFR 352 (or AFS 352) or APA 352 or JUS 353 or TCL 353 |
| JUS | 355 | Human Rights Organizations and Institutions | Investigates the emergence and evolution of the organizations and institutions designed to promote and protect human rights at global, regional and national scales. Explores reasons why it is necessary to institutionalize human rights, the trial and error process that led to postwar international human rights regime, challenges and the future of human rights. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Social Transformation | 3 | G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only JUS 355 or SOC 355 OR Visiting University Student |
| JUS | 360 | Law and Social Control | Resolution of social issues through the application of law as an agent of social control. Nature, sanctions, and limits of law. Categories of law and schools of jurisprudence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours |
| JUS | 365 | Inequality and Diversity in Education | Advanced exploration of various dimensions of diversity in relation to educational systems and outcomes. Through sociological and psychological research, case studies and films, students examine how educational inequality is created and reproduced through individual actions and institutional constraints. Also considers the connection between schooling and human rights and ways in which educational inequality may be addressed. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | L & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; AFR 212, APA 200, APA 210, CDE 232, JUS 210, TCL 210, or minimum 24 hours; Credit is allowed for only AFR 350, APA 350, CDE 350, JUS 365, SOC 350, or TCL 360 OR Visiting University Student |
| JUS | 370 | Cultural Diversity and Justice | Analyzes how cultural diversity challenges and broadens conventional understanding of justice. Examines how cultural beliefs and practices come into conflicts with public law and policy. Assesses the U.S.'s performance on incorporating cultural diversity in its social institutions including education, media, and popular culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| JUS | 371 | Sexuality and Social Justice | Theoretical and case-study based examination of how people, either alone, in groups, as members of an organization or participants in a social movement, seek to change the meaning, representation and regulation of sexuality. Analysis and practice of skills, strategies and tactics associated with the pursuit of "sexuality justice" by advocates within social movements. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only JUS 371 or JUS 394 (Sexuality and Social Justice) |
| JUS | 374 | The Holocaust, Genocide, and Human Rights | Explores the psychological, social, historical, and political dimensions of the Holocaust and the phenomenon of genocide. Also examines the more recent international cases of genocide along with a discussion and analysis of the Universal Declaration of Human Rights. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| JUS | 375 | Justice and the Mass Media | Analysis of the impact of mass media and popular culture on social justice issues, including criminal justice. Critical inquiry into portrayals of gender, race, culture and class in mass media and other forms of popular culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours |
| JUS | 377 | Arizona, Immigration, Latinos and Politics | Contemporary immigration and its related issues have generated significant debates, reforms and responses by government officials, businesses and private citizens, to name but a few in this country. This course provides a much-needed framework for understanding some of the immigration issues in Arizona and the country generally. It also focuses on some of the political responses by Latinos and their significant mobilization at the local, state and federal levels. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only JUS 377 or POS 377 or SGS 377 or TCL 377 or JUS/HST/POS/SGS/TCL 394 (Arizona, Immigration, Latinos and Politics) OR Visiting University Student |
| JUS | 378 | Poverty, Inequality and Social Justice in Latin America | With persistently high levels of poverty and inequality, Latin America is often considered the most unequal region in the world. This course explores the economic, political, social and geographic origins of poverty and inequality in Latin American countries since independence. It also studies efforts to address the problem by governments, non-governmental organizations, the international community, religious groups and activists. Explores these themes in more detail through a case study of one Latin American country and a global intensive experience at the end of the course. By reflecting on the Latin American experience, students gain insights for wealthy countries like the United States where inequality is on the rise. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only HST 378 or JHR 378 or JUS 378 or LAS 378 OR Visiting University Student |
| JUS | 382 | Justice and Pop Culture | Explores the connections between the production, reproduction, and consumption of popular culture and the resultant impact on issues of justice. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU or SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours |
| JUS | 385 | Justice and Everyday Life | Justice and injustice in everyday life and how small things can become legal issues. Role of language and interaction in social order. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------|-------|-----------------|--|
| JUS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| JUS | 405 | Inequality, Economy and Justice | Addresses economic issues and justice implications, including the interplay among economic conditions, race-ethnicity, class, and gender worldwide. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or SB) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours OR Visiting University Student |
| JUS | 408 | Comparative Development of the Welfare State | Embodies a multidisciplinary perspective on welfare issues and exposes students to different ideas about justice beyond the United States. Allows them to better understand how and why states organize and deliver justice in different ways. Exposes students to cross-national variation in how history, culture, politics, and economics have shaped the development and content of different types of welfare states. Engages theoretical perspectives from political sociology and political economy concerning the emergence and future fate of these welfare states. Analyzes comparative analysis of three distinctive types of welfare states; Liberal, Conservative, and Social Democratic Welfare States, with particular emphasis on their varying capacity to combine economic efficiency with social justice. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | L & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours |
| JUS | 410 | Punishment: Logic and Approach | Analyzes forms of punishment, how and why they have changed. Areas include philosophy, history, and social structure of punishment. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours |
| JUS | 420 | Women, Work, and Justice | Examines gender inequality in the workplace, including the nature of women's work, theoretical issues, and models for promoting gender justice at work. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or SB) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only JUS 420 or SOC 425 |
| JUS | 421 | Race Ethnicity and Politics in the African Diaspora | Reading and writing intensive course that employs critical thought to look at the competition for political power among different ethnic groups in Africa, the Caribbean and the USA and the implications for political stability, economic development, democratic governance, democratization, nationhood and the empowerment of African and African Diasporan populations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G | Prerequisite(s): AFR 200 (or AFS 200) and minimum junior standing OR minimum 9 upper-division hours in any classes with the following prefix: AFH, AFS, AFR, APA, JUS, POS, SGS, SOC, WST; Credit is allowed for only AFR 420 or JUS 421 |
| JUS | 422 | Women, Law, and Social Control | Examines social, economic, and legal factors that are relevant to mechanisms of social control of women, including formal legal control and informal control through violence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only JUS 422 or WST 422 |
| JUS | 424 | Ethics and Alternative Tourism | Cultural processes related to alternative tourism and their impact on both the tourist and local. Travel, tourism, globalization, development, human rights and the commodification of people and places. Topics include issues pertaining to Western tourism, commodification, race/class/gender and globalization. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): ENG 102 (or ENG 105 or 108) with C or better; minimum 36 hours. Credit is allowed for only JUS 424 or JUS 494 (Sex, Drugs and Death) |
| JUS | 425 | Race, Gender, and Justice | Critically examines major theories, research findings, policies, and controversies concerning race, ethnicity, gender, and crime. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or SB) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours OR Visiting University Student |
| JUS | 426 | The Politics of Immigration | Examines immigration and citizenship in the United States, with a focus on changes in policy, politics and incorporation trends. While a primary focus is on contemporary politics and policies, also spends much time on immigration and citizenship's legal history and on how scholars use history to reveal new, important insights for our understanding of debates today. Starts with a discussion of migration to the U.S. today and considers theories about international migration. Then moves to the history of immigration and citizenship policies and politics in the U.S. and continues up to present day political and national debates and initiatives. Contains a particular focus on the history, politics and debates around "undocumented"/"illegal"/unauthorized populations, on related citizenship and membership politics. With the continuing national debates, also spends additional time throughout the semester analyzing current reform politics and prospects, along with the different interests and constituencies battling for reform. Readings and assignments feature some of the different disciplinary approaches used in the study of immigration, drawing primarily from political science, history, sociology and anthropology. Aims to gain a better understanding of the different approaches and implications for using different types of methodologies. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only JHR 425 or JUS 426 OR Visiting University Student |

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| JUS | 427 | Identity and Justice | Theory of symbolic interaction which provides a vocabulary, observational methodology (i.e., dramaturgy) and a set of grounding concepts that allow students to explore identity in its everyday practices. Explores the transformation and emergence of identities in public discursive spaces and the political impact of identity as it is deployed (invoked) and interpreted (imputed) among interactants in the social world. Establishes the position that identity operates as a central constitutive function in the construction of meaning and, subsequently, our ideas and attitudes about justice. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | L | Prerequisite(s): ENG 102, 105 or 108 with C or better; Minimum 36 hours; Credit is allowed for only JUS 427 or JUS 494 (Identity & Justice) |
| JUS | 428 | Critical Race Theory | In-depth analysis of the ways in which race has been historically utilized, constructed, and contested in American civil society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only AFR 428, APA 428, JUS 428 or SST 428 OR Visiting University Student |
| JUS | 430 | Social Protest, Conflict, and Change | Analyzes historical and contemporary protest movements advocating equality based on race, gender, and sexual orientation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or SB) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours OR Visiting University Student |
| JUS | 432 | Racial Justice | Racial inequality remains a dominant theme in understanding social, legal, and economic justice in the U.S. today. Explores controversial topics surrounding race and justice. Emphasizes current legal, economic, political, and social conceptual frameworks. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only JUS 432 or SOC 432 OR Visiting University Student |
| JUS | 435 | Cinema and Justice | Tracks the conceptualizations of justice that have been and are currently conveyed in film, including but not limited to the relationship between crime and various notions of justice. Other depictions include social issues such as gender, race, or economics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours OR Visiting University Student |
| JUS | 437 | The Social Construction of Disability and Justice | Examines the construction of disability as a social, cultural and political phenomenon. Dominant understandings of disability typically use narrow medical and therapeutic explanations and thus disabled individuals often are defined as deviant, stigmatized, incompetent and marginal. Disability is a construct that finds its meaning and representation within a social and cultural context. Accordingly, this class examines the ideologies that such representations can conceal in order to crack the hegemonic façade, challenging the ways in which disability is perceived and treated by the dominant society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only JUS 437 or JUS 494 (The Social Construction of Disability) |
| JUS | 438 | Human Differences: Dilemmas of Justice | General examination of democracy and human differences that expands into in-depth investigations of (1) racial difference and identity politics; (2) gender and sexual difference in democracy; and (3) cultural difference and the multiculturalism debate. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours |
| JUS | 440 | Prisons, Power and the Punishments of the Past | Examines the history and logics of a "U.S. Penal Democracy," tracing how prisons became the preferred and accepted choice for punishment. Traces how the practices, policies and rationalizations of punishment (physical, psychological and social) have been at the center of U.S. politics beginning in the 17th century. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102 (or ENG 105 or 108) with C or better; minimum 36 hours. Credit is allowed for only JUS 440 or JUS 494 (Prisons, Power and the Punishments of History) |
| JUS | 444 | Environment and Justice | Explores issues of environment and justice. Topics include justice and environmental racism, future generations, nonhuman life, global/non-Western societies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | L & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only FIS 444 or JUS 444 |
| JUS | 445 | Surveillance and Society | Explore how surveillance technologies alter social life; the complex ways that they interact to produce security, fear, control, and/or vulnerability. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours |
| JUS | 456 | Human Rights and Sustainability | Addresses the connections between human rights and environmental sustainability. Legal and scholarly approaches linking these areas present new perspectives for addressing some of the greatest challenges of our time, given the important resource dimensions of economic and social rights and the human dimensions of sustainability. Yet human rights demands and environmental concerns are not always in harmony. Explores these tensions and opportunities by examining three substantive areas: urban ecology and human rights, the human right to food, and the human rights implications of extractive industries such as oil and mining. Following an introduction to the key concepts of human rights and sustainability, explores the substantive areas through theoretical and empirical readings on each; grassroots accounts of struggles over environment-related human rights; and selections from literature and film that illustrate the environmental justice issues at stake. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or SB) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only JUS 456 or JUS 497 (Seminar in Human Rights) or SOC 455 or SOS 456 |
| JUS | 460 | Feminism and Justice | Explores feminist thought and critiques traditional political theories. Examines issues of racism, sexuality, and the law. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------|-------|-----------------|--|
| JUS | 463 | Discretionary Justice | Use/abuse, key issues/manifestations of discretion in legal system and other societal institutions. Theoretical/empirical linkages between discretion and discrimination, based on race, ethnicity, and gender. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours |
| JUS | 465 | Death Penalty in the United States | Focuses on capital punishment in the United States; explores negotiation of law, politics, morality, public policy, and culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours OR Visiting University Student |
| JUS | 467 | Terrorism, War, and Justice | Examines the relationship among terrorism, war, and justice. Analyzes terrorism within the larger study of deviance and social control, comparative politics, hegemony, and international law. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours OR Visiting University Student |
| JUS | 468 | Protest, Justice, Law and the Media | Examines research on protests, political deviance, trials/law and justice, and critiques some of the media representations of related ideas. Investigates global social movements, political protests and nascent political trials. Analyzes varied justifications for defining action as diversity, deviance or crime and the reasons for using criminal, civil or alternative (positive) sanctions (especially via indigenous peoples). Explores the encompassing meaning of a political trial. Many people throughout the world find everyday life to be a trial, especially those placed on the margins of globalization. Expands the research on media and trials that usually have been examined narrowly by legal institutions in North America and reinforced by hegemony. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only JUS 468 or JUS 494 (Protest, Justice and the Media) |
| JUS | 469 | Political Deviance and the Law | Examines the controversies created by political and deviant behavior, including a critical view of law as an agent of social control. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or SB) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours OR Visiting University Student |
| JUS | 470 | Alternative Dispute Resolution | Critical examination of the tenets of alternative dispute resolution movement; exposure to the programs of ADR, including community and court based. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | L & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours |
| JUS | 475 | Law, Societies and Justice in Latino-America | Reviews justice-related sociological and criminological theories in the target language. Introduces the application of social theories and human right principles to the issues affecting Latino communities both in Latin America and the United States. Students engage in critical inquiries and focused research to develop culturally sensitive and insightful solutions to criminal and justice-related topics that affect Latinos in their communities (physical or virtual). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G | Prerequisite(s) with C or better: ENG 102, 105 or 108; SPA 202 or 204 OR Spanish Placement Test score of 421-520 OR Español Placement Test score of 370-520; Credit allowed for JUS 475, SPA 470 or JUS/SPA 494 (Law, Societies & Justice in Latino-America) |
| JUS | 477 | Youth and Justice | Critical examination of youth-related justice issues, including economic justice, violence against youth, delinquency, and the juvenile justice system. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | L or SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours OR Visiting University Student |
| JUS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| JUS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-6 | | Prerequisite(s): Barrett Honors student |
| JUS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| JUS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours OR Visiting University Student |
| JUS | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-6 | | Prerequisite(s): Barrett Honors student |
| JUS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-7 | | |
| JUS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-3 | | |
| JUS | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisites: Social and Cultural Pedagogy MA student, Justice Studies MS or PHD student |
| JUS | 501 | Justice Theory | Theories and philosophies of social, economic, political, and criminal justice. Applies theories to contemporary justice issues. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Pre-requisites: Justice Studies MS or PHD student |
| JUS | 509 | Statistical Problems in Justice Research | Methodological problems of research design and statistical methods specific to justice studies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Pre-requisites: Justice Studies MS or PHD student |
| JUS | 521 | Qualitative Data Analysis and Evaluation | Analyzes qualitative data, e.g., field notes, in-depth interview transcripts, document analysis, coding, and retrieval with a microcomputer; qualitative evaluation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Pre-requisites: Justice Studies MS or PHD student |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------|-------|-----------------|--|
| JUS | 530 | Social Policy, Critical Advocacy and Disability | Graduate seminar focuses on social policy and critical advocacy as it relates to disability culture and rights. Focuses on state, national and international discourses around disability-related policies, rights, social movements and advocacy/activism. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; Credit is allowed for only JUS 530 or JUS 598 (Policy, Advocacy and Disability) or JUS 598 (Social Policy and Critical Advocacy) |
| JUS | 542 | American Indian Justice | Provides a broad overview of American Indian and Alaskan Native issues of justice and injustice in contemporary society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 550 | Gender, Race, and Economic Justice | Provides a critical social scientific perspective on economic issues particularly as they relate to gender, race, and class equality. Examines issues of economic inequalities as they are distributed along the lines of gender and race. Components converge to identify the social justice ramifications of economic policy and economic conditions. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 555 | Migration/Immigration and Justice | Explores the causes and consequences of immigration to the United States and the incorporation of immigrants into the American economy and society. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 560 | Women, Law, and Social Control | Gender issues in the exercise of formal and informal mechanisms of social control, including economic, social, legal factors, both violent and nonviolent. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 565 | Critical and Comparative Issues in Disability | Examines the construction of disability as a social, cultural and political phenomenon. Focuses on how disability is defined and represented in society as well as the implications/consequences of such definitions. Hegemonic understandings of disability typically have employed narrow medical and therapeutic explanations. From such deterministic perspectives, the disabled individual often has been defined as deviant, stigmatized, incompetent and marginal. This class rejects the perception of disability as a functional impairment that limits a person's activities. Instead, disability is a construct that finds its meaning and representation within a social and cultural context. Accordingly, examines the ideologies that such representations can conceal in order to crack the hegemonic façade, challenging the ways in which disability is perceived and treated by the dominant society. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only JUS 565 or JUS 598 (The Social Construction of Disability) |
| JUS | 575 | Race, Gender, and the Law | Explores the law and social sciences literature on race, ethnicity, gender, and the legal order. Critically assesses the major contemporary theoretical and policy debates and controversies in the field from a variety of disciplinary and interdisciplinary lenses, setting these debates in their historical contexts. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 588 | Justice and the Mass Media | Analyzes the nature and impact of mass media messages about justice concerns for social order. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Social Transformation | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------|-------|-----------------|--|
| JUS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 610 | Law and the Social Sciences | Analyzes the theoretical grounds underlying diverse studies of law and society; creation and administration of law; and jurisprudence and politics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 620 | Justice Research Methodology | Covers the epistemology of knowledge and method in justice research, history, and philosophy of social science and critical inquiry, as well as perspectives that link these concerns to research strategies. Explores the strengths and weaknesses of introduced methodologies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): Justice Studies MS or PHD student; JUS 500 with C or better |
| JUS | 630 | Data Analysis for Justice Research | Bivariate and multivariate techniques of data analysis and hypothesis testing for justice-related research and use of information and statistical programs. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): Justice Studies MS or PHD student; JUS 509 with C or better |
| JUS | 633 | Community Research | Focuses on epistemology, methodology, and the production of knowledge about community and seeks to link theory, methodology, specific research strategies, and social criticism about the conduct of community research. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 640 | Theoretical Perspectives on Justice | Analyzes philosophical perspectives of justice; linkages between social science theory and justice constructs; application of justice to social issues. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): Justice Studies MS or PHD student; JUS 501 with C or better |
| JUS | 650 | Advanced Qualitative Data Analysis | Advanced qualitative data collection and analysis techniques, including ethnography, in-depth interviews, field notes, coding, transcribing, content analysis, textual analysis. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Pre-requisites: Justice Studies MS or PHD student |
| JUS | 651 | Theorizing Sexuality and Social Justice | Examines the intellectual development of "sexuality" knowledge across disciplines; analyzes the regulation of sexuality through social policy and cultural norms; case studies of how social movements counter normative definitions of sexuality and work toward their vision of "sexuality justice." | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only JUS 591 (Sexuality and Social Justice) or JUS 651 or JUS 691 (Sexuality and Social Justice) |
| JUS | 656 | Human Rights and Sustainability | Addresses the connections between human rights and environmental sustainability. Legal and scholarly approaches linking these areas present new perspectives for addressing some of the greatest challenges of our time, given the important resource dimensions of economic and social rights and the human dimensions of sustainability. Yet human rights demands and environmental concerns are not always in harmony. Explores these tensions and opportunities by examining three substantive areas: urban ecology and human rights, the human right to food, and the human rights implications of extractive industries such as oil and mining. Following an introduction to the key concepts of human rights and sustainability, explores the substantive areas through theoretical and empirical readings on each; grassroots accounts of struggles over environment-related human rights; and selections from literature and film that illustrate the environmental justice issues at stake. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only JUS 656 or SOS 656 or JUS 691 (Human Rights & Sustainability) |
| JUS | 660 | Globalization and Economic Justice | Explores the political economy of globalization from a theoretical as well as practical standpoint. Sources used come from a variety of disciplines--sociology, political science, international relations, geography, and economics--all of which contribute unique theoretical and normative tools for analyzing the effect of global forces on economic justice. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Pre-requisites: Graduate student |
| JUS | 669 | Political Trials and Indigenous Justice | Focuses upon research on political trials, deviance, and conceptions of indigenous and contemporary justice. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------|-------|-----------------|---|
| JUS | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Social Transformation | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Liberal Arts and Sciences | School of Social Transformation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| KIN | 100 | Introduction to Health and Wellness | Current concepts in health, exercise, and wellness. Emphasizes personal health, theories, attitudes, beliefs, and behaviors. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | SB | Credit is allowed for only HEP 100 (EXW 100) or KIN 100 |
| KIN | 101 | Introduction to Kinesiology | Introduces the disciplines and professions associated with kinesiology, sport and exercise science, with an emphasis on evidence-based practice, exercise physiology, sport and exercise psychology, motor behavior and biomechanics. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |
| KIN | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| KIN | 290 | Introduction to Evidence-Based Practice | Introduces best practices for gathering, interpreting, analyzing, synthesizing and evaluating research within the health and health care professions. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s) w/ C or better: College of Health Solutions major; ENG 101, 105, or 107; ECN 221, HCD 300, JUS 302, PBH 300, POS 401, PSY 230, SOC 390, STP 226, STP 231 or SWU 321; Credit allowed for only KIN 290 or NTR 290 OR Visiting University Student |
| KIN | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| KIN | 310 | Collegiate Sports | Participation in men's or women's intercollegiate competition. May be repeated for 4 hours 1 per year. Y/E grade. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1 | | |
| KIN | 334 | Functional Anatomy and Kinesiology | Promotes an understanding of the structure and function of the musculoskeletal system and how that system produces human movement. Covers origins, insertions, innervations and actions for most major skeletal muscles and applies that information to the fundamental analysis of movements. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BIO 201 with C or better; BIO 202 with C or better OR Visiting University Student |
| KIN | 335 | Biomechanics | Basic anatomical and mechanical principles applied to human movement. Emphasizes kinematic and kinetic concepts at the total body, local joint and tissue level. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prereq(s) w/min C: Kinesiology BS maj; BIO 201; BIO 202; KIN 101 w/B- or better; MAT 170, 210, 251, 270, 271, or 272; PHY 111 OR non-Kinesiology BS maj; BIO 201; BIO 202; KIN 101; MAT 170, 210, 251, 270, 271, or 272; PHY 111 OR Visiting University Student |
| KIN | 340 | Physiology of Exercise | Physiological mechanisms of acute responses and chronic adaptations to exercise. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s) with C or better: Kinesiology BS major; BIO 201; BIO 202; CHM 101, 113, 114, or 117; KIN 101 with B- or better OR non-Kinesiology BS major; BIO 201; BIO 202; CHM 101, 113, 114, or 117; KIN 101 OR Visiting University Student |
| KIN | 345 | Motor Behavior | Evaluates movement through the perspectives of neural control, development through the lifespan, and the most effective ways to teach and learn motor skills. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Kinesiology BS major; BIO 201 with C or better; KIN 101 with B- or better; PSY 101 with C or better OR non-Kinesiology BS major; BIO 201 with C or better; KIN 101 with C or better; PSY 101 with C or better OR Visiting University Student |
| KIN | 348 | Psychological Skills for Optimal Performance | Covers psychological theory and applied psychological techniques to improve performance and overall effectiveness in sport and related areas. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | SB | Prerequisite(s): KIN 101; PSY 101; Credit is allowed for only CAP 121 or KIN 348 OR Visiting University Student |
| KIN | 352 | Psychosocial Aspects of Physical Activity | Addresses interrelationships between physical activity and psychosocial variables, including correlates of and barriers to physical activity. Introduces research and reinforces concepts related to behavior change theory, motivational theory, exercise psychology and evidence-based interventions to promote physical activity. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | SB & C | Prerequisite(s): Kinesiology BS major; KIN 101 with B- or better; PSY 101 with C or better OR non-Kinesiology BS major; KIN 101 with C or better; PSY 101 with C or better OR Visiting University Student |
| KIN | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|-----------------------------|-----------------------------|-------|-----------------|--|
| KIN | 400 | Topics in Neuroscience | Covers in-depth important and emerging developments in neuroscience, emphasizing lectures that include readings of recent reviews and contemporary publications in peer-reviewed journals. Includes a significant writing component; students learn skills for writing scientific publications and grant applications. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BIO 360 with C or better; Credit is allowed for only BIO 400 or KIN 400 or PSY 400 or SHS 400 |
| KIN | 412 | Biomechanics of the Skeletal System | Biomechanics of tissues, structures, and major joints of the musculoskeletal system. Discussion of injury mechanisms. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 335 with C or better; Credit is allowed for only KIN 412 or KIN 512 OR Visiting University Student |
| KIN | 413 | Qualitative Analysis in Sport Biomechanics | Develops systematic approach for detecting and correcting errors in human performance using anatomical and mechanical principles. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 335 (EPE 335) with C or better |
| KIN | 414 | Electromyographic Kinesiology | Muscular contributions to human movement, muscle mechanics, electrophysiological basis, and practical application of electromyography. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; KIN 335 with C or better; KIN 340 with C or better OR Visiting University Student |
| KIN | 415 | Theory of Corrective Exercise | Philosophic approach of assessing whole body movement and determining common injury mechanisms. Expands understanding of basic movement patterns that cause injury and how to approach potential solutions. Covers identification of imbalances and disfunctions for potential corrective exercise implementation. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 330 or KIN 334; Credit is allowed for only KIN 415 or KIN 515 OR Visiting University Student |
| KIN | 416 | Low Back Pain: Muscles and Movement | Explores research on anatomical/kinesiological abnormalities and movement-related therapies associated with chronic low back pain. Develops competency to determine implications for evidence-based treatment of this common medical condition. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 330 or KIN 334 with C or better; Credit is allowed for only KIN 416 or KIN 494 (Functional Anatomy of Low Back Pain) OR Visiting University Student |
| KIN | 418 | Experimental Neuromechanics | Exploration of different quantitative techniques (electromyography, video, force plates) to analyze human movement from a motor control and biomechanical perspective. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; KIN 290; KIN 335 OR Visiting University Student |
| KIN | 421 | Human Motor Control | Focuses on understanding how the human central nervous system controls, regulates, and learns movements. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; KIN 345 with C or better OR Visiting University Student |
| KIN | 422 | Motor Control in Special Populations | Discusses principles of motor control theories and related practical applications for certain special developmental populations. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; KIN 345 with C or better OR Visiting University Student |
| KIN | 423 | Motor Control and Aging | Functional and behavioral changes to the motor control system as humans age, how specifically it impacts motor control and learning. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; KIN 345 with C or better OR Visiting University Student |
| KIN | 424 | Neural Aspects of Movement and Rehabilitation | An in-depth discussion of how the nervous system controls movement. Provides insight into how the enormous repertoire of human movements (e.g., gait, posture, voluntary hand movements) is controlled by a distributed motor system (e.g., spinal cord, basal ganglia, motor cortex); how pathology to the system alters movements; and an introduction to how rehabilitative approaches address these pathologies. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 345; Credit is allowed for only KIN 424 or KIN 494 (Neural Aspects of Movement and Rehabilitation) OR Visiting University Student |
| KIN | 437 | Comparative Biomechanics and Motor Control | Guides students to critically evaluate how the physical and mechanical properties of organisms and their environment affect biological tissues, structures, and motor control. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BIO 181 with C or better; MAT 170 with C or better; PHY 111 with C or better OR Visiting University Student |
| KIN | 440 | Exercise Biochemistry | Study of bioenergetics and metabolism of cellular (skeletal muscle, heart, and liver) organelles and proteins during exercise. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 340; Credit is allowed for only KIN 440 or 532 |
| KIN | 441 | Physiology of Women in Sport | Physiological aspects of women engaging in physical activity. Emphasizes factors affecting performance and health throughout life. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; KIN 340 with C or better; Credit is allowed for only KIN 441 or KIN 531 OR Visiting University Student |
| KIN | 442 | Fuel Metabolism | Discusses current research concerning the metabolism of carbohydrate, fat, and protein during exercise. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 340 with C or better OR Exercise and Wellness major; EXW 315 with B or better; Credit is allowed for only KIN 442 or KIN 536 OR Visiting University Student |
| KIN | 443 | Exercise Endocrinology | Focuses on the cellular and systems physiology of the neuroendocrine system, as well as presents research-based findings of how exercise alters neuroendocrine function to improve performance and offset injury. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; KIN 340 with C or better; Credit is allowed for only KIN 443 or KIN 533 OR Visiting University Student |
| KIN | 444 | Metabolic Adaptations to Exercise Training | Examines physiologic adaptations to exercise training as they relate to metabolism and tissue functions. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 340 with C or better OR Visiting University Student |

| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|-----------------------------|-----------------------------|-------|-----------------|---|
| KIN | 446 | Pediatric Obesity | Covers a variety of aspects related to pediatric obesity including the causes and consequences in terms of physiologic, genetic, psychosocial, environmental and economic. Also discusses potential interventions such as behavioral, pharmacologic, surgical and public health and policy. Evidenced-based course where research guides class lectures and discussions. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 315 or KIN 340; Credit is allowed for only EXW 412 or KIN 446 or EXW 494 (Pediatric Obesity) or KIN 494 (Pediatric Obesity) |
| KIN | 447 | ECG Interpretation | Using ECG data, this course comprehensively investigates cardiac arrhythmias and interactions with therapeutic drugs and exercise. | N | LEL | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 340 or SSP 315 (EXW 315) with C or better; Credit is allowed for only KIN 447 or KIN 547 OR Visiting University Student |
| KIN | 450 | Biopsychosocial Perspectives on Physical Activity and Health | Utilizes a problem-based learning approach to examine a biopsychosocial perspective of physical and mental health. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 352 with C or better OR Visiting University Student |
| KIN | 452 | Exercise Psychology | Analyzes existing scientific evidence to critically assess the use of exercise to maintain mental health and treat mental illness. Addresses a variety of topics from stress to clinical depression along with research methods to enable students to critically assess the evidence and determine the best applied exercise-based recommendations. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | SB | Prerequisite(s): KIN 352 with C or better; Credit is allowed for only CAP 121 or KIN 452 or KIN 522 OR Visiting University Student |
| KIN | 454 | Motivational Theory in Exercise and Health | Assesses motivational theories relevant to the field of exercise and health psychology. Evaluates research and utilizes the findings to create applied public service announcements targeted toward a specific health issue (e.g., exercise, nutrition, smoking) and a specific population. Assesses students on four group public service announcements and "mini exams" for each unit. Taught in class, online and in a hybrid format. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 352 with C or better; Credit is allowed for only KIN 454 or KIN 494 (Motivational Theory in Exercise & Health) |
| KIN | 460 | Theory of Strength Training | Utilizes a problem-based learning approach to facilitate an understanding of the neurological and physiological mechanisms underlying muscular and performance-based adaptations to resistance training. Covers and applies peer-reviewed research to solve practical resistance training-focused questions. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; KIN 340 with C or better OR Visiting University Student |
| KIN | 465 | Muscle Physiology | Discusses the cellular and systems physiology of the skeletal and cardiac muscle systems, as well as presents research on the effects of exercise on skeletal muscle function and adaptation. Describes and recognizes the detailed structure, composition and biochemical properties of skeletal muscle. Applies knowledge of ultrastructure, microanatomy and biochemical properties of skeletal muscle to factors influencing its form and function. Describes the factors that affect muscle adaptation. Applies knowledge of muscle gene expression to the heterogeneity of metabolic and molecular responses to skeletal muscle. Compares and contrasts differences among skeletal, smooth and cardiac muscle fiber types. Interprets and analyzes current research findings and applies these concepts to endurance and strength training adaptations. Develops an understanding of many of the molecular signaling pathways regulating muscle adaptation. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 315 or KIN 340 with C or better; Credit is allowed for only KIN 465 or KIN 494 (Muscle Physiology) or KIN 598 (Muscle Physiology) OR Visiting University Student |
| KIN | 466 | Cardiovascular Exercise Physiology | Examines varying concepts related to cardiovascular exercise physiology. Covers the basics of the cardiovascular system, how the system works both at rest and during exercise, and how it responds to exercise training. Evaluates research and utilizes the findings to enhance learning of course topics. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 340; Credit is allowed for only KIN 466 or KIN 494 (Cardiovascular Exercise Physiology) OR Visiting University Student |
| KIN | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): minimum 2.00 GPA; Corequisite(s): junior or senior standing |
| KIN | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): Barrett Honors student |
| KIN | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| KIN | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): minimum 25 hours OR Visiting University Student |
| KIN | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-3 | | |
| KIN | 512 | Biomechanics of the Skeletal System | Biomechanics of tissues, structures, and major joints of the musculoskeletal system. Discusses injury mechanisms. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student; Credit is allowed for only KIN 412 or 512 |

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|---------|----------------|------------------------------------|--|-------------------|-------------------|-----------------|---------------|-----------------------------|-----------------------------|-------|-----------------|---|
| KIN | 515 | Theory of Corrective Exercise | The philosophic approach of assessing whole body movement. Expands the student's understanding of the basic movement patterns needed to reduce injury and how the body compensates for movement impairments. Students gain practice screening movement to identify imbalances and dysfunction and learn how to apply corrective exercise techniques. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only KIN 415 or KIN 515 |
| KIN | 520 | Applied Sport Psychology | Psychological theories and techniques applied to a sport to enhance the performance and personal growth of athletes and coaches. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate OR undergraduate postbaccalaureate student; Credit is allowed for only KIN 448 or KIN 520 |
| KIN | 522 | Exercise Psychology | Analyzes existing scientific evidence to critically assess the use of exercise to maintain mental health and treat mental illness. Addresses a variety of topics from stress to clinical depression along with research methods to enable students to critically assess the evidence and determine the best applied exercise-based recommendations. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate OR undergraduate postbaccalaureate; Credit is allowed for only KIN 452 or KIN 522 |
| KIN | 523 | Motor Control and Aging | Focuses on the functional and behavioral changes to the motor system as humans age and how specifically it impacts motor control and learning. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| KIN | 530 | Exercise and Sport Physiology | Covers both acute and chronic adaptation to physical activity with emphasis placed on exercise prescribed to enhance performance in sport and occupational fields relying on maximal or near-maximal efforts. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate or undergraduate postbaccalaureate student |
| KIN | 531 | Physiology of Women in Sport | Physiological aspects of women engaging in physical activity. Emphasizes factors affecting performance and health throughout life. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student; Credit is allowed for only KIN 441 or 531 |
| KIN | 532 | Exercise Biochemistry | Understanding the basic biochemical principles and enzyme pathways involved in energy transduction during exercise. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student; Credit is allowed for only KIN 440 or 532 |
| KIN | 533 | Exercise Endocrinology | Discusses current research and theory concerning hormonal changes during exercise. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student; Credit is allowed for only KIN 443 or 533 |
| KIN | 536 | Fuel Metabolism | Discusses current research concerning the metabolism of carbohydrate, fat, and protein during exercise. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student; Credit is allowed for only KIN 442 or 536 |
| KIN | 540 | Sport Biomechanics | Includes instruction and practical experience in the detailed analysis of sport movements designed to both reduce injury potential and maximize performance. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate or undergraduate postbaccalaureate student |
| KIN | 545 | Movement Assessment and Evaluation | Students perform different laboratory and clinical techniques to analyze human movement for biomechanical applications. Delivered as two components: lecture and laboratory. The lecture component serves to discuss the theory behind quantitative analysis techniques, proper equipment usage, data processing techniques and the connection to biomechanical principles. During the laboratory component students gain hands-on experience with the equipment by performing assigned experiments and clinical assessments. Follows with practice in analyzing, reporting, interpreting and presenting data. Additionally, students make recommendations and assign exercises to correct impaired movement when appropriate. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 515 |
| KIN | 547 | ECG Interpretation | Comprehensive investigation of the heart rhythm disturbances that occur within the chambers and conducting tissue of the heart. Partitioned into three sections allowing the systematic review of arrhythmias that occur in the atria, AV junction and ventricles of the heart. The material is designed to maximize understanding by analyzing electrocardiogram rhythm strips to reinforce applying the theoretical component of the course. Also uses the application of these theories through laboratory experiences allowing hands-on experience with electrode placement and 12 lead ECG interpretations. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Clinical Exercise Physiology MS or Physical Activity and Health MS student; Credit is allowed for only KIN 447 or KIN 547 |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| KIN | 550 | Clinical Applications in Biomechanics | Hands-on experience utilizing clinical techniques and equipment to analyze human movement for biomechanical applications. Uses the student biomechanics laboratory as a simulated clinic environment where volunteers may participate as clients for students to gain experience with clinically relevant biomechanical assessments. Additionally, requires students to showcase successful interpersonal skills to be able to work with a variety of individuals (clients, peers and supervisors) and show an ability to think critically and pay attention to details. | N | LAB | Y | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 515; KIN 540; KIN 545 |
| KIN | 552 | Applied Research Methods in Biomechanics | Develops research skills and gains further experience working in a biomechanics research environment. Assigns a variety of projects to facilitate the student's skill development for biomechanics research such as utilizing modeling applications with related computer processes, inverse kinematics calculations and motion tracking techniques. | N | LEC | Y | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 500; EXW 501; KIN 540; KIN 545 |
| KIN | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| KIN | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| KIN | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| KIN | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Health Solutions | College of Health Solutions | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| KOR | 101 | First-Year Korean I | Pronunciation, grammar, elementary conversation, and development of basic reading and writing skills, including Han'gul. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | |
| KOR | 102 | First-Year Korean II | Continuation of KOR 101. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): KOR 101 with C or better OR Visiting University Student |
| KOR | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| KOR | 201 | Second-Year Korean I | Continual development of communication skills. Increased emphasis on reading and writing, vocabulary building, and review of fundamentals. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): KOR 102 with C or better OR Visiting University Student |
| KOR | 202 | Second-Year Korean II | Continuation of KOR 201. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): KOR 201 with C or better |
| KOR | 250 | Korean Culture and Society | Surveys Korean culture and society, covering history, religious traditions, gender, and popular culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | |
| KOR | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| KOR | 313 | Third-Year Korean I | Continued development of ability to communicate orally and in writing. Exposure to a variety of Korean written styles. | N | REC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): KOR 202 OR Visiting University Student |
| KOR | 314 | Third-Year Korean II | Continuation of KOR 313. | N | REC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Pre-requisites: KOR 313 |
| KOR | 321 | Modern Korean Literature | Introduces various genres of Korean literature written from the seventeenth century to the present in English translation. Aims to help students to understand the history of modern Korean literature in transnational and transdisciplinary contexts. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only KOR 321 or SLC 321 |
| KOR | 347 | Korean Film and Literature | Examines representations of history, memory and ethics in South Korean contemporary cinema and modern literature. Explores a variety of film genres such as thriller, action and horror in order to understand the nation's preoccupation with unsatisfying or unhappy endings. Korea, much like our recent experiences within the United States, has gone through a whirlwind of political, societal and historical change within the past few decades. What we previously considered normal and safe is now threatened and disordered. The study of film narratives and themes encourages students to re-evaluate their understanding of identity, narrative and ethics. Equips students to critically engage with film, literature and theoretical texts to produce a personalized and analytical perspective on the current representative culture of South Korea. All texts and films are provided; all films will have English subtitles; and all readings are in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR minimum 45 hours OR Visiting University Student |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| KOR | 350 | Women of Korea | Examines the changing role and status of women in modern Korea in relation to political and cultural changes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | H | |
| KOR | 354 | Religions of Korea | Explores major religious traditions and folk religions in Korea. Covers diverse topics such as mythology, indigenous practices, doctrinal and meditation Buddhism, early and Neo-Confucianism and Christianity as well as the new religions of modern times. Discusses the development of religious ideas and practices in light of the political, cultural and social milieus. Focuses on cultural importation and adaptation as well as interaction and conflict among the different religious traditions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 102 or 105 or 108 with C or better; minimum 24 hours; Credit is allowed for only KOR 354 or REL 354 |
| KOR | 375 | Intercultural Communication in Korea | Focuses on the fundamental knowledge of Korean intercultural values and communication. Explores and analyzes Korean communication styles and patterns in regard to the relationship between language use in cross-cultural communication, social meaning and cultural motivations. While the main focus is on Korean language, course is conducted in a comparative and interdisciplinary manner on how communicative strategies differ between Korea and other countries (such as China, Japan and the U.S.) due to underlying differences in their cultural values. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & G | Prerequisite(s): minimum 30 hours; Credit is allowed for only KOR 375 or KOR 394 (Intercultural Communication in Korea) or SLC 375 or SLC 394 (Intercultural Communication in Korea) |
| KOR | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| KOR | 401 | Advanced Korean I | Offers students the opportunity to acquire advanced levels of vocabulary, reading proficiency and writing ability for an academic or professional purpose. Also helps students prepare for the TOPIK (Test of Proficiency in Korean). Course materials, ranging from literary works, scholarly articles, journalistic pieces, TV news clips, film scripts and other expository writings, encompass a variety of topics relevant to understanding Korean society and culture. Requires students to master a certain number of basic Sino-Korean characters and to use them in their essays. Throughout the course, students build vocabulary and reading proficiency toward the level expected at college in Korea. All discussions are held in Korean. Students can take this course in conjunction with other Korean three-hundred level language courses upon instructor approval. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): KOR 314 with C or better; Credit is allowed for only KOR 401 or KOR 494 (Korean for Professional Purposes I) |
| KOR | 402 | Advanced Korean II | Constitutes the second of two semesters of study of fourth-year Korean. Offers the opportunity to acquire advanced levels of vocabulary, reading proficiency, and writing ability for an academic or professional purpose. Course materials, ranging from literary works, scholarly articles, journalistic pieces, TV news clips, film scripts and other expository writings, encompass a variety of topics relevant to understanding Korean society and culture. Requires students to master a certain number of basic Sino-Korean characters and to use them in their essays. Throughout the course, students build vocabulary and reading proficiency toward the level expected at college in Korea. All discussions are held in Korean. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): KOR 401 with C or better; Credit is allowed for only KOR 401 or KOR 494 (Korean for Professional Purposes II) |
| KOR | 415 | Korean Popular Culture | Examines production, consumption and interpretation of Korean popular culture in the modern historical context from the early twentieth century to the present. Looks at a range of products and fandom of popular culture, including music, drama, fashion, film and game, focusing on their global circulation to and from Korea through radio, television and online social media. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better OR min 45 hours; Credit is allowed for only KOR 415 or KOR 494 (Asian Popular Culture) or SLC 415 or SLC 491 (Asian Popular Culture) or SLC 494 (Asian Popular Culture) OR Visiting University Student |
| KOR | 420 | Emotions Across Languages, Cultures and History | Presents the main academic approaches to emotions that have been developed in the humanities and social sciences. Explores, among other topics: the different notions and constructions of emotions in various languages, societies and time periods; the cross-linguistic and cross-cultural use of metaphorical expressions of emotions; the social functions of emotions; the use of emotions in the formation of identities. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only KOR 420 or SLC 420 or HEB 494/HEB 598/KOR 494/KOR 598/SLC 494/SLC 598 (Emotions Across Language, Culture, & History) OR Visiting University Student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|---|--|-------|-----------------|--|
| KOR | 457 | Premodern Korea in a Global Context | Offers a comprehensive outline of the literary and cultural traditions of premodern Korea from historical and crosscultural perspectives. Targets both undergraduate and graduate students. Gives students an opportunity to read a variety of texts ranging from literary works, historical, philosophical and religious documents, diaries and travelogues, to important recent scholarly works in the field. Identifies representative literary works and terms. Discusses important topics and issues on premodern Korean literature and the cultural exchange between Korea and Japan, and Korea and China, bringing to bear students' own thoughts and ideas which are articulated in their final research papers. All readings are available in English translation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): minimum 45 hours; Credit is allowed for only KOR 457 or SLC 457 or KOR 494 (Pre-modern Korean Literature and Cultural Exchange) or SLC 494 (Pre-modern Korean Literature and Cultural Exchange) OR Visiting University Student |
| KOR | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| KOR | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| KOR | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| KOR | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| KOR | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| KOR | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| KOR | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LAP | 231 | Introduction to Digital Applications for Designers | Fundamentals of professional computer operation for designers including basic system usage, introduction of software packages focused on the design of sustainable environments, and utilizing computers to assist in environmental analysis and analytic decision making. Software packages include Microsoft Office, Adobe multimedia and creativity products, Esri ArcGIS geographic information systems (GIS), Autodesk AutoCAD computer aided design/drafting (CAD), and Trimble SketchUp 3D modeling software. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | CS | Prerequisite(s): Landscape Architecture BSLA major; Corequisite(s): LDE 261 OR non-Landscape Architecture major; minimum sophomore standing OR Visiting University Student |
| LAP | 251 | Plant Materials for Sustainable Landscapes | Plants as landscape architectural elements. Emphasizes plant identification and the uses of particular plants in landscape architecture. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Design Studies minor; ALA 102 OR Environmental Design BS major; EDS 223 OR Landscape Studies minor; ALA 102 OR Corequisite(s): Landscape Architecture BSLA major; LDE 262 OR Visiting University Student |
| LAP | 311 | History of Landscape Architecture | Physical record of human attitudes toward the land. Ancient through contemporary landscape planning and design. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU & H | Prerequisite(s): minimum sophomore standing OR Visiting University Student |
| LAP | 312 | 20th-Century Landscape Architecture | Explores concerns, projects, and movements in landscape architecture of late 20th-century understanding; social, ecological, regional, and historical influences. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU | Prerequisite(s) with C or better: Landscape Architecture BSLA major; ALA 100; ALA 102; ALA 121; ALA 122; ALA 124; ENG 101, 105, or 107; MAT 170; minimum 3.00 GPA OR non-Landscape Architecture BSLA major; min junior standing OR Visiting University Student |
| LAP | 332 | GIS Applications in Environmental Design | Addresses fundamentals of geographic information systems (GIS), especially as they relate to applications by environmental planners and designers (including architects, landscape architects, urban designers and related professionals). Focuses on using GIS as tools. Explores the techniques and procedures for acquiring, displaying, editing, analyzing and modeling spatial information. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | CS | Prerequisite(s): Landscape Architecture BSLA major; ALA 235 or LAP 231; minimum junior standing OR Visiting University Student |
| LAP | 341 | Landscape Construction I | Landscape constructions focusing on landform transformations. Topics include landform analysis, grading, and earthwork. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Corequisite(s): LDE 361 OR Visiting University Student |

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| LAP | 342 | Landscape Construction II | Characteristics of materials and methods used in landscape architectural construction. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Landscape Architecture BSLA major; LAP 341 (LTC 343) with C or better; Corequisite(s): LDE 362 OR Visiting University Student |
| LAP | 352 | Ecosystems and Sustainable Design | Increases awareness and understanding of the biotic and abiotic systems, processes and factors of our biosphere in order to facilitate sustainable landscape architectural design and applications. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Environmental Design major; LAP 254 OR Landscape Studies minor; LAP 254 OR Design Studies minor; LAP 254 OR Corequisite(s): Landscape Architecture major; LDE 361 OR Visiting University Student |
| LAP | 353 | Planting Design for Sustainable Landscapes | Functional and aesthetic use of plants in arid-region landscape design. Explores design philosophies through planting design problems. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Landscape Architecture BSLA major; Corequisite(s): LAP 341 (LTC 343); LDE 361 OR Visiting University Student |
| LAP | 371 | Professional Practice | Landscape architecture practice including contracts, project and office management, liability, licensing, and professional development. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): Landscape Architecture BSLA major; Corequisite(s): LDE 362 OR Visiting University Student |
| LAP | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| LAP | 413 | Landscape Architecture Theory and Criticism | Critically analyzes landscape architecture theories and projects to evaluate validity of design and contribution to society. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | L | Prereq(s): Lndscp Arch maj; ENG 101,105, 107 w/C; LDE 362 w/C; Coreq(s): LDE 461 OR Envirmntl Dsgn maj or Lndscp Studies min; ENG 101,105,107 w/C OR Dsgn Studies minr; ENG 101,105,107 w/C; LAP 311 (LPH310); LAP 312 (LPH311) OR Visiting University Student |
| LAP | 443 | Landscape Construction III | Landscape construction focusing on low-technology, biotechnical, regional, and experimental techniques or systems. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Landscape Architecture BSLA major; LAP 342 (LTC 344) with C or better; Corequisite(s): LDE 462 OR Visiting University Student |
| LAP | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): Landscape Architecture BSLA major; Pre- or corequisite(s): LDE 361 |
| LAP | 485 | International Field Studies | Organized field study, culture and language in specified international locations. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-6 | G | Pre-requisite: Junior standing; Credit is allowed for only GCU 485 or GPH 485 or LAP 485 or POR 485 or PUP 485 or 585 |
| LAP | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | | Prerequisite(s): Barrett Honors student |
| LAP | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| LAP | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| LAP | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis | Y | IND | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-3 | | Prerequisite(s): Landscape Architecture BSLA major or Landscape Studies minor; minimum junior standing |
| LAP | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LAP | 585 | International Field Studies | Organized field study in specified international locations. | N | SEM | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GCU 485 or GPH 485 or LAP 485 or LAP 585 or PUP 485 or PUP 585 |
| LAP | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | REC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LAP | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| LAP | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LAP | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| LAS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| LAS | 205 | Deep Roots: Latin America | Introduces the diversity of Latin-American traditions through its cultural production. The approach is interdisciplinary (art, architecture, literature, film, theater, business and anthropology). Studies the history and culture of Latin America and its concept of identity and nation through a variety of genres. Focuses on aspects that reveal the complexity of Latin America and in turn provides insights into Latin American culture. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & G | |
| LAS | 206 | Locating Latin America: Interdisciplinary Methods | Methodologies course designed to provide exposure to academic fields and research approaches that intersect in Latin American studies | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| LAS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| LAS | 324 | Food in Latin America | Uses food as a critical lens for studying Latin American culture and history and looks at how the evolution of human development, and especially the food that we eat, is influenced by social, political and economic context. Studies the production and commodification of food in Latin America, and its globalization. Also covers how Latin American cuisine sheds light on the formation of cultural identity and perceptions of nationalism. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 305 (Food) or HST 324 or LAS 324 OR Visiting University Student |
| LAS | 330 | From the Inside: The Latin American Journey | Journeys through a wide variety of genres and critical scholarship. Provides a broad exposure to different types of reading and writing. Prepares students to engage with many types of Latin American texts across disciplines. Covers Latin American cultural history from pre-Colombian to the postmodern by exploring different formats and genres around major central themes. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| LAS | 340 | Latin American Women Writers | In the 20th and 21st centuries, Latin America has seen a proliferation of literature published by women authors. While this explosion of the written word owes in part to changing socioeconomic factors and the opening of the international markets, Latin American women's literary history is often ignored in the canon. Examines the concepts of feminism through a Mexican framework, starting from the point of view of Mexican women theorizing about their own. This is not a history of feminism, but it does aim to highlight certain fundamental texts and key concepts of Mexico's history from the position of women writers, including feminism's critique of social structures beyond the bounds of gender relations. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only LAS 340 or WST 341 |
| LAS | 350 | The Construction of a Nation: Chile in the 20th/21st Century | Examines Chilean history, politics and cultural production through its historical development and explores a multiplicity of cultural issues. Develops knowledge and appreciation of cultural and visual production of Chile and Latin America as well as acquired skills for critically analyzing texts in their applicability to modern-day society. Considers the variety of cultural and artistic productions (novel, poetry, short story, film, music, pop culture, presidential speeches) as sources of social commentary in which observations of national identities are constructed. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102 (or ENG 105 or 108) with C or better; Credit is allowed for only LAS 350, ENG 494 (Construction/Nation:Chile in the 20th/21st Cen) or SPA 494 (Construction/Nation:Chile in the 20th/21st Cen) |
| LAS | 351 | Cityscapes: Urban Mexican Literature and Culture | Examines major developments in contemporary Mexican literature. Begins at mid-20th century as the novel turns away from the rural novel of the Revolution, toward a more urban setting. Mexico City serves as a cultural and political center, and the novels mark social and political changes across different literary currents. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| LAS | 355 | Contemporary Mexican Cinema: Changing Cartographies | Examines major themes and auteurs in contemporary film as their work intersects with larger cultural phenomena, expanding students' cultural knowledge as well as critical communication skills. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| LAS | 375 | Colonial Latin America | Ancient civilization, exploration and conquerors, and colonial institutions. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 375 or LAS 375 |

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| LAS | 376 | Modern Latin America | In-depth examination of the development of independent Latin American republics since 1821. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 376 or LAS 376 OR Visiting University Student |
| LAS | 378 | Poverty, Inequality and Social Justice in Latin America | With persistently high levels of poverty and inequality, Latin America is often considered the most unequal region in the world. This course explores the economic, political, social and geographic origins of poverty and inequality in Latin American countries since independence. It also studies efforts to address the problem by governments, non-governmental organizations, the international community, religious groups and activists. Explores these themes in more detail through a case study of one Latin American country and a global intensive experience at the end of the course. By reflecting on the Latin American experience, students gain insights for wealthy countries like the United States where inequality is on the rise. | N | LEC | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only HST 378 or JHR 378 or JUS 378 or LAS 378 OR Visiting University Student |
| LAS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| LAS | 404 | Conquest and Encounters in Colonial Latin America | How did Hernan Cortés and Francisco Pizarro defeat the Aztec and Inca Empires? Despite numeric inferiority, limited provisions, and little knowledge about the Americas, Cortés and Pizarro defeated advanced civilizations that had experienced warriors and millions of inhabitants. Possible explanations include the conquistador's valor, advanced weaponry, superior military strategy, Indian allies, and biological attacks. In their encounters with native peoples of the Americas, Europeans were not always conquerors. Álvaro Núñez Cabeza de Vaca and Lope de Aguirre failed both in their attempt to conquer a large Indian civilization and in their effort to find mineral wealth. A few Europeans such as Bartolomé de Las Casas spoke out against the abuses committed against the Indians during the conquest. Explores these issues from the perspective of both Europeans and native peoples and looks at the long-term impact for Latin America and its peoples. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours; Credit is allowed for only HST 404 or LAS 404 OR Visiting University Student |
| LAS | 419 | 20th Century Chicano/a History | Historical development of the Chicano community in the 20th century. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only HST 419 or LAS 419 |
| LAS | 428 | Peoples and Cultures of the American West, to 1848 | Provides an integrated understanding of change over time within and between the native, Mexican, Anglo, Asian and African American communities of the region by looking into the major formative historical forces affecting these populations individually and collectively. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only AMS 428 or ETH 428 or LAS 428 or MAS 598 (Chicano Cultures in Southwest) OR Visiting University Student |
| LAS | 430 | Gender on the Borderlands | Examines women's status in the U.S.-Mexico borderlands through key issues such as migration, labor, violence, education, and culture. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR WST 100 or 300 with C or better; Credit is allowed for only ETH 430 or LAS 430 or WST 430 or JHR 598 (Gender on the Borderlands) OR Visiting University Student |
| LAS | 441 | Latin America and the World Economy | Globalization did not begin in the late twentieth century, but rather global trade has linked Latin America with the rest of the world for over five hundred years. The region has been an active and important participant in the world economy since Columbus's first voyage in 1492. This course explores the social, cultural, economic, and environmental impact of such participation on both Latin America and the rest of the world. It is organized both chronologically and thematically. We will study both colonial and post-colonial trade. The commodities studied include sugar, rubber, bananas, and cocaine. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L & G & H | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only HST 441 or JHR 441 or LAS 441 OR Visiting University Student |
| LAS | 449 | Latin American Cinema: The Dead and the Disappeared | Studies Latin American politics and culture through film with particular focus on recent periods of Latin American history in which there have been social upheavals, dictatorships and state repression, and dirty wars. Discusses film as an art form with specific aesthetic goals, a tool to effect change within society, a mode of cultural and social expression, and a vehicle for reconciling collective trauma and preserving memory. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | G & H | Prerequisite(s): ENG 102, 105, or 108 w/C or better; Credit allowed for only FOR 449, LAS 449, SPA 449, FOR 494 (Lat Am Cinema: Dead & Disap), LAS 494 (Lat Am Cinema: Dead & Disap), SPA 494 (Lat Am Cinema: Dead & Disap) OR Visiting University Student |

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| LAS | 450 | Latina/os, Schooling and Social Inequality | Advanced interdisciplinary understanding of the issues facing Chicano, Mexican American and Latino communities in relation to K-16 schooling in the southwestern United States. Examines various schools of thought that have shaped social discourse and policies, develops a critical perspective on the social and political issues affecting education, and identifies issues--both historical and contemporary--affecting Chicanos in public education. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | C | Prerequisite(s): minimum 45 hours; Credit is allowed for only AMS 450 or ETH 450 or LAS 450 or AMS 429 (Latino/a School & Social Inequity) |
| LAS | 471 | Treaties and Cultural Production in Spain and the Americas | Emphasizes sociocultural values associated with national, transborder and transatlantic identities providing a panoramic view of treaties, agreements, constitutions and cultural production by Americans and Spaniards from 1812 to 2012 with particular focus on the themes of nations, borders, citizenship and identity. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| LAS | 473 | Indigenous and Latina/Chicana Representation | Examines from an interdisciplinary perspective contemporary issues experienced by Indigenous and Chicana/Latina women in the U.S. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only ETH 473 or LAS 473 or WST 473 |
| LAS | 480 | Current Trends in Theatre and New Media in Latin America and Spain | Overview of the transatlantic cultural interrelationships between Latin American and Spanish theatre and performance in the 20th and 21st centuries. Explores topics such as cyber-theatre, Internet theatre and multimedia theatre. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| LAS | 481 | Dictatorships and Dirty Wars: Latin American Cinema from Resistance to Reconciliation | Examines aspects of Latin American politics and culture of and through the optic of social unrest. Examines films focusing on the period(s) of recent Latin American history in which there have been social upheavals, dictatorships and state repression, "dirty wars": understood as clandestine wars waged on the citizenry by the government, social movements from below. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only LAS 481 or SPA 481 or ENG 494 (Dictatorships/Dirty Wars:Lat Am Cinema) or SPA 494 (Dictatorships/Dirty Wars:Lat Am Cinema) |
| LAS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | |
| LAS | 485 | Latin American Studies Capstone | Students select and prepare for their capstone project, which represents the culmination of their study. | N | RSC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): Latin American Studies BA major; LAS 205 with C or better; LAS 206 with C or better; LAS 330 with C or better |
| LAS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| LAS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| LAS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| LAS | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| LAS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | IND | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| LAS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-3 | | |
| LAT | 101 | Elementary Latin | Basic Latin grammar with an emphasis on developing reading skills. For beginning students only. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | |
| LAT | 102 | Elementary Latin | Continuation of LAT 101. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Pre-requisites: LAT 101 |
| LAT | 140 | Greek and Latin Roots in Bioscientific Terminology | Introduces students to the ancient Greek and Latin root words most commonly used in biological, medical, and other scientific terminology, and gives practice identifying them in context. The knowledge of these root words enables students to memorize with greater ease and increased retention the bioscientific terminology they encounter in other coursework as well as in their medical or scientific profession. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Credit is allowed for only BIO 140 or GRK 140 or LAT 140 or SLC 140 OR Visiting University Student |
| LAT | 143 | Roman Civilization | Introduces ancient Roman civilization from the earliest times (ca. 1200 BCE) through the fall of the Western Empire (CE 476) and the reign of the Byzantine Emperor Justinian (6th c. CE). Examines ancient Roman society, history, art, architecture, literature, mythology and legends. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Credit is allowed for only LAT 143 or LAT 194 (Roman Civilization) or SLC 143 or SLC 194 (Roman Civilization) |
| LAT | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| LAT | 201 | Intermediate Latin I | Final semester of grammar. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | HU & G | Prerequisite(s): LAT 102 OR Visiting University Student |

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| LAT | 202 | Intermediate Latin II | Beginning reading of Latin authors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | HU & G | Prerequisite(s): LAT 201 OR Visiting University Student |
| LAT | 222 | Survey of Roman Literature | Introductory survey of Roman literature. Familiarizes students with the literary genres, texts and authors of the Romans from the origins of the Latin language to the Silver age. All readings in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Credit is allowed for only LAT 222, SLC 222, LAT 294 (Roman Literature in Translation) or SLC 294 (Roman Literature in Translation) |
| LAT | 223 | Introduction to Greek and Roman Mythology | Familiarizes students with the characters and events of ancient Greek and Roman myths through their literary manifestations, and moves beyond mere narrative to consider the possible interpretations and functions of these myths, thus revealing the central concerns of ancient society and giving insights into the working of our own society and its literary and artistic traditions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Credit is allowed for only GRK 223 or LAT 223 or SLC 223 |
| LAT | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| LAT | 301 | Roman Authors | Intermediate Latin reading class that introduces Roman prose authors such as Livy, Cicero and Pliny and explores the variety of genres within Latin prose, such as historical accounts, personal letters and political oratory. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): LAT 201 with C or better; Credit is allowed for only LAT 301 or LAT 394 (Introduction to Latin Authors) |
| LAT | 322 | Medieval Latin | Surveys Late Antique and medieval Latin authors and texts, both prose and poetry. Some review of grammar. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): LAT 201 with C or better |
| LAT | 344 | Classics and Comics | Explores the connections between the classical tradition of Ancient Greek and Roman literature and the modern American superhero comic book tradition. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 101 or 105 or 107 with C or better; Credit is allowed for only GRK 344 or LAT 344 or SLC 344 or GRK/LAT/SLC 394 (Classics and Comics) or SLC 494 (Classics and Comics) |
| LAT | 356 | Rome from Village to Empire | Provides an in-depth exploration of Republican Roman literature and explores how these primary sources shaped and were shaped by ancient Rome's history and culture during its formative Republican period. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only LAT 356 or LAT 394 (Rome Before the Empire) or SLC 356 or SLC 394 (Rome Before the Empire) OR Visiting University Student |
| LAT | 357 | Rome's First Emperor | Provides an in-depth exploration of Roman literature during the Augustan period, and explores how these primary sources shaped and were shaped by ancient Rome's history, literature and culture during its formative Republican period. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only LAT 357 or LAT 394 (Augustus and the Creation of the Roman Empire) or SLC 357 or SLC 394 (Augustus and the Creation of the Roman Empire) OR Visiting University Student |
| LAT | 358 | Saving the Roman Empire | In his autobiographical epitaph, the Res Gestae, Augustus, founder of the Roman Empire, claimed to have restored Rome to her former glory. His moral, social and political reforms solidified Roman control of the world and the imperial family's hold on ruling her. Through the next five hundred years, as the power of the empire waned and waxed, Augustus's successors turned time and again to reforming the empire and restoring her to her former glory - to saving the Roman Empire. In doing so they had to deal with problems both external and internal; sometimes their ideas worked, often they did not. Ultimately they failed, and Rome and the western empire fell in CE 476. Examines the rise, decline and fall of the Roman Empire from the perspective of internal and external problems the Empire faced, and asks which reforms worked, which did not work, and why. What could have been done differently? Should anything have been done differently, or was the western Roman Empire always doomed? | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GRK 294/HST 294/LAT 294/SLC 294 (Saving the Roman Empire) or LAT 358 or LAT 394/SLC 394 (Saving the Roman Empire) or SLC 358 OR Visiting University Student |
| LAT | 360 | Greece and Rome at War | Covers ancient Greek and Roman warfare and features military historical staples like strategy, tactics, logistics, battles and leadership. Other topics that intersect this exploration of ancient warfare include ethnolinguistic identity, state formation, religion, gender, imperialism, military theory, medicine, monumental building and slavery. Students acquire wide knowledge of the relevant history and are encouraged to critically think about essential themes in historical studies. Also features a strong interactive component, including group discussions, theory-crafting and presentations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only GRK 360 or HST 397 or LAT 360 or SLC 360 OR Visiting University Student |
| LAT | 361 | Roman Religion | Roman religion was never static, despite the best efforts of the Roman state to make it so. Understands the artifacts and procedures of Roman state cult from its earliest origins to the late empire, using ancient literary sources, archaeology throughout the ages and modern scholarly theories. Clarifies the forces that influenced development and change in Roman religion, both internal and external. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only LAT 361 or REL 361 or SLC 361 or SLC 394 (Roman Religion) OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| LAT | 363 | Ancient Magic and Witchcraft | Examines magical spells, curses, amulets and other materials from ancient Greece and Rome. Students read anthropological discussions of magic worldwide to understand how ancient magic operated, what its function was within Greco-Roman society, and how it developed over the centuries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GRK 363 or LAT 363 or SLC 363 or GRK 394/LAT 394/REL 394/SLC 394 (Magic and Witchcraft in Antiquity) OR Visiting University Student |
| LAT | 373 | Roman History I: Foundations and Republic | Traces the growth of Roman power from Rome's humble beginnings in the eighth century B.C. to its domination of the Mediterranean and the transformation of the Roman Republic into the Roman Empire after the Battle of Actium (31 B.C.). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 373 or LAT 373 or SLC 373 |
| LAT | 374 | Roman History II: The Roman Empire | The Roman Empire from the reign of the first emperor, Augustus (27 B.C.-A.D. 14), to that of Justinian (A.D. 527-565), focusing on the lives of the Roman emperors, the society and culture of the empire, and the profound changes that eventually contributed to the empire's collapse. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 374 or LAT 374 or SLC 374 |
| LAT | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| LAT | 421 | Roman Literature | Readings in the Latin masterpieces. Authors read change each year in accordance with needs of the class. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): LAT 202 OR Visiting University Student |
| LAT | 444 | Heroes, Ancient and Modern | Explores the heroic literature of the ancient Greeks and Romans, then traces the classical tradition and reception of the classical hero in medieval and modern texts. Incorporates history, art history and material culture from the relevant societies to supplement study of the texts involved. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only GRK 444, LAT 444, SLC 444 or SLC 494 (Heroes: Ancient and Modern) |
| LAT | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| LAT | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| LAT | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| LAT | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| LAT | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LAW | 210 | Introduction to American Legal System and Business Law | Introduces the American legal system and an overview of laws that impact business in the United States. Initially examines the questions: What is law? What is the source, nature, and scope of laws; and how is law shaped by our culture and political institutions? How is the American legal system structured and operated? The majority of substantive content examines the role of law in business. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Prerequisite(s): minimum sophomore standing OR Visiting University Student |
| LAW | 310 | The Global Legal Community | Introduces the building blocks of the developing "global legal community," global governance institutions, both public and private, international law and transnational legal regimes. Examines how dynamic area of law is influenced by, and influences the conduct of the international and domestic relations. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Pre-requisite: Junior or Senior standing; Credit is allowed for only LAW 310 or 394 (The Global Legal Community) |
| LAW | 315 | Foundations in American Business Law | Explores the foundations of American business law. Topics covered include: the structure and processes of the U.S. legal system, a comparison of transactional law and business litigation concepts and processes, and the role of regulation in the free market. Students read law cases and other legal texts such as legislation, professional and academic legal writing. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Prerequisite(s): minimum 45 hours |
| LAW | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | |

| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|------------------------------|--|-------------------|-------------------|-----------------|---------------|------------------------------------|------------------------------------|-------|-----------------|--|
| LAW | 480 | Business Law | Surveys business law across the spectrum from Main Street to Wall Street. Begins with a hypothetical business established by an entrepreneur in her garage, the evolution of the formation and operation of this business as a sole proprietorship, and a transition of the business to a partnership, LLC and corporation. Follows this venture through the typical legal requirements of picking a name, seeking a trademark, defining ownership, appointing officers and directors, hiring staff, navigating the fiduciary duties owed to owners of the business, protecting intellectual property, raising capital, government regulations, and ultimately the structure of a successful exit for the owners by "going public" or sale of the company. Topics included are taxation, creditors rights, technology transfer, contracts, contemporary issues and current events. Capstone course is designed to assess students' recognition of the intersection of law and business, develop critical thinking skills by use of the case method, encourage speaking and class participation and emphasize writing skills. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Prerequisite(s): Business (Law) BA major; LAW 210; LES 305 or any 300- or 400-level LAW course; minimum junior standing OR Visiting University Student |
| LAW | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | |
| LAW | 515 | Contracts | Explores common law legal method and the structure of Article 2 of the U.C.C. in the context of issues of contract formation. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3-5 | | |
| LAW | 516 | Criminal Law | Substantive law of crimes. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | |
| LAW | 517 | Torts | Legal protections of personality, property, and relational interests against physical, economic, and emotional harms. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | |
| LAW | 518 | Civil Procedure | Explores the structure of a lawsuit and techniques of alternative dispute resolution. Specific topics include commencement of suit, joinder of parties, discovery, pretrial motions, subject matter and personal jurisdiction, res judicata, collateral estoppel, and choice of law under the Erie doctrine. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3-5 | | |
| LAW | 519 | Legal Method and Writing | Examines methods used to analyze legal problems. Reviews precedent statutory construction and basic res judicata problems. Use of basic legal writing formats. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 522 | Constitutional Law | Role of courts in the federal system, distribution of powers between state and federal governments, and the role of procedure in litigation of constitutional questions. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | |
| LAW | 523 | Property | Indicia of ownership, found property, estates in land, landlord tenant, nonpossessory interests in property, nuisance, land use planning, and transfers of interests in property. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | |
| LAW | 524 | Legal Advocacy | Continuation of LAW 519. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2 | | |
| LAW | 530 | Fundamentals of Contract Law | Explores the fundamental principles of contract law under the common-law and Uniform Commercial Code statutory provisions. Focuses on issues of contract formation and interpretation, defenses to enforcement, warranties and conditions, and remedies for breach of contract. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Prerequisite(s): Master of Legal Studies major; Credit is allowed for only LAW 530 or LAW 598, Fundamentals of Contract Law |
| LAW | 540 | Legal Analysis | Enhances study and exam skills and facility with legal analysis. Helps students perform their best in all courses throughout law school, providing tools with which they can continue to build skills. Enables students to effectively prepare for the bar exam after graduation with the aim of passing it on first sitting. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 540 or LAW 598 (Legal Analysis) |
| LAW | 581 | U.S. Law and Legal Analysis | Introduces non-JD students to the U.S. legal system and to the types of legal reasoning used by U.S. lawyers and judges. Provides the necessary instruction to use legal reasoning in work, including reading and understanding cases and statutes and applying existing law to the issue presented. Extensive written legal analysis exercises. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Prerequisite(s): Laws (Global Legal Studies) or Legal Studies or Master of Sports Law and Business student |
| LAW | 582 | Patent Drafting | Prepares students to draft patent applications on behalf of clients. Additionally, students learn the techniques and language necessary to reply to Offices Actions issued by the United States Patent and Trademark Office (USPTO). Provides significant drafting experience, requiring three separate writing submissions and revisions based on instructor feedback throughout the course. Students create work product examples that can be shared with potential employers and/or prospective clients. | N | LEL | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; LAW 585 |
| LAW | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|-------------------------------|--|-------------------|-------------------|-----------------|---------------|------------------------------------|------------------------------------|-------|-----------------|---|
| LAW | 585 | Comprehensive Patent Practice | Prepares students for the patent prosecution process, as administered by the United States Patent and Trademark Office (USPTO). Uses a "cradle to grave" approach, beginning with the earliest steps taken when preparing to draft a patent application for a client and ending with post-decision options and activities available to those awarded with an issued patent or denied an issued patent. | N | LEL | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-5 | | Prerequisite(s): College of Law student |
| LAW | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | |
| LAW | 596 | Professional Legal Writing | Teaches non-JD students how to organize a legal research project by analyzing the facts and identifying the issues involved, determining the research tools needed to correctly investigate the legal problem, and systematically using these tools to strengthen and support the desired legal argument. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisites: Laws (USLaw&Global Legal Pract) or Legal Studies students |
| LAW | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | |
| LAW | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | |
| LAW | 600 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Pre-requisite: College of Law student |
| LAW | 601 | Antitrust Law | Legislation and its implementation to prevent monopoly and business practices in restraint of trade, including restrictive agreements involving price-fixing, trade association activities, and resale price maintenance. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisites: College of Law student |
| LAW | 602 | Civil Procedure II | Focuses on the Rules of Civil Procedure and how lawyers use the Rules in litigating civil cases from initiation through the pre-trial stages. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3-4 | | |
| LAW | 603 | Conflict of Laws | Problems arising when the operative facts of a case are connected with more than one state or nation. Choice of law, bases of jurisdiction, effect of foreign judgments, and underlying federal and constitutional issues. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LAW | 604 | Criminal Procedure | Nature of the criminal procedural system with special focus on constitutional protections for the accused. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Pre-requisites: College of Law student |
| LAW | 605 | Evidence | Principles and practice governing the competency of witnesses and presentation of evidence, including the rules of exclusion and roles of lawyer, judge, and jury under the adversary system. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3-4 | | Pre-requisites: College of Law student |
| LAW | 606 | Federal Income Taxation | Federal income tax in relation to concepts of income, property arrangement, business activity, and current tax problems, with focus on the process of tax legislation and administration. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3-4 | | Pre-requisites: College of Law student |
| LAW | 607 | Nanotechnology Law and Policy | Provides an overview of the legal and policy issues relating to nanotechnology, including risk management, national and international regulations, intellectual property, privacy issues, and liability issues. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 608 | Taxation of Business Entities | Key concepts and issues in the taxation of business entities, including C corporations, S corporations, LL.C.s and partnerships. Considers the tax issues that arise when forming a business entity, how to treat income earned by the entity and distributions from the entity to its owners, and consequences of dissolving or selling business entities. Coursework includes review of specific code provisions, administrative materials and important cases. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; LAW 606; Credit is allowed for only LAW 608 or LAW 691 (Tax Business Entities) |
| LAW | 609 | Administrative Law | A large portion of federal law comes from administrative agencies such as the Environmental Protection Agency, the National Labor Relations Board and the Department of Defense. Examines the institutional role and legitimacy of these federal administrative agencies. Topics include the source of administrative authority; the rationale for delegation of authority to administrative agencies; constitutional constraints on agency power; the different forms of agency rulemaking; agency adjudication of facts and law; the scope and purpose of judicial review of agency action; and the degree to which administrative agencies exercise executive, legislative and judicial powers. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 609 or LAW 600 (Administrative Law) |
| LAW | 610 | Advanced Criminal Procedure | Topics in criminal procedure, with emphasis on legal constraints on grand jury investigations, police practices, pretrial release, preliminary hearings, prosecutorial discretion, and plea bargaining. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|------------------------------------|------------------------------------|-------|-----------------|--|
| LAW | 611 | Estate and Gift Tax | Tax laws relating to transfer of wealth both at death and during lifetime, including federal estate tax, gift tax, and income taxation of estates and trusts. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student; LAW 606 |
| LAW | 612 | Family Law | Legal and nonlegal problems that an individual may encounter because of a situation as a family member. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Pre-requisite: College of Law student |
| LAW | 613 | Federal Courts | Federal judicial system; relationship of federal and state law; jurisdiction of federal courts and their relation to state courts. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 614 | International Contracts | Explores the laws applicable to international contractual relations, focusing heavily on the United Nations Convention on Contracts for the International Sale of Goods. One of several offerings in the field of International Business Transactions, touches on choice of law rules and a comparison of selected UCC with CISG provisions; a comparison of the contract law of selected foreign nations with the UCC; and the law of contracts in the United States. The casebook is heavily oriented toward a problem method of study. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 615 | Public International Law | Role of law in international disputes. Considers drafting and interpretation of treaties and multilateral conventions. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Pre-requisite: College of Law student |
| LAW | 616 | Jurisprudence | Introduces legal philosophy, with readings on the nature of law and legal reasoning, the relationship between law and morality and equality and social justice. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Pre-requisite: College of Law student |
| LAW | 617 | Genetics and the Law | Provides background on genetics and recent genetic advances; addresses the legal consequences and issues associated with such advances. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Prerequisite(s): College of Law student or College of Health Solutions graduate student; Credit is allowed for only BMD 617 or LAW 617 |
| LAW | 618 | Decedent's Estates | Substantive concepts involved in transmitting wealth, including interstate succession, wills and will substitutes, the modern trust as a family protective device, creation of future interests in a planned estate, social restrictions of a nontax nature, and methods of devoting property to charitable purposes. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Pre-requisite: College of Law student |
| LAW | 619 | Energy Law and Policy | Examines laws relating to the ownership, consumption and conservation of energy resources, including coal, petroleum, natural gas, sunlight and wind. Explores and analyzes laws that allocate interests in energy resources and that regulate energy production and delivery strategies so as to promote economic efficiency and to mitigate adverse impacts on the natural environment. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Prerequisite(s): College of Law student; Credit is allowed for LAW 619 or LAW 691 (Energy Law & Policy) |
| LAW | 620 | Civil Rights Legislation | Coverage of the rights and remedies provided by federal civil rights legislation, principally, the key provisions of the Reconstruction Era Civil Rights Acts, portions of the employment discrimination legislation, and voting rights legislation. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 621 | Sales | Advanced issues involving the formation and interpretation of sales and lease contracts. Focuses primarily on Articles 2 and 2A of the Uniform Commercial Code. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 622 | Secured Transactions | Secured transactions under Article 9 of the Uniform Commercial Code and other relevant sections. Overview of the creation, perfection, and priority effects of security interests. Financing of business enterprise and consumer credit. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 623 | Fourteenth Amendment | Divided into three unequal parts, first explores the antebellum antecedents that are relevant to understanding the Fourteenth Amendment. In the second part, studies the early interpretations of the Fourteenth Amendment, from about 1873 to about 1955. In the third, longest part of the course, explores modern interpretations of the Fourteenth Amendment, and particularly the application of "equal protection" to race and sex discrimination; the application of "substantive due process" and fundamental rights adjudication to sexual intimacy, abortion rights and same-sex marriage; and the debate over the incorporation of the bill of rights against the states. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 623 or LAW 691 (14th Amendment) |
| LAW | 624 | Community Property | Property rights of husband and wife; the Arizona community property system; homestead. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-2 | | Pre-requisite: College of Law student |
| LAW | 625 | Survey of Individual Rights in Constitutional Law | Fundamental protection for person, property, political, and social rights. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3-4 | | Prerequisite(s): College of Law student |
| LAW | 626 | Writing for Law Practice | Helps students attain an advanced level of writing proficiency by exposing them to a broad range of legal documents. | N | SEM | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Pre-requisites: Juris Doctor Candidate; Credit is allowed for only LAW 626 or 665 |
| LAW | 627 | Corporate Taxation | Problems in taxability of the corporation, corporate distributions, and corporate reorganizations. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Prerequisite(s): College of Law student; LAW 606 with C or better |
| LAW | 628 | First Amendment | Offers a comprehensive and in-depth examination of the rights of freedom of speech and the press secured by the First Amendment of the United States Constitution. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed only for LAW 628 or LAW 791 (First Amendment) |

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|---------|----------------|--------------------------------------|--|-------------------|-------------------|-----------------|---------------|------------------------------------|------------------------------------|-------|-----------------|---|
| LAW | 629 | Employment Law | Employment law topics including testing, privacy, OSHA, FLSA, benefits, worker's compensation, rights to compensation, workplace emotional injuries, termination, and sexual harassment. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Pre-requisite: College of Law student |
| LAW | 630 | Employment Discrimination | Focuses primarily on Title VII of the Civil Rights Act of 1964, the Age Discrimination in Employment Act, and the Americans with Disabilities Act. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 631 | Environmental Law | Litigation, administrative law, and legislation relating to problems of environmental quality. Topics covered may include air and water pollution, toxic substances, pesticides, and radiation. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Pre-requisite: College of Law student |
| LAW | 632 | Federal Indian Law I | Inquiry into legal problems special to American Indians and tribes. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Pre-requisite: College of Law student |
| LAW | 633 | Law, Litigation, and Science | Fills a gap in the education of most lawyers, namely, how to effectively think about and use empirical evidence. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 634 | Election Law | Explores the law governing politics and elections in the United States. Examines a variety of topics, including: the Constitution and its protection of the right to vote; reapportionment; the Voting Rights Act; gerrymandering; the constitutional rights of political parties; campaign finance regulation; and election administration (e.g., the use of electronic voting equipment, provisional and early voting). Also considers the relationship between these topics and partisanship. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 634 or LAW 691 (Election Law) |
| LAW | 635 | Juvenile Law | Special problems in the juvenile system. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 636 | Land Use Regulation | Legal problems in the regulation and control of land development by state and local governments. Administration of zoning, subdivision, and other planning controls; issues of fairness and procedure in the utilization of such controls. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 637 | The Litigation Experience | Offers the opportunity to serve as trial lawyers in a simulated case. Using a "learning by doing" format, students take a hypothetical civil or criminal lawsuit from the pleading stage through discovery, pretrial motion practice, ADR and trial. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): Juris Doctor of Law student; Pre- or corequisite(s): LAW 605 |
| LAW | 638 | Professional Responsibility | Emphasizes the Model Rules and Model Code that govern the professional responsibility of lawyers and their interpretation and application. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Pre-requisite: College of Law student |
| LAW | 639 | Natural Resource Law | Examines the constitutional basis for federal land management and the different kinds of public lands management schemes (e.g., parks, forests, wildlife refuges), emphasizing acquisition of right to, and regulation of, the different uses of public lands and resources (e.g., mining, grazing, timber, wildlife habitat, recreation). | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Prerequisite(s): College of Law student |
| LAW | 640 | Securities Regulation | Selected problems arising under the major statutes concerned with regulating the securities market. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Prerequisite(s): College of Law student; LAW 654 |
| LAW | 641 | Foreign Relations Law | Examines the constitutional and statutory doctrines related to the foreign relations of the United States. Analyzes the distribution of foreign relations powers between the Executive, the Congress and the Courts. Also covers topics including the status of treaties and other types of international agreements, the role of the states in foreign relations, and recent developments in foreign relations law. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 641 or LAW 791 (Foreign Relations Law) |
| LAW | 642 | White Collar Crime | Examines the ways in which white collar crime is prosecuted, principally in the federal system. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 643 | Water Law | Acquisition of water rights; water use controls; interstate conflicts. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Pre-requisite: College of Law student |
| LAW | 644 | Trademark and Unfair Competition Law | In-depth examination of substantive trademark and unfair competition law with focus on both policy and practical considerations. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 644 or LAW 691 (Trademark and Unfair Competition Law) |
| LAW | 645 | Patent Law | In-depth examination of substantive patent law as it applies to the commercialization and enforcement of patent rights. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Pre-requisite: College of Law student |
| LAW | 646 | Copyright Law | Legal rights in original forms of human expression. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Pre-requisite: College of Law student |
| LAW | 647 | Mass Tort Litigation | Examines unique procedural and substantive issues that arise in mass tort litigation. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 648 | Law, Accounting and Finance | Presents the fundamentals of accounting as well as the accounting principles that form the foundation for current day accounting. Students gain an understanding of financial statements, financial statement and auditing reporting requirements and a general overview of the entities that set the rules, ethics and standards for the accounting profession. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 648 or LAW 691 (Law, Accounting, and Finance) |
| LAW | 649 | Scientific Evidence | Examines the use of scientists and scientific tests or studies in criminal and civil litigation. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 650 | Health Law | Introduces health law. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|------------------------------------|------------------------------------|-------|-----------------|---|
| LAW | 651 | Public Health Law | Addresses the relationship between the state and the population's health. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 652 | Bioethics and the Law | Covers a range of issues relating primarily to human reproduction and life and death decisions. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 653 | Bankruptcy | Covers basic bankruptcy law and practices. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Pre-requisite: College of Law student |
| LAW | 654 | Business Organizations | Covers the primary forms of business organizations: partnerships, limited partnerships, limited liability companies, and corporations. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3-4 | | Pre-requisite: College of Law student |
| LAW | 655 | Chapter 11 | Covers the law and practice of reorganizing business entities under Chapter 11 of the United States Bankruptcy Code. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Pre-requisite: College of Law student |
| LAW | 656 | Valuing Real Estate and Closely-Held Businesses | Focuses on the valuation of interests in real property and closely-held businesses. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 657 | Private Property Rights | Explores the conflict between property rights and the right of the government to acquire private property for public use. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 658 | Arizona Constitutional Law | Examines the basic provisions of the Arizona Constitution and the judicial decisions interpreting those provisions. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Prerequisite(s): College of Law student |
| LAW | 659 | Mergers and Acquisitions | Focuses on mergers and acquisitions law with an emphasis on the practical aspects of structuring, negotiating and documenting transactions. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; LAW 515; Pre- or corequisite(s): LAW 654; Credit is allowed for only LAW 659 or LAW 691 (Mergers and Acquisitions) |
| LAW | 660 | Advanced Estate Planning | Covers advanced estate planning and estate administration issues. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 661 | Advanced Bankruptcy Law | Explores advanced topics in bankruptcy law, theory and practice. Highly recommend course in secured transactions or bankruptcy. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 661 or LAW 791 (Advanced Bankruptcy) |
| LAW | 662 | Alternative Dispute Resolution and Employment Law | The use of alternative dispute resolution has been most extensive in the area of employment law. Mediation and arbitration are widely used not only in the collective bargaining setting, but also in virtually every aspect of the employment relationship. Offers a comprehensive review of the subject with special emphasis on the extensive body of law that has developed in regulating employer-imposed arbitration. Discussion of mediation includes use of simulations to enable the students to understand how mediation can effectively resolve employment disputes. Opportunities to observe real mediations of employment disputes. Experienced attorneys discuss the "real world" use of employment ADR from a plaintiff's and a defendant's perspective. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 663 | Prosecuting Trademark Applications | Focuses on the application process before the United States Patent and Trademark Office ("USPTO") for trademark registrations. Includes considerations to be evaluated prior to commencing the application process, including pre-application trademark searches and evaluating marks for registrability, bases for seeking registration, priority of use, priority of application, use in interstate commerce, and specimens of use. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 663 or LAW 791 (Prosecuting Trademark Applications) |
| LAW | 664 | Intellectual Property | Surveys the laws conventionally grouped as intellectual property, with a focus on patents, copyrights, and trademarks. Explores the policy rationales for each body of law. Particularly relevant for two types of students: (a) those who are unsure they want to specialize in IP and want a general introduction, and (b) those who do not have room in the schedules to take all of the upper-level offerings here at ASU. Not appropriate for students who have already taken the upper-level courses in copyright, trademark, and patents; students who have taken these offerings may be withdrawn. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | |
| LAW | 665 | Race and the Law | Examines issues of race within American law through a historical and modern context. Discusses how race and ethnicity affect legislatures, court rooms and communities. Also examines the use of the law both to perpetuate and to reduce and eliminate racial injustice in the United States from the formulation of the Declaration of Independence, the Articles of Confederation and the Constitution through slavery, Jim Crow, segregation, desegregation, the war on drugs, and up through the present day. Explores the biases and prejudices shared by judges, juries, parties, clients and lawyers, as well as our own biases and how those shape the way we view the law. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 665 or LAW 691 (Race and the Law) |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|------------------------------------|------------------------------------|-------|-----------------|--|
| LAW | 666 | Corporate Governance | Explores current issues in the corporate governance of publicly traded business corporations under both state and federal law. Also addresses the ethical dilemmas with respect to governance issues that lawyers face when advising corporate clients. | N | SEM | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; LAW 654; Credit is allowed for only LAW 666 or LAW 691 (Corp Governance) |
| LAW | 667 | FDA Regulation | Examines the regulation of drugs, medical devices, and biologics (e.g. vaccines) by the Food and Drug Administration. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Prerequisite(s): degree- or nondegree-seeking graduate |
| LAW | 668 | Trade Secrets and Restrictive Covenants | Considers the law of trade secrets, focusing on the principles set forth in the Uniform Trade Secrets Act, the Restatement of Torts, the Restatement (Third) of Unfair Competition, and the Defend Trade Secrets Act. The second portion of the class focuses on the law of restrictive covenants, with an emphasis on Arizona case law and principles. Students learn principles of drafting effective restrictive covenants, non-disclosure and confidentiality agreements, as well as an overview of litigation strategies and techniques. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 668 or LAW 691 (Trade Secrets and Restrictive Covenants) |
| LAW | 669 | Bar Exam Preparation | This two-credit course prepares students to take (and pass) the bar exam. The principal focuses of this course are: (1) writing and analysis for bar exam essays, (2) the MBE (multiple choice section of the bar exam), and (3) the MPT (Multi-state Performance Test) as they pertain to the Arizona bar exam. Although this course primarily focuses on the Arizona bar exam, the skills and strategies learned are applicable for any state's bar exam. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Juris Doctor, JD student; Credit is allowed for only LAW 669 or LAW 791 (Bar Prep) |
| LAW | 670 | Pro Sport Team Operations and Legal Issues | Deals with various legal issues confronted by the Team Counsel of a professional sports team. Reviews the business, risk management, intellectual property and financial issues that raise in connection with the operation of a team. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 670 or LAW 691 (Business Operations for Team Sports) or SLB 519 |
| LAW | 671 | Sports Venue Construction: Legal and Financial Issues | Studies the structure and issues related to stadium financing in professional and collegiate sports. Covers issues related to professional league expansion and team relocation. Discusses carefully read assigned materials. | N | SEM | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 671 or SLB 520 |
| LAW | 672 | MLB's Impact on Law and Society | Examines how MLB served as a catalyst for change in American law and society post WWII, and the legal and business developments that have shaped modern professional baseball. Addresses such diverse topics as the integration of African-American players into MLB and diversity in MLB; labor relations (collective bargaining, free agency, labor stoppages and drug testing); league operations; franchise relocation; expansion; globalization of the game; the business and marketing of the game in the digital age and the resulting legal implications; and the state of the game in the 21st century. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 672 or SLB 523 |
| LAW | 673 | Risk Management for Venues | American tort law, particularly the foundational elements of duty-breach-causation-harm, as well as causation and reasonableness, as a means of understanding the nature of risk and the tools available to address it in the many circumstances that arise during live sports and entertainment events. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 673 or SLB 521 |
| LAW | 674 | NCAA Compliance, Infractions and Enforcement | Provides a real-world view of a Division I Power 5 Conference Compliance Office and the manner in which such an office directs its institution's efforts to maintain compliance with National Collegiate Athletic Association and member conference legislation governing intercollegiate athletics. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 674 or LAW 791 (Infractions/Compliance - Intercollegiate Athletics) or SLB 522 or SLB 598 (Infractions/Compliance-Intercollegiate Athletics) |
| LAW | 675 | Professional Sports Law | Studies law, revenue, branding and problem solving in the professional sports context, focusing primarily on professional sports league governance and regulation, labor relations, representing and marketing players and coaches, and issues of equity and race. Also examines international issues related to professional sports. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 675 or LAW 691 (Non-Amateur Sports Law) or LAW 691 (Professional Sports Law) or SLB 512 |
| LAW | 676 | Amateur Sports Law | Studies law, policy and problem solving in the amateur sports context, focusing primarily on interscholastic and intercollegiate athletics. Title IX and racial equality in sports. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 676 or SLB 510 or LAW 791 (Amateur Sports Law) or LAW 791 (Non-Professional Sports Law) |

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|---------|----------------|-------------------------------------|--|-------------------|-------------------|-----------------|---------------|------------------------------------|------------------------------------|-------|-----------------|---|
| LAW | 677 | Law and Business of Sports Branding | Examines legal and business issues associated with personal and business branding, particularly in the context of professional and collegiate sports. Discusses and analyzes issues relating to: (1) what constitutes a "brand" and how a "brand" is developed; (2) the recent surge in personal branding by athletes, entertainers and other celebrity personalities; (3) athletes and other celebrities who have transformed their fame into personal branding platforms that support large business enterprises; (4) the basic principles of trademark law and how those principles apply to business and personal brands; (5) regulation and control of brands in professional and collegiate sports, and the Olympics; (6) licensing and corporate sponsorship; and (7) ambush marketing. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 677 or SLB 524 |
| LAW | 678 | The Moral Leader | Successful lawyers are presented with moral and ethical choices throughout their professional careers. This innovative course encourages students to confront those fundamental moral challenges, to develop skills in moral analysis and judgment, and to come to terms with their own definition of moral leadership and how it can be translated into action. Content is based on the leadership course, The Moral Leader, brought by Professor Robert Coles, an educator and psychiatrist, to Harvard Business School in the 1980s. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 678 or LAW 691 (The Moral Leader) |
| LAW | 679 | Trust Law | Provides an overview and in-depth coverage of the law of trusts. Topics include: the creation of trusts; duties of the trustee; enforcement of trusts; modifications of trusts; use of trusts in estate planning, including aspects of the federal estate tax and federal gift tax; drafting issues concerning trusts; powers of appointment; and the rule against perpetuities. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; LAW 618; Credit is allowed for only LAW 679 or LAW 691 (Trust Law) |
| LAW | 681 | Construction Law | The construction of an actual project serves as the "laboratory" for the course. Many of the problems presented in class each week are based on "real time" events occurring on that project and the class visits the actual construction site during one of the classes. Focuses on practical construction law issues taught by an experienced practicing lawyer. Topics include: types of construction contracts; the basic relationships among the owners, architects/engineers, general contractors, subcontractors and material suppliers on a project; express and implied warranties; the role of the schedule and claims related to scheduling; change orders and concealed site condition claims; the Economic Loss Doctrine; mechanics' liens, stop notices and other payment remedies; proving damages; and the trial of a construction case and the use of expert witnesses. Expects extensive student participation during class. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 681 or LAW 691 (Construction Law) |
| LAW | 682 | Persuasive Speech | This performance-based course focuses on persuasive communication skills. Borrowing proficiencies typically developed for the theatre and applying them in a legal context, students gain increased confidence in communicating and advocating in the courtroom or ADR setting by developing such skills as: pacing, use of gestures, voice projection, voice modulation, and body positioning. Students are on their feet speaking to an audience (the class) each day of class. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): Juris Doctor of Law student; Credit is allowed for only LAW 682 or LAW 791 (Persuasive Speech) |
| LAW | 685 | Separation of Powers | Studies the separation of powers in our federal government by examining the impact of key historical events on constitutional law. Topics include the election of 1800, the Civil War, the Great Depression and World War II, presidential impeachments, and the war on terror. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 685 or LAW 691 (Separation of Powers) |
| LAW | 686 | Victims in Criminal Procedure | Considers the emerging field of crime victims' rights and the tensions victims' rights create with traditional prosecution and defense interests. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 686 or LAW 791 (Victims in Criminal Proced) |
| LAW | 687 | Civil Pretrial Practice | Identifies the skills needed for civil pretrial practice and to appreciate what is involved in developing and applying these skills. In addition to discussion of the rules and their application, class focuses on custom and practice with the goal of preparing students for the practice of law in Arizona. There is insufficient time in this class, or frankly any class, to develop the skills to a point where students can feel comfortable that they have sufficient expertise to competently apply these skills. However, by participating in class activities that involve implementing these skills in the context of a specific case, students should leave with sufficient understanding of these skills that they can move quickly into and through the learning process that comes with practice experience. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 687 or LAW 691 (Civil Pretrial Practice) |

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| LAW | 688 | Jury Selection | Provides a firm foundation for selecting juries in both civil and criminal cases. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): Juris Doctor, JD student; Credit is allowed for only LAW 688 or LAW 791 (Jury Selection) |
| LAW | 689 | Health Technologies, Innovation and the Law | Provides an overview of the technologies that are transforming health care today and tomorrow, and the novel legal, policy and ethical issues these new technologies present. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 689 or LAW 791 (Health Technologies, Innovation & the Law) |
| LAW | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): College of Law student |
| LAW | 696 | Privacy, Big Data and Emerging Technologies | Provides expertise in how big data and emerging technologies are changing privacy and security, and the legal responses to these changes. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 696 or LAW 791 (Privacy, Big Data & Emerging Technology) |
| LAW | 697 | Neuroscience, Ethics and the Law | Brain science has become part of our lives. This interactive seminar introduces the normative and practical dimensions of both law and ethics in regard to advances in the neurosciences. Covers techniques and technologies including: neuroimaging, neurostimulation, neurosurgery, neural stem cell research, neurogenetics and neurogenomics and psychiatry. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 697 or LAW 791 (Neuroscience, Ethics & the Law) |
| LAW | 701 | Arbitration | Examines the Federal Arbitration Act and the Uniform Arbitration Act as it has been adopted in Arizona. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 702 | Alternative Dispute Resolution | Broad exposure to methods of settling disputes in our society such as mediation, arbitration/conciliation, and negotiation, including examination of the current litigation model. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 703 | Law, Science, and Technology | Legal mechanisms used in dealing with various issues raised by contemporary science and technology. Explores current legal responses to science and technology. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 704 | Federal Indian Law II | Surveys the federal legal doctrines surrounding Indian ownership and exploration of resources. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 705 | Media Law | Examines First Amendment principles and statutory and regulatory requirements with respect to the conventional print and broadcast media, as well as recent technologies such as cable. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 706 | Immigration Law | Explores political, economic, social, and legal issues concerning immigration. Specific topics covered include citizenship and naturalization, denaturalization, deportation, and refugee rights and asylum. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 707 | Elder Law | Looks at legal and policy questions related to aging individuals and an older society. | N | SEM | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 708 | Mediation and Settlement Advocacy | Mediation and judicial settlement conferences are now the mainstream form of dispute resolution. Every attorney participates in some form of settlement process. This highly interactive seminar offers students practical and theoretical training in the mediation and settlement of civil disputes. Taught through a case study in which actors play the role of parties to a dispute. Students interview the clients, draft a mediation memorandum, meet with the clients to prepare for a mediation, and then actually represent the clients during a mediation. In addition, students study mediation and settlement advocacy theory as well as legal issues relevant to mediation and settlement. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 708 or LAW 791 (Mediation Advocacy) |
| LAW | 709 | International Human Rights | International rules and procedures governing the protection of human rights. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 710 | Artificial Intelligence, Law, Ethics and Policy | Explores the growing applications of artificial intelligence and studies the legal, ethical and policy implications of these applications. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 710 or LAW 791 (Artificial Intelligence:Law,Ethics & Policy) |
| LAW | 711 | Blockchain and Cryptocurrencies | Blockchain and cryptocurrencies are rapidly evolving technologies that are already disrupting the practice and substance of law. The first blockchain, Bitcoin, has become an international sensation as its value skyrockets and plummets, but Bitcoin and other cryptocurrencies are just one small corner of blockchain applications. This course familiarizes students with the technology behind blockchain, explores the legal and policy applications and implications of blockchains and cryptocurrencies. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 691 (Blockchain & Cryptocurrencies) or LAW 711 |
| LAW | 712 | Sustainability Law Research Seminar | Enables students to work closely with a full-time professor and with peers on substantive legal academic research projects in the area of environmental sustainability. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 712 or LAW 791 (Sustainability Seminar) |
| LAW | 713 | Tribal Law and Government | Analyzes particular problems in tribal law. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |

| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|------------------------------------|------------------------------------|-------|-----------------|--|
| LAW | 714 | Biotechnology: Science, Law and Policy | Examines the legal, regulatory, scientific, policy and ethical aspects of biotechnology, focusing on genetically engineered plants, animals, foods, drugs, vaccines and other products. Covers issues such as regulation, labeling, liability issues, intellectual property issues, antitrust, the role of the public in biotechnology decisions, international regulation, international trade, bioprospecting/biopiracy, xenotransplantation, animal cloning, synthetic biology, and bioterrorism. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 714 or LAW 691 (Biotechnology) |
| LAW | 715 | Sports Law | Unique legal problems relating to professional sports, including their relationship to antitrust laws, the nature of player contracts, and associated tax problems. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 716 | Contract Drafting | Provides the opportunity to learn the basic principles of contract drafting, interpretation and negotiation, including drafting contracts that: (1) effectuate the clients' needs; (2) anticipate, and hopefully avoid, potential legal disputes; and (3) are written in plain language. Students represent a particular client throughout the course, and are required to work independently and collaboratively to draft a series of written contracts on behalf of the client. Students also learn about the role of transactional lawyers, ethical considerations, and effective client communications. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): Juris Doctor of Law student; LAW 515; Credit is allowed for only LAW 716 or LAW 691 (Contract Drafting) |
| LAW | 717 | Reproduction, Reproductive Technologies and the Law | When it comes to the creation of human life, yesterday's science fiction has become today's reality. Stories about baby sellers, egg freezing, runaway surrogate mothers, genetic enhancement and ootomoms have exposed the lack of meaningful legal regulation of assisted reproductive technologies and have spurred calls for reform. But the extent to which the State should regulate who can reproduce and under what circumstances raises a host of difficult questions. This course searches for answers to those questions by considering the role the Constitution, tort, contract, property and criminal law have traditionally played in advancing the State's interest in reproduction and discussing how those doctrines should adapt to new technologies and family configurations. Topics covered include abortion, gamete donation, In Vitro Fertilization, surrogacy, genetic screening and enhancement, eugenics, medical ethics, and alternative family formation. | N | SEM | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 717 or LAW 791 (Reproduction and the Law) |
| LAW | 718 | Economic Development in Indian Country | Focuses on the unique legal, economic, and political issues confronting tribal governments in developing diversified reservation economies. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: Law major; Credit is allowed for only LAW 718 or PUP 718 |
| LAW | 719 | International Indigenous Rights | Examines the developments in recognizing indigenous rights in people's systems of international law. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 720 | Indian Gaming Law | Surveys the law surrounding the Indian gaming industry. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): College of Law student |
| LAW | 721 | Education and the Law | Current legal problems affecting institutions of higher education, faculty, students, and governing boards. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 722 | Law and Psychology | Provides an overview of classic and modern research in the field of law and psychology. Students obtain an understanding of how psychology has been and could be used to inform law and social policy in a variety of civil and criminal domains. Requires no background in statistics or experimental methodology. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 722 or LAW 791 (Law and Psychology) |
| LAW | 723 | Cultural Resources Law | Focuses on the protection of Native American cultural resources and religions. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 724 | Privacy | Traces the development of privacy law with special attention to contemporary challenges. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 725 | Critical Race Theory | Focuses on the idea of "race" as a social/political construct and examines the impact of American law on the construction of race. Provide historical and legal background necessary to understand the significance of race within American law and policy. Evaluate a number of legal frameworks that address issues of race and ethnicity in various contexts (e.g. segregation laws, civil rights law, federal Indian law, international human rights law). Assesses various jurisprudential accounts evaluating the ethical and moral underpinnings of the law. Critical race theory is known as a jurisprudential framework that is often critical of standard liberal approaches. Evaluates the critiques of liberalism and the scholarship of both liberal and critical theorists. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|-------------------------------------|---|-------------------|-------------------|-----------------|---------------|------------------------------------|------------------------------------|-------|-----------------|--|
| LAW | 726 | Indian Legal Research | Teaches students how to research Federal Indian law and tribal law issues. In addition to providing instruction about how to use particular research tools and sources, this course teaches students how to analyze research problems and how and why to use particular types of sources in their legal analysis. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 726 or LAW 691 (Indian Legal Research) |
| LAW | 727 | International Legal Research | Teaches students how to research international and foreign law. As a course project, students prepare a bibliography on an international law topic of their choice. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 727 or LAW 691 (Research & International Law) |
| LAW | 728 | The State Attorneys General | The legal jurisdiction of attorneys general varies significantly from state to state. Course represents the instructor's best judgment as to how to teach in a way that gets to the realities of the operations of attorneys general. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 728 or LAW 691 (The State Attorneys General) |
| LAW | 730 | Appellate Advocacy | Covers the conventions of appellate practice while further developing analytical, drafting and oral communication skills. Tasks students both with drafting an appellate brief and with presenting a formal appellate oral argument. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Juris Doctor, JD student; Credit is allowed for only LAW 730 or LAW 691 (Appellate Advocacy) |
| LAW | 731 | High-Tech Licensing | Dedicated to learning the law, skills and strategies for licensing intellectual property rights relating to technology. Familiarizes students with licensing parties' objectives, intellectual property rights to be licensed, and writing contracts to achieve the client's goals. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 731 or LAW 791 (High Tech Licensing) |
| LAW | 732 | Patent Preparation and Prosecution | Dedicated to learning the mechanics and strategies for preparing, filing and prosecuting patent applications. Familiarize students with guiding an invention from conception to patent, both domestically and abroad. Considers strategies of patent drafting to provide broad patent scope and enforceable patent claims. Knowledge of intellectual property or patent law recommended prior to taking this course. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Credit is allowed for only LAW 732 or LAW 691 (Patent Preparation) |
| LAW | 733 | Negotiation | Explores alternative models of negotiated dispute resolution, as well as the roles of lawyer and client in the negotiation process. Extensive use of simulation exercises. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 734 | Products Liability | Traces the development of products liability law; analyzes the major issues currently confronting the courts in this area. | N | SEM | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 735 | Teaching Assistant | Legal writing teaching assistants assist a writing professor with various tasks throughout the semester. | N | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | |
| LAW | 736 | Advanced Legal Research Seminar | Focuses on a rigorous review of basic print and electronic resources and strategies for conducting legal research, federal/state. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 737 | Cults and Alternative Religions | Provides opportunity to study laws and policies governing cults. While the definition of a "cult" will be a topic of initial study in the seminar, it may be conceived of loosely as a group with a charismatic leader whose members are persuaded to relinquish their self-identities and material possessions in furtherance of the group's goals. In addition to analyzing the definition of a cult, the first part of the seminar discusses the various types of cults, studying particular cults, and learning about cultic activities. The remainder covers domestic and foreign legal and policy issues generated by cults, including the legal rights of cultic organizations, anti-cult organizations, cult members, and cult members' families. Covers conventional religions that are conceptually similar to cults, to the degree that religious movements fall outside the mainstream. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | |
| LAW | 738 | Trial Advocacy | Confronts issues of trial advocacy through simulation of a variety of aspects of trial practice in a mock court setting. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Pre-requisites: LAW 605 |
| LAW | 745 | The Supreme Court | Intensive examination of selected current decisions of the U.S. Supreme Court. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 751 | Death Penalty | Surveys the major constitutional and operational issues relating to the death penalty in the United States. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 751 or LAW 691 (Death Penalty) |
| LAW | 768 | International Business Transactions | Introduction to U.S., foreign and international law regulating cross-border business transactions and to the structure of cross-border business deals. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; LAW 515; Pre- or corequisite(s): LAW 654 |
| LAW | 769 | International Intellectual Property | Examination of international protection of intellectual property, surveying various international agreements and treaties for copyrights, patents, trademarks and trade secrets, with focus on the agreement on Trade Related Aspects of Intellectual Property (TRIPS) of the World Trade Organization. Consideration of the basic concept of territoriality, national treatment, minimum standards and political and policy concerns related to efforts to secure and strengthen protection of intellectual property internationally. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 691 (International Intellectual Property) or LAW 769 |

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|---------|----------------|-------------------------------------|--|-------------------|-------------------|-----------------|---------------|------------------------------------|------------------------------------|-------|-----------------|---|
| LAW | 770 | Law Journal | Academic credit for successful completion of editorial work by a member of the staff of Arizona State Law Journal. | N | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Pre-requisite: College of Law student |
| LAW | 771 | Jurimetrics Journal | Academic credit for successful completion of editorial work by a member of the staff of the Jurimetrics Journal of Law, Science, and Technology. | N | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Pre-requisite: College of Law student |
| LAW | 772 | Defender Clinic | Placement in the Public Defender Clinic and related classroom component. | N | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-6 | | Pre-requisite: College of Law student |
| LAW | 773 | Civil Litigation Clinic | Student attorneys in the Civil Litigation Clinic are certified by the Arizona Supreme Court to represent people who do not have adequate resources to hire an attorney in cases such as consumer fraud, employment discrimination and wage claims, benefits eligibility for people with disabilities, and tenant's rights. Student attorneys are involved in all aspects of civil and administrative practice including interviewing and counseling clients, fact investigation, drafting pleadings, motions and appellate briefs, conducting discovery such as taking depositions and propounding interrogatories, and representing clients in trials, arbitrations and mediation. Student attorneys may also present oral argument in appellate courts. | N | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-6 | | Prerequisite(s): College of Law student |
| LAW | 774 | Prosecution Clinic | Placement with various prosecutor offices in the Phoenix area and related classroom component. | N | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-6 | | Prerequisite(s): College of Law student; LAW 605 |
| LAW | 775 | Mediation Clinic | Study of the mediation process and experience as mediators in cases pending before the justice courts and administrative agencies. | N | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-6 | | |
| LAW | 776 | Indian Legal Clinic | Provides law students the opportunity to participate in cases dealing with native peoples and Indian issues. | N | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-6 | | |
| LAW | 777 | Innovation Advancement Legal Clinic | Allows students to gain real-world experience in legal areas such as patentability of inventions, patent drafting, and technology valuation. | N | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-6 | | Pre-requisite: College of Law student |
| LAW | 778 | Immigration Clinic | The Immigration Clinic collaborates with local nonprofits, governmental agencies and community advocates to identify foster children in need of immigration services. The clinic also provides legal advice and referral at events organized by community agencies, nonprofits and elected officials. | N | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-6 | | Pre-requisite: College of Law student |
| LAW | 779 | Lisa Foundation Patent Law Clinic | Trains students to perform the legal skills necessary to practice transactional patent and trademark law. | N | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 779 or LAW 791 (Patent Litigation Clinic) |
| LAW | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | |
| LAW | 781 | Independent Study | With the approval of a faculty member, a student may research a legal subject of special interest and prepare a paper suitable for publication. | Y | IND | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Pre-requisite: College of Law student |
| LAW | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Pre-requisite: College of Law student |
| LAW | 785 | Externship | Supervised, practical lawyering in an external placement proposed by the student or established by a sponsoring agency and approved by the Sandra Day O'Connor College of Law. In addition, an associated academic component is established by the student with a member of the faculty. | Y | PRA | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | |
| LAW | 786 | Post-Conviction Clinic | Investigates claims of wrongful conviction and manifest injustice from prisoners convicted of crimes in Arizona. Post-conviction work is a specialized practice area that delves into both fundamental and nuanced aspects of criminal law and criminal procedure--one that is becoming increasingly vital as over 400 prisoners nationwide have been exonerated either in full or in part by DNA testing, and over 1,500 people have been exonerated by other means. Arizona is home to more than 40,000 prisoners and more than 5,000 on community supervision. Arizona incarcerates more people per capita than any other state in the west and ranks sixth in the country. The clinic works in conjunction with the Arizona Justice Project and some of the case profiles. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-6 | | Prerequisite(s): College of Law student; Pre- or corequisite(s): LAW 516; LAW 518; LAW 605; LAW 638; Credit is allowed for only LAW 786 or LAW 791 (Post Conviction Clinic) |
| LAW | 787 | First Amendment Clinic | Teaches the practical skills that are part of a First Amendment legal practice through engagement with clients in real cases and controversies, and train students to be familiar with the topics and related precedent that arise in such a practice. | N | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-6 | | Prerequisite(s): College of Law student; Pre- or corequisite(s): LAW 516; LAW 518; LAW 605; LAW 638; Credit is allowed for only LAW 787 or LAW 791 (First Amendment Clinic) |
| LAW | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|---|------------------------------------|-------|-----------------|--|
| LAW | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-15 | | Prerequisite(s): College of Law student |
| LAW | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | LEC | Y | Z3 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1 | | |
| LAW | 797 | Visiting Student Program | - | N | LEC | Y | Z3 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 0-1 | | Prerequisite(s): College of Law student |
| LDE | 261 | Landscape Architecture Design Fundamentals III | Applies design fundamentals with an emphasis on landscape architectural issues. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 4 | | Prerequisite(s) with C or better: Landscape Architecture BSLA major; ALA 100; ALA 102; ALA 121; ALA 122; ALA 124; ENG 101, 105, or 107; MAT 170; minimum 3.00 GPA OR Visiting University Student |
| LDE | 262 | Landscape Architecture Design Fundamentals IV | Applies design fundamentals to landscape architectural design with emphasis given to human factors. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 4 | | Prerequisite(s): Landscape Architecture major; LDE 261 with C or better |
| LDE | 361 | Landscape Architecture I | Site planning: analysis of natural and cultural features; site systems and implications for plan making and design. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Landscape Architecture major; LDE 262 with C or better; Corequisite(s): LAP 352; LDE 363; LTC 343 OR Visiting University Student |
| LDE | 362 | Landscape Architecture II | Site design: site-specific design of configured space by the creative development of form. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Landscape Architecture BSLA major; LDE 361 with C or better; Corequisite(s): LAP 352 OR Visiting University Student |
| LDE | 461 | Landscape Architecture III | Landscape ecological planning: collection and application of ecological data relevant to planning and design at landscape scale. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Landscape Architecture major; LDE 362 with C or better; Corequisite(s): LPH 411 OR Visiting University Student |
| LDE | 462 | Landscape Architecture IV | Advanced landscape architecture: integrative capstone studio with multifaceted design problems. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Landscape Architecture major; LDE 461 with C or better; Corequisite(s): LTC 446 |
| LDE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| LDE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-3 | | |
| LDE | 521 | Advanced Landscape Architectural Studio I | Explores landscape architecture and design with emphasis on the urban landscape and the significance ecology plays in the design process. Studio-based course includes reading, presentations by faculty and students, discussion, design research, conceptual design practice, and the public exhibition/presentation of this work in multiple formats. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Master of Landscape Architecture student; Credit is allowed for only LDE 521 or LDE 590 (Advanced Landscape Architecture Studio I) or LDE 590 (Applied Landscape Architecture) |
| LDE | 522 | Advanced Landscape Architectural Studio II | Explores landscape architecture and design with emphasis on urban landscapes and human health. Studio-based course includes reading, presentations by faculty and students, discussion, design research, conceptual design practice and the public exhibition/presentation of this work in multiple formats. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): LDE 521 with C or better; Credit is allowed for only LDE 522 or LDE 590 (Advanced Landscape Architecture Studio II) or LDE 590 (Advanced Landscape Studio II) |
| LDE | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LDE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LDE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LDE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LDE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|---|
| LDE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LDE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LDE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LDE | 621 | Advanced Landscape Architectural Studio III | Structured around the Design School's "traveling studio" model and provides an opportunity for graduate-level students to refine their talents while also contributing to a better future. Challenges students to work in a multidisciplinary environment to identify new design concepts that improve society and the natural environment. For approximately one week during the semester, students travel to an off-campus location (either in the U.S. or abroad) to examine a local condition there for which new design solutions are needed. Students return to ASU and continue working on the project for the semester. Studio-based course includes reading, presentations by faculty and students, discussion, design research, conceptual design practice, and the public exhibition/presentation of this work in multiple formats. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): LDE 522 with C or better; Credit is allowed for only LDE 621 or LDE 690 (Advanced Landscape Architecture Studio III) |
| LDE | 622 | Advanced Landscape Architectural Studio IV | Capstone course. Students complete a design project that demonstrates mastery of landscape architecture skills and knowledge. Requires some independent direction. The instructor determines deadlines and expectations for deliverables. Requires cooperation and collaboration between students. Design performance is the themed topic and focus. Students develop a complex design project that addresses a significant professional issue. The project explores and demonstrates how advanced design resolves that issue in a performative manner using evidence-based practices and performance-based metrics. Studio-based course includes reading, presentations by faculty and students, discussion, design research, conceptual design practice, and the public exhibition/presentation of this work in multiple formats. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): LDE 621 with C or better; Credit is allowed for only LDE 622 or LDE 593 (Advanced Landscape Architectural Studio IV) |
| LDE | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LDE | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LDE | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LDE | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LDE | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | LEC | Y | Z3 | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LDT | 301 | Foundations of Instructional Design | Foundations and evolution of the field of instructional design; examines accomplishments and issues in the field and explores possible career paths. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| LDT | 320 | Digital Learning Theories | Centers on learning theories and applied learning principles for the design of digital learning environments in a multitude of contexts, including professional and educational settings. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): LDT 301 OR Visiting University Student |
| LDT | 330 | Design of Digital Learning | Focuses on the design, development and implementation of digital learning objects that can be used in hybrid, blended and online learning environments in a variety of academic or organizational contexts. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): LDT 301; LDT 320 OR Visiting University Student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|----------------------------------|---|-------|-----------------|--|
| LDT | 410 | Assessment and Evaluation for Digital Learning | Covers concepts of conducting evaluation for educational and training episodes in online, hybrid, blended and other digital contexts. Provides learning opportunities for developing evaluation goals, designing instruments and tools for collecting and analyzing data, and interpreting data and reporting results. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): LDT 301; LDT 320; LDT 330 OR Visiting University Student |
| LDT | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | PRA | N | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): LDT 301; LDT 320; LDT 330; LDT 410 |
| LDT | 501 | Foundations of Learning Design and Technologies | Foundations and evolution of the field of learning design and technology; examines accomplishments and issues in the field and explores possible career paths. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| LDT | 502 | Design and Development of Instruction | Centers on the design and development of competency-based instructional materials, based on a variety of instructional design models, for learning in a multitude of settings. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| LDT | 503 | Design of Effective Communications | Explores the theory, research and practice of computer-mediated communication including principles of graphic design for the purposes of creating effective presentations, job aids/infographics and video/audio for educational purposes. Includes a focus on accessibility and Section 508 compliance. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate OR Instructional Design and Performance Improvement graduate certificate student; LDT 501 (EDT 501); LDT 502 (EDT 502) |
| LDT | 504 | Modalities of Learning | Focuses on the development, design and creation of various forms of Web-based instruction including blended, hybrid and online learning. Examines the characteristics of interactive media, synchronous and asynchronous forms of distance/online learning, eLearning software and project management. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate student; LDT 501; LDT 502 |
| LDT | 506 | Evaluation of Learning Systems | Examines procedures for evaluating educational programs, training systems and new-technology applications. Focuses on basic evaluation concepts, steps in conducting a systematic evaluation project, the preparation of an evaluation report, as well as ethical issues. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate; EDP 540, LDT 501 (EDT 501) or LDT 502 (EDT 502); Credit is allowed for only CED 525 or LDT 506 (EDT 506) |
| LDT | 507 | Performance Improvement and Leadership | Introduces the field of human performance technology. Emphasizes the analysis of performance problems, their causes, and interventions. | N | SEM | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| LDT | 508 | Design of Accessible and Inclusive Digital Learning | Focuses on the creation of accessible and inclusive learning environments through the implementation of principles of Universal Design for Learning (UDL) and the application of the Web Content Accessibility Guidelines (WCAG 2.1). | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate; Credit is allowed for only LDT 508 or LDT 598 (Design of Accessible & Inclusive Digital Learning) |
| LDT | 511 | Emerging Trends and Technologies for Learning Design | Identifies current and future trends in the field of educational technology. Examines key trends, developing technologies and the affordances these technologies might offer, as well as the challenges with implementation that might be faced. Prepares students to embrace the ever-evolving nature of teaching and learning with technology, and how this may impact the process of design. Our awareness and openness to change influences our practice, and staying current with trends is an important characteristic of any future role related to educational technology that one may have. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR undergraduate postbaccalaureate student |
| LDT | 523 | Issues in Online and Distance Education | Investigates current issues and trends specific to the implementation of web-based teaching and learning as well as practices for effective online instruction. Examines online learning principles, practices and their effectiveness by exploring the use of related systems and applications. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate; EDP 540; EDT 501; EDT 502 |
| LDT | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | N | LEC | N | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate post-baccalaureate; EDP 540; LDT 501 (EDT 501); LDT 502 (EDT 502) |
| LDT | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| LES | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-4 | | |
| LES | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-4 | | |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|---|
| LES | 305 | Business Law and Ethics for Managers | Legal theories, ethical issues, and regulatory climate affecting business policies and decisions. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W. P. Carey major OR non-business major; minimum 2.00 GPA; minimum 56 hours OR non-degree student; minimum 2.00 GPA OR graduate student OR Visiting University Student |
| LES | 380 | Consumer Perspective of Business Law | Role of law as it affects society. Uses case studies to present principles that govern business and consumers. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): minimum 2.00 GPA ; minimum 56 hours OR non-degree student with minimum 2.0 GPA, OR graduate student OR Visiting University Student |
| LES | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-4 | | Pre-requisites: Minimum 2.00 GPA; Minimum 56 hours OR Non-degree seeking student |
| LES | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-4 | | |
| LES | 582 | Ethical Issues for Managers | Studies ethical decisions; the role of business in society. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1.5-3 | | Prerequisite(s): W. P. Carey MBA student |
| LES | 586 | Fundamentals of Ethical Issues for Managers | Studies ethical decisions, the role of business in society. Designed for students with limited business experience and without an undergraduate business degree. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1.5 | | Prerequisite(s): degree-seeking graduate student |
| LIA | 101 | Student Success in The College of Liberal Arts and Sciences | Introduces students to resources that help them succeed in The College of Liberal Arts and Sciences. | N | SEM | N | GNA | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 1 | | Credit is allowed for only LIA 101 or LIA 194 (Introduction to College of Liberal Arts and Sciences) |
| LIA | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 1-4 | | |
| LIA | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 1-4 | | |
| LIA | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 1-4 | | |
| LIA | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 1-12 | | |
| LIA | 485 | REES Certificate Capstone | The Russian and East European Studies (REES) certificate capstone offers students the opportunity to deepen their knowledge of the region through a reading course or independent research project. The project or reading should represent an extended, research-based focus on some dimension of the region's languages, cultures, religions, histories and/or politics. Students first meet with the capstone supervisor to determine the focus of their readings or project and decide on a meeting schedule. Projects may take a wide range of forms, including an extended research paper, honors thesis, translation project, creative work, graduate school and career materials, research assistantship or internship. While the finished product depends on the nature of the reading course or project, all students work out a timeline, regularly submit drafts or other materials in progress and receive detailed feedback. | N | PRO | N | OPT | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 1-3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only LIA 485 or LIA 494 (REES Certificate Capstone) |
| LIA | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 1-4 | | |
| LIN | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 501 | Approaches to Research | Theories, methods and/or methodologies as well as qualitative and/or quantitative approaches to the specific discipline. Also serves as an introduction to the profession. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ENG 501 or LIN 501 |
| LIN | 510 | Linguistics | Overview of linguistics, its subfields, and some of its applications. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BLE 537 or LIN 510 |
| LIN | 511 | Phonetics and Phonology | Current trends in phonological theory and its basis in acoustic and articulatory phonetics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 513 | Semantics | Current approaches to linguistic meaning with particular attention to English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 514 | Syntax | Analyzes syntactic structures using a generative theoretical model with a focus on English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 515 | American English | Development of the English language in America, including regional and social varieties, and its relationship to other immigrant and native languages. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 516 | Pragmatics and Discourse Analysis | Studies language use in context and language structures in spoken and written texts. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|-----------------------|-------|-----------------|---|
| LIN | 517 | History of the English Language | Surveys the development of the English language, with an emphasis on major linguistic transformations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ENG 413 or ENG 517 or LIN 517 |
| LIN | 520 | Second-Language Acquisition Theories | Theories of second-language acquisition, including the linguistic, cognitive, and sociocultural aspects. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 521 | Methods of Teaching English as a Second Language | Methods of teaching English as a second language, language teaching trends, practical applications, and the teaching of different skills. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 522 | Grammar for TESL | Surveys major grammatical structures in English and how they can be taught to ESL speakers. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 523 | Language Testing and Assessment | Introduces the theory and practice of language test construction. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 524 | Curriculum Design and Materials Development | Practical guide to curriculum and materials development. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 525 | Teaching Second Language Writing | Provides a critical introduction to the field of second language writing as well as issues and strategies in the teaching of second language writing in a wide variety of contexts. After exploring various instructional contexts as well as the characteristics of different types of students and their texts, considers various instructional practices and strategies, focusing on course and assignment designs, reading-writing connection, teacher and peer feedback, grammar instruction, classroom assessment, plagiarism and text borrowing strategies, and negotiating language differences. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only LIN 525, 591 (Teaching 2nd Language Writing) or ENG 525 |
| LIN | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | Department of English | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 597 | MTESOL Capstone | Provides MTESOL students with a culminating experience in which they bring together the knowledge learned in prior courses in the program in a way that is meaningful and relevant to their professional goals. Focuses on projects that the students carry out to demonstrate their ability to apply scholarly and professional knowledge in TESOL practice. Provides opportunities to engage in some professional activities. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): Teaching English to Speakers of Other Languages MTESOL student; Credit is allowed for only ENG 597 or LIN 597 |
| LIN | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 610 | Advanced Studies in Linguistics | Different topics such as morphology, semantics, typology, history of linguistics. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 614 | Advanced Studies in Syntax | Focuses on morphosyntactic feature checking, movement, phrase structure, and their crosslinguistic differences. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 615 | Advanced Studies in Sociolinguistics | Language in its social setting, e.g., social variation among native speakers, sociolinguistics aspects of second-language acquisition, and language policy. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 616 | Advanced Studies in Discourse Analysis | Advanced analysis of spoken and written discourse emphasizing different methodological and theoretical issues. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 617 | Advanced Studies in Historical Linguistics | Overview of theories on language change, the history of languages, and of methods in historical linguistics. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| LIN | 620 | Advanced Studies in Second-Language Acquisition | Selected topics in second-language acquisition, such as phonetics and phonology, morphology, syntax, and discourse. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 625 | Advanced Studies in Second Language Writing | Provides opportunities to explore advanced research topics as well as current issues and controversies in the field of second language writing--an interdisciplinary field of inquiry simultaneously situated in applied linguistics, rhetoric and composition, and teachers of English to Speakers of Other Languages. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only ENG or LIN 625 |
| LIN | 655 | Advanced Disciplinary Discourses in Linguistics and Applied Linguistics | Advanced investigation of professional and disciplinary issues related to linguistics and applied linguistics. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | Department of English | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Liberal Arts and Sciences | Department of English | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LPH | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| LPH | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-3 | | |
| LPH | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LPH | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSC | 145 | Introduction to Marine Biology | Introduces non-majors to the basic concepts of marine biology, the study of the ocean and the diverse life forms that reside in the diverse habitats found there. Includes an extensive discussion on ocean conservation, including threats facing marine life and policy solutions to those threats. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | SG | Prerequisite(s): minimum 25 hours; Credit is allowed for only BIO 145 or LSC 145 or LSC 294 (Introduction to Marine Biology) OR Visiting University Student |
| LSC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | |
| LSC | 322 | Fundamentals of Ecology Laboratory | Investigational field course on fundamental concepts in ecology. | N | LAB | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Pre- or corequisite(s): LSC 320 or BIO 320 with C or better if completed OR Visiting University Student |
| LSC | 325 | Physiological Psychology | Relationships of physiological processes to behavior. Emphasizes nervous system functioning. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): PSY 290 with C or better or two of the following courses with C or better: BIO 181 (or 188), 182 (or 187), 201, 202; Credit is allowed for only LSC 325 or PSY 325 or PTX 325 OR Visiting University Student |
| LSC | 347 | Fundamentals of Genetics | Science of genetics, gene flow, and genetic engineering in humans and other organisms. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): BIO 181 or 188 with C or better; BIO 182 or 187 with C or better; CHM 116 with C or better OR Visiting University Student |
| LSC | 348 | Fundamentals of Genetics Laboratory | Investigational activities using modern molecular techniques to analyze various genetic phenomena. | N | LAB | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Pre- or corequisite(s): LSC 347 with C or better if completed OR Visiting University Student |
| LSC | 359 | Animal Physiology Laboratory | Investigative lab experience using animals (including humans) and models. | N | LAB | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Pre- or corequisite(s): LSC 358 or BIO 360 with C or better if completed |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|--|
| LSC | 362 | The Human Environment | Evolution of humans' physiological, ecological, and behavioral interaction with their environment. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better OR Visiting University Student |
| LSC | 363 | Genes, Race, Gender, and Society | Examines biological events and theories on race and gender and their interface with societal views. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | L | Prerequisite(s): BIO 340 or LSC 347 with C or better; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| LSC | 365 | The Human Organism | Analyzes human anatomy, physiology, and behavior in an ecological and evolutionary context with the methods of comparative biology. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | SG | |
| LSC | 369 | Biology of Human Sexuality | Multilevel perspective on human sexuality and reproduction. Integrates psychological with evolutionary, physiological and neuroscientific approaches. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): PSY 101 with C or better; one semester of biology; Credit is allowed for only LSC 369 or PSY 369 or PTX 369 OR Visiting University Student |
| LSC | 380 | Analysis of Nonhuman Forensic DNA Evidence | Nonhuman biological materials are so pervasive in the environment that they often contaminate victims, perpetrators and crime scenes by means of direct deposit or secondary transfer. As the reliability, sensitivity and specificity of animal, plant and microbial DNA assays improve with the advent of new technologies, the potential probative value of DNA information from nonhuman biomaterials also increases, especially for establishing or refuting alibis, determining the chronology of a criminal event and for crime scene reconstruction. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Pre- or corequisite(s): LSC 347 with C or better if completed; Credit is allowed for only FOR 380 or LSC 380 OR Visiting University Student |
| LSC | 386 | STEAM Service Learning | Guided process in which students deepen their understanding of their STEAM content area through knowledge-based problem solving that provides a service to others in the community. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ACO 386 or ENV 386 or FOR 386 or LSC 386 or PTX 386 or LSC 494 (Service Learning in the Life Sciences) |
| LSC | 388 | STEM Research Fundamentals | Teaches research skills in the natural sciences. Topics covered include the basic research techniques of the study organism and system, experimental design, literature searches, statistical analysis and preparation of scientific papers and posters. | N | LEL | Y | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 320, BIO 182, or MAT 272 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only ENV 388 or FOR 388 or LSC 388 or PLB 388 or PTX 388 OR Visiting University Student |
| LSC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | |
| LSC | 425 | Analytical Chemistry for Life Sciences | Presents an analysis of chemicals, including the theoretical and practical considerations regarding the separation, detection and quantitative determination of chemicals. Illustrates the application of different analytical procedures using some of the common chemicals of concern in the forensics and environmental fields. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): CHM 234 with C or better; CHM 238 with C or better; Credit is allowed for only FOR 425 or LSC 425 OR Visiting University Student |
| LSC | 426 | Analytical Chemistry for Life Sciences Lab | Students learn basic principles of analytical chemistry and explore a wide range of common techniques and methods with applications to forensic science and life sciences. Places specific focus on techniques common in modern analytical laboratories, including gas chromatography, mass spectrometry, FTIR and NMR spectroscopic techniques. Other topics include interpretation of analytical data and evaluation of error and uncertainty in measurements. | N | LAB | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 2 | | Prerequisite(s): CHM 234 with C or better; CHM 238 with C or better; Corequisite(s): FOR 425 or LSC 425; Credit is allowed for only FOR 426 or LSC 426 OR Visiting University Student |
| LSC | 430 | Environmental and Human Toxicology | Lecture/fieldwork course investigating toxic substances in the environment and their effect on the health of organisms, including humans. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better; CHM 116 with C or better OR Visiting University Student |
| LSC | 432 | Fundamentals of Pharmacology | Aspects of pharmacology using an integrated approach to familiarize students with natural and synthetic therapeutic agents used in medicine. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): BCH 361, BCH 371, or BIO 353 with C or better; BIO 340 or LSC 347 with C or better; CHM 231 or 234 with C or better; Credit is allowed for only LSC 432 or PTX 432 OR Visiting University Student |
| LSC | 434 | Marine Ecology | Examines ecological processes in oceans, seas, and estuaries that emphasizes species- and community-level phenomena. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better; LSC 320 or BIO 320 with C or better; Credit is allowed for only BIO 438 or BIO 494 (Marine Biology) or LSC 434 OR Visiting University Student |
| LSC | 447 | Molecular Genetics Laboratory | Investigative lab involving DNA isolation, PCR, gel electrophoresis, enzyme digestion and ligation, transformation, and hybridization analysis. | N | LAB | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FOR 447 or LSC 447 |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|--|
| LSC | 475 | Principles of Toxicology | Presents the fundamental principles of toxicology and its application to both human and environmental situations. Starts with the means of defining and quantifying toxic effects through dose response curves (e.g. LD50, EC50, LOEL, NOEL). Then focuses on absorption pathways for toxicants as well as the degradation metabolism pathways for toxicants. Finally focuses on the mechanism of toxic action for common poisons and environmental pollutants. Emphasizes toxicants that students are likely to encounter in forensics and environmental fields. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): BCH 361 or 371 with C or better; Credit is allowed for only FOR 475 or LSC 475 or PTX 475 |
| LSC | 480 | Advanced Topics in Human Forensic DNA Typing | Examines the science of current forensic DNA typing methods by focusing on the technology behind STR, Y-STR and mtDNA typing, real-time PCR, serology tests, capillary electrophoresis, expert systems and statistics. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): LSC 347 with C or better; Credit is allowed for only FOR 480 or LSC 480 OR Visiting University Student |
| LSC | 482 | Design Thinking for National Security | Project-driven course teaches problem solving, creative thinking and solution development. Provides a menu of problems to solve, with each problem being sourced directly from a sponsor within the Department of Defense (DoD). Working directly with DoD personnel, class mentors and other experts, students spend the semester crafting and refining solutions that can be adopted in short order. Students' work and solutions have real-world impact. | N | PRO | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prereqs w/min C: App Comp or App Comp (Cybersec) BS; ACO 240; ACO 320; ACO 330; ACO 350; MAT 210; STP 226 OR non-App Comp BS major; sr stndg; Crdt for ACO 482 or LSC 482 or ACO/ENT/FSE/IVD/LSC/SES/STP 494/598(Hack for Dfns) OR Visiting University Student |
| LSC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | IND | Y | YGB | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | |
| LSC | 486 | Peer Mentoring in STEM | Advanced students learn and apply mentoring skills in science classes or teaching labs. | Y | SEM | Y | YGB | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ACO 486 or BIO 486 or LSC 486 or MAT 486 or PTX 486 or STP 486 OR Visiting University Student |
| LSC | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | IND | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| LSC | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | IND | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| LSC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | |
| LSC | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | IND | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| LSC | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | YGB | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-3 | | Prerequisite(s): minimum 45 hours |
| LSC | 519 | Applied Learning Lab | Workshop-style course where students develop and peer review graduate-level project proposals. Topics may include integrative writing skills for an interdisciplinary thesis, presentation skills and topics tailored to the appropriate lay or technical audience, writing for a wide range of journals. | Y | SEM | Y | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSC | 540 | Statistics for Biological Data Science I | Statistical concepts and fundamental methods applicable to biological data science. Emphasizes the practical application to biological contexts and communication of results, using data science software such as R and/or Python. Explores statistical concepts and methodologies including hypothesis testing, confidence intervals, correlation, probability, analysis of variance, chi-squared tests and linear regression within biological and life science contexts. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only LSC 540 or LSC 598 (Statistics for Biological Data Science I) |
| LSC | 541 | Statistics for Biological Data Science II | Covers both classical and modern statistical tools for biological data analyses. Divided into five modules: (1) one- and two-variable analyses, (2) multivariate analysis, (3) design of experiments, (4) introduction of longitudinal and survival analysis, (5) modern computer-intensive analysis methods. For each statistical method, students learn the rationale behind the method and how to implement the method using statistical software (primarily R and/or Python). | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only LSC 541 or LSC 598 (Statistics for Biological Data Science II) |
| LSC | 547 | Wet Laboratory Experience | Balances the need for bench work and in silico experience for students interested in pursuing a career with learning important statistical and computational tools to analyze biological data. Under the direct supervision of the PI and/or Laboratory Manager, students receive instruction and perform all experiments as specified in the performance objectives for the course. | N | LAB | Y | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|--|
| LSC | 555 | Integrative Biology I | Provides a comprehensive understanding of the human genome, recent developments, next generation sequencing techniques including the preparation of DNA samples as well as principles of the new generation sequencing assay formats. Describes, critically evaluates and applies theoretical perspectives within genetic/genomic studies, develops and uses computational and mathematical tools and of the invaluable lines of inquiry these biomedical investigations may portend. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSC | 556 | Integrative Biology II | Provides a survey of fundamental issues in organismal biology. Covers biological diversity, relationships between form and function, processes of growth and development in individuals and populations, biomes and organism-environment relationships, populations and ecosystem function. Weaves components of previous course work throughout this course where possible. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSC | 562 | Applied Mathematics Techniques in Biology | Population dynamics, molecular interactions, population genetics, and other biological applications motivate the discrete and continuous mathematics. Studies mathematical techniques and applications representative of a range of applied mathematics topics. Incorporates computer software to help with visualization and numerical solutions of some of the problems. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSC | 565 | Laboratory Leadership, Policy and Practice | Focuses on essential laboratory management functions, knowledge and skills required to successfully function as a laboratory manager and/or senior-level scientist in clinical, academic, research and applied science laboratories (e.g., forensic science laboratories). Topics include quality assurance and quality control; laboratory accreditation and audits; standards for specific accrediting bodies including but not limited to CLIA, CAP, ASCLD/LAB, OSHA; documentation and sample accessioning; laboratory safety and chemical hazard programs; validation studies and protocol development; certification of individual scientists; and overall laboratory management "best practices." | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only FOR 565 or LSC 565 or PTX 565 |
| LSC | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | SEM | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSC | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LAB | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSC | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSC | 585 | Capstone I in Biological Data Science | Students bring together knowledge learned in required degree courses via a digital portfolio in a way that is meaningful and relevant to their professional goals. Each student must summarize current knowledge as it relates to a specific group project in the biological data sciences. | N | PRO | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSC | 586 | Capstone II in Biological Data Science | Students use their previously developed digital portfolio and apply this acquired knowledge in a culminating group project. | N | PRO | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSC | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSC | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LAB | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSC | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | SEM | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSC | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | RSC | Y | Z3 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | |
| LSC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|----------------------------------|---|-------|-----------------|---|
| LSE | 303 | Human Development: Addressing Learner Capabilities | Surveys major themes and recent findings in the area of human development across the lifespan, with emphasis on the physical, cognitive, social and emotional domains. Examines the impact of ethnic, gender and cultural factors on development. Applies theories of human development to various educational environments and learning activities. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| LSE | 305 | Conceptualizing Learning: Theories in Practice | Explores a variety of learning theories. Covers the role of the educator, the role of the student, and how tools and systems can help facilitate teaching and learning opportunities. Students design learning experiences for a specific need or opportunity using current research-based learning theories. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| LSE | 401 | Designing Learning Environments for Inclusion | Analyzes current education systems for their ability to meet the needs of diverse populations. Designs sustainable solutions to promote inclusivity in learning environments. Applies current research-based learning theories through a design process. Students advocate for education that changes communities and lives by developing educational solutions that address social concerns. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | SB | Prerequisite(s): minimum 45 hours |
| LSE | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 540 | Theoretical Views of Learning in the Learning Sciences | Theoretical perspectives that inform learning scientists. Examines affordances and limitations of theories for designing productive learning environments. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EDP 540 or LSE 540 |
| LSE | 542 | Research Methods in the Learning Sciences | Develops a strong methodological toolkit for building, testing and advancing learning theory through innovations that achieve meaningful impact. The field of the learning sciences is interdisciplinary, drawing on multiple theoretical perspectives and research paradigms to build understandings of the nature and conditions of learning, cognition and development. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 570 | Case Exemplars of Learning Systems | Examines in-depth cases of learning systems in order to examine different ways of explaining learning, knowing and teaching and attendant strategies for generating data about these systems. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 571 | History of the Learning Sciences | Examines the history of the interdisciplinary field of the learning sciences in relation to the various disciplinary traditions from which it derives. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| LSE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| LSE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| LSE | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| LSE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1 | | |

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|---------|----------------|-------------------------|---|-------------------|-------------------|-----------------|---------------|----------------------------------|---|-------|-----------------|--|
| LSE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 600 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 683 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| LSE | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| LSE | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| LSE | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 783 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| LSE | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| LSE | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| LSE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|---|--|-------|-----------------|--|
| LST | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| LST | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| LST | 370 | Dimensions of Liberal Studies | Draws on the humanities and social sciences to engage diverse ideas and perspectives, develop resilient and productive habits of mind, and investigate the different dimensions of human meaning-making. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L or HU | Prerequisite(s): Liberal Studies BA major; ENG 102, 105, or 108 with C or better; minimum sophomore standing OR Visiting University Student |
| LST | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| LST | 470 | Liberal Studies Seminar | Applies creativity, reflection and diverse modes of inquiry from the humanities and social sciences to at least one topic/theme. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Liberal Studies BA major; ENG 102, 105, or 108 with C or better; LST 370 (BIS 370) with C or better; minimum senior standing OR Visiting University Student |
| LST | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | |
| LST | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | | |
| LST | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| LST | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| LST | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-7 | | |
| LST | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-3 | | |
| LTC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| LTC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAE | 201 | Mechanics of Particles and Rigid Bodies I: Statics | Force vectors and force system resultants, equilibrium of particles and rigid bodies, friction, centroid and moments of inertia of an area. Required for aerospace engineering and mechanical engineering. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): MAT 266 or 271 with C or better; PHY 121 with C or better; Credit is allowed for only MAE 201 or MAE 212 OR Visiting University Student |
| MAE | 202 | Mechanics of Particles and Rigid Bodies II: Dynamics | Kinematics and kinetics of particles. Work, energy, and momentum principles for particles. Planar kinematics and kinetics of rigid bodies. Conservation of energy and momentum for rigid bodies. Equations of motion for particles and rigid bodies. Vibrations. Required for aerospace engineering and mechanical engineering. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prereq(s) w/ C or better: Aerospace or Mech Engr BSE major; MAE 201 OR non-Aerospace or non-Mech Engr major; CEE 210, CNE 210, or MAE 201; Pre- or coreq(s): MAT 274 or 275; Credit is allowed for only MAE 202 or 212 OR Visiting University Student |
| MAE | 213 | Mechanics of Materials | Equilibrium, strain-displacement relations, and stress-strain-temperature relations. Applications to force transmission and deformations in axial, torsional, and bending of bars. Combined loadings. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): MAE 201 with C or better; MAT 274 or 275 with C or better; PHY 122 with C or better OR Visiting University Student |
| MAE | 214 | Computer-Aided Engineering I | Introduces geometry and construction techniques in CAD, technical drawing conventions, generating drawings from CAD models. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1 | | Prerequisite(s): Mechanical & Aerospace Engineering major; Pre- or corequisite(s): MAE 201 or 212 with C or better if completed OR Visiting University Student |
| MAE | 215 | Introduction to Programming in MATLAB | Introduces basic topics and concepts of computer programming in MATLAB. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1 | | Prerequisite(s): Aerospace or Mechanical Engineering BSE major or Biomedical Engineering BSE major; MAT 265 or 270 with C or better OR Visiting University Student |
| MAE | 241 | Introduction to Thermodynamics | Concepts of equilibrium, properties, states, systems, energy and entropy; 1st and 2nd thermodynamic laws, analysis of open and closed systems, power and refrigeration cycles. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s) with C or better: Aerospace or Mech Engr BSE major; CHM 114 or 116; MAT 267 or 272; PHY 121 OR non-Aerospace or non-Mech Engr major; MAT 267 or 272; PHY 121; Credit is allowed for only MAE 240 or MAE 241 OR Visiting University Student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| MAE | 242 | Introduction to Fluid Mechanics | Introductory survey course covering fundamental concepts relating to engineering fluids. Fluid statics. Integral methods. Differential methods. Dimensional analysis and similarity. Incompressible internal and external flow. Potential flow. Required for Aerospace Engineering and Mechanical Engineering majors. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prereqs w/C: MAT 267, 272; MAT 274, 275; MAE maj: MAE 201 OR non-MAE maj: CEE 210, CNE 210, MAE 201; Pre- or coreqs w/min C: MAE maj: MAE 202, 212 OR non-MAE maj: CEE 212, MAE 202, MAE 212; Credit allowed for MAE 240 or 242 OR Visiting University Student |
| MAE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-4 | | |
| MAE | 301 | Applied Experimental Statistics | Introduces key concepts in probability and statistics with engineering applications. Emphasizes modeling variation in observations, characterizing its distribution, and making inferences with regard to quality assurance and control. Develops critical skills such as fitting multivariate models, experimental design, and hypothesis testing, utilizing data from engineering projects, simulations, and laboratory experiences. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prereq(s): Aerospace or Mech Engr major; With C or better: CSE 100, CSE 110 or MAE 215; MAE 384; MAT 242, 342 or 343; MAT 274 or 275; MAT 267 or 272; Credit allowed for MAE 301 or MAE 394 (Applied Experimental Statistics) OR Visiting University Student |
| MAE | 318 | System Dynamics and Control I | Dynamics of physical systems, models of mechanical, electrical and electromechanical systems, Laplace transform, transfer functions, time response and frequency response, poles and zeros, block diagrams, stability, introduction to feedback control: closed-loop response, PID compensation, steady-state characteristics, root-locus design and analysis of systems, frequency-domain design concepts, Bode-plots and analysis of systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 4 | | Prerequisite(s) with C or better: EEE 202; MAE 202 or 212; MAE 384; MAT 267 or 272; PHY 131; PHY 132; Aerospace or Mechanical Engineering BSE major; Pre- or corequisite(s): MAE 301 with C or better if completed OR Visiting University Student |
| MAE | 341 | Mechanism Analysis and Design | Positions, velocities, and accelerations of machine parts; cams, gears, flexible connectors, and rolling contact; introduces synthesis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; MAE 212 with C or better, or both MAE 201 and 202 with C or better |
| MAE | 384 | Advanced Mathematical Methods for Engineers | Methods for numerical solutions to engineering problems. Nonlinear equations, quadrature, ordinary differential equations. Analytical and numerical solutions to partial differential equations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | CS | Prerequisite(s): Engineering major; CSE 100, CSE 110, or MAE 215 with C or better; MAT 242, 342, or 343 with C or better; MAT 274 or 275 with C or better; Pre- or corequisite(s): MAT 267 or 272 with C or better if completed OR Visiting University Student |
| MAE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-4 | | Prerequisite(s): Fulton Engineering undergraduate student OR Visiting University Student |
| MAE | 400 | Engineering Profession | Impact of mechanical and aerospace engineering in a global and societal context; effects of and on globalization, environment, sustainability, economy, politics; engineering ethics and business practices. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | L | Prerequisite(s): Aerospace Engineering or Mechanical Engineering BSE majors; ENG 101, 105, or 107 with C or better; MEE 322, MAE 322, AEE 325, or MAE 325 with C or better OR Visiting University Student |
| MAE | 404 | Finite Elements in Engineering | Formulation and application of the finite element method through integration of theory, code development and application to problems in heat transport and solid mechanics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; CEE 213 or MAE 213 with C or better; CEE 384 or MAE 384 with C or better |
| MAE | 417 | System Dynamics and Control II | Fundamentals of feedback control using linear transfer function system models. Analysis in time and frequency domains. Design in the s-plane (root locus) and in the frequency domain (loop shaping). State-space representation and state-feedback control, multivariable control with observers, discrete systems and z-transform, nonlinear systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Mechanical Engineering BSE or Aerospace Engineering BSE major; MAE 318 with C or better OR Visiting University Student |
| MAE | 436 | Combustion | Combustion of gaseous and condensed-phase fuels. Thermodynamics, mass transfer and chemical kinetics of combustion. Explosion and ignition theories. Structure, propagation and stability of flames. Pollutant formation. Applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; MEE 340 with C or better; Credit is allowed for only MAE 436 or MAE 536 OR Visiting University Student |
| MAE | 451 | Applied Machine Learning for Mechanical and Aerospace Engineers | Machine learning is impacting every aspect of our daily lives, from recognizing faces in a crowd to designing drugs to treat epidemic diseases. There is no doubt that, as a result of the impact, the job market for future engineers will be drastically different. Equips engineering students with a working understanding of machine learning and better prepares them for the future job market. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): MAE 301 with C or better; MAE 384 with C or better; Credit is allowed for only MAE 451 or MAE 551 or MAE 598 (Machine Learning for Engineers) or MSE 551 or MSE 598 (Machine Learning for Engineers) OR Visiting University Student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| MAE | 455 | Polymers and Composites | Relationship among chemistry, structure, and properties of engineering polymers. Design, properties, and behavior of fiber composite systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prereq(s) w/ C or better: Fult Engrn Undergrad or Materials minor; CEE 213, MAE 213, or MSE 211; MAT 242, 342, or 343; MSE 250 or Aerospace major w/ MAE 325; Credit allowed for only MAE 455 or MAE 513 or MSE 470 or MSE 513 OR Visiting University Student |
| MAE | 460 | Applied Computational Fluid Dynamics | Numerical techniques for solving incompressible and compressible flow equations using industrial solvers. Computer-aided analysis of thermofluid systems. Applications to fluid system engineering. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering Undergrad student; AEE 360 or MEE 340 w/ C or better; Credit allowed for only MAE 460 or MAE 494 (Applied Computational Fluid Dyn) or MAE 560 or MAE 598 (Applied Computational Fluid Dyn) OR Visiting University Student |
| MAE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-12 | | |
| MAE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-6 | | Prerequisite(s): Barrett Honors student |
| MAE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MAE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-4 | | Prerequisite(s): Fulton Engineering undergraduate student OR Visiting University Student |
| MAE | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-7 | | Prerequisite(s): Fulton Engineering undergraduate student |
| MAE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-3 | | |
| MAE | 501 | Linear Algebra in Engineering | Development and solution of systems of linear algebraic equations. Applications from mechanical, structural, and electrical fields of engineering. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Non-Computer Engineering or Non-Electrical Engineering graduate student; Credit is allowed for only EGR 501 or EGR 598 (Applied Linear Algebra for Engineers) or MAE 501 or MSE 501 |
| MAE | 502 | Partial Differential Equations in Engineering | Development and solution of partial differential equations in engineering. Applications in solid mechanics, vibrations, and heat transfer. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only MAE 502 or MSE 502 |
| MAE | 503 | Finite Elements in Engineering | Ideas and methodology of finite element analysis. Applications to solid mechanics, heat transfer, fluid mechanics and vibrations. Knowledge of free-body diagrams and vector calculus operations is recommended. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only MAE 404 or MAE 503 or MAE 598 (Finite Elements in Engineering) |
| MAE | 504 | Experimental Methods for Thermal and Fluid Processes | Theory of analog and digital signal analysis as applied to fluid and thermal measurements; optical diagnostics and micro sensors for measuring fluid velocity, pressure and temperature in unsteady flows; particle image velocimetry and thermal anemometry. Applies experimental in a weekly laboratory. Students should have completed an intermediate-level course in fluid dynamics, familiarity with Matlab or some programming language, prior exposure to Fourier series and Fourier transforms, as well as probability and statistics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 4 | | Prerequisite(s): Ira A. Fulton graduate student; Pre- or corequisite(s): MAE 571 |
| MAE | 505 | Perturbation Methods | Nonlinear oscillations, strained coordinates, renormalization, multiple scales, boundary layers, matched asymptotic expansions, turning point problems, and WKBJ method. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering students; Credit is allowed for only APM 575 or MAE 505 |
| MAE | 506 | Advanced System Modeling, Dynamics, and Control | Lumped-parameter modeling of physical systems with examples. State variable representations and dynamic response. Introduces modern control. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Pre- or corequisite(s): APM 505 or MAE 501; Credit is allowed for only EGR 556 or EGR 598 (System Control & Optimization) or MAE 506 or RAS 556 |
| MAE | 507 | Advanced Modern Control and Estimation | System analysis, control, estimation and optimization. Stability, optimality, robustness, adaptation and safety considerations. Continuous-time, discrete-time and hybrid systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering student; MAE 506 with C or better |

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| MAE | 508 | Digital Control: Design and Implementation | Analysis and design of control systems in which the digital computer plays a major role. Review of continuous control and introduction to the key effects of sampling. Elements of discrete system analysis; z-transform; sampled-data systems; sampling theorem and combined discrete and continuous system and the phenomenon of aliasing. Deterministic design methods for digital control systems (root-locus, frequency response, pole placement and estimators). Multivariable, optimal control and Kalman filtering, followed by nonlinear control and system identification. Emphasizes digital control implementation topics and a case study on robot control. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering major. Credit is allowed for only MAE 508 or MAE 598 (Digital Control: Design and Implementation) |
| MAE | 509 | Linear Matrix Inequality Methods in Optimal and Robust Control | The recent introduction of Linear Matrix Inequality (LMI) methods in control has dramatically expanded the types and complexity of the systems we can control. For example, consider the problems: gain scheduling for missile attitude control (a switched system); control of robots over noisy communication channels (a sampled-data system); remote control of spacecraft attitude (a delayed system); behavioral therapy (a system with binary inputs); or self-driving vehicles (a case of decentralized control). None of these systems can be studied using classical root-locus or PID control methods. Rather, advances in these fields have been made possible through the increased power and flexibility created by the LMI (optimization-based) approach to control. Background knowledge in controls and linear algebra is recommended to be successful in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; MAE 501 or MSE 501 with C or better; Credit is allowed for only MAE 509 or MAE 598 (LMI Methods in Optimal and Robust Control) |
| MAE | 510 | Dynamics and Vibrations | Lagrange's and Hamilton's equations, rigid body dynamics, gyroscopic motion, and small oscillation theory. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Pre-requisites: Graduate Engineering students |
| MAE | 512 | Random Vibrations | Reviews probability theory, random processes, stationarity, power spectrum, white noise process, random response of single and multiple DOF systems, and Markov processes simulation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 2-3 | | Pre-requisite: Graduate Engineering major |
| MAE | 513 | Polymers and Composites | Relationship among chemistry, structure, and properties of engineering polymers. Design, properties, and behavior of fiber composite systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Pre-requisites: Graduate Engineering or Science & Engr of Materials student; Credit is allowed for only MAE or MSE 513 |
| MAE | 514 | Vibration Analysis | Free and forced response of single and multiple degree of freedom systems, continuous systems; applications in mechanical and aerospace systems numerical methods. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Mechanical or Aerospace Engineering graduate student; Credit is allowed for only AEE 415 or MAE 514 |
| MAE | 515 | Structural Dynamics | Free vibration and forced response of discrete multidegree of freedom and continuous systems, cyclosymmetric structures, introduction to rotordynamics, component mode synthesis, vibration of structures with moving mass/pipes with flow. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; MAE 514 with C or better |
| MAE | 518 | Fundamentals of Semiconductor Packaging | Multidisciplinary foundation course in addressing electrical, thermal, materials, chemical, manufacturing and reliability problems in semiconductor packaging. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only CHE 518 or EEE 518 or MAE 518 or MSE 548 |
| MAE | 519 | Mechanics of Micro/Nano Systems | Basic processes used for fabricating micro and nanoscale structures used in MEMS. Analyzes the processes and micro/nanoscale structures from a mechanics perspective. Covers the fundamentals of microfabrication, scaling of forces, thermal stresses and strains in thin beams, thermal oxidation and dynamics of MEMS. Optional topics include mechanics of thin films and nanostructured materials. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering student; Credit is allowed for only MAE 519 or MAE 598 (Mechanics of Micro/Nano Systems) |
| MAE | 520 | Stress Analysis | Introduces tensors: kinematics, stress analysis, and constitutive assumptions leading to elastic and plastic behavior. Strain energy and energy methods; applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only CEE 521 or MAE 520 |
| MAE | 521 | Structural Optimization | Linear and nonlinear programming. Problem formulation. Design sensitivity analysis. FEM-based optimal design of structural and mechanical systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; MAE 501 with C or better; Credit is allowed for only CEE 533 or EEE 589 or MAE 521 |
| MAE | 522 | Plasticity | Discusses theory of plastic (and inelastic) deformation in solids, e.g., metals and polymers, with emphasis on the fundamental foundations of the field derived from empirical observations and thermodynamic principles, all within a small strain framework. Assumes some knowledge of undergraduate-level thermodynamics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): MAE 520 or 529; Credit is allowed for only MAE 522 or MAE 598 (Plasticity) |
| MAE | 523 | Fracture Mechanics | Linear elastic fracture mechanics. Nonlinear problems. Fatigue fracture. Experimental methods in fracture. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; MAE 520 or MAE 598 (Continuum Mechanics) with C or better |

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| MAE | 524 | Theory of Elasticity | Elastic behavior in two and three dimensions. Airy stress functions and displacement potentials. Elements of fracture. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering student; MAE 520 or MAE 598 (Continuum Mechanics) |
| MAE | 526 | Design of Aerospace Structures | Provides a fundamental understanding of the design of aerospace structures. Topics include flight vehicle loads, metallic and composite materials, manufacturing methods, buckling and crippling of aerospace structures, fatigue, damage tolerance, finite element structural analysis, and design of joint and fittings. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Mechanical or Aerospace Engineering graduate student; Credit is allowed for only AEE 426 (or MAE 426) or MAE 526 or MAE 598 (Design of Aerospace Structures) |
| MAE | 527 | Finite Elements for Engineers | Direct stiffness, method of weighted residuals, weak formulation, and variational techniques in the solution of engineering problems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; APM 505 or MAE 501 with C or better; Credit is allowed for only CEE 526 or MAE 527 |
| MAE | 528 | Advanced Computational Mechanics | Teaches methods for treating material and geometric nonlinearities by finite elements for transient and static simulations. Topics to be included are total and updated Lagrangian formulations, linearization and solution methods, stability analysis, nonlinear material models such as hyperelastic and plasticity, and recent research topics such as extended finite element methods. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): CEE 526 or MAE 527 or MAE 598 (Finite Elements in Engineering); MAE 529; Credit is allowed for only MAE 528 or MAE 598 (Advanced Computational Mechanics) |
| MAE | 529 | Continuum Mechanics | Tensors, Eulerian/Lagrangian strains, compatibility equations, Cauchy/nominal stresses, balance laws, Reynolds transport theorem, laws of thermodynamics for a continuum; equations of state, restrictions on constitutive laws, Newtonian fluids, inviscid flows, viscoelasticity. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Mechanical or Aerospace Engineering graduate student; MAE 501 with C or better |
| MAE | 530 | Dynamic Behavior of Materials | Focuses on material response under fast mechanical loading, with emphasis on plastic and elastic behavior as a function of pressure, temperature and strain rate, with and without effects of inertia. Starts with a treatment of elastic wave propagation, followed by a study of effects of strain rate and temperature on plastic behavior of metals, including a review of mechanisms and constitutive equations. Then, addresses the theory of shock waves including analysis of shocks using conservation principles as well as thermodynamics, followed by a discussion of dynamic failure. Finally, reviews experimental techniques for dynamic experiments, including drivers and diagnostics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton graduate student; MAE 520 or 529; Credit is allowed for only MAE 530 or MAE 598 (Dynamic Behavior of Materials) |
| MAE | 533 | Transport Processes I | Unified treatment of momentum, heat, and mass transfer from molecular theory, and continuum points of view. Continuum equations of microscopic and macroscopic systems and multicomponent and multiphase systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering major. Credit is allowed for only BME 533 or CHE 533 or MAE 533 |
| MAE | 536 | Combustion | Combustion of gaseous and condensed-phase fuels. Thermodynamics, mass transfer and chemical kinetics of combustion. Explosion and ignition theories. Structure, propagation and stability of flames. Pollutant formation. Applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton graduate student; Credit is allowed for only MAE 436 or MAE 536 |
| MAE | 540 | Advanced Product Design Methodology | Surveys research in engineering design process, artifact and design, knowledge, formal and informal logic, heuristic and numerical searches, theory of structure and complexity. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Pre-requisite: Mechanical or Aerospace Engineering graduate student |
| MAE | 541 | CADTools for Engineers | Elements of computer techniques required to develop CAD software. Data structures, including lists, trees, and graphs. Computer graphics, including 2- and 3-D algorithms and user interface techniques. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering student |
| MAE | 542 | Design Geometry and Kinematics | Selected topics in geometry related to current potential applications in CAD/CAM, design theory, kinematics, and robotics. Euclidean isometrics, transformations; 4-D geometry; screw theory and its applications to robotics and assemblies. Differential geometry; curvature and torsional properties of curves and surfaces. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Schools of Engineering graduate student |
| MAE | 544 | Mechanical Design and Failure Prevention | Modes of mechanical failure; applies principles of elasticity and plasticity in multiaxial state of stress to design synthesis; failure theories; fatigue; creep; impact. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering student |

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| MAE | 545 | Modern Manufacturing Methods | Investigates the capabilities and equipment of both conventional manufacturing processes and modern manufacturing processes. Emphasizes the fundamental, development and application of casting, forming and sintering processes for conventional manufacturing processes. Emphasizes the emerging topics related to additive manufacturing, field-assisted manufacturing and nanomanufacturing for modern manufacturing processes. Also introduces engineering materials, structure of materials, property of materials and material characterizations in the manufacturing processes. Complements theoretical concepts presented in lectures with the presentation of relevant research topics and/or industrial applications. Develops an understanding of manufacturing process evolution and the capabilities of modern manufacturing processes and equipment. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton graduate student; Credit is allowed for only MAE 545 or MAE 598 (Modern Manufacturing Methods) or MFG 545 |
| MAE | 546 | Advanced CAE Simulation | Solution of advanced engineering problems with analysis software for structural, dynamic, nonlinear, contact and kinematic problems; selection of modeling parameters; reliability tests on software. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Schools of Engineering graduate student |
| MAE | 547 | Modeling and Control of Robots | Homogeneous transformations, workspace, forward and inverse kinematics, differential kinematics, statics and dynamics, motion planning, motion and force control. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Pre- or corequisite(s): APM 505 or MAE 501 |
| MAE | 548 | Probabilistic Methods for Mechanical Analysis | Fundamental probabilistic theory, engineering statistics, data analysis, reliability methods, Monte Carlo simulation with different sampling technique, mechanical and structural analysis under uncertainties, focusing on the application for mechanical, aerospace and civil engineering structures and materials. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only MAE 548 or MAE 598 (Probabilistic Methods for Eng Analysis and Design) |
| MAE | 551 | Applied Machine Learning for Mechanical Engineers | Machine learning impacts every aspect of our daily lives, from recognizing faces in a crowd to designing drugs to treat epidemic diseases. There is no doubt that, as a result of the impact, the job market for future engineers will be drastically different. This course equips engineering students with a working understanding of machine learning and better prepares them for the future job market. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only MAE 451 or MAE 551 or MAE 598 (Machine Learning for Engineers) or MSE 551 or MSE 598 (Machine Learning for Engineers) |
| MAE | 557 | Mechanics of Composite Materials | Analysis, design, and applications of laminated and chopped fiber reinforced composites. Micro- and macromechanical analysis of elastic constants, failure, and environmental degradation. Design project. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; MAE 520 or MAE 529 |
| MAE | 560 | Applied Computational Fluid Dynamics | Numerical techniques for solving incompressible and compressible flow equations using industrial solvers. Computer-aided analysis of thermofluid systems. Applications to fluid system engineering. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering student; Credit is allowed for only MAE 460 or MAE 494 (Applied Computational Fluid Dynamics) or MAE 560 or MAE 598 (Applied Computational Fluid Dynamics) |
| MAE | 561 | Computational Fluid Dynamics | Finite-difference and finite-volume techniques for solving the subsonic, transonic, and supersonic flow equations. Method of characteristics. Numerical grid-generation techniques. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Graduate Engineering students; Credit is allowed for only AEE 471 or MAE 471, 561 |
| MAE | 562 | Advanced Computational Fluid Dynamics: Interfaces | Numerical methods for interfaces in low Mach number flows including level set methods, volume of fluid methods, Lagrangian interface tracking, ghost fluid methods, and immersed boundary methods. Includes coding of the covered numerical techniques and application to different physical interfaces, e.g., liquid/gas phase interfaces, premixed flames and flows in complex geometries. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): MAE 561; Corequisite(s): MAE 502, 529, or 571; Credit is allowed for only MAE 562 or MAE 598 (Advanced Computational Fluid Dynamics) |
| MAE | 563 | Aircraft Propulsion | Fundamentals of gas-turbine engines. Analysis and design of components. Alternative aircraft propulsion systems. Recommend a background in thermodynamics and high-speed aerodynamics. It is recommended that students have had a prior technical course on compressible flow before enrolling. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only AEE 463 or MAE 563 |
| MAE | 564 | Advanced Aerodynamics | Advanced topics in aerodynamics with application to design. Slender body theory. Thin airfoil theory. Transonic and supersonic effects. Sweep theory. Wave drag. Post-stall (vortex) flows. Supersonic and hypersonic flows. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Aerospace Engineering major |
| MAE | 565 | Rocket Propulsion | Rocket flight performance, nozzle design, combustion of liquid and solid propellants, component design, advanced propulsion systems, interplanetary missions, testing. It is recommended that students have had a prior technical course on compressible flow before enrolling. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Mechanical or Aerospace Engineering graduate student; Credit is allowed for only AEE 465 or MAE 565 |

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| MAE | 566 | Rotary-Wing Aerodynamics | Introduces helicopter and propeller analysis techniques. Momentum and blade-element, helicopter trim. Hover and forward flight. Ground effect, autorotation and compressibility effects. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Schools of Engineering graduate student; Credit is allowed for only AEE 466 or MAE 566 |
| MAE | 570 | Intermediate Thermodynamics | Applied thermodynamics; gas mixtures, psychrometrics; property relationships, power and refrigeration cycles, and reactive systems. A basic knowledge of thermodynamics is required to be successful in this course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering major; Credit is allowed for only MAE 482 or MAE 570 or MEE 482 |
| MAE | 571 | Fluid Mechanics | Basic kinematic, dynamic, and thermodynamic equations of the fluid continuum and their application to basic fluid models. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Pre- or corequisite(s): MAE 502 |
| MAE | 573 | Advanced Fluid Mechanics | Mechanics of fluids flows where either the effects of inertia or viscosity are significant. Exact and approximate solutions of the Navier-Stokes equations, laminar flow and flow at low and high Reynolds numbers. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; MAE 571 with C or better |
| MAE | 574 | Multiphase Flow | Models for multiphase flows including dispersed and continuous phase flow models, particle-fluid and particle-particle interactions, droplet collision and coalescence, atomization, and numerical and experimental methods for analyzing multiphase flows. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): MAE 502; MAE 529; MAE 571; Credit is allowed for only MAE 574 or MAE 598 (Multiphase Flow) |
| MAE | 575 | Turbulence | Graduate-level introduction to turbulent flows covering the essential physical basis of turbulence, the statistical description of turbulent flows, dynamics of energy transfer and dissipation in such flows, inner- and outer-variable scaling of turbulent flows, and modern computational modeling and simulation of turbulence and turbulent flows. Requires undergraduate background in fluid mechanics and strong graduate-level mathematics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student |
| MAE | 576 | Energy Efficiency | Provides a broad background in energy efficiency analysis and technologies. Applies fundamental concepts from thermodynamics, heat transfer and fluid mechanics to real-world applications including heating, ventilating, air conditioning (HVAC), refrigeration, compressed air systems, steam systems, combined heat and power (CHP). Complements other courses on conventional and renewable power generation by focusing on reducing energy consumption, thus making it easier to meet our energy needs from sustainable sources. To be successful in this course, students should have knowledge of thermodynamics principles. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton graduate student; Credit is allowed for only MAE 494 (Energy Management) or MAE 494 (Energy Efficiency) or MAE 576 or MAE 598 (Energy Management) |
| MAE | 577 | Advanced Turbulence | Reynolds equations and their closure. Modeling of simple and complex turbulent flows, calculations of internal and external flows, and application to engineering problems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; MAE 575 with C or better |
| MAE | 578 | Geophysical and Environmental Fluid Dynamics | Dynamics of large-scale flows under the influence of stratification and earth rotation. Thermally and mechanically driven flows in turbulent boundary layer. Waves and instability of geophysical flows. Global-scale circulation. Applications to environmental prediction. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student |
| MAE | 579 | Wind Energy | Wind energy systems convert kinetic energy in the wind into electrical energy. Focuses on flow machines, including for example, aerodynamics and fluid dynamics. Begins with wind resource assessment utilizing atmospheric boundary layer science and then proceeds to computational fluid dynamics to understand the tools of modern wind resource assessment. Includes applications of the Navier-Stokes equations and some basics from turbulence theory. Resource assessment also includes modern remote sensing techniques such as lidar, radar and in situ instrumentation. Also includes discussions from current events and policy. Requires a background in applied experimental statistics, thermodynamics or aerodynamics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering student; Credit is allowed for only MAE 494 (Wind Energy) or MAE 579 or MAE 598 (Wind Energy) or MEE 441 |
| MAE | 581 | Advanced Thermodynamics | Basic concepts and laws of classical equilibrium thermodynamics; applications to engineering systems; introduction and applications of statistical mechanics and kinetic theory; Boltzmann integro-differential equation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering student |
| MAE | 582 | Renewable Energy: Mechanical Systems | Renewable energy systems are energy conversion systems that rely on naturally replenishing flows of energy. Considers the foundational principles behind many renewable energy systems, and application of these principles to practical systems. Emphasizes covering the following energy systems, some only at an introductory level and some with significant depth: solar, wind, geothermal, biomass, hydropower, energy storage, electric power generation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering major; Credit is allowed for only MEE 440 or MAE 582 or MAE 494 (Renewable Energy Engineering) or MAE 598 (Renewable Energy Engineering) |

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| MAE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z2 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-12 | | Prerequisite(s): Fulton Engineering graduate student |
| MAE | 585 | Solar Thermal Engineering | Solar energy availability, flat-plate and concentrating solar thermal collectors, solar heating and cooling, concentrating solar power (CSP). | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Schools of Engineering graduate student |
| MAE | 586 | Advanced Heat Transfer | Basic concepts and governing equations. Analysis of laminar and turbulent heat transfer for internal and external flows. Natural and mixed convection. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering student |
| MAE | 587 | Radiation Heat Transfer | Advanced concepts and solution methodologies for radiation heat transfer, including exchange of thermal radiation between surfaces, radiation in absorbing, emitting, and scattering media and radiation combined with conduction and convection. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering student |
| MAE | 588 | Nanoscale Heat Transfer | Explores the fundamental micro and nanoscale origins of thermal transport. Uses energy transport formalism to explain the breakdown of macroscopic transport laws (e.g., Fourier's law) at the micro and nanoscale. Defines and explores the key carriers of heat: phonons, photons, electrons and molecules. Derives the energy states of these carriers and combines this knowledge with statistical thermodynamics to determine the population distribution of these carriers. Combining these distributions with scattering processes enables fundamental laws to be derived within the context of their microscopic/nanoscale underpinnings. Some of these phenomena include, Fourier's law, Ohm's law, thermopower, Wiedemann-Franz law, Dulong-Petit law, equation of radiative transfer. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton graduate student; Credit is allowed only for MAE 588 or MAE 598 (Nanoscale Heat Transfer) |
| MAE | 589 | Heat Transfer | Basic concepts; physical and mathematical models for heat and mass transfer. Applications to conductive, convective, radiative, and combined mode heat transfer. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Pre-requisites: Graduate Engineering student; Credit is allowed for only MAE 494 topic (Heat and Mass Transfer) or 589 |
| MAE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | SEM | Y | Z2 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-12 | | Prerequisite(s): graduate MAE major |
| MAE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | Z2 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-12 | | Pre-requisite(s): Mechanical or Aerospace Engineering graduate student |
| MAE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-12 | | Pre-requisites: Mechanical or Aerospace Master's degree student |
| MAE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-12 | | Pre-requisite(s): Mechanical or Aerospace Engineering graduate student |
| MAE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1 | | Prerequisite(s): Fulton Engineering graduate student |
| MAE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-4 | | Prerequisite(s): graduate Engineering student |
| MAE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-12 | | Prerequisite(s): Aerospace Engineering or Mechanical Engineering or Robotics and Autonomous Systems (Mechanical and Aerospace Engineering) MS student |
| MAE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-15 | | Prerequisite(s): Mechanical or Aerospace Doctoral student |

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| MAE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1 | | Prerequisite(s): Fulton Engineering graduate student |
| MAE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-15 | | Prerequisite(s): Mechanical or Aerospace Doctoral student |
| MAS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| MAS | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | Prerequisite(s): Interdisciplinary Studies MA student |
| MAS | 501 | Methods for Interdisciplinary Inquiry | Critical survey of current models of inquiry, tools, processes, and methods in different fields. | N | SEM | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): Interdisciplinary Studies MA student |
| MAS | 502 | Perspectives in Interdisciplinary Studies | Introduces interdisciplinarity through explorations of epistemological and rhetorical practices that bridge traditional disciplines. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAS | 505 | Theories of Change, Culture, and Mind | Introduces graduate-level interdisciplinary study of key thinkers, movements, theories, and paradigms in 20th-century thought. | N | SEM | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAS | 510 | Science and Religion: Cosmologies and Worldviews | Examines science and religion, stressing modern scientific findings and philosophical and historical debates and dialogues. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IAS 430 or MAS 510 |
| MAS | 513 | Sociology of Everyday Life | Examines institutional ethnography, a way of exploring the particular and generalized social relations that shape people's everyday experiences. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAS | 514 | Continental Philosophy | Contemporary European thought emerges out of a crisis of the Enlightenment that unfolds throughout the nineteenth and twentieth centuries. Course dovetails with other fields like communication, cultural studies, law, political science, religious studies, literature and various social sciences. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only MAS 514 or MAS 598 (Studies in Critical Theory) or MAS 598 (Continental Philosophy and Religion) |
| MAS | 550 | Philosophical and Spiritual Issues in Death and Dying | From Plato to Maimonides to Heidegger to Kubler-Ross, scholars, clinicians, and spiritual writers have recognized that attitudes about death and dying contribute to understandings of human existence. Recalling the ancient Socratic, biblical, and other spiritual traditions of the cura animarum (care for and cure of the soul) and joining contemporary post/secular conversations relevant to integration of body-mind-spirit, this course introduces basic concepts and practices of care ethics and spirituality. Focuses on relations among existential (ontological), therapeutic (psychosomatic), and spiritual (religious) dimensions of care. Theoretically, the course is inter-faith in approach, holistic in scope, and specialized in content. Practically, students examine real-life issues in care ethics and spirituality from multiple perspectives. | N | SEM | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3-9 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IAS 450 or MAS 550 or PHI 450 or PHI 494 (Issues in Death & Dying) or REL 450 or REL 494 (Issues in Death & Dying) |
| MAS | 560 | Composition: Process, Technique, and Style | Advanced study of specific compositional theories and procedures; in-depth analysis of individual work. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IAP 421 or IAP 560 or MAS 560 or MAS 598 (Composition: Process, Technique, and Style II) |
| MAS | 569 | Digital Graphic Applications | Targeting, planning, design, authoring, development, and presentation of professional digital media graphics for Internet and print. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IAP 468 or IAP 569 or MAS 569 |
| MAS | 570 | Language, Culture and Performance | In-depth examination of language in myth, poetry, social and aesthetic performance genres. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IAP 471 or IAP 570 or MAS 570 or MAS 598 (Language, Culture, and Performance) |

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| MAS | 573 | Art and Politics | Explores issues and relationships between the arts and politics through historical examples, significant artists and works, key thinkers, and theoretical approaches. Considers topics such as: the arts and ideology, art and the politics of representation, propaganda, censorship, state-supported art, human rights, revolution and war, cultural change, and political aesthetics. Emphasizes interdisciplinary arts and period study, including the arts and The Russian Revolution, the art in the Weimar Republic and Nazi Germany, and, generally, the arts, art and social movements (e.g., U.S. Civil Rights era, Eastern Europe's solidarity movement and Velvet Revolutions), as well as the arts and politics in selected contemporary contexts (e.g., China, the Middle East). | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAS | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAS | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAS | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAS | 585 | Capstone Course | Assists students in preparing their capstone project, which represents the culmination of their study for the MA in Interdisciplinary Studies. | N | RSC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3-4 | | Prerequisite(s): Interdisciplinary Studies MA student |
| MAS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | Prerequisite(s): Interdisciplinary Studies MA student |
| MAS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | Prerequisite(s): Interdisciplinary Studies MA student |
| MAS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | Prerequisite(s): Interdisciplinary Studies MA student |
| MAS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1 | | Prerequisite(s): Interdisciplinary Studies MA student |
| MAS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 110 | Enhanced Freshman Mathematics | Individually paced, computer-mediated course designed to prepare students for college-level mathematics. Students work on various modules in an online adaptive learning technology platform created to help students progress through the course material based on individual needs in preparation for enrollment in the next level math course required by the student's major (pre-MAT 117 "Track 1" or pre-MAT 142 "Track 2"). Upon completion of this course, students should see improvement of basic math skills, an increase in the confidence in mathematical abilities, and advancement in ability to relate math to real-life applications. Credit for this course does not count towards university graduation requirements | N | LEL | N | ELG | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 0-3 | | Prerequisite(s): Mathematics Placement Test below 32% for majors that require MAT 142 OR Mathematics Placement Test 32-39.9% for majors that require MAT 117 or higher (consult your major map) |
| MAT | 117 | College Algebra | Linear functions, quadratic functions, general polynomial functions, rational functions, systems of linear equations, logarithmic and exponential functions. | N | LEL | N | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | MA | Prerequisite(s): ALEKS score of 0-60 or higher OR Visiting University Student |
| MAT | 117S | College Algebra Stretch | For students who have an in-progress (Z) grade for MAT 117. The grade earned in MAT 117S replaces the Z grade for MAT 117. Course content is the same as MAT 117, which is intended to develop skills in linear functions, quadratic functions, general polynomial functions, rational functions, exponential functions and logarithmic functions. Also studies systems of linear equations. Emphasizes problem-solving techniques, specifically by means of discussing concepts in each of these topics. | N | LEL | N | NOG | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 0 | | Prerequisite(s): MAT 117 with grade of Z OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|--|
| MAT | 119 | Finite Mathematics | Topics from linear algebra, linear programming, combinatorics, probability, and mathematics of finance. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | MA | Prerequisite(s): MAT 117, 170, 210, or 270 with C or better or ALEKS score of 61 or higher OR Visiting University Student |
| MAT | 142 | College Mathematics | Applies basic college-level mathematics to real-life problems. Topics include numerical reasoning, sets, counting techniques, probability, basic statistics and finance. Appropriate for students whose major does not require MAT 117 or 170. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | MA | Prerequisite(s): MAT 110 with Y grade or ALEKS score of 0-60 or higher OR Visiting University Student |
| MAT | 170 | Precalculus | Intensive preparation for calculus. Topics include: functions, domain and range, properties of graphs, transformations of functions, composition and combinations of functions, inverse functions, polynomial functions, rational functions, exponential functions, logarithmic functions, roots of polynomial functions, trigonometric functions and their graphs, trigonometric identities, trigonometric equations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | MA | Prerequisite(s): MAT 117 with C or better or ALEKS score of 61 or higher; Credit is allowed for only MAT 170 or MAT 171 OR Visiting University Student |
| MAT | 171 | Precalculus: Science, Technology, Engineering and Mathematics (STEM) | Robust treatment of advanced algebraic skills and trigonometry that are vital in calculus. Algebra topics include functions, compositions, inverses, transformations, complex numbers, roots of polynomial functions, rational functions, exponential and logarithmic functions and their properties. Trigonometry is approached via the unit circle as well as the right triangle. Topics include the trigonometric functions, their graphs and identities, inverse trigonometry, the laws of sine and cosine, vectors and the dot product with an application toward work, and polar coordinates and roots of complex numbers (deMoivre's theorem). | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 4 | MA | Prerequisite(s): MAT 117 with C or better or ALEKS score of 61 or higher; Credit is allowed for only MAT 170 or MAT 171 OR Visiting University Student |
| MAT | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-3 | | Pre-requisites: Freshman standing; Maximum 25 hours |
| MAT | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 0-5 | | |
| MAT | 207 | Algebra and Geometry in the High School | Provides a conceptually rigorous treatment of the central ideas of algebra and geometry in high school. Explores and develops familiar mathematical content from a very different perspective. Focuses squarely on creating meaning for concepts and on building coherence of meaning across concepts and various representations of them. As such, course activities and assessments (class/lab activities, homework assignments, and exams) reflect these expectations, focusing on both doing high school mathematics with meaning and on expressing and communicating that meaning accurately and coherently in verbal and written form. Prior to enrolling in this course, students should have experience with algebra/geometry to at least the high school level. | N | LEL | N | GNA | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Corequisite(s): MTE 210 OR Visiting University Student |
| MAT | 208 | Discrete Mathematics for Secondary Teachers | Potential secondary teachers of mathematics should master the Math Standards proposed by the National Council of Teachers of Mathematics for college-intending students. Focuses on those aspects of these standards that apply to discrete mathematics with particular emphasis on: mathematical problem solving, mathematics as communication, mathematical reasoning, and discrete mathematics. Taking a broader view, introduces mathematics as a discipline that uses known methods to discover and verify new conclusions through the study of discrete mathematics. | N | LEL | N | GNA | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | |
| MAT | 210 | Brief Calculus | Differential and integral calculus of elementary functions with applications. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | MA | Prerequisite(s): MAT 117, 119, 170, or 171 with C or better or ALEKS score of 61 or higher; Credit is allowed for only MAT 210 or MAT 251 OR Visiting University Student |
| MAT | 211 | Mathematics for Business Analysis | Topics in business analysis, including: Lagrange multipliers, linear programming, linear algebra, intermediate probability, random variables, discrete distributions, and continuous distributions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 210, MAT 251, MAT 265 or MAT 270 with C or better OR Visiting University Student |
| MAT | 242 | Elementary Linear Algebra | Introduces matrices, systems of linear equations, determinants, vector spaces, linear transformations, and eigenvalues. Emphasizes development of computational skills. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 2 | | Prerequisite(s): MAT 210, MAT 251, MAT 265 or MAT 270 with C or better OR Visiting University Student |
| MAT | 243 | Discrete Mathematical Structures | Logic, sets, functions, elementary number theory and combinatorics, recursive algorithms, and mathematical reasoning, including induction. Emphasizes connections to computer science. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 210, 251, 265, or 270 with C or better; minimum sophomore standing OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|--|
| MAT | 251 | Calculus for Life Sciences | Differential and integral calculus of elementary functions. Introduces differential and difference equations. Emphasizes applications to the life sciences. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | MA | Prerequisite(s): MAT 170 or 171 with C or better or ALEKS score of 61 or higher; Credit is allowed for only MAT 210 or MAT 251 OR Visiting University Student |
| MAT | 265 | Calculus for Engineers I | Limits and continuity, differential calculus of functions of one variable, introduction to integration. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | MA | Prerequisite(s): MAT 170 or 171 with C or better or ALEKS score of 76 or higher; Credit is allowed for only MAT 210 or MAT 270 OR Visiting University Student |
| MAT | 266 | Calculus for Engineers II | Methods of integration, applications of calculus, elements of analytic geometry, improper integrals, Taylor series. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | MA | Prerequisite(s): MAT 265 or 270 with C or better; Credit is allowed for only MAT 266 or MAT 271 OR Visiting University Student |
| MAT | 267 | Calculus for Engineers III | Vector-valued functions of several variables, partial derivatives, multiple integration. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | MA | Prerequisite(s): MAT 266 or 271 with C or better; Credit is allowed for only MAT 267 or 272 OR Visiting University Student |
| MAT | 270 | Calculus with Analytic Geometry I | Real numbers, limits and continuity, and differential and integral calculus of functions of 1 variable. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 4 | MA | Prerequisite(s): MAT 170 or 171 with C or better or ALEKS score of 76 or higher; Credit is allowed for only MAT 265 or MAT 270 OR Visiting University Student |
| MAT | 271 | Calculus with Analytic Geometry II | Methods of integration; applies calculus, elements of analytic geometry, improper integrals, sequences and series. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 4 | MA | Prerequisite(s): MAT 265 or 270 with C or better; Credit is allowed for only MAT 266 or MAT 271 OR Visiting University Student |
| MAT | 272 | Calculus with Analytic Geometry III | Vector-valued functions of several variables, multiple integration, and introduction to vector analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 4 | MA | Prerequisite(s): MAT 266 or MAT 271 with C or better; Credit is allowed for only MAT 267 or MAT 272 OR Visiting University Student |
| MAT | 274 | Elementary Differential Equations | Introduces ordinary differential equations, adapted to the needs of students in engineering and the sciences. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | MA | Prerequisite(s): MAT 266 or MAT 271 with C or better; Credit is allowed for only MAT 274 or 275 |
| MAT | 275 | Modern Differential Equations | Introduces differential equations, theoretical and practical solution techniques. Applications. Problem solving using MATLAB. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | MA | Prerequisite(s): MAT 266 or 271 with a C or better; Credit is allowed for only MAT 274 or 275 OR Visiting University Student |
| MAT | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| MAT | 298 | Honors Directed Study | Independent study or practicum under the supervision of a faculty member. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| MAT | 300 | Mathematical Structures | Logic and set theory, induction, functions, order and equivalence relations, cardinality. Emphasizes writing proofs. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; MAT 210, 251, 265, or 270 with C or better OR Visiting University Student |
| MAT | 310 | Introduction to Geometry | Congruence, area, parallelism, similarity and volume, and Euclidean and non-Euclidean geometry. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 267 or 272 with C or better OR Visiting University Student |
| MAT | 342 | Linear Algebra | Linear equations, matrices, determinants, vector spaces, bases, linear transformations and similarity, inner product spaces, eigenvectors, orthonormal bases, diagonalization, and principal axes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 267 or 272 with C or better; Credit is allowed for only MAT 342 or MAT 343 OR Visiting University Student |
| MAT | 343 | Applied Linear Algebra | Solving linear systems, matrices, determinants, vector spaces, bases, linear transformations, eigenvectors, norms, inner products, decompositions, applications. Problem solving using MATLAB. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 266 or 271 with C or better; Credit is allowed for only MAT 342 or MAT 343 OR Visiting University Student |
| MAT | 350 | Techniques and Applications of Applied Mathematics | Mathematical techniques and applications representative of the range of applied mathematics used in operations research, biology, economics, finance, and sociology. In depth exploration of these techniques in detail by focusing on selected applications. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): MAT 274 or 275; Pre- or corequisite(s): MAT 342 or 343; Corequisite(s): STP 280 or 420 |
| MAT | 353 | Mathematics and Cancer | Addresses some of the mathematical questions regarding the dynamics of cancer growth and treatment. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 267 or 272 with C or better; MAT 275 with C or better; MAT 342 or 343 with C or better; Credit is allowed for only MAT 353 or MAT 394 (Mathematics and Cancer) OR Visiting University Student |
| MAT | 355 | Introduction to Computational Molecular Biology | Introduces the mathematical skills used in molecular biology, genomics, and bioinformatics. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | CS | Prerequisite(s): MAT 119, 210, 243, 251, 265, or 270 or STP 220, 226, or 231 with C or better; Credit is allowed for only BIO 355 or CPI 480 or MAT 355 or MBB 355 OR Visiting University Student |

| Subject | CatalogNbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|------------|---------------------------------------|--|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| MAT | 370 | Intermediate Calculus | Theory behind basic 1-variable calculus: continuity, derivative, Riemann integral, sequences, and series. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 267 or 272 with C or better; MAT 300 with C or better; Credit is allowed for only MAT 370 or MAT 371 with C or better OR Visiting University Student |
| MAT | 371 | Advanced Calculus I | Real numbers, completeness, sequences/series, continuity, uniform theorems, derivative, Riemann integral, pointwise/uniform convergence, Taylor's theorem. Credit is allowed for only MAT 371 or 370 toward a mathematics degree. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 267 or 272 with C or better; MAT 300 with C or better OR Visiting University Student |
| MAT | 372 | Advanced Calculus II | Open, closed, compact sets in R^n continuity, differentiation, partial differentiation, integration in R^n Inverse/implicit function theorems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 371 with C or better; Pre- or corequisite(s): MAT 342 or 343 with C or better; Credit is allowed for only MAT 372 or 460 |
| MAT | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| MAT | 410 | Introduction to General Topology | Point set topology, topological spaces, metric spaces, continuity, compactness, connectedness and product spaces. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 300 with C or better; MAT 371 with C or better OR Visiting University Student |
| MAT | 411 | History and Philosophy of Mathematics | Examines nature of mathematics from origins to present, revealed by its history and philosophy. Strong background in mathematics not required. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | HU & H | |
| MAT | 412 | Differential Geometry | Rigorous treatment to the concepts and methods of differential geometry via the classical theory of curves and surfaces in Euclidean space, the Gauss-Bonnet theorem, and additional topics as time and interest permits. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 342 or 343 with C or better; MAT 371 with C or better OR Visiting University Student |
| MAT | 415 | Introduction to Combinatorics | Enumerating permutations and combinations of sets and multisets, inclusion-exclusion, recurrence relations, generating functions, Pólya theory and combinatorial structures. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 300 with C or better; MAT 242, 342, or 343 with C or better; Credit is allowed for only MAT 415 or MAT 512 OR Visiting University Student |
| MAT | 416 | Graph Theory | Trees, cycles, matchings, planarity, connectivity, hamiltonicity, chromatic number, Ramsey theory with emphasis on proof techniques. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 300 with C or better; MAT 242, 342, or 343 with C or better; Credit is allowed for only MAT 416 or MAT 513 |
| MAT | 419 | Introduction to Linear Optimization | Simplex method, duality, and network flows. Applications to game theory, geometry, combinatorics, graph theory, and posets. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | CS | Prerequisite(s): ACO 101, ACO 102, CSE 100, CSE 110, or CSE 205 with C or better; MAT 242, 342, or 343 with C or better; MAT 300 with C or better |
| MAT | 420 | Scientific Computing | Surveys and applies programming languages, libraries, and scientific visualization tools. Programming assignments emphasize software development skills. Completion of advanced calculus recommended prior to this course. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): CSE 205 with C or better; MAT 274 or 275 with C or better; MAT 342 or 343 with C or better OR Visiting University Student |
| MAT | 421 | Applied Computational Methods | Numerical methods for quadrature, differential equations, roots of nonlinear equations, interpolation, approximation, linear equations, floating-point arithmetic, and roundoff error. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | CS | Prerequisite(s): MAT 272 or 267 with C or better |
| MAT | 422 | Mathematical Methods in Data Science | Covers the theoretical and practical mathematical methods for data analysis and prediction. Reviews necessary elements needed from linear algebra and calculus. Major topics include matrix techniques for regression and data dimensionality reduction, optimization techniques for machine learning methods such as support vector machines and neural networks, graph techniques for clustering, and probability techniques for maximum likelihood estimation. While the emphasis is on mathematical concepts, students are expected to learn Python, MATLAB or R. Assumes no previous programming experience. Students use Python (or MATLAB, R) to produce predictions and visualize outcomes using machine learning methods. Encourages mathematical, computer, statistical and engineering students, providing an opportunity for students with various backgrounds to learn theoretical and practical aspects of data science. | N | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s) with C or better: ACO 320, MAT 342, or MAT 343; MAT 210, 265, or 270; Credit is allowed for only ACO 598/MAT 494 (Math Methods in Data Science) or DAT 300 or MAT 422 or STP 494 (Math Tools for Data Science) OR Visiting University Student |
| MAT | 423 | Numerical Analysis I | Solution of systems of linear and nonlinear equations, optimization, eigenvalues, round-off error, and floating point arithmetic. Fluency in computer programming is required for enrollment in this course. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | CS | Prerequisite(s): MAT 342 or 343 with C or better OR Visiting University Student |
| MAT | 425 | Numerical Analysis II | Analysis of and algorithms for numerical interpolation, integration, and differentiation. Numerical solution of ordinary and partial differential equations, introductory level. Applications. Fluency in computer programming is required for success in this course. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | CS | Prerequisite(s): MAT 274 or 275 with C or better; MAT 371 recommended |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|--|
| MAT | 429 | Optimization | A variety of optimization models and their applications to management, economics, engineering, and science. Topics include linear programming, integer programming, nonlinear programming, and stochastic programming. Stresses formulation and modeling as well as numerous applications and solving algorithms. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): MAT 343 with C or better; MAT 350 or 419 with C or better |
| MAT | 440 | Group Theory | Covers basic group theory. Students learn about the concept of a "group," related structures, their underlying theory and examples of how they arise in mathematics. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 300; MAT 342 or 343 OR Visiting University Student |
| MAT | 441 | Ring Theory | Covers basic ring theory. Students learn about the concept of a "ring," related structures, their underlying theory, and examples of how they arise in mathematics. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 300; MAT 342 or 343 |
| MAT | 442 | Advanced Linear Algebra | Fundamentals of linear algebra, dual spaces, invariant subspaces, canonical forms, bilinear and quadratic forms, and multilinear algebra. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 300 with C or better; MAT 342 or 343 with C or better OR Visiting University Student |
| MAT | 443 | Introduction to Abstract Algebra | Introduces concepts of abstract algebra. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 300 with C or better; MAT 342 or 343 with C or better; Credit is allowed for only MAT 443 or MAT 444 |
| MAT | 444 | Intermediate Abstract Algebra | Basic theory of groups, rings, and fields, including an introduction to Galois theory. Appropriate as preparation for MAT 543. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 440, 441, or 442 with C or better |
| MAT | 445 | Theory of Numbers | Prime numbers, unique factorization theorem, congruences, Diophantine equations, primitive roots, and quadratic reciprocity theorem. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 300 with C or better; MAT 342 or 343 with C or better |
| MAT | 447 | Cryptography I | Block ciphers, stream ciphers, congruence arithmetic, information theory, public key cryptosystems, key exchange, electronic signatures. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): CSE 100, 110, or 205 with C or better; MAT 242, 342, or 343 with C or better; MAT 300 with C or better OR Visiting University Student |
| MAT | 448 | Cryptography II | Mathematical underpinnings of contemporary cryptosystems, electronic signatures, key exchange, primality testing and factorization algorithms. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 447. Credit is allowed for only MAT 448 or MAT 494. Cryptography II |
| MAT | 450 | Mathematical Models in Biology | Introduces mathematical models in biological systems. Applications range from the cellular level to systems level and may include applications from areas such as physiology, ecology, epidemiology, population biology, computational and systems biology. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): MAT 342 or 343 with C or better; MAT 274 or 275 with C or better |
| MAT | 451 | Mathematical Modeling | Detailed study of one or more mathematical models that occur in the physical or biological sciences. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | CS | Prerequisite(s): MAT 274 or 275 with C or better; MAT 242 or 342 or 343 with C or better OR Visiting University Student |
| MAT | 452 | Introduction to Chaos and Nonlinear Dynamics | Properties of nonlinear dynamical systems; dependence on initial conditions; strange attractors; period doubling; bifurcations; symbolic dynamics; Smale-Birkhoff theorem; and applications. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 274 or 275 with C or better; MAT 242, 342, or 343 with C or better; MAT 371 is recommended OR Visiting University Student |
| MAT | 460 | Vector Calculus | Vectors, curvilinear coordinates, Jacobians, implicit function theorem, line and surface integrals, Green's, Stokes', and divergence theorems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Pre-requisite(s): MAT 274 or 275 with C or better; MAT 242, 342 or 343 with C or better; MAT 371 is recommended; Credit is allowed for only MAT 372 or 460 |
| MAT | 461 | Applied Complex Analysis | Analytic functions, complex integration, Taylor and Laurent series, residue theorem, conformal mapping, and harmonic functions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 267 or 272 with C or better |
| MAT | 462 | Applied Partial Differential Equations | Second-order partial differential equations, emphasizing Laplace, wave, and diffusion equations. Solutions by the methods of characteristics, separation of variables, and integral transforms. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Pre-requisite(s): MAT 274 or 275 with C or better; MAT 242, 342 or 343 with C or better OR Visiting University Student |
| MAT | 472 | Intermediate Real Analysis I | Introduces analysis in metric spaces with emphasis on the real line. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 371 with C or better OR Visiting University Student |
| MAT | 473 | Intermediate Real Analysis II | Analysis in R^n : implicit function theorem, introduction to manifolds, Lebesgue integration, change of variables formula, convergence theorems for integrals. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 342 or 343 with C or better; MAT 472 with C or better |
| MAT | 475 | Differential Equations | Linear and nonlinear ordinary differential equations, asymptotic behavior of solutions, stability, existence and uniqueness, limit sets, Poincaré-Bendixson theorem. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 242, 342, or 343 with C or better; MAT 274 or 275 with C or better; MAT 371 with C or better OR Visiting University Student |
| MAT | 476 | Partial Differential Equations | First-order quasilinear, method of characteristics, second-order linear (hyperbolic, parabolic, elliptic), Green's functions, integral representations, eigenfunction expansions, maximum principles, harmonic functions, and additional topics as time permits. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 242, 342, or 343 with C or better; MAT 274, 275, or 475 with C or better; MAT 371 with C or better |
| MAT | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z2 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): minimum 45 hours |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---------------------------------------|--|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| MAT | 485 | History of Mathematics | Topics from the history of the origin and development of mathematical ideas. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Pre-requisite(s): MAT 267 or 272 with C or better OR Visiting University Student |
| MAT | 486 | Peer Mentoring in STEM | Advanced students learn and apply mentoring skills in science classes or teaching labs. | Y | SEM | Y | YGB | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ACO 486 or BIO 486 or LSC 486 or MAT 486 or PTX 486 or STP 486 OR Visiting University Student |
| MAT | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| MAT | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MAT | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| MAT | 495 | Undergraduate Research | Supervised research in mathematical sciences. | N | RSC | Y | GNA | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| MAT | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-3 | | Prerequisite(s): minimum 45 hours |
| MAT | 500 | Research Methods | Course on research methods in a specific discipline. | Y | RSC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 501 | Geometry and Topology of Manifolds I | Brief review of general topology, cell complexes, topological manifolds, fundamental groups, covering spaces, homology. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only MAT 501 or MAT 598 (Geometry and Topology of Manifolds) |
| MAT | 502 | Geometry and Topology of Manifolds II | Differentiable manifolds, vector and tensor fields, differential forms, flows, Lie groups, homogeneous spaces, de Rham cohomology, Riemannian metrics and curvature. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 501; Credit is allowed for only MAT 502 or MAT 598 (Geometry Topology of Manifolds II) |
| MAT | 512 | Introduction to Combinatorics | Enumerating permutations and combinations of sets and multisets, inclusion-exclusion, recurrence relations, generating functions, Polya theory and combinatorial structures. Same topics as MAT 415; mastery at much higher level required. Students with MAT 415 (even as undergraduates) may not enroll. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Pre-requisites: Graduate student; Credit is allowed for only MAT 415 or 512 |
| MAT | 513 | Graph Theory | Rigorous introduction to graph theory. High-level mastery in topics such as trees, cycles, matchings, planarity, connectivity, hamiltonicity, chromatic number, Ramsey theory with emphasis on proof techniques. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only MAT 416 or 513 |
| MAT | 514 | Enumerative Combinatorics I | First semester of a systematic development of enumerative combinatorics, including elementary counting techniques, sieve methods, and partially ordered sets. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 515 | Enumerative Combinatorics II | Second semester of a systematic development of enumerative combinatorics, including lattices, exponential structures, symmetric functions, and selected special topics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 516 | Graph Theory I | First semester of a systematic development of graph theory, including matchings, connectivity, arboricity, planarity, coloring, network flows. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 517 | Graph Theory II | Second semester of a systematic development of graph theory, including dense and sparse graphs, Ramsey theory, hamiltonicity, random graphs, minors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 541 | "p"-Adic Numbers | Introduces "p"-Adic numbers and analysis. Topics include valuations, completions of number fields, extensions of the field of "p"-adic numbers and "p"-adic analysis. Students should have previously taken courses in analysis and algebra. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 542 | Elliptic Curves | Geometry and arithmetic of elliptic curves, points of finite order, the group of rational points, curves over finite fields, complex multiplication. Students should have previously taken a senior-level course in abstract algebra. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 543 | Abstract Algebra I | Groups, modules, rings and fields, Galois theory, homological algebra, and the representation theory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 544 | Abstract Algebra II | Continuation of groups, modules, rings and fields, Galois theory, homological algebra, and the representation theory | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 543 |
| MAT | 545 | Abstract Algebra III | Covers modules, Galois theory, and preparation for advanced study in algebraic parts of mathematics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Pre-requisite: MAT 544 |
| MAT | 547 | Algebraic Number Theory | Algebraic properties of number fields and their completions. Topics include rings of integers, ramification, finiteness of the class group, and Dirichlet's unit theorem. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Pre-requisite: MAT 544 |
| MAT | 570 | Real Analysis I | Lebesgue integration, selected function spaces, differentiation, abstract measure theory, and elements of functional analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|-------------------------|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|--|
| MAT | 571 | Real Analysis II | Continuation of Lebesgue integration, selected function spaces, differentiation, abstract measure theory, and elements of functional analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 570 |
| MAT | 572 | Complex Analysis I | Analytic functions, series and product representations, entire and meromorphic functions, normal families, Riemann mapping theorem, harmonic functions, and Riemann surfaces. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 573 | Complex Analysis II | Continuation of analytic functions, series and product representations, entire and meromorphic functions, normal families, Riemann mapping theorem, harmonic functions, and Riemann surfaces. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 572 |
| MAT | 578 | Functional Analysis I | Locally convex, normed, and Hilbert spaces. Linear operators, spectral theory, and application to classical analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 579 | Functional Analysis II | Continuation of locally convex, normed, and Hilbert spaces. Linear operators, spectral theory, and application to classical analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Pre-requisite: MAT 578 |
| MAT | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|-------------------------|-------|-----------------|---|
| MBB | 343 | Genetic Engineering and Society | Introduces genetic engineering, with emphasis on applications (transgenic plants and animals, cloning, vaccines, therapeutics, and diagnostics). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | L | Prerequisite(s): BIO 340 or MBB 347 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only BIO 343 or MBB 343 OR Visiting University Student |
| MBB | 347 | Molecular Genetics: From Genes to Proteins | Emphasizes molecular and cell biology and gene technology, both at the basic and applied research levels, in the growing areas of biotechnology and the molecular biosciences; focuses on molecular processes that allow genetic information to be expressed and regulated and by introducing applications to real-world situations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): BIO 181 and 182 both with C or better or BIO 282 with C or better; CHM 116 with C or better; Credit is allowed for only BIO 340 or BIO 342 or MBB 347 OR Visiting University Student |
| MBB | 350 | Applied Genetics | Introduces molecular genetics with emphasis on application of genetics to solve biological questions and to engineer organisms for biotechnology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): BIO 340 or MBB 347 with C or better; Credit is allowed for only MBB 350 or PLB 350 OR Visiting University Student |
| MBB | 355 | Introduction to Computational Molecular Biology | Introduces the mathematical skills used in molecular biology, genomics, and bioinformatics. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | CS | Prerequisite(s): MAT 119, 210, 243, 251, 265, or 270 or STP 220, 226, or 231 with C or better; Credit is allowed for only BIO 355 or CPI 480 or MAT 355 or MBB 355 OR Visiting University Student |
| MBB | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| MBB | 440 | Functional Genomics | Covers emerging fields of genomics and proteomics. Discusses key technologies and their applications to the study of genomes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 340 or LSC 347 or MBB 347 with C or better; Credit is allowed for only BIO 440 or MBB 440 or MCB 540 |
| MBB | 445 | Techniques in Molecular Biology/Genetics | Molecular genetic principles: plasmid construction, purification and characterization; PCR; mutagenesis; DNA sequence analysis; protein quantitation, hybridization, immunologic detection and electrophoresis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 340 or MBB 347 with C or better; Credit is allowed for only MBB 445 or MIC 445 OR Visiting University Student |
| MBB | 446 | Techniques in Molecular Biology/Genetics Lab | Molecular genetic techniques; plasmid construction, purification, and characterization; PCR; mutagenesis; hybridization and sequence analysis; protein quantitation; immunologic detection, and electrophoresis. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 2 | | Pre- or corequisite(s): MBB 445 or MIC 445 with C or better if completed; Credit is allowed for only MBB 446 or MIC 446 OR Visiting University Student |
| MBB | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): Molecular Biosciences and Biotechnology BS major; minimum 2.75 GPA |
| MBB | 490 | Capstone: Issues in Biotechnology | Integrates science and biotechnology industry issues dealing with intellectual property, regulatory issues, business practices, and commercialization. Both MBB 490 and MBB 491 must be taken to secure L General Studies credit. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 2 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; MBB 343 with C or better |
| MBB | 491 | Capstone: Issues in Molecular Biosciences | Integrates molecular science and societal issues dealing with ethics, regulatory issues, and societal needs that pertain to molecular biosciences. Both MBB 490 and MBB 491 for L General Studies credit. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 2 | L | Prerequisite(s): BIO 340 or MBB 347 with C or better; ENG 101, 105, or 107 with C or better |
| MBB | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| MBB | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MBB | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| MBB | 495 | Undergraduate Research | Supervised research in biology/microbiology/molecular biosciences and biotechnology/or plant biology. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-3 | | Prerequisite(s): minimum junior standing OR Visiting University Student |
| MBB | 496 | Undergraduate Thesis | Guided research culminating in the preparation of an undergraduate thesis based on supervised research done in this and previous semesters. | N | RSC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): junior or senior standing; Credit is allowed for only BIO 496 or HPS 496 or MBB 496 or MIC 496 OR Visiting University Student |
| MBB | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-3 | | Prerequisite(s): Molecular Biosciences and Biotechnology BS major; minimum 3.0 GPA |
| MBB | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| MCB | 500 | Research Methods | Course on research methods in a specific discipline. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 501 | Seminar: Molecular and Cellular Biology Colloquium | Presentation of current research by noted researchers in the field. | N | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------|-------|-----------------|---|
| MCB | 539 | Computing for Research | Works mainly with command-line programs, focusing on sequence-based analysis. An interactive flipped course, with required hands-on aspects both in class debugging and troubleshooting and for out-of-class assignments where students work on problem solving and implementation. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 439 or BIO 498 (Computing for Rsrch) or BIO 539 or BIO 598/EVO 598/MCB 598 (Computing for Rsrch) or EVO 539 or MCB 539 |
| MCB | 540 | Functional Genomics | Functional relevance of genomic sequences; DNA arrays, proteomics, analysis of genomic information for metabolic physiology of organisms. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 440 or MBB 440 or MCB 540 |
| MCB | 555 | Advanced Molecular and Cellular Sciences | Study of structural and functional organization of biomolecules and cells, based on current literature. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 556 | Advanced Molecular and Cellular Biology II | Continuation of MCB 555. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 701 | Seminar: Molecular and Cellular Biology Colloquium | Presentation of current research by noted researchers in the field. | N | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCE | 447 | Diversity in Families and Communities in Multicultural Settings | Diversity and the changing role of schools in a multiethnic society. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| MCE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |

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|---------|----------------|--------------------------------------|--|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|--|
| MCO | 101 | Everyday Grammar | Helps students master the elements of English grammar. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Prerequisite(s): non-Journalism and Mass Communication majors or non-Sports Journalism majors; Credit is allowed for only JMC 101 or JMC 194 (Grammar for Journalists) or MCO 101 or MCO 194 (Everyday Grammar) OR Visiting University Student |
| MCO | 102 | Fundamentals of Coding | Provides a basic understanding of how the Internet works, knowledge of how to create and upload Web pages, and a basic introduction to programming with JavaScript. Assumes no previous knowledge of any of the topics, although requires basic knowledge of how to use a Web browser and navigate the Web. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Credit is allowed for only JMC 102 or JMC 194 (Coding for Journalists) or MCO 102 or MCO 194 (Fundamentals of Coding) OR Visiting University Student |
| MCO | 120 | Media and Society | Covers the role of newspapers, magazines, radio, television and motion pictures in American society. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | SB | Prerequisite(s): non-Journalism and Mass Communication major or non-Sports Journalism major; Credit is allowed for only JMC 110 or MCO 120 OR Visiting University Student |
| MCO | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-4 | | |
| MCO | 240 | Media Issues in American Pop Culture | Explores how pop culture is created, shared and controlled in American society. What is pop culture? Who controls and manipulates pop culture trends and phenomena? Examines pop culture in advertising, film, video, music and social media. Challenges students to think about different aspects of pop culture across society and its role in modern America. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | |
| MCO | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-4 | | |
| MCO | 302 | Media Research Methods | Surveys research methods used in the social sciences, with a focus on mass communication. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| MCO | 307 | The Digital Audience | Introduces students to the foundations of digital strategy, including audience research, social media campaigns, SEO, analytics, audience targeting, goal setting and more. Through hands-on exercises with real brands, students learn how audiences differ across industries and platforms, approaches for engaging users, and how organizations use audience data to create growth strategies. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): minimum 45 hours; minimum 2.00 GPA OR Visiting University Student |
| MCO | 335 | Social Media Foundations | Discover the social media landscape: What are social media platforms, who uses them and how are they transforming society? Explores the basics of virtual social networks and critically analyzes the social, cultural, legal, ethical, economic and technological dimensions of social media platforms and the communities who use them. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): minimum 2.00 GPA; Credit is allowed for only JMC 305 or JMC 306 or MCO 335 OR Visiting University Student |
| MCO | 366 | Media Ethics and Diversity | Explores contemporary news media ethical problems in a seminar setting. Uses journalism and mass communication ethical perspectives to obtain keys to unlock contemporary dilemmas surrounding the news media. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): minimum 2.00 GPA; Credit is allowed for only JMC 366 or JMC 367 or MCO 366 or MCO 494 (Media Ethics and Diversity) OR Visiting University Student |
| MCO | 375 | Podcasting | Explores what it takes to start a podcast from the ground up. Students devise a proof of concept for a podcast while fortifying their knowledge of the industry. The podcast projects are based on a unique value proposition that fulfills a specific need for their audience. In creating a show, students implement interviewing skills, audio engineering and nonlinear editing to develop a podcast with intention and longevity. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): minimum 56 hours; minimum 2.00 GPA; Credit is allowed for only JMC 355 or JMC 394 (Audio Storytell & Prod) or JMC 394 (Podcast & Audio Storytell) or MCO 375 or MCO 494 (Podcasting) or MCO 598 (Podcasting) OR Visiting University Student |
| MCO | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-4 | | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| MCO | 403 | Media Law | Provides a grounding in the laws and regulations that govern various aspects of the media with a focus on First Amendment guarantees and privileges and the extent to which those have been limited by courts and lawmakers. Topics include freedom of expression, libel, privacy and obscenity. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): minimum 2.00 GPA; Credit is allowed for only JMC 402 or MCO 403 or MCO 503 OR Visiting University Student |
| MCO | 418 | History of Mass Communication | Explores the history of American media from its English and colonial origins to the present day, including the development and influence of newspapers, magazines, radio, television and news-gathering agencies. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | SB & H | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|---|
| MCO | 420 | Strategic Sports Communication | Covers the wide-ranging field of strategic sports communication. Prepares students for an entry-level position in the strategic sports communication field. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism or Business (Sports and Media Studies) major; minimum 45 hours OR Visiting University Student |
| MCO | 425 | Digital Media Literacy I | Helps students begin to navigate the 21st-century media, starting by becoming active users of media, not just passive consumers. The Internet-fueled democratization of media creation has enabled anyone to be a publisher, and given audiences' almost infinite choices, with both great and questionable effects. In a world of information abundance, it can be difficult to discern fact from opinion and truth from fiction. We need to know how to wade through this barrage of information with a critical eye, to be better informed, and ultimately become creators of media ourselves. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): minimum 2.00 GPA; Credit is allowed for only MCO 425 or MCO 494 (Digital Media Literacy) OR Visiting University Student |
| MCO | 426 | Digital Media Literacy II | Discusses digital media consumption to some degree, but focuses more on media creation and the many issues we need to understand for best practices. Students learn the importance of understanding the tools and techniques of media creation, and how media are used to persuade, the ethical and legal issues in creating media, policy issues that can (or will) affect media creation, and an assortment of media-creation techniques. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): minimum 2.00 GPA; Credit is allowed for only MCO 426 or MCO 494 (Digital Media Literacy II) OR Visiting University Student |
| MCO | 427 | Misinformation and Society | Develops strategies and tactics to recognize misinformation, and inoculates students--and helps them join the battle--against it. Misinformation in our context is false information purposefully created to deceive and cause harm. It runs rampant in today's digital information ecosystem, and is becoming more and more sophisticated and difficult to spot. Bad actors are using powerful tools and techniques to infect our information supply, sowing confusion and discord. While there are laudable efforts to staunch the flow of misinformation, media users need help in deciding what information to trust. Examines the evolution of misinformation and the range of content types that fall under its umbrella. Explores tools, techniques and tactics that individuals can employ to identify misinformation, and gives them a head start on making informed decisions on what, and whom, they can trust. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): minimum 2.00 GPA |
| MCO | 428 | Digital Media and Freedom of Expression in the 21st Century | Covers the extraordinary nature of media in this century. Examines how the media and communications tools of the past 100+ years--telephones, print publications and broadcasting outlets--gave way to the Internet, a radically centralized network of networks that is rapidly re-centralizing. Also explores how the ability to exercise freedom of expression became radically easier in the early days of the Internet, but how that freedom, among others, may be in jeopardy--and, if so, what can be done about that, as individuals and members of communities. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): minimum 2.00 GPA; Credit is allowed for only MCO 428 or MCO 494 (Media and Free Expression in the 21st Century) or MCO 598 (Media and Free Expression in the 21st Century) |
| MCO | 430 | International Mass Communication | Compares international communication and media and explores how audiences, information gathering and dissemination differ across global political and cultural systems. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | G | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| MCO | 431 | Media Entrepreneurship | Familiarizes students with media entrepreneurship and innovation in a quickly changing digital media environment. Students study the principles of entrepreneurship and innovation, assess their own tolerance for risk, evaluate opportunity and market conditions, and learn about various revenue models for entrepreneurial enterprises. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): minimum 2.00 GPA; Credit is allowed for only MCO 431 or MCO 494 (Media Entrepreneurship) or MCO 556 OR Visiting University Student |
| MCO | 433 | Social Media Campaigns, Engagement and Research | Learn how to attract, engage and grow audiences on social media platforms through both organic and paid social media campaigns, and research social media behavior and performance. Includes evaluating organizations' existing social media audiences, identifying opportunities for audience growth, creating content and campaigns for specific social platforms, measuring the impact of social media content, and developing an organizational strategy for managing social media across an enterprise. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Comm undergraduate major or minor or Interdisciplinary Studies BIS major; MCO 307 w/ C or better; minimum 2.00 GPA; Credit is allowed for only MCO 433, MCO 436, MCO 437 or MCO 563 OR Visiting University Student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|---|
| MCO | 434 | Search Engine Research and Strategy | Learn how to research, attract and grow audiences through the strategic use of search engine optimization and search engine marketing. Includes search trend research, keyword research, user behavior, SEO (search engine optimization), tagging and coding for on-page SEO, SEM (search engine marketing), competitive analysis, domain authority and pay-per-click advertising. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School undergraduate major or minor, or Interdisciplinary Studies BIS major; MCO 307 with C or better; minimum 2.00 GPA; Credit is allowed for only MCO 434 or MCO 436 or MCO 437 or MCO 562 OR Visiting University Student |
| MCO | 436 | Audience Research and Behavior | Prepares students to undertake or manage research on customers, employees, readers, viewers, influencers and others with whom an organization seeks to communicate or build relationships. Digital data have profoundly reshaped how organizations mine and interpret audience data, so the course introduces new techniques and tools for developing audience insights, as well as traditional qualitative and quantitative research methods. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School undergraduate major or minor, or Interdisciplinary Studies BIS major; MCO 307 with C or better; minimum 2.00 GPA; Credit is allowed for only MCO 433 or MCO 434 or MCO 436 or MCO 564 OR Visiting University Student |
| MCO | 437 | Audience Acquisition and Engagement | Students learn how to attract and grow audiences on established and emerging digital platforms. Students discover tactics and strategies for targeting, obtaining and engaging audiences by leveraging social media, search marketing and SEO, digital content, ecommerce, digital advertising and others. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School undergraduate major or minor, or Interdisciplinary Studies BIS major; MCO 307 with C or better; minimum 2.00 GPA; Credit allowed for only MCO 433 or MCO 434 or MCO 437 or MCO 562 or MCO 563 OR Visiting University Student |
| MCO | 438 | Digital Audience Analysis | Students discover how to access, manipulate and translate audience data. Students learn how to mine data from Web sites, social networks, apps, email campaigns and video platforms, and how to use analysis tools and techniques to translate metrics into valuable, actionable insights that drive engagement strategies and business decisions. By working with real audience data, students receive hands-on analysis and reporting experience. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School undergraduate major or minor, or Interdisciplinary Studies BIS major; MCO 307 with C or better; minimum 2.00 GPA; Credit is allowed for only MCO 438 or MCO 565 OR Visiting University Student |
| MCO | 439 | Digital Audience Growth | Capstone challenges students to synthesize their digital audience knowledge and skills acquired in the previous courses through an applied project. Working with a real client and live, ever-changing data, students work to increase and engage the client's digital audience, executing a growth campaign from audience identification, targeting and strategy development to implementation, engagement and measurement. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s) with C or better: Digital Audience BS major or minor; MCO 307; (MCO 433 and 434) or (MCO 436 and 437); MCO 438; minimum 2.00 GPA; Credit is allowed for only MCO 439 or MCO 566 OR Visiting University Student |
| MCO | 450 | Visual Communication | Theory and tradition of communication through the visual media with emphasis on the continuity of traditions common to modern visual media. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | HU | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| MCO | 456 | Political Communication | Explores the intersection of media and politics and examines how the political system works and how journalists cover politics, political campaigns and elections. Students gain knowledge of opinion polling, debates, campaign finance, the party system, political communication, issues coverage, fact checking, crowd sourcing and more. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | SB | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| MCO | 460 | Race, Gender, and Media | Readings seminar designed to give students a probing examination of the interface between AHANA Americans and the mass media in the United States. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | C | Prerequisite(s): minimum 2.00 GPA; Credit is allowed for only AFR 460 or MCO 460 OR Visiting University Student |
| MCO | 465 | Sports and Media | Designed for aspiring journalists and media users, explores why great sports journalism is essential to our society. Establishes the goals, dreams, and expectations for sports journalism and introduces ethical philosophy and popular ethical models and decision-making tools. Students then apply these tools to sports journalism. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| MCO | 470 | Exploring the Business of Journalism | Exposes students to broad media management problems. Focuses on how essential the bottom-line and quality journalism are to the entire journalistic and mass communication enterprise; helps students think about how to balance those two concerns. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): minimum 2.00 GPA; Credit is allowed for only JMC 473 or JMC 474 or MCO 470 OR Visiting University Student |
| MCO | 473 | Sex, Love, and Romance in the Mass Media | The role of the mass media in constructing and/or reinforcing unrealistic mythic and stereotypic images of sex, love, and romance. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | SB | Prerequisite(s): minimum cumulative 2.00 GPA |
| MCO | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-12 | | |
| MCO | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-6 | | Prerequisite(s): Barrett Honors student |

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| MCO | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MCO | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-4 | | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| MCO | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-7 | | |
| MCO | 502 | Journalism Skills | Basic journalism skills for print, digital and broadcast. Significant hands-on practice writing and reporting stories on deadline as well as an immersion in the principles and practices of good journalism. | Y | LEL | Y | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 2-8 | | Prerequisite(s): Cronkite School masters or PhD student |
| MCO | 503 | Media Law | Examines the philosophical and legal aspects of press freedom with an emphasis on the First Amendment from 1791 to present. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School master's student; Credit is allowed for only JMC 402 or MCO 403 or MCO 503 |
| MCO | 504 | Cronkite Master's Seminar | Provides an introduction to the Cronkite School as well as challenges and opportunities in media leadership today. Students develop strategies and tactics for establishing themselves as leaders now and into the future, with a focus on driving change and innovation in media. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Prerequisite(s): Cronkite School of Journalism and Mass Communication master's student; Credit is allowed for only MCO 504 or MCO 598 (Journalism Skills Lab) |
| MCO | 505 | Depth Reporting | Covers in-depth and investigative reporting and writing techniques. Students produce long-form, deeply sourced articles and produce multimedia with the goal of publication. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School of Journalism and Mass Communication on-campus master's student |
| MCO | 506 | Media Law for Strategic Communication | The 24-hour news cycle routinely starts in 280 characters or less followed by a single click. This democratization of information provides anyone and everyone an opportunity to control the narrative, leaving individuals and entities sharing or reliant on such information more prone to missteps. Such missteps impact professional reputations as well as companies and their stakeholders. Therefore, the professional communicator must be well versed in the fundamentals of the applicable law when a defining moment presents itself. This course requires students to engage in issues concerning the First Amendment, commercial advertising, copyright, trademarks, Section 230 and defamation. Such information is intended to help its recipients understand their rights (or lack thereof) to publish certain information, steer clear of lawsuits and increase their value in the workplace. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCO | 510 | Data Journalism | Students use data to tell stories, employing computer spreadsheets, database software, mapping programs and statistical techniques and learn how these tools can be used across a wide variety of beats and stories. Students negotiate with government officials for public records and use the internet and other online sources to find information and sources for stories. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School of Journalism and Mass Communication on-campus master's student |
| MCO | 512 | Humphrey Seminar | Identifies, examines and exports role models of leadership in the field of global communications. Explores leadership issues in journalism, strategic communications and management under different cultural and political systems. | N | SEM | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Master of Mass Communication or Sports Journalism MA student; minimum 2.50 GPA; Credit is allowed for only JMC 406 or JMC 494 (Humphrey Seminar) or MCO 512 or MCO 598 (Humphrey Seminar) |
| MCO | 515 | Advanced Online Media | Builds on and expands basic multimedia knowledge. Students leave with heightened Web-language literacy and visual sophistication; fluency with multiple digital tools that create, publish and distribute content; and the requisite storytelling skills to produce works of a professional level on diverse online and mobile platforms. Draws on Adobe Creative Cloud software and other current tools. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Master of Mass Communication or Sports Journalism MA student; MCO 502 with C or better; Credit is allowed for only JMC 460 or MCO 515 |

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|---------|----------------|--|--|----------------------|----------------------|--------------------|------------------|---|---|-------|--------------------|--|
| MCO | 517 | Public Relations Campaigns | Enables students to synthesize and apply the theories, principles and techniques of public relations. This body of knowledge includes research, planning techniques, types of budgets, organizational systems, management styles, campaign components, types of campaigns, technology, ethics, diverse channels of communication and target audiences. The student develops an in-depth understanding of a client's needs; conducts primary and secondary research; works with a client in a team-based approach to prepare a comprehensive campaign proposal to address the client's problem or issue; designs and develops media products for client; formally presents the proposal to the client and the class and analyzes, discusses then responds to public relations case studies. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Sports Journalism MA or Master of Mass Communication student; Credit is allowed for only MCO 517 or MCO 598 (Public Relations Campaigns) |
| MCO | 519 | Strategic Communications Leadership and Ethics | Communications and the ability to tell an organization's story to a variety of audiences and stakeholders is a key part of corporate strategy. Provides a broad understanding of ethical communications practices in agency and corporate settings, and includes instruction in reputation management, corporate communications, brand management, and stakeholder engagement in a digital context. Especially useful for future communications professionals and those who will work with them such as journalists and business leaders. | N | SEM | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite master's student; Credit is allowed for only JMC 419 or MCO 519 |
| MCO | 521 | News Producing | Principles of broadcast news producing, delivered via a combined lecture/lab experience. Students complete assignments based on editorial judgment, technical skills and industry awareness and develop strategies for total newsroom management. In the process, students build confidence in producing news content and newscasts under deadline pressure and are prepared for a variety of producer-related roles in professional newsroom environments. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School of Journalism and Mass Communication on-campus master's student; Credit is allowed for only MCO 521 or MCO 598 (News Producing) |
| MCO | 525 | 21st-Century Media Organization and Entrepreneurship | Focuses on the future of journalism, the future of journalism business organizations and entrepreneurship, new media experiences, online solutions to popular media problems, financial realities of the media, and media innovation. | N | SEM | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Master of Mass Communication or Investigative Journalism MA student; Credit is allowed for only JMC 473 or MCO 525 or MCO 526 |
| MCO | 526 | Advanced Issues in 21st-Century Sports and Media | Through critical analyses of major contemporary issues in sports and media, provides tools and information needed to more fully engage in and become fluent with the main conversations about the business, technology and the future of sports journalism. | N | SEM | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Sports Journalism MA student; Credit is allowed for only JMC 474 or MCO 525 or MCO 526 |
| MCO | 529 | Ethics and Diversity in Sports Journalism | Explores the connection among sports media, journalism and society in an ethical and issue-oriented context. Students gain an understanding of the issues and ethics of the sports journalism profession while becoming better and more informed consumers of sports media. At the end of the course students have a better understanding of the importance of sports in our society and how that is reflected in coverage by local and national media outlets. | N | SEM | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Sports Journalism MA student |
| MCO | 530 | History, Philosophy, and Ethics of Journalism | Explores contemporary news media issues in a seminar setting. Critically analyzes historical and contemporary dilemmas in journalism ethics using a case study approach. | N | SEM | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Investigative Journalism MA or Mass Communication MMC student |
| MCO | 531 | Advanced Broadcast Reporting | Teaches news and information practices of networks and local television stations. Students report, write and edit broadcast packages with an emphasis on video. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School of Journalism and Mass Communication on-campus master's student |
| MCO | 533 | Advanced Spanish-Language Broadcast Reporting | Students produce bilingual television packages on a wide range of issues of interest to Latino audiences. Students also report and produce an occasional Spanish-language newscast. Opportunity to develop and master advanced reporting, interviewing, visual storytelling and writing skills in English and Spanish needed to obtain an entry-level position in a small/medium market local television newsroom. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Master of Mass Communication or Sports Journalism MA student; MCO 502 with C or better; Credit is allowed for only MCO 533 or MCO 598 (Advanced Bilingual Broadcast Reporting) |
| MCO | 534 | Advanced Spanish-Language Reporting | Students get experience reporting and writing stories on topics related to Latinos in the U.S. Requires ability to write and report in Spanish, although students do not have to be proficient. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Master of Mass Communication or Sports Journalism MA student; MCO 502 with C or better; Credit is allowed for only JMC 434 or JMC 494 (Advanced Bilingual Reporting) or MCO 534 or MCO 598 (Advanced Bilingual Reporting) |
| MCO | 535 | Latino and Transnational Issues | Focuses on some of the most pressing and controversial issues of the day that are taking place in the Southwest borderlands. Successful students move on to the Borderlands Initiative depth reporting project in the spring semester that includes an international reporting experience. | N | SEM | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Investigative Journalism MA, Master of Mass Communication or Sports Journalism MA student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|--|
| MCO | 536 | Public Relations Research | Teaches the importance and practice of research in a public relations context. Students conduct research using qualitative and quantitative methods and analyze data to understand implications within a specific communications context. They also critically evaluate published academic and professional research. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Master of Mass Communication student; Credit is allowed for only MCO 536 or MCO 598 (PR Research) |
| MCO | 537 | Strategic Communications Writing | Focuses on content creation, with students producing content in digital formats in addition to text. Emphasizes storytelling across different platforms. Students work in groups of 2-3 to produce content for a client based both on research they conduct in class, as well as information provided by the instructor. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): MCO 502 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 415 or MCO 537 or MCO 598 (Writing for Public Relations) |
| MCO | 540 | Sports Reporting | Hands-on experience reporting, writing, script writing and video producing sports stories. Students report, write and produce professional-level, clear, well-reported, accurate stories and video packages about athletes and sports stories newsworthy in the Valley and beyond. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Sports Journalism MA student; MCO 502 |
| MCO | 541 | Narrative Writing and Reporting | Students learn the elements of narrative journalism--structure and narrative arc, the use of character, description, dialogue and quotes, context and background, and pacing--and apply them to a long-form story they report and write during the semester. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School masters student; MCO 502 with C or better; Credit is allowed for only JMC 441 or JMC 494 (Narrative Writing) or MCO 541 or MCO 598 (Narrative Writing) |
| MCO | 542 | Sports and Culture Commentary | Students learn how to craft informed opinion in both news and sports across a variety of platforms, including written columns and video and audio commentaries. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Investigative Journalism MA, Master of Mass Communication, or Sports Journalism MA student; MCO 502 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 442 or MCO 542 or JMC 494/MCO 598 (Opinion in the Digital Age) |
| MCO | 544 | Accountability in Journalism | Seminar about accountability journalism in the digital age: its history, mission, values, techniques, ethics and future. Students research and analyze notable recent examples of accountability journalism and produce accountability story ideas about water quality and supply in Arizona. | N | SEM | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Prerequisite(s): Cronkite School masters or PhD student; Credit is allowed for only JMC 444 or JMC 494 (Accountability Journalism) or MCO 544 or MCO 598 (Accountability Journalism) |
| MCO | 545 | Techniques of Investigative Reporting | Student teams work under the direction of a veteran investigative journalist, learning how to do research and reporting on projects to expose wrongdoing, focusing on public records, databases, in-depth interviews and how to conceptualize, organize and tell these stories on multiple platforms. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): MCO 502 with C or better; Credit is allowed for only MCO 502 or MCO 545 |
| MCO | 546 | News 21 Seminar | Prepares students for the Carnegie-Knight News21 investigative journalism summer fellowship. Immerses students in the selected topic for the annual investigation, conducting deep research, generating data and public records, interviewing experts, developing sources and producing initial reports and multimedia elements. Considers students who perform well in the seminar for paid summer fellowships during which they travel the country to complete their reporting and produce the annual project on an issue of national import. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School of Journalism and Mass Communication on-campus master's student; MCO 502 with C or better; Credit is allowed for only JMC 446 or JMC 494 (News 21) or MCO 546 or MCO 598 (News 21 Seminar) |
| MCO | 548 | Non-Narrative Video Storytelling | Teach students how to create video pieces that effectively communicate a story, information or concept to your audience in non-narrative form that is engaging, interesting and intelligent. Focuses on the various forms of non-narrative storytelling to gain experience creating both longer and shorter pieces with DSLR cameras, advanced editing and graphics that are appropriate to the intended platform. Students learn how to shoot video and stills with a DSLR camera and when to use each in video creation, while advancing skills as a video editor and graphic designer. Students broaden their creativity and range as a video producer in the areas of journalism and mass communication. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Master of Mass Communication or Sports Journalism MA student; MCO 502 w/ C or better; Credit is allowed for only JMC 448 or MCO 548 |
| MCO | 550 | Issues in Coverage of Business and the Economy | Teaches the basics of business and economics reporting, one of the fastest-growing areas of journalism. Students learn what skills are needed to cover business and economic stories as well as how private companies operate and the factors that drive the economy. They also learn about opportunities in the field and hear from leaders in business journalism. | N | SEM | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School of Journalism and Mass Communication master's or PhD student |

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| MCO | 551 | Better Business Reporting | Provides training and practice in reporting and writing stories related to business and the economy. Students learn tools and techniques to enhance their coverage of various kinds of business stories, from profiles to financial reports. They learn best practices for pitching stories, cultivating sources, conducting effective interviews, structuring stories, using appropriate narrative elements and translating complex information for a general audience. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Business Journalism MS student; MCO 550 with C or better |
| MCO | 552 | Data in Business Journalism | Students learn how to find powerful business and economic data from U.S. sources such as the Census Bureau, the Bureau of Labor Statistics, the Securities and Exchange Commission and the Federal Reserve. Examines international data sources of the United Nations, the World Bank, the European Union and the statistics offices of various countries. Covers basic mathematical and statistical formulas for working with business data, how to find stories in data using tools such as Microsoft Excel and Google Fusion Tables and how to create basic data visualizations that are useful for understanding business and economic trends. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Business Journalism MS student; MCO 550 with C or better |
| MCO | 553 | Reporting on Business and the Economy | Trains students in the basics of reporting about business and the economy. They learn to tell the stories behind companies, people and money, while improving their competency in using numbers in stories. Students have the opportunity to have stories appear in print, online or broadcast. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Master of Mass Communication or Sports Journalism MA student; MCO 502 OR Business Journalism MS student |
| MCO | 555 | Digital Media Entrepreneurship | Students identify a marketable idea and transform it into a product and/or company. In the process, they learn about key concepts of entrepreneurship and practice skills that they can employ as entrepreneurs themselves. Students are exposed to a range of national and regional entrepreneurs and emerge with a deeper understanding of entrepreneurship's importance within the media and communications landscape. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Master of Mass Communication or Sports Journalism MA student; Credit is allowed for only JMC 455 or JMC 494 (Digital Media Entrepreneurship) or MCO 555 or MCO 598 (Digital Media Entrepreneurship) |
| MCO | 556 | Media Entrepreneurship | Familiarizes students with media entrepreneurship and innovation in a quickly changing digital media environment. Students study the principles of entrepreneurship and innovation, assess their own tolerance for risk, evaluate opportunity and market conditions, and learn about various revenue models for entrepreneurial enterprises. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School graduate student; Credit is allowed for only MCO 431 or MCO 494 (Media Entrepreneurship) or MCO 556 |
| MCO | 557 | Advanced Radio Reporting | Students report and produce long-form radio stories in commercial and public radio formats. They develop planning, writing, voicing and detailed editing skills in a variety of radio broadcast formats, including general news and business as well as hard news and feature reporting. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Master of Mass Communication or Sports Journalism MA student; MCO 502 with C or better; Credit is allowed for only JMC 457 or JMC 494 (Advanced Radio Reporting) or MCO 557 or MCO 598 (Advanced Radio Reporting) |
| MCO | 560 | Arizona Media Law | Case study approach to first amendment issues, media access, libel, confidentiality, and invasion of privacy as applied to media organizations in Arizona. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Master of Mass Communication or Sports Journalism MA student |
| MCO | 561 | Defining the Digital Audience | Who are the people who make up digital audiences? How do digital audiences behave? And why is it important to research, identify and monitor digital audiences and their engagement with your organization? Covers the very essence of the digital audience, exploring how community, consumer, social psychology and theory converge on digital platforms and social networks. Through case-study analyses, teaches how audiences differ across industries and platforms, the elements that engage or dissuade users, and how organizations use audience data to manipulate growth strategies. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCO | 562 | Search Engine Strategy for Digital Audience Acquisition | How to attract and grow audiences through strategic use of search engine marketing. Includes user search behavior, SEO (search engine optimization), tagging and coding for on-page SEO, SEM (search engine marketing), keyword research, competitive analysis, domain authority and pay-per-click advertising. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prereq(s): Bus Journ MS, Dig Aud Strat MS; Dig Aud cert, Investigative Journ MA, Journ & Mass Comm PhD, Global Mgt (Dig Aud Strat) MGM, Mass Comm MMC or Sports Journ MA stdnt; MCO 561 w/B or better; Credit allowed for only MCO 434 or MCO 437 or MCO 562 |
| MCO | 563 | Social Media Campaigns and Engagement | How to attract, engage and grow audiences on social media platforms through both organic and paid social media campaigns. Includes evaluating an organization's existing social media audience, identifying opportunities for audience growth across social media platforms, designing and generating content for specific platforms, measuring the impact of social media content, and developing an organizational strategy for managing social media across an enterprise. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School graduate student or Global Management (Digital Audience Strategy) MGM student; MCO 561 with B or better; Credit is allowed for only MCO 433 or MCO 437 or MCO 563 |

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| MCO | 564 | Digital Audience Research and Behavior | Provides skills to undertake research on digital audiences, customers, viewers, influencers and others with whom an organization seeks to communicate or build relationships. Digital data have profoundly reshaped how organizations mine and interpret audience data. Digital audience research as a subset of social research. Overviews both traditional and newer research methods for developing audience insights. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School graduate student or Global Management (Digital Audience Strategy) MGM student; MCO 561 with B or better; Credit is allowed for only MCO 436 or MCO 564 |
| MCO | 565 | Digital Audience Analytics | Provides skills to access, manipulate and translate audience data. How to mine data from websites, social networks, apps, email campaigns and video platforms, and how to use analysis tools and techniques to translate metrics into valuable, actionable insights that drive engagement strategies and business decisions. Works with real audience data to receive hands-on analysis and reporting experience. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prereq(s): Bus Journ MS, Digtl Aud Strategy MS; Digtl Aud cert, Investigative Journ MA, Journ&Mass Comm PhD, Mstr Global Mgt (Digtl Aud Strategy), Mstr Mass Comm or Sports Journ MA stdnt; MCO 561 w/B or better; Credit allowed for only MCO 438 or MCO 565 |
| MCO | 566 | Digital Audience Management | Challenges students to synthesize their digital audience knowledge and skills acquired in previous courses through a culminating experience. Working with a real client and live, ever-changing data, students work to increase and engage the client's digital audience, executing a growth campaign from audience identification, targeting and strategy development to implementation, engagement and measurement. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Digital Audience Strategy MS student; MCO 561 with B or better; MCO 562 with C or better; MCO 563 with C or better; MCO 564 with C or better; MCO 565 with C or better; minimum 3.00 GPA; Credit is allowed for only MCO 439 or MCO 566 |
| MCO | 567 | Diversity in Digital Audiences | Examines diversity in digital communities and conversations through many lenses--race, ethnicity, age, gender, sexual orientation, religion, education, culture, ability, geography, economics, politics and experience among them. Through examining representation and inequality, power and privilege, harassment and discrimination, and how our own identities and biases affect our communication, students learn how to critically think about diversity in digital spaces and engage diverse communities both accurately and fairly. Students also learn how to apply the core principles and tenets of identity, diversity, equity and inclusion to the practice of professional communication, from developing audience-specific digital content to targeting diverse audiences in strategic communication campaigns. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): MCO 561 with C or better; Credit is allowed for only MCO 567 or MCO 598 (Diversity in Digital Audiences) |
| MCO | 570 | Master of Mass Communication Capstone | Students synthesize and apply their knowledge and skills in these full-day immersive programs that are powered by students and led by faculty. Students may choose from among several programs, including newsroom environments, sports bureaus, strategic communications agencies, special projects labs and more. Students emerge with real professional experience, portfolio work and preparedness for careers across the media industry. Programs are available in Phoenix, Los Angeles and Washington, D.C. | Y | LEL | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3-9 | | Prerequisite(s): Investigative Journalism MA, Master of Mass Communication or Sports Journalism MA student |
| MCO | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCO | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-12 | | Prerequisite(s): Cronkite School master's student |
| MCO | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCO | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-12 | | Prerequisite(s): Investigative Journalism MA, Sports Journalism MA, Master of Mass Communication, Business Journalism MS, Digital Audience Strategy MS, Journalism and Mass Communication PhD, or Digital Audiences certificate student |
| MCO | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCO | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-4 | | Prerequisite(s): Cronkite School of Journalism and Mass Communication graduate student |
| MCO | 710 | Research Methodology in Mass Communication | Identifies research problems in mass communication and provides an overview of questionnaire construction as well as attention to survey, historical, content analysis, experimental and legal research methods. | N | SEM | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Pre-requisites: Journalism Mass Communication PHD students |

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| MCO | 711 | Critical, Historical, Legal Research Methods in Mass Communication | Critical, legal and historical methods necessary to conduct qualitative mass communication research. | N | SEM | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Pre-requisite: Journalism Mass Communication PhD student |
| MCO | 712 | Freedom of Expression Theory | Examines philosophical and legal aspects of press freedom; emphasizes First Amendment theory evolution from 1791 to present. | N | SEM | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Pre-requisite: Journalism Mass Communication PhD student |
| MCO | 720 | Mass Communication Theory | Analyzes various theoretic models of mass communication with emphasis on the applications of these theories to professional communication. | N | SEM | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Pre-requisites: Journalism and Mass Communication PhD student |
| MCO | 722 | Philosophy of Mass Communication | Mass media as social institutions, particularly interaction with government and public; emphasizes criticism and normative statements. Seminar. Prerequisite: Journalism and Mass Communication PhD student. | N | SEM | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Pre-requisites: Journalism and Mass Communication PhD student |
| MCO | 755 | Research Apprenticeship | Students and faculty work on a research project with the expected outcome of a scholarly publication. | N | RSC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Pre-requisite: Journalism and Mass Communication PhD student |
| MCO | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCO | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCO | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | IND | Y | Z3 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCO | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MDC | 211 | Introduction to Digital Sound | Examines how technology is used as listeners, creators, critics, remixer, and a wide variety of other roles to participate in and gain a deeper understanding of music and its role in our lives. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Credit is allowed for MDC 211 or MUE 294 Open Minds, Digital Ears |
| MDC | 311 | Composing and Performing for Hybrid Ensembles | Provides opportunities to perform music in a variety of digital and hybrid contexts using both physical and digital instruments. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only MDC 311 or MUE 394 (Performing in Digital and Hybrid Music Groups) |
| MDC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MDC | 411 | Advanced Interactive Sound | Explores the development of interactive music systems. Covers a variety of sound synthesis methods with particular emphasis as to how they can be used in real-time sound creation. Covers techniques for sensing such as computer vision, sound analysis, tangible interfaces and 3D sensing. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AME 411 or AME 511 or MDC 411 or MDC 511 OR Visiting University Student |
| MDC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | |
| MDC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MDC | 511 | Advanced Interactive Sound | Explores the development of interactive music systems. Covers a variety of sound synthesis methods with particular emphasis as to how they can be used in real-time sound creation. Covers techniques for sensing such as computer vision, sound analysis, tangible interfaces and 3D sensing. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AME 411 or AME 511 or MDC 411 or MDC 511 |
| MDC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MDL | 410 | Laboratory Leadership | Clinical lab leadership and management. Applies the principles of personnel management and supervision, allocation of resources, and staff communication. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite: Admission to Medical Laboratory Science program |
| MDL | 420 | Advanced Clinical Urinalysis and Body Fluids | Theory and applications of principles in urinalysis with emphasis on the etiology, pathophysiology, and clinical manifestations of renal and other metabolic defects as reflected by the analysis of urine and other body fluids. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 2 | | Pre-requisites: BIO 182; Admission to Medical Laboratory Science program |
| MDL | 421 | Advanced Practicum in Clinical Urinalysis and Body Fluids | Correlation and application of theory in a supervised clinical laboratory. Processing, analysis, and evaluation of urine and body fluids, emphasizing manual and automated techniques of specimen analysis. | N | PRA | N | OPT | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): Medical Laboratory Sciences BAS major; MDL 420 with C or better |

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| MDL | 430 | Advanced Hematology and Hemostasis | Theory and application of principles in hematology, with emphasis on techniques to evaluate blood dyscrasias and analyze body fluids. Etiology, pathophysiology, clinical manifestations, and treatment of blood dyscrasias/hemostatic defects. | N | LEL | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Pre-requisites: BIO 182; Admission to Medical Laboratory Science program |
| MDL | 431 | Advanced Practicum in Hematology and Hemostasis | Correlation and application of theory in a supervised clinical laboratory. Processing, analysis, and evaluation of blood samples, emphasizing manual and automated techniques of specimen analysis. | N | PRA | N | OPT | College of Health Solutions | College of Health Solutions | 1 | | |
| MDL | 440 | Advanced Immunohematology and Immunology | Theoretical and practical application of clinical immunology and immunohematology. Emphasizes serological techniques that aid disease diagnosis and blood donor selection. | N | LEL | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Pre-requisites: BIO 182; MIC 205; Admission to Medical Laboratory Science program |
| MDL | 441 | Advanced Practicum in Immunohematology and Immunology | Correlation and application of theory in a supervised clinical laboratory. Processing, analysis, and evaluation of samples, emphasizing manual and automated techniques of specimen analysis. | N | PRA | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): Medical Laboratory Sciences BAS major; MDL 440 with C or better |
| MDL | 450 | Advanced Clinical Microbiology | Theoretical and practical application of clinical microbiology. Emphasizes identification of pathogenic organisms, molecular techniques, mycology, virology, and parasitology. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): MDL 410; MDL 420; MDL 421; MDL 430; MDL 431; MDL 440; MDL 441 OR Visiting University Student |
| MDL | 451 | Advanced Practicum: Clinical Microbiology | Correlation and application of theory in a supervised clinical laboratory. Processing, analysis, and evaluation of samples, emphasizing manual and automated techniques of specimen analysis routinely used in microbiology testing. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): MDL 450 with C or better OR Visiting University Student |
| MDL | 460 | Advanced Clinical Chemistry | Theoretical and practical applications of clinical chemistry with particular emphasis on correlation of test results to disease status, statistical analysis, pre-analytical testing, critical values, calibration, and trending and tracking of quality control results. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): MDL 410; MDL 420; MDL 421; MDL 430; MDL 431; MDL 440; MDL 441 OR Visiting University Student |
| MDL | 461 | Advanced Practicum: Clinical Chemistry | Correlation and application of theory in a supervised clinical laboratory. Processing, analysis, and evaluation of samples, emphasizing manual and automated techniques of specimen analysis routinely used clinical chemistry testing. | N | LAB | N | GNA | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): MDL 460 with C or better |
| MED | 100 | Introduction to Medical Studies | Presents basic concepts related to sciences, social sciences, humanities, statistics and other topics related to medical and health studies. Solidifies concepts through the use of assignments, exams and discussions. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 1 | | |
| MED | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| MED | 300 | Historical and Contemporary Issues in Health | History of medicine in the modern world and its relationship to contemporary issues in medicine with emphasis on the broader context of ways in which technology, personalized medicine, genomics, ethical issues and shared decision making between patients and providers have evolved. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 30 hours OR Visiting University Student |
| MED | 320 | Applied Medical/Health Care Ethics | Integrates the theory and practice of ethics within health-related disciplines and the application of bioethics by health science professionals, including health disparities. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | HU | Prerequisite(s): minimum 30 hours OR Visiting University Student |
| MED | 325 | Elements of Hospice and Palliative Care | Introduces hospice and palliative care through direct experience communicating and working with persons on hospice and the nurses, physicians, social workers and chaplains who provide care. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 30 hours |
| MED | 350 | Health Care and Humanities | Explores the evolution of health care, major health care events in history, and impact on culture and society through a narrative lens. Develops an understanding of how the health care system became established over time, knowledge of often unknown individuals behind medical breakthroughs, and insight of root-causes of current systematic and cultural issues in health care. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 30 hours; Credit is allowed for only MED 350 or MED 394 (Healthcare and Humanities) OR Visiting University Student |
| MED | 375 | Alzheimer's and Other Dementias | Covers Alzheimer's disease and related dementias through discussions with health care professionals and direct experience working with persons with Alzheimer's disease and their caregivers. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only MED 375 or MED 394 (Intro Dementia & Alzheimer's Disease) OR Visiting University Student |
| MED | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| MED | 417 | Impact of Violence on Health | Approaches violence from a public health perspective, using the Centers for Disease Control, National Center for Injury Prevention and Control, as a benchmark. Applies an interprofessional approach to violence, to include medicine, nursing, law, law enforcement, social work, psychology, economics and education, among others. Discusses principles of epidemiology, underlying etiologies and sequelae and evidence-based strategies for prevention throughout the course. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| MED | 445 | Prevention and Management of Chronic Disease | The United States spends more on health care than any other developed country in the world, yet our health care outcomes are not superior. We face an epidemic of chronic diseases which are the leading causes of mortality and disability in the U.S., despite being highly preventable. Examines chronic disease in the U.S. and provides an overview of prevention and management with a focus on population health and social determinants of health. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| MED | 450 | Leadership and Professionalism | Leadership, leadership theory and inter-professionalism in practice. Applies didactic content to case studies and activities designed to promote critical thinking and effective teamwork. Solidifies concepts through the use of assignments, exams and discussions. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only HCD 401 or MED 450 OR Visiting University Student |
| MED | 475 | Palliative Care: Managing Complex Serious Illness | Includes reading, discussion and study on palliative care including national trends, international models, ethics, mental health issues, business and workforce issues, boundaries between patients and caregivers, the intersection between humanities and palliative care, and the future of the field. Honors contracts are available. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 25 hours; Credit is allowed for only MED 475 or MED 494 (Advances in Palliative Care) or MED 494 (Palliative Care Managing Complex Serious Illness) OR Visiting University Student |
| MED | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | LEC | Y | YGB | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): minimum 3.00 GPA |
| MED | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): Barrett Honors student |
| MED | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | PRA | N | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MED | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| MED | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| MED | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-3 | | |
| MEE | 322 | Structural Mechanics | Three-dimensional stress and strain analysis, generalized Hooke's Law, failure theories for ductile and brittle materials, combined loading, stress concentrations, energy methods, mechanical vibrations and structural dynamics, fatigue. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s) with C or better: Mechanical Engineering BSE major; MAE 213; MAE 384; MAT 267 or 272; Pre- or corequisite(s): MSE 250 with C or better if completed; Credit is allowed for only AEE 325 or MEE 322 OR Visiting University Student |
| MEE | 323 | Computer-Aided Engineering II | Introduces finite-element analysis, pre- and postprocessing, solving problems with FEA. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 2 | | Prerequisite(s) with C or better: Aerospace Engineering BSE major: AEE 325 (or MAE 325 or 394 - Aerospace Structures and Materials); MAE 214 or Mechanical Engineering BSE major: MAE 214; MEE 322 (or MAE 322) OR Visiting University Student |
| MEE | 324 | Structural Mechanics Laboratory | Lab companion where students perform supervised experiments to analyze stress and strain for materials loaded in bending, torsion, combined and torsion, tensile tests of materials until failure, stress concentrations, and structural dynamics. Required for mechanical engineering | N | LAB | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1 | | Pre- or corequisite(s): MEE 322 with C or better if completed OR Visiting University Student |
| MEE | 340 | Heat Transfer | Conduction, convection, radiation and phase change heat transfer processes. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Aerospace or Mechanical Engineering BSE major; MAE 241 with C or better; MAE 242 with C or better; MAE 384 with C or better OR Visiting University Student |
| MEE | 342 | Principles of Mechanical Design | The design process; conceptual and embodiment design of mechanical elements; form synthesis; material selection, failure modes, manufacturability tolerances, common mechanisms and machine elements. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Mechanical Engineering BSE major; MAE 202 with C or better; MEE 322 with C or better; MSE 250 with C or better; Pre- or corequisite(s): MEE 323 with C or better if completed OR Visiting University Student |
| MEE | 351 | Manufacturing Processes | Production technique and equipment. Casting and molding, forming, machining, joining and assembly, computer-integrated manufacturing, rapid prototyping, and electronics manufacturing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; MAE 213 with C or better; MSE 250 with C or better OR Visiting University Student |

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| MEE | 434 | Internal Combustion Engines | Performance characteristics, combustion, carburetion and fuel-injection, and the cooling and control of internal combustion engines. Computer modeling. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; MEE 340 or MEE 482 with C or better; Credit is allowed for only MEE 434 or MAE 598 (Internal Combustion Engines) OR Visiting University Student |
| MEE | 440 | Renewable Energy: Mechanical Systems | Renewable energy systems are energy conversion systems that rely on naturally replenishing flows of energy. Considers the foundational principles behind many renewable energy systems and application of these principles to practical systems. Emphasizes covering the following energy systems, some only at an introductory level and some with significant depth: solar, wind, geothermal, biomass, hydropower, energy storage, electric power generation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering BSE major; MEE 340 with C or better; Credit is allowed for only MEE 440 or MAE 582 or MAE 494 (Renewable Energy Engineering) or MAE 598 (Renewable Energy Engineering) |
| MEE | 441 | Wind Energy | Wind energy systems convert kinetic energy in the wind into electrical energy. Focuses on flow machines, including for example, aerodynamics and fluid dynamics. Begins with wind resource assessment utilizing atmospheric boundary layer science and then proceeds to computational fluid dynamics to understand the tools of modern wind resource assessment. Includes applications of the Navier-Stokes equations and some basics from turbulence theory. Resource assessment also includes modern remote sensing techniques such as lidar, radar and in situ instrumentation. Also includes discussions from current events and policy. Requires a background in applied experimental statistics, thermodynamics or aerodynamics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering BSE major; AEE 360 or MEE 340 with C or better; MAE 301 with C or better; Credit is allowed for only MAE 494 (Wind Energy) or MAE 579 or MAE 598 (Wind Energy) or MEE 441 OR Visiting University Student |
| MEE | 445 | Energy Systems Design I | Applies mechanical engineering principles and techniques to modeling, analysis and synthesis of energy systems and components. Design and optimization. Capstone design project. First part of an energy systems design course focusing on the design of compact heat exchangers and fluid flow systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1 | | Prerequisite(s) with C or better: Mechanical Engr (Energy & Environment) BSE major; MAE 301; MEE 324; MEE 340; Pre- or corequisite(s) with C or better if completed: MAE 400; MEE 482; Credit is allowed for only MEE 445 or MEE 494 (Energy Systems Design I) |
| MEE | 446 | Energy Systems Design II | Applies mechanical engineering principles and techniques to modeling, analysis, and synthesis of energy systems and components. Design optimization. Design project. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 2 | | Prerequisite(s): Mechanical Engineering (Energy and Environment) BSE major; MAE 400 with C or better; MEE 342 with C or better; MEE 445 with C or better; MEE 482 with C or better; Credit is allowed for only MEE 446 or MEE 494 (Energy Systems Design II) |
| MEE | 472 | Intermediate Fluid Mechanics | Second course covering fundamental concepts relating to engineering fluids. Flow meters, airfoil and wing aerodynamics; pipe flow; normal and oblique shock waves. Nozzles. Open Channel Flow. Turbomachinery flows including performance curves and maps, scaling and affinity laws. Elective for Aerospace Engineering and Mechanical Engineering. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; senior standing; MAE 242 with C or better; MAE 384 with C or better |
| MEE | 482 | Intermediate Thermodynamics | Applied thermodynamics; gas mixtures, psychrometrics, property relationships, power and refrigeration cycles, and reactive systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; MAE 240 or 241 with C or better; Credit is allowed for only MAE 382 or MAE 570 or MAE 598 (Thermodynamics) or MEE 482 OR Visiting University Student |
| MEE | 488 | Mechanical Engineering Design I | Conceptual and embodiment design; modeling; rapid prototyping. Team project. MEE 488 and 489 must be taken in consecutive semesters. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s) with C or better: Mechanical Engineering BSE major; MAE 301; MAE 318; MAE 384; MEE 323; MEE 324; MEE 340; MEE 342; Pre- or corequisite(s): MAE 400 with C or better if completed |
| MEE | 489 | Mechanical Engineering Design II | Detail design; fabrication and testing. Team project. MAE 488 and 489 must be taken in consecutive semesters. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; MEE 488 with C or better |
| MEE | 491 | Experimental Mechanical Engineering | Experimental and analytical studies of phenomena and performance of fluid flow, heat transfer, thermodynamics, refrigeration, and mechanical power systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | L | Prerequisite(s) with C or better: Mechanical Engineering BSE major; ENG 101, 105, or 107; MAE 301; MAE 318; MEE 324; MEE 340; Pre- or corequisite(s): MEE 342 with C or better if completed OR Visiting University Student |
| MEE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-4 | | |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|----------------------|-------|-----------------|--|
| MET | 212 | Applied Engineering Mechanics: Dynamics | Masses; motion kinematics; dynamics of machinery. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 211 (or CON 221 or MAE 212); MAT 266 (or MAT 271) |
| MET | 213 | Applied Mechanics of Materials | Stress, strain, stress-strain relations. Axial, shear, bending, torsional and combined loads and deflections. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisite: MET 211 or CEE 210, or MAE 212 |
| MET | 214 | Applied Mechanics of Materials Laboratory | Measurements of loads and deformations relating stress and strain in axial, shear, bending, torsional, and combined loading configurations. | N | LAB | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1 | | Pre-requisites: MET 213, MAE 213, MSE 211, CON 223, CEE 213 OR be co-enrolled in MET 213 |
| MET | 230 | Introduction to Engineering Materials | Introduces materials and their properties, emphasizing basic concepts and structures and how these properties relate to manufacturing and design. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 2 | | |
| MET | 300 | Applied Material Science | Principles of materials science emphasizing concepts relevant to design, manufacturing, and use. Covers metals, polymers, ceramics, and composites. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: EGR 218 OR EGR 294 (Engineering Materials & Manufacturing) OR MET 231 OR MSE 250 OR Applied Science (Manufacturing Technology & Management) major; MET 230 |
| MET | 309 | Nondestructive Testing and Quality Assurance | Part and material inspection using metrology and nondestructive inspection tools and techniques. Theory and application with use of pertinent standards. | N | LAB | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1 | | Prerequisite(s): EGR 218 OR EGR 294 (Engineering Materials & Manufacturing) OR MET 231 OR Applied Science (Manufacturing Technology & Management) major |
| MET | 321 | Introduction to Automotive Engineering | Engineering principles and the design of ground vehicles. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): MET 212. Pre- or corequisite(s): MET 213, 340 |
| MET | 331 | Machine Design I | Applies mechanics to design of machine elements and structures. Stress analysis, failure modes, tolerances, cylindrical fits, and shaft design. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 213 (or CON 223 or MAE 213) |
| MET | 344 | Casting and Forming Processes | Analyzes various forming processes to determine load requirements necessary for a particular metal-forming operation. Information used to select equipment and design tooling. Metal casting processes and design of castings. Introduces powder metallurgy. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 218 OR EGR 294 (Engineering Materials & Manufacturing) OR MET 231 OR Applied Science (Manufacturing Technology & Management) major |
| MET | 345 | Advanced Manufacturing Processes | Material removal processes emphasizing advanced turning, milling, and machinability studies using cutting tools. CNC programming for machining and turning centers. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: EGR 218 OR EGR 294 (Engineering Materials & Manufacturing) OR MET 231 OR Applied Science (Manufacturing Technology & Management) major |
| MET | 351 | Introduction to Automation | Introduces automation. Topics include assembly techniques, fixed and flexible automation systems, robots, material-handling systems, sensors, and controls. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisite: EST 210 |
| MET | 396 | Professional Orientation | Topics related to a successful career in engineering technology industry. Includes safety, life-long learning, ethics, and career planning. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1 | | Pre-requisite: Junior or Senior standing |
| MET | 401 | Quality Assurance | Statistical quality control methods, design of experiments, sampling, gauge requirements and specifications, use of quality assurance tools. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: STP 420 (or APM 301); Credit is allowed for only MET 401 or 501 |
| MET | 409 | Applied Engineering Economics | Fundamentals of engineering economics in a practical, industry-based approach. Includes effects of depreciation, taxes, inflation, and replacement analysis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: Junior or Senior standing; Credit is allowed for only MET 409 or 509 |
| MET | 410 | Manufacturing Resource Management | Measures like cycle time, throughput, capacity, work-in-process, inventory, variability, and how they drive operating relationships in a factory. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisite: MET 341; Credit is allowed for only MET 410 or 510 |
| MET | 415 | Manufacturing Simulation | Computer simulation of manufacturing operations. Discrete event simulation models range from individual processes to whole factories. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 341; STP 420; Credit is allowed for only MET 415 or 515 |
| MET | 416 | Applied Computer-Integrated Manufacturing | Techniques and practices of computer-integrated manufacturing as applied in a broad range of industry. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | CS | Pre-requisite: MET 341; Credit is allowed for only MET 416 or 516 |
| MET | 418 | Composites Materials Manufacturing | Introduces composite materials and associated manufacturing issues, including tooling, processes, and quality control. Related issues, including testing and joining. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 300 or MSE 250. Credit is allowed for only MET 418 or 518 |
| MET | 421 | Vehicle Powertrains | Internal combustion engine design, performance and operation, and power transmission systems within vehicles. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 321 |
| MET | 423 | Vehicle Chassis and Running Gear Design | Design and manufacture of chassis, structures, steering and braking systems and components, wheels and tires, suspension systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 321; MET 331 |
| MET | 424 | Vehicle Electrical Systems | Vehicle electrical power and signal systems, computer control and analog control systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: EST 210; MET 321; MET 421 |
| MET | 426 | Vehicle Thermal Design | Heat management in vehicle systems, including thermal design of engine and transmission cooling systems, cabin heating, and air conditioning. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 421; Pre/Co-requisite: MET 434 |
| MET | 427 | Vehicle System Integration and Testing | Systems engineering principles. Design of the interfaces between vehicle subsystems. Testing of integrated systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 423; MET 424 |
| MET | 432 | Engineering Thermo-Fluids II | Thermodynamic analysis of mixtures and power cycles. Design and analysis of fluid systems, conduction heat transfer, and introduction to convection and radiation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 340 with C or better; Credit is allowed for only EGR 432 or MET 432 OR Visiting University Student |

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| MET | 434 | Engineering Thermo-Fluids III | Transient conduction, convection and radiation heat transfer, heat exchangers, thermo-fluid systems engineering. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 340 |
| MET | 438 | Machine Design II | Applies mechanics to the design of machine elements and structures. Emphasizes basics of gears, springs, brakes, clutches, and bearings. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisites: MET 331 OR Fulton Schools of Engineering graduate student |
| MET | 440 | Finite Element Analysis | Analyzes machine elements, frames, and aerospace structures employing finite element analysis and software. Includes sensitivity analysis and estimating accuracy. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 331 |
| MET | 442 | Specialized Production Processes | Nontraditional manufacturing processes, emphasizing EDM, ECM, ECG, CM, PM, HERF, EBW, and LBW. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 218 (or EGR 294 [Engineering Materials & Manufacturing] or MET 231). Credit is allowed for only MET 442 or MET 502 |
| MET | 443 | CNC Computer Programming | Theory and application of N/C languages using CAM software and CNC machine tools. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 345; Credit is allowed for only MET 443 or 514 |
| MET | 444 | Production Tooling | Design and fabrication of jigs, fixtures, and special industrial tooling related to manufacturing methods. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre- or corequisite(s): MET 309. Credit is allowed for only MET 444 or MET 504 |
| MET | 455 | Automation Systems Integration | Applies sensors and devices and their integration with PLCs and computers into automated devices and systems. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 351 |
| MET | 460 | Capstone Project I | Group project designing, evaluating, and analyzing components, assemblies, and systems. Develop products/manufacturing techniques demonstrating state-of-the-art technology. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 300; 331; 340; 345 |
| MET | 461 | Capstone Project II | Small-group projects applying manufacturing techniques, with emphasis on demonstrating state-of-the-art technology. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): MET 460 |
| MET | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-12 | | |
| MET | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-3 | | |
| MET | 501 | Statistical Quality Control Applications | SPC problem-solving techniques for implementation in industrial setting; design and analysis of experiments. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only MET 401 or 501 |
| MET | 504 | Applications of Production Tooling | Design and fabrication of fixtures, jigs, templates, and specialized industrial tooling for manufacturing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only MET 444 or 504 |
| MET | 509 | Applied Engineering Economics | Fundamentals of engineering economics in a practical, industry-based approach. Includes effects of depreciation, taxes, inflation, and replacement analysis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; credit is allowed for only MET 409 or 509 |
| MET | 510 | Manufacturing Resource Management | Measures like cycle time, throughput, capacity, work-in-process, inventory, variability, and how they drive operating relationships in a factory. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only MET 410 or 510 |
| MET | 514 | CNC Computer Programming | Theory and application of N/C languages using CAM software and CNC machine tools. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only MET 443 or 514 |
| MET | 515 | Manufacturing Simulation | Computer simulation of manufacturing operations. Discrete event simulation models range from individual processes to whole factories. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only MET 415 or 515 |
| MET | 516 | Applied Computer-Integrated Manufacturing | Techniques and practices of computer-integrated manufacturing as applied in a broad range of industry. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only MET 416 or 516 |
| MET | 518 | Composites Materials Manufacturing | Introduces composite materials and associated manufacturing issues, including tooling, processes, and quality control. Related issues, including testing and joining. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only MET 418 or 518 |
| MET | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MET | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| MFG | 308 | Manufacturing System Project I | Focuses on design for product realization in a manufacturing environment. Projects are industry driven and applicable to low-volume product development. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 202 with C or better; EGR 217 with C or better; EGR 218 with C or better OR Visiting University Student |
| MFG | 318 | Manufacturing Systems Project II | Focuses on process development for high-volume manufacturing in the competitive global economy. Uses discrete event simulation software to model and study the manufacturing environments. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 219 with C or better; MFG 308 with C or better OR Visiting University Student |
| MFG | 381 | Manufacturing Processes and Validation Lab | Theory of basic manufacturing processes accompanied by the fundamental skills; safety practices while working with engineering drawings, machine tools and metrology equipment related to manufacturing. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 217 with C or better; EGR 218 with C or better OR Visiting University Student |
| MFG | 382 | Modeling of Manufacturing Systems I | Modeling of manufacturing systems using discrete event simulation. Introduces basic manufacturing-related data and system configurations. Uses commercial simulation software to build and analyze model output data. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 219 with C or better; EGR 280 with C or better OR Visiting University Student |
| MFG | 383 | Communications in a Production Environment | Effective communication is essential in all production environments for efficiency, yield and safety. Covers the major applications within a company and the expectations for the individual's capabilities. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): minimum junior standing OR Visiting University Student |
| MFG | 385 | Design for Manufacturing | Introduces the methods employed to design and produce products that can compete in the global marketplace. Topics include design for manufacturability and assembly, product life-cycle, economics of design and reliability. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 218 with C or better OR Visiting University Student |
| MFG | 387 | Industrial Automation | Introduces concepts and application of industrial automation systems. Topics include PLC control systems, embedded control systems, sensing technologies, robotics and material-handling systems. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 216 with C or better; EGR 219 with C or better OR Visiting University Student |
| MFG | 461 | Engineering Economics | Covers the role of engineers in the manufacturing environment. Aspects of this role include troubleshooting, performance control, risk mitigation and financial planning. Provides tools and approaches for understanding and representing costs and making decisions based on these costs. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 280 with C or better; MAT 343; Credit is allowed for only EGR 598 (Engineering Economics) or MFG 461 or MFG 494 (Engineering Economics) OR Visiting University Student |
| MFG | 472 | Additive Manufacturing | Additive Manufacturing (AM) is driving a paradigm shift in design and manufacturing. Provides hands-on exposure across a wide range of commercial 3D printers. Topics include fundamentals of polymer, metal and composite AM processes and process capabilities such as rate and resolution. Introduces material properties and their dependence on raw material properties and process parameters; existing and new applications of AM; and a perspective on current and future technical challenges in AM. Provides a foundation for a more in-depth study of design for AM, and AM materials and structures. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 218 with C or better OR Visiting University Student |
| MFG | 480 | Advanced Statistical Approaches for Manufacturing | Applies experimental design and statistical process control in the manufacturing environment. Uses engineering statistical software to formulate and solve problems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 280 with C or better OR Visiting University Student |
| MFG | 481 | Enterprise Economics | All manufacturing is about cost. Considers the components of these costs and presents a number of mathematical tools and approaches for representing, understanding and making decisions based on them. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 280 with C or better OR Visiting University Student |
| MFG | 482 | Materials Science in Manufacturing | High-technology manufacturing combines and exploits the properties of a wide range of materials. Provides a science-based view of materials selection and optimization for product manufacturability and reliability. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): CHM 116 with C or better; EGR 218 with C or better OR Visiting University Student |
| MFG | 485 | Engineering Internship | Experiential education. Local company oversees a student project experience at their facility. | N | PRA | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-3 | | Prerequisite(s): minimum junior standing |
| MFG | 486 | CNC Computer Programming | Theory and applications of NC languages using CAM software and CNC machine tools. Overview of advanced manufacturing processes including production CNC part programming ranging from current design to inspection standards. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): MFG 381 with C or better OR Visiting University Student |
| MFG | 487 | Casting and Forming Processes | Theory and practice of metal casting processes and design of castings. Analysis of various forming processes to determine load requirements. Theory and practice of tooling design for stamping operations. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 218 with C or better OR Visiting University Student |
| MFG | 488 | Integrated Circuit Manufacturing | Integrated circuit manufacturing combines judicious selection of materials with nano-meter features to create complex digital and analog circuits. The process demonstrates extreme applications of design, control and resource organization. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 216 with C or better; EGR 280 with C or better; Credit is allowed for only MFG 488 (MFG 386) or MFG 598 (Integrated Circuit Manufacturing) OR Visiting University Student |
| MFG | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-6 | | Prerequisite(s): Barrett Honors student |

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| MFG | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MFG | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-4 | | |
| MFG | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-3 | | |
| MFG | 522 | Intermediate Engineering Statistics | General statistics course for graduate students with an engineering background. Equips students with the essential knowledge of statistics, either for analyzing the uncertainty quantitatively or risk in research or for a knowledge preparation for learning specific statistical models. Emphasizes real-world applications to engineering problems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MFG | 523 | Artificial Intelligence for Smart Manufacturing | Covers the use of data and machine learning to develop Artificial Intelligence (AI) solutions for decision-making challenges in manufacturing. Includes (1) common data types in manufacturing, e.g., images, time series; (2) fundamental data processing and analytical techniques; (3) machine-learning models applicable to the data types; and (4) decision-making activities in manufacturing applications that those data, techniques and model support. Incorporates programming as a critical part of the course to give students hands-on experience to implement these methods on real data. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MFG | 545 | Modern Manufacturing Methods | Investigates the capabilities and equipment of both conventional manufacturing processes and modern manufacturing processes. Emphasizes the fundamental, development and application of casting, forming and sintering processes for conventional manufacturing processes. Emphasizes the emerging topics related to additive manufacturing, field-assisted manufacturing and nanomanufacturing for modern manufacturing processes. Also introduces engineering materials, structure of materials, property of materials and material characterizations in the manufacturing processes. Complements theoretical concepts presented in lectures with the presentation of relevant research topics and/or industrial applications. Develops an understanding of manufacturing process evolution and the capabilities of modern manufacturing processes and equipment. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): Ira A. Fulton graduate student; Credit is allowed for only MAE 545 or MAE 598 (Modern Manufacturing Methods) or MFG 545 |
| MFG | 574 | Polymer Science and Additive Manufacturing | Presents the mechanical, thermal and electrical properties of polymers concerning the underlying physics and physical chemistry of polymers in the melt, solution and solid-state used in traditional processing or additive manufacturing. Topics include conformation and molecular dimensions of polymer chains in solutions, melts, blends and block copolymers; an examination of the structure of glassy, crystalline and rubbery elastic states of polymers; thermodynamics of polymer solutions, blends, crystallization; nanocomposites; mechanical, thermal and electrical properties in polymeric materials; lab or simulation sessions in 3d printing. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only MFG 574 or MFG 598 (Polymer Science & Additive Manufacturing) |
| MFG | 575 | Design for Additive Manufacturing | Focuses on the design aspects of Additive Manufacturing (AM), or 3D printing. Contrary to popular opinion, AM processes do have their constraints and limitations--not everything can be manufactured with AM, and even when it is feasible, not everything should. Even if a part can and should be manufactured with AM, it is important to truly appreciate the design possibilities enabled by AM to maximize the performance, life-cycle cost and sustainability benefits the technology has to offer. Examines these possibilities in the context of three key design capabilities: topology optimization, architected cellular materials and bio-inspired design. Combines fundamental understanding of the relevant design principles with hands-on time through projects that leverage commercial design for AM tools. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only MFG 575 or MFG 598 (Design for Additive Manufacturing) |
| MFG | 581 | Simulating Manufacturing Systems | Specific modeling and simulation tools used to understand and optimize manufacturing systems operations, with an emphasis on both model building and statistical interpretation of model output. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only EGR 581 or EGR 598 (Simulating Manufacturing Systems) or MFG 581 |

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| MFG | 582 | Metal Additive Manufacturing | Within the rapidly growing field of Additive Manufacturing (AM), the ability to print fully dense metal parts has had a significant impact on the aerospace and biomedical industries, with growing influence in the automotive and other industry sectors. Provides an overview of different metal 3D printing processes, and an in-depth look at the most widely used one: the laser powder bed fusion process. For this process, the course is divided into 4 main modules: process development (hands-on metal 3D printing); properties (characterization and testing); design for metal AM (use of design and build preparation software); and process simulation (use of simulation software). Familiarity with ANSYS is preferred, but due to the very specific and applied nature of this class, it is not required. Students need access to ANSYS either from their own laptops or by using shared computing resources in labs, and they also need to spend time in the Innovation Hub on the Polytechnic campus building and characterizing 3D printed parts. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only MFG 582 or MFG 598 (Metal Additive Manufacturing) |
| MFG | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | IND | Y | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MFG | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MFG | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRO | Y | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-12 | | |
| MFG | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | IND | Y | Z3 | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1 | | |
| MFG | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MFG | 599 | Thesis | Supervised research focused on preparation of a thesis, including literature review, research, data collection and analysis, and writing. | Y | IND | Y | Z2 | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-12 | | |
| MFG | 691 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | LEC | Y | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-12 | | Prerequisite(s): Manufacturing Engineering PhD student |
| MFG | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MFG | 799 | Dissertation | Supervised research focused on preparation of a dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MGE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 0.25-4 | | |
| MGE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 0.25-4 | | |
| MGE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-12 | | |
| MGE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 0.25-4 | | |
| MGE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-3 | | |
| MGT | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-4 | | |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------|---|-------|-----------------|---|
| MGT | 300 | Principles of Management and Leadership | Covers a broad range of concepts, theories and practices important for a basic understanding of the field of management with a special emphasis on leadership. Increases the students' understanding of and ability to apply contemporary management and leadership knowledge in both work and personal situations. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s) w/C or better: W. P. Carey or Engr Mgmt BSE major; ACC 231, 232 or 261; ECN 221, ECN 231, IEE 380 or STP 280; MAT 210, 251, 265 or 270; Pre- or corequisite(s): ACC 241, 242 or 271 w/C or better if completed OR Visiting University Student |
| MGT | 302 | Principles of International Business | Multidisciplinary analysis of international economic and financial environment. Operations of multinational firms and their interaction with home and host societies. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | G | Prerequisite(s): W. P. Carey major; ECN 211, 212, 213, or 214 with C or better OR non-Business major; ECN 211, 212, 213, or 214 with C or better; minimum 56 hours; minimum 2.50 GPA OR Visiting University Student |
| MGT | 303 | Honors Organizational Strategies, Leadership, and Behavior | Overview of business strategy principles, management processes, motivation, and leadership. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey School of Business Honors student; PSY 101 or 304 or SOC 101 or 301 with C or better; ECN 221 or 231 with C or better; Pre- or corequisite(s): ACC 241, 242, or 271 with C or better if completed |
| MGT | 310 | Collaborative Team Skills | Development of skills in managing and working in collaborative environments. Theories and applications in small group dynamics and team facilitation. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey BA or BS major OR non-business student; minimum 3.00 GPA; minimum 56 hours OR Visiting University Student |
| MGT | 320 | Organizational Behavior | Management processes, fundamentals of business-level strategy, individual difference issues, motivation and leadership of people in organizations. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s) with C or better: Business Entrepreneurship BS or Management BS major; ACC 241, 242, or 271; ECN 221 or 231; MAT 211, 266, or 271; MGT 300 or 303; PSY 101 or PSY 304 or SOC 101 or 301 OR Visiting University Student |
| MGT | 380 | Management and Strategy | Introduces the functions and applications of management in organizations, including controlling, decision making, leadership, motivation, planning, and social responsibility. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): Applied Business & Tech Solutions BA, Entrepreneurial Ldshp BA, or non-Business major; min 2.00 GPA; min 30 hours OR nondegree-seeking undergrad stdt; min 2.00 GPA OR degree- or nondegree-seeking grad stdt OR Visiting University Student |
| MGT | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-4 | | Prerequisite(s): W. P. Carey BS or BA student; Pre- or corequisite(s): ACC 240, 241, 242, or 271 with C or better |
| MGT | 400 | Cross-Cultural Management | Cultural role in international business relations; applied principles of cross-cultural communications, negotiations, and management; regional approaches to business relations. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | C & G | Prerequisite(s): WP Carey BS or BA student OR non-business student with minimum 2.50 GPA and minimum 56 hours; MGT 300 or 303 or 320 or 380 with C or better OR Visiting University Student |
| MGT | 404 | Chinese Language and Global Business Communication | Capstone course designed to synthesize the knowledge acquired from business, language and cultural coursework in the BA in Business: concentration in Chinese Language and Culture. Analyzes case studies in which Chinese language and cultural skills are used to develop communication strategies in doing business in China. Learn new tools and techniques of analysis to enhance communication with Chinese business counterparts. Applies language and cultural skills to a major project in which students demonstrate complex and integrated knowledge of negotiating with the Chinese and using global business skills. Integrates international business knowledge into presentations, research and the use of sophisticated tools of analysis to provide practical training for the global business environment. Students are proficient in communicating in Chinese prior to taking this course. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey BA or BS major; CHI 302 with C or better; LES 305 with C or better; MGT 300 with C or better; SCM 300 with C or better |

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| MGT | 405 | Spanish Language and Global Business Communication | Synthesizes the knowledge acquired from business, language and cultural coursework in the BA in Business: concentration in Spanish Language and Culture. Students proficient in communicating in Spanish analyze case studies in which Spanish language and cultural skills are used to develop communication strategies in doing business in Spanish-speaking countries. Students learn new tools and techniques of analysis to enhance communication with their Spanish-speaking business counterparts. Applies language and cultural skills to a major project in which students demonstrate complex and integrated knowledge of negotiating with Spanish speakers and using global business skills. Integrates international business knowledge into presentations, research and the use of sophisticated tools of analysis to provide practical training for the global business environment. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey BA or BS major; LES 305 with C or better; MGT 300 with C or better; SCM 300 with C or better; SPA 314 with C or better |
| MGT | 411 | Leading Organizations | Comprehensive overview of leadership in organizations. Provides students with understanding of leadership research and its applications to global organizations and the development of leaders. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey BA or BS major; MGT 300, 303, 320, or 380 with C or better OR Non-Business majors; MGT 300, 303, 320, or 380 with C or better; minimum 2.50 GPA; minimum 56 hours OR Visiting University Student |
| MGT | 420 | Human Resource Management | Development of skills and knowledge to lead associates effectively: hiring, developing, evaluating, retaining, and rewarding employees. Preparation for leadership roles. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W. P. Carey Business major; MGT 300, 303, 320, or 380 with C or better OR non-Business major; MGT 300, 303, 320, or 380 with C or better; minimum 2.50 GPA; minimum 56 hours OR Visiting University Student |
| MGT | 421 | Compensation in Organizations | Develops knowledge of theory and research in motivation, compensation and rewards, and skill in applying such knowledge to important compensation and reward decisions. Discusses strategic compensation and reward systems issues. Explores in detail a variety of monetary and nonmonetary reward systems; the motivational impact these systems have on employees, teams, and CEOs; and the performance impact they have on organizations. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey major; Pre- or corequisite(s): MGT 420 with C or better if completed OR Visiting University Student |
| MGT | 422 | Staffing | Focuses on the effective management of the flow of talent into and through organizations. Covers human resource planning, recruiting and selection, career transitions and other workforce movement. Provides opportunities to develop hands-on skills that are relevant to effectively managing talent flow. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey major; Pre- or corequisite(s): MGT 420 with C or better if completed OR Visiting University Student |
| MGT | 423 | Training and Development in Organizations | Familiarizes students with the training and development function in organizations. Although tailored to students interested in human resources management, the course may also be relevant to students who may at some point be involved in training and development within an organizational context. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey major; Pre- or corequisite(s): MGT 420 with C or better if completed OR Visiting University Student |
| MGT | 424 | Employment Law | Provides an overview of U.S. employment law at both the federal and state levels. Reviews employment at will and wrongful discharge, employment torts, privacy, discrimination law, worker's compensation, occupational safety and health, unemployment, federal compensation laws, and the law of noncompetition and trade secrets. Designed for individuals preparing for careers in human resource management, labor relations or dispute resolution. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey BA or BS major; MGT 420 with C or better OR Visiting University Student |
| MGT | 425 | Global Human Resources | Explores the importance of international business management in the context of international human resource management, including topics on culture, compensation and benefits, international organizations and their structures, international assignment management and the legal and regulatory considerations that global organizations face. Identifies differences in operating a domestic versus international business and how business practices need to be adapted to operate successfully in foreign markets. Covers global strategy and structure; understanding and managing cultural differences; design and alignment of global HRM practices; and the global HR function. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey major; Pre- or corequisite(s): MGT 420 with C or better if completed OR Visiting University Student |
| MGT | 426 | HR Consulting Projects | Provides an opportunity to practice business management, relationship building, and HR technical skills in a real-world environment. Students complete human resource consulting projects with external outside organizations, allowing them to learn about the consultative nature common in corporate relationships, discuss real-world problems and solutions, and navigate technical processes related to the HR discipline. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey major; Pre- or corequisite(s): MGT 420 with C or better if completed; Credit is allowed for only MGT 426 or MGT 494 (HR Consulting Projects) OR Visiting University Student |

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| MGT | 430 | Negotiations | Improves student's understanding of and skills in the art of negotiation. For most managers, negotiation is a significant aspect of their day-to-day jobs, not to mention a major element of everyday life. Give students experience in bargaining and negotiation, as well as provide a foundation in the essential knowledge bases crucial to being an effective negotiator. Emphasizes experiential learning--students spend most of their time participating in exercises and negotiation simulations, as well as discussing negotiation-based cases involving issues that often arise in the workplace. Provides a fundamental understanding of what it takes to be an effective negotiator, as well as several experiences to draw upon in future negotiation situations. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s) w/C or better: Entrepreneurial Leadership BA maj; MGT 380 OR non-Entrepreneurial Leadership W. P. Carey maj, or non-Business maj w/min 3.00 GPA and min 56 hours; MGT 300, MGT 303, MGT 310, or TMC 330 OR Visiting University Student |
| MGT | 450 | Consulting Projects | Describes and analyzes business processes. Generates and evaluates alternatives. Creates improvement and implementation plans. | N | PRA | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | L | Prerequisite(s) with C or better: W.P. Carey BS or BA major; ENG 101, 105, or 107; ENG 301 or 302; MGT 300 or 303; MGT 411; MKT 300, 302 or 303; Pre- or corequisite(s): FIN 300, 302 or 303 with C or better if completed |
| MGT | 459 | International Management | Concepts and practices of multinational and foreign firms. Objectives, strategies, policies, and organizational structures for operating in various environments. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | G | Prerequisite(s): W.P. Carey BA or BS major, OR non-Business student; MGT 302 or ECN 306 with C or better; minimum 2.50 GPA; minimum 56 hours OR Visiting University Student |
| MGT | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | PRA | Y | Z1 | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-12 | | Prerequisite(s): W.P. Carey BA Human Resources or BS Business Entrepreneurship or BS Management major |
| MGT | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-6 | | Prerequisite(s): Barrett Honors student |
| MGT | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MGT | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-4 | | Prerequisite(s): W.P. Carey BA or BS major; MGT 300, 302, 303, or 310 with C or better OR non-business major; MGT 300, 302, 303, or 310 with C or better; minimum 2.50 GPA; minimum 56 hours OR Visiting University Student |
| MGT | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-3 | | Pre-requisites: W. P. Carey BS or BA student OR non Business students with a minimum GPA of 2.50 and either at least 56 earned hours or non degree students OR Graduate students |
| MGT | 501 | Fundamentals of Organizational Behavior | Allows students to understand the human side of organizations through management theories and applications. Develops knowledge and skills for successful management of self and others. Designed for students with limited business experience and without an undergraduate business degree. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): degree-seeking graduate student |
| MGT | 502 | Organizational Behavior | Understands human side of organizations through management theories and applications. Develops knowledge and skills for successful management of self and others. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 2-4 | | Prerequisite(s): W. P. Carey MBA students |
| MGT | 513 | Mindful Leadership | Provides a transformative experience that aids in developing skills associated with being a mindful leader. Focuses on introducing the concept of mindful leadership and explaining how to use it to achieve personal and professional goals. Then concentrates on using mindful leadership to lead individuals and teams. Specific learning goals include: (1) to enhance understanding of mindful leadership; (2) to improve skills in using mindful leadership to achieve personal goals; (3) to improve skills in using mindful leadership to lead individuals and teams; and (4) to propose a transformative plan aimed at increasing use of mindful leadership. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-3 | | Prerequisite(s): W.P. Carey graduate student |

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| MGT | 520 | High-Impact Leadership | Addresses the inherent ambiguity surrounding effective leadership by providing a toolkit of tangible behaviors to ensure leaders create "high impact" in all areas of their professional and personal lives. Emphasizes what high-impact leaders do differently and uniquely to achieve results while also inspiring loyalty in relationships. Covers core topics including building executive maturity and presence, developing and delivering compelling messages, inspiring those around you, building a strong relationship network, establishing credibility, and managing upward relationships. Includes peer dialogue, extensive presentation skills training, and assignments based on students' real-life leadership experiences. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-3 | | Prerequisite(s): W. P. Carey graduate student |
| MGT | 525 | Leadership and Teamwork | A key objective of the W. P. Carey Full-Time MBA program is to develop each student's leadership competencies, which are essential competencies as the individual enters the workforce and advances through organizations. During the FT MBA program, each student participates in the Executive Connections program. This program gives each student an opportunity to enhance his or her understanding of key leadership competencies, apply an experiential process of leadership development, and meet one-on-one with an executive coach to deeply explore and reflect on personal leadership competencies and goals for development. | N | LEL | Y | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 0.5-3 | | Prerequisite(s): WPC MBA degree student |
| MGT | 526 | Executive Connections | An intensive mentorship and leadership development program that provides feedback as students progress along their leadership journey through the program. A key objective of the W. P. Carey Full-Time MBA program is to develop leadership competencies. The purpose of this course and the Executive Connections program is to serve as a pathway to master soft skills not easily attainable in other "regular-content" classes. Exposes students to challenging situations that call to re-evaluate typical "ways of being" which may function well in some circumstances but less so in others, assess and experiment with new ways of interacting with others to create higher levels of collaboration and distinguish team-level qualities that students can work to build with their peers. | Y | LEL | Y | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 0.5-3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MGT | 528 | Basics of Mastering the Art of Influence and Negotiations | Contemporary management issues, including environmental, project and supply chain management; new product development; quality control; TQM. Designed for students with limited business experience and without an undergraduate business degree. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): degree-seeking graduate student |
| MGT | 530 | Mastering the Art of Influence and Negotiation | Improves students' understanding of and skills in the art of negotiation. For most managers, negotiation is a significant aspect of their day-to-day jobs, not to mention a major element of everyday life. Gives students experience in bargaining and negotiation, as well as provides a foundation in the essential knowledge bases crucial to being an effective negotiator. Emphasizes experiential learning--students spend most of their time participating in exercises and negotiation simulations (including negotiating job offers), as well as discussing negotiation-based cases involving issues that often arise in the workplace. The goal is to provide students with a fundamental understanding of what it takes to be an effective negotiator, as well as several experiences to draw upon in future negotiation situations. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-3 | | Prerequisite(s): W.P. Carey School of Business graduate student; Credit is allowed for only MGT 530 or MGT 591 (Negotiations) |
| MGT | 540 | Going Out on Your Own: Entrepreneurship | Capstone case-based course covering all aspects of starting a business: opportunity identification, evaluation, concept development, identifying required resources, acquiring those resources, launching the entity, managing growth, and ultimately, harvesting the enterprise. Revolves around a series of cases, readings and class discussions designed to build a comfort level with understanding and solving problems faced every day, in real life, by a broad spectrum of entrepreneurs at various phases of venture development. Significant emphasis on understanding the valuation and financing of entrepreneurial ventures interwoven through discussions. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-3 | | Prerequisite(s): W.P. Carey School of Business graduate student; ACC 502 with C or better; FIN 502 with C or better; Credit is allowed for only MGT 540 or MGT 591 (Entrepreneurship) |

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| MGT | 545 | Becoming Leaders Who Matter | Addresses core questions: What does it mean to be a leader who really matters? How can you become such a leader? Today's competitive and complex environment requires leaders who are equipped with not just the functional and technical skills necessary to run a business but, more significantly, the leadership skills that allow the business and the people involved in it to thrive. Provides an opportunity to reexamine thinking about leadership and assess current skills and competencies in this area. Highly interactive learning environment with case analyses, exercises, discussion, guided reflection activities, assessments and group work. Covers topics such as self awareness (motivations, values, and leadership style), developing perspective as leaders, the social context of leadership, the role of emotions in the workplace, using life experiences to extract leadership lessons. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-3 | | Prerequisite(s): W. P. Carey graduate student |
| MGT | 552 | Professional Development and Engagement Program | Deeply explores and develops professional skills. By identifying and building managerial competencies, facilitates the acceleration of career goals. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-3 | | Prerequisite(s): W. P. Carey MBA student; Credit is allowed for only MGT 552 or MGT 591 (Professional Development & Engagement Program). |
| MGT | 565 | Business Strategy and Public Policy | Takes a managerial perspective to examine the interface between businesses and their external political environments. Potential changes in public policy can affect current operations and future opportunities. Examines how managers can anticipate and affect the formation, modification and enforcement of public policy in various institutional environments. | N | LEL | Y | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-4 | | Prerequisite(s): W.P. Carey MBA Executive Program or W.P. Carey School of Business graduate student; Credit is allowed for only MGT 565 or MGT 591 (Business and Public Policy) |
| MGT | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MGT | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | W. P. Carey School of Business | Department of Management and Entrepreneurship | 0-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MGT | 586 | Fundamentals of Strategic Management | Explores the general manager as organizational leader. Focuses on competitive advantage and how each functional area contributes to it. Designed for students with limited business experience and without an undergraduate business degree. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1.5 | | Prerequisite(s): degree-seeking graduate student |
| MGT | 588 | Sources of Competitive Advantage | Explores the general manager as organizational leader. Focuses on competitive advantage and how each functional area contributes to it. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-4 | | Prerequisite(s): MBA degree student |
| MGT | 589 | Strategic Management | Formulation of strategy and policy in the organization, emphasizing the integration of decisions in the functional areas. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 2-4 | | Prerequisite(s): W. P. Carey MBA student |
| MGT | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MGT | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 0-12 | | Prerequisite(s): W. P. Carey graduate student |
| MGT | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-12 | | Pre-requisites: MBA degree student |
| MGT | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 0-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MGT | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MGT | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MGT | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-12 | | Prerequisite(s): W. P. Carey degree-seeking graduate student |

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| MGT | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MGT | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MHL | 140 | Sounds and Cultures | Introduces a range of practical and intellectual challenges presented by encounters with various kinds of music. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & G | Prerequisite(s): Music or Performance and Movement major OR Visiting University Student |
| MHL | 201 | Media Literacy for Musicians | Instruction in basic Macintosh computer literacy, including generic applications and music-specific programs with hands-on experience. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | CS | |
| MHL | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MHL | 339 | Undergraduate Bibliography I | Research tools and methods in musicology, concentrating on resources pertinent to the study of music from Antiquity to the Baroque. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): MHL 140; Corequisite(s): MHL 300- or 400-level course OR Visiting University Student |
| MHL | 340 | Undergraduate Bibliography II | Research tools and methods in musicology, concentrating on resources pertinent to the period 1750-present. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): MHL 140; Corequisite(s): MHL 300- or 400-level course |
| MHL | 341 | Music History I | Western European art music from Antiquity through Baroque. Identification/analysis through listening; application of historical and analytical concepts; research project comprising fresh thesis, detailed musical research, personal reflection, fluent English writing, correct citation. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s) w/ C or better: Performance BM or Theory & Composition BM major; MHL 140; MTC 223 OR Music Learning & Teaching BM, Music Therapy BM, or Music BA major; MHL 140; MTC 221 OR Visiting University Student |
| MHL | 342 | Music History II | Western European, American art music from Classical period to present. Identification/analysis through listening; transfer/application of music/analytical concepts; research project comprising fresh thesis, insightful musical research/reflection, fluent English writing, correct citation. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s) w/ C or better: Performance BM or Theory & Composition BM major; MHL 140; MTC 223 OR Music Learning & Teaching BM, Music Therapy BM, or Music BA major; MHL 140; MTC 221 OR Visiting University Student |
| MHL | 344 | Music in World Cultures | Examines the relations among music, dance, theatre, religion, and social status in Asia, Africa, Oceania, Europe, and the United States. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & G | Prerequisite(s): minimum 42 hours OR Visiting University Student |
| MHL | 345 | Music in Renaissance Cities | Examines the civic contexts for music from 15th-16th century Europe through analysis and discussion of style, composition, civic histories and broader sociocultural concepts. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s): Music major or minor; Credit is allowed for only MHL 345 or MHL 394 (Music in Renaissance Cities) OR Visiting University Student |
| MHL | 363 | Survey of Russian Music | Examines music and musical life in Russia, the Soviet Union, and the post-Soviet C.I.S. from the Middle Ages to the present. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s): Music major; MHL 140 with C or better |
| MHL | 365 | Popular Music and Race | Examines popular music in the United States with emphasis on historical, sociocultural, economic and aesthetic concerns as they intersect with issues of race and race relations. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | (L or HU) & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; MTC 221 with C or better; Credit is allowed for only MHL 365 or MHL 394 (Pop Music and Race) or MHL 494 (Pop Music and Race) OR Visiting University Student |
| MHL | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): Music major |
| MHL | 437 | Music in the Baroque Era | Examines music, culture and aesthetics in the 17th and early 18th centuries. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music major or minor; MHL 140 with C or better; MTC 221 with C or better; minimum 45 hours OR Visiting University Student |
| MHL | 438 | Topics in 18th-Century Music | Selected topics exploring the musical styles of the 18th century and their cultural contexts. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | L & H | Prerequisite(s): Music major; ENG 101, 105, or 107 with C or better; MHL 140 with C or better; MTC 223 with C or better OR Visiting University Student |
| MHL | 439 | Topics in 19th-Century Music | Selected topics exploring the musical styles of the 19th century and their cultural contexts. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music major; ENG 101, 105, or 107 with C or better; MHL 140 with C or better; MTC 223 with C or better OR Visiting University Student |
| MHL | 440 | Topics in 20th-Century Music | Selected topics exploring the musical styles of the 20th century and their cultural contexts. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | L or HU | Prerequisite(s): Music major; ENG 101, 105, or 107 with C or better; MHL 140 with C or better; MTC 223 with C or better OR Visiting University Student |

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| MHL | 441 | Concerts in the 20th Century | Presents a concert-centered approach to 20th-century music history, investigating important concerts that emphasized artistic collaboration, interaction between "high" and "low" genres, and other major issues affecting the changing means of creating, disseminating, and receiving music in the twentieth century. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s): MHL 140 with C or better; MTC 223 with C or better; Credit is allowed for only MHL 441 or MHL 494 (Concerts in the 20th Century) or MHL 598 (Concerts in the 20th Century) OR Visiting University Student |
| MHL | 445 | Music of the Silk Road | Provides an overview of music across the territories historically traversed by the silk roads, emphasizing the social contexts of music-making, and of a variety of musical practices found in this region. Studies the dynamics of musical exchange and change, the relationship of music to ecology within this varied geography, and how political interventions into the realm of culture have informed musical meaning, often by obscuring or highlighting long-standing social interconnections that have structured musical sound. Further studies the relationship of belief systems, economic patterns and gender ideologies to music. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & G | Prerequisite(s): Music major who has passed audition; MHL 140 with C or better; MTC 125 with C or better; Credit is allowed for only MHL 445 or MHL 494 (Music of the Silk Road) or MHL 545 or MHL 598 (Music of the Silk Road) |
| MHL | 447 | Music and Healing | Combines elements of musicology, philosophy, anthropology, music therapy, neuroscience, psychology; investigates ways music has been proven to positively affect the "human condition"; focuses on what music means to humans. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & H & G | Prerequisite(s): Music major who has passed audition; MHL 140 with C or better; MTC 222 with C or better; Credit is allowed for only MHL 447 or MHL 494 (Music and Healing) or MHL 547 or MHL 598 (Music and Healing) |
| MHL | 456 | History of Opera | Development of opera from its creation ca. 1600 to present. Emphasis placed on major stylistic developments and representative works. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music major; MHL 140 with C or better; MTC 222 with C or better |
| MHL | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | |
| MHL | 490 | Capstone Project I: Undergraduate Thesis Research | Selection of topic and research toward the completion of an undergraduate thesis of no fewer than 50 pages. | N | RSC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MHL 339 |
| MHL | 491 | Capstone Project II: Undergraduate Thesis | Completion of an undergraduate thesis in musicology or ethnomusicology of no fewer than 50 pages. | N | RSC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MHL 490 |
| MHL | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | | Prerequisite(s): Barrett Honors student |
| MHL | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MHL | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): Music major; MHL 140 with C or better; MTC 222 with C or better OR Visiting University Student |
| MHL | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | |
| MHL | 532 | Music Bibliography | Major historical and analytical writings; systematic and historical collections of music. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Graduate Music student |
| MHL | 545 | Music of the Silk Road | Provides an overview of music across the territories historically traversed by the silk roads, emphasizing the social contexts of music making, and of a variety of musical practices found in this region. Studies the dynamics of musical exchange and change, the relationship of music to ecology within this varied geography, and how political interventions into the realm of culture have informed musical meaning, often by obscuring or highlighting long-standing social interconnections that have structured musical sound. Further studies the relationship of belief systems, economic patterns and gender ideologies to music. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music graduate student; Credit is allowed for only MHL 445 or MHL 494 (Music of the Silk Road) or MHL 545 or MHL 598 (Music of the Silk Road) |
| MHL | 547 | Music and Healing | Combines elements of musicology, philosophy anthropology music therapy, neuroscience, psychology; investigates ways music has been proven to positively affect the "human condition"; focuses on what music means to humans. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music graduate student; Credit is allowed for only MHL 447 or MHL 494 (Music and Healing) or MHL 547 or MHL 598 (Music and Healing) |
| MHL | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MHL | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre-requisites: Graduate Music student |
| MHL | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre-requisites: Graduate Music student |

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| MHL | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre-requisites: Graduate Music student |
| MHL | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): Music graduate student who has passed audition |
| MHL | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre-requisites: Graduate Music student |
| MHL | 632 | Applied Musicology | Explores practice-oriented entrepreneurial opportunities and methods in musicology, acquires knowledge and develops skills in community engagement and outreach, explores pathways of professional publication and network building, and participates in organizing curated concert series and scholarly conferences. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MHL 532 |
| MHL | 657 | Topics in Symphonic Literature | Examines the evolution of the symphony and symphonic poem from the early classic era through the 19th century, with emphasis on the analysis of selected works. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MHL | 668 | Introduction to Ethnomusicology | Experiencing theory and methodology by being ethnomusicologists through musical performance, primary writings on fieldwork, career structuring, the history of the discipline, its relationship with historical musicology, and the cultural theories which ethnomusicologists draw on. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MHL | 670 | Area Studies in Ethnomusicology | Study of the music of a particular culture, country, or area (e.g., music of Mexico, Latin America, China, Africa). | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MHL | 675 | History of Choral Music and Institutions | Examines the history of choral music through the lens of choral institutions: patronage, education, ritual, performing forces, status (professional vs. amateur), and locale. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MHL | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MHL | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | N | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MHL | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MHL | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MHL | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | N | Z3 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MHL | 798 | Research Colloquium | Interactive research forum featuring research presentations and discussion among musicology students, faculty and guest speakers from across campus and other institutions. Encourages students to engage in constructive dialogue with their peers as well as with faculty and guest speakers in a collegial environment conducive to exchange and collaboration. Supervised by a faculty panel from the musicology division. | N | RSC | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MSI 601 or 602 |
| MHL | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MIC | 205 | Microbiology | Introductory microbiology, emphasizing basic principles of microorganisms (bacteria, protozoa, algae, fungi, and viruses) and the role they play in health, ecology, and applied fields. May not be used for Microbiology credit unless a diagnostic test is passed. Both MIC 205 and MIC 206 required for SG General Studies credit. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | SG | Prerequisite(s): CHM 101 or 113 OR Visiting University Student |
| MIC | 206 | Microbiology Laboratory | Principles and lab techniques used in identifying and handling microorganisms. Both MIC 205 and 206 must be taken to secure SG General Studies credit. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | SG | Pre- or corequisite(s): MIC 205 or 220 with C or better if completed OR Visiting University Student |
| MIC | 220 | Biology of Microorganisms | Introductory microbiology for students majoring in the life sciences. Detailed study of microbial cells, their structure, genetics, physiology, and taxonomy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 181 or 281 with C or better; CHM 112, 116, or 118 OR Visiting University Student |
| MIC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|--|
| MIC | 302 | Advanced Bacteriology Laboratory | Advanced lab techniques in bacterial growth, physiology, and genetics, with an emphasis on quantitative data and formal lab reports. Both MIC 302 and 401 must be taken to secure L General Studies credit. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 2 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; MIC 206 with C or better; MIC 220 with C or better OR Visiting University Student |
| MIC | 314 | HIV/AIDS: Science, Behavior, and Society | Overview of the basic biological, behavioral, and psychosocial aspects of HIV disease and AIDS. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only MIC 314 or SSH 314 OR Visiting University Student |
| MIC | 360 | Bacterial Physiology | Mechanisms and control of cell metabolism, structures, and functions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): MIC 220 with C or better OR Visiting University Student |
| MIC | 379 | Medical Bacteriology | Principles of medical bacteriology with emphasis on bacterial infections, diagnostic testing, clinical symptoms, pathogenesis, and treatments. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): MIC 220 with C or better OR Visiting University Student |
| MIC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| MIC | 401 | Research Paper | Paper of 15 or more pages based on library or lab research in collaboration with a faculty member. Required of all Microbiology majors. Both MIC 302 and 401 must be taken to secure L General Studies credit. | N | RSC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; MIC 206 with C or better; MIC 220 with C or better; senior standing OR Visiting University Student |
| MIC | 420 | Immunology: Molecular and Cellular Foundations | Antibody/antigen interactions, cellular response, cytokines, immunogenetics, immunoregulation, autoimmunity, psychoneuroimmunology research/medical perspectives. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 353, BIO 360, or MIC 220 with C or better; Credit is allowed for only BIO 420 or MIC 420 OR Visiting University Student |
| MIC | 421 | Experimental Immunology | Introduces the basic techniques, methods, and assays used in immunology. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 2 | | Prerequisite(s): BIO 353, BIO 360, or MIC 220 with C or better OR Visiting University Student |
| MIC | 425 | Advanced Immunology | Surveys recent advances in immunology, including lymphocyte membranes, lymphokines/biochemistry, molecular genetics, theoretical immunology, immunoregulation, neuroimmunology, and immunologic diseases. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): MIC 420 with C or better |
| MIC | 441 | Bacterial Genetics | Surveys genetic exchange and regulatory processes in bacteria and their viruses. Bacteria and viruses as tools in genetic engineering. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 340 or MBB 347 with C or better; MIC 220 with C or better OR Visiting University Student |
| MIC | 442 | Bacterial Genetics Laboratory | Techniques of mutagenesis, mapping, and strain and genetic library construction. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Pre/Co-requisite: MIC 441 |
| MIC | 443 | The Microbial Universe | Diversity and physiology of microorganisms with emphasis on recent advances in the biology of microorganisms of environmental and medical importance. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): BIO 182 or 282 with C or better; Pre- or corequisite(s): MIC 444 with C or better if completed OR Visiting University Student |
| MIC | 444 | The Microbial Universe Laboratory | Techniques used to explore the microbial universe with emphasis on structural, metabolic, genetic, and growth characteristics relevant to the identification and characterization of microorganisms of environmental and medical importance. Not open to students with credit in MIC 206. | N | LAB | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Pre- or corequisite(s): MIC 443 with C or better OR Visiting University Student |
| MIC | 445 | Techniques in Molecular Biology/Genetics | Molecular genetic principles; plasmid construction, purification and characterization; PCR; mutagenesis; DNA sequence analysis; protein quantitation, hybridization, immunologic detection and electrophoresis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 340 or MBB 347 with C or better; Credit is allowed for only MBB 445 or MIC 445 OR Visiting University Student |
| MIC | 446 | Techniques in Molecular Biology/Genetics Lab | Molecular genetic techniques; plasmid construction, purification, and characterization; PCR; mutagenesis; hybridization and sequence analysis; protein quantitation; immunologic detection, and electrophoresis. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 2 | | Pre- or corequisite(s): MBB 445 or MIC 445 with C or better if completed; Credit is allowed for only MBB 446 or MIC 446 OR Visiting University Student |
| MIC | 461 | Geomicrobiology | Past and present interactions among microbial life, geological materials, and biogeochemical cycles involving carbon, sulfur, phosphate, nitrogen, and metals. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Credit is allowed for only GLG 461 or MIC 461 |
| MIC | 470 | Bacterial Diversity and Systematics | Biology, classification, and enrichment culture of the nonpathogenic bacteria. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): MIC 302 with C or better |
| MIC | 481 | Bacterial Pathogenesis | Human host-bacterial interactions in infectious diseases with emphasis on pathogenesis and molecular mechanisms of bacterial virulence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): MIC 220 with C or better; MIC 360 or 441 with C or better |
| MIC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | |
| MIC | 485 | General Virology | Fundamental principles of viruses, their molecular biology, replication, genetics, and pathogenesis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): MIC 206 with C or better; MIC 220 with C or better OR Visiting University Student |
| MIC | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| MIC | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|-----------------------------|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|-------------------------|-------|-----------------|--|
| MIC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| MIC | 495 | Undergraduate Research | Supervised research in biology/microbiology/molecular biosciences and biotechnology/or plant biology. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-3 | | Prerequisite(s): junior or senior standing OR Visiting University Student |
| MIC | 496 | Undergraduate Thesis | Guided research culminating in the preparation of an undergraduate thesis based on supervised research done in this and previous semesters. | N | RSC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): junior or senior standing; Credit is allowed for only BIO 496 or HPS 496 or MBB 496 or MIC 496 OR Visiting University Student |
| MIC | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-7 | | |
| MIC | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-3 | | |
| MIC | 501 | Foundations in Microbiology | Provides overview of the field of microbiology including: bacterial genetics and physiology, virology and host/pathogen interactions through lectures, reading, presentations and discussion of papers in the field of microbiology and immunology. Students read all papers, participate in class discussions and present papers during the semester. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only MIC 501 or MIC 591 (Milestones in Microbiology) |
| MIC | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MIC | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MIC | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MIC | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MIC | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MIC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MIC | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MIC | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MIC | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MIC | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MIC | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MIC | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--------------------------------|-------|-----------------|--|
| MIS | 101 | Introduction to the United States Army | Introduces the personal challenges and competencies that are critical for effective leadership and communication. Students learn how the personal development of life skills such as cultural understanding, goal setting, time management, stress management and comprehensive fitness relate to leadership, officership and the Army profession. Focuses on developing basic knowledge and comprehension of Army leadership dimensions, attributes and core leader competencies while gaining an understanding of the Army ROTC program, its purpose in the Army, and its advantages for the student. Includes physical training assessments, tactical training, as well as lecture-based instruction. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Military Science | 4 | | |
| MIS | 102 | Foundation of Agile and Adaptive Leadership | Introduces the professional challenges and competencies that are needed for effective execution of the profession of arms and Army communication. Through this course, students learn how ethics and values shape the Army and the specific ways that these ethics are inculcated into Army culture. Explores the seven Army values and the warrior ethos, investigate the profession of arms and Army leadership as well as an overview of the Army, and gains practical experience using critical communication skills. Includes physical training assessments, tactical training, as well as lecture-based instruction. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Military Science | 4 | | |
| MIS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Military Science | 1-4 | | |
| MIS | 201 | Army Leadership and Decision Making | Academically challenging course where students study, practice and apply the fundamentals of Army leadership, officership, Army values and ethics, personal development and small-unit tactics at the platoon level. Requires the student to demonstrate writing skills and present information briefings as preparation for development in becoming a successful future officer. Includes reading assignments, homework assignments, small group assignments, briefings, case studies, practical exercises, a mid-term exam and final exam. Also includes physical training assessments, tactical training, as well as lecture-based instruction. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Military Science | 4 | | Prerequisite(s): MIS 101; MIS 102 OR Visiting University Student |
| MIS | 202 | Army Doctrine and Team Development | Academically challenging course where students study, practice and apply the fundamentals of the leadership, officer skills, Army values and ethics, personal development and tactics at the small-unit level. Focuses on cross-cultural competencies as they relate to Army doctrine and how they apply in a combatant commander's engagement strategies. Stresses Army values, teamwork and warrior ethos and their relationship to the law of land warfare and philosophy of military service. Covers the ability to lead and follow through team building exercises in small units up to squad level. Requires the student to demonstrate writing skills and present information briefings as preparation for development in becoming a successful future officer. Also includes physical training assessment, tactical training, as well as lecture-based instruction. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Military Science | 4 | | Prerequisite(s): MIS 101; MIS 102; MIS 201 |
| MIS | 205 | Leader's Training Course | 6-week training program emphasizing practical hands-on skills and leadership development. Taken in lieu of MIS 101, 102, 201, 202. Conducted at Fort Knox, Kentucky. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Military Science | 4 | | |
| MIS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Military Science | 1-4 | | |
| MIS | 301 | Training Management and the Warfighting Functions | Academically and physically challenging course where students study, practice and apply the fundamentals of Army leadership, officership, Army values and ethics, personal development and small-unit tactics at the platoon level. At the conclusion of this course, the student is capable of planning, coordinating, navigating, motivating and leading a squad and platoon in the execution of a mission during a classroom PE, a leadership lab or during a Leader Training Exercise (LTX). Requires the student to write peer evaluations and receive feedback on abilities as a leader and how to improve those leader skills that can further develop into a successful officer. Students receive systematic and specific feedback on their leader attributes, values and core leader competencies from the instructor, other ROTC cadre and MSL IV Cadets who evaluate the students using the Cadet Officer Evaluation System (OES). | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Military Science | 4 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; MIS 101; MIS 102; MIS 201; MIS 202 |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--------------------------------|-------|-----------------|---|
| MIS | 302 | Applied Leadership in Small-Unit Operations | Academically and physically challenging course where students study, practice and apply the fundamentals of Army leadership, officership, Army values and ethics, personal development and small-unit tactics at the platoon level. At the conclusion of this course, the student is capable of planning, coordinating, navigating, motivating and leading a squad and platoon in the execution of a mission during a classroom PE, a leadership lab, or during a Leader Training Exercise (LTX). Students receive systematic and specific feedback on their leader attributes, values and core leader competencies from the instructor, other ROTC cadre and MSL IV cadets who evaluate the students using the Cadet Officer Evaluation System (OES). Teaches the student the necessary skills to be successful at the USACC Advance Camp. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Military Science | 4 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; MIS 101; MIS 102; MIS 201; MIS 202; MIS 301 |
| MIS | 303 | National Advanced Leadership Camp | 6-week training program emphasizing leadership development and advanced military skills, including tactics, land navigation, and physical training. Conducted at Fort Lewis, Washington. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Military Science | 4 | | |
| MIS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Military Science | 1-4 | | |
| MIS | 401 | The Army Officer | Academically and physically challenging course where students study, practice, develop and apply critical thinking skills pertaining to Army leadership, officer skills, Army values and ethics, personal development and small-unit tactics at platoon level. Includes reading assignments, homework assignments, small group assignments, briefings, case studies, practical exercises, a mid-term exam, and final exam. Assesses students on the execution of a mission during a classroom PE, leadership lab or during a Leader Training Exercise (LTX). Students receive systematic and specific feedback on their leader attributes, values and core leader competencies from the cadre, PMS and other MSL IV cadets. At the conclusion of this course, students plan, coordinate, navigate, motivate and lead a platoon in future operational environment. Successful completion of this course assists in preparing for the BOLC and is mandatory for commissioning. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Military Science | 4 | | Prerequisite(s): MIS 101; MIS 102; MIS 201; MIS 202; MIS 301; MIS 302 OR Visiting University Student |
| MIS | 402 | Company Grade Leadership | Academically and physically challenging course where students study, practice, develop and apply critical thinking skills pertaining to Army leadership, officer skills, Army values and ethics, personal development and small-unit tactics at platoon level. For the capstone exercise, requires students to complete an oral practicum that is evaluated on their knowledge of the 20 Army warfighting challenges. Assesses students on leadership abilities during classroom PE, leadership labs or Leader Training Exercises (LTXs). Students receive systematic and specific feedback on their leader attributes, values and core leader competencies from the cadre, PMS and other MSL IV cadets. At the conclusion of this course, students plan, coordinate, navigate, motivate and lead a platoon in future operational environment. Successful completion of this course assists in preparing for the BOLC and is a mandatory requirement. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Military Science | 4 | | Prerequisite(s): MIS 101; MIS 102; MIS 201; MIS 202; MIS 301; MIS 302; MIS 401 |
| MIS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of Military Science | 1-3 | | |
| MKT | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Marketing | 1-4 | | |
| MKT | 280 | Fashion Merchandising | Examines the business side of the fashion industry with a focus on fashion marketing and the fundamentals of merchandising and retailing. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Credit is allowed for only FSH 280 or MKT 280 |
| MKT | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | |
| MKT | 300 | Marketing and Business Performance | The dynamic role of marketing within society and organizations. Emphasizes frameworks and analytical tools that ensure customer focus and drive organizational performance. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey major, or non-business major with minimum 2.50 GPA and minimum 56 hours; ECN 211, 212, 213, or 214 with C or better OR Visiting University Student |
| MKT | 302 | Applied Marketing Management and Leadership | Market planning, execution, and assessment. Emphasizes decision and communication skills related to market opportunity analyses and marketing program development as a core business function. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | L | Prerequisite(s) w/ C or better: W. P. Carey Marketing BS major; ECN 221 or 231; ENG 101, 105, or 107; MAT 211, 266, or 271; Pre- or corequisite(s): ACC 241, 242, or 271 w/ C or better if completed OR Visiting University Student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------|-------------------------|-------|-----------------|---|
| MKT | 303 | Honors Marketing Theory and Practice | Covers basic applications of marketing concepts to problems that are common to marketing managers. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | L | Prerequisite(s) w/ C or better: W.P. Carey Honors student; ECN 221 or 231; ENG 101, 105, or 107; MAT 211; Pre- or corequisite(s): ACC 241, 242, or 271 w/ C or better if completed; Credit is allowed for only MKT 300 or MKT 302 or MKT 303 |
| MKT | 311 | Sports Business | Focuses attention on components ranging from professional sports to collegiate sports, as well as sports-related products. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey Business (Sports Business) BA major or BS major obtaining Sports Business certificate; minimum 56 hours; Pre- or corequisite(s): MKT 300, 302, or 303 with C or better if completed OR Visiting University Student |
| MKT | 352 | Marketing Research | Knowledge and skills to make intelligent decisions in the design, evaluation and application of marketing research and market data. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | L | Prerequisite(s): W. P. Carey Marketing student; ENG 101, 105, or 107 with C or better; MKT 302 or 303 with C or better OR Visiting University Student |
| MKT | 355 | Designing Brand Identity: Methods and Digital Tools | Creates brand identity initiatives by beginning with a focus on research and strategy. Covers how the support system of design principles, color, imagery, typography and composition makes an entire brand identity program cohesive, yet differentiated. Explores major media development tools (e.g., Adobe Creative Cloud) in a way that can help students select the right approach for a brand, and also to make good choices for working across media. Differentiates between critical digital literacy as opposed to functional digital literacy, which focuses predominately on how to operate software applications. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): MKT 302 or 303; Credit is allowed for only MKT 355 or MKT 494 (Digital Tools for Building Brands) |
| MKT | 365 | Advertising and Beyond: Customer-Centric Brand Development | Advertising and brand development as means to marketing and business success. Consideration of market research, segmentation, objective, creative strategy, digital and integrated media tactics, media management, and metrics of effectiveness. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W.P. Carey BS student; MKT 300, 302 or 303 with C or better OR Visiting University Student |
| MKT | 370 | Professional Sales and Relationship Management | Investigate the vital role of sales, its relationship to other functions within the firm, and its impact on customers. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W.P. Carey BA or BS major, or non-business major with minimum 2.50 GPA and minimum 56 hours; MKT 300, 302, or 303 with C or better OR Visiting University Student |
| MKT | 385 | Data-Driven Marketing | Investigates the increasingly important relationship between marketing and data, looking both at the collection of qualitative and quantitative inputs and the analysis of that data to make informed decisions. It's big (and small) data meets big ideas. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey major; MKT 300, 302, or 303 with C or better; Credit is allowed for only MKT 385 or MKT 494 (Data-Driven Marketing) OR Visiting University Student |
| MKT | 390 | Essentials of Marketing | Focuses on the nature and processes of marketing with an emphasis on practical application. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prereq(s): Appl Bus & Tech Sol BA or Entrepreneurial Ldrship BA major; min 2.00 GPA; min 30 hours OR non-Bus major; min 2.00 GPA; min 56 hours OR nondegree-seeking undergrad stdnt OR degree- or nondegree-seeking grad stdnt OR Visiting University Student |
| MKT | 391 | Essentials of Selling | Focuses on the selling process and its practical applications within consumer and business markets. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): Applied Business & Technology Solutions BA or non-Business major; min 2.00 GPA; min 56 hours OR nondegree-seeking undergraduate student; min 2.00 GPA OR degree- or nondegree-seeking graduate student OR Visiting University Student |
| MKT | 392 | Essentials of Business Marketing | Provides the tools and specialized knowledge for developing and executing marketing strategy in the business-to-business market. Covers how to identify forces that drive buying behavior in organizations, measure market opportunity, identify profitable segments and develop strategy, particularly for turbulent, high-technology markets. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): Applied Business & Technology Solutions BA or non-Business major; MKT 390 with C or better; min 2.00 GPA; min 56 hours OR nondegree-seeking undergrad student OR degree- or nondegree-seeking grad student OR Visiting University Student |
| MKT | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): Non-business student, and minimum cumulative GPA of 2.00, and minimum 56 hours OR be a Non-degree student with minimum 2.0 ASU cum GPA OR be a graduate student |

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| MKT | 395 | Essentials of Advertising and Marketing Communication | Covers topics of immediate or special interest to a faculty member and students. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W.P. Carey BA major or non-business major; minimum 2.00 GPA; minimum 56 hours, OR non-degree student with minimum 2.0 GPA OR graduate student; Credit is allowed for only BUA 382 or MKT 395 OR Visiting University Student |
| MKT | 396 | Essentials of Services Marketing | Focuses on challenges of managing service brands and delivering quality service to customers across industry sectors. Emphasizes skills and knowledge needed to implement quality service and service strategies, frameworks for customer-focused management, and how to increase customer satisfaction and retention through service strategies. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): Appl Bus & Tech Sol BA or non-Business major; MKT 390 with C or better; min 2.00 GPA; min 56 hours OR Business (Retail Mgmt) BA major OR nondegree-seeking undergrad OR degree- or nondegree-seeking grad OR Visiting University Student |
| MKT | 397 | Essentials of Global Marketing | Introduces the concepts of globalization in markets and gives an appreciation and understanding of the differences between marketing in the student's home country and marketing globally. The rapid adoption of technology has fundamentally changed the dynamics of marketing and created new competitive paradigms that must be understood for firms to be successful. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): Applied Business & Technology Solutions BA or non-Business major; MKT 390 with C or better; min 2.00 GPA; min 56 hours OR nondegree-seeking undergrad student OR degree- or nondegree-seeking grad student OR Visiting University Student |
| MKT | 398 | Essentials of Sports Business | Introduces the concepts of sports business. Builds knowledge, skills and understanding of the fundamentals of sports business. Develops an appreciation for and understanding of the multiple stakeholders and diverse interests in and around sports business, and how they impact sports business practice and performance. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): Applied Business & Technology Solutions BA or non-Business major; MKT 390 with C or better; min 2.00 GPA; min 56 hours OR nondegree-seeking undergrad student OR degree- or nondegree-seeking grad student OR Visiting University Student |
| MKT | 402 | Consumer Behavior | Applies behavioral concepts in the analysis of consumer behavior and the use of behavioral analysis in marketing strategy formulation. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey Marketing student; MKT 352 with C or better OR Visiting University Student |
| MKT | 410 | Sales Management | Constructive investigation of selling processes, their application in business and consumer contexts, and management of the sales function. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey BA or BS major; MKT 300, 302, or 303 with C or better OR Visiting University Student |
| MKT | 420 | Retail Management | The role of marketing in retailing and retail performance. Challenges and processes of retail management across various institutions. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey Business (Retail Management) BA or Marketing BS major; MKT 300, 302, or 303 with C or better OR Visiting University Student |
| MKT | 421 | Fan Behavior and Sports Marketing | Focuses on what it means to be a consumer in a sports marketing context society and what, as a marketer, you need to know to develop, evaluate and implement effective marketing strategies for fans. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey Business (Sports Business) BA major; MKT 300, 302, or 303 with C or better; MKT 311 with C or better OR Visiting University Student |
| MKT | 425 | Global Marketing Management | Analyzes marketing strategies and practices developed by firms to compete in global markets and adapt to changing international environments. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | G | Prerequisite(s): W.P. Carey BA or BS major or non-business major with minimum 2.50 ASU cum GPA and minimum 2.50 ASU business GPA and 56 earned hours; MKT 300 or 302 or 303 with C or better OR Visiting University Student |
| MKT | 430 | Sports Business | Builds knowledge, skills, and understanding of sports business; exposure to leading-edge thought, methods, and practices in sports business. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey BS student; must have completed MKT 300, MKT 302 or MKT 303 with a grade of C or better. |
| MKT | 431 | Sports Experiences | Explores the utilization of sports properties and highlights the evolution from traditional facilities and events to more modern experiences that increasingly include digital and emerging technologies. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey Business (Sports Business) BA major or BS major obtaining Sports Business certificate; MKT 300, 302, or 303 with C or better; MKT 311 with C or better OR Visiting University Student |
| MKT | 435 | Entrepreneurial Marketing | Identifies and evaluates marketing opportunities; motivates an appreciation of entrepreneurial marketing and its different environmental contexts for general marketing principles. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey BA or BS major; MKT 300, 302, or 303 with C or better OR Visiting University Student |
| MKT | 438 | Advanced Selling Using Data and Technology | Focuses on the use of technology to advance sales. Students explore how technology is leveraged in the sales process. Hands-on and interactive course leverages case studies, role plays, team projects, presentations, and in-class application of CRM technology. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey BA or BS major; MKT 300, 302, or 303 with C or better; MKT 370 or 410 with C or better; Credit is allowed for only MKT 438 or MKT 494 (Strategic Selling Using Data and Technology) OR Visiting University Student |

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| MKT | 440 | Creating Digital Experiences | Marketing is about creating meaningful experiences between brands and the people they serve. Designed to jump start learning for any student interested in marketing goods and services in contemporary society, this course covers digital ideation and planning as well as digital media, all with a focus on practical application. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 1-3 | | Prerequisite(s): W. P. Carey Marketing major; MKT 302 or 303 with C or better; Credit is allowed for only MKT 440 or MKT 494 (Digital Marketing in Practice) OR Visiting University Student |
| MKT | 441 | Sports Revenue Generation | Focuses on selling and how to create, maintain and build relationships within the sports context. Students gain knowledge and develop skills in choosing a sales career including attributes of a sales person, sales call preparation, value propositions, creating value for the client, team selling, questioning and listening techniques, negotiating, persuasion and closing techniques. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey Business (Sports Business) BA major or BS major obtaining Sports Business certificate; MKT 300, 302, or 303 with C or better; MKT 311 with C or better OR Visiting University Student |
| MKT | 442 | Services Marketing Strategy | Concepts, skills, and strategies for addressing the imperative marketing challenges and opportunities involving service. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey Marketing BS major; MKT 302 or 303 with C or better; MKT 352 with C or better; minimum 56 hours; Pre- or corequisite(s): MKT 402 with C or better if completed OR Visiting University Student |
| MKT | 450 | Social Media and Content Marketing | Centers on how to effectively use social media and content marketing to build relationships between a company and its customers. Students learn to create content, how to deliver content through social media and community management, as well as how to optimize content for maximum effectiveness. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 1-3 | | Prerequisite(s): W. P. Carey Marketing BS major; MKT 302 or 303 with C or better; Credit is allowed for only MKT 450 or MKT 494 (Social Media Mktg and Com Mgmt) OR Visiting University Student |
| MKT | 451 | Sports Business Analytics | Develops and applies critical and creative thinking skills through the lens of a sports context with the goal of making data-driven decisions. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey Business (Sports Business) BA major or BS major obtaining Sports Business cert; MKT 300, 302 or 303 with C or better; MKT 311 with C or better OR Visiting University Student |
| MKT | 452 | Business-to-Business Marketing Strategy | Concepts, skills, and strategies for performing competitively in the business market where organizations rather than households are the customers. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey Marketing BS major; MKT 302 or 303 with C or better; MKT 352 with C or better; minimum 56 hours; Pre- or corequisite(s): MKT 402 with C or better if completed OR Visiting University Student |
| MKT | 455 | Brand Management | Focuses on understanding brand management and the concepts associated with building brand equity and managing brand identity and positioning. Students learn how firms create a competitive advantage by incorporating consumer insight into an effective branding strategy. In addition, students gain an understanding of the role of branding on product portfolio management. Heavily features case discussion, projects and real brands. Applies brand management knowledge to an actual branding strategy project for a small firm. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey Marketing major; MKT 302 or 303 with C or better; Credit is allowed for only MKT 455 or MKT 494 (Brand Management) OR Visiting University Student |
| MKT | 460 | Sports Revenue Generation | Focuses on providing a sophisticated understanding of revenue generation in the context of sports. Students gain knowledge of key marketing, management and administrative functions that play a critical role in revenue-generation strategies. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W.P. Carey BS major; MKT 300, 302 or 303 with C or better |
| MKT | 462 | Competitive Marketing Strategy | Strategy formulation and decision making by the marketing executive. Integrates marketing programs and considers competitive marketing issues. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W.P. Carey Marketing student; MKT 302, 303 or 352 with C or better; Pre- or corequisite: MKT 402 with C or better if completed OR Visiting University Student |
| MKT | 465 | Projects in Sports Business | Focuses on providing students with an innovative opportunity to work directly with sports business industry professionals to address real-world and real-time issues faced by these organizations. Students develop an appreciation for and understanding of the multiple stakeholders and diverse interests in and around sports business, and of their constantly changing and interactive impact on sports business practice and performance. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey Business (Sports Business) BA major or BS major obtaining Sports Business certificate; MKT 300, 302, or 303 with C or better; MKT 311 with C or better OR Visiting University Student |
| MKT | 472 | Immersive Brand Experience I: Intelligence, Insights and Strategy | Provides in-depth, hands-on experience creating complete branding initiatives (campaigns, projects, products/services) for business or nonprofit organizations. Functioning as a real working branding firm, each student provides both an individual effort, as well as works within teams. Focuses on customer and brand market research, strategic planning and foundations of the creative process. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s) w/ C or better: W.P. Carey Marketing major; MKT 302 or 303; MKT 352; min 56 hours; Pre- or corequisite(s): MKT 402 w/ C or better if completed; Credit allowed for only MKT 472 or MKT 494 (Proj in Advertising) OR Visiting University Student |

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| MKT | 473 | Immersive Brand Experience II: Creative, Media and Measures | Provides in-depth, hands-on experience creating complete branding initiatives (campaigns, projects, products/services) for business or nonprofit organizations. Functioning as a real working branding firm, each student provides both an individual effort, as well as works within teams. Applies previously acquired marketing knowledge and best practices in creative direction, writing and art direction, media development and strategy to deliver completed brand development initiatives for clients. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W.P. Carey Marketing major; MKT 302 or 303 with C or better; MKT 352 with C or better; min 56 hours; Pre- or corequisite(s): MKT 402 with C or better if completed; Credit is allowed for only MKT 473 or MKT 494 (Projects in Advertising) |
| MKT | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | W. P. Carey School of Business | Department of Marketing | 1-12 | | Prerequisite(s): W.P. Carey BA or BS major; MKT 300, 302, or 303 with B- or better; minimum 3.00 GPA |
| MKT | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | IND | Y | Z1 | W. P. Carey School of Business | Department of Marketing | 1-6 | | Prerequisite(s): Barrett Honors student |
| MKT | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | IND | N | Z1 | W. P. Carey School of Business | Department of Marketing | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MKT | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): W.P. Carey BA or BS major; MKT 300, 302, or 303 with C or better OR Visiting University Student |
| MKT | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | W. P. Carey School of Business | Department of Marketing | 1-3 | | Prerequisite(s): Business major with professional status OR non-Business student; minimum 2.50 GPA; minimum 56 hours |
| MKT | 501 | Fundamentals of Marketing Management | Manages the marketing function; market and environmental analysis; marketing planning, strategy and control concepts. Development and management of marketing programs. Designed for students with limited business experience and without an undergraduate business degree. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): degree-seeking graduate student |
| MKT | 502 | Marketing Management | Managing the marketing function; market and environmental analysis; marketing planning, strategy, and control concepts. Development and management of marketing programs. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): W. P. Carey MBA students |
| MKT | 520 | Delivering Outstanding CX Through Service and Digital Experiences | Explores how to develop long-term, loyal relationships with customers by optimizing the experiences they have with the firm across a variety of touchpoints. Students learn several frameworks to help them to create and document quality experiences. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): MKT 502 |
| MKT | 525 | Excel in Services | Focuses on challenges of managing services and delivering quality service to customers. The attraction, retention, and building of strong customer relationships through quality service (and services) are at the heart of the course content. The course is equally applicable to organizations whose core product is service and to organizations that depend on services for competitive. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MKT | 530 | Creativity and Innovation | Multidisciplinary approaches to theories and practices of inspiring and managing innovation and change for sustainable competitive advantage. Focuses on both the student's individual creativity and the planning and implementation of innovations, technologies, processes, or systems that pose significant uncertainty. Places special attention on the processes surrounding understanding the consumer, ideation and implementation. Inclusive in this are methods such as environmental scanning, scenario planning, contextual research, storytelling, concept testing and prototyping. Also includes the many aspects of the organization's structure and culture regarding innovation and creativity. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MKT | 535 | Global Marketing Strategy | Introduces the concepts of globalization in markets and gives an appreciation and understanding of the differences between marketing in a home country and marketing globally. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MKT | 540 | Strategic Brand Management | Some of a firm's most valuable assets are its brands. Building and effectively maintaining brand equity is one of a firm's top priorities. This course provides an understanding of strategic brand management and provides students with insights into how sustainable and customer-centric brand strategies can be created and leveraged over time. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MKT | 545 | Entrepreneurial Marketing | Introduces the process of developing a plan for starting a business and presenting that plan to potential investors in order to obtain financing. Covers the purposes of a business plan, the varying objectives of different types of investors or financial institutions, and how they complement or conflict with the interests of an entrepreneur. Topics include proprietary positioning, types of organization, and differing management objectives. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| MKT | 550 | Product Management and Innovation | Develops student proficiency in product management skills to guide products and services through their product lifecycle. In particular, explores effective ways to coordinate customer needs, ensure accurate product development, and how to develop and use the appropriate tools needed to successfully sell products and services to customers from the perspective of the product manager. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): MKT 502 |
| MKT | 555 | B2B: Capturing Value Through Products, Services and Customer Solutions | Provides the tools and specialized knowledge for developing and executing marketing strategy in the business-to-business market. Covers how to identify forces that drive buying behavior in organizations, measure market opportunity, identify profitable segments, and develop strategy, particularly for turbulent, high-technology markets. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): MKT 502 |
| MKT | 560 | Customer Relationship Management | Focuses on the tools, metrics, and systems used to measure and manage customer relationships. Key to the development and use of sound customer metrics are market research skills including competencies in research design, sampling, measurement, data collection, and data analysis. Covers how to use types of data such as surveys, purchased data, transactional data, the Web, and social media to measure and manage customer relationships. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MKT | 561 | Customer-Centric Research and Analytics | Covers three major components: (1) a consideration of what it means to be "customer centric"; (2) development of qualitative and quantitative market research techniques; and (3) application of this material to project situations. | N | LEL | N | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only MKT 561 or MKT 591 (Customer Centric Research Analytics) |
| MKT | 562 | Advanced Analytics for Marketing Decisions | Involves formulating critical marketing problems, developing relevant testable hypotheses, collecting and analyzing data and, most importantly, drawing inferences and suggesting actionable implications. | N | LEL | N | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only MKT 562 or MKT 591 (Marketing Analytics) |
| MKT | 571 | Digital Marketing Applications and Analytics | Gives the applied understanding of the internet marketplace that allows students to adapt to its many changes, while also equipping them with the practical skills needed to perform vital daily functions. Covers Web experience, SEO, search ads, social media marketing, content marketing, email marketing, mobile marketing. Through this process, students learn how digital marketing has revolutionized the interactions between firms and consumers. | N | LEL | N | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): MKT 502; Credit is allowed for only MKT 571 or MKT 591 (Digital Marketing) |
| MKT | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | GNA | W. P. Carey School of Business | Department of Marketing | 1-12 | | Pre-requisites: W. P. Carey MBA Full Time student. |
| MKT | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | W. P. Carey School of Business | Department of Marketing | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MKT | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | W. P. Carey School of Business | Department of Marketing | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MKT | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Marketing | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MKT | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | W. P. Carey School of Business | Department of Marketing | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MKT | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Pre-requisites: W.P. Carey degree seeking Graduate student |
| MKT | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | IND | Y | Z2 | W. P. Carey School of Business | Department of Marketing | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MKT | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | W. P. Carey School of Business | Department of Marketing | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MKT | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | W. P. Carey School of Business | Department of Marketing | 1-12 | | Pre-requisites: W.P. Carey degree seeking Graduate student |

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| MKT | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | W. P. Carey School of Business | Department of Marketing | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MKT | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | W. P. Carey School of Business | Department of Marketing | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MKT | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | W. P. Carey School of Business | Department of Marketing | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MLS | 501 | Writing About Social Issues | Reading, discussion and creation of nonfiction writing on diverse societal issues. Investigates diverse forms and genres of writing. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MLS | 502 | Religion, Culture, and Health: Where Cultures Intersect | Focuses on how cultural and religious notions may come into conflict around issues of health. Contrasts two societies, not necessarily contemporary, from different continents. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MLS | 503 | Ethics, Science and Culture | Introduces ethics related to the practice of art, science and medical practice in modern and premodern society. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MLS | 504 | Film Analysis | Introduce formal and cultural issues important to understanding movies. | N | REC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only FMS 504 or MLS 504 |
| MLS | 505 | The Research Process | Contemporary scholarly writing and research processes that adult learners, new to graduate study, can use in all MLS classes and for years ahead. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only MLS 505 or MLS 598 (The Research Process) or MLS 598 (Research Methods) |
| MLS | 510 | Communicating in Complex Cultural Environments | Explores the complexity of communication as it functions across contrasting social and cultural contexts. Students study how we interact and communicate with those around us through our individual and collective cultures. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MLS | 511 | Advanced Liberal Studies and Worlds of Possibility | Explores the construction of knowledge and know-how from a variety of cultural and historical perspectives. Analyzes and applies the assumptions that inform various worldviews in real-world contexts. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MLS | 512 | Exploring and Expressing Ideas | Guides students through the exploration and expression of ideas related to contemporary social and cultural problems. Emphasizes perspective taking from multiple points of view. Features questions related to the construction and collection of evidence and terms of analysis. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MLS | 520 | Ecologies of Possibility: Creative and Critical Approaches | Provides a foundation of experiential, creative and critical exploration into ways of knowing that are reflexive and justice oriented. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MLS | 525 | Creative and Critical Research Design | Emphasizes that research, as an open-ended process, is a creative act that can help solve problems, generate possibilities, destabilize oppressive systems and promote justice. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MLS | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): Liberal Studies MLSt or Liberal Studies (Film and Media Studies) MLSt student |
| MLS | 582 | Applied Project Plan | Students employ select research methodologies, creative/critical thinking, reflexive practices and peer feedback to devise an applied project plan and an annotated literature review. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MLS | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | PRA | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): Liberal Studies MLSt or Liberal Studies (Film and Media Studies) MLSt student |
| MLS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): Liberal Studies MLSt or Liberal Studies (Film and Media Studies) MLSt student |
| MLS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): Liberal Studies MLSt or Liberal Studies (Film and Media Studies) MLSt student; MLS 501; MLS 502; MLS 503 |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
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| MLS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MLS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MND | 101 | First-Year Chinese I | Beginning course in Modern Standard Chinese designed for students who have little or no previous background in the language. Adopts different pedagogical approaches such as group practice, role play and situational dialogues to help students acquire basic skills in listening, speaking, reading and writing in Modern Standard Chinese. While linguistic elements are the focus of this course, also includes cultural information that go along with language use. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 5 | | Credit is allowed for only CHI 101 or CHI 110 or MND 101 |
| MND | 102 | First-Year Chinese II | Beginning course in Modern Standard Chinese designed for students who have completed MND 101. Different pedagogical approaches such as group practice, role play and situational dialogues are designed to help students acquire basic skills in listening, speaking, reading and writing in Modern Standard Chinese. While linguistic elements are the focus of this course, also includes cultural information with application to global business communication. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 5 | | Prerequisite(s): MND 101; Credit is allowed for only CHI 102 or CHI 110 or MND 102 |
| MND | 201 | Second-Year Chinese I | First part of a two-semester course of intermediate Modern Standard Chinese for students who have successfully completed First-Year Chinese I and II. Adopts different pedagogical approaches such as group practice, role play and situational dialogues to help students acquire basic skills in listening, speaking, reading and writing. While linguistic elements are the focus of this course, also includes cultural information that accompanies language use along with a deep emphasis on global work situations. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 5 | | Prerequisite(s): MND 101; MND 102; Credit is allowed for only CHI 201 or CHI 210 or MND 201 OR Visiting University Student |
| MND | 202 | Second-Year Chinese II | Second part of a two-semester course of intermediate Modern Standard Chinese for students who have successfully completed three semesters of Modern Standard Chinese at the college level or equivalent. Builds on the vocabulary introduced in the first three courses, with deeper emphasis on global work situations. Adopts different pedagogical approaches such as group practice, role play and situational dialogues to help students acquire basic skills in listening, speaking, reading and writing Modern Standard Chinese. While oral proficiency is the focus of this course, also includes cultural information that accompanies language use in the teaching as well. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 5 | | Prerequisite(s): MND 101; MND 102; MND 201; Credit is allowed for only CHI 202 or CHI 210 or MND 202 |
| MSA | 101 | Elementary Arabic I | Introductory Arabic language focuses on pronunciation of Arabic sounds and basic writing skills. Students learn Arabic culture through standard greetings, common phrases, vocabulary and performance of appropriate social behaviors common in the Arab world which prepares students for work in global organizations. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 4 | | Credit is allowed for only ARB 101 or MSA 101 |
| MSA | 102 | Elementary Arabic II | Continuation of Elementary Arabic I, adopts different pedagogical approaches such as group practice, role play and situational dialogues to help increase listening, speaking, reading and writing skills. While linguistic elements are the focus, cultural and intellectual contexts provide a medium for understanding the Arab-Islamic world and the global business setting. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 4 | | Prerequisite(s): MSA 101; Credit is allowed for only ARB 102 or MSA 102 |
| MSA | 201 | Intermediate Arabic I | Directed to students who have completed the first two courses of college-level Arabic. Students reach an advanced level of oral proficiency through concentrating on new verbs, vocabulary and unique structures of sentences which enable them to master a highly sophisticated usage of the language. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 4 | | Prerequisite(s): MSA 101; MSA 102; Credit is allowed for only ARB 201 or MSA 201 |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
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| MSA | 202 | Intermediate Arabic II | Provides advanced ability to understand, read, write and communicate in Arabic and is directed to students who have completed the first two Arabic elementary courses and the first intermediate course. Focuses on transitive, intransitive and passive and active verbs which enable students to express themselves in highly sophisticated Arabic styles and discourse. Students study how Arabic people perceive and communicate important cultural, historical and economic themes as well as major historical figures and their contributions to Arabic society. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 4 | | Prerequisite(s): MSA 101; MSA 102; MSA 201; Credit is allowed for only ARB 202 or MSA 202 |
| MSC | 115 | Music Production Fundamentals | Introduces the basic tools and techniques of the "in the box" music production. Students begin to hone their production chops and create their own original and collaborative work in the process. Course is broken down into 4 modules: writing in the DAW, producing in the DAW, collaborating in the DAW and working in the DAW. Students experience a series of lectures to cover weekly topic(s); participate in in-class exercises and demos; and write, arrange and produce original material to be workshopped in class, both individually and collaboratively. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Credit is allowed only for MSC 115 or MSC 194 (Music Production Fundamentals) |
| MSC | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MSC | 211 | Songwriting Fundamentals | Introductory course presenting the basic elements of the songwriting craft. Students experience a series of lectures that cover weekly topics, participate in class writing exercises and analysis of visiting artists and the student material being work shopped. Through in-class writing assignments, analysis and by recording and notating songs, students begin to hone their craft and create their own original and collaborative work. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre- or corequisite(s): MTC 125 with C or better if completed; Credit is allowed for only MSC 211 or MSC 294 (Songwriting Fundamentals) or MSC 294 (Songwriting I) OR Visiting University Student |
| MSC | 212 | Intermediate Music Production | Building upon previous coursework, dives deeper into the tools and techniques of music production, both in a home and professional studio setting. Students create their own original and collaborative work through the execution of four main projects. Students experience a series of lectures to cover weekly topic(s), participate in in-class exercises and demos and write, arrange and produce four original tracks through both individual and collaborative work, which are workshopped in class. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MSC 115 with C or better; Credit is allowed for only MSC 212 or MSC 294 (Intermediate Music Production) or MSC 294 (Music Production II) OR Visiting University Student |
| MSC | 213 | Sound Design Fundamentals | Centers on the basic elements of sound design as well as the acoustics and physics of sound. Students explore and learn about synthesizers, samplers, standard audio processors, creative effects processing and digital signal processing techniques, both in hardware and software form. Presents historical context for the development and evolution of the associated technology. Students generate several pieces of work which represent a diverse set of applications of tools presented in class. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MSC 115 with C or better; Credit is allowed for only MSC 213 or MSC 294 (Sound Design Fundamentals) OR Visiting University Student |
| MSC | 216 | Popular Music Foundations | Menu of courses designed to lay the foundational knowledge in various areas of study. | Y | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre- or corequisite(s): MSC 115 OR Visiting University Student |
| MSC | 221 | Popular Music Lab | Menu of courses designed to build popular music-specific musicianship skills. Respective course topics serve as complements to the fields of study available in the popular music foundation series. | Y | LAB | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | |
| MSC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MSC | 314 | Critical Listening | Focuses on developing critical listening and ear training skills with an emphasis on analyzing recording and mix techniques in the context of popular music. Topics include acoustics and spatial considerations, mix elements such as balances, panning, depth, EQ, reverb, compression, delay and time-based effects, instrument identification, stylistic comparisons of recording and mix techniques, being able to aurally discern and verbalize changes to frequency, dynamics and timbre. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MSC 115 with C or better; Pre- or corequisite(s): MSC 212 with C or better if completed; Credit is allowed for only MSC 314 or MSC 394 (Critical Listening) or MSC 474 (Mixing and Critical Listening 1) OR Visiting University Student |
| MSC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| MSC | 441 | Live Sound and Stage Technology I | Presents the basic elements of running sound for live music performances and other associated stage technology such as microphones, lighting and video. Students experience a series of lectures to cover weekly topic(s), participate in hands-on class exercises and run sound for student ensembles and recitals. | Y | LAB | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only MSC 441 or MSC 494 (Live Sound and Stage Technology I) or MUP 441 (Live Sound and Stage Technology) OR Visiting University Student |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|---|------------------------------------|-------|-----------------|---|
| MSC | 442 | Live Sound and Stage Technology II | Continues the study of live sound reinforcement and concert technology, presenting advanced elements and techniques of running sound for live music performances and other associated stage technology such as microphones, lighting and video. Students experience a series of lectures to cover weekly topic(s), participate in hands-on class exercises and run sound for student ensembles and recitals. | N | LAB | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): MSC 441 with C or better; Credit is allowed for only MSC 442 or MSC 494 (Live Sound and Stage Technology 2) OR Visiting University Student |
| MSC | 443 | Popular Music Forum | Studio class that functions as a collaborative lab for all popular music students regardless of their musicianship specializations. Investigates various topics in popular music performance, composition and production. Students cultivate skills related to their musicianship specializations and develop aural skills and knowledge of music through participation in collaborative and solo projects, the study of recordings, and compositions. | N | LAB | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major or non-Music major who has passed audition |
| MSC | 444 | Popular Music Senior Forum | Studio class that functions as a collaborative lab for all popular music seniors who are preparing to graduate from the program, regardless of their musicianship specializations. Topics include but are not limited to: financial literacy and preparedness for the music industry, personal branding and presentation, management of personal digital profiles and external facing touchpoints, short- and long-term planning. Invites several industry professionals to speak to students. Concludes with a portfolio presentation which is a culmination of work done throughout the program. | N | LAB | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): two completions of MSC 443; Corequisite(s): MSC 489 OR Visiting University Student |
| MSC | 451 | Popular Music Industry Studies I | Familiarizes students with an overview of the popular music industry, business, law and operations while contextualizing and including aspects of its history and development. Study of the production of various popular and traditional music styles, specifically in the United States. Additionally, students study the music and the musicians of popular music throughout history and learn to recognize and apply aspects of creativity and innovation when developing a new product or business venture. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): minimum 45 hours |
| MSC | 452 | Popular Music Industry Studies II | Familiarizes students with aspects of starting and operating a business in the music industry. Students learn how to start a music production label, how to market new talent and how to release and promote their own music using up-to-date on and offline promotion and marketing tools. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MSC 451 with C or better |
| MSC | 470 | Sound Designer/Producer | A menu of courses for students in the popular music program who are interested in pursuing a career in sound design and production as one of their specializations. | Y | LEL | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MSC 115 with C or better; MSC 212 with C or better; MSC 213 with C or better; Pre- or corequisite(s): MSC 314 OR Visiting University Student |
| MSC | 471 | Contemporary Composer/Producer Specialization | A menu of courses for students in the popular music program who are interested in pursuing a career in contemporary writing and production as one of their specializations. | Y | LEL | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MSC 115 with C or better; MSC 212 with C or better; MTC 224 with C or better; Pre- or corequisite(s): MSC 213 OR Visiting University Student |
| MSC | 472 | Songwriter/Producer Specialization | A menu of courses for students in the popular music program who are interested in pursuing a career in songwriting and production as one of their specializations. | Y | LEL | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MSC 115 with C or better; MSC 211 with C or better; Pre- or corequisite(s): MTC 224 OR Visiting University Student |
| MSC | 473 | Engineer/Producer Specialization | A menu of courses for students in the popular music program who are interested in pursuing studio multi-track engineering, mix engineering and/or record production as one of their specializations. | Y | LEL | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MSC 115 with C or better; MSC 212 with C or better; Pre- or corequisite(s): MSC 314 OR Visiting University Student |
| MSC | 474 | Music Business Specialization | A menu of courses for students in the popular music program who are interested in pursuing music business as one of their popular music specializations. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MSC 451 with C or better; Pre- or corequisite(s): MSC 452 with C or better if completed OR Visiting University Student |
| MSC | 475 | DIY Creative Careers | A menu of courses for students in the popular music program who are interested in pursuing a career as an independent writer, producer, artist or any other type of freelance creative, and have chosen DIY creative careers as one of their specializations. | Y | LEL | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MSC 115 with C or better; MSC 451 with C or better OR Visiting University Student |
| MSC | 477 | Live Experience Design Specialization | A menu of courses for students in the popular music program who are interested in pursuing a career in live music concert and experience design, and have chosen live experience design as one of their specializations. | Y | LEL | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MSC 441 with C or better; MSC 442 with C or better OR Visiting University Student |
| MSC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): minimum 45 hours |

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| MSC | 489 | Popular Music Capstone Project | Summative presentation of the student's interests which demonstrates mastery of the student's chosen area of focus. This may include but is not limited to a creative project or experience with a focus in music industry studies; performing, songwriting, composing, film scoring, recording, producing, or promoting. Students gain a more advanced level of knowledge and understanding of the practice and philosophy of the music industry in order to launch or further their career as a professional popular musician. | N | RSC | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): complete six credit hours from MSC 470, MSC 471, MSC 472, MSC 473, MSC 474, MSC 475, or MSC 477 |
| MSC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| MSC | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | |
| MSC | 551 | Popular Music Industry Studies I | Familiarizes students in the popular music industry, business, law and operations while contextualizing and including aspects of its history and development. This is accomplished through the study of the production of various popular and traditional music styles, specifically in the United States. Additionally, students study the music and the musicians of popular music throughout history and learn to recognize and apply aspects of creativity and innovation when developing a new product or business venture. | Y | LEC | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music graduate student |
| MSC | 552 | Popular Music Industry Studies II | Familiarize students with aspects of starting and operating a business in the music industry. Students learn how to start a music production label, how to market new talent and how to release and promote their own music using up-to-date on- and offline promotion and marketing tools. | N | LEC | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music graduate student |
| MSC | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): Music graduate student |
| MSC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MSE | 208 | Patterns in Nature | Examines topics from optics to analytical techniques. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 4 | SQ | Credit is allowed for only MSE 208 or PHS 208 |
| MSE | 211 | Introduction to Mechanics of Materials | Topics include stress, strain, elasticity, axial loading, torsion, bending, yield criteria, fracture, general energy methods and Castigliano's Theorem. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): PHY 121; PHY 122; MSE 250 with a C or better |
| MSE | 212 | Microstructure and Properties Lab | Lab experiments introducing optical and electron microscopy techniques, metallography and microstructure of metals, effects of composition and processing, and compositional identification. | N | LAB | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1 | | Prerequisite(s): MSE 215; MSE 250 OR Visiting University Student |
| MSE | 215 | Materials Synthesis | Introduces contemporary techniques for synthesizing both traditional and novel materials and the corresponding correlation to synthesized materials properties. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Pre- or corequisite(s): MSE 250 with C or better if completed OR Visiting University Student |
| MSE | 250 | Structure and Properties of Materials | Basic concepts of material structure and its relation to properties. Application to engineering problems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): CHM 114 or 113 with Pre- or corequisite(s): CHM 116 OR Visiting University Student |
| MSE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-4 | | |
| MSE | 301 | Materials and Civilization | Focuses on exploring how materials technology can change people's lives. Traces how societies evolved based on the access to materials and the ability to exploit them and trade them among nations. Studies the role of materials in a variety of contexts such as food, art, warfare, transportation, medicine, information and energy from the Stone Age through the industrial revolution to the modern world. Analyzes the connection between the dramatic developments in civilization and advances in materials through the lens of structure, properties and processing of materials. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): minimum junior standing OR Visiting University Student |
| MSE | 308 | Sensing the World | Project-oriented science course develops critical thinking and technical skill using Internet modules on the five senses. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 4 | SQ | Prerequisite(s): MSE 208 OR Visiting University Student |
| MSE | 330 | Thermodynamics of Materials | Principles of statistical mechanics, statistical thermodynamics of single crystals, solutions, phase equilibrium, free energy of reactions, free electron theory, and thermodynamics of defects. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student or Materials Science and Engineering minor; MSE 250 with C or better; Pre- or corequisite(s): MAT 274 or 275 with C or better if completed OR Visiting University Student |
| MSE | 335 | Materials Kinetics | Introduces kinetics in processing of materials as illustrated through real-world materials processing examples. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student or students with approved Materials minor; MSE 330 |

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| Subject | CatalogNbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|---|
| MSE | 355 | Structure and Defects | Intermediate-level grounding in crystallography, crystal defects, surfaces and interfaces. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prereq(s): Fulton Engineering undergrad stdnt or Material Scie & Engineering minor; MSE 250 w/ C or better; Pre- or coreq(s): MAT 267 or 272 w/ C or better if completed; MAT 242, 342, or 343 OR Fulton Engineering grad stdnt OR Visiting University Student |
| MSE | 356 | Thin Film and Microelectronic Devices Lab | Lab experiments correlating atomic structure, defects and microstructure of processed metals, ceramics polymers and composites to their mechanical and thermal properties. | N | LAB | N | GNA | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1 | | Prerequisite(s): MSE 212; Pre- or corequisite(s): MSE 355 OR Visiting University Student |
| MSE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-4 | | |
| MSE | 415 | Mathematical and Computer Methods in Materials | Mathematical, computational, and statistical methods and computer programming used to model materials science phenomena and materials engineering applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | CS | Prerequisite(s) w/ C or better: Fulton Engr undergrad stdnt or Materials Scie & Engr minor; MAT 267 or 272; MAT 274 or 275; MSE 250; Credit is allowed for only MSE 415 or MSE 511 or MSE 598 (Math & Comp Methods in Materials) OR Visiting University Student |
| MSE | 420 | Advanced Metallurgical Alloys and Processes | Phase diagrams, structural alloys, additive manufacturing and metallurgy processing, materials selection and high entropy alloys. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; MSE 355 with C or better; Credit is allowed for only MSE 420 or MSE 514 |
| MSE | 421 | Physical Metallurgy Laboratory | Focuses on analysis of microstructure of metals and alloys and includes correlation with mechanical properties to some extent. | N | LAB | N | GNA | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1 | | Prerequisite(s): Materials Science and Engineering Program BSE major or minor; MSE 355 with C or better |
| MSE | 435 | Computational Materials Science and Engineering | Computer simulation has become a tool for the advancement of our understanding of fundamental material physics and practical material applications. Provides an introductory understanding of concepts and techniques for the modeling and simulations of materials on a wide spectrum of length scales, ranging from atomic to macroscopic. Accordingly, discusses a variety of computational modeling: particle-based simulations (Monte-Carlo and molecular dynamics); mesoscale methods (cellular automaton and phase-field modeling); and continuum models (finite-element analysis, stochastic microstructure reconstruction). Recommend a background in or working knowledge of a computer programming language (C/ C++ /FORTRAN /MATLAB) linear algebra, differential equations, thermodynamics and statistical mechanics. Reviews the essence of the C/C++ programming language and explains example codes to make the course accessible to students with minimal programming experience. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): MSE 250 with C or better; PHY 121 with C or better; Credit is allowed for only MSE 435 or MSE 494 (Introduction to Computational Materials) or MSE 535 or MSE 598 (Introduction to Computational Materials) OR Visiting University Student |
| MSE | 440 | Mechanical Behavior of Materials | Effects of environmental and microstructural variables of mechanical properties, including plastic deformation, fatigue, creep and brittle fracture. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Materials Science and Engineering BSE major or minor; MSE 335; MSE 355 with C or better; Credit is allowed for only MSE 440 or MSE 516 OR Visiting University Student |
| MSE | 442 | Fatigue, Fracture, and Creep of Materials | Relationship between microstructure and fracture; fatigue and creep properties of materials. Environmental effects and recent developments. Current theories and experimental results. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student or Materials minor; MSE 250 with C or better; Credit is allowed for only MSE 442 or MSE 494 (Fatigue, Fracture, Creep) or MSE 540 |
| MSE | 450 | Introduction to Materials Characterization | Introduces materials characterization techniques for analysis of thin films and bulk materials by TEM, SEM, XRD, XPS, and AES. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student or Materials minor; PHY 131; MSE 355; Credit is allowed for only MSE 450 or MSE 510 |
| MSE | 451 | Nanomaterials and Electronics Characterization Lab | Lab for materials characterization techniques for analysis of thin films and bulk materials by TEM, SEM, XRD, XPS, and AES. | N | LAB | N | GNA | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1 | | Prerequisite(s): MSE 356; Pre- or corequisite(s): MSE 450 OR Visiting University Student |
| MSE | 457 | Quantum Mechanics for Understanding Properties of Atoms and Solids | The effect on quantum mechanics on the electronic structure and properties of atoms and solid materials. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering student or Materials Science and Engineering minor; MAT 275 with C or better; MSE 250 with C or better; PHY 131 with C or better OR Visiting University Student |
| MSE | 458 | Electronic, Magnetic, and Optical Properties | Electrical, optical, and magnetic properties of solids and microstructure effects as examined through materials-based examples. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Materials Science and Engineering student; MSE 457; Credit is allowed for only MSE 458 or MSE 515 |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|---|
| MSE | 460 | Nanomaterials in Energy Production and Storage | Emphasizes the relationship among fundamental materials properties, chemical and energy transformation, as well as energy storage. Applications include the role of materials for photovoltaics, nanocatalysts, batteries, and fuel cells. Stresses fundamental principles and charge transfer processes in nanostructured materials in addressing energy needs. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student or Materials minor; MSE 250; Credit is allowed for only MSE 460 or MSE 494 (Nanomat. In Energy Production) or MSE 560 or MSE 598 (Nanomat. In Energy Production) |
| MSE | 466 | Electrochemical Energy Storage and Conversion | Electrochemical concepts relevant to real-world devices. Discusses basic electrochemical principles with an emphasis on solid-state electrochemistry and the nature of the solid-electrolyte interface in order to give students the background knowledge needed for understanding and analyzing real device performance of, e.g., batteries, solar hydrogen generation, photoelectrochemical cells, electrocatalysts, electrochemical capacitors, fuel cells. Critically evaluates media reports and journal publications describing electrochemical energy conversion and storage devices. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prereq(s): CHM 114 or 116; PHY 121; PHY 131; MSE 250; Pre- or coreq(s): CHE 342, MAE 241 or MSE 330; Credit for only CHE 494, CHE 598, MAE 494, MAE 598, MSE 494, MSE 598, or NAN 598 (Electrochemistry Energy Conversion & Storage) or MSE 466 or MSE 566 |
| MSE | 470 | Polymers and Composites | Relationship among chemistry, structure, and properties of engineering polymers. Design, properties, and behavior of fiber composite systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prereq(s) w/ C or better: Fult Engrn undergrad or Materials minor; CEE 213, MAE 213, or MSE 211; MAT 242, 342, or 343; MSE 250 or Aerospace major w/ MAE 325; Credit allowed for only MAE 455 or MAE 513 or MSE 470 or MSE 513 OR Visiting University Student |
| MSE | 471 | Introduction to Ceramics | Principles of structure and property relations in ceramic materials. Processing techniques. Applications in mechanical, electronic, and superconducting systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student or Materials minor; MSE 355 OR Visiting University Student |
| MSE | 476 | Growth and Processing of Semiconductors | Briefly introduces semiconducting materials and emphasizes the characteristics of defects in semiconductors and their influence on electronic properties. Covers principles of growth of bulk crystals, epitaxial growth, oxidation, diffusion, ion implantation, and metallization. Discusses the introduction of defects during growth and processing of semiconductors and their influence on device behavior. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering major or Materials minor; MSE 250 with C or better; Credit is allowed for only MSE 476 or MSE 519 |
| MSE | 482 | Materials Engineering Design | Principles of the design process. Feasibility and optimization. Manufacturing processes, materials selection, failure analysis, and economics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | L | Prerequisite(s): Materials Science and Engineering BSE major; ENG 101, 105, or 107 with C or better; MSE 211 with C or better; MSE 355 with C or better OR Visiting University Student |
| MSE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-12 | | |
| MSE | 489 | Capstone Design Project I | Covers how to plan an open-ended design project, including experience with technical writing and technical presentations. Both MSE 489 & 490 must be taken to secure L General Studies designation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1 | L | Prerequisite(s): Materials Science and Engineering BSE major; ENG 101, 105, or 107 with C or better; MSE 451; Pre- or corequisite(s): MSE 482 |
| MSE | 490 | Capstone Design Project II | Students learn how to conduct an open-ended design project, including experience with technical writing and technical presentations. Both MSE 489 and 490 must be taken to secure L General Studies designation. | N | RSC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 2 | L | Prerequisite(s): Materials Science and Engineering Program BSE major; ENG 101, 105, or 107 with C or better; MSE 482; MSE 489 |
| MSE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-6 | | Prerequisite(s): Barrett Honors student |
| MSE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MSE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-4 | | Prerequisite(s): Fulton Engineering undergraduate student OR Visiting University Student |
| MSE | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-7 | | Prerequisite(s): Fulton Engineering undergraduate or graduate student |
| MSE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | GNA | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-3 | | |
| MSE | 501 | Linear Algebra in Engineering | Development and solution of systems of linear algebraic equations. Applications from mechanical, structural, and electrical fields of engineering. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Non-Computer Engineering or Non-Electrical Engineering graduate student; Credit is allowed for only EGR 501 or EGR 598 (Applied Linear Algebra for Engineers) or MAE 501 or MSE 501 |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|---|
| MSE | 502 | Partial Differential Equations in Engineering | Development and solution of partial differential equations in engineering. Applications in solid mechanics, vibrations, and heat transfer. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only MAE 502 or MSE 502 |
| MSE | 503 | Concepts in Materials Science | Familiarizes students with fundamental concepts and terms used in MSE. Introduces the relationship between structure-processing-property-performance-characterization. From this point, explores crystal structure, symmetry and defects. After which, introduces fundamental theory of diffusion, kinetic and phase transformation and gives examples of their impact on the material. Next, presents the correlation between structure-processing-property on performance. Throughout the course, exposes concepts of materials characterization. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Engineering graduate students; Credit is allowed for only MSE 503 or MSE 598 (Concepts in Materials Science) |
| MSE | 510 | Introduction to Materials Characterization | Introduces materials characterization techniques for analysis of thin films and bulk materials by TEM, SEM, XRD, XPS, and AES. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Pre-requisite: Graduate Engineering student; Credit is allowed for only MSE 450 or 510 |
| MSE | 511 | Mathematical and Computer Methods in Materials | Mathematical, computational and statistical methods and computer programming used to model materials science phenomena and materials engineering applications. Prior completion of undergraduate-level calculus, differential equations, and linear algebra needed for success in the course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only MSE 415 or MSE 511 or MSE 598 (Mathematical and Computer Methods in Materials) |
| MSE | 513 | Polymers and Composites | Relationship among chemistry, structure, and properties of engineering polymers. Design, properties, and behavior of fiber composite systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Pre-requisite: Graduate Engineering or Science & Engr of Materials student; Credit is allowed for only MAE or MSE 513 |
| MSE | 514 | Advanced Metallurgical Alloys and Processes | Phase diagrams, structural alloys, additive manufacturing and metallurgy processing, materials selection and high entropy alloys. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton graduate student; Credit is allowed for only MSE 420 or MSE 514 |
| MSE | 515 | Introduction to Electronic, Magnetic, and Optical Properties | Electrical, optical and magnetic properties of solids and microstructure effects as examined through materials-based examples. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only MSE 458 or MSE 515 |
| MSE | 516 | Mechanical Behavior of Materials | Effects of environmental and microstructural variables of mechanical properties, including plastic deformation, fatigue, creep and brittle fracture. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only MSE 440 or MSE 516 |
| MSE | 517 | Introduction to Ceramics | Principles of structure, property relations in ceramic materials. Processing techniques. Applications in mechanical, electronic, and superconducting systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Pre-requisite: Graduate Engineering OR Science and Engineering of Materials student |
| MSE | 519 | Growth and Processing of Semiconductors | Briefly introduces semiconducting materials and emphasizes the characteristics of defects in semiconductors and their influence on electronic properties. Covers principles of growth of bulk crystals, epitaxial growth, oxidation, diffusion, ion implantation, and metallization. Discusses the introduction of defects during growth and processing of semiconductors and their influence on device behavior. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Pre-requisite: Graduate Engineering student; Credit is allowed for only MSE 476 or 519 |
| MSE | 523 | Structural and Mechanical Properties of Materials | Designed for first-year PhD students in the School of Materials. Topics include crystallography theory, tensor properties of materials, elasticity, crystal defects, dislocation theory, plasticity, fracture, fatigue, and creep. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Schools of Engineering graduate student |
| MSE | 524 | Advanced Thermodynamics | Equilibrium thermodynamics. Chemical reactions, phase equilibria, and stability in multicomponent systems. Aqueous solutions and electrochemistry. Introduces statistical thermodynamics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only CHM 541 or MSE 524 |
| MSE | 525 | Fundamentals of Electrical, Optical, and Magnetic Materials and Device Applications | Behavior of materials; electronic band structure, electronic and ionic conduction, electronic processes in semiconductors, dielectric, optical and magnetic properties. Emphasizes the fundamental understanding of material properties while establishing structure-property relations. Aims to link these properties to applications in optoelectronics, photonics and optics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only MSE 525 or MSE 527 or MSE 598 (Fund of Elec, Optical, & Mag Matls & Device Apps) or NAN 512 or PHY 482 or PHY 512 |
| MSE | 526 | Materials Physics I | Fundamentals of materials physics: crystal structure, diffraction, elasticity, point defects, dislocations, lattice vibrations, thermal properties, periodic potential, band structure. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only MSE 526 or NAN 511 or PHY 511 |
| MSE | 527 | Materials Physics II | Electronic behavior of materials: energy bands, electronic properties, metals, semiconductors, insulators, optical properties, magnetic properties, superconductivity, biophysics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; MSE 526; Credit is allowed for only MSE 525 or MSE 527 or MSE 598 (Fund of Elec, Optical, & Mag Matls & Device Apps) or NAN 512 or PHY 482 or PHY 512 |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|--|
| MSE | 535 | Computational Materials Science and Engineering | Computer simulation has become a tool for the advancement of our understanding of fundamental material physics and practical material applications. Provides an understanding of concepts and techniques for the modeling and simulations of materials on a wide spectrum of length scales, ranging from atomic to macroscopic. Accordingly, discusses a variety of computational modeling: particle-based simulations (Monte-Carlo and molecular dynamics), mesoscale methods (cellular automaton and phase-field modeling), and continuum models (finite-element analysis, stochastic microstructure reconstruction). Recommend a background in/working knowledge of a computer programming language (C/C++/ FORTRAN/ MATLAB), linear algebra, differential equations, thermodynamics and statistical mechanics. Reviews the essence of the C/C++ programming language and explains example codes to make the course accessible to students with minimal programming experience. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only MSE 435 or MSE 494 (Introduction to Computational Materials) or MSE 535 or MSE 598 (Introduction to Computational Materials) |
| MSE | 540 | Fracture, Fatigue, and Creep | Relationship between microstructure and fracture; fatigue and creep properties of materials. Environmental effects and recent developments. Current theories and experimental results. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Pre-requisites: Graduate Engineering student; Credit is allowed for only MSE 442, 494 (Fatigue, Fracture, Creep) or 540 |
| MSE | 546 | Surfaces and Thin Films | Thermodynamics and kinetics of surface structures and thin film processes. Ultra-high vacuum techniques for examining surfaces. Case studies of physics, chemistry and nanoscience applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only NAN 546 or MSE 546 or PHY 546 |
| MSE | 548 | Fundamentals of Semiconductor Packaging | Multidisciplinary foundation course in addressing electrical, thermal, materials, chemical, manufacturing and reliability problems in semiconductor packaging. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only CHE 518 or EEE 518 or MAE 518 or MSE 548 |
| MSE | 550 | Advanced Materials Characterization | Analytical instrumentation for characterization of materials; SEM, SIMS, Auger, analytical TEM, and other advanced research techniques. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Schools of Engineering graduate student |
| MSE | 551 | Applied Machine Learning for Mechanical Engineers | Machine learning impacts every aspect of our daily lives, from recognizing faces in a crowd to designing drugs to treat epidemic diseases. There is no doubt that, as a result of the impact, the job market for future engineers will be drastically different. This course equips engineering students with a working understanding of machine learning and better prepares them for the future job market. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only MAE 451 or MAE 551 or MAE 598 (Machine Learning for Engineers) or MSE 551 or MSE 598 (Machine Learning for Engineers) |
| MSE | 552 | Electron Microscopy I | Kinematical and dynamical electron diffraction and microscopy. Defect structure and composition using STEM imaging, x-ray and electron-energy-loss spectroscopy. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only MSE 552 or NAN 552 or PHY 552 or SEM 552 |
| MSE | 553 | Electron Microscopy Laboratory I | Lab support for MSE 552. | N | LAB | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Corequisite(s): MSE 552 or PHY 552; Credit is allowed for only MSE 553 or PHY 553 |
| MSE | 554 | Electron Microscopy II | Determination of structure and composition of materials using high-resolution imaging, convergent-beam diffraction, and electron holography. Novel developments and applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only MSE 554 or PHY 554 |
| MSE | 555 | Electron Microscopy Laboratory II | Lab support for MSE 554. | N | LAB | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only MSE 555 or PHY 555 |
| MSE | 560 | Nanomaterials in Energy Production and Storage | Emphasizes the relationship among fundamental materials properties, chemical and energy transformation, as well as energy storage. Applications include the role of materials for photovoltaics, nanocatalysts, batteries, and fuel cells. Stresses fundamental principles and charge transfer processes in nanostructured materials in addressing energy needs. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): graduate Chemistry, Engineering or Physics major. Credit is allowed for only MSE 460 or MSE 494 (Nanomaterials In Energy Production and Storage) or MSE 560 or MSE 598 (Nanomaterials In Energy Production and Storage) or NAN 560 |
| MSE | 561 | Phase Transformations, Kinetics, and Diffusion in Solids | Hetero/homogeneous diffusion-controlled transformations, order-disorder transformations, and shear martensitic) athermal transformations in solids. Courses in advanced thermodynamics and structure and properties of materials are strongly recommended in preparation for this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Schools of Engineering graduate student |
| MSE | 566 | Electrochemical Energy Storage and Conversion | Electrochemical concepts relevant to real-world devices. Discusses basic electrochemical principles with an emphasis on solid-state electrochemistry and the nature of the solid-electrolyte interface in order to give students the background knowledge needed for understanding and analyzing real device performance of, e.g., batteries, solar hydrogen generation, photoelectrochemical cells, electrocatalysts, electrochemical capacitors, fuel cells. Critically evaluates media reports and journal publications describing electrochemical energy conversion and storage devices. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Materials Scie, Chem Engineering, Mech Engineering, Chem or Physics graduate stdnt; Credit for only CHE 494, CHE 598, MAE 494, MAE 598, MSE 494, MSE 598, or NAN 598 (Electrochemistry Energy Conversion & Storage) or MSE 466 or MSE 566 |

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|---------|----------------|---------------------------------------|---|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|--|
| MSE | 571 | Quantum Physics | Review modern physics, chemistry, math. Differential equation, operator, matrix formulations. Free particle, bound state problems. Examples from physics, chemistry and nanoscience. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only MSE 571 or NAN 571 or PHY 571 |
| MSE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z2 | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-12 | | Prerequisite(s): Ira A. Fulton Schools of Engineering graduate student |
| MSE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | SEM | Y | Z2 | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-12 | | Prerequisite(s): Ira A. Fulton Schools of Engineering graduate student |
| MSE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | Z2 | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-12 | | Prerequisite(s): Ira A. Fulton Schools of Engineering graduate student |
| MSE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-12 | | Pre-requisite: Materials & Science Engineering Masters student |
| MSE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-12 | | Prerequisite(s): Ira A. Fulton Schools of Engineering graduate student |
| MSE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1 | | Prerequisite(s): Fulton Engineering graduate student |
| MSE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-4 | | Prerequisite(s): Fulton Engineering graduate student |
| MSE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-12 | | Pre-requisite: Materials & Science Engineering Masters student |
| MSE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-15 | | Pre-requisite: Materials Science and Engineering Program PhD student |
| MSE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1 | | Prerequisite(s): Fulton Engineering graduate student |
| MSE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-15 | | Pre-requisite: Materials Science and Engineering Program PhD student |
| MSI | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): Music graduate student |
| MSI | 601 | Contemporary Topics in Music Research | Required for all PhD in Music students. Content includes readings and discussions of topics drawn from the arts and other disciplines that impact and interact with music, music practices, and music research. Requires literature review or research paper. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): doctoral Music students |
| MSI | 602 | Current Issues in Music Research | Required for all PhD in Music students. Content includes readings and discussions of topics drawn from current public policies, events, and popular culture that impact and interact with music, music practices, and music research. Requires literature review or research paper. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): doctoral Music students |
| MSI | 755 | Historical Research in Music | Required for all PhD in Music students. Knowledge and insights related to conducting historical research in music. Includes development of a mini-proposal for a dissertation on the history of music education, or draft of a historical research paper suitable for presentation or publication. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): doctoral Music students |
| MTC | 123 | Beginning Composition | Intended for freshmen and sophomores in the composition concentration. Introduces composing. May be repeated for credit. | N | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Theory and Composition (Composition) BMUS major OR Visiting University Student |

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| MTC | 125 | Basic Music Theory | Notation, scales, keys, modes, intervals, chords, basic part writing and composition. Development of related aural skills through sightsinging and dictation. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Digital Culture (Music) major, Music major, Performance and Movement major, Music Performance minor, or Music Theatre minor OR Visiting University Student |
| MTC | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MTC | 221 | Music Theory: 18th Century | Styles, techniques, and idioms of 18th-century music; emphasis on analysis, composition (part writing), and related aural skills, with applications for performance. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music student; MTC 125 with C or better |
| MTC | 222 | Music Theory: 19th Century | Styles, techniques, and idioms of 19th-century music; emphasis on analysis, composition (part writing), and related aural skills, with applications for performance. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music student; MTC 221 with C or better OR Visiting University Student |
| MTC | 223 | Music Theory: 20th Century | Styles, techniques, and idioms of 20th-century music; emphasizes innovative treatments of musical elements, analysis, and composition; related aural skills. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music student; MTC 222 with C or better |
| MTC | 224 | Arranging for Popular Musicians | Explores the contemporary practice of composition, arrangement and notation for popular music ensembles and productions. Through the study of scores, recordings and transcriptions, students gain an understanding of contemporary techniques. From this study, they develop their own ideas and apply understanding through original work. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MSC 115 with C or better; MTC 125 with C or better; MTC 221 with C or better; Credit is allowed for only MTC 224 or MSC 294 (Arranging) OR Visiting University Student |
| MTC | 225 | Popular Music Theory | Builds upon the broad foundation of music theory built in previous courses, shifting focus toward engaging with music theory through the lens of contemporary popular music and specific styles/genres. Explores concepts of harmony, melody, rhythm, form and arrangement as it pertains to a popular music repertoire and deepens understanding of the tools in context of students' own musicianship. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MTC 125 with C or better; MTC 221 with C or better; MTC 222 or 224 with C or better OR Visiting University Student |
| MTC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MTC | 320 | Modal Counterpoint | Counterpoint based on 16th-century vocal polyphonic style. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music student; MTC 221 with C or better |
| MTC | 321 | Tonal Counterpoint | Counterpoint based on 18th-century polyphonic style. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music student; MTC 221 with C or better |
| MTC | 323 | Composition | Writing music compositions, with emphasis on basic techniques and smaller structures. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MTC 123 with C or better OR Theory and Composition (Composition) BMUS or Theory and Composition (Theory) BMUS major; minimum 55 hours OR Visiting University Student |
| MTC | 327 | Intermediate Form and Analysis | Organizing elements in the most important contrapuntal and homophonic musical forms from the Renaissance through the 19th century. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music student; MTC 222 with C or better OR Visiting University Student |
| MTC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MTC | 415 | Scoring for Instrumental Jazz Ensembles I | Analyzes scores and recordings, application of orchestration and four and five-part harmonization techniques frequently used in arranging for the contemporary jazz ensembles and studio orchestra. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music major who has passed audition; MUP 236 with C or better |
| MTC | 416 | Scoring for Instrumental Jazz Ensembles II | Analyzes scores and recordings, application and creation of new arrangements for contemporary jazz ensembles and/or studio orchestra. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music major who has passed audition; MTC 415 (MTC 315) with C or better |
| MTC | 422 | Musical Acoustics | Properties of sound and tone. Harmonic series, instruments, the ear, auditorium acoustics, and the reproduction of sound. Assumes a thorough knowledge of musical notation, intervals, scales, and harmony, or 2 years of music theory. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Music student; Passed audition |
| MTC | 425 | Studies in 20th- and 21st-Century Theory | Continued development of analytical techniques and aural skill, with an examination of theoretical systems applicable to 20th- and 21st-century music. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music student who has passed audition; MTC 223 with C or better |
| MTC | 428 | Advanced Form and Analysis | Organizing principles of the large forms of musical composition in the 19th and 20th centuries. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Music student; MTC 223 with C or better |
| MTC | 429 | Canon and Fugue | Writing of canons and fugues in tonal style. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music student; MTC 321 with C or better OR Visiting University Student |
| MTC | 430 | 20th- and 21st-Century Counterpoint | Counterpoint studies utilizing 20th- and 21st-century idioms. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music student; MTC 223 with C or better OR Visiting University Student |
| MTC | 433 | Orchestration | Studies scoring music for full and chamber orchestras; examines individual orchestral instruments (characteristics and performance techniques). Requires a working knowledge of a computer music notation program. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music major |

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| MTC | 436 | Electronic Studio Techniques I | The study of computer music systems emphasizing advanced audio synthesis and resynthesis as well as their application to professional compositional environments. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Digital Culture (Music) major or MTC 223 OR Visiting University Student |
| MTC | 437 | Electronic Studio Techniques II | Principles of digital electronic music systems and their applications in the composition of electronic music. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| MTC | 440 | Jazz Theory and Ear Training | Advanced study of jazz harmonic systems. Daily oral drills. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| MTC | 441 | Jazz Composition | Creative writing in the smaller forms and in the idiom of jazz. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2-3 | | Prerequisite(s): Music student; MTC 440; MUP 236 with C or better |
| MTC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | |
| MTC | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | | Prerequisite(s): Barrett Honors student |
| MTC | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MTC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MTC | 495 | Final Project | Half recital of compositions or approval of a large-scale composition or a research paper. | N | RSC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 0 | | |
| MTC | 496 | Theory Project | Supervised individual writing project dealing with music theory. | N | RSC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | |
| MTC | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | |
| MTC | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): Music graduate student |
| MTC | 516 | Baroque Music | Detailed analysis of selected examples of music from the Baroque period. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Graduate Music student |
| MTC | 517 | Classic Music | Detailed analysis of selected examples of music from the Classic period. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Graduate Music student |
| MTC | 518 | Romantic Music | Detailed analysis of selected examples of music from the Romantic period. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Graduate Music student |
| MTC | 519 | Late 19th-Early 20th Century Music | Detailed analysis of selected examples of music from the late 19th and early 20th centuries. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Graduate Music student |
| MTC | 520 | Analytical Techniques | Analytical techniques systematically applied to music. Concentration on structural and compositional procedures. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Graduate Music student |
| MTC | 523 | Advanced Composition | Advanced music composition, including complex techniques and larger structure. May be repeated for credit. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2-3 | | Pre-requisite: Graduate Music student |
| MTC | 525 | Pedagogy of Theory | Practices and principles of teaching music theory. Emphasizes most desirable and practical offerings possible. Comparative studies of existing practices. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Graduate Music student |
| MTC | 535 | Survey of Rhythm and Meter Studies | Exposes students to seminal research in rhythm and meter studies with the aim of introducing a range of methodologies and common issues found in this area of research. Reading assignments include music theory and music cognition literature relating to questions of rhythm and meter in diverse repertoires, including classical, post-tonal, world, and popular music genres. Students reflect on the strengths and weaknesses of various approaches, analytical techniques, and the implications that theories of rhythm and meter have for performance practice and write and present a final research paper on a topic relating to rhythm and meter studies. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music graduate student; Credit is allowed for only MTC 535 or MTC 591 (Survey of Rhythm and Meter Studies) |
| MTC | 540 | Jazz Theory and Ear Training | Surveys some of the most influential trends in the jazz tradition with in-depth analysis of harmonic systems, linear elements, and compositional strategies. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Graduate Music student |
| MTC | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): Music graduate student |
| MTC | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre-requisite: Graduate Music student |
| MTC | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): Music graduate student |
| MTC | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre-requisite: Graduate Music student |
| MTC | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | |

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| MTC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): Music graduate student |
| MTC | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre-requisite: Graduate Music student |
| MTC | 723 | Advanced Composition | Special problems in writing in complex forms and textures. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): doctoral Music student |
| MTC | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): doctoral Music student |
| MTC | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-15 | | Prerequisite(s): doctoral Music student |
| MTC | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-15 | | Prerequisite(s): doctoral Music student |
| MTE | 210 | Mentored Tutoring Internship | Introduces math education students to issues of balancing the content of precalculus mathematics with the needs of someone learning it. Addresses core issues, including articulating what is involved in learning the mathematical idea(s); interpreting students' questions; analyzing student thinking and inferring their underlying rationale from a learner-centered perspective; techniques of question-posing, problem-posing, and instructional scaffolding. | N | LEL | N | GNA | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1 | | Co-requisite: MAT 207 |
| MTE | 250 | Technology and Mathematical Visualization | Uses several software packages for exploring mathematics and for preparing mathematical materials, starting from introductory skills and leading to advanced techniques. Places particular emphasis on using computer software with the aim of visualizing mathematical relationships, structures, and processes. | N | LEL | N | GNA | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 207 with C or better; MAT 270 with C or better; MTE 210 with C or better OR Visiting University Student |
| MTE | 280 | Numbers, Operations and Proportional Reasoning for K-8 Teaching | Investigation of mathematical principles and processes regarding the real number system and its properties develop number sense and qualitative reasoning abilities. Designed to meet the requirements for preservice elementary school teachers. | N | LEC | N | Z1 | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): General Studies MA course with C or better OR Visiting University Student |
| MTE | 281 | Investigating Space: Geometry, Measurement, and Visualization | Explores three aspects of geometry: spatial visualization, measurement, and proof. Uses visualization, spatial reasoning, and geometric modeling to solve problems. Provides opportunities for participants (1) to use physical models, technology, and pattern-finding strategies to identify properties of and develop formulas for measuring two- and three-dimensional shapes; and (2) to develop powerful ways of thinking to justify geometric relationships | N | PRA | N | Z1 | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): General Studies MA course with C or better OR Visiting University Student |
| MTE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| MTE | 298 | Honors Directed Study | Independent study or practicum under the supervision of a faculty member. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| MTE | 301 | Investigating Change: Patterns, Functions, and Modeling | Examines different conceptions of algebra as the study of (1) generalized arithmetic, (2) reasoning with symbols, (3) reasoning with patterns and functions, (4) structure in the number system, and (5) modeling. Distinguishes arithmetic from algebraic reasoning, and develops an appreciation for the pervasiveness of the function concept in the K-8 school mathematics curriculum. Features algebraic thinking and representation using algebra tiles and other concrete models, realistic problems, dynamic geometry software, graphing calculators, and a variety of virtual tools and Web sites. Topics include, but are not limited to: patterns, relations, functions and covariational thinking; multiple conceptions of quantity, variables, constants, and unknowns; inductive, deductive, and analogical reasoning; rate of change and proportional thinking; algebra learning trajectories; and comparisons of additive vs. multiplicative, absolute vs. relational, and arithmetic vs. algebraic thinking. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |

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| MTE | 310 | Number Sense, Spatial Relationships, and Measurement and Data for Early Childhood Education Teaching | Focuses on key concepts in counting, number operations, spatial relations, measurement and data in early childhood education. Prospective teachers acquire content knowledge by using physical models, technology and pattern-finding strategies to explore the progressions of these concepts from birth to grade 3. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MAT 117 or 142 or higher; MTE 280 OR Visiting University Student |
| MTE | 311 | Geometry, Algebra, Statistics and Probability for K-8 Teaching | Focuses on key concepts needed to prepare K-8 teacher candidates to teach in algebra, geometry, measurement, data, probability and statistics. Prospective teachers will (1) use physical models, technology, and pattern-finding strategies to explore the trajectories of these concepts; and (2) develop strategies to predict, generalize, and justify decisions based on data, statistics and probability. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MTE 280 OR Visiting University Student |
| MTE | 320 | Conceptual Foundations of 7-12 Mathematics Curricula and Assessment | Focuses on concepts of mathematics curricula and their relationships to perspectives on learning, instruction, and assessment. Using a variety of participation formats (e.g., individual and small group work, and whole group discussions) and directed activities, participants examine curricular principles underlying the historical development of mathematics curricula and assessment, and current curricula and curricular recommendations and controversies surrounding them. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 207 with C or better; MTE 210 with C or better; MTE 250 with C or better |
| MTE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| MTE | 412 | Mathematics in Elementary Schools | Methods of teaching mathematics to all students at the K-8 level, instructional planning and assessment. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours; Credit is allowed for only EED 412 or MTE 412 or SPE 410 |
| MTE | 430 | The Development of Mathematical Thinking | This capstone course requires students' sustained engagement with, and analysis of, artifacts from research on learning mathematics from instruction. The artifacts include: curricular/instructional task sequences, samples of student work, video-cases showcasing students' involvement in instruction, problem-solving interviews, and teaching experiments. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MTE 320 with C or better OR Visiting University Student |
| MTE | 482 | Methods of Teaching Mathematics in Secondary School | Examines secondary school curricular material and analyzes instructional devices. Teaching strategies, evaluative techniques, diagnosis, and remediation and problem solving. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 310 with C or better; admission to the Professional Program |
| MTE | 483 | Mathematics in the Secondary School | Topics in geometry, number theory, algebra, and analysis. Emphasizes unifying principles. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 310 with C or better |
| MTE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | |
| MTE | 485 | Methods of Teaching Standards-Based Middle Grades and Early Secondary Mathematics | Experiential introduction to standards-based teaching in middle and early secondary mathematics grades 6-9. Targets five aspects of a mathematics teacher's work, including knowledge of (1) mathematics content; (2) learning; (3) learners; (4) teaching; and (5) curriculum and assessment. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MAT 300 with C or better; MAT 310 with C or better OR Visiting University Student |
| MTE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| MTE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MTE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| MTE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-3 | | |
| MTE | 501 | Research in Undergraduate Mathematics Education I | Research in Undergraduate Mathematics Education I (RUME I) covers academic research in (undergraduate) mathematics education. Develops the ability to read, discuss, criticize and draw practical conclusions from research in (undergraduate) mathematics education, all with the overarching aim of broadening perspective on areas of past and current mathematics education research. Research on the learning and teaching of undergraduate mathematics is one of the foci of the course. Students read research literature drawn from a variety of content areas and grade bands: quantitative reasoning, early learning of algebra, proportional reasoning, algebra and functions, calculus, statistics and probability. Prepares for Part 1 of the qualifying exam in mathematics education | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only MTE 501 or MTE 598 (Research in Undergraduate Mathematics I) |

| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|---|
| MTE | 502 | Research in Undergraduate Mathematics Education II | RUME II is the second course in a core four-course sequence in the mathematics education doctoral program. Explores research on problems in the teaching and learning of algebra, geometry, calculus and probability as seen from multiple theoretical perspectives. Develops ability to read, discuss, criticize and draw practical conclusions from research in mathematics education, all with the overarching aim of broadening perspectives on areas of past and current mathematics education research. RUME II builds on its prerequisite in a subtle but important way. Increased emphasis and focus on theory in mathematics education research--a consideration of various types of theories and the roles they may play in the research endeavor. Also prepares for the required qualifying exam | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MTE 501; Credit is allowed for only MTE 502 or MTE 598 (Research in Undergraduate Mathematics II) |
| MTE | 503 | Research in Undergraduate Mathematics Education III | RUME III is the third course in a series of mathematics education courses designed to prepare students to conduct independent mathematics education research. Students learn different methods for implementing data collection and analysis, reporting results; and continue to conduct a pilot study with the goal of developing a dissertation proposal from their research. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MTE 502; Credit is allowed for only MTE 503 or MTE 598 (Research in Undergraduate Mathematics III) |
| MTE | 504 | Research in Undergraduate Mathematics Education IV | RUME IV is the fourth and final course in a series of mathematics education courses designed to prepare students to conduct independent mathematics education research. Students continue to conduct a pilot study with the goal of developing a dissertation proposal from their research. Continues developing the student's ability to: synthesize research literature in a specific area of mathematics education, refine research statement and question(s) to advance knowledge in a specific area of mathematics education, refine design and methods for conducting a study, analyze research data using theoretical constructs, describe results of analysis, report findings using theoretical constructs and submit a paper for publication. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MTE 503; Credit is allowed for only MTE 504 or MTE 598 (Research in Undergraduate Mathematics IV) |
| MTE | 585 | Modern Geometry for Teachers | Euclidean, projective, and non-Euclidean geometries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | |
| MTE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | |
| MTE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | |
| MTE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | |
| MTE | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | |
| MTE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1 | | |
| MTE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MTE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | |
| MTE | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | |
| MTE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-15 | | |

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| MTE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1 | | |
| MTE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-15 | | |
| MUD | 521 | Advanced Urban Design Studio I | Explores urban design with emphasis on the nexus of urban systems and the significance ecology plays in the design process. Studio-based course includes reading, presentations by faculty and students, discussion, design research, conceptual design practice, and the public exhibition/presentation of this work in multiple formats. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Urban Design MUD student; Credit is allowed for only MUD 521 or MUD 590 (Advanced Urban Design Studio I) |
| MUD | 522 | Advanced Urban Design Studio II | Explores urban design with emphasis on urban design and human health. Studio-based course includes reading, presentations by faculty and students, discussion, design research, conceptual design practice and the public exhibition/presentation of this work in multiple formats. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): MUD 521 with C or better; Credit is allowed for only MUD 522 or MUD 590 (Advanced Urban Design Studio II) |
| MUD | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | |
| MUD | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUD | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | |
| MUD | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | |
| MUD | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | |
| MUD | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | |
| MUD | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | Y | Z3 | Herberger Institute for Design and the Arts | The Design School | 1 | | |
| MUD | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| MUD | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | |
| MUD | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | |
| MUD | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | |
| MUD | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | |
| MUD | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | |

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| MUD | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | LEC | Y | Z3 | Herberger Institute for Design and the Arts | The Design School | 1 | | |
| MUE | 101 | The ASU School of Music Experience | Introduces all new first-time ASU students to the unique elements, culture, challenges and opportunities of their university, the School of Music and the Herberger Institute for Design and the Arts. Covers the music education and music therapy programs in the School of Music. | N | REC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Credit is allowed for only MUE 101 or MUE 194 (ASU School of Music Experience for Music Education) OR Visiting University Student |
| MUE | 110 | Introduction to Music Education | Overview of music education and career options. Orientation to student characteristics, teacher roles, teaching qualities, and philosophical and historical foundations. Requires school observations. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisites: Music major |
| MUE | 154 | Gesture and Sound | Covers fundamentals of musical leadership through gestures associated with sounds in the performance of music. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | |
| MUE | 161 | Introduction to Music Therapy | Overview of the profession of music therapy and its applications in mental health, rehabilitation, and special education. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| MUE | 162 | Introduction to Music Therapy Lab | Develops skills needed to lead music experiences in a variety of settings. | N | LAB | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music Education or Music Therapy major; Corequisite(s): MUE 161 OR Visiting University Student |
| MUE | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MUE | 211 | Music in Recreation | Materials, methods, and organizational structures appropriate for recreational music. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| MUE | 260 | Repertoire for Music Therapy | Music skills repertoire for music therapy, including units on brass, strings, woodwinds, electronic instruments, computer music, and improvisation techniques. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music Therapy major |
| MUE | 261 | Music Therapy Treatment Process | Orientation to preclinical experience with emphasis on observation skills, assessment, goal setting, and professional ethics. Requires off-campus observations. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music student; MUE 161 with C or better |
| MUE | 262 | Music Therapy as a Behavioral Science Lab | Develops skills needed to lead music experiences in a variety of settings. | N | LAB | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Corequisite(s): MUE 261 |
| MUE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MUE | 310 | Music in Early Childhood | Examines music through the lens of the culture(s) of young children, which (though they intersect with adult cultures) are unique, different from adult experiences, and particular to them. Emphasizes the musical content of children's songs as well as the music they hear, and the kinds of musical engagements that are particular to young children. Also emphasizes the uses, functions, and meanings of music for children. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s): ENG 102 with C or better; minimum 30 hours |
| MUE | 311 | Music in the Lives of Children and Youth | Examines the role of music in the lives of young people with particular attention to child and youth learning and development (cognitive, social, emotional, personal/identity, musical). Includes examination and critique of music intended for children and youth (e.g., social and gendered meanings), as well as consideration of how music is related to individual and social identity. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s): BLE 220, RDG 291, SPE 222 or TEL 215, or minimum 30 hours OR Visiting University Student |
| MUE | 317 | Strings Lab | Students apply educational theory to the development and refinement of specialized skills in string teaching. 3 hours per week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisite: Music major; Passed music education interview |
| MUE | 319 | Digital and Hybrid Lab | Provides a foundation for integrating a range of technologies and digital media in music teaching and learning. Encourages critical and creative thinking while considering the possibilities for innovative applications of technology and digital media based upon contemporary curricular, theoretical and pedagogical frameworks. Students demonstrate skills and understanding related to using technology and digital media in the context of musicianship, music teaching and learning. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUE | 321 | Jazz Lab | Jazz rehearsal and performance techniques and repertoire appropriate for rehearsing jazz ensembles in K-12 schools. | N | LEC | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music Education major; Credit is allowed for only MUE 321 or MUE 394 (Jazz Lab) |
| MUE | 323 | Keyboard Lab | Piano keyboard skills appropriate for music educators. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MUP 132 with C or better; minimum 45 hours; Credit is allowed for only MUE 323 or MUE 394 (Keyboard Lab) OR Visiting University Student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|---|------------------------------------|-------|-----------------|--|
| MUE | 325 | Voice/Choral Lab | Skills for developing voices and rehearsing choral ensembles. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MUE 110; Credit is allowed for only MUE 325 or MUE 394 (Voice/Choral Lab) OR Visiting University Student |
| MUE | 327 | Brass Lab | Students apply educational theory to the development and refinement of specialized skills in brass teaching. 3 hours per week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisite: Music major; Passed music education interview |
| MUE | 334 | Guitar Lab | Guitar skills for teaching guitar classes in K-12 schools. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music Education major; Credit is allowed for only MUE 334 or MUE 394 (Guitar Lab) OR Visiting University Student |
| MUE | 335 | Educational Methods for Guitar | Students apply educational theory to the development and refinement of specialized skills in guitar teaching. 3 hours per week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre-requisite: Music major; Passed music education or therapy interview |
| MUE | 336 | Percussion Lab | Students apply educational theory to the development and refinement of specialized skills in percussion teaching. 3 hours per week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisite: Music major; Passed music education interview |
| MUE | 337 | Woodwinds Lab | Students apply educational theory to the development and refinement of specialized skills in woodwind teaching. 3 hours per week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisite: Music major; Passed music education interview |
| MUE | 381 | Music Therapy Research | Statistics and research design appropriate for investigations in music therapy. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | L | Prerequisite(s): Music Therapy student; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| MUE | 384 | Therapy Practicum I | Practicum students provide music therapy to members of the community for a minimum of ten clock hours. | N | PRA | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music Therapy major; MUE 261 with C or better |
| MUE | 385 | Therapy Practicum II | Practicum students provide music therapy to members of the community for a minimum of ten clock hours. | N | PRA | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music Therapy major; MUE 261 with C or better |
| MUE | 386 | Therapy Practicum III | Practicum students provide music therapy to members of the community. | N | PRA | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music Therapy major; MUE 385 with C or better OR Visiting University Student |
| MUE | 387 | Therapy Practicum IV | Practicum students provide music therapy to members of the community. | N | PRA | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music Therapy major; MUE 386 with C or better OR Visiting University Student |
| MUE | 388 | Therapy Practicum V | Individual clinical work in a community mental health facility. | N | PRA | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music Therapy major; MUE 261 with C or better |
| MUE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisites: Music Education or Music Therapy student |
| MUE | 413 | The Art of Teaching Children Music | Methods of instruction, planning, and presentation of appropriate contents in music. For music educators and music therapists. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 4 | | Prerequisite(s): Music student OR Visiting University Student |
| MUE | 415 | The Art of Teaching Contemporary Musicians | Curriculum, student characteristics, and teaching strategies for general music. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 4 | | Prerequisite(s): Music major who has passed audition |
| MUE | 434 | Health Rhythms Drum Facilitation | Hand drumming and facilitation for group leaders in music therapy, music education, community music and related disciplines. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music Therapy major; Credit is allowed for only MUE 434 or MUE 494 (Health Rhythms Drum Facilitation) or MUE 534 or MUE 598 (Health Rhythms Drum Facilitation) OR Visiting University Student |
| MUE | 436 | Percussion Methods for Music Therapy | Provides knowledge and practical performance skills on percussion instruments, further improving the effectiveness of the student in the practice of music therapy. 3 hours per week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre-requisites: Music Therapy student |
| MUE | 441 | Psychology of Music | Psychological and physiological aspects of music emphasizing musical behavior, function, perception and learning. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music Therapy major; MUE 381 with C or better; MUE 463 with C or better OR Visiting University Student |
| MUE | 463 | Music Therapy Theory and Practice II | Organization, administration, and use of music in rehabilitation with various client populations. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music Therapy student; MUE 467 with C or better |
| MUE | 465 | Children's Music for Music Therapy | Methods of music therapy instruction, planning, and presentation of appropriate contents in music for children ages 2-12. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Music Therapy student; Minimum Junior standing |
| MUE | 467 | Music Therapy Theory and Practice I | Influence of music on behavior; principles and practices of music therapy and psychiatric clients. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music Therapy major; MUE 261 with C or better OR Visiting University Student |
| MUE | 475 | Group Process and Music Therapy | Principles of group process, verbal counseling, professional writing, as related to music therapy practice. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | Prerequisite(s): Music Therapy student; MUE 463 (MUE 362) with C or better or Graduate student in Clinical Music Therapy OR Visiting University Student |
| MUE | 476 | Internship in Music Therapy | Full-time, 6-month, off-campus residency in an approved clinical institution. | N | PRA | N | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music Therapy major |
| MUE | 480 | The Art of Teaching Choral Musicians | Methods of instruction, organization, and presentation of appropriate content in choral music classes. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 4 | | Prerequisite(s): Music major who has passed audition; minimum 55 hours |

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| MUE | 481 | The Art of Teaching Beginning Instrumentalists | Instrumental music as a means of developing music skills, understandings, and attitudes in elementary and secondary school students. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 4 | | Prerequisite(s): Music major who has passed audition; minimum 55 hours |
| MUE | 482 | The Art of Teaching Advanced Instrumentalists | Advanced instrumental music as a means of developing music skills, understandings, and attitudes in elementary and secondary school students. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 4 | | Prerequisite(s): Music major who has passed audition; minimum 55 hours |
| MUE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | |
| MUE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | | Prerequisite(s): Barrett Honors student |
| MUE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MUE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MUE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | |
| MUE | 501 | Introduction to Professional Music Therapy | Introduces the profession of music therapy through lecture, active discussion, and observations of clinical sessions. Experiential learning is achieved through music making in peer groups. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music Therapy graduate student |
| MUE | 534 | Health Rhythms Drum Facilitation | Hand drumming and facilitation for group leaders in music therapy, music education, community music and related disciplines. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music graduate student; Credit is allowed for only MUE 434 or MUE 494 (Health Rhythms Drum Facilitation) or MUE 534 or MUE 598 (Health Rhythms Drum Facilitation) |
| MUE | 536 | Percussion Methods for Music Therapy | Designed to provide knowledge and practical performance skills on percussion instruments, further improving the effectiveness of the student in the practice of music therapy. 3 hours per week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre-requisites: Music Therapy MM Student |
| MUE | 548 | Introduction to Research in Music Education | Survey of research methods and literature in music education. Focuses on interpretation and evaluation. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music graduate student |
| MUE | 549 | Foundations of Music Education | A treatment of historical perspectives, philosophy-aesthetics identified with music education, and learning theories applied to music teaching/learning. Basic research and writing skills appropriate to graduate studies in music education. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music graduate student |
| MUE | 550 | Studies in Music Curricula | Scope and sequence of musical experiences. Develops criteria for the evaluation of music curricula. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music graduate student |
| MUE | 551 | Listening and Creating | Studies the nature of music listening and music creating and their relationship. Reviews research and pedagogical practices. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUE | 555 | String Pedagogy and Rehearsal Techniques | String pedagogy and orchestral rehearsal skills for teachers who work with K-12 string classes. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only MUE 555 or MUE 598 (String Pedagogy and Rehearsal Techniques) |
| MUE | 559 | Social and Cultural Studies in Music Education | Considers how music education is shaped by social and cultural concepts. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): graduate Music student; Credit is allowed for only MUE 559 or MUE 598 (Social and Cultural Studies in Music Ed) |
| MUE | 560 | Jazz Pedagogy | Study of pedagogy, repertoire, and technique of instruction in jazz styles, ensemble techniques, and performance practice for school ensembles. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music graduate student |
| MUE | 563 | Theory and Practice in Music Therapy II | Organization, administration, and use of music in rehabilitation with children and adolescents with special needs. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Music Therapy MM student; MUE 581 with C or better |
| MUE | 564 | Instrumental Music, Advanced Rehearsal Techniques | In-depth analysis of instrumental techniques in preparation for a thorough discussion of band tuning problems and solutions. Discussion of productive conducting and rehearsal techniques for school music teachers. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music graduate student |
| MUE | 565 | Children's Music for Music Therapy | Methods of music therapy instruction, planning, and presentation of appropriate contents in music for children ages 2-12. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Music Therapy Graduate student |
| MUE | 566 | Instrumental Literature and Pedagogy for Schools | Provides an in-depth examination of ensemble music and teaching techniques to instrumental music teachers. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music graduate student |
| MUE | 567 | Professional Practicum | Students provide music therapy for small groups at a community agency providing services to people who are intellectually disabled, physically disabled, and the elderly. | N | PRA | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): graduate Music Therapy student |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|---|------------------------------------|-------|-----------------|---|
| MUE | 568 | Choral Music, Advanced Rehearsal Techniques | Musical and vocal techniques necessary for presentation of choral literature. Analysis and experimentation with psychological, acoustical, and other problems of rehearsal and performance. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music graduate student |
| MUE | 569 | Professional Practicum II | Students continue to provide music therapy for small groups at a community agency providing services to people who are intellectually disabled, physically disabled, and the elderly. | N | PRA | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music Therapy graduate student; MUE 567 with C or better |
| MUE | 570 | Choral Literature for Schools | Comprehensive study and analysis of choral music for the high school with special emphasis on octavo literature. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music graduate student |
| MUE | 571 | Music Therapy Seminar I: Supervision and Administration | Covers health care administrative skills pertinent to music therapy practice, including budgeting, resource allocation, and staff supervision. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music graduate student |
| MUE | 572 | Music Therapy Seminar II with Lab: Advanced Practice in Music | Deepens and broadens knowledge and skills in music therapy clinical practice. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music graduate student |
| MUE | 573 | Music Therapy Seminar III with Lab: Music Therapy Theory and Philosophy | Explores current theory in music therapy and develops the theoretical basis for the profession. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Music Therapy MM student |
| MUE | 574 | Special Topics in Music Therapy | Introduces graduate students to advanced music therapy topics related to clinical practice. | N | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Music Therapy MM student |
| MUE | 575 | Music Therapy Music Skills: Accompaniment | Teaches new forms of musical accompaniment pertinent to music therapy practice, broadening and deepening existing skills. | N | PRA | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre-requisites: Music Therapy MM student |
| MUE | 579 | Psychology of Music | Nature of musicality and its evaluation. Review of recent research. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music graduate student |
| MUE | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): Music graduate student |
| MUE | 581 | Theory and Practice in Music Therapy I | Influence of music on behavior; principles and practices of music therapy and psychiatric clients. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music Therapy graduate student |
| MUE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): Music graduate student |
| MUE | 586 | Music Therapy Graduate Clinical Project | Develops clinical- and research-based music therapy skills in selected cognate area. | N | PRA | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2-6 | | Pre-requisites: MUE 571, 572, 574, and 575 |
| MUE | 589 | Repertoire for Music Therapy | Music skills repertoire for music therapy, including units on brass, strings, woodwinds, electronic instruments, computer music, and improvisation techniques. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisites: Music Therapy MM Student |
| MUE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): Music graduate student |
| MUE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): Music graduate student |
| MUE | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): Music graduate student |
| MUE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): Music graduate student |
| MUE | 754 | Teacher Education Research and Policy | Reading and discussion of research and policy documents in teacher education with a focus on arts and music teacher preparation. Includes development of a research project or essay suitable for publication or presentation, an abbreviated prospectus for a dissertation, or literature review. | N | LEC | N | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Doctoral Student in Music Education |
| MUE | 756 | Qualitative Research in Music Teaching and Learning | Studies qualitative research and methods in music education, including readings and discussion, data collection and data analysis. Includes development of an abbreviated prospectus for a qualitative dissertation, or a draft of a qualitative research paper suitable for presentation or publication. Prerequisite: doctoral student in music education. | N | LEC | N | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Doctoral Student in Music Education |
| MUE | 757 | Quantitative Research in Music Teaching and Learning | Studies quantitative research and methods in music education, including readings and discussion, data collection, and analysis. Includes development of an abbreviated prospectus for a quantitative dissertation or a draft of a quantitative research paper suitable for presentation or publication. | N | LEC | N | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Doctoral Student in Music Education |
| MUE | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): doctoral Music student |
| MUE | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): doctoral Music student |

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|---------|----------------|------------------------------------|---|-------------------|-------------------|-----------------|---------------|---|------------------------------------|-------|-----------------|---|
| MUE | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): doctoral Music student |
| MUE | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): doctoral Music student |
| MUE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-15 | | Prerequisite(s): doctoral Music student |
| MUE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): doctoral Music student |
| MUE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-15 | | Prerequisite(s): doctoral Music student |
| MUP | 101 | The ASU School of Music Experience | Orientation to university and School of Music resources and procedures as well as career planning and guidance. Through various course discussions and assignments, music students examine the concept of academic integrity and its potential impact on their future and learn about taking an interdisciplinary perspective. Required for all music majors. | N | REC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Credit is allowed for only MUP 101 or MUP 194 (ASU School of Music Experience) |
| MUP | 111 | Studio Instruction | Bassoon, cello, clarinet, contrabass, cornet, euphonium, flute, guitar, harp, harpsichord, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, voice. Minimum contact of 1 hour plus studio class weekly. May not be taken for audit. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 117 | Applied Jazz Improvisation | Principles, methods, and theory of jazz performance and pedagogy. | N | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major who has passed a jazz studies audition |
| MUP | 121 | Studio Instruction | Secondary or minor instrument instruction. Bassoon, cello, clarinet, contrabass, cornet, euphonium, flute, guitar, harp, harpsichord, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, voice. Minimum contact of 1/2 hour per week. May not be taken for audit. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 127 | Studio Instruction | Bassoon, cello, clarinet, contrabass, cornet, euphonium, flute, guitar, harp, harpsichord, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, voice. Minimum contact of 1 hour plus studio class weekly. May not be taken for audit. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 4 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 131 | Class Piano | 4-semester sequence (with MUP 132, 231, and 232) designed for those with little or no piano experience. Emphasizes keyboard technique, sight reading, simple accompaniments, and improvisation. 2 hours per week. May not be taken for audit. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre-requisite: Music student |
| MUP | 132 | Class Piano | 4-semester sequence designed for those with little or no piano experience. Emphasizes keyboard technique, simple accompaniments, and improvisation. 2 hours per week. May not be taken for audit. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music student; MUP 131 with C or better |
| MUP | 133 | Class Voice | 4-semester sequence (with MUP 134, 233, and 234) open to all students. 2 hours per week. May not be taken for audit. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 134 | Class Voice | See MUP 133. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre-requisite: Music student |
| MUP | 170 | Music Theatre I | Develops introductory performance skills for opera and music theater emphasizing the portrayals of simple and complex relationships, character development, solo and ensemble performance, music and dialogue analysis, body awareness, and freedom of the vocal and breath mechanisms. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| MUP | 172 | Music Theatre II | Further develops introductory performance skills for opera and music theater emphasizing the portrayals of simple and complex relationships, character development, solo and ensemble performance, music and dialogue analysis, body awareness, and freedom of the vocal and breath mechanisms. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MUP 170 |
| MUP | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |

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| MUP | 209 | Beginning Choral Conducting | Essentials of choral conducting techniques. 2 hours per week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 210 | Beginning Instrumental Conducting | Essentials of instrumental conducting techniques. 2 hours per week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 217 | Applied Jazz Improvisation | Emphasizes basic jazz literature, chord symbol reading, melodic patterns and concepts, ear training, analysis of improvised solos, and pedagogical issues. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MUP 117 with C or better OR Visiting University Student |
| MUP | 231 | Class Piano | See MUP 131. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music student; MUP132 with C or better |
| MUP | 232 | Class Piano | See MUP 131. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music student; MUP231 with C or better |
| MUP | 235 | Jazz Piano | 2-semester sequence (with MUP 236) designed for jazz keyboard experience. Emphasizes chord symbol reading, simple improvisation, and voicing. 2 hours per week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre-requisite: Music student |
| MUP | 236 | Jazz Piano | See MUP 235. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 250 | Diction for Singers | Use of phonetics in the study of song and opera literature. Language emphasis differs each semester. May be repeated for credit. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 270 | Music Theatre III | Develops intermediate performance skills for opera and music theater emphasizing the portrayals of simple and complex relationships, character development, solo and ensemble performance, music and dialogue analysis, body awareness, and freedom of the vocal and breath mechanisms. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MUP 172 OR Visiting University Student |
| MUP | 272 | Music Theatre IV | Further develops intermediate performance skills for opera and music theater emphasizing the portrayals of simple and complex relationships, character development, solo and ensemble performance, music and dialogue analysis, body awareness, and freedom of the vocal and breath mechanisms. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MUP 270 |
| MUP | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 311 | Studio Instruction | Bassoon, cello, clarinet, contrabass, cornet, euphonium, flute, guitar, harp, harpsichord, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, voice. Minimum contact of 1 hour plus studio class weekly. May not be taken for audit. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 319 | Advanced Audio Engineering in the Arts | Synthesis and application of analog and digital recording methods (voices and instruments), mixing and the advanced skills needed to create professional recordings (CDs, DVDs, internet sound files, etc.). Further emphasis on electronic music production, computer based applications, MIDI, and contemporary studio hardware. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisite: Minimum Junior standing in the Herberger Institute for Design in the Arts |
| MUP | 321 | Studio Instruction | Secondary or minor instrument instruction. Bassoon, cello, clarinet, contrabass, cornet, euphonium, flute, guitar, harp, harpsichord, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, voice. Minimum contact of 1/2 hour per week. May not be taken for audit. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 327 | Studio Instruction | Bassoon, cello, clarinet, contrabass, cornet, euphonium, flute, guitar, harp, harpsichord, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, voice. Minimum contact of 1 hour plus studio class weekly. May not be taken for audit. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2-4 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 337 | Studio Instruction: Collaborative Piano | Repertoire to be selected from vocal and instrumental literature. 1 hour lesson per week. May be repeated for credit. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 340 | Intermediate Conducting | Further study in conducting of instrumental and choral music, including score reading, gesture and interpretation. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MUE 154 or MUP 210 with C or better |
| MUP | 360 | Musicianship for Singers | Covers reading in the treble and bass clefs (other clefs may be covered time permitting), conducting, intervallic patterns, harmonic outlining, rhythm, dictation, sight reading melodies, musical preparation of repertoire, score scanning and score marking. Additional topics may be addressed as specific student skills and goals are assessed. Assignments are sung and drilled with movable do solfeggio and the takadimi rhythm solmization system. All of the repertoire studied and performed are vocal literature, including: art song, opera, oratorio, musical theatre, jazz, popular. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Performance (Music Theatre) BMUS, Performance (Voice) BMUS major, or MTC 125 with C or better OR Visiting University Student |

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| MUP | 370 | Music Theatre V | Interpretational study of advanced acting and musical theatre performance techniques. Includes exploration of several historical and contemporary music styles in musical theatre, applying best practices for research, solo and ensemble performance. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music major or Music Theatre minor who has passed audition; MUP 272 with C or better |
| MUP | 373 | Music Theatre Performance and Production | Participation in music theatre and opera productions, including auditioning for productions, adhering to departmental policies and completing assigned technical hours. | Y | STO | Y | YGB | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major or Music Theatre minor who has passed audition |
| MUP | 374 | Music Theatre Technical Production | In-depth study of approaches to technical music theatre. Classroom study of costumes, sets and lighting (Section 1 Topic: Foundations) is followed by practical experience on a technical running crew for a music theatre and opera production (Section 2 Topic: Practicum). The two sections should be taken in consecutive semesters. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major or Music Theatre minor who has passed audition |
| MUP | 388 | Collaborative Piano | Performance class for collaborative piano majors. Repertoire includes vocal and instrumental selections. Advanced analysis of ensemble techniques, style and performance practice in preparation for graduate study or professional application. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): 4 completions of MUP 127 with C or better OR Visiting University Student |
| MUP | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MUP | 402 | Anatomy and Physiology of Singing | Detailed study of the anatomy, physiology, neurology and acoustics of the singing voice. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music major or Vocal Pedagogy certificate student; junior or senior standing; Credit is allowed for only MUP 402 or MUP 582 OR Visiting University Student |
| MUP | 403 | Literature for Teaching Voice | Equips students with knowledge of repertoire for teaching applied voice and cultivates skills in mindfully assigning said repertoire. Topics and activities include learning about the types of repertoire across many styles, pedagogical implications of repertoire, benefits and pitfalls in assigning repertoire to the developing singer, and assignment of repertoire to true and hypothetical students. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major or Vocal Pedagogy certificate student; junior or senior standing; Credit is allowed for only MUP 403 or MUP 503 OR Visiting University Student |
| MUP | 404 | Voice Teaching Practicum | Provides opportunities to develop practical teaching skills through experiential learning for voice and/or music education students who have a strong interest in teaching applied voice lessons. Topics and activities include teaching, teaching observations, guided teaching activities, and the creation of a teaching portfolio. | N | PRA | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major or Vocal Pedagogy certificate student; junior or senior standing; Credit is allowed for only MUP 404 or MUP 504 |
| MUP | 417 | Applied Jazz Improvisation | Emphasizes listening, analysis, and performance of advanced jazz literature and composition in contemporary styles. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MUP 217; Music student who has passed audition |
| MUP | 418 | Bassoon Reed Making | Develops and refines skills for making bassoon reeds. | Y | LAB | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major or nonmajor who has passed audition; minimum 45 hours; Credit is allowed for only MUP 418 or MUP 494 (Bassoon Reed Making) |
| MUP | 438 | The Enterprising Musician | Familiarizes students with concepts of entrepreneurship and explores good business practices. The broad objectives of the course are to understand the importance of entrepreneurial thinking and opportunity recognition in the music industry; and to provide to the students the concepts, capabilities and information to achieve a desired career in music. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music major, The Arts BA major, or Music Entrepreneurship certificate; Credit is allowed for only MUP 438 or MUP 538 or MUP 494 (The Enterprising Musician) or MUP 598 (The Enterprising Musician) OR Visiting University Student |
| MUP | 439 | Music Product Creation and Development | Processes and proven methodologies of new music product creation and development. Assesses and evaluates the quality of different models and techniques through case studies and by talking to potential customers. Develops a business model canvas for a personal new music product idea or project. Taught in conjunction with the online Udacity course How to Build a Start Up, combined with experiential learning in and out of the classroom. Students should have a basic idea of a business model for a startup or project they will pursue throughout the duration of the course. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): HDA 252 or MUP 438 or 494 (The Enterprising Musician); Credit is allowed for only MUP 439 or MUP 494 (Music Product Creation and Development) or MUP 539 |
| MUP | 440 | Keyboard Harmony | Performance-oriented class emphasizing chord progressions, harmonization, figured bass realization, stylistic improvisation, transposition, open score reading, and sight reading. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 441 | Popular Music Ensemble | Focuses on one or several popular music styles involving in-depth study and application of specialized, professional skills in performing with two or more players of like or unlike instruments and/or voice. | Y | LAB | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major or non-Music major who has passed audition |

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| MUP | 442 | Instrumental Ensembles | Students enhance musical diversity and artistic depth by participating in numerous ensembles as well as other artistic and educational projects. Each project focuses on specific pedagogical and/or musical learning outcomes. Together they comprise a rich assortment of musical experiences and promote the primary course objective. The curriculum accommodates the distinctive needs of each student and is tailor-made to each individual's career aspirations. Consequently, learning outcomes are highly individualized and student driven. This ensemble is available to both music majors and non-majors, and may require an audition. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): Music major or nonmajor who has passed audition |
| MUP | 443 | Choral Ensembles | Active, thoughtful participation in music ensembles can provide for development beyond the possibilities of individual study alone. The ensemble setting is, in part, a forum for the synthesis of component parts of a complete music education. Includes the study and performance of diverse musical expressions that represent a variety of historical and cultural perspectives. These ensembles provide the opportunity to prepare and present varied music composed for the mixed choir from the major stylistic periods with the intent of serving composers, performers and listeners by performing choral music of the highest possible quality. This ensemble is available to both music majors and non-majors, and may require an audition. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): Music major or nonmajor who has passed audition |
| MUP | 444 | Maroon and Gold Concert Band | Open to all ASU students. Composed of students who are music majors, as well as those pursuing other fields of study, the group rehearses and performs mainly traditional band literature, giving one or two major performances per semester. Students must audition with the band staff for seating placement. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): Music major or nonmajor who has passed an audition |
| MUP | 448 | Classical Style: Performance and Analysis | Integrates historical and theoretical analysis with performance, examining classical period repertoire. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisites: Music major who has passed audition; Junior standing; Credit is allowed for only MUP 448 or 494 (Classical Style: Performance and Analysis) |
| MUP | 449 | The Unaccompanied Music of JS Bach: Performance and Analysis | Integrates historical and theoretical analysis with performance, examining the unaccompanied works of J.S. Bach. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisites: Music major who has passed audition; Junior standing; Credit is allowed for only MUP 449 or 494 (Unaccompanied Bach: Performance & Analysis) |
| MUP | 450 | Choral Union | Large mixed ensemble focuses on the study, synthesis and performance of major choral masterworks while gaining in-depth understanding of significant choral repertoire and historical ramifications. This ensemble is available to both music majors and non-majors, and may require an audition. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): Music major or Non-Music majors who have passed audition |
| MUP | 451 | Repertoire | In-depth study of music for performing, involving advanced interpretive and technical concepts from historical, stylistic, and performance-related perspectives. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Completed 4 semesters of 100-level studio instruction |
| MUP | 453 | Art Song Repertoire | A survey of repertoire for one voice and piano beginning with Haydn and continuing through the present day. Focuses on the core Art Song Repertoire of Germany and France, but also explores a variety of composers, eras and regions, including Italy, Spain, England and America. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 454 | Song Literature | American, Russian, Spanish, Scandinavian, and contemporary song. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 455 | Canticum Bassum | Membership in this ensemble involves the in-depth study and application of specialized musical skills in the performance of a variety of historically and musically standard male repertoire, within historical context. This ensemble is available to both music majors and non-majors, and may require an audition. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): Music major or Non-Music majors who have passed audition |
| MUP | 457 | Sol Singers | Membership in this ensemble involves the in-depth study and application of specialized musical skills in the performance of historically and musically important repertoire for treble voices. This ensemble is available to both music majors and nonmajors, and may require an audition. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): Music major or non-Music major who has passed audition |
| MUP | 458 | ASU Gospel Choir | The ASU Gospel Choir is a vocal ensemble open to students and community members regardless of their faith. The ensemble performs a variety of song forms drawn from the African American religious tradition, including traditional and contemporary gospel, anthems, hymns and spirituals. The Gospel Choir maintains an active performance schedule both on and off campus. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): undergraduate music major or nonmajor by audition |

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| MUP | 459 | Barrett Choir | The Barrett Choir is an opportunity for students from all over the university, but primarily from Barrett, The Honors College, to participate in a high-quality choral ensemble. The group seeks to harness the creativity and intellect of honors students to create a collaborative ensemble that operates on a unique model of student-centered learning. The repertoire, mostly chosen by the members, is highly varied, ranging from world music to pieces in the great choral tradition to newer music and popular music. There are normally two major concerts per semester, with some occasional smaller performances. This ensemble is available to both music majors and non-majors, and may require an audition. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): Music major or Non-Music majors who have passed audition |
| MUP | 460 | The Visiting Quartet Residency Program | Develops skills as a chamber musician and provides opportunities to work with members of the visiting string quartet in residence. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Pre-requisite: Music major (bass, cello, viola, violin) who has passed audition |
| MUP | 461 | Marching and Athletic Bands | Development of specific professional performing skills through staging of formations and drills for football games and other events. Explores a wide variety of musical repertoire from current top 40 hits to classical. These ensembles are available to both music majors and nonmajors, and may require an audition. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major or nonmajor who has passed an audition |
| MUP | 465 | Music Theatre VI | Further interpretational study of advanced acting and musical theatre performance techniques. Includes exploration of historical and contemporary styles in musical theatre, applying best practices for research, solo and ensemble performance. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MUP 370 |
| MUP | 466 | Broadway Dance | Designed for students in the collaborative performance areas of musical theatre (music, theater and dance). Examines the development of landmark styles and theories specifically in musical theater and Broadway dance. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): two completions of MUP 467 OR Visiting University Student |
| MUP | 467 | Music Theatre Dance Technique | Students gain a basic understanding of body awareness and alignment, strength and technique with a focus on musical theatre vocabulary as well as basic turns and leaps. The first semester students focus on the individual dancer, spatial awareness, development of character and intention. The second semester students work on basic partnering skills and partner dances. Intended to be a full-year course. | N | LAB | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major, Performance (Music Theatre) major, or Music Theatre minor who has passed audition |
| MUP | 470 | Music Theatre VII | Development and practice of professional music theatre skills in solo and ensemble performance with an emphasis on applied skills and industry immersion. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MUP 465; Credit is allowed for only MUP 470 or MUP 494 (Musical Theatre Dance) or MUP 566 OR Visiting University Student |
| MUP | 471 | Music Theatre: Workshops | The development of specific skills for musical-dramatic interpretation. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Performance (Music Theatre) or Performance (Voice) major; minimum 45 hours |
| MUP | 472 | Music Theatre VIII | Further development and practice of professional music theatre skills in solo and ensemble performance with an emphasis on applied skills and industry immersion. | N | LEL | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MUP 470 |
| MUP | 476 | New Music Ensemble | In-depth study, synthesis, and performance of classical works written within the last twenty years for small ensemble and for instruments with electronics. Involves discussion and realization of advanced interpretive and technical concepts related to contemporary music. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 479 | Chamber Music Ensembles | Faculty-coached ensembles involving in-depth study and application of specialized, professional skills in performing with two or more players of like or unlike instruments and/or voice. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 481 | Performance Pedagogy and Materials | Principles and methods of performance techniques for each performance field. May be repeated for credit. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisites: Music students who have passed audition |
| MUP | 482 | Piano Pedagogy | Continuation of MUP 481 (Piano). Problems and techniques of teaching intermediate to advanced piano students. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 485 | Percussion Ensemble | Rehearsal and performance of standard and original repertoire for the percussion ensemble and related instruments. 2 hours per week. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 486 | Jazz Band | Analysis, rehearsal and performance of new, traditional, and Latin literature for jazz ensembles. Development of advanced sight-reading and instrumental doubling skills. 4 hours per week. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | |
| MUP | 487 | Collaborative Piano | Piano accompaniments found in vocal and instrumental literature; discussion of styles and performance practices; experience in public performance. 2 hours per week. May not be taken for audit. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |

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| MUP | 489 | Ethnomusicology Ensembles | Students apply indigenous music theories to actual practice, contextualized in background reading and listening, as they refine their ability to perform orally generated music and sometimes dance traditions. This ensemble is available to both music majors and nonmajors, and may require an audition. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| MUP | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | | Pre-requisites: Barrett Honors Music students who have passed audition |
| MUP | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | L | Prerequisite(s): Barrett Honors Music students who have passed audition; ENG 101, 105, or 107 with C or better |
| MUP | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MUP | 495 | Performance | For candidates of a BM degree in which 1/2 recital is a requirement. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 0 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 496 | Performance | For candidates of a BM degree in which a full recital is a requirement. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 0 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | STO | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 503 | Literature for Teaching Voice | Equips students with knowledge of repertoire for teaching applied voice, and to cultivate skills in mindfully assigning said repertoire. Topics and activities include learning about the types of repertoire across many styles, pedagogical implications of repertoire, benefits and pitfalls in assigning repertoire to the developing singer, and assignment of repertoire to true and hypothetical students. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music graduate student; Credit is allowed for only MUP 403 or MUP 503 |
| MUP | 504 | Voice Teaching Practicum | Provides opportunities to develop practical teaching skills through experiential learning for voice and/or music education graduate students who have a strong interest in teaching applied voice lessons. Topics and activities include teaching, teaching observations, guided teaching activities, and the creation of a teaching portfolio. | N | PRA | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music graduate student; Credit is allowed for only MUP 404 or MUP 504 |
| MUP | 507 | Group Piano Practicum | Curricula, materials, and teaching techniques for group teaching at the university and community college levels. Observation/supervised teaching in group piano. | N | PRA | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 508 | Studio Observation | Weekly observation of studio teaching by various piano faculty. Paper as final requirement. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 509 | Jazz Keyboard Harmony | Emphasizes jazz chords and chord progressions, harmonization, voicing, and analysis of transcriptions. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 510 | Jazz Keyboard Harmony | Continuation of emphasis on jazz chords and chord progressions, harmonization, voicing, and analysis of transcriptions. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 511 | Studio Instruction | Bassoon, cello, clarinet, contrabass, cornet, euphonium, flute, guitar, harp, harpsichord, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, voice. Minimum contact of 1 hour plus studio class weekly. May not be taken for audit. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music graduate student who has passed audition |
| MUP | 517 | Advanced Improvisation | Improvisation techniques within the context of advanced jazz literature. Must be taken in sequence with MUP 518. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 518 | Bassoon Reed Making | Students develop and refine skills for making bassoon reeds. | Y | LAB | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only MUP 518 or MUP 598 (Bassoon Reed Making) |
| MUP | 521 | Studio Instruction | Secondary or minor instrument instruction. Bassoon, cello, clarinet, contrabass, cornet, euphonium, flute, guitar, harp, harpsichord, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, voice. Minimum contact of 1/2 hour per week. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music graduate student who has passed audition |
| MUP | 527 | Studio Instruction | Bassoon, cello, clarinet, contrabass, cornet, euphonium, flute, guitar, harp, harpsichord, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, voice. Minimum contact of 1 hour per week. May be repeated for credit. May not be taken for audit. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2-4 | | Prerequisite(s): Music graduate student who has passed audition |

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| MUP | 538 | The Enterprising Musician | Familiarizes students with concepts of entrepreneurship and explores good business practices. The broad objectives of the course are to understand the importance of entrepreneurial thinking and opportunity recognition in the music industry; and to provide to the students the concepts, capabilities and information to achieve a desired career in music. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): graduate Herberger Institute student; Credit is allowed for only MUP 438 or MUP 538 or MUP 494 (The Enterprising Musician) or MUP 598 (The Enterprising Musician) |
| MUP | 539 | Music Product Creation and Development | Processes and proven methodologies of new music product creation and development. Assesses and evaluates the quality of different models and techniques through case studies and by talking to potential customers. Develops a business model canvas for a personal new music product idea or project. Taught in conjunction with the online Udacity course How to Build a Start Up, combined with experiential learning in and out of the classroom. Students should have a basic idea of a business model for a startup or project they will pursue throughout the duration of the course. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MUP 538 or 598 (The Enterprising Musician); Credit is allowed for only MUP 439 or MUP 539 or MUP 598 (Music Product Creation and Development) |
| MUP | 540 | Principles of Integrated Conducting | Score preparation and conducting techniques for instrumental music. Concentration on study of historical styles. Required of DMA students in Instrumental Music. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisite: DMA Conducting major |
| MUP | 541 | Song | Seminar on solo song from its beginning to the present day. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 542 | Instrumental Ensembles | Students participate in numerous ensembles and artistic and educational projects that together, comprise a rich assortment of musical experiences. Graduate students especially need opportunities to hone their skills in a great variety of performance opportunities. During the academic year, each student participates in a variety of projects that present a wide range of musical experiences. The curriculum is designed to accommodate the distinctive needs of each student in that artistic-educational experiences are, to a large extent, tailor made to each individual's career aspirations. Consequently, learning outcomes are highly individualized and student driven, rather than institutionally convenient. Each artistic-educational project focuses on specific pedagogical and/or musical learning outcomes that, in various ways, promote the primary course objective: the enhancement of musical diversity and artistic depth in every student. Audition required during the first week of classes. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): Music graduate student |
| MUP | 543 | Choral Ensembles | Active, thoughtful participation in music ensembles can provide for development beyond the possibilities of individual study alone. The ensemble setting is, in part, a forum for the synthesis of component parts of a complete music education. Includes the study and performance of diverse musical expressions that represent a variety of historical and cultural perspectives. These ensembles provide the opportunity to prepare and present varied music composed for the mixed choir from the major stylistic periods with the intent of serving composers, performers and listeners by performing choral music of the highest possible quality. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUP | 548 | Classical Style: Performance and Analysis | Integrates historical and theoretical analysis with performance, examining classical period repertoire. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisite: Graduate Music major who has passed audition; Credit is allowed for only MUP 548 or 598 (Classical Style: Perf. & Anlys) |
| MUP | 549 | The Unaccompanied Music of JS Bach: Performance and Analysis | Integrates historical and theoretical analysis with performance, examining the unaccompanied works of J.S. Bach. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisite: Graduate Music major who has passed audition; Credit is allowed for only MUP 549 or 598 (Unaccomp Bach Perf & Analysis) |
| MUP | 550 | Choral Union | Open to all students in the university and to interested singers in the community by audition. Preparation and performance of the larger choral works. 2 hours per week. An audition is required to participate in the ensemble. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUP | 551 | Repertoire | Literature available for performance in all performing media. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre- or corequisite(s): Graduate Music major who has passed audition |

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| MUP | 554 | Major Repertoire, Score Study, and Performance Practice | Conducting course comprising a survey of significant repertoire (encompassing, over multiple semesters, literature from choral, musical theater/opera, orchestral, and wind band genres); an introduction to historical performance practice; and a range of score study techniques. Conducting majors are required to enroll each semester (or as advised) and, subsequently: display a comprehensive historical knowledge of the repertoire and development of ensembles over the past 500 years, demonstrate command of standard performance practices with respect to each historical era, and exhibit a clear understanding of varied methods of score study. | Y | SEM | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: DMA Conducting major |
| MUP | 555 | Arizona Statesmen | Rehearsal and performance of music for mixed voices. 3 hours per week. An audition is required to participate in the ensemble. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUP | 557 | Sol Singers | Rehearsal and performance of music for mixed voices. 2 hours per week. An audition is required to participate in the ensemble. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUP | 558 | ASU Gospel Choir | The ASU Gospel Choir is a vocal ensemble open to students and community members regardless of their faith. The ensemble performs a variety of song forms drawn from the African American religious tradition, including traditional and contemporary gospel, anthems, hymns and spirituals. The Gospel Choir maintains an active performance schedule both on and off campus. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUP | 560 | The Visiting Quartet Residency Program | Develops skills as a chamber musician and provides opportunities to work with members of the visiting string quartet in residence. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): Music graduate student who has passed audition |
| MUP | 561 | Marching and Concert Bands | Staging of formations and drills for football games and other events (fall); masterpieces of symphonic band literature (spring). Meets MWF. An audition may be required to participate in the ensemble. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUP | 565 | Acting and Movement | Process class with exercises specifically developed to assist the student actor to learn the fundamental techniques of acting with an emphasis on the actor's approach to characterization. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): graduate Music major who has passed an audition; Credit is allowed for only MUP 565 or MUP 598 (Acting for Singers) |
| MUP | 566 | Broadway Dance | Designed for students in the collaborative performance areas of musical theatre (music, theater and dance). Examines the development of landmark styles and theories specifically in musical theater and Broadway dance. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): graduate Music major who has passed an audition; Credit is allowed for only MUP 566 or MUP 598 (Musical Theatre: Dance) |
| MUP | 567 | Music Theatre Dance Technique | Students gain a basic understanding of body awareness and alignment, strength and technique with a focus on musical theatre vocabulary as well as basic turns and leaps. The first semester focuses on the individual dancer, spatial awareness, development of character and intention. The second semester works on basic partnering skills and partner dances. Intended to be a full year. | N | LAB | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music graduate student who has passed audition |
| MUP | 570 | Music Theatre: Techniques | Exercises and improvisations for the singing actor emphasizing body awareness, isolations, and freedom of the vocal and breath mechanisms. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 571 | Music Theatre: Workshops | Develops specific skills for the musical-dramatic interpretation. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 573 | Music Theatre: Performance | Participation in Lyric Opera Theatre productions. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 574 | Music Theatre Technical Production | Introduces technical music theatre. Classroom study of costumes, sets and lighting (Section 1, Topic: Tech) followed by practical experience on a technical running crew for a Lyric Opera Theatre production (Section 2 Topic: Problems). The two sections should be taken in consecutive semesters. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 576 | New Music Ensemble | Rehearsal and performance of music written in the last 20 years. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUP | 579 | Chamber Music Ensembles | String, brass, woodwind, percussion, keyboard, vocal, and mixed ensembles. 2 hours per week. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUP | 581 | Performance Pedagogy and Materials | Principles and methods of performance techniques for each performance field. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 582 | Anatomy and Physiology of Singing | Detailed study of the anatomy, physiology, neurology and acoustics of the singing voice. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2-3 | | Prerequisite(s): Music graduate student; Credit is allowed for only MUP 402 or MUP 582 |
| MUP | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUP | 585 | Percussion Ensemble | Rehearsal and performance of standard and original repertoire for the percussion ensemble and related instruments. 2 hours per week. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| MUP | 586 | Jazz Band | Rehearsal and performance of new, traditional, and Latin literature for jazz bands. 4 hours per week. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUP | 587 | Ethnomusicology Ensembles | Performance learning experience for the music of various cultures of the world. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUP | 588 | Collaborative Piano | Piano accompaniments found in vocal and instrumental literature; discussion of styles and performance practices; experience in public performance. 2 hours per week. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 596 | Solo Performance | May be full recital, major operatic role, solo performance with orchestra, ensemble, or lecture recital. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 597 | Solo Performance | See MUP 596. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUP | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 727 | Studio Instruction | Minimum contact of 1 hour per week. May be repeated for credit. Conducting students register for 2 semester hours; all other students register for 4 semester hours. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2-4 | | Prerequisite(s): Doctoral Music major who has passed audition |
| MUP | 751 | Seminar in Piano Literature | In-depth study of selected topics related to the standard piano literature. Requires research paper, bibliography, class presentation. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre- or corequisite(s): Doctoral Music major who has passed audition |
| MUP | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre- or corequisite(s): Doctoral Music major who has passed audition |
| MUP | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre- or corequisite(s): Doctoral Music major who has passed audition |
| MUP | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre- or corequisite(s): Doctoral Music major who has passed audition |
| MUP | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-15 | | Pre- or corequisite(s): Doctoral Music major who has passed audition |
| MUP | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre- or corequisite(s): Doctoral Music major who has passed audition |
| MUP | 796 | Solo Performance | May be full recital, major operatic role, solo performance with orchestra, ensemble, or lecture recital. | N | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-15 | | Pre- or corequisite(s): Doctoral Music major who has passed audition |
| MUP | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-15 | | Pre- or corequisite(s): Doctoral Music major who has passed audition |
| MUS | 100 | Fundamentals of Music Notation | Provides nonmusic majors with sufficient symbol literacy to begin work in the field of musical learning. Credit not applicable toward any music degree. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | |

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| MUS | 131 | Bach to Bebop | Develops an understanding of the repertoire for the various musical instruments and ensembles throughout the five eras being studied and discernment through listening different genres of music. For the lectures regarding instruments, introduces students to the respective repertoire for the instrument from c. 1700-present with special emphasis on how the use of the instrument developed throughout history or during each era. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | |
| MUS | 145 | Nonmajors Class Piano: Beginner | For students with little or no previous music experience. Students learn beginning piano skills. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Credit is allowed for only MUS 145 or MUS 194 (Non-Majors Beginning Class Piano I) OR Visiting University Student |
| MUS | 146 | Singing for Nonmajors I | Introduces the basics of singing in many styles, from classical to popular. Topics and activities include learning about the mechanics of singing, music reading, critical listening, learning and performing in a group, and learning and performing alone. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Credit is allowed for only MUS 146 or MUS 194 (Beginning Class Voice for Non-Majors) |
| MUS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MUS | 210 | The Arts Around Us | Develops the ability to think and create from an arts-rich perspective. In particular, focuses on the arts in the lives of children and youth, arts experiences for children and youth in the community, and one's personal experiences with the arts. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | |
| MUS | 211 | Dance, Music and Meaning | Explores the fundamental nature of human experience across time and culture through the medium of dance and music using a variety of dance and musical materials including folk dance and music, popular dance and music, and such theatrical forms as ballet and modern dance and the music connected with them. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | |
| MUS | 212 | Music, Meaning and Imagination | Explores how music provides ways to make meaning of the world around us and music as a medium for creative thinking and doing. Develops understanding by trying on roles ranging from critics to creators in both individual and group projects. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Credit is allowed for only MUS 212 or 294 (Music, Meaning and Imagination) |
| MUS | 213 | Critical Thinking in the Arts | Fosters critical thinking abilities in relationship to performing and visual arts. Students learn how to listen to music and view art analytically. Develops and applies knowledge of common elements (within and across art forms) such as form, texture, balance and contrast in order to enhance understanding both of arts processes and products. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | |
| MUS | 214 | Art, Music and Learning | Offers an integrated introduction to, and examination of, the core structural and formal elements of visual art and music in the context of contemporary experiences and learning process. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | |
| MUS | 215 | Children, Creativity, Arts | Interdisciplinary exploration of children's creative processes through critical analysis, hands-on participation and personal reflection. Specifically focuses on creative processes in the arts. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | |
| MUS | 231 | Laughing to Music | Modern-day comedies like Spamalot, Avenue Q, and Glee are part of a comic tradition extending back to the Renaissance. Looks at funny in music from commedia dell'arte to the present. Studies works including the comedies of Mozart, Gilbert and Sullivan, the Marx Brothers, Monty Python, Mel Brooks and many others. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Credit is allowed for only MUS 231 or MUS 294 (Laughing to Music) OR Visiting University Student |
| MUS | 240 | Listening to Music | Surveys the historical periods of music making in western civilization, the study of which will hopefully create within the student a listener with an appreciation for art music of many periods and provide more enjoyment in the process. Through lectures, presentations, readings, listening examples and video/DVDs, studies music identified as strong examples of the major periods, composers and compositions in the history of music. Students learn and adopt a minimum new language to help express the elements of music they experience and listen to and develop strategies for writing and communicating about what they hear and put words to how they respond to it. Because experiencing music performed live is an integral part of the learning process, students are required to attend concerts outside of class and submit critical reviews of what they hear. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | |
| MUS | 245 | Nonmajors Class Piano: Intermediate | For students who have completed 1-3 years of piano study. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MUS 145 or MUS 194 (Non-Majors Beginning Class Piano I) with C or better; Credit is allowed for only MUS 245 or MUS 294 (Non-Majors Class Piano II) OR Visiting University Student |

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| MUS | 246 | Singing for Nonmajors II | Continues to cultivate the basics of singing in many styles, from classical to popular. Topics and activities include gaining a deeper understanding of the mechanics of singing, sharpening music reading skills and critical listening, learning and performing in a group, and learning and performing alone. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MUS 146; Credit is allowed for only MUS 246 or MUS 294 (Non-Majors Class Voice II) or MUS 294 (Singing 2 for Non-majors) OR Visiting University Student |
| MUS | 254 | Blues to Heavy Metal | Covers important musicians and trends from the 1930s through the 1970s. Topics include blues, rhythm and blues, rockabilly, doo wop, teen idols, girl groups, dance craze, surf, novelty, soul, Motown, British invasion, art rock, psychedelic rock, hard rock, heavy metal, and early '70s styles. Emphasizes musical instruments and stylistic traits with historical information provided as background. Features listening examples drawn from selected artists and bands including popular songs and rarities, and demonstrations using various musical instruments and techniques. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Credit is allowed for only MUS 254 or 354 (Blues to Heavy Metal) |
| MUS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MUS | 340 | Music for the Concert Hall, Stage, and Screen | In-depth study of examples from Western art music. Emphasizes aural analysis and synthesis of historical data with musical phenomena. Critiques the canon and its limits in specific instances. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & H | Prerequisite(s): minimum 42 hours |
| MUS | 345 | Nonmajors Class Piano: Advanced | For students who have completed 4 of more years of piano experience. | N | LEC | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MUS 245 or MUS 294 (Non-Majors Class Piano II) with C or better OR Visiting University Student |
| MUS | 347 | Jazz in America | In-depth study, analysis and synthesis of examples from the jazz tradition. Includes the application of advanced aural analytic techniques to exemplary jazz musical works. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & C | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| MUS | 349 | Music in America | Current styles of American music including jazz, popular, and folk music. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & H | |
| MUS | 354 | Popular Music | In-depth study of a specific topic in the history of popular music. Emphasizes aural analysis and synthesis of historical data with musical phenomena to create new perspectives. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): minimum 42 hours OR Visiting University Student |
| MUS | 355 | American Music | In-depth study of current research topics in American music. Engages students in current scholarly debates. Charts the limits of current scholarly methodologies and historical research programs. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & C & H | Prerequisite(s): minimum 42 hours OR Visiting University Student |
| MUS | 356 | Broadway and the American Musical | In-depth chronological study of American musical theatre on Broadway, including origin and development, historical references, global and cultural influences. By way of critical analysis, emphasizes comprehensive stylistic understanding of minstrelsy, operetta, revues, book musicals, film musicals, rock musicals, mega-musicals, and Broadway revivals. Engages students in current scholarly debates on American musical theatre. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| MUS | 362 | Rap Music and Hip Hop Culture | Examines the history of rap music and hip hop culture from their origins to about 1995, including most, but not all, of the major artists from this period. Explores connections between rap music and other elements of hip hop culture, and challenges students to think critically about rap music and its place in society. Uses listening exercises, demonstrations, and conversations with artists to examine how rappers create meaning in their musical works. Drawing on secondary articles by rap critics and scholars, considers in detail such controversial subjects as censorship, sexism, obscenity, and race politics in America as they relate to rap music. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & C | Prerequisite(s): minimum 42 hours; Credit is allowed for only MUS 354 (Hip Hop) or MUS 362 OR Visiting University Student |
| MUS | 371 | World Music | Provides an introduction to world music, including traditional and popular styles. Examines specific music genres from Africa, Asia, Europe, and the Americas and explores their historical development, cultural contexts, communicative functions, forms, styles, instruments and musical philosophies. Throughout the semester, considers the interrelationships among musical genres and other art forms (dance, theater, visual arts, and literature) and analyzes how these musics have intersected with the issues of race, class, gender, religion, ritual, politics, social movements and cultural identity. Students learn to hear and discuss significant stylistic elements of selected genres through listening assignments. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & G | Pre-requisite: Minimum 45 hours; Credit is allowed for only MUS 371 or 394 (World Music) |
| MUS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MUS | 410 | History of Women in Music | Surveys musical achievements of women as well as the historical contexts that shaped and defined their artistic development. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & C & H | |

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| MUS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | | Prerequisite(s): Barrett Honors student |
| MUS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MUS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MUS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | |
| MUS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| NAN | 505 | Nanoscience and Society | Integrates nanoscience and nanotechnology with potential societal issues involved in the students' NAN 593 Applied Projects. Coordinated by the faculty and research staff at the Center for Nanotechnology in Society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 2 | | |
| NAN | 506 | Innovation and IP Management | Intellectual Property (IP) Management in the context of innovation (research, regulations, manufacture, access to markets, and trade) with emphasis on strategies, public-private interface, licensing, and technology transfer. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 2 | | |
| NAN | 511 | Materials Physics I | Fundamentals of materials physics: crystal structure, diffraction, elasticity, point defects, dislocations, lattice vibrations, thermal properties, periodic potential, band structure. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Pre-requisites: Degree- or nondegree-seeking graduate; Credit is allowed for only MSE 526, NAN 511, PHY 511, or PHY 481 |
| NAN | 512 | Materials Physics II | Electronic behavior of materials: energy bands, electronic properties, metals, semiconductors, insulators, optical properties, magnetic properties, superconductivity, biophysics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Credit is allowed for only MSE 525 or MSE 527 or MSE 598 (Fund of Elec, Optical, & Mag Matls & Device Apps) or NAN 512 or PHY 482 or PHY 512 |
| NAN | 542 | Topics in Biophysics | Overview of modern biology, length scales: emphasizes molecular and cellular biology. Nonequilibrium systems: compare and contrast stochastic processes in biological and physical systems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Credit is allowed for only NAN 542 or PHY 542 |
| NAN | 544 | Introduction to Nanoscience | Survey of nanoscience: quantum/ statistical mechanics/kinetics; measurement and fabrication methods; applications to materials, nano-electronics, molecular electronics and nano-biology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only CHM 544, NAN 544, PHY 444 or PHY 544 |
| NAN | 546 | Surfaces and Thin Films | Thermodynamics and kinetics of surface structures and thin film processes. Ultra-high vacuum techniques for examining surfaces. Case studies of physics, chemistry and nanoscience applications. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Credit is allowed for only MSE 546, NAN 546 or PHY 546 |
| NAN | 552 | Electron Microscopy I | Kinematical and dynamical electron diffraction and microscopy. Defect structure and composition using STEM imaging, x-ray and electron-energy-loss spectroscopy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Credit is allowed for only MSE 552, NAN 552, PHY552 or SEM 552 |
| NAN | 560 | Nanomaterials in Energy Production and Storage | Emphasizes the relationship among fundamental materials properties, chemical and energy transformation, as well as energy storage. Applications include the role of materials for photovoltaics, nanocatalysts, batteries, and fuel cells. Stresses fundamental principles and charge transfer processes in nanostructured materials in addressing energy needs. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): graduate Chemistry, Engineering or Physics major. Credit is allowed for only MSE 460 or MSE 494 (Nanomaterials In Energy Production and Storage) or MSE 560 or MSE 598 (Nanomaterials In Energy Production and Storage) or NAN 560 |
| NAN | 564 | Bionanotechnology | The use of biomolecules, bioelectronics, and biomedicine for applications in nanotechnology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Credit is allowed for only BCH 564 or NAN 564 |
| NAN | 571 | Quantum Physics | Review modern physics, chemistry, math. Differential equation, operator, matrix formulations. Free particle, bound state problems. Examples from physics, chemistry and nanoscience. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Credit is allowed for only MSE 571, NAN 571 or PHY 571 |
| NAN | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |
| NAN | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |
| NAN | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Physics | 1-4 | | |

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| NAV | 101 | Introduction to Naval Science | Introduces the customs, traditions, missions and regulations of the Department of Defense, United States Navy and United States Marine Corps. Introductory course for the Naval Reserve Officer Training Corps (NROTC) by laying the basic foundation of knowledge about the Navy and Marine Corps required to progress through the NROTC program. Also provides the requisite knowledge to allow follow-on shipboard summer training to be safely and effectively conducted. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Naval Science | 3 | | |
| NAV | 102 | Sea Power and Maritime Affairs | Informs the participants of the historical evolution of sea power for the U.S. Navy and world history. Also covers the evolution of international terrorism and the effects on U.S. strategies and policies regarding potential adversaries. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Naval Science | 3 | | Credit is allowed for only NAV 102 or NAV 194 (Sea Power and Maritime Affairs) |
| NAV | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Naval Science | 1-4 | | |
| NAV | 202 | Navigation | Basic principles, procedures and analytic processes of marine navigation. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Naval Science | 3 | | Credit is allowed for only NAV 202 or NAV 294 (Navigation) |
| NAV | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Naval Science | 1-4 | | |
| NAV | 301 | Naval Ship Systems I | Provides detailed knowledge of naval engineering systems and principles of ship construction. Topics covered include ship design, hydrodynamic forces, stability, conventional and nuclear propulsion, electrical theory and systems, hydraulics and ship control. Concepts of the theory and design of steam, gas turbine and diesel propulsion. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Naval Science | 3 | | Prerequisite(s): minimum 30 hours; Credit is allowed for only NAV 301 or NAV 394 (Navy Ship Systems I - Engineering) OR Visiting University Student |
| NAV | 302 | Naval Ship Systems: Weapons | Overview of the theory and concepts underlying modern weapon systems used aboard naval warships. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Naval Science | 3 | | Prerequisite(s): minimum 30 hours. Credit is allowed for only NAV 302 or NAV 394 Naval Ship Systems II: Weapons |
| NAV | 303 | Evolution of Warfare | Provides marine option students with a basic understanding of the art, science and concepts of war from the beginning of recorded history to the present day. Addresses the interrelationships among technology, politics, culture and society to better understand warfare today and in the future. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Naval Science | 3 | | Prerequisite(s): minimum 30 hours. Credit is allowed for only NAV 303 or NAV 394 Evolution of Warfare |
| NAV | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Naval Science | 1-4 | | |
| NAV | 401 | Naval Operations and Seamanship | In-depth study of numerous aspects relating to the efficient and professional manner of U.S. Navy ships' operations. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Naval Science | 3 | | Prerequisite(s): minimum 30 hours; Credit is allowed for only NAV 401 or NAV 494 (Naval Operations and Seamanship) OR Visiting University Student |
| NAV | 402 | Leadership and Ethics | Applies leadership and ethical theories discussed to an actual leadership or ethical dilemma or issue that Junior Officers in the Fleet or FMF are currently facing or have faced in the recent past. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Naval Science | 3 | | Prerequisite(s): minimum 30 hours; Credit is allowed for only NAV 402 or NAV 494 (Leadership and Ethics) |
| NAV | 403 | Fundamentals of Maneuver Warfare | Focuses on the historical aspect of amphibious operations. Emphasizes how the development of this war fighting discipline played a key role throughout much of the early history of the Marine Corps. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Naval Science | 3 | | Prerequisite(s): minimum 30 hours OR Visiting University Student |
| NAV | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | Department of Naval Science | 1-3 | | |
| NEM | 500 | Research Methods | Course on research methods in a specific discipline. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEM | 501 | Emerging Media | Driven by contemporary case studies, this seminar course overviews the current emerging media markets by exploring latest developments in short-form video, AR/VR, extended reality, documentaries, live digital immersive theatre, virtual production and more. Reviews the history of these emerging media markets and considers the influences of various genres--gaming, theatre, film, TV and art--that inform content created in these new formats. Also looks ahead to the future of emerging media, examining development best practices, funding models including crowdsourcing and grant-funding, audience development as well as client-based commissioned productions that may be critical to their own practice. | N | SEM | N | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Narrative and Emerging Media MA student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|--|
| NEM | 510 | Narrative Development and Pre-Production | Why are some stories more engaging than others? What are the narrative tools that pull in audiences--to touch, teach and inspire? What are the kinds of stories that move you? Students learn the foundations of good storytelling and pre-production, particularly for short form and emerging media. Assesses the potential interest and impact of different storylines; conducts background research and interviews; develops compelling story arcs and characters; writes voiceover and narrative scripts; explores multiple emerging storytelling modes, including animation and immersive; and applies best practices for pitching and accepting/implementing critique. While primarily focused on nonfiction storytelling, also considers fiction. | N | LEL | N | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Cronkite School of Journalism and Mass Communication graduate student or Herberger Institute for Design and the Arts graduate student |
| NEM | 515 | Emerging Media Production | Immersive storytelling breaks through the fourth wall, bringing audiences into the heart of the story. Viewers are no longer bystanders peering through a screen or a window. Explores the XR techniques artists, filmmakers and producers can use to ensure their audiences are immersed in the narrative. Deepens familiarity with the techniques required to produce emerging media, including exploration of game engine and other technologies for AR/VR/XR and successful short form video techniques. Explorations also include in-class experiments, readings, discussions and viewings. Students become familiar with theoretical understanding of spatial and embodied experience, in contrast to two-dimensional approaches and the development of how that might inform a personal approach for advanced artistic and professional production practices. | N | LEL | N | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | |
| NEM | 520 | AR/VR/XR for Storytelling | Applies game engine technology and techniques to create original and compelling AR/VR/XR work. Students gain advanced skills in game engine workflows and development mechanics to gain an understanding of how 3D programs can create fully immersive narratives. Using techniques previously applied to video games, this course deepens understanding how narrative, interactive and linear, can be powerfully employed using these new technologies. Students learn the strengths and limitations of game engine tools available to ensure immersion, exploring audience interaction techniques as well as 3D environment creation, to create agency for audiences or viewers and to center the story using embodiment. | N | LEL | N | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Narrative and Emerging Media MA student |
| NEM | 525 | Virtual Production for Storytelling | Taught directly on the Planar virtual production stage at the California Center's Hearst Building, provides professional skills necessary for working in virtual production. Techniques used in virtual production are derived from techniques devised for live action production, cinematography, animation and video games, but merge them in using real-time technologies to produce cinematic content. With major Hollywood film and television productions turning to virtual production to capture scenes once reliant on costly visual effects, this course familiarizes students with the crucial workflows to successfully manage and produce narrative using the virtual production pipeline with a focus on the core underlying technologies used in virtual production, including motion capture, performance capture, virtual cinematography, "simulcam" and others. Upon completion of this course, students produce cinematic content captured fully in a game engine that can be directly edited into the professional-level film or television content. | N | STO | N | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Narrative and Emerging Media MA student |
| NEM | 530 | Emerging Media Project Management | Students master advanced skills in emerging media project management, including conceptualization and production workflows for AR/VR/XR, 360 and short-form film and the agile process. Focuses on essential project management techniques from pre-production, a topline budget, production tracking and delivery onto current potential distribution platforms as well as roll out/transmission on those platforms. Students become familiar with project timeline creation, tools for milestone tracking, licensing, audience insight/testing and the key emerging distribution channels such as new social media platforms and social virtual reality spaces. At the end of the course, students complete a fully formed pitch-deck, including concept, project overview narrative summary, budget, schedule, distribution goals and how to assemble a team. | N | LEL | N | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Narrative and Emerging Media MA student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|--|
| NEM | 550 | Diversity and Ethics in Emerging Media | What is the dominant narrative in emerging media and how can we make sure diverse voices and viewpoints are ethically represented? Students explore these questions and evaluate current ethical and inclusive practices in narrative development, artistic practice and collaboration frameworks. Also focuses on a critical understanding of the importance of and best practices for ethically and diversely sourcing/portraying subjects in projects, particularly children and vulnerable characters; applying ethical decision-making models; analyzing diversity in storytelling; respecting privacy of subjects; as well as exploring content co-creation and collaboration with nonfiction characters. Using one or more forms of emerging media, students create a piece of storytelling anchored in a diverse community and/or subject matter. | N | SEM | N | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Narrative and Emerging Media MA student |
| NEM | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEM | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEM | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEM | 585 | Portfolio | Centers the relationship of artists and journalists to their own work by documenting process and progress through professional asset development and display. Students learn how to craft portfolios representing conceptual and developmental processes, critical thinking, creative ideation and evaluation with strong technical, production and communication skills. During this course, students have access to visiting professionals, specialized professional development opportunities and industry networking, and they build material for both assessment and evaluation of their progress as well as culminating materials for immediate transfer into professional portfolio platforms. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1 | | Prerequisite(s): Narrative and Emerging Media MA student |
| NEM | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEM | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEM | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEM | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEM | 601 | Short Form and 360 Video Production | Students debate, critique and contextualize approaches to short form emerging media and immersive narrative against traditions in film, television, games and interactive media. With a focus on producing short form and 360 filmmaking, students develop an enhanced understanding of writing, developing and storyboarding for short form and immersive productions. Besides learning advanced approaches to implementing best practices and latest techniques for filming, lighting and audio, this course also gives an in-depth understanding of assembling and shooting with 360 cameras and associated audio equipment. Students work toward producing a short emerging media or 360 film using the learned techniques. | N | LEL | N | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Narrative and Emerging Media MA student |
| NEM | 630 | Emerging Media for Clients | Gives students a unique opportunity to work with a leading emerging media industry client to gain invaluable experience developing and producing an emerging media project. Students work to a real-world brief set out by the emerging media company for a live project. The briefs varies according to the needs/project of the emerging media company, but could include projects such as background research, market insight and user testing, writing pitches and R&D experimental work. By the end of the course, students have developed a professional-level understanding of how creative productions are conceived, produced and delivered within emerging media industries. | N | STO | N | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Narrative and Emerging Media MA student |
| NEM | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--------------------------|-------|-----------------|--|
| NEU | 101 | Introduction to Neuroscience | Provides an overview of fundamental concepts in the study of brain organization and function. Discusses key principles regarding cellular and molecular mechanisms of neuron function, organization and information processing in sensory and motor systems, endocrine and emotional components of behavior, and cognitive consequences of diseases of the brain. Introduces methods by which these features of brain function are established. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Psychology | 3 | | |
| NEU | 290 | Data Science for Neuroscience Majors | Builds a foundation for understanding and implementing basic research methodology, scientific programming in R, modeling using regression and statistical inference for neuroscience data. A strong foundation in these topics facilitates academic and professional careers in neuroscience. Beyond a career in neuroscience, develops computer programming and statistical literacy skills that are broadly applicable to day-to-day life. Delivered as a blend of lectures, R coding workshops and laboratory assignments where students plot, model and make inferences about data from molecular, systems, behavioral and cognitive neuroscience. These four branches of neuroscience are the four fundamental areas of the neuroscience major. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Psychology | 3 | CS | Pre- or corequisite(s): NEU 101; Credit is allowed for only NEU 290 or NEU 294 (Design and Statistics for Neuroscience) OR Visiting University Student |
| NEU | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-4 | | |
| NEU | 307 | Your Brain on Drugs | Provides an overview of the effects of addictive drugs on the brain from a psychobiology and neuroscience perspective. Covers all classes of addictive drugs, from alcohol to nicotine to heroin to crystal meth. Also discusses topics related to many popular questions about addiction, such as: Is addiction really a disease? Is marijuana a gateway to harder drug use? Do drugs really kill brain cells? Which drug is the most addictive? | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): BIO 181 or PSY 101; minimum 45 hours OR Visiting University Student |
| NEU | 310 | Fundamentals of Cognitive Neuroscience | Provides an overview of major theories, methods and topics of inquiry in the field of cognitive neuroscience. Covers the neural underpinnings of everyday cognitive activities such as attention, memory, decision making, emotion, social interaction and language. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): NEU 101; Credit is allowed for only NEU 310 or NEU 394 (Fundamentals of Cognitive Neuroscience) or PSY 224 or PSY 294 (Introduction to Cognitive Neuroscience) OR Visiting University Student |
| NEU | 323 | Neuroscience of Perception | Designed to understand neural mechanisms underlying our visual experiences from seeing spots of light to recognizing complex visual objects. Includes hands-on experiences on visual illusions, in-class demonstration of neuroimaging techniques (e.g., EEG) and introduction of advanced analysis methods (e.g., neural decoding). | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): NEU 101 with C or better; minimum 30 hours; Credit is allowed for only NEU 323 or NEU 394 (Neuroscience of Perception) or PSY 323 OR Visiting University Student |
| NEU | 325 | Biopsychology | Explores the biological basis of behavior. Covers the basic components and functioning of neurons, the various ways that bodily functions are regulated, how the central nervous system contributes to higher-level cognitive processing, and how malfunctions in the nervous system lead to various psychological disorders. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): NEU 101; BIO 181, BIO 182, BIO 282, CHM 113 or CHM 116 OR PSY 290 OR complete two of the following: BIO 181, BIO 182, BIO 282, CHM 113, CHM 116; Credit is allowed for only NEU 325 or NEU 394 (Biopsychology) OR Visiting University Student |
| NEU | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | College of Liberal Arts and Sciences | Department of Psychology | 1-4 | | |
| NEU | 426 | Neuroanatomy | Structure and function of mammalian brain, including sheep brain dissection. | N | LEL | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 4 | | Prerequisite(s): BIO 181 with C or better; BIO 467, NEU 310, or PSY 325 with C or better; Credit is allowed for only NEU 426 (PSY 426) or PSY 526 OR Visiting University Student |
| NEU | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | |
| NEU | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 1-6 | | Prerequisite(s): Barrett Honors student |
| NEU | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 1-6 | | Prerequisite(s): Barrett Honors student |
| NEU | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| NEU | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 1-3 | | |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| NEU | 556 | Human Systems Neuroscience | Systems-level neuroscience course focusing on human diseases. Classes involve lectures and/or other activities such as observations of clinical procedures and tours of clinical facilities (e.g., the neurosurgical suite, imaging facilities). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): BME PhD student or Neuroscience PhD student; Credit is allowed for only BIO 598 (Human Sys Neuroscience) or BME 556 or NEU 556 |
| NEU | 558 | Neuroscience Journal Club | Small class emphasizing discussion, presentation by students, and written research papers. | N | SEM | Y | GNA | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) |
| NEU | 576 | Advanced Cellular and Molecular Neuroscience | Explores the basic neurobiology of the central nervous system across genetic, molecular, cellular, synaptic and circuit levels. Focuses on the principles underlying the function of individual neurons and glia how they give rise to integrated networks during normal behavior and in pathological states | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEU | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): Interdisciplinary Graduate Program in Neuroscience PhD students |
| NEU | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEU | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEU | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEU | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEU | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEW | 100 | Introduction to Conflict Resolution | Introduces students to theory, research and practice of communication and language skills which are useful in conflict management, negotiation, transformation, reconciliation and forgiveness. Gives students access to practical exercises and role-playing opportunities. Critical thinking and critical decision-making are embedded in both the theory and the practice in this course and apply to the personal, professional and cross-cultural levels of interaction. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 3 | | |
| NEW | 101 | The ASU New College Experience | Students learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. Required for all first-time, first-year students in the New College of Interdisciplinary Arts and Sciences. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1 | | Prerequisite(s): New College of Interdisciplinary Arts and Sciences major; Credit is allowed only for ASU 101 or NEW 101 OR Visiting University Student |
| NEW | 101-H | The ASU New College Experience | Students learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. Required for all first-time, first-year students in the New College of Interdisciplinary Arts and Sciences. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1 | | Prerequisite(s): New College School of Humanities, Arts, and Cultural Studies major; Credit is allowed only for ASU 101 or NEW 101 |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| NEW | 101-M | The ASU New College Experience | Students learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. Required for all first-time, first-year students in the New College of Interdisciplinary Arts and Sciences. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1 | | Prerequisite(s): New College School of Mathematical and Natural Sciences major; Credit is allowed only for ASU 101 or NEW 101 |
| NEW | 101-S | The ASU New College Experience | Students learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. Required for all first-time, first-year students in the New College of Interdisciplinary Arts and Sciences. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1 | | Prerequisite(s): New College School of Social and Behavioral Sciences major; Credit is allowed only for ASU 101 or NEW 101 |
| NEW | 102 | Global Transformations | Focuses on the various economic, historical, cultural, environmental, technological and political forces that have transformed our world into an increasingly interconnected global community. To be a responsible and engaged global citizen necessitates understanding globalization and its implications for our future. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1 | | Credit is allowed for only NEW 102 or NEW 194 (Global Transformations) |
| NEW | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1-3 | | Prerequisite(s): freshman standing with 25 or fewer hours |
| NEW | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1-4 | | |
| NEW | 200 | Innovation Challenge, Service Learning and Leadership | Integrates academic coursework with lessons in leadership, community engagement and service learning in order to cultivate students' civic mindedness, knowledge and sensibility to issues of social justice and community engagement. Students develop solutions to real-life challenges and participate in implementing a community-based service learning project. Applying multicultural engagement and interdisciplinary knowledge and critical thinking skills to civic responsibility, course provides students with skills and knowledge applicable to the mission and goals of ASU and the New College. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 3 | | Credit is allowed for only NEW 200 or IAS 294 (Innovation Challenge, Service Learning, Leadership) |
| NEW | 202 | Interdisciplinary Transformations | Examines how interdisciplinary approaches to knowledge can successfully address topics that are too broad or complex to be dealt with adequately by a single discipline. Exposes students to interdisciplinary research and problem solving, in oral and written communication, and in the synthesis of diverse perspectives. Familiarity and understanding of interdisciplinarity prepares students to engage in the type of complex thinking necessary for success in life and career, no matter the major or job path, and for better understanding our complex world. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1 | | Prerequisite(s): NEW 102 or 194 (Global Transformations); Credit is allowed for only NEW 202 or NEW 294 (Social Transformations) OR Visiting University Student |
| NEW | 210 | From Passion to Practice: Charting Your Path | Part self-discovery, part professional boot camp, this highly interactive course allows students to explore their strengths and passions and utilize them most effectively in their careers. Drawing upon the expertise of successful leaders and organizations from diverse professions as they are presented in text, video and in person, students learn skills and methodology that prepare them for entry into a fulfilling profession. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 3 | | Credit is allowed for only IAS 294 (Passion to Practice: Charting Your Path) or NEW 210 OR Visiting University Student |
| NEW | 225 | Building a Better You | Equips students to manage their lives effectively and integrate beliefs, values and skills into fulfilling careers. Students develop a focused career path based upon their learning profile, interests and self-knowledge. Develops critical thinking and reading skills needed for effective decision making and communication. Uses the Let Me Learn Advanced Learning System® to enhance self-awareness and growth. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 3 | | |
| NEW | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1-4 | | |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|---|--|-------|-----------------|---|
| NEW | 300 | International Cities | Expands the global awareness of students through intensive study of a major international city. Students study such areas as the history, political system, economy, geography, architecture, science, technology, arts and/or culture of the city before visiting it physically during a break. While abroad, students build on what they have learned in class by exploring the city and experiencing it firsthand. | N | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| NEW | 302 | Personal Transformations | Provides a structured approach as to how students can synthesize and reflect upon their general studies experience via the completion of an ethical will. Through an iterative writing process, students compose a document which outlines how their thoughts have developed and evolved over their course of study. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1 | | Prerequisite(s): NEW 102 or 194 (Global Transformations); NEW 202 or 294 (Social Transformations) OR Visiting University Student |
| NEW | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1-4 | | Prerequisite(s): minimum 45 hours |
| NEW | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1-12 | | Prerequisite(s): minimum 45 hours |
| NEW | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| NEW | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| NEW | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| NEW | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1-3 | | |
| NLM | 160 | Voluntary Action and Community Leadership | Introduction to voluntary behavior in American society for students interested in volunteerism, community service, and civic engagement. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | SB | |
| NLM | 203 | Program Planning | Overview of the conceptual foundations and professional competencies necessary to effectively assess, plan, implement and evaluate programs. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Credit is allowed for only CSM 203 or NLM 203 or PRM 203 OR Visiting University Student |
| NLM | 220 | Introduction to Nonprofit Organizations | Introduces the nonprofit sector and its role in developing the cultural, economic, and social impact in U.S. society. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | |
| NLM | 235 | Leadership and Ethics | Examines ethical questions faced by emerging leaders. Focuses on helping students develop emotional intelligence, current professional issues, and the refinement of a professional philosophy and comprehensive set of competences that enable transition from student to professional. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Credit is allowed for only CRD 235 or NLM 235 |
| NLM | 300 | Fund Raising and Resource Development | Theory and practice of philanthropy, resource acquisition methods through ethical fund raising, and earned income approaches for nonprofit organizations. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | |
| NLM | 310 | Volunteer Management | Studies volunteer engagement practices integral to community organizations introducing management techniques such as program organization, recruitment, interviewing, placement, supervision, recognition and evaluation. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only NLM 310 or PRM 310 OR Visiting University Student |
| NLM | 320 | Professional Development Seminar | Professional seminar featuring nonprofit executives; variable topics on leadership and management concerns. Forum for exchange between students and professionals. | N | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 2 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| NLM | 380 | Financial Management for Nonprofit Organizations | Instructs students about nonprofit financial, management, and social accounting; accounting issues specific to nonprofits; budgeting; reporting; and nonprofit analysis. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): NLM 220 with C or better OR Visiting University Student |
| NLM | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |
| NLM | 402 | Assessment and Evaluation of Community Services | Introduces applied leisure research with emphasis on program evaluation, research design, data collection techniques, and data analysis. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 210 or PRM 210; Credit is allowed for only CRD 402 or CSM 402 or NLM 402 or PRM 402 or TDM 402 OR Visiting University Student |
| NLM | 410 | Social Entrepreneurship | In-depth study of social entrepreneurship, including how ideas are formulated, constructed, and implemented; experiential learning in developing a social enterprise plan. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): Cross-Sector Leadership certificate or NLM 220; Credit is allowed for only NLM 410 or PAF 415 (CPP 410) OR Visiting University Student |

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| NLM | 420 | Nonprofit Leadership Alliance Institute | Nonprofit Leadership Alliance Institute for preparation of nonprofit professionals. Requires out-of-state conference. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| NLM | 430 | Managing Nonprofit Organizations | Analyzes administrative structures, decision making, and program delivery within nonprofit organizations. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; NLM 220 with C or better OR Visiting University Student |
| NLM | 435 | Service Learning for Community Development | Applies community development and service-based learning applications. Students develop a professional relationship with an agency/organization management-level representative. Through this professional relationship, a service-learning plan is developed in a partnership with an agency/organization related to the student's degree program. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CRD 435 or NLM 435 OR Visiting University Student |
| NLM | 440 | Nonprofit Professional Certification | Prepares students to sit for the Certified Nonprofit Professional national credentialing examination. | N | LEC | N | Z2 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1 | | Prerequisite(s): NLM 320; Pre- or corequisite(s): NLM 420; Credit is allowed for only NLM 440 or NLM 494 (CNP Certification) or NLM 598 (CNP Certification) OR Visiting University Student |
| NLM | 451 | Grant Writing | How to increase grant funding: creating fundable ideas, identifying sponsors, following guidelines, writing effectively, constructing budgets, responding to reviewers. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Credit is allowed for only NLM 451, 565 or PRM 451 |
| NLM | 463 | Senior Internship | Supervised guided experience in selected agencies. | N | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3-12 | | Prerequisite(s): CRD 403 or RTH 413 (PRM 413) with C or better; Credit is allowed for only CRD 463 or CSM 463 or NLM 463 or PRM 463 or RTH 463 or TDM 463 |
| NLM | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | Prerequisite(s): minimum 45 hours |
| NLM | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-6 | | Prerequisite(s): Barrett Honors student |
| NLM | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| NLM | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |
| NLM | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| NLM | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-3 | | |
| NLM | 510 | The Nonprofit Sector | Provides grounding in scope, function and philosophical foundations of the nonprofit sector in American society, including civic engagement, service delivery, reproduction of values and entrepreneurship. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 515 | Nonprofit Organizational Behavior and Principles of Management | Organizational behavior theories and effective management practices for nonprofits. Focuses on designing systems and developing habits to optimize the performance of individual employees and teams, in the context of the organization's goals, culture and capacity. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only NLM 515 or NLM 598 (Nonprofit Organizational Behavior) |
| NLM | 520 | Financial and Resource Management | Baseline understanding of key and critical financial management issues and practices for nonprofit organizations. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 525 | Fundraising and Resource Development | Examines fundraising and resource development in philanthropy from the perspective of the nonprofit practitioner. Also examines issues confronting nonprofit organizations related to fundraising and philanthropic purposes in society. Increases students' knowledge and understanding of charitable giving and fundraising--who gives to what, why, and how to raise funds for a cause. Examines a wide range of fundraising methods and tools. Focuses on critical thinking, reflection on practice, collaboration, discussion and writing. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 530 | Program Evaluation and Information Management | Develops skills in several areas, including evaluation, needs assessment, information and data collection, data management and analysis, computer applications, and report writing. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 540 | Strategic Human Resources Management | Managing human resources in nonprofit organizations; practices and theories. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| NLM | 545 | Volunteer Resource Management | Core topics in effective management of volunteers in carrying out the mission of organizations and ensuring volunteers have good experience with community organizations. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 550 | Philanthropy | Examines the role of philanthropy and charitable giving in contemporary American society from perspectives of the nonprofit practitioner, the philanthropist and the general public. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 560 | Leadership and Ethics in the Nonprofit Sector | Examines leadership and ethical questions encountered by managers and leaders in the nonprofit organizations. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 562 | Social Entrepreneurship | Introduces social entrepreneurship, including how ideas are formulated, constructed, and implemented; experiential learning in developing a social enterprise plan. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 565 | Grant Writing Nonprofit Organizations | Provides practical, experiential instruction identifying grant makers, writing proposals, developing budgets and evaluating grant proposals for the nonprofit sector. Develops proposals with a partner nonprofit organization. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only NLM 451 or NLM 565 or PRM 451 |
| NLM | 570 | International Non-Governmental Organizations | Increases knowledge and understanding of international non-governmental organizations by examining what these organizations do and how they operate in a cross-cultural context. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 572 | Community and Social Innovations | Considers community innovation and development from the perspective of achieving balance among economic, environmental, social, physical and political realms as a framework of sustainability. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CRD 572 or NLM 572 |
| NLM | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 585 | Social Marketing | Covers a wide spectrum of topics associated with marketing and strategic communications for socially oriented organizations wanting to influence behavior for social change. Students gain a broad understanding of the principles and practices of marketing through theoretical and practical perspectives and have an opportunity for "hands-on" application. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only NLM 585 or NLM 598 (Nonprofit Marketing and Communications) |
| NLM | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | IND | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 605 | Nonprofits, Law and Society | Enhances the legal sensibilities of nonprofit leaders and engaged stakeholders. This necessitates critical in-depth understanding of: (1) legal needs common to all nonprofit organizations, regardless of mission or area of focus such as nonprofit corporation law, tax-exempt status, fiduciary duties and fundraising and lobbying ethics and parameters; (2) commonalities among nonprofit, for-profit and governmental enterprises operating within similar spheres of society, especially the importance of nonprofit organizations' compliance with laws generally applicable to specific subsectors such as contracts, labor and employment, volunteer and premises liability, and intellectual property; and (3) the overall importance and impact of legal structures on nonprofit organizations' abilities to successfully pursue their missions for the benefit of society. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 610 | Executive Leadership and Governance | Examines the multiplicity of roles for executives and board of directors in providing strategic leadership for nonprofits. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| NLM | 620 | Capstone: Integrative Seminar | Synthesizes learning across MNLM program; analyzes emergent nonprofit and philanthropic sector trends; develops leadership approaches to enact social impact; develops and defends Capstone Solutions Project. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): Nonprofit Leadership and Management MNLM student; NLM 510; NLM 520; NLM 530; NLM 540 or 545; NLM 550 |
| NTR | 100 | Introduction to Nutrition Science | Introduces the science of food and nutrition as well as food systems. Focuses on personal dietary behavior change and sustainable dietary recommendations targeting human and environmental health to minimize risk of chronic disease. Overview of healthy dietary patterns, nutrients and energy balance and the digestive system. Addresses food systems issues, cultural aspects of food, and methods for evaluating credibility of nutrition information in the media as well as nutrition science. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |
| NTR | 142 | Applied Food Principles | Applied scientific principles of food preparation and production. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |
| NTR | 150 | Introduction to the Professions in Nutrition and Dietetics | Introduces the professions of nutrition and dietetics. Emphasizes the scope of dietetics practice, the role and functions of registered dietitian nutritionists and the education requirements for entry into practice. Includes guest presentations by various nutrition professionals. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 1 | | |
| NTR | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| NTR | 241 | Human Nutrition | Introduces nutritional concepts with an emphasis on evidenced-based guidelines and practices. Students explore the macronutrients and micronutrients in food, how these nutrients are utilized by the body and their effect on overall health and disease. Also discusses what makes a 'healthy diet,' dietary eating patterns, energy balance and body weight. Students learn techniques to assess the credibility of nutrition information in the media, on the Internet and in scientific journals. Additional topics also include cultural aspect of food, food sustainability and food safety. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): CHM 101, 113, or 114 OR Visiting University Student |
| NTR | 290 | Introduction to Evidence-Based Research in Nutrition | Introduces best practices for gathering, interpreting, analyzing, synthesizing and evaluating research within the nutrition field. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s) w/ C or better: College of Health Solutions major; ENG 101, 105, or 107; ECN 221, HCD 300, JUS 302, PBH 300, POS 401, PSY 230, SOC 390, STP 226, STP 231 or SWU 321; Credit allowed for only KIN 290 or NTR 290 OR Visiting University Student |
| NTR | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| NTR | 300 | Computer Applications in Food Service | Introduces common uses of software and technology in the food service environment, including dietary assessment and analysis, point of sale, and food inventory and control. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): NTR 100 or 241 OR Visiting University Student |
| NTR | 302 | Digital Technologies in Nutrition | Students will learn to leverage existing digital technologies ethically and efficiently to solve problems, complete tasks, and accomplish goals related to nutrition. Students will learn effective adaptability to new and emerging technologies. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): NTR 100 or 241; Credit is allowed for only NTR 302 or NTR 394 (Digital Technologies in Nutrition Communication) OR Visiting University Student |
| NTR | 320 | History of Human Nutrition | Origins of human nutrition; evolving theories of nutrition and disease; historical role of nutrition in social, military, cultural events. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | H | Prerequisite(s): NTR 100 or 241 OR Visiting University Student |
| NTR | 341 | Medical Nutrition Therapy I | Studies medical nutrition therapy and evidence-based practice for health promotion and prevention and treatment of disease. Covers nutrition care planning and therapeutic diets for a variety of conditions including diabetes, cardiovascular disease and neurological conditions. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): CHS 260 with C or better; NTR 100 or 241 with C or better OR Visiting University Student |
| NTR | 343 | Food Service Purchasing | Introduces purchasing systems, bid processes, receiving and storage procedures, and regulatory agencies involved in the food service industry. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): NTR 100 or 241 OR Visiting University Student |
| NTR | 344 | Nutrition Management and Leadership | Students gain a greater understanding of organizational structure, culture, administration, traits, values, diversity, marketing, budget development, unions, and more, all through the lens of management and leadership. Students also utilize their research and writing skills to investigate a variety of management topics. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; NTR 100 or 241 OR Visiting University Student |
| NTR | 345 | Development of Healthy Cuisines | Principles and applications of nutrition, food selection, food preparation and mindful eating in the development of healthy cuisine for wellness, prevention and disease states. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): NTR 100 or 241 OR Visiting University Student |
| NTR | 348 | Cultural Aspects of Food | Explores origins, development and diversity of food preferences and dietary habits. Also addresses food patterns and attitudes of global populations and the role of U.S. immigrants in shaping food culture. Requires students to prepare and try new cultural and ethnic foods in this course. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | SB & C & G | Prerequisite(s): NTR 100 or 241 OR Visiting University Student |

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| NTR | 350 | Nutrition Counseling | Counseling techniques in nutrition; interpersonal and communication skills in clinical and community sites; nutrition education for individuals and populations. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): NTR 341 or 345 with C or better OR Visiting University Student |
| NTR | 351 | Nutrition Communication | Explores how to best communicate evidence-based nutrition messages to help promote change. Covers written and oral communication approaches for health professionals or lay audiences. Course concepts include health literacy, tailoring messages to a target audience and simplifying the language. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; NTR 100 or 241 with C or better; NTR 290 with C or better or Applied Science (Food and Nutrition Entrepreneurship) BAS major OR Visiting University Student |
| NTR | 353 | The Western Diet | Covers political, ethical, social and cultural issues inherent in the U.S. food system. Topics include examination of U.S. food guidance; the food system and food environment; the history of food and farm policy; food security and aspects of sustainability in relation to food system impacts on the health of humans, society and the environment. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only NTR 353 or SOS 353 OR Visiting University Student |
| NTR | 360 | Nutrition Entrepreneurship | Explores entrepreneurial opportunities in nutrition, food service, wellness and health communications. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| NTR | 390 | Current Nutrition Research | Covers nutrition research concepts that help prepare students for beginning an undergraduate experiential learning or research project. Teaches the basics of undergraduate research focusing on identifying research topics and potential research mentors/faculty, performing literature reviews, critiquing scientific articles, evaluating ethics and participant safety, and proposal writing. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 290 or NTR 290 with C or better; NTR 100 or 241 with C or better; minimum 56 hours OR Visiting University Student |
| NTR | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| NTR | 400 | Preprofessional Preparation in Dietetics | Assists the senior dietetics student in navigating the process of selecting potential internships and applying for internships through DICAS. Focuses on each student's unique professional development needs with projects designed to explore career paths, network, and/or to develop career development skills. Provides an overview of the dietetics profession. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): Dietetics BS major; NTR 341 with C or better; minimum senior standing OR Visiting University Student |
| NTR | 401 | Preprofessional Fieldwork Experience in Nutrition | Students complete 45 hours of fieldwork experience within their area(s) of professional interest to develop practical skills in planning, development, production and collaboration. Course also includes resume and LinkedIn profile development. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prereq(s): Applied Sci (Food & Nutrition Entrep) BAS, Food & Nutrition Entrep BS, Nutrition BS, Nutrition (Human Nutrition) BS, or School Nutrition cert student; senior standing; Pre- or corequisite(s): NTR 343, 351, or 444 OR Visiting University Student |
| NTR | 402 | Preprofessional Prep in Nutrition Careers | Prepares students for nutrition-related career opportunities in their final year. Focuses on each student's unique professional development needs with projects designed to explore career paths, network and/or develop career development skills. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): Applied Science (Food and Nutrition Entrepreneurship) BAS, Food and Nutrition Entrepreneurship BS, or School Nutrition certificate student; senior standing; Pre- or corequisite(s): NTR 343, 351, or 444 with C or better if completed |
| NTR | 440 | Advanced Human Nutrition I | Explores the metabolic reactions in humans that involve vitamins and minerals. Students learn how these micronutrients and phytochemicals interact with one another to influence health and disease, explore how genetic variability alters the metabolism of vitamins and minerals, and integrate micronutrient nutrition with physiology and biochemistry to optimize health and prevent metabolic disease. Students immerse themselves in a content-rich learning environment, engage with one another in lectures and in-class discussions, and apply information they have learned in team projects. They also enhance their skills in evidence-based approaches to nutrition science and dietetics by critiquing scientific articles with a micronutrient focus. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BIO 202 with C or better; NTR 241 with C or better; NTR 341 with C or better; Pre- or corequisite(s): BCH 361 with C or better if completed; Credit is allowed for only NTR 440 or NTR 540 OR Visiting University Student |
| NTR | 441 | Advanced Human Nutrition II | Metabolic reactions and interrelationships of carbohydrate, lipid, alcohol and protein. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BCH 361 with C or better; BIO 202; NTR 241; Credit is allowed for only NTR 441 or NTR 541 OR Visiting University Student |
| NTR | 442 | Experimental Functional Foods | Food product development techniques, food evaluation and testing, and investigation of current research into food composition. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Pre-requisite: CHM 101 or CHM 113; NTR 142; NTR 100 or NTR 241 |
| NTR | 444 | Medical Nutrition Therapy II | Covers the principles of medical nutrition therapy for prevention and treatment of disease and health promotion. Emphasizes medical nutrition therapy for pediatrics, critical care, nutrition support, renal, liver, cancer and HIV/AIDS patients. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BIO 202 with C or better; NTR 341 with C or better; Credit is allowed for only NTR 444 or NTR 544 OR Visiting University Student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|-----------------------------|-----------------------------|-------|-----------------|--|
| NTR | 445 | Management of Food Service Systems | Reviews standardized methods of quantity food preparation, operation of institutional equipment, and institutional menu planning. Includes practical experience with menu creation, food preparation, and management of all aspects necessary to produce menu items in a commercial kitchen or large food service production environment. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): NTR 100 or 241 with C or better; NTR 142 with C or better; NTR 343 with C or better; Credit is allowed for only NTR 445 or NTR 545 OR Visiting University Student |
| NTR | 446 | Medical Nutrition Therapy III | Nutrition therapy for advanced practice including critical care, advanced wound care and failure/compromise of organ systems. Develops critical thinking skills to perform and evaluate nutrition assessment techniques including the NFPE and interpretation of malnutrition, laboratory data and nutrition support therapy in relation to disease process and progression. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): NTR 444 with C or better; Pre- or corequisite(s): BCH 361 with C or better if completed; Credit is allowed for only NTR 446 or NTR 546 OR Visiting University Student |
| NTR | 448 | Community Nutrition | Includes content related to community nutrition screening and assessment, nutritional epidemiology, nutrition monitoring and food assistance programs, public policy, nutrition interventions for vulnerable populations, planning effective community nutrition programs, grant writing, nutrition marketing and designing nutrition education programs. Students work in teams to analyze a specific community and population, conduct a literature review on nutrition concerns with their group, then design a community intervention and nutrition education lesson. Students also complete 10 hours of fieldwork in a community nutrition field outside of the classroom. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; NTR 100 or 241; Credit is allowed for only NTR 448 or NTR 548 OR Visiting University Student |
| NTR | 450 | Nutrition in the Life Cycle | Reviews nutritional needs and nutrition-related conditions in different stages of the life cycle. Course topics include pregnancy, lactation, infancy, childhood, adolescence and older adulthood. Reviews how developmental changes at each life stage contribute to specific diet characteristics and nutritional needs. Also covers how cultural, environmental, behavioral, psychosocial, physical and socioeconomic factors affect nutritional status through the life span. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | SB | Prerequisite(s): NTR 100 or 241; Credit is allowed for only NTR 450 or NTR 550 OR Visiting University Student |
| NTR | 453 | Nutrition and the Media | Examines various aspects of nutrition and the media, including how food and nutrition professionals use the media in their career, how the media constructs our cultural views of food and body image, and how to frame nutrition messages to make them more newsworthy. Also explores the fields of food writing and food journalism. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| NTR | 455 | Retail Food Service Operations | Development, evaluation and management of retail food service operations; legal and ethical issues in food and beverage management. Capstone course for food management degrees. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): NTR 100 or 241; minimum junior standing OR Visiting University Student |
| NTR | 457 | Sports Nutrition | Provides a foundation in sports nutrition and addresses the nutritional needs of various types of athletes. Topics include energy and nutrient metabolism during activity, fluid and electrolyte regulation, the evaluation of sports supplements, and travel nutrition. Students also gain experience in developing and providing educational sports nutrition materials outside of the classroom. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BIO 160 or 201; NTR 241 OR Visiting University Student |
| NTR | 480 | Integrative and Functional Nutrition | Emphasizes use of food as medicine for improving health and treating disease while integrating complementary evidence-based therapies. Develops critical thinking and communication skills to perform assessments and develop care plans that account for the biological, genetic, social, emotional, cultural and spiritual needs of individual patients and clients. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): NTR 100 or 241 with C or better; minimum 56 hours OR Visiting University Student |
| NTR | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): minimum 2.00 GPA; minimum junior standing |
| NTR | 490 | Undergraduate Research Methods in Nutrition | Engages students in research methods in the field of nutrition. Provides an overview of common measurements and study designs that are used in health and nutrition research. Applies knowledge to conducting mini-studies and a class-based research project. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 290 or NTR 290 with C or better; NTR 100 or 241 with C or better; minimum 56 hours OR Visiting University Student |
| NTR | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): Barrett Honors student |
| NTR | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| NTR | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| NTR | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-7 | | |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|-----------------------------|-----------------------------|-------|-----------------|---|
| NTR | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-3 | | |
| NTR | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Dietetics MS, Medical Nutrition MS, or Nutritional Science MS student |
| NTR | 501 | Research Methods in Nutrition | Reviews survey, focus group, and epidemiologic research; develops questionnaires; analyzes large data sets. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Nutritional Science MS or Nutritional Science (Dietetics) MS student; EXW 501 or NTR 502 with C or better; NTR 500 with C or better |
| NTR | 502 | Statistics in Research | Covers the fundamental principles of the scientific process. Critically reviews scientific articles including review articles. In particular, students understand study limitations and how they impact data interpretation and generalizability. Basic training in statistical analyses using the statistics program SPSS. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Dietetics MS or Medical Nutrition MS student; Credit is allowed for only NTR 502 or NTR 598 (Statistics in Research) |
| NTR | 503 | Designing Health Behavior Change Interventions | Project-based course focuses on the process of health behavior change interventions using design process and behavioral science. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Nutritional Science MS, Nutritional Science (Dietetics) MS, or Exercise and Nutritional Sciences PhD student |
| NTR | 510 | Food and Nutrition Across the Lifespan | Examines the nutritional needs of humans as they move through the lifespan from pre-conception through elder years. Highlights conditions that may alter or substantially impact nutrition at these stages using case studies and medical reviews. Reviews programs that provide support for food or nutrition education at various life stages including changes in needs for specific macronutrients and micronutrients. Diet assessment techniques and diet prescription strategies to meet needs during various life stages. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Medical Nutrition MS student |
| NTR | 511 | Medical Nutrition in the Care and Prevention of Disease | Provides an overview of the role of nutrition in medical practice and disease prevention. Includes an introduction to nutrition-based approaches in the prevention and treatment of chronic diseases such as obesity, cardiovascular disease, diabetes, cancer and gastrointestinal diseases. Discusses integrative aspects of nutrition along with review of normal digestion and absorption and a discussion of disorders arising from abnormalities in these processes. An introduction to clinical nutrition assessment and the basics of nutrition support will also be provided. Utilizes relevant clinical case discussions along with review of the literature and current authoritative guidelines to reinforce the content. Students learn how to individualize nutrition recommendations and utilize motivational interviewing for patients with the various above-listed needs. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Medical Nutrition MS student |
| NTR | 519 | Nutrition Therapies for Eating Disorders and Addictions | Critical review of the specialized role that dietitians play in the treatment of eating disorders, disordered eating, and substance use disorders as they relate to medical nutrition therapy, dietary interventions and long-term recovery in an individualized and treatment team approach. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only NTR 519 or NTR 598 (Nutrition Therapy for Eating Disorders and Addictions) |
| NTR | 520 | Nutrition-Focused Physical Assessment | Covers evidence-based information on how to perform a comprehensive Nutrition-Focused Physical Examination. Develops skills needed to accurately identify and determine proper nutrition diagnosis for patients with malnutrition. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only NTR 520 or NTR 598 (Nutrition-Focused Physical Assessment) |
| NTR | 523 | Vegetarian Nutrition | Health benefits, nutritional characteristics, potential risks of vegetarian diets. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 524 | Chronic Inflammation and Metabolic Syndrome: The Common Pathway for Cardiovascular Disease, Diabetes | Examines how diet and lifestyle contribute to the development of metabolic syndrome. Reviews and discusses various risk factors that comprise metabolic syndrome through lectures and readings. Reviews chronic inflammation as a common etiology for chronic disease. Highlights nutrition interventions to treat and to prevent chronic inflammation using case studies and medical reviews. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Medical Nutrition MS student, Nutritional Science MS student, or Nutritional Science (Dietetics) MS student |
| NTR | 525 | Complementary Nutrition | Critical review of functional foods, phytochemicals, nutrient supplements in health promotion. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Medical Nutrition MS student, Nutritional Science MS student, or Nutritional Science (Dietetics) MS student |
| NTR | 527 | Policies, Environment, and Obesity Prevention | Enhances students' understanding of the role policies and environments play in health promotion and disease prevention with a special focus on obesity prevention. Looks at a variety of examples to see how policies and environments related to food, nutrition and physical activity affect individual and community health. Also explores how "non-health" policies can be used as an effective tool to promote healthy behaviors. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|-----------------------------|-----------------------------|-------|-----------------|--|
| NTR | 529 | Pediatric Nutrition | Critical review of pediatric disease states and current nutritional therapies. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Nutritional Science MS or Nutritional Science (Dietetics) MS student |
| NTR | 530 | Techniques of Health Coaching | Health coaching techniques and skills for medical, allied health and health promotion professionals. The content illustrates the theory, principles and practices of evidence-based coaching psychology. Aligns with the training programs affiliated with Wellcoaches® (endorsed by the American College of Sports Medicine). Designed in three parts: (1) building of core coaching skills; (2) establishing generative moments with clients; and (3) developing coaching presence and positive psychology. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HSC 440 or NTR 530 or HSC 598 (Health Coaching Concepts and Skills) |
| NTR | 532 | Endocrine Pathophysiology and Nutrition | Explores the etiology of various endocrine pathophysiological conditions. Throughout the course, students learn the etiology of common conditions and are responsible for finding and presenting evidence for nutrition-based treatments for these conditions. At the conclusion of the course, students gain an appreciation and understanding of current research in nutrition-based approaches to treat endocrine disorders. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 533 | Food Systems, Ethics and the American Diet | Focuses on health-related, political and ethical issues inherent in the U.S. food system. Topics include food systems models, dietary recommendations and regulations, food environment, food politics, ethical questions of food choice, sustainability and more. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 535 | Nutrigenomics | Provides a sound foundation for promoting personalized nutrition by integrating and applying molecular nutrition and nutritional biochemistry to clinical settings. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Medical Nutrition MS student, Nutritional Science MS student, or Nutritional Science (Dietetics) MS student |
| NTR | 537 | Evidenced-Based Nutrition | Reviews current evidence of the role of diet on disease prevention, development, and management. | N | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Nutritional Science MS or Nutritional Science (Dietetics) MS student |
| NTR | 539 | Global Nutrition | Provides an overview of global nutrition issues, including the epidemiology, etiology, sociocultural and economic context, and program and policy responses to nutrition-related topics. Areas to be covered include childhood malnutrition, growth stunting, micronutrient deficiencies, parasites and nutrition, sanitation, and obesity and chronic disease incidence in developing countries. Course is participatory; students engage in a series of class activities, discussions, and presentations. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 540 | Advanced Micronutrient Metabolism | Metabolism of vitamins and minerals, primarily as applied to humans, with research literature emphasized. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only NTR 440 or 540 |
| NTR | 541 | Advanced Macronutrient Metabolism | Metabolism of protein, fat, and carbohydrate, primarily as applied to humans, with research literature emphasized. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only NTR 441 or 541 |
| NTR | 544 | Therapeutic Nutrition | Current theories of the nutritional prevention or treatment of various diseases. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only NTR 444 or 544 |
| NTR | 545 | Management of Institutional Food Service Systems | Standardizes methods of quantity food preparation, operation of institutional equipment, institutional menu planning, quantity food experiences. May require field trips. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only NTR 445 or 545 |
| NTR | 546 | Assessment Techniques in Nutrition | Clinical and biochemical evaluation of nutritional status. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only NTR 446 or NTR 546 |
| NTR | 548 | Advanced Community Nutrition | Planning, development, implementation, and evaluation of community nutrition programs, including the process of grant applications. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only NTR 448 or 548 |
| NTR | 550 | Advanced Nutrition in the Life Cycle | In-depth review of metabolic characteristics and nutritional needs during pregnancy and lactation, infancy, childhood, adolescence, adults and older adults. Analysis of cultural, environmental, behavioral, psychosocial, physical and socio-economic factors affecting nutritional status through the life span. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 551 | Geriatric Nutrition | Explores the impact of nutrition on the aging process and how the aging process influences nutritional needs. Examines the physiology, demographics and economics of aging as well as issues such as end-of-life care. Addresses health promotion, disease prevention and disease management within the context of geriatric nutrition. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Nutritional Science MS or Nutritional Science (Dietetics) MS student |
| NTR | 553 | Nutrition and Cardiovascular Disease | Reviews current evidence of the role of diet on cardiovascular disease prevention, development and management. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): NTR 541. Credit is allowed for only NTR 553 or NTR 598 (Nutrition and Cardiovascular Disease) or NTR 537 (Cardiovascular Nutrition) |

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| NTR | 555 | Nutrition and the Athlete | In-depth study of current practices in sports nutrition and review of scientific literature. Also investigates the application of sports nutrition methodologies. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Clinical Exercise Physiology MS, Exercise and Nutritional Sciences PhD, Nutritional Science MS, Nutritional Science (Dietetics) MS, Physical Activity and Health MS, or Strength and Conditioning MS student |
| NTR | 556 | Hydration for Health and Performance | Comprehensive overview of human thermoregulatory responses and fluid balance to exercise in the heat. Provides students with the opportunity to learn the in-depth thermoregulatory responses to heat and the complication related to exercise-induced hyperthermia as well as water and electrolyte imbalances. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only NTR 556 or NTR 598 (Thermoregulation and Fluid Balance) |
| NTR | 557 | Nutritional Epidemiology | Designed for graduate students interested in conducting epidemiologic studies, or learning how to interpret and evaluate evidence from epidemiologic studies relating diet and nutritional status to disease risk and health. Familiarizes students with concepts and methodologies used in nutritional epidemiologic studies, and current state of knowledge on diet in etiology of chronic diseases. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only NTR 557 or NTR 598 (Nutritional Epidemiology) |
| NTR | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree-seeking graduate student |
| NTR | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | GNA | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): Exercise and Nutritional Sciences PhD student |
| NTR | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| NTR | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Health Solutions | College of Health Solutions | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NUR | 300 | Professional Nurse Concepts I | Introduces students to professional nursing attributes. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): enrollment into upper-division Nursing program; Pre- or corequisite(s): NUR 325; NUR 336; NUR 352 |
| NUR | 310 | Health and Illness Concepts: Beginning | Applies physiologic and psychosocial health and illness concepts in the client domain with exemplars from across the lifespan. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): Nursing BSN major in clinical program |
| NUR | 311 | Pharmacology in Nursing | Applications of pharmacologic interventions. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Nursing major in clinical program OR postbaccalaureate Clinical Nursing Program major |
| NUR | 312 | Psychomotor Skills for Professional Nursing Practice | Theoretical foundation for application of psychomotor nursing skills to professional nursing practice. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): Nursing major in clinical program |
| NUR | 313 | Nursing Concepts for Adult Health | Nursing concepts related to selected alterations in health with focus on adult populations. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): NUR 310 and NUR 311 and NUR 330 all with C or better if completed; NUR 320 with Y passing grade; Corequisite(s): NUR 323 |
| NUR | 315 | Nursing Research and Application to Practice | Provides scientific and clinical inquiry and research methodology along with concepts needed for integration of evidence into practice. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | L | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program; ENG 101, 105, or 107 with C or better |
| NUR | 316 | Nursing Concepts for Psychiatric/Mental Health | Theoretical concepts related to select psychiatric/neurobiological disorders as they affect nursing practice, with focus on individuals, families, and groups. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): NUR 310 with C or better if completed; NUR 311 with C or better if completed; NUR 330 with C or better if completed |
| NUR | 317 | Nursing Concepts for Psychiatric/Mental Health Nursing | Theoretical concepts related to select and/or prevalent psychiatric/neurobiological disorders as they affect nursing practice, with focus on individuals, families and groups. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): NUR 311 with C or better; NUR 330 with C or better; NUR 356 with C or better; NUR 366 with Y grade; Corequisite(s): NUR 367 |
| NUR | 318 | Nursing Research and Evidence Translation | Explores the process of scientific and clinical inquiry, research methodology, critical appraisal of research findings, and the translation of current evidence into nursing practice. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | L | Prerequisite(s): ECN 221, PSY 230, SOC 390, STP 226, STP 231, or SWU 321 with C or better; ENG 101, 105, or 107 with C or better; NUR 391 with C or better |
| NUR | 320 | Clinical Practice: Beginning | Students have an opportunity to practice beginning nursing skills and provide evidence-based care for adults, children and/or families experiencing both wellness and acute and chronic alterations in health across multiple settings. | N | LAB | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Nursing Accelerated BSN major |
| NUR | 321 | Clinical Practice: Developing | Provides an opportunity to practice nursing skills and evidence-based care for clients across the lifespan experiencing both wellness and acute and chronic alterations in health across multiple settings. | N | LAB | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Nursing Accelerated BSN major |
| NUR | 322 | Clinical Practice: Accomplished | Advanced nursing students develop and practice application of nursing process and skills essential to support health maintenance during wellness and to support healing in clients with selected alterations in health in multiple settings. | N | LAB | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): Nursing Accelerated BSN major |
| NUR | 323 | Nursing Practice Adult Health | Applies nursing process with selected alterations in health with focus on adult populations in the acute care setting. | N | LAB | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): NUR 310 with C or better; NUR 311 with C or better; NUR 330 with C or better; NUR 320 or NUR 484 (Nursing Practice) with Y Grade; Corequisite(s): NUR 313 or NUR 394 (Nursing Concepts Adult Health) |
| NUR | 324 | Nursing Practice: Psychiatric/Mental Health | Application of nursing process, critical thinking, clinical decision making with individuals, families, and groups experiencing acute/chronic alterations in mental health and/or psychiatric disorders. | N | SEM | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s) with C or better if completed: NUR 310; NUR 311; NUR 330; Corequisite(s): NUR 316 |
| NUR | 325 | Health and Illness Concepts I | Applies physiologic and psychosocial concepts in the client domain. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the traditional BSN |
| NUR | 326 | Health and Illness Concepts: Adults and Psychiatric/Mental Health | Applies concepts related to health and illness and evidence-based principles in the care of clients experiencing alterations in health. The physiologic and psychosocial concepts focus on the leading causes of morbidity and mortality with emphasis on safe, competent and compassionate nursing care. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 327 | Health and Illness Concepts: Developing | Developing nursing students apply concepts of health and illness to populations with exemplars from across the lifespan. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): Nursing Accelerated BSN major |
| NUR | 328 | Concepts of Health and Illness: Accomplished | Advanced theoretical knowledge and interprofessional collaborative care required for the delivery of safe and competent care of the clients experiencing acute and complex alterations in health. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): Nursing Accelerated BSN major |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| NUR | 330 | Professional Nurse Attributes | Professional nursing roles and responsibilities. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | HU | Prerequisite(s): Nursing major in clinical program OR postbaccalaureate Clinical Nursing Program major |
| NUR | 331 | Experiential Learning: Beginning | Using fundamental knowledge, skills and attitudes of best evidence, clinical judgement and client personal preferences, learners deliver quality care across spheres of care and client developmental level. | N | LAB | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): Nursing Accelerated BSN major |
| NUR | 332 | Experiential Learning: Developing | Using developing knowledge, skills and attitudes of best evidence, clinical judgement and client personal preferences, learners deliver quality care across spheres of care and client developmental level. | N | LAB | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): Nursing Accelerated BSN major |
| NUR | 333 | Experiential Learning: Accomplished | Using competent nursing knowledge, skills and attitudes of best evidence, clinical judgement and client personal preferences, learners deliver and evaluate quality care across spheres of care and client developmental level. | N | LAB | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): Nursing Accelerated BSN major |
| NUR | 336 | Experiential Learning | Applies assessment and care concepts in the nursing domain. | N | LAB | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 337 | Experiential Learning: Intermediate | Practices professional nursing interventions including medication administration, bio-psycho-social care of the adult and childbearing family, and basic developmental assessment of the child. | N | LAB | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 346 | Nursing Practice: Geriatric and Adult Health | Practices skills for professional nursing focusing on providing care for adult clients experiencing acute and chronic physiologic and/or psychiatric alterations in health in multiple acute and community clinical settings. Emphasizes providing safe, competent, compassionate and evidence-based care to individuals and their families. | N | LAB | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 347 | Nursing Practice: Psychiatric/Mental Health and Childbearing Family | Applies concepts learned in previous courses to assist with developing plans, providing care and implementing teaching strategies to obstetric, gynecological and psychiatric/mental health clients and their families. | N | LAB | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 348 | Intermediate Nursing Practice: Adults | Practices skills for professional nursing focusing on providing care for adult clients experiencing acute and chronic physiologic and/or psychiatric alterations in health in multiple acute and community clinical settings. Emphasizes providing safe, competent, compassionate and evidence-based care to individuals and their families. | N | LAB | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): NUR 311; NUR 325; NUR 330; NUR 336; NUR 352 all with a C or better if completed; NUR 346 with a Y if completed |
| NUR | 349 | Nursing Practice: Psychiatric Mental Health--Prelicensure BSN | Applies concepts related to bio-psycho-social care of adults experiencing psychiatric alterations in the nursing domain. | N | LAB | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Prerequisite(s): NUR 311; NUR 325; NUR 330; NUR 336; NUR 352 all with a C or better if completed; NUR 346 with a Y if completed |
| NUR | 350 | Professional Nurse Attributes: Accomplished | Focuses on the process of transition to the role of a professional nurse. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Nursing Accelerated BSN major |
| NUR | 352 | Fundamental Concepts in Nursing | Applies care concepts in the client and nursing domain. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 353 | Integration of Concepts Across the Lifespan: Conception to End of Life | Focuses on the physical, cognitive and socio-emotional development of individuals and families using a life cycle approach. Concepts reside in the client domain of health and wellness and include development, reproduction, family roles, spirituality and end-of-life/palliative care. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 356 | Nursing Concepts: Fundamentals and Adult Health | Focuses on the knowledge and skills essential to maintaining the health and wellness of clients across the lifespan and the concepts related to selected alterations in health in the adult population. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 5 | | Prerequisite(s): Nursing major - Postbaccalaureate Clinical Nursing program; Pre- or corequisite(s): NUR 311 with C or better if completed |
| NUR | 366 | Nursing Practice: Adults and Elders | Applies knowledge and skills essential to maintaining health and wellness in clients across the lifespan. | N | PRA | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 6 | | Prerequisite(s): Nursing major - Postbaccalaureate Clinical Nursing Program student; Pre- or corequisite(s): NUR 311 with C or better if completed; NUR 356 with C or better if completed |
| NUR | 367 | Nursing Practice: Psychiatric Mental Health--Postbaccalaureate BSN | Applies nursing process, critical thinking, clinical decision-making with individuals, families, and groups experiencing acute and/or chronic alterations in mental health and/or psychiatric disorders. | N | PRA | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): NUR 311 with C or better; NUR 330 with C or better; NUR 356 with C or better; NUR 366 with Y grade; Corequisite(s): NUR 317 |
| NUR | 384 | Gerontological Nursing | Focuses on optimizing the health of older adults and the management geriatric syndromes and chronic conditions. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Prerequisite(s): NUR 311 with C or better; NUR 330 with C or better; NUR 356 with C or better; NUR 366 with Y grade |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| NUR | 391 | Professional Nursing Theory | Analyzes the multiple dimensions of contemporary professional nursing. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | L | Prerequisite(s): ENG 101 with C or better; ENG 102 with C or better; Pre- or corequisite(s): General Studies Literacy (L) course with C or better if completed |
| NUR | 392 | Health Promotion Across the Life Span | Examines concepts and theories involved in health promotion across the lifespan and their application for nurses. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): ENG 101 with C or better; ENG 102 with C or better; Pre- or corequisite(s): General Studies Literacy (L) course with C or better if completed |
| NUR | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-4 | | Prerequisite(s): Upper Division Nursing Program students |
| NUR | 400 | Concept Integration Across the Lifespan: Beginning | Students gain an understanding of health care systems and nursing concepts, as well as nursing care throughout the lifespan. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Nursing Accelerated BSN major |
| NUR | 401 | Concept Integration Across the Lifespan: Developing | Students gain an understanding of nursing concepts focusing on development and reproduction, as well as nursing care throughout the lifespan. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Nursing Accelerated BSN major |
| NUR | 402 | Concept Integration Across the Lifespan: Accomplished | Prepares students to practice culturally competent, evidence-based health care in community, population and global settings. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Nursing Accelerated BSN major |
| NUR | 404 | Professional Nurse Concepts: Intermediate | Explores concepts related to quality of care, quality improvement, safety, innovation and communication within health care. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 405 | Professional Nurse Concepts: Advanced | Focuses on preparing to become active members of the nursing profession, including developing strategies for successful transition into professional practice. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 410 | Nursing Concepts for Community and Public Health | Examines concepts related to health promotion, disease prevention, and health maintenance within the global community. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): NUR 313 and 315 and 316 all with C or better if completed; NUR 323 and 324 with Y grade if completed; Corequisite(s): NUR 420 or 484 (Nur Pract: Comm/Pub Hlth); Credit allowed for only NUR 410 or 494 (Nur Concepts Comm & Pub Hlth) |
| NUR | 411 | Nursing Concepts for Child bearing and Pediatric Clients | Concepts related to care of individuals and families within the childbearing and pediatric populations. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): NUR 313 and 315 and 316 all with C or better if completed; NUR 323 and 324 with Y passing grade if completed; Corequisite(s): NUR 421; Credit is allowed for only NUR 411 or 494 (Nursing Concepts Childbearing Individ & Families) |
| NUR | 412 | Nursing Concepts for Pediatric Patients and their Families | Examines essential concepts related to the nursing care of pediatric patients and their families. Provides a nursing care approach for the pediatric patient and family across the healthcare continuum. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): NUR 313 with C or better; NUR 315 with C or better; NUR 316 with C or better; NUR 323 with Y grade; NUR 324 with Y grade; Corequisite(s): NUR 422; Credit is allowed for only NUR 412 or NUR 394 (Nursing Concepts: Pediatrics) |
| NUR | 413 | Nursing for Complex Care | Advanced theoretical knowledge and interprofessional collaborative care required for the delivery of safe and competent care of the adult client experiencing acute and complex alterations in health. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Pre- or corequisite(s): NUR 410 and NUR 411 and NUR 412 all with C or better if completed; NUR 420 and NUR 421 and NUR 422 all with Y passing grade if completed; Corequisite(s): NUR 423 |
| NUR | 415 | Nursing Concepts for Childbearing Family | Examines the care of childbearing clients and their families. Embedded content focuses on providing care to clients along the healthcare continuum. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Corequisite(s): NUR 475; Pre- or corequisite(s): NUR 311 with C or better if completed; NUR 330 with C or better if completed; NUR 356 with C or better if completed; NUR 366 with Y grade if completed |
| NUR | 416 | Nursing Concepts: Community/Public Health | Examines selected concepts, theories, and applications of epidemiology, community assessment, and population-centered health education for community and public health nursing locally and globally. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 315 with C or better; NUR 317 with C or better; NUR 415 with C or better; NUR 417 with C or better; NUR 367 with Y grade; NUR 475 with Y grade; NUR 477 with Y grade; Corequisite(s): NUR 476 |
| NUR | 417 | Nursing Concepts: Pediatric Clients | Concepts related to care of individuals and families within pediatric populations. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): NUR 311 with C or better; NUR 330 with C or better; NUR 356 with C or better; NUR 366 with Y grade; Corequisite(s): NUR 477 |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| NUR | 418 | Nursing Concepts: Complex Care | Advanced theoretical knowledge and interprofessional collaborative care required for the delivery of safe and competent care of the adult client experiencing acute and complex alterations in health. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 315 with C or better; NUR 317 with C or better; NUR 415 with C or better; NUR 417 with C or better; NUR 367 with Y grade; NUR 475 with Y grade; NUR 477 with Y grade; Corequisite(s): NUR 478 |
| NUR | 419 | Leading and Managing Nursing in Organizational Systems | Analyzes selected concepts and theories related to leading and managing nursing in organizational systems. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): NUR 315 with C or better; NUR 317 with C or better; NUR 415 with C or better; NUR 417 with C or better; NUR 367 with Y grade; NUR 475 with Y grade; NUR 477 with Y grade; Corequisite(s): NUR 478 |
| NUR | 420 | Nursing Practice: Community/Public Health | Applies community/public health nursing concepts in the delivery of primary, secondary, and tertiary care in a variety of community settings. | N | PRA | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s) with C or better if completed: NUR 313; NUR 315; NUR 316; Corequisite(s): NUR 410 |
| NUR | 421 | Nursing Practice: Child Bearing/Family Nursing | Applies nursing care concepts related to the child-bearing woman and family. | N | PRA | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Pre- or corequisite(s): NUR 313 and NUR 315 and NUR 316 all with C or better if completed; NUR 323 and NUR 324 with Y grade if completed; Corequisite(s): NUR 411 |
| NUR | 422 | Nursing Practice: Pediatrics | Focuses on clinical care of the pediatric client and family. | N | PRA | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Pre- or corequisite(s): NUR 313 and NUR 315 and NUR 316 all with C or better if completed; NUR 323 and NUR 324 with Y passing grade if completed; Corequisite(s): NUR 412 |
| NUR | 423 | Nursing Practice: Complex Care & Clinical Immersion | Students perform nursing practice in a variety of clinical settings, laboratory and simulated patient care environments. Students provide nursing care to patients who are physiologically unstable in advanced medical-surgical, and critical care clinical environments. Students perform advanced psychomotor skills in the clinical, laboratory and simulation environments. Students also complete a clinical immersion experience in a selected clinical setting. During the clinical immersion experience, students have the opportunity to apply leadership and management principles, and work in interprofessional healthcare teams to provide nursing care to clients experiencing health alterations across the lifespan. | N | PRA | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 5 | | Pre- or corequisite(s): NUR 410 with C or better; NUR 411 with C or better; NUR 412 with C or better; NUR 420 with Y grade ; NUR 421 with Y grade ; NUR 422 with Y grade; Corequisite(s): NUR 413 |
| NUR | 425 | Health and Illness Concepts: Adults and Pediatrics | Applies and integrates interrelated concepts related to health and illness concepts. Integrates evidence-based principles into the care of clients experiencing acute alterations in health. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 426 | Health and Illness Concepts Advanced | Applies and integrates interrelated concepts related to advanced health and illness concepts. Integrates evidence-based principles into the care of clients experiencing acute alterations in health. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 430 | Professional Nurse Attributes: Leadership and Management | Applications of theories and concepts of organizations, management, and leadership with focus on nursing management and leadership in healthcare organizations. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): NUR 410 and NUR 411 and NUR 412 all with C or better if completed; NUR 420 and NUR 421 and NUR 422 all with Y passing grade if completed; Corequisite(s): NUR 431 |
| NUR | 431 | Professional Nurse Attributes Innovative Professional | Focuses on the process of transition to the professional nursing role, and the gathering, interpretation, and evaluation of evidence that serves as a basis for improving client outcomes and professional satisfaction. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 315 with C or better; NUR 317 with C or better; NUR 415 with C or better; NUR 417 with C or better; NUR 367 with Y grade; NUR 475 with Y grade; NUR 477 with Y grade |
| NUR | 436 | Experiential Learning: Advanced | Students practice skills for professional nursing including advanced medication administration and bio-psycho-social care of the child and acutely ill adult. | N | LAB | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 437 | Experiential Learning: Readiness to Practice | Students demonstrate readiness for interprofessional nursing practice including coordination of nursing care of multiple patients. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 440 | Community and Public Health Nursing in the United States | Examines selected concepts, theories and applications of epidemiology, community assessment, and population-centered health education for community and public health nursing in the United States. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): NUR 315 or 318 with C or better; NUR 391 with C or better |
| NUR | 444 | Innovation in Nursing | Examines the role and behaviors of an innovator in the nursing profession. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): NUR 315 or 318 with C or better; NUR 391 with C or better |
| NUR | 445 | Nursing Management in Health Care | Examines selected theories and concepts of organizational behavior and the management of people and resources. Focuses on the application of selected management theories and concepts to nursing practice and health care systems. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): NUR 315 or 318 with C or better; NUR 391 with C or better; NUR 392 with C or better; NUR 444 with C or better; NUR 495 with C or better; Pre- or corequisite(s): NUR 440 with C or better if completed; NUR 460 with C or better if completed |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| NUR | 446 | Nursing Practice: Pediatrics and Complex Care of Adults | Prepares learners in the application and demonstration of advanced theoretical knowledge, professional nursing practice, and interprofessional collaboration and referral in the management and delivery of safe, competent care of pediatric and adult clients experiencing serious health alterations. | N | PRA | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 447 | Nursing Practice: Pediatrics | Applies previous nursing knowledge to develop plans of care and implement teaching strategies to pediatric clients and their families. | N | LAB | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Prerequisite(s): NUR 315 with C or better; NUR 326 with C or better; NUR 337 with C or better; NUR 347 with Y grade; NUR 348 with Y grade; NUR 349 with Y grade |
| NUR | 448 | Nursing Practice Readiness | Prepares the learner for the practice of professional nursing in diverse settings. | N | PRA | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 452 | Concepts in Population-Based Health | Assesses and examines the management of health and disease in the community. Focuses on health promotion, disease prevention and identification of barriers that prevent populations from maintaining optimal health. Discusses public health theories and models including epidemiology, health education and health behavior theory. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 453 | Integration Concepts in the Health Care | Explores the impact of health care policy, systems, economics, law and informatics on the delivery of health care today and in the future. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | L | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program; ENG 101, 105, or 107 with C or better |
| NUR | 458 | Community Care and Collaboration | Focuses on the assessment and analysis of health and disease in the community and population. Provides the data for the IPE Seminar in Senior 2 where an Interprofessional Team of students utilizes the information to plan and implement interventions to improve the health status of communities and populations. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 459 | Interprofessional Education and Collaboration Seminar: Advanced | Focuses on the development, implementation and evaluation of a community action project. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 404 with C or better; NUR 425 with C or better; NUR 436 with C or better; NUR 446 with Y grade; NUR 447 with Y grade; NUR 452 with C or better; NUR 458 with C or better |
| NUR | 460 | The Art of Nursing | Explores the aesthetic, ethical, and personal patterns of knowing in nursing for the practicing RN. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | HU | Prerequisite(s): ENG 101 with C or better; ENG 102 with C or better; Pre- or corequisite(s): General Studies Literacy (L) course with C or better if completed |
| NUR | 464 | Capstone: The Synthesis of Professional Nursing | Synthesizes theories and concepts for professional nursing practice with a focus on role transition. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s) with C or better: General Studies MA course; NUR 315 or 318; NUR 391; NUR 392; NUR 440; NUR 444; NUR 445; NUR 460; NUR 495 |
| NUR | 475 | Nursing Practice: Care of the Childbearing Family - Post Baccalaureate | Applies nursing care concepts related to the childbearing woman and family. | N | PRA | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): NUR 311 with C or better; NUR 330 with C or better; NUR 356 with C or better; NUR 366 with Y grade; Corequisite(s): NUR 415 |
| NUR | 476 | Nursing Practice: Community and Public Health | Applies community and public health nursing concepts in the delivery of primary, secondary, and tertiary prevention from a population-centered perspective. | N | PRA | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): NUR 315 with C or better; NUR 317 with C or better; NUR 415 with C or better; NUR 417 with C or better; NUR 367 with Y grade; NUR 475 with Y grade; NUR 477 with Y grade; Pre- or corequisite(s): NUR 416 |
| NUR | 477 | Nursing Practice: Pediatric Clients | Focuses on clinical care of the pediatric client and family. | N | PRA | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): NUR 311 with C or better; NUR 330 with C or better; NUR 356 with C or better; NUR 366 with Y grade; Corequisite(s): NUR 417 |
| NUR | 478 | Nursing Practice: Complex Care | Applies advanced psychomotor and leadership skills, nursing care delivery management, and interprofessional referral and collaboration for clients experiencing health alterations across the lifespan in advanced care settings. | N | PRA | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): NUR 315 with C or better; NUR 317 with C or better; NUR 415 with C or better; NUR 417 with C or better; NUR 367 with Y grade; NUR 475 with Y grade; NUR 477 with Y grade; Corequisite(s): NUR 418 |
| NUR | 479 | Nursing Practice: Clinical Immersion | Builds on the knowledge and skills obtained in the nursing curriculum and integrates the curriculum concepts in varied and diverse practice settings. Supports the student's transition into the role of the professional registered nurse. | N | PRA | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): NUR 315 with C or better; NUR 317 with C or better; NUR 415 with C or better; NUR 417 with C or better; NUR 367 with Y grade; NUR 475 with Y grade; NUR 477 with Y grade; Corequisite(s): NUR 419 |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| NUR | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-6 | | Prerequisite(s): Barrett Honors student |
| NUR | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| NUR | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-4 | | Prerequisite(s): Upper Division Nursing Program students |
| NUR | 495 | Public and Global Health in Nursing | Analyzes public health concepts, theories, and practice with a focus on the health of all clients in a global environment. Includes core public health functions, domestic and international health care delivery systems, public health and health policy, conceptual and scientific frameworks for community/public health nursing practice, epidemiology, and global health issues. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | G | Prerequisite(s): NUR 315 or 318 with C or better; NUR 391 with C or better; General Studies Literacy (L) course with C or better |
| NUR | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-7 | L | Prerequisite(s): Upper Division Nursing Program students; ENG 101, 105, or 107 with C or better |
| NUR | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-3 | | |
| NUR | 501 | Individual and Innovation Leadership in Health Care | Examines the role and behaviors of an innovator in nursing and the interprofessional role. Explores the skills required to create a compelling vision to influence others through innovation and ethical leadership. Examines and correlates different situational challenges utilizing principles of complexity and emotional intelligence to advance innovation in nursing and the interprofessional health care roles. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree-seeking graduate student |
| NUR | 502 | Advanced Health Assessment and Health Promotion | Uses lifespan developmental and social determinates frameworks to integrate advanced nursing concepts applied to health assessment and promotion. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): Edson College graduate student |
| NUR | 503 | Advanced Health Assessment, Pathophysiology and Pharmacotherapeutics for Health Promotion II | Uses an at-risk population framework to present, integrate and interrelate advanced concepts, practices and principles applied to the biological, cognitive and psychosocial domains of pathophysiology, pharmacotherapeutics and health assessment for health promotion among vulnerable populations appropriate to master's-level nursing practice and roles. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 502 with C or better |
| NUR | 508 | Interprofessional Care Coordination Practicum | Care coordination practicum (90 approved contact hours) preceptored by a practitioner and/or faculty member. Practicum builds on care coordination and interprofessional collaborative practice core competencies, and theories, with an emphasis on the design, delivery and evaluation of culturally relevant and linguistically appropriate clinical prevention interventions, population health strategies and/or services that incorporate broad ecological, global and social determinants of health. Includes principles of epidemiological data; communication, quality improvement and health information technologies appropriate to master's level practice and roles within the context of team-based interprofessional clinical prevention and population health care and/or services. | N | PRA | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): Interprofessional Care Coordination MS student |
| NUR | 509 | Clinical Prevention and Population Health Practicum | Preceptored practicum appropriate to master's-level nursing practice and roles within the context of team-based interprofessional clinical prevention and population health care and/or services. | N | PRA | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Pre- or corequisite(s): NUR 502 with C or better if completed |
| NUR | 510 | Foundations of Care Coordination Practice | Focuses on the theoretical concepts of care coordination and case management, including current models, intervention components, evaluation methods and financing. Provides the foundation for understanding care coordination and the roles nurses have played in the evolution and implementation of the care coordination models. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): admission to Nursing (Care Coordination) MS degree or certificate program |
| NUR | 511 | Concepts of Care Coordination and the Interprofessional Team | Focuses on developing skills and strategies for interprofessional collaboration, team leadership, care coordination, communication and project management to improve patient safety and health care quality outcomes in an interprofessional health-related setting. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 501; NUR 510 |
| NUR | 512 | Improving Quality and Safety Outcomes Through Effective Care Coordination | Focuses on the nurse's role in care coordination, and how care coordination programs are used to provide cost-effective and patient-centered care, improve quality and safety outcomes for patients and families, and use health information technology to advance the goals of care coordination. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 510 with B- or better; NUR 511 with B- or better |

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| NUR | 513 | Interprofessional Collaborative Practice and Transforming Health Care Policy | Examines the nurse's role in communicating, collaborating and leading interprofessional teams to advance innovative care coordination models. Prepares nurses to influencing health policy through care coordination research and leadership. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 510 with B- or better; NUR 511 with B- or better |
| NUR | 514 | Nursing Theory: Nursing Fundamentals | Focuses on the knowledge and skills essential to maintaining the health and wellness of clients across the lifespan and the concepts related to selected alterations in health in the adult population. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 5 | | Prerequisite(s): Nursing (Entry to Nursing Practice) MS student |
| NUR | 515 | Nursing Concepts for Psychiatric Mental Health | Theoretical concepts related to select psychiatric/neurobiological disorders as they affect nursing practice, with focus on individuals, families and groups. Applies knowledge and skills essential to maintaining health and wellness in Psychiatric Mental Health clients. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): Nursing (Entry to Nursing Practice) MS student |
| NUR | 516 | Nursing Practice: Psychiatric Mental Health | Applies nursing process and critical thinking/clinical decision-making with individuals, families and groups experiencing acute/chronic alterations in mental health and/or psychiatric disorders. | N | LAB | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): Nursing (Entry to Nursing Practice) MS student |
| NUR | 517 | Nursing Practice: Pediatrics | Focuses on clinical knowledge and skills essential to maintaining health and wellness in pediatric clients and their family unit. | N | LAB | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): Nursing (Entry to Nursing Practice) MS student |
| NUR | 518 | Nursing Practice:Adults | Maximizes knowledge and skills essential to maintaining health and wellness in adult and geriatric clients. | N | LAB | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): Nursing (Entry to Nursing Practice) MS student |
| NUR | 519 | Role-Focused Practicum: Care Coordination for the Nurse Leader | This mentored practicum provides the learner with opportunities to apply care coordination (CC) concepts and principles in a practice environment at the unit, organization or systems levels. Tailored to the prior experiences and level of the learner and may include working in intra- and interprofessional teams to address care coordination initiatives at the unit, organizational or systems levels. | N | PRA | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-3 | | Prerequisite(s): Nursing (Entry to Nursing Practice) MS student |
| NUR | 520 | Patient Safety and Health Care Quality Principles, Assessment and Methods | Focuses on the application of core principles of patient safety and health care quality to patients. Explores current and historical factors that contribute to quality health care outcomes. Examines the influence of financial, legal and regulatory factors on patient safety and health care quality. Applies various theories, concepts and tools to promote patient safety and health care quality. Describes the principles of just culture and the relationship to analyzing errors. Discusses the nurse's role in advancing patient safety and health care quality. Infuses the Quality Safety Education in Nursing (QSEN) competencies into course activities. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Health Care Simulation MS, Nursing MS, or Nursing (Entry to Nursing Practice) MS student |
| NUR | 521 | Health Care Evidence, Informatics and Analysis | Focuses on applying information technology and research methodology to safety and quality initiatives. Students learn the role of technology related to select human factors engineering concepts and related clinical application (e.g., medication administration, clinical decision making). Focuses on determination of outcome measures related to evidence-based practice (EBP) and quality improvement (QI). Discusses survey methods including construction, data collection methods, and data analysis. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Edson College graduate student |
| NUR | 522 | Designing Systems for Patient Safety and Health Care Quality | Focuses on the design, implementation, evaluation and sustainability of patient safety and health care quality initiatives. Uses innovation and change theories, as well as high reliability and just culture principles, to support data collection, analysis and reporting within complex health care systems. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 520 with B- or better; NUR 521 with B- or better |
| NUR | 523 | Interprofessional Collaboration for Designing Systems to Improve Patient Safety & HealthCare Quality | Focuses on developing skills and strategies for interprofessional collaboration, team leadership, communication, and project management to improve patient safety and health care quality outcomes in an interprofessional health-related setting. Theory and evidence-based strategy for team building, maintenance and conflict resolution for improved team-based practice and performance. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 520 with B- or better; NUR 521 with B- or better |
| NUR | 524 | Nursing Practice:Childbearing Family | Applies nursing care concepts essential to maintaining health and wellness in the childbearing woman and family. | N | LAB | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): Nursing (Entry to Nursing Practice) MS student |
| NUR | 529 | Role-Focused Practicum: Patient Safety and Health Care Quality for the Nurse Leader | Mentored practicum provides opportunities to apply patient safety and health care quality (PSHQ) concepts and principles in a practice environment at the unit, organization or systems levels. Tailored to the prior experiences and level of the learner. | N | PRA | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3-7 | | Prerequisite(s) with C or better: DNP 602; NUR 501; NUR 502; NUR 503; NUR 509; NUR 521; NUR 544; NUR 547; NUR 548 |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| NUR | 530 | Foundational Concepts for Nursing Informatics | Focuses on the foundational concepts of nursing informatics. Analyzes the scope and standards of practice; ethical and privacy principles; relationships amongst biomedical, health and nursing informatics; and models, concepts and theories that support nursing informatics practice. Appraises accreditation and legal and regulatory requirements for health and nursing informatics practice. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): BMI 601 with B- or better; BMI 603 with B- or better |
| NUR | 531 | Advanced Concepts in Nursing Informatics | Focuses on advanced concepts in nursing and health informatics practice. Analyzes the health informatics metastructures, relationships between nursing and multidisciplinary standardized terminologies, trends in nursing and health informatics, ethical, privacy and legal issues, and the emerging role for the nurse informaticist. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 530 |
| NUR | 533 | Nursing Concepts:Childbearing Family | Concepts related to care of individuals and families within the childbearing populations. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): Nursing (Entry to Nursing Practice) MS student; Corequisite(s): NUR 524 |
| NUR | 539 | Role-Focused Practicum: Nursing Informatics | Learners complete 135 hours of mentored clinical practice during this practicum applying nursing informatics (NI) concepts and principles in a practice environment at the unit, organization or systems levels. Tailored to the prior experiences and level of the learner and may include working in intra- and interprofessional teams to address informatics initiatives at the unit, organizational or systems levels. | N | PRA | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 530 with B- or better; NUR 531 with B- or better |
| NUR | 542 | Readiness to Practice | Applies concepts that prepare nurses to deliver innovative, safe and quality client care in a dynamic health care paradigm. Prepares learners for their roles in professional nursing. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-3 | | Prerequisite(s): Nursing (Entry to Nursing Practice) MS student |
| NUR | 544 | Theoretical Foundations for Nursing | Analyzes the multiple dimensions of contemporary professional nursing and the interrelationships among theory, philosophy and practice | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Edson College graduate student |
| NUR | 545 | Advanced Pharmacology | Provides advanced knowledge of pharmacology with an emphasis on the professional nurse's role in medication therapy and administration. Presents medication classifications within the framework of the patient's psychological and physiological function. Applies pharmacological principles to treatment of specific diseases and symptoms. Examines legal, cultural and ethical aspects of medication theory. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Nursing (Entry to Nursing Practice) MS student |
| NUR | 546 | Nursing Concepts for Complex Care | Advanced theoretical knowledge and interprofessional collaborative care required for the delivery of safe and competent care of the adult client experiencing acute and complex alterations in health. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Nursing (Entry to Nursing Practice) MS student |
| NUR | 547 | Community, Global and Population Health | Provides an opportunity to apply community health nursing concepts, disaster principles, population-level determinants of health, social determinants of health, and the nursing process from a global perspective. The development of a plan of care allows the student the opportunity to implement indirect nursing care in assessment, analysis, planning, implementation (planned) and evaluation (planned) for a global/international population/community. Exposure to a variety of communities, local, state, national and international, contribute to an understanding of community health nursing in today's global world. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Nursing MS or Nursing (Entry to Nursing Practice) MS student; Credit is allowed for only NUR 547 or NUR 591 (Community, Global and Population Health) |
| NUR | 548 | Patient Safety, Health Care Quality & Informatics | Focuses on the application of core principles of patient safety and health care quality to patients. Explores current and historical factors that contribute to quality health care outcomes. Examines the influence of financial, legal and regulatory factors on patient safety and health care quality. Students apply various theories, concepts and tools to promote patient safety and health care quality. Students describe the tools used to prevent errors, such as human factors, care coordination, informatics and patient engagement. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Edson College graduate student |
| NUR | 550 | Health Assessment | Provides knowledge and skills basic to health assessment in nursing. Emphasizes critical thinking skills required for accurate collection and analysis of client health information and provides opportunities for enhancement of physical assessment skills. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): Nursing (Entry to Nursing Practice) MS student |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| NUR | 552 | Dynamics of Professional Nursing I | Builds on the foundation of prior learning and competency development related to four interrelated concepts: communication; compassionate care; diversity, equity, and inclusivity; and ethics. These hubs for transferable knowledge, values, skills/strategies, and performance are associated with and essential to graduate-level professional nursing practice and bridge within and across multiple competency domain areas that frame and distinguish the practice of nursing and relate to other health professions. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Edson College graduate student |
| NUR | 553 | Dynamics of Professional Nursing II | Builds on the foundation of prior learning and competency development related to four interrelated concepts: clinical judgment, evidence-based practice, health policy and social determinants of health. These hubs for transferable knowledge, values, skills/strategies and performance are associated with and essential to graduate-level professional nursing practice and bridge within and across multiple competency domain areas that frame and distinguish the practice of nursing and relate to other health professions. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Edson College graduate student |
| NUR | 579 | Role-Focused Practicum: Nurse Educator | Mentored teaching practicum includes application of teaching/learning principles in a specialized area of interest. Tailored to the teaching experience and level of the student. May include classroom, online or clinical teaching, attendance at approved conferences, relevant meetings or other activities that provide opportunity for the learner to gain expertise in the selected area of interest. | N | PRA | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 670 with C or better; NUR 671 with C or better; NUR 672 with C or better; NUR 673 with C or better |
| NUR | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | SEM | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Pre-requisites: Nursing student |
| NUR | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Pre-requisites: Nursing Graduate student |
| NUR | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | |
| NUR | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | |
| NUR | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | IND | Y | Z3 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Pre-requisites: Nursing Graduate student |
| NUR | 601 | Scientific Role Development I: Engaging and Committing | First in a series that focuses on the development of a scientific role identity in nursing and health care innovation, including the areas of education, policy and research. Analyzes current trends in the development of innovative scientists and leadership characteristics needed for future roles. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Prerequisite(s): Edson College of Nursing and Health Innovation PhD student |
| NUR | 602 | State of the Science in Nursing and Healthcare Innovation | Focuses on research synthesis and critiques of the scientific literature as a basis for knowledge generation related to a focal area of research interest. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Edson College of Nursing and Health Innovation PhD student; Corequisite(s): NUR 605 |
| NUR | 603 | Social and Contextual Issues in Nursing and Healthcare | Analyzes nursing practice and the healthcare system for an identified population using social-ecological approaches. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | |
| NUR | 604 | Philosophy of Science Perspectives in Nursing and Healthcare Innovation | Analyzes the history and philosophy of science as a basis for knowledge and academic scholarship in nursing and healthcare innovation. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | |
| NUR | 605 | Theory Analysis | Examines theoretical perspectives and approaches guiding research in nursing and healthcare innovation across the lifespan. Includes the historical evaluation, social contextual factors, implicit assumptions, and bias that influence nursing and healthcare innovation knowledge generation. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Edson College of Nursing and Health Innovation PhD student |
| NUR | 606 | Scientific Role Development II: Validating and Demonstrating | Second in a series that focuses on the development of a scientific role identity in nursing and health care innovation, including the areas of education, policy and research. Posits the knowledge, skills and resources needed to expand one's career as an educator and scientist in a health-related leadership role in the context of a future health care environment. Explores strategies for progressive and creative approaches in preparing leaders for innovative change in education, research and health care policy affecting healthcare delivery. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Prerequisite(s): Edson College of Nursing and Health Innovation PhD student |

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| NUR | 607 | Scientific Role Development III: Bridging | Focuses on the development of a scientific role identity in nursing and health care innovation, including the areas of education, policy and research. Students study the career trajectories of key leaders in nursing and health care innovation as a basis for development of their own personal plans for success, including research trajectories and marketing. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Prerequisite(s): NUR 606 |
| NUR | 608 | Qualitative Research Design and Methods | Explores and critiques selected qualitative research approaches. Includes fieldwork exercises as an integral part of course expectations. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | |
| NUR | 609 | Quantitative Research Design and Methods | Examines multiple research approaches in clinical and health policy research from a quantitative perspective. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | |
| NUR | 610 | Genomics and Population Health | Covers genetics and genomics, diverging into two tracks of subject matter interest. Emphasizes the effects of social determinants on population health and genetic expression, ethical, social and legal implications in the doctoral track; and emphasizes the planning and operational aspects of clinical trials and precision health care in the master's degree track. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 605; Credit is allowed for only HCR 610 or NUR 610 |
| NUR | 612 | Advanced Analysis of Variance: Design and Analysis of Experiment | Introduces theory, methods, and practice of analysis of variance. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | |
| NUR | 613 | Principles of Regression and Correlation | Introduces theory, methods, and practice of regression analysis. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | |
| NUR | 614 | Design and Implementation of Theory-Based Interventions | Focuses on the knowledge related to advanced methods for intervention research. Examines methodological, ethical, and practical issues in the design and implementation of theory-based intervention studies. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | |
| NUR | 615 | Qualitative Data Management Seminar | Qualitative research methods applied to thesis, dissertation or qualitative research reports, focusing on data reduction, analysis, interpretation, credibility, ethics and dissemination. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): COE 503 or CRJ 613 or EDP 503 or NUR 608 or PAF 610 |
| NUR | 616 | Community-Based Participatory Research | Overview of Community-Based Participatory Research (CBPR). Familiarizes participants with key historical underpinnings of CBPR, principles of CBPR practice, as well as methodological CBPR considerations in building community partnerships, issue analysis, research planning, data gathering and data sharing. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only NUR 616 or NUR 691 (Community-Based Research) |
| NUR | 617 | Foundational Concepts in Science and Statistics | Provides basic skills necessary for health-related research specifically geared toward (1) understanding concepts of widely used statistical methods with examples from health care; (2) ethical knowledge of human subjects research; and (3) processes of research including research design, interpretation and presentation of results and critiquing research articles. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): COE 502 or EDP 502 or EXW 501; Credit is allowed for only NUR 617 or NUR 691 (Foundational Concepts in Science and Statistics) |
| NUR | 618 | Advancing Research-Based Health Policy Through Leadership and Innovation Science | Integrative synthesis course in which students apply values and knowledge from previous PhD core courses in philosophy of science, theory analysis, state of the science, quantitative and qualitative methods, and the art and science of teaching. Examines the role of scholars and scientists in health policy reform. Using tools from leadership and innovation science, advances strategies to accelerate the use of interprofessional research in policy decisions and advances the national agenda for improving health and the quality and affordability of health care. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 602, 603, 604, 605, and 609 |
| NUR | 620 | Mixed Methods for Health Science Research and Practice | Provides approaches, theory, methods and skills development for designing and conducting mixed-methods research for the health sciences. The mixed methods approach has been described as a third paradigm in research, building on and extending the qualitative (QUAL) and quantitative (QUAN) paradigms. The mixed methods approach integrates the positive aspects of these paradigms to create a new more potent research paradigm. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree-seeking graduate student; Credit is allowed for only NUR 620 or NUR 691 (Mixed Methods for Health Science Resrch & Practice) |
| NUR | 628 | Research, Theory and Principles for Palliative Care in the Older Adult | Focuses on theory and research underlying end of life and palliative care for the older adult utilizing current practice guidelines and research. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NUR | 629 | Research for Geriatric Practice | Gaining knowledge and skills in critical appraisal and synthesis of evidence to guide best practice in gerontology. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NUR | 630 | Mechanisms of Disparities | Analyzes and applies the complex issues underpinning culture and health disparities related to a specific health outcome to research with a selected cultural group. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Edson College of Nursing and Health Innovation PhD student; Credit is allowed for only NUR 598 (Mechanisms of Culture), 598 (Mechanisms of Disparities) or 630 |

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| NUR | 631 | Leveraging Culture in Intervention Development | Analyzes the complex issues underpinning the development of evidence-based interventions among various cultural groups. Also analyzes methods of leveraging culture to optimize the development, delivery, effect and evaluation of health interventions for various cultural groups. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 630 (or NUR 598 Mechanisms of Disparities); Edson College of Nursing and Health Innovation PhD student; Credit is allowed for only NUR 598 (Leveraging Culture in Intervention Development) or 631 |
| NUR | 640 | Integrative Theories of Innovation in Health Care | Analyzes cross-disciplinary theories of innovation for improving health and quality of health care. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice DNP student, Advanced Nursing Practice (Innovation Leadership) DNP student, or NUR 605 |
| NUR | 641 | Theories of Emergent Leadership in Healthcare Innovation | Analyzes cross-disciplinary theories of leadership. Emphasizes leadership frameworks that describe, explain and predict the relationships among leadership and healthcare innovation and outcomes. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 640. Credit is allowed for only NUR 641 or 691 (Theories of Emergent Leadership in Healthcare Innovation) |
| NUR | 650 | Human Lactation in the Post-Modern World | In-depth exploration of the complex and multifaceted social, cultural and environmental contexts that affect the public health goal of improving successful breastfeeding during the first years of life. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre-requisite: Degree- or Nondegree-seeking graduate; Credit is allowed for only NUR 650 or 691 (Human Lactation in the Post Modern World) |
| NUR | 670 | Curriculum Development in Academic and Practice Settings | Includes analyses of historical, philosophical, societal, environmental, cultural, technological, and educational factors of curriculum development in academic and practice settings. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Edson College graduate student; Pre- or corequisite(s): NUR 671 with C or better if completed |
| NUR | 671 | Teaching in Academic and Practice Settings | Analyzes theories, issues, research related to teaching in nursing and educational leadership. Focuses on the process of teaching and learning. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Edson College graduate student |
| NUR | 672 | Design and Delivery of Mediated Instruction | Addresses instructional design issues, theory, and practices related to online and electronically mediated learning. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Edson College graduate student |
| NUR | 673 | Producing and Evaluating Programs for Academic and Practice Settings | Critical examination of standards, regulatory environment, administrative systems, leadership requirements, technological infrastructure, human factors, future trends regarding mediated education planning, production, and evaluation. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 671 with C or better; Pre- or corequisite(s): NUR 670 with C or better if completed |
| NUR | 677 | Scholarly Citizenship: Teaching Intensive | Designed as a mentored teaching experience in nursing and a mentored exploration of the concept of scholarly citizenship as applied in the educator role in interdisciplinary, university-level education. Includes opportunities for students to examine different philosophies and theories of traditional and mediated teaching and learning; design content and learning experiences for selected topics; compare and contrast various culturally relevant, learner-centered strategies, technologies, media and Web-based tools for classroom and clinical use and analyze evaluation methods. Includes opportunity for exploring educational policy and translation of policy into best practices. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 670; NUR 671; Credit is allowed for only NUR 677 or NUR 691 (Scholarly Citizenship: Teaching Intensive) |
| NUR | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | |
| NUR | 688 | Management of Complex Diseases and Syndromes in Geriatric Population | Focuses on diagnosis and management of complex diseases and syndromes in the geriatric population. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only DNP 688 or NUR 688 |
| NUR | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | N | IND | N | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | |
| NUR | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Pre-requisites: Nursing Graduate student |
| NUR | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | |
| NUR | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-15 | | |
| OBS | 501 | Obesity Prevention and Management: An Introduction | Helps students understand the complex etiology of obesity and enhances their ability to work with individuals and populations at risk of obesity to develop effective behavior change-based strategies for prevention and management of the condition across the lifespan. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Obesity Prevention and Management MS major; Credit is allowed for only OBS 501 or OBS 598 (Obesity Prevention and Management) |

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| OBS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | REC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| OBS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| OBS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | |
| OBS | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| OBS | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| OGL | 10 | Leadership Development | Trains and manages the student team leads for the Jump Start Program. Students learn ways to effectively manage, facilitate and lead group discussions and activities. | N | LEC | Y | YGB | College of Integrative Sciences and Arts | School of Applied Professional Studies | 0 | | |
| OGL | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | SEM | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-3 | | |
| OGL | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-4 | | |
| OGL | 200 | Introduction to Organizational Leadership | Basic introduction to leadership by focusing on what it means to be a good leader. Examines topics such as the nature of leadership, recognizing leadership traits, developing leadership skills, creating a vision, setting the tone, listening to out-group members, handling conflict, overcoming obstacles, and addressing ethics in leadership. Gives attention to helping students understand and improve their own leadership performance. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | SB | |
| OGL | 220 | Behavioral Dynamics in Organizations | Explores the different theories, strategies and skills in the fields of organizational behavior and interpersonal relationships. Covers critical skills and perspectives associated with cross-cultural relationships, personality and values-driven behaviors, empathy, perspective-taking, learning and motivation, conflict resolution, stress management, effective communication, group dynamics, and diagnosis of performance-related issues in organizations. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | SB | |
| OGL | 260 | Resource Allocation in Organizations | Introduces the decision-making framework of resource allocation within the broader context of organizations and society. Students learn that resource allocation decisions are regularly guided by values, organizational purpose, and fundamental principles of value creation and sustainability. Primarily focuses on the development, management, and allocation of tangible and intangible resources; accounting statements; profit and loss drivers; risk, return and tradeoffs; and stakeholder accountability. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): MAT 117 or any course with General Studies MA designation OR Visiting University Student |
| OGL | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-4 | | |
| OGL | 298 | Honors Directed Study | Independent study or practicum under the supervision of a faculty member. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| OGL | 300 | Theory and Practice of Leadership | Students perform an in-depth study of leadership theories and their practical applications in formal organizations. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Organizational Leadership AA student or minimum 45 hours OR Visiting University Student |
| OGL | 340 | Organizational Skills | Develops and enhances skills needed in effective organizations such as communication and the use of technology. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| OGL | 343 | Social Processes in Organizations | Examines social processes and human interactions within different organizational contexts and engages in experiential learning through team-based projects. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | SB | Prerequisite(s): minimum junior standing or minimum 56 hours; Credit is allowed for only BIS 343 or OGL 343 OR Visiting University Student |
| OGL | 345 | Organizational Ethics | Explores and considers normative and applied ethics within a variety of organizations. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | HU | Prerequisite(s): minimum 45 hours; Credit is allowed for only BIS 345 or OGL 345 OR Visiting University Student |

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| OGL | 350 | Diversity and Organizations | Students engage in a critical analysis of individual, cultural and organizational diversity. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | L & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 56 hours; Credit is allowed for only BIS 350 or OGL 350 OR Visiting University Student |
| OGL | 355 | Leading Organizational Innovation and Change | Processes and methods to ensure current organizational success and sustainable relevance in changing domestic and global environments. Presents an introduction of strategic management with primary emphasis on situation analysis, strategy formulation, and long-term strategy evaluation. Covers the strategic leadership context using external and internal analysis to inform functional and competitive strategies that can be applied across multiple sectors and industries. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| OGL | 357 | Assessment in Organizations | Considers the role and function of assessment in effective organizations. Provides the knowledge and tools required to identify, collect and analyze information to assess organizations. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): minimum junior standing or minimum 56 hours; Credit is allowed for only BIS 357 or OGL 357 OR Visiting University Student |
| OGL | 360 | Assessment of Leadership Effectiveness | An analysis of effective leadership and a guide for developing the competencies most likely to produce effective leaders. Utilizes examples from contemporary and historical sources and peer-mentoring sessions to enhance leadership development with self-reflection, creative and critical thinking, effective teamwork, and achievable future visions. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): minimum 56 hours OR Visiting University Student |
| OGL | 365 | Organizational Contexts | Explores how organizations function by analyzing in depth a specific organizational context such as: health care, technological innovation, family, education, government, community, religion, nongovernmental organizations, the economy, or country/country groups. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| OGL | 375 | Corporate Leadership: Starbucks | Examines leadership from the perspectives of the leaders of one of the most trusted and respected companies in the world, Starbucks. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Starbucks College Achievement Plan student; Credit is allowed for only OGL 375 or OGL 394 (Corporate Leadership: Starbucks) |
| OGL | 381 | Organizational Leadership Capstone | Students draw on their experiences in previous organizational leadership courses, employing learned key concepts, theories and skills toward the strategic analysis of organizations. Using Bolman & Deal's organizational frames concept, students synthesize key learnings across their education and explore organizations through four unique perspectives. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only OGL 381 or OGL 481 |
| OGL | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-4 | | |
| OGL | 481 | Organizational Leadership Pro-Seminar I | In part one of their pro-seminar experience, students reflect on their experiences in the organizational leadership program, focusing on the key competencies they have learned. Applying the organizational frames concept, students synthesize key learnings across their education and explore organizational leadership through multiple perspectives such as: structural, human resources, political, symbolic or ethical. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): BIS 345 or OGL 345; BIS 350 or OGL 350; OGL 300; OGL 340 (BIS 340); PMG 240 (OGL 240) or PMG 320 (OGL 320); minimum 90 hours; Credit is allowed for only OGL 381 or OGL 481 |
| OGL | 482 | Organizational Leadership Pro-Seminar II | In part two of their pro-seminar series, students explore how their personal background experiences, individual characteristics, knowledge, skills and abilities can inform career choices that maximize their strengths, values and passions. Students explore strategies for career management and work/life integration from a variety of perspectives. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; OGL 481 with C or better |
| OGL | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | |
| OGL | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| OGL | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| OGL | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-4 | | |
| OGL | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| OGL | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-7 | L | Prerequisite(s): Organizational Leadership major; minimum 90 hours; ENG 102 or 105 or 108 with C or better; BIS 343 and 345; OGL 200, 220, 240, 260, 300, 321, and 350 |
| OGL | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | N | LEC | N | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-3 | | |

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| OGL | 520 | Organizational Leadership: Social Psychological Perspectives | Social psychology is defined by the social influence that all people have on the beliefs, feelings and behavior of others. Studies social influences, the behavioral ramifications associated with the psychology of social processes and the ramifications for organizations and organizational leadership. The foundations of the field of social psychology, methodological approaches, interdisciplinary perspectives and application-oriented ideas and innovations form the basis for this course that integrates scholarship and applied social psychology to gain an enhanced perspective on the social influences associated with organizational and interpersonal behavior. From a leadership perspective, explores ideas as diverse as interpersonal influence, attitude formation and differentiation, stereotyping and prejudice, attraction, persuasion, obedience and aggression. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Organizational Leadership MS student; Credit is allowed for only OGL 520 or PMG 504 |
| OGL | 530 | Critical Perspectives in Leadership Theory | Engages the normative and epistemological underpinnings of many of the theories of organizational leadership studies. This critical engagement explores how assumptions about leadership and leadership theories may challenge or reinforce, overtly or not, oppressive social relations. Places leadership studies as an academic field in a broader social, political, cultural and ethical context to best address the embedded assumptions in leadership relations. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 540 | Evidence-Based Inquiry in Organizational Leadership | Provides a broad understanding of the methodological issues involved in leadership research. As such, exposes students to the assumptions, principles and applications of a selected set of research methods, whether inductive, deductive or abductive. Largely hands on with a focus on discussion and exercises. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 550 | Leading Organizational Change | Organizations are a combination of structures, processes and relationships that bring people together to achieve a common goal. However, organizations do not operate in isolation--they are embedded in complex social, political and financial contexts. Leadership requires individuals to discern and balance competing demands and tensions inherent in organizations. Provides an overview of organizational theories to help leaders understand and be effective in these contexts. By looking at organizations through metaphorical lenses such as machines, brains and organisms, students learn how to create new options for organizational success in ever-changing operating environments. Applies theories to case studies to develop insights and innovative approaches to organizational change. A student deliverable is the creation of a plan to map out the student's capstone project in preparation for the applied project. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Organizational Leadership MS student; OGL 520; OGL 530; OGL 540 |
| OGL | 551 | Developing Leadership Through Emotional Intelligence | Encourages greater knowledge of self through personal reflection, participation in experiential activities and numerous opportunities to make sense of discoveries. All of this occurs within the context of expanding knowledge of leadership skills and abilities. Encourages students to take every opportunity to learn about and bring insights to bear in classroom discussions. Shapes the leader within so that students are best positioned to lead in all areas of life. Over the next few weeks, explores the essential knowledge, abilities and values relevant to effective leadership. By the end of this course students have a greater understanding of their own leadership style and developmental plan for acquiring new leadership-related knowledge and abilities throughout their careers. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 552 | Leading Diverse Teams | Helps students build more effective working relationships and improve their ability to lead, influence, cooperate and work effectively with others in today's increasingly team-oriented organizations. This course may differ from previous courses taken. At the center of the course is an intensive, unstructured learning group experience. The primary educational tool in this class is experience in a group (in this class referred to as a T-Group or Training Group). Other educational resources are readings, brief theory discussions, personal journals and a personal reflection paper after the class sessions conclude. These are fundamental for helping students to frame learning group experience and for facilitating learning. Emphasizes learning about oneself in the context of others based on the here-and-now experience of the group. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Organizational Leadership MS student |

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| OGL | 553 | Intercultural Leadership | In today's increasingly global and interconnected world it is important for leaders to understand the role that culture plays in one's leadership and communication style. Students obtain the knowledge and skills necessary to lead in culturally diverse environments. Through readings, discussions, video and interactive simulations, students gain a concrete understanding of a variety of leadership and communication styles that are found throughout the world. Students also increase their intercultural competencies and global awareness. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 554 | Learning and Development in Organizations | Focuses on adult learning interventions and professional development within the context of a learning organizational setting. Integrates motivation and adult learning, current neuroscience, Bohm dialogue and instructional design. Develops the knowledge and skills needed to plan, design, develop, implement and evaluate adult learning interventions (materials, courses, curricula, programs) within different forms of organizations. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 555 | Leading Beyond Conflict | Today's leaders are increasingly confronted with conflicts that escalate into issues that could result in costly litigation. Comprises a review and analysis of contemporary methods of alternative dispute resolution, including arbitration, negotiation and mediation, with a strong focus on mediation. Students learn about the alternatives to costly litigation and develop working strategies to take advantage of these alternatives. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 556 | Leadership for Wicked Environmental Problems | Environmental leadership promotes a societal change such that we move away from the perspective where economic growth is valued and takes precedence above all to one that both recognizes the limits and value of natural resources in our environment and embraces just conservation practice. The environmental challenges we are faced with today (e.g., climate change, renewable energy) are described as "wicked." Wicked problems are difficult to explain, plainly define, have no one solution, and are often the result of other indefinable problems. Environmental leadership focuses on engaging followers to jointly and creatively confront wicked challenges and promotes environmental justice addressing the relationship between social inequality and environmental quality among various stakeholders. Course critically evaluates these leadership dimensions. This examination is not limited to Western ideals found in corporate organizations but also extends to conservation practice in the developing world. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 558 | Leading Organizational Innovation | Every modern organization, regardless of sector or mission, needs leaders who understand the impacts of continuing innovation on organizational success and sustainability. Examines how leadership can facilitate innovative activities within every level of an organization. Students conduct independent research for integration into a collaborative team project in the development of a graphical conceptual model that includes factors such as culture, structure and collaborative activities that enhance organizational innovation. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Master of Project Management student or Organizational Leadership MS student |
| OGL | 559 | Modeling Systems and Stakeholders | Studies how leaders can use systems theory and stakeholder theory to assess the inputs from external stakeholders and their impacts on internal organizational systems. Using current literature, students work independently and in teams to build and apply a conceptual model of the significant relationships among organizational systems and stakeholders. Results highlight relationships among variables that can be tested using quantitative and/or qualitative research methods. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 561 | Collaborative Governance: NGOs and Private-Public Partnerships | Exposes students to the opportunities and challenges of the non-market, non-state realm of nongovernmental organizations and how they facilitate private-public partnerships. Assesses the realm of action, appropriateness of their missions and where they find their limitations. Requires students to think globally and consider the roles of various actors of civil society with a critical eye. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Organizational Leadership MS student |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| OGL | 562 | Resource Development in Organizations: A Multiple Capitals Approach | Many types of resources are needed for organizations to achieve long-term sustainability. Surveys various capital resources firms need to succeed. Covers tools such as the International Integrated Reporting Council's six capitals framework (financial, manufactured, intellectual, human, social, natural) and theories that undergird these models. Through readings, case studies, and assignments, students learn about the process of value creation; the relationship between resources and an organization's business model; how the various forms of capital can be measured and reported; and what leaders can do to intentionally develop multiple forms of capital in a way that creates financial returns for the organization. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Master of Project Management student or Organizational Leadership MS student |
| OGL | 563 | Leading Social Change: Community Activism | Focuses on methods used to reform social, cultural or political norms, beginning at the local level and connecting with movements for broader social change. Grassroots movements arise on all sides of the political spectrum, and local movements can unite activists around common goals despite larger ideological differences. The term "grassroots" is a misnomer, however, in that it implies the lack of leaders or of institutional support, whereas in reality, leaders attempting to change society must learn to network with a variety of stakeholders, from the level of individual neighbors to political leaders and large institutions. Students look critically and creatively at the ways local leaders have worked on a daily basis to promote community-based causes, in order to become more effective local activists, organizers, and civic and community leaders. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 565 | The Future of Work and Organizations | Focuses on the dynamic nature of work, labor and occupations related to social and technological change; the impacts on workers, management and society. Also addresses new and changing occupations and leadership roles related to new economies of scale. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Master of Project Management student or Organizational Leadership MS student |
| OGL | 568 | Women and Leadership | Investigates how gender is produced, operationalized and reified in the workplace. Course content is specific to the role of women at work and in leadership. Emphasizes understanding the reproduction of gender inequality with a focus on how commonly shared beliefs about gender and other social categories operate through interaction to differentially affect the experiences of men and women in ways that often disadvantage women. Despite majority representation across a range of public and private sectors, women continue to be visibly absent from leadership roles. Although, some purport that progress has been made to narrow the existing leadership gap for women, more men than women achieve leadership roles and assume these positions at a faster pace than their female counterparts. What contributes to this ongoing phenomenon? What are the results of the underrepresentation of women in leadership? How might organizations intervene and cultivate equity in the workplace? | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 569 | Indigenous Leadership and Diplomacy | Offers critical insights into how indigenous peoples around the world have responded to challenging issues in both historical and contemporary contexts by drawing from case studies, primary source materials, and emerging scholarship on indigenous leadership and diplomacy. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 570 | Analyzing Organizations | Focuses on the qualitative and quantitative research methods that are commonly used to assess organizations. Explores how best to frame organizational assessments and explore possible methodological choices for assessment design. Discusses both quantitative designs and qualitative approaches to organizational assessment. Focuses on planning assessments, making informed research decisions, understanding the ethical implications of organizational assessment, carrying out research and reporting finding. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Organizational Leadership MS student; OGL 550 |
| OGL | 571 | Advanced Leadership Assessment | Students reflect on and assess their advancement as leaders while also critiquing and assisting with the development of leadership abilities in colleagues. Leadership effectiveness and social dynamics are analyzed in contexts ranging from students' own experiences to narratives in historical, literary, anthropological, political and sociological contexts. Hands-on practice with leadership assessment surveys is central to the course, and students are trained in creating their own versions of qualitative and quantitative questions on 360-degree surveys. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Organizational Leadership MS student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| OGL | 574 | Qualitative Data Analysis in Leadership Research | Research design and research methods in leadership using qualitative approaches. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Master of Project Management student or Organizational Leadership MS student; OGL 540 |
| OGL | 575 | Quantitative Data Analysis in Leadership Research | Provides a broad understanding of the theoretical and methodological issues involved in basic data analysis in leadership research. Exposes students to the assumptions, principles and applications of basic quantitative research methods and analytical techniques, such as t-test, ANOVA and simple regression. Uses the SPSS statistical software. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Master of Project Management student or Organizational Leadership MS student; OGL 540 |
| OGL | 576 | Advanced Multivariate Data Analysis | Provides a broad understanding of the theoretical and methodological issues involved in applied multivariate data analysis in leadership research. As such, exposes students to the assumptions, principles and applications of a selected set of multivariate techniques, from multiple regression to mediation, moderation and conditional process analysis. Uses the SPSS statistical software. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 577 | Structural Equation Modeling in Organizational Leadership Research | Provides a broad understanding of the theoretical and methodological issues involved in structural equation modeling in leadership research. As such, exposes students to the assumptions, principles and applications of structural equation modeling. Uses SPSS and AMOS statistical packages. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 578 | Agent-Based Modeling to Address Complexity in Leadership Research | Leadership is a complex process that involves multiple stakeholders, including followers, organizations and communities. Students learn to think about leadership processes systematically and learn to use NetLogo to build agent-based models capturing phenomena of interest. Also examines how the interactions among individual agents in the system create dynamics and emergent collective outcomes. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | Prerequisite(s): Organizational Leadership MS student; OGL 540; OGL 550; OGL 570 |
| OGL | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | RSC | Y | Z3 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-4 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 599 | Thesis | Supervised research focused on preparation of a thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | Prerequisite(s): Organizational Leadership MS student; OGL 540; OGL 574; OGL 575 |
| OMT | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-4 | | |
| OMT | 230 | Creativity and Business Innovation | Introduces concepts, models and techniques of creativity and innovation. Exposes processes related to developing creative skills and habits with an emphasis on problem solving and design. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only OMT 230 or TEM 230 OR Visiting University Student |
| OMT | 311 | Opportunity Analysis | The key to making sound business decisions involves the careful analysis of the situation, intelligent use of research, and successful practice. Entails the research and implementation of strategy to determine consumer expectations utilizing the skills especially important in today's competitive and turbulent market. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): TEM 200 or TMC 110 with C or better; Credit is allowed for only OMT 311 or TEM 311 OR Visiting University Student |

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|---------|----------------|--------------------------------------|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| OMT | 330 | Systems Innovation | Systems thinking course that investigates how innovators can incorporate the knowledge of complex systems into the processes of technology development, product/service innovation and venture development. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only OMT 330 or TEM 330 OR Visiting University Student |
| OMT | 343 | Occupational Safety and Ergonomics | Health and safety movement, accident theories and effects, OSHA standards and liability, safeguarding, hazards, workers' compensation, ergonomics, and safety. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): minimum 56 hours OR Visiting University Student |
| OMT | 402 | Legal Issues for Technologists | American legal system and impact on technology management issues: contracts, torts, intellectual property, white collar crime, antitrust, environmental, and employment. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): MGT 300 or TMC 330 with C or better; minimum 56 hours OR Visiting University Student |
| OMT | 430 | Ethical Issues in Technology | Topics in social responsibility for industrial technology and engineering. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): MGT 300 or TMC 330 with C or better; minimum 56 hours; Credit is allowed for only OMT 430 or OMT 504 OR Visiting University Student |
| OMT | 431 | Innovation Management | Focuses on execution challenges that innovation initiatives face, including: (a) Resources: Where do the resources for innovation initiatives come from? (b) Organization: How should innovation initiatives be organized? (c) Planning: How should plans for innovation initiatives be written and through what kind of process should they be revised? Explores the processes of innovation management for various sizes of companies utilizing smaller scale, local processes to large scale, globally dispersed innovation processes and teams. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; TMC 110 with C or better or non-Technological Entrepreneurship and Management BS major; Credit is allowed for only OMT 431 or TEM 431 or TEM 531 OR Visiting University Student |
| OMT | 440 | International Business | International business principles and operations, including partnerships, trade agreements, currency issues, international sales, and cultural differences between countries. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | G | Prerequisite(s): MGT 300 or TMC 110 with C or better OR Visiting University Student |
| OMT | 452 | Industrial Human Resource Management | Explores the management of workplace issues and contemporary events as it relates to human capital within an organization. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; MGT 300 or TMC 110 with C or better or senior standing OR Visiting University Student |
| OMT | 480 | Organizational Effectiveness | Explores the interaction of individual and group behavior with organizational efficiencies, strategies, structure and culture so organizations can work more effectively. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): MGT 300 or TMC 330 with C or better OR Visiting University Student |
| OMT | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-12 | | |
| OMT | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-4 | | Pre-requisites: Minimum Junior standing; Minimum 2.25 GPA |
| OMT | 503 | Marketing Management | Modern methods and industrial case studies of planning, pricing, promoting, and distributing goods and services in the global marketplace. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| OMT | 504 | Ethical Issues in Technology | Analyzes legal and ethical framework for making managerial decisions in the corporate environment of engineering- and technology-related industries. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only OMT 430 or OMT 504 |
| OMT | 520 | Strategic Management of Technology | Analyzes entrepreneurial dynamics and technology development, methods of research and development management, new technology implementation, and start-up organization. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| OMT | 548 | Statistical Methods for Research | Multivariate statistical techniques to analyze research data. Uses statistical software and applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| OMT | 549 | Research Techniques and Applications | Selection of research problems, analysis of literature, individual investigations, preparing reports, and proposal writing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| OMT | 560 | Managerial Decision Making | Focuses on structural thinking to make informed and optimal managerial decisions. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| OMT | 570 | Advanced Project Management | Planning, organizing, coordinating, and controlling staff and project groups to accomplish the project objective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only OMT 570 or TMC 470 |
| OMT | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| OMT | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|------------|--|--|-------------------|-------------------|-----------------|---------------|---|--------------------------|-------|-----------------|---|
| PAF | 112 | Identity, Service and American Democracy | Introduces the history of American democracy and civic engagement, while developing civic identity through hands-on democracy-in-action assignments. Examines the rich history of civic engagement as it applies to different races, sexes, genders and religions to unpack the what, why and how of getting involved and making a difference in public service. Examines cultural identity, including diversity of race, sex, gender and religion, as it contributes to social, civic, political and democratic life. Understanding how to participate in civic society culminates in the creation of a plan to contribute to the ongoing mission of sustaining a vibrant, healthy and unifying American democracy. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | SB & C | |
| PAF | 115 | Foundations of Cross Sector Leadership | Prepares NGSC track members for success in their four-year journey while also sparking opportunities to develop as a leader throughout their Sun Devil careers. Provides a baseline for ethical decision making which is the cornerstone of effective leadership. This is accomplished through the lens of the public, private and nonprofit sectors. Also explores complex challenges we face and examples of successful cross-sector collaboration that have led to sustainable solutions. Additionally, students develop teamwork, time management, professionalism and respect for fellow NGSC team members. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 1 | | |
| PAF | 160 | Fundamentals of Disaster Governance, Politics and Policy | Introduces the topic of hazards and disasters and the politics and policies surrounding the management of disaster-related challenges in the United States. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | |
| PAF | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-4 | | |
| PAF | 200 | Public Service and Policy in the 21st Century | Provides a broad introduction to the field of public service and leadership. Topics include an overview of management, policy, urban studies, and leadership in the public sector. Covers the history and development of the public sector, as well as how it serves contemporary society. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | |
| PAF | 201 | Economics and Public Policy | Introduces the terminology and methods of analysis in microeconomics. In particular, examines the behavior of individual consumers and firms, with a focus on market failures and the role of government policy in correcting those failures. Applies microeconomic principles to the distribution of income, policies for eliminating poverty and discrimination, the problems of environmental pollution and the impact of different market structures on economic activity. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | SB | |
| PAF | 215 | NGSC Community Impact Lab | Behind every challenge is an opportunity to innovate. Course offers hands-on, service learning opportunities for students within the ASU Public Service Academy--Next Generation Service Corp (NGSC). Using a problem-solving method called human-centered design, student teams work closely with a nonprofit organization, small business, government office or community organization to develop a solution to a critical issue within their organization that is based in research and empathy for the organization and their stakeholders. Beyond learning and applying the design thinking process, students also develop skills in team management, conflict management and reflection. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | |
| PAF | 220 | Introduction to Urban America | Investigates traditional and evolving forms of civic engagement and management. Examines leadership and organizational models to urban development and decision making. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | |
| PAF | 240 | Urban Policy | Examines major theories about the purposes and processes of urban policy formulation, adoption, and implementation. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | C | |
| PAF | 261 | Hazards and Risk Management | Overview of natural and technological hazards and disasters, including core concepts and evidence in the field. Introduces concepts of risk and risk management and how they are used in emergency and disaster preparedness, response and mitigation operations. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | |
| PAF | 300 | Public Management and Administration | Examines the context and role of the public manager and the development of the field of public administration. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FIS 351 or PAF 300 OR Visiting University Student |

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| PAF | 301 | Applied Statistics | Focuses on statistical techniques used in social science research. Applies concepts such as measures of central tendency and dispersion as well as statistical techniques, including the following: one-sample z and t tests, two-sample t tests, chi-square, and correlation. Goals include helping students understand the mathematical and statistical concepts presented and assisting them in using these concepts in everyday life and in the study of social sciences. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | CS | Prerequisite(s): MAT 142 or higher OR Visiting University Student |
| PAF | 302 | Public Service Research Methods | The philosophy, scope, and methods of public sector research. Examines quantitative and qualitative research methods and research design. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): Urban and Metropolitan Studies BA or BS major OR PAF 301 with C or better OR Visiting University Student |
| PAF | 305 | Urban Governance | Examines major shifts and trends in urban America. Concentrates on the changing approaches to governance and policies of urban areas. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PAF | 311 | Leadership and Change | The leader's role in bringing about significant organizational and societal change with special attention to group and organizational behavior dynamics, establishing a vision, mobilizing and empowering individuals and groups, and assessing outcomes of the change process in a variety of settings. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | SB | Prerequisite(s): minimum 30 hours OR Visiting University Student |
| PAF | 315 | Cross-Sector Collaboration | Examines how public, private and nonprofit organizations seek to address social challenges and explores how the three sectors work together and in isolation to tackle social problems. Students learn about the motivation of employees in the public, private and nonprofit sectors and the ways in which organizational structure, environment and legal contexts differently constrain or facilitate action within and across these organizations. Explores effective strategies for collaboration among the public, private and nonprofit sectors and identifies organizational similarities and points of contrast that could enhance or create barriers to such collaboration. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): Public Service Academy student; minimum 45 hours OR Visiting University Student |
| PAF | 340 | Contemporary Policy Challenges | Develops conceptual, critical, and practical understanding of public policy, the policy process, and policy analysis. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 30 hours OR Visiting University Student |
| PAF | 350 | Introduction to Science & Technology Policy | Explores the variety of ways in which governments make policies, how the policies shape the development of science and technology and their applications, and how policy may be shaped to create better futures. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 30 hours |
| PAF | 351 | Urban and Metropolitan Studies | Examines the city using a multidisciplinary approach drawing from different historical, cultural, social, philosophical, and economic issues and concepts. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PAF | 352 | Urban Theory | Examines the sociological, economic, and political theoretical positions underlying the development and evolution of metropolitan areas. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours |
| PAF | 360 | Emergency Management I | Emergency management, including basic issues of all-hazards management, phases of emergency management and basic operational systems of incident command and the broader incident management system in the United States. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PAF | 362 | Biosecurity and Biodefense | Covers key concepts in the interrelated areas of biosecurity and biodefense, key policy and administrative issues and challenges at present and in the foreseeable future, and tools and techniques for assessing policy effectiveness with regard to risk reduction efforts aimed at biological hazards. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PAF | 363 | Technology in Emergency Management | Explores latest apps, software and social media used in planning (e.g., GIS for hazard mitigation), public crisis communications (via apps or social media platforms) and incident response platforms (for resource and operations coordination). Emphasizes hands-on experience with such tools. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PAF | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-4 | | |
| PAF | 400 | Senior Capstone Project | Teaches students to solve problems related to the public sector by applying theory, knowledge, and methods from previous courses to a hands-on project in the community. Seminars include guest speakers and discussions on professional development. Students work as individuals and as a team to prepare research papers and a professional report that is presented to the community. | N | LEC | Y | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): PAF 201 with C or better; PAF 301 with C or better; PAF 302 with C or better; PAF 311 with C or better; PAF 460 with C or better OR Urban and Metropolitan Studies BA or BS major |
| PAF | 405 | Citizen Engagement and Community Building | Develops a conceptual, critical, and practical understanding of urban dwellers' involvement in community affairs as citizens and as builders of vital neighborhoods and vibrant cities. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 30 hours |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|---|--------------------------|-------|-----------------|---|
| PAF | 406 | Public Administration and Community Development | Critically examines the concepts community and development and considers how important forces such as diversity, civic life, changes in social space, and globalization, affect our understandings about these concepts and influence our actions. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 30 hours |
| PAF | 410 | Building Leadership Skills | Introduces understanding and developing leadership skills, including an examination of leadership theories and models from multidisciplinary and crosscultural points of view, an assessment of the student's leadership capabilities, and practical applications to improve individual leadership capabilities. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | SB | Prerequisite(s): minimum 30 hours; Credit is allowed for only PAF 410 or URB 410 OR Visiting University Student |
| PAF | 415 | Social Entrepreneurship | In-depth study of social entrepreneurship, including how ideas are formulated, constructed, and implemented; experiential learning in developing a social enterprise plan. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): Cross-Sector Leadership certificate or NLM 220; Credit is allowed for only NLM 410 or PAF 415 (CPP 410) OR Visiting University Student |
| PAF | 420 | Managing Across Boundaries | Within the U.S. system of federalism, thousands of governments interact at different levels on issues ranging from taxation and education to zoning and water. Further, governments at all levels interact with nonprofit and industry sectors to provide public services and collaboratively address complex regional and, increasingly, global challenges. Finally, governments and other service providers interact across local, state, regional and national boundaries. Examines how to manage across boundaries (e.g., governmental, nongovernmental, stakeholders, communities, sectors). Emphasizes intergovernmental relations from the perspective of local and state governments; also exposes students to interstate and international forms of intergovernmental relations. Exposes contemporary public management frameworks and applies these frameworks to understand how leaders manage increasingly complex public challenges. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PAF | 421 | Leadership Capstone | Builds upon leadership courses in the Leadership and Ethics certificate program by applying concepts and examples from the readings as well as individual experiences. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): CPP 301 or PAF 410; PAF 311 |
| PAF | 424 | Emergency Management II | Accidents and emergency situations have plagued man since the beginning of history and will undoubtedly occur during our conceivable future. Armed with knowledge and skills for managing such occurrences can lessen their impact on society. Presents the theories, principles and approaches to emergency management. Discusses the philosophy of comprehensive emergency management with the four attendant steps which include mitigation, preparedness, response and recovery. Presents an analysis of past disasters along with their impacts on policy formation leading to the current FEMA all-hazards approach. Discusses the role, duties and importance of the emergency manager throughout the course. Reviews contemporary threats such terrorism. Finally, presents legal issues involving emergency management. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): PAF 360 with C or better |
| PAF | 425 | National Incident Management System (NIMS) | Covers concepts, terminology, players, compliance requirements, including doctrine of National Incident Management System per HSPD-5. Discussion of National Response Plan. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours |
| PAF | 426 | Intelligence Analysis and Homeland Security | Covers the role of intelligence in the United States with an emphasis on its application across homeland security and related agencies in the public sector and parallel private-sector organizations. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PAF | 450 | Ending Homelessness Through Public Policy | Examines the multifaceted issues surrounding homelessness in an urban environment with a special focus on downtown Phoenix. Examines how public policy decisions have shaped the issue in our community; explores the impact of federal, state and local policy formulation on our population of persons experiencing homelessness. Investigates multiple ways in which homelessness can be mitigated through research, service intervention analysis, services system design, and reframe many long-held assumptions about homelessness. Empowers students to think about solving homelessness in innovative and creative ways and through the lens of multiple stakeholders. Service learning opportunities are available. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only PAF 450 or PAF 494 (Ending Homelessness through Public Policy) or PAF 550 or PAF 591 (Ending Homelessness through Public Policy) OR Visiting University Student |
| PAF | 460 | Public Service Ethics | Role, values, and issues of public management in democratic governance, citizen participation, power structures, and professional codes of conduct. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|---|--------------------------|-------|-----------------|---|
| PAF | 461 | Homeland Security | In-depth analysis of policies, procedures, and organizational structure for effective homeland security program. Covers all hazard/all risk philosophy. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only PAF 461 or CRJ 554 OR Visiting University Student |
| PAF | 468 | Planning and Exercises | Requirements, planning, conduct, and critique of exercises related to emergency planning. Emphasizes realism using moulage and props. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PAF | 469 | Terrorism Defense | Explores the background and evolution of terrorism. Presents specific tactics for preparation for and response to acts of terrorism. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ABS 598 (Terrorism Defense) or PAF 469 OR Visiting University Student |
| PAF | 470 | Topics in Public Economics and Financial Management | Provides an analysis of public economic practices and problems in a federal system. Presents detailed descriptions, where appropriate, of significant institutions and applies modern economic theory to the ways that these institutions finance and deliver services. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): ECN 212 or PAF 201 with C or better |
| PAF | 471 | Public Policy Analysis | Provides further study in the concepts, models, and operational methods used in public policy decisions and analysis. Enables students to develop higher skills needed for defining policy issues, identifying alternative solutions, and predicting the potential impact of policy alternatives. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): PAF 301 with C or better; PAF 340 with C or better |
| PAF | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-12 | | |
| PAF | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-6 | | Prerequisite(s): Barrett Honors student |
| PAF | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| PAF | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-4 | | |
| PAF | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-7 | | |
| PAF | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-3 | | |
| PAF | 501 | Public Service Research I | Covers research-based concepts and tools that can be used to diagnose and improve public programs and initiatives. Emphasizes understanding a program's logic and objectives; framing questions in a manner that facilitates investigation and collecting, analyzing and presenting quantitative and qualitative data from a variety of sources relevant to the practice of public administration and policy. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 502 | Public Service Research II | Application of quantitative methods for inferring cause and effect relationships in public administration and policy. Interpretation, critique and execution of statistical analysis of data for effective evaluations, particularly multiple regression analysis. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; PAF 501 with C or better |
| PAF | 503 | Public Affairs | Development and context of American public administration and policy, role of administration in governance, and values and ethics in administration. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 504 | Microeconomics of Public Policy I | Provides key principles of microeconomics. Places particular emphasis on developing the analytic tools of economic reasoning and using these tools to examine policy interventions of interest to public managers. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 505 | Public Policy Analysis | Institutional and formal analysis of policy processes, decision making, and problem solving; values, ethics, and the uses of policy analysis. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 506 | Public Budgeting and Finance | Legal, social, economic, political, institutional, and ethical foundations of governmental finance, budgets, and budgeting. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 507 | Public Human Resource Management | Personnel systems, behavior and management of people in public organizations, collective behavior, unionism, conflict management, motivation, productivity, and ethics. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 508 | Organization Behavior | Theory and application in the management of organizational behavior with emphasis on leadership and the public service. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| PAF | 509 | Public Affairs Capstone | Capstone application of core course knowledge, skills, and abilities required for public service. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s) with C or better: degree- or nondegree-seeking graduate student; PAF 501; PAF 502; PAF 503; PAF 504; PAF 505; PAF 506; PAF 507; PAF 508 |
| PAF | 510 | Foundations of Program Evaluation I: Multiple Regression | Regression serves as the foundation for modern quantitative program evaluation techniques. Regression analysis is not a single thing--it is a powerful set of tools used to examine relationships in data and test hypotheses concerning the significance of these relationships. Regression can be used to analyze observational data, in which case it can be used to identify important correlations that help us predict when events will occur together. In the program evaluation context we are specifically interested in causal analysis, which allows us to determine whether a management practice, a nonprofit or government program, or a specific public policy has a positive impact. When certain conditions are met we can use regression analysis to estimate the impact of a policy or program. This course builds a foundational understanding of the mechanics of multiple regression, the proper interpretation of regression models, and the circumstances in which we can use regression results for causal reasoning. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 511 | Foundations of Program Evaluation II: Research Design | Covers important concepts in research design and common quasi-experimental tools for causal analysis. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): PAF 510 (CPP 523) |
| PAF | 512 | Foundations of Program Evaluation III: Advanced Regression Tools | Extends previous course by translating each specific form of the counterfactual--pre-post with comparisons, reflexive design, and the post-test only design--into specific regression models that leverage each counterfactual. Helps expand program evaluation toolkit by demonstrating how to estimate several common regression models that leverage unique data and counterfactual specifications and teaches how to estimate program effects using a given research design. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): PAF 511 (CPP 524) |
| PAF | 513 | Foundations of Data Science I: Introduction to Data Programming in R | Data is an essential ingredient of any program evaluation or performance management system. Organizations that want to embrace an evidence-based approach to management need to develop processes for gathering data; linking multiple datasets; running analysis; and sharing results with stakeholders through reports, dashboards or Web applications. The ability to collect, organize and analyze data is a desirable skill set for professional knowledge workers, high-level management and evaluators. Introduces the R data programming language, an open source platform that has become an industry standard because of its flexibility and power. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 514 | Foundations of Data Science II: Data Wrangling | The data preparation cycle: gather, clean, tidy and wrangle the data to produce a custom research database. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): PAF 513 (CPP 526) |
| PAF | 515 | Foundations of Data Science III: Project Management | The main tools and practices of managing large or complex data projects, typically involving teams. Students learn about project management tools used by open source software developers, useful tools for creating client reports, important considerations. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): PAF 514 (CPP 527) |
| PAF | 516 | Community Analytics | Applies knowledge and tools from previous courses in program evaluation and data analytics in order to get practice building and analyzing custom research databases. Students are given a collection of raw data that needs to be linked together in order to conduct analysis, and guidance on how to implement a specific research question. Students merge the data, wrangle it into the proper format for analysis, apply the prescribed regression techniques, interpret results and create a report with key findings. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): PAF 510 (CPP 523); PAF 513 (CPP 526) |
| PAF | 520 | Public Management | Management process in government and public agencies, with emphasis on the executive leadership within the public sector. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | |
| PAF | 521 | Managing Public Money | Overview of public financial management, including budget planning and execution; capital budgeting, debt management and administration; funds management and investment; and financial control. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): PAF 506 |

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| PAF | 522 | Advanced Governmental Financial Management: Capital Budgeting and Infrastructure Financing | Focuses on capital budgeting and infrastructure financing. Covers information required to finance a capital improvement plan, specifically for infrastructure items such as streets, parks, public utilities, airports, highways, bridges and tunnels, and other public works. Combining strategy as well as process, examines financial management from different perspectives. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): Public Administration MPA student |
| PAF | 523 | The City and County Manager | Provides an overview of the profession of local government manager including roles and responsibilities, the forms of government and administration, and review of management techniques and styles. Includes case study analysis of real-life manager issues, examination of current events about local government, and discussion of ethical issues. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | |
| PAF | 525 | Public Entrepreneurship | Explores public and social entrepreneurship; students create solutions in cooperation with community partners to help address complex social challenges. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | |
| PAF | 529 | Organization Change and Development | Explores the nature and management of change and development as a tool to achieve organizational goals; effecting planned change. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | |
| PAF | 530 | Management of Urban Government | Examines the environment in which public administrators work and the major management challenges and functions for local government. Includes information on relationships between administrators and elected officials, and between officials and citizens. Focuses on effective and responsive service delivery by government, and the need for cooperation and coordination with other levels of government, including regional partners. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 531 | Community Conflict Resolution | Interdisciplinary approach to understanding the dynamics of community conflict. Strategic considerations in policy design and advocacy; potential reaction to conflict. Relevant models and research findings generated by both case studies and comparative methods. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | |
| PAF | 534 | Urban Services Infrastructure | Provides an overview of the services provided by local government with a focus on coordination, cooperation and overlap of services by cities, towns, counties, special districts, county, regional and state. Overview of how services are managed, evaluated, funded, including use of intergovernmental agreements, nonprofits and private businesses. Includes examination of leadership and management strategies, how to promote and establish cultural innovation, and to manage local priorities and expectations. Examines the context of regional issues and demands for cooperation, collaboration and coordination. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 540 | Adv Policy Analysis | Covers data analytics and modeling methods for public policy analysis and management beyond those used for program evaluation. Topics include optimizing the allocation of resources; using machine learning to predict outcomes, target resources and detect outliers; and developing computational and social network models of policy and innovation diffusion and implementation. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; PAF 505 with C or better |
| PAF | 541 | Program Evaluation | Provides foundational and related methodological tools for the evaluation of public policies and programs. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; PAF 501 with C or better |
| PAF | 544 | Urban Policy | Understands major theoretical frameworks, methodological approaches and substantive issues emphasized in urban policy research. Hones skills in policy analysis. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 545 | Creating Sustainable Organizations | Sustainability is a strategic concern for managers in all types of organizations: private, public and nonprofit. Forward-thinking managers are redefining their operational strategies to balance economic development, environmental quality and social justice needs. By drawing on practical cases and a real-time project with a local client, students explore these connections through multiple lenses. Topics covered include creating organization change, involving stakeholders, transformational vs. incremental sustainability, sustainability market strategies, strategic alliances, enhancing the organization value from sustainability initiatives, and assessing organization sustainability. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): Degree- or Nondegree-seeking graduate; Credit is allowed for only PAF or SOS 545 |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|---|--------------------------|-------|-----------------|---|
| PAF | 546 | Environmental Policy and Management | Systems-level approach to environmental policy and management, emphasizing the societal, economic and political forces that influence the development and implementation of environmental policy. Topics include: defining environmental problems; environmental policy in congress; environmental policy in the courts; the Environmental Protection Agency; market principles in environmental policy; sustainable production, sustainable cities; global climate change; population and the developing world; energy policy; air pollution; water pollution; hazardous waste; ecosystem-based management and market-based solutions. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 547 | Science, Technology and Public Affairs | Explores the political, economic, cultural, and moral foundations of science and technology policy and governance in democratic society. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only BIO 515 or GLG 547 or HSD 515 or PAF 547 or SOS 516 |
| PAF | 548 | Women/Politics/Public Policy | Explores how political philosophy, politics, and public policy affect and are affected by women. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | |
| PAF | 550 | Ending Homelessness Through Public Policy | Examines the multifaceted issues surrounding homelessness in an urban environment with a special focus on downtown Phoenix. Examines how public policy decisions have shaped the issue in our community; explores the impact of federal, state and local policy formulation on our population of person's experiencing homelessness. Investigates multiple ways in which homelessness can be mitigated through research, service intervention analysis, services system design, and reframe many long-held assumptions about homelessness. Empowers students to think about solving homelessness in innovative and creative ways and through the lens of multiple stakeholders. Service learning opportunities are available. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PAF 450 or PAF 494 (Ending Homelessness through Public Policy) or PAF 550 or PAF 591 (Ending Homelessness through Public Policy) |
| PAF | 551 | Hazards Governance | Examines how hazards are managed by both community- and national-level policymaking and administrative systems, with a particular focus on understanding how policies and management practices are related to risk reduction and resilience capacity promotion. Explores what governance means in practice and presents existing research, including policy reports, case studies and quantitative analyses of community-level and national-level hazards management programs and related public policies--and how their integration is relevant to hazards governance. Emphasizes understanding the nature of public goods production processes, including how inter-sector integration (i.e., between, public, private and nonprofit organizations) and extant community vulnerability profiles matter to the specific risk reduction efforts, and what those same efforts yield in terms of aggregate community resilience outcomes. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 552 | Integrated Emergency Management | Theory and practice of comprehensive emergency management. Explores scope and function of Department of Homeland Security. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 553 | Hazard Mitigation Planning | Examines policies, methodologies and guidance for state and local hazard mitigation planning. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CON 511 or PAF 553 (CPP 511) |
| PAF | 554 | Exercises and Planning for Emergency Management and Homeland Security | Comprehensively explains the processes of emergency planning exercises in the domains of natural and technological hazards and homeland security, as well as other related domains such as public health or emergency medical services. Explores processes of emergency exercises within the Homeland Security Exercise & Evaluation Program (HSEEP) context and its standard guidelines that shape appropriate exercise practices. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 555 | Information Technology in Emergency Management | Provides theory and application of computer-based programs in emergency management and the use of various emergency modeling programs. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| PAF | 556 | Public Private Partnerships for Emergency Management and Homeland Security | Focuses on how public private partnerships (P3s) offer alternative mechanisms for supporting community emergency preparedness efforts, hazard and risk management practices, and community resilience promotion. The traditional form of a P3 model is typically a build-operate-maintain arrangement (with various permutations of those element combinations) around physical infrastructure. However, more complex public-private relationships related to emergency and disaster management issues, public health issues and other social welfare concerns have emerged over the past several decades. Investigating how these arrangements might affect emergency management, homeland security and the management of hazards and risk in general is critical to understanding how public sector operations are likely to function in the future in the United States. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 557 | Interagency and Intersector Coordination for Emergencies and Disasters | Examines the nature of intersector and interagency coordination and collaboration efforts in the domain of emergency management and homeland security. Three core substantive area of focus: (1) covers the nature of inter-sector, inter-agency coordination and collaboration activities as a chief feature of the general emergency management function any community must address; (2) focuses on issues related to the required interaction between the local, county, state and federal government emergency management functions and the private sector; (3) focuses on the functional roles and the specific types of contributions made by public, private and nonprofit sector organizations in community preparedness for emergencies and disasters. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 558 | Program Evaluation for Emergency Management and Homeland Security | Examines core concepts and techniques of program evaluation and policy analysis and applies them to specific challenges in the domains of emergency management and homeland security. Develops knowledge and expertise in the practice of evaluating public sector programs, policies and other agency actions related to hazards issues-both natural and human-made. Develops students' knowledge, skill and ability in identifying appropriate research designs for particular evaluation and policy analysis problems; in managing data and focusing reports based on project objectives; and in appropriately characterizing and presenting empirical those data gathered for program evaluation and policy research projects. Provides an opportunity to learn about conducting evaluation and policy research in a way that is relevant to solving policy and management challenges germane to emergency management and homeland security agencies. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): CRJ 511 |
| PAF | 559 | GIS for Hazards Analysis | Provides a basic level of familiarity with several aspects of geographic information science such as key geographic concepts and techniques related to the theory and application of geographic information systems (GIS). Covers topics such as data models, geographic coordinate system and map projections, data entry and editing, and various types of spatial analysis in both conceptual terms as well as practical application. Additionally, outlines a range of GIS-related activities in emergency management and homeland security. Exposes students to the current and potential roles of GIS in support of emergency management activities in each of the four stages of the emergency management cycle. Gives students a basic understanding of GIS and its possibilities along with the capabilities as they apply to emergency management and homeland security. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 560 | Community Resilience | Examines community resilience from a systems perspective, embracing governments, private, nonprofit and civic roles. Presents research, case studies, and strategies for policy planning and implementation. Provides an understanding of how community members respond to the need to prepare for, endure and recover from disasters and the ability to utilize multiple communication methods to help community members before, during and after these emergencies. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 561 | Interoperability for Emergency Managers | Enables understanding of the multiple technologies and skills utilized by emergency managers to enhance successful coordination and communication between all levels of emergency managers and responders during emergency mitigation, prevention, preparedness, response and recovery operations. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|---|
| PAF | 562 | Higher Education Policy | Broad overview of higher education policy. As used here, the term "policy" in higher education refers to government-produced policies (e.g., federal grants policy, state policies for university budgets) but also university-produced policies (e.g., strategic alliances, policies for faculty or student conduct). Despite the breadth of coverage, there is one theme permeating the course: universities as "public values-based institutions," including social impact, social engagement, outreach and economic impact. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PAF 562 or PAF 591 (Higher Education Policy) |
| PAF | 563 | U.S. Cyber and Information Security Policy | Prepares students to understand and manage human and technical resources within the increasingly important cyber and information security domains. As high-profile data breaches and cyberattacks--that result in physical losses, disruptions and disasters--impose greater risks and costs on our public and private sector--as well as military and intelligence--networks, the policy and management aspects of these challenges have come to the fore. Compounding the technical and operational challenges arising from the protection of operating systems, networking and systems administration, managers and Chief Technology/Risk/Security/Data/Information Officers face a multidimensional set of political risks, including how to effectively manage data content and evaluation, information veracity and information sharing and distribution. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 564 | Health Aspects of Crises, Emergencies, Disasters | The aim of the course is to build learners' capacity to operate as public health professionals and managers within the context of local or international crises, emergencies and disasters. It will develop their knowledge of the healthcare aspects of these events, prepare them to assess and respond to such events from the perspective of healthcare services and providers, and assist them to develop the skills required to work within disaster and complex emergency settings. | N | LEC | Y | NSW | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-3 | | Prerequisite(s): Emergency Management and Homeland Security (Biosecurity and Threat Management) MA student |
| PAF | 565 | Theories and Practices of Democracy | Critically explores the wide range of ideas, issues, challenges, and promises related to democracy in theory and practice. Intended for all students interested in democratic leadership, public service, civic engagement, and participatory governance. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 566 | Participatory Governance & Civic Engagement | Examines classic and current theoretical debates on participatory governance and civic engagement, discusses theoretical and practical implications, and analyzes different models of participatory governance. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 568 | Disasters as Opportunity for Sustainability | Explores how disasters can give rise to sustainability transitions and sustainability solutions. Disasters are revealing crisis. As hazards roll into disasters they lay bare the underlying conditions of socio-ecological vulnerability and inequities that affect almost all aspects of daily life. They also affect the infrastructures and institutions supporting daily life. This realization stimulates improvisation and ideas for just, green, inclusive and resilient futures. Investigates case studies to reconstruct how people, affected by and surviving a disaster, advanced sustainability transitions and reduced disaster risk. Uses an interdisciplinary perspective to analyze these transitions, drawing on theories of change from sustainability transitions and transformation as well as disaster management research. Moreover, students ground the literature in concrete experiences as shared through guest speakers, professional experiences, documentaries and an applied project. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PAF 568 (CPP 537) or SOS 494 (Disasters as Opportunities for Change Towards Sust) or SOS 537 or SOS 598 (Disasters as Opportunities for Change Towards Sust) |
| PAF | 570 | Microeconomics of Public Policy II | Provides the policy tools to solve economic problems such as market concentrations, market failures and externalities, and asymmetric information. Increasingly, government interventions are moving away from a command-and-control-style of direct provision of goods and services and toward a large menu of indirect approaches implemented through a complex system of third-party actors. Government intervention in private markets now entails loans and loan guarantees, grants-in-aid, contracts, vouchers, social and economic regulation, and many other policy tools. Each of these instruments involves vastly different behavioral distortions, policy technologies, political considerations and technical sophistication. Analyzes the economics of four policy interventions: grants, tax expenditures, social regulation and vouchers. Provides an overview of each tool (including its key design features) and combines economic theory with background information on how public policies actually operate. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; PAF 504 with C or better |

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| PAF | 571 | Geographic Information Systems (GIS) and Analysis | Provides foundational information related to application of GIS technology to meet various needs within governmental operations, administration, and public policy. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | |
| PAF | 572 | Infectious Disease Intelligence | This course aims to give you the skills to critically evaluate, analyse and interpret important information and issues in infectious diseases intelligence as it applies to human health. | N | LEC | Y | NSW | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-3 | | Prerequisite(s): Emergency Management and Homeland Security (Biosecurity and Threat Management) MA student |
| PAF | 573 | Applied Econometrics | Applied treatment of the most important modern econometric methods used to evaluate public policies. Help students become savvy consumers of econometric methodology and develops the methodological skills necessary for implementing quantitative evaluations of public policies. Accordingly, course stresses critical thinking and creativity. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; PAF 502 with C or better |
| PAF | 574 | Diversity, Ethics, and Leading Public Change | Focuses on leading public change with a strong ethical foundation and commitment to engaging a diverse and inclusive workforce. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 576 | Information Assurance Principles | The aim of this course is to provide insights into on modern cyber security threats and defensive controls and explore effective computer security and risk management strategies, Information Assurance (IA) practices and techniques. The course provides a graduate level foundation in IA for a diverse audience, from middle level managers to executives with non-technical and technical backgrounds and from variety of government, commercial and non-profit organisations. This course will explore concepts such as layered defense mechanisms, using different technologies and multiples thereof (true defense in depth), threat/risk identification and mitigation and incident response techniques. It will enable executive level managers to properly understand the real world challenges faced by their Cyber Security teams today. It will also assist in developing the frameworks, policies and the evidence-based decisions required to allow teams to protect their environments efficiently and to understand the resulting costs and benefits. | N | LEC | Y | NSW | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-3 | | Prerequisite(s): Emergency Management and Homeland Security (Cybersecurity Policy and Management) MA student |
| PAF | 577 | Cybersecurity and Critical Infrastructure Protection | Critical Infrastructure (CI) refers to the diverse, complex, inter-dependent delivery and support systems as well as the distributed networks for all large-scale services that are essential to a nation. These services include emergency response, law enforcement databases, supervisory control and data acquisition (SCADA) systems, power control networks, military support services, financial applications and mobile communications. Some national services are provided directly by government, but most are provided by commercial organisations and groups such as Internet service providers, airlines and banks. Systems that operate in national critical infrastructure run everything from electricity power plants to gas pipelines, hospitals and highways. | N | LEC | Y | NSW | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-3 | | Prerequisite(s): Emergency Management and Homeland Security (Cybersecurity Policy and Management) MA student |
| PAF | 578 | Cyber Defense | Designed to provide students with knowledge on how to defend organisations and their systems. It is designed to provide a deep understanding of cyber defense within organisations and the necessary skills to examine the operational aspects of cyberspace, information assurance and cybersecurity. The emphasis of this course is to provide a contextual link between the management and governance of an organisation and its rapidly evolving cybersecurity and cyber-defense requirements. This course also provides insight into cyber governance in the Defense context, focusing on the management and acquisition of mission-critical systems and ensuring that these systems are resilient to internal faults and external cyber disruptions. | N | LEC | Y | NSW | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-3 | | Prerequisite(s): Emergency Management and Homeland Security (Cybersecurity Policy and Management) MA student |
| PAF | 579 | Public Policy Capstone | Integrative, client-based project course. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | |
| PAF | 581 | Bioterrorism and Health Intelligence | This course is for professionals involved in any aspect of bioterrorism preparedness and response, who wish to be intellectually challenged, to think outside the square, to gain insight into quantum changes in science which pose a biosecurity risk, to understand the different perspectives of sectors involved in response, and to gain new critical skills which can be applied in their professional practice. | N | LEC | Y | NSW | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-3 | | Prerequisite(s): Emergency Management and Homeland Security (Biosecurity and Threat Management) MA student |

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| PAF | 582 | E-Public Administration | Explores how new techniques and technologies for using, processing and managing information are changing how we interact, work and serve. As an example of this very concept, this course is offered online. During the semester, managers explore current trends, use a wide variety of information and communication tools, and have manager-created content consistent with new trends of online participation. By the end of the course, managers have experience with tools (including Wikis, Blogs, search engines, collaboration tools, reputation systems, social networks, virtual worlds); are familiar with current information issues (transparency, privacy, equal access, governance); and explore how they are relevant to a variety of contexts (local government, non-profits, public service). | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-12 | | |
| PAF | 585 | Strategic Planning for Public Sector Leaders | In an age of diminishing resources, the tools of strategic planning have become crucial for every public sector and non-profit manager. How can a public sector agency (or non-governmental organization) achieve its goals and advance its mission? How can it motivate its people given the absence of the sorts of incentives often found in the private sector? How can these organizations respond to a rapidly changing political, economic and social environment? These are among the questions that are addressed. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 586 | Data Analytics for the Public Good | Explores techniques used for data extraction, analysis and visualization. In particular, students engage with social media data, devise solutions to address data-poor scenarios, and explore the potential of sentiment analyses to elucidate opinion trends and predict future attitude shifts. Discusses data visualization techniques and engages students with Tableau software. Also explores the social, political and ethical considerations associated with building and managing data analytics programs in the public sphere. Explores issues-critical dilemmas when it comes to issues such as data privacy, data protection, predictive analytics, personalized service delivery and resource provision, algorithmic regulation, and large-scale data analytics for administrative efficiencies and resource management optimization, among others. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 587 | Federal Budgeting and Tax Policy | Provides a broad understanding of federal budget and tax policy issues. The knowledge acquired in this class enable students to act as competent parties in the formulation of public policy within the federal budget and tax policy domains. Approximately one half of the class is devoted to federal budget processes and concepts including purposes, coverage, scoring, performance evaluation and proposed options for reform. The second half covers tax policy issues. Throughout the course, focuses on those budget and tax policy issues that are the current subject of political attention. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 588 | Global Public Policy | The study of public policy has traditionally focused on the operations of government agencies within national borders. Increasingly, however, public officials at all levels of government must confront challenges and opportunities that exist across borders. Whether the issue is immigration, national security, trade and finance, or the environment, public managers must be aware of global pressures and, in many cases, respond to them. This course gives managers the analytical tools to understand how global issues are currently being managed and what they might do to make the most of global opportunities. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 589 | Leadership in Public Organizations | Provides the foundation of theory and practice of administrative leadership. While students learn about all the major theoretical frameworks, focuses on an applied action research model that is useful in analyzing and developing oneself and others in organizational settings. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-12 | | |
| PAF | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-12 | | |

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| PAF | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-12 | | |
| PAF | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-4 | | |
| PAF | 601 | Advanced Public Policy Seminar | This advanced seminar in public policy has a single objective: to develop a critical thinking of theoretical perspectives developed to analyze several dimensions of public policy. Focuses on theories and perspectives across specific policy areas since the objective is to get used to analytical lenses, not a specific policy area. This objective is achieved by reading required books each week. This class requires the ability to critically analyze a body of literature as a prerequisite for advancing that literature. The general format of this course includes reviews of class material and discussion. Prior to each class, students are expected to read the required books listed in the syllabus. Students are responsible for contents included in the readings, even if it is not explicitly reviewed in class. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 602 | Advanced Research Design for Public Policy and Management | The logic, design and conduct of applied social research for students interested in public management and policy. Traditional scientific explanatory research is a necessary prerequisite for any prescriptive research. The primary orientation of this course is to focus on development of social science explanations for public administrative phenomena and the development of research designs which permit testing of hypotheses derived from these explanations. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): admission to a doctoral program |
| PAF | 603 | Advanced Economics for Public Administration and Public Policy | Theory of utility and demand, theory of the producer, organization, operation of product and factor markets, market equilibrium, regulation, risk and uncertainty, general equilibrium and welfare policy, market failure, public goods and taxation, and game theory. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): PAF 504 with C or better; doctoral major |
| PAF | 604 | Intellectual Foundations of Public Administration | Explores significant developments and themes in the theory of public administration, especially American public administration. Major foci in this seminar include the historical development of public administration as a body of thought and as a theory of politics; the enduring theme of public administration and democracy; various possible unifying themes, theories, and criteria; and prospects for future theory and research. Aimed at encouraging advanced students to refine their abilities to identify, analyze, interpret, critique, evaluate, and contribute to the literature and intellectual developments of this field of scholarship, as well as to place current and emerging trends in broader context. Builds on more basic courses in public administration and is intended in part to assist students in preparation for doctoral preliminary examinations in public administration. Assumes that students have a solid understanding of American government and bureaucracy. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): admission to a doctoral program |
| PAF | 605 | Organization Theory and Behavior Seminar | Advanced survey of organization theory (OT) and organization behavior (OB) literatures for doctoral students. The seminar pursues multiple goals. It examines the intellectual foundations and historical progression of OT/OB research and explores the craft of conducting social science research related to OT/OB. Specifically analyzes how current literature in public management and administration applies organization theory for research. Develops a research-based understanding of main schools of organization theory so that students gain skills to enable them to engage OT/OB theories in their own research. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): admission to doctoral program |
| PAF | 609 | Advanced Quantitative Methods Seminar | Provides opportunity to learn the tools necessary for carrying out empirical work through hands-on data work and analysis. Students learn how to specify and estimate linear regression models and test hypotheses about model parameters under different statistical assumptions. Students become proficient in programming statistical routines. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): admission to doctoral program |
| PAF | 610 | Advanced Qualitative Methods for Public Affairs Research | Explores a number of qualitative research approaches and methods, including ethnography, ethnomethodology, participant observation, interviews, focus groups, content analysis, discourse analysis, and some comparative/historical methods. Also explores the important theoretical and ethical issues that bear on these approaches. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Pre-requisites: PhD student |

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| PAF | 620 | Public Administration Professional Development Workshop | Prepares doctoral students to become productive and effective public administration scholars, teachers, and researchers. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Pre-requisites: Doctoral PAF student |
| PAF | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-12 | | |
| PAF | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-12 | | |
| PAF | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-15 | | |
| PAF | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Watts College of Public Service and Community Solutions | School of Public Affairs | 1 | | |
| PAF | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-15 | | |
| PAX | 230 | Introduction to Peace Studies | Intensive, one-semester introductory course. Explores multidisciplinary approaches to the study of peace, conflict and human rights as well as the historical background of peace studies (trans)disciplinary orientation. Knowledge gained in peace studies can be applied toward education, policy, law, cross-cultural communication, community-based organizations, nongovernmental organizations and ethics. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | G | |
| PAX | 310 | War and Peace: The Evolution of Conflict and Cooperation | Examines the evolutionary foundations of conflict and cooperation using theories and evidence spanning humans and other animals. Covers mechanisms of nonviolent conflict in nature, strategies for violent conflict and mechanisms to reduce the cost of conflict. Additionally, examines how cooperation evolved in humans and other animals. Topics include nepotism, reciprocity, cultural group selection and the evolution of moral sentiments. Also examines the interaction between cooperation and warfare. Topics include the relation between violence and morality, and how warfare shapes cultural evolution. The course ends examining combat-induced Post Traumatic Stress Disorder and Moral Injury, and how it relates to the evolution of cooperation and warfare. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASM 310 or ASM 394 (War & Peace: Origins of Conflict & Cooperation) or PAX 310 OR Visiting University Student |
| PAX | 456 | Studies in Forensic Linguistics | Focuses on the three main aspects of that branch of applied linguistics, namely language and the law, court cases where language is the central dispute, and linguistic evidence. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 456 or FOR 456 or PAX 456 or SBS 456 |
| PBH | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| PBH | 201 | Economics for Health Majors | Introduces economics and demonstrates the relevance of economic principles to the study of health care delivery systems and public health. Combines elements of a traditional introductory economics curriculum with broad coverage of microeconomics and specific application to current issues in health care delivery and public health policy. Prepares students for further study of health economics. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only HCD 201 or PBH 201 OR Visiting University Student |
| PBH | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| PBH | 300 | Biostatistics | Biostatistics and its use in health and health services research. Familiarizes students with statistical concepts and methods to analyze and interpret data and conceptually addresses statistical theory. Introduces Excel software to manage data and perform statistical tests. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | CS | Prerequisite(s): completion of General Studies MA requirement with C or better; minimum 30 hours; Credit is allowed for only HCD 300 or PBH 300 |
| PBH | 310 | Epidemiology in Public Health | Essential principles and practices of public health epidemiology. Increases an undergraduate student's ability to analyze problems and make decisions based on application of epidemiologic concepts and methods in a variety of settings. Students gain experience communicating epidemiologic findings in both written and oral formats. Includes applied hands-on exercises in analysis of epidemiologic data, case studies and critical review of epidemiologic methods used in scientific literature. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): PBH 300; not open to Exercise and Wellness or Health Education and Health Promotion majors |

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| PBH | 355 | Research Methods for Public Health | Society incurs high opportunity costs when public health interventions which yield a high health return on investment are not implemented, or when resources are expended on interventions with low health returns. Public health practitioners should, therefore, incorporate the best scientific evidence in planning, implementing and evaluating public health policies and programs. Covers concepts and tools of public health research where the research objective is to provide evidence that informs and improves decisions regarding the allocation of public health resources. Covers basic components that inform evidence-based decision making, namely: accessing the best available scientific evidence; developing research questions, collecting and analyzing qualitative and quantitative data; using data and information systems methodically; and adhering to standards of ethical research. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): PBH 310; not open to Exercise and Wellness or Health Education and Health Promotion majors |
| PBH | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| PBH | 402 | Health Economics | Examines decisions made by patients, practitioners, health care administrators, and public policy makers using economic tools and models. Gives particular emphasis to using economic models to understand and predict decision making under scarcity and imperfect information, which provides insight into the successes and pitfalls of a health care system. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): ECN 211, ECN 212, HCD 201, or PBH 201; minimum 45 hours; Credit is allowed for only HCD 402 or PBH 402 |
| PBH | 410 | Public Mental Health | Explores public mental health research and practice. Considers social determinants, social theory, population assessment methods, ecological models, risk, resiliency, and behavioral health systems of treatment and prevention. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |
| PBH | 422 | Health Disparities and Access to Health | Racial and ethnic health disparities in the United States. Explores disparities in healthcare seen at the provider and system level and their effects on health in the community. Also considers the historical context of racial and ethnic health disparities and the demographic and conceptual issues surrounding health disparities research. Reflects on the effects of behavior, socioeconomic status and group-specific disparities on community health status. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only HCD 422 or PBH 422 OR Visiting University Student |
| PBH | 435 | Environmental and Occupational Health | Examines health issues, scientific understanding of causes, and possible approaches to control major environmental health problems in global human populations. Topics include how the body reacts to environmental pollutants; physical, chemical, and biological agents of contamination; vectors for dissemination (air, water, soil); solid and hazardous waste; vulnerable populations; risk analysis; scientific basis for policy decisions; and emerging global environmental health problems. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 56 hours OR Visiting University Student |
| PBH | 455 | Public Health Program Evaluation | Federal, state and local policies shape the nature of the public health programs implemented in communities. Public health professionals are often responsible for evaluating, at multiple levels, the programs that result from such policies. Provides public health students with the analytical tools necessary to manage the implementation and evaluation of public health programs. Program evaluation serves many important functions. It supplies information to managers who are charged with implementing public health programs and to policymakers who face decisions about which programs to fund, scale back, expand, modify or eliminate. Evaluation is an accountability tool: when a public health agency decides to finance a program, they have a right to ask what their funds bought. Evaluation is also a vehicle for improving public health programs. By identifying what works and what does not--and how new programs fare relative to existing practice--policymakers and managers can improve program designs. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): PBH 355 |
| PBH | 482 | Capstone I | First course in capstone sequence wherein a student identifies a project to complete in Capstone II and conducts background research. Projects are related to broad topics explored during prior coursework in the student's program. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): minimum 45 hours |
| PBH | 483 | Capstone II | Independent study in which a student, under the supervision of capstone coordinator, conducts research that is expected to lead to a specific project such as a thesis, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. Capstone II projects can be done in conjunction with a health care organization or health agency. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): PBH 482 (or HCD 482) |

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| PBH | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): Barrett Honors student |
| PBH | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): Barrett Honors student |
| PBH | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| PHI | 101 | Introduction to Philosophy | Explores issues that philosophers have traditionally considered, including morality, reality, and knowledge. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | |
| PHI | 103 | Principles of Sound Reasoning | Fallacies, validity, and soundness of arguments. May include syllogistic, elementary symbolic, inductive logic, and scientific method. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105 or 107 with C or better OR Visiting University Student |
| PHI | 105 | Intro to Ethics | Philosophical examination of such questions as, How should we live? Is morality a social invention? Does anything matter? | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | |
| PHI | 107 | Introduction to Philosophy of Sex and Love | Examines philosophical views of the nature of sex and love, their relation to gender and sexual ethics. Focuses on the historical development of these concepts and contemporary moral and political debates over issues such as same-sex marriage, polyamory, pornography and free speech, objectification, cybersex, and consent to sex. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): Credit is allowed for only PHI 107 or PHI 394 (Philosophy of Sex and Love) |
| PHI | 120 | Introduction to Medical and Bioethics | Philosophical examination of moral problems that arise in medicine and biology, e.g., end-of-life, reproduction, and patient's rights. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | |
| PHI | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-3 | | Pre-requisites: Freshman student; Maximum 25 hours |
| PHI | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |
| PHI | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |
| PHI | 300 | Philosophical Argument and Exposition | Develops techniques of philosophical argument and exposition. Frequent written exercises. Course content may vary with instructor. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L | Prerequisite(s): Philosophy major; ENG 102 with C or better; minimum 25 hours OR Visiting University Student |
| PHI | 303 | The Future of Religions | Critical theorists of modern religious and secular beliefs argued that both theism and atheism have had their martyrs and tyrants. Nietzsche proclaimed "God" of the West dead, Marx unmasked religion as opium for the oppressed masses, and Freud analyzed religious future as an unconscious illusion. The future of secular progress has become equally suspect in the wake of the Holocaust, Hiroshima, the gulags, the killing fields of Cambodia, Rwanda. Globally motivated terror revealed itself as capable of religious as much secular justifications. The future of faith and reason has become a doubly open theoretical and practical question in philosophy, religious studies, literary study, critical theory, cultural and gender studies, and all sciences. Applies theoretical and methodological tools to critically exam beliefs, practices, and communities and their role in both generating and transforming the ethical and spiritual discontents of the global age. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Pre-requisites: ENG 102, 105 or 108 with C or better; Credit is allowed for only HON 394 (The Future of Religions), PHI 303 or REL 300 |
| PHI | 304 | Existentialism | Covers such topics as absurdity, authenticity, the meaning of life and death, responsibility, and subjectivity. May include readings in phenomenology. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PHI | 306 | Applied Ethics | Philosophical discussion of contemporary moral and political issues, such as abortion, euthanasia, animal rights, affirmative action, and sexual rights. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | |
| PHI | 307 | Philosophy of Law | Nature and source of law and its relation to morality. Legal rights, legal enforcement of morals, civil disobedience, liability and responsibility, punishment, judicial reasoning, justice, property, and differences between theories of natural and positive law. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PHI | 310 | Environmental Ethics | Examines a full range of philosophical positions pertaining to our moral relationship to the natural world; anthropocentrism, individualism, biocentrism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Credit is allowed for only BIO 324 or PHI 310 OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| PHI | 311 | Philosophy and Literature | In-depth study of selected literary and philosophic texts. Addresses philosophical problems such as the nature of moral goodness and human relations; the purpose of life; or the relations among beauty, truth and justice. Also addresses whether literary aspects of philosophical texts such as myth, image, metaphor or rhetorical devices contribute to meaning or promote ethical insight as well as interdisciplinary tensions and bridges between rhetoric and philosophy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): minimum 45 hours |
| PHI | 313 | Probability, Evidence, and Decision | Philosophical topics in epistemology and practical reasoning; probability and its use in representing and reasoning about belief, evidence, and rational choice. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): MAT 117 or 142 or higher; minimum 30 hours; Credit is allowed for only HPS 313 or PHI 313 |
| PHI | 314 | Philosophy of Science | Structure and justification of scientific theories, explanation, and theory change. Roles of observation and laws, theoretical concepts and entities, reduction, probability, confirmation, space and time, and causation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Credit is allowed for only HPS 314 or PHI 314 OR Visiting University Student |
| PHI | 318 | Philosophy of Religion | Classical arguments for the existence of God. Argument from evil against the existence of God. Justification of religious belief. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | |
| PHI | 319 | Philosophy, Computing and Artificial Intelligence | Philosophical problems surrounding artificial intelligence (AI). Thinking as computation and AI; the ethics, epistemology and metaphysics of computing. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | CS | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 25 hours OR Visiting University Student |
| PHI | 320 | Bioethics | Critical examination of moral questions arising in biomedical contexts, particularly due to new technologies and scientific discoveries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): minimum 45 hours; Credit is allowed for only BIO 312 or IAS 340 or PHI 320 OR Visiting University Student |
| PHI | 322 | History and Philosophy of Sustainability | Examines sustainability issues in a broadly interdisciplinary way, but with a special emphasis on humanities perspectives, focusing on human ideas, values and institutions as they have evolved over time. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102 or 105 or 108 with C or better; minimum 25 hours; Credit is allowed for only HST 308 or PHI 322 or SOS 309 or BIO/HST/PHI/SOS 394 (History & Philosophy of Sustainability) |
| PHI | 324 | Existential Ethics | Ethical aspects of theistic and atheistic accounts of existentialist philosophy. Freedom and responsibility and their significance in human experiences. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | |
| PHI | 325 | Philosophy of Social Science | Philosophical problems surrounding the aims, structure, and methods of the social sciences. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU or SB | |
| PHI | 326 | Philosophy of Happiness | Examines ancient and contemporary philosophical models of happiness and consideration of criteria for living a life of human flourishing. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| PHI | 328 | History of Ancient Philosophy | History of Western philosophy from its beginnings through the Hellenistic period. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 25 hours OR Visiting University Student |
| PHI | 329 | History of Modern Philosophy | History of Western philosophy from the Renaissance through Kant. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 25 hours OR Visiting University Student |
| PHI | 330 | Theory of Knowledge | Nature, sources, and limits of human knowledge. Topics may include truth, a priori knowledge, empirical knowledge, perception, induction, and skepticism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 25 hours OR Visiting University Student |
| PHI | 331 | Philosophy of Language | Problems pertaining to the nature of language, including meaning, reference, truth, definition, analyticity, translatability, synonymy, and contributions of contemporary linguistics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102 or 105 or 108 with C or better; minimum 25 hours |
| PHI | 332 | Metaphysics | Problems pertaining to the nature of reality. Topics may include nature of person, minds, substance, universals, space, time, causation, and modality. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 25 hours OR Visiting University Student |
| PHI | 333 | Symbolic Logic | Studies symbolic techniques to represent knowledge, deductive arguments, refutation by counter-example, and model-theoretic representation. Covers propositional and first-order predicate logic and provides a deeper understanding of theories about the world and of reasoning in life generally. Students gain a valuable tool for any field or discipline in which rigorous thinking is necessary such as science, medicine, business and the legal profession. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; MAT 243 or MAT 300 or PHI 103 with C or better; minimum 25 hours OR Visiting University Student |
| PHI | 334 | Philosophy of Mind | Nature of consciousness. Common sense view of mind, behaviorism, materialism, dualism, functionalism, self-knowledge, and knowledge of other minds. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 25 hours OR Visiting University Student |
| PHI | 335 | History of Ethics | Major works of moral philosophy, both ancient and modern, such as those by Plato, Aristotle, Hobbes, Hume, Kant, and Mill. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 25 hours OR Visiting University Student |
| PHI | 336 | Social and Political Philosophy | Alternative principles and methods relevant to problems of human association and conflict; discusses justice and power, freedom and equality, and autonomy and order. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 25 hours OR Visiting University Student |
| PHI | 337 | Ethical Theory | Theories in normative ethics about the nature of what is right and wrong, good and bad, virtuous and vicious. May include issues in metaethics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 25 hours OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| PHI | 338 | Metaethics | Concerns questions about the nature of value, morality, and normativity in general, such as "Is morality objective, subjective, or relative?" | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102 (or ENG 105 or 108) with C or better; minimum 25 hours. Credit is allowed for only PHI 338 or PHI 420 (Metaethics) |
| PHI | 339 | Philosophy of Art | Central problems in philosophy of art, e.g., the nature of a work of art, modern and traditional theories of art, aesthetic perception and experience, and objectivity and relativity in art criticism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): minimum 45 hours |
| PHI | 347 | Philosophical Theories of Constitutional Law | In-depth study of the philosophical theories surrounding constitutional rights and interpretation. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 25 hours OR Visiting University Student |
| PHI | 360 | Business and Professional Ethics | Examines moral theories applied to cases of corporate responsibility, property rights, environment, fairness, profit, employee rights, and responsibilities. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PHI | 370 | Sports Ethics | Studies moral issues in sports, including but not limited to the nature and application of sportsmanship, the prohibition of performance enhancing drugs, ethical issues in the economics of sports, the role of violence, and fandom. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 25 hours OR Visiting University Student |
| PHI | 371 | Philosophy of Sport | An inquiry into philosophical issues in sport. Topics and readings vary, but may include: the nature and definition of sport, an examination of the main theories of sport, metaphysical and epistemological issues, and the aesthetics of sport. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 25 hours; Credit is allowed for only PHI 371 or PHI 394 (Philosophy of Sport) OR Visiting University Student |
| PHI | 390 | Jewish Philosophy | The history of Jewish philosophy from its origins in the Hebrew Scriptures to postmodern expressions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105 or 108 with a C or better; Minimum 30 hours; Credit is allowed for only HST 390, JST 314, PHI 390 or REL 314 |
| PHI | 391 | Historical Perspectives on Philosophy and Religion | Comprehensive, advanced study of central concepts in the philosophy of religion in the history of Western philosophy. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105 or 108 with C or better; Minimum 30 hours; Credit is allowed for only HST 357, PHI 391 or REL 391 |
| PHI | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |
| PHI | 401 | Rationalism | Examines classical philosophical rationalism, as in Descartes, Spinoza, Malebranche, or Leibniz. Contemporary rationalist thought may also be examined. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): undergraduate Philosophy major; minimum 56 hours |
| PHI | 402 | Empiricism | Examines representatives of either classical or contemporary philosophical empiricism, e.g., Bacon, Hobbes, Locke, Butler, Berkeley, Reid, Hume, Mill, Carnap, and Ayer. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): Philosophy student; minimum 56 hours |
| PHI | 403 | Contemporary Analytic Philosophy | Aims and methods of such 20th-century philosophers as Frege, Moore, Russell, Wittgenstein, Carnap, Ayer, Wisdom, Ryle, Austin, Strawson, Quine, and Sellars, with application to metaphysics and epistemology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): Philosophy BA or Philosophy (Morality, Politics and Law) BA or Philosophy (Science, Nature and Mind) BA major; minimum 56 hours OR Visiting University Student |
| PHI | 405 | Moral Psychology | Advanced study of key, contemporary authors and issues in moral psychology as a subfield of philosophy. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy undergraduate major; minimum 56 hours; Credit is allowed for only PHI 405 or PHI 420 (Moral Psychology) or PHI 530 |
| PHI | 406 | Moral Dilemmas | Philosophical analysis of moral dilemmas arising in professional and public settings. Ethical decision making in business, educational, human service, and scientific communities. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only FOR 406 or IAS 406 or PHI 406 OR Visiting University Student |
| PHI | 407 | Environmental Philosophy and Policy | Ethical concepts and theories applied to environmental issues: biotic community, biodiversity, degradation, ecofeminism, ecology, economics, population, property rights, and wilderness. Not open to students with credit in PHI 310. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101 or 105 with C or better; Credit is allowed for only IAS 407 or PHI 407 |
| PHI | 408 | Feminist Ethics | Philosophical exploration of the theoretical and practical aspects of ethical issues affecting women from diverse feminist viewpoints. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PHI | 409 | Eco-Community Ethics | Traces human interaction with the Earth from hunters and gatherers to the present day, examining groups who have lived within ecological constraints and limits. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Credit is allowed for only IAS 409 or PHI 409 |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|-----------------------------------|--|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| PHI | 411 | Continental Philosophy | Contemporary European thought emerges out of a crisis of the Enlightenment that unfolds throughout the 19th and 20th centuries. Kant's critique of the theoretical, practical, aesthetic and religious foundations articulates this crisis in Western philosophy, society and culture. Explores Continental thinkers and schools of thought in light of Kant's understanding of this crisis. Figures might be Nietzsche, Marx, Freud, Kierkegaard, Husserl, Heidegger, Benjamin, Adorno, Marcuse, Sartre, de Beauvoir, Irigaray, Kristeva, Spivak, Habermas, Lévinas, Marion, Derrida and others. Schools of thought considered may include existentialism, phenomenology, hermeneutics, critical theory, poststructuralism, deconstruction, feminist theory, critical race theory, postcolonial theory, and comparative philosophy. Continental philosophy dovetails with other fields like communication, cultural studies, law, political science, religious studies, literature and various social sciences. | N | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): ENG 102 or 105 or 108 with C or better; minimum 30 hours. Credit is allowed for only PHI 411 or PHI 494 (Continental Philosophy & Religion) or PHI 494 (Studies in Continental Philosophy) |
| PHI | 412 | Philosophy and Literary Criticism | Explores dynamic tensions between philosophical and literary critical approaches to texts. Aims to identify distinct ways that literature and critical practices "philosophize" about truth, moral dilemmas or existential struggles. Probes the challenges that each form of inquiry, philosophical and critical, poses for the other. Seeks to enhance understanding of the philosophical underpinnings of key literary works. May address poetry, novels and other media. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 30 hours; Credit is allowed for only PHI 412 or PHI 494 (Philosophy and Literature) or ENG 401 (Philosophy and Literary Criticism) OR Visiting University Student |
| PHI | 413 | Advanced Symbolic Logic | Properties of formal systems axiomatizing propositional and 1st-order predicate logic. May also include modal logic, number theory, and limits of logicism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): undergraduate Philosophy student; minimum 56 hours; Credit is allowed for only PHI 413 or PHI 556 |
| PHI | 415 | Philosophy and Film | Introduces philosophical themes via the medium of film. Students read classical and contemporary literature in philosophy, view films that portray philosophical concepts, and demonstrate their understanding through writing assignments and class presentations. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only PHI 415 or PHI 294 (Philosophy and Film) |
| PHI | 417 | Philosophy of Censorship | Investigates philosophical concepts underlying instances of censorship, both in historical and in contemporary settings. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 30 hours; Credit is allowed for only IAS 417 or PHI 417 or PHI 494 (Censorship: Philoso/Relig/Soc Perspectives) or REL 494 (Censorship: Philoso/Relig/Soc Perspectives) |
| PHI | 420 | Topics in Philosophy | Advanced seminar featuring in-depth examination of some philosophical topic or area. Topics vary widely and draw from major subfields of philosophy such as metaphysics, epistemology and ethics. Many seminars emphasize the social relevance of philosophy. Format may include peer discussion, class presentations and/or term papers. Intended for students with prior background in relevant subfield of philosophy. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): undergraduate Philosophy major; minimum 56 hours OR Visiting University Student |
| PHI | 421 | Philosophical Topics | Focuses on important issues within the discipline. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| PHI | 422 | God and the Problem of Suffering | Examines whether a Western theistic conception of God (that is, an omniscient, omnibenevolent, omnipotent being--the God of the three main Western religions) is compatible with the existence of what appears to be an abundance of pointless suffering in the world. Addresses the logical and evidential problem of (moral and natural) evil, as well as a variety of proposed theodicies through the study of philosophical texts, literature and film. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only PHI 422 or REL 459 or PHI 494 (God and the Problem of Suffering) or REL 494 (God and the Problem of Suffering) |
| PHI | 439 | Philosophy of Love and Sex | Advanced introduction to historical and contemporary philosophical writings and sociological case studies on the philosophy of sex and love. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): ENG 102 or 105 or 108 with C or better; Credit is allowed for only PHI 439 or PHI 494 (Philosophy of Love and Sex) |
| PHI | 448 | Justice and Reparations | Advanced study of the moral basis of reparations and reparative justice. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy undergraduate major; minimum 56 hours; Credit is allowed for only PHI 420 (Jus/Reparations) or PHI 448 or PHI 527 |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| PHI | 450 | Philosophical and Spiritual Issues in Death and Dying | From Plato to Maimonides to Heidegger to Kubler-Ross, scholars, clinicians and spiritual writers have recognized that attitudes about death and dying contribute to understandings of human existence. Recalling the ancient Socratic, biblical and other spiritual traditions of the cura animarum (care for and cure of the soul) and joining contemporary post/secular conversations relevant to integration of body-mind-spirit, this course introduces basic concepts and practices of care ethics and spirituality. Focuses on relations among existential (ontological), therapeutic (psychosomatic), and spiritual (religious) dimensions of care. Theoretically, the course is inter-faith in approach, holistic in scope, and specialized in content. Practically, students examine real-life issues in care ethics and spirituality from multiple perspectives. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only IAS 450 or MAS 550 or PHI 450 or PHI 494 (Issues in Death & Dying) or REL 450 or REL 494 (Issues in Death & Dying) OR Visiting University Student |
| PHI | 452 | Philosophy of Biology and Medicine | Examines fundamental topics in the philosophy of biology and their implications for medicine. Examples include biological mechanisms and evidence-based medicine, species concepts and race, reductionism and the nature of individuality, and theories of function and health. Uses these topics throughout the semester to address two overarching questions about whether biology is fundamentally different from physics and whether medicine can be reduced to applications of biology. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): minimum 25 hours; Credit is allowed for only BIO 452 or HPS 452 or PHI 452 or BIO/HPS/PHI 394 (Philosophy of Biology and Medicine Introduction) or BIO/HPS/PHI 494 (Philosophy of Biology and Medicine) OR Visiting University Student |
| PHI | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | |
| PHI | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| PHI | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| PHI | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |
| PHI | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-3 | | |
| PHI | 520 | Topics in Applied Philosophy | Selected topics in applied philosophy. | Y | SEM | Y | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 521 | Bioethics | Addresses current controversies and major topics in bioethics and biosciences. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD major; Credit is allowed for only PHI 420 (Found-Bioethics) or PHI 521 |
| PHI | 522 | Ethics of Sustainability | Explores the normative framework of sustainability. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD major; Credit is allowed for only PHI 420 (Topics in the Ethics of Sustainability) or PHI 522 |
| PHI | 524 | Disaster Ethics | Investigates moral and political questions connected to disasters and emergencies such as obligations of aid workers, responsibilities for preparedness and rebuilding, and related social justice questions. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD major; Credit is allowed for only PHI 420 (Ethics and Disaster) or PHI 524 |
| PHI | 525 | Rational Choice | Recent philosophical work on rational decision making. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD major; Credit is allowed for only PHI 420 (Rational Choice) or PHI 525 |
| PHI | 526 | Evolution and Strategic Interaction | Recent work on the philosophical significance of evolutionary models of social interactions and social structures. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 529 | Feminist Philosophy | Examines contemporary feminist work in some of the subfields of philosophy, such as ethics, political philosophy, epistemology. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD major; Credit is allowed for only PHI 420 (Feminist Philosophy) or PHI 529 |
| PHI | 530 | Moral Psychology | Central issues and texts in moral psychology including the impact of psychological research on philosophical theorizing. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD major; Credit is allowed for only PHI 405 or PHI 420 (Moral Psychology) or PHI 530 |
| PHI | 532 | Experimental Philosophy | Examines experimental work taken to directly bear on important philosophical theories. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD major; Credit is allowed for only PHI 420 (Experimental Philosophy) or PHI 532 |

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|---------|----------------|-------------------------------------|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|---|
| PHI | 538 | Human Well-Being and Sustainability | Many of us take it for granted that human well-being is the ultimate end of sustainability or sustainable development. But what is a well-being, really? Social scientists collect empirical data and develop indices, indicators and other proxies to represent and measure well-being; but is it the kind of phenomenon that can be explained? In other words, is there a correct theory of human well-being? How does one measure well-being? Moreover, what are we to make of the relationship between well-being and sustainability? Where do these two concepts coincide? Where do they come apart? Does human well-being presuppose a commitment to sustainability? If the ultimate end of sustainability is human well-being, then is sustainability a redundant concept? This interdisciplinary course tackles such questions by critically examining the most prominent philosophical theories of well-being and by considering how they might be reconciled with relevant empirical evidence. Also spends considerable time reflecting on the problems that arise with respect to measuring well-being, particularly in the context of public policy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HPS/PHI/SOS 591 (Human Well-Being and Sustainability) or PHI 538 or SOS 494 (Human Well-Being and Sustainability) or SOS 539 |
| PHI | 540 | Topics in Value Theory | Selected topics in value theory. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 541 | Normative Ethics | Explores one or more leading normative ethical theories that inform the contemporary discussions in ethics, applied ethics, issues of justice and human rights, and public policy. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD major; Credit is allowed for only PHI 420 (Normative Ethics) or PHI 541 |
| PHI | 545 | Studies in Philosophy of Law | Selected topics in the philosophy of law. | Y | SEM | Y | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 546 | Studies in Political Philosophy | Selected topics or figures in political philosophy. | Y | SEM | Y | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 555 | Topics in Formal Methods | Selected topics in formal methods. | Y | SEM | Y | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 556 | Advanced Symbolic Logic | Advanced topics in logic relevant to philosophical theorizing such as modal, deontic and temporal logic. | Y | SEM | Y | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 560 | Topics in Epistemology | Selected topics in epistemology. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 562 | Perception | Recent work on the nature and content of perception. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD major; Credit is allowed for only PHI 420 (Perception) or PHI 562 |
| PHI | 565 | Probabilism | Recent work on rational belief, evidence and belief change. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 566 | Studies in Philosophy of Science | Selected topics in philosophy of science. | Y | SEM | Y | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 570 | Topics in Metaphysics | Selected topics in metaphysics | Y | SEM | Y | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 571 | Studies in Philosophy of Mind | Selected recent philosophical work in philosophy of mind such as the nature of sensation and perception, theories of consciousness, and the unity of the self | Y | SEM | Y | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 572 | Studies in Philosophy of Language | Selected recent philosophical work in philosophy of mind language as theories of meanings, direct reference and vagueness. | Y | SEM | Y | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD major; Credit is allowed for only PHI 420 (Philosophy of Language) or PHI 572 |
| PHI | 576 | Realism | Recent work on realism and anti-realism, starting with Michael Dummett, and including philosophers such as Hilary Putnam, Donald Davidson, John McDowell and Kit Fine. Global realism and anti-realism and more specific realisms/antirealisms about the past, the mind, theoretical entities, mathematics and ethics. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 581 | Studies in Ancient Greek Philosophy | Selected topics in ancient philosophy from 585 BC to 529 AD. | Y | SEM | Y | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student; Credit is allowed for only PHI 420 (Studies in Ancient Greek Philosophy) or PHI 581 |
| PHI | 582 | Studies in Modern Philosophy | Selected topics and significant figures in the modern period. | Y | SEM | Y | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |

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|---------|----------------|-------------------------------------|---|----------------------|----------------------|--------------------|------------------|--|---|-------|--------------------|--|
| PHI | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | |
| PHI | 587 | Topics in the History of Philosophy | Selected topics in the history of philosophy. | Y | SEM | Y | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PHI | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Prerequisite(s): Philosophy MA or Philosophy PhD student |
| PHI | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | |
| PHI | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1 | | |
| PHI | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |
| PHI | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | |
| PHI | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PHI | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | |
| PHI | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-15 | | |
| PHI | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1 | | |
| PHI | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-15 | | |
| PHS | 110 | Fundamentals of Physical Science | One-semester survey of the principles of physics and chemistry. Presumes understanding of elementary algebra. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 4 | SQ | |
| PHS | 115 | The Science of Musical Instruments | Science class set in a musical context where students learn about music, musical instruments, and also about the underlying scientific and mathematical principles. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Physics | 4 | SQ | Credit is allowed for only PHS 115 or PHS 194 (Science of Musical Instruments) |
| PHS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Physics | 1-4 | | |
| PHS | 208 | Patterns in Nature | Examines topics from optics to analytical techniques. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 4 | SQ | Credit is allowed for only MSE 208 or PHS 208 |
| PHS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | |
| PHS | 505 | Energy and the Environment | Current problems in energy resources, production, consumption, and conservation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHS | 530 | Methods of Physics Teaching I | Inquiry approach to high school physics teaching. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHS | 531 | Methods of Physics Teaching II | Extension of modeling techniques introduced in PHY 580. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|-----------------------|-------|-----------------|--|
| PHS | 534 | Methods of Teaching Physical Science I, II, III | Design of curriculum and conduct of instruction for physical science courses. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHS | 540 | Integrated Physics and Chemistry | Collaborative inquiry methods for teaching and coordinating physics and chemistry. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only CHM 540 or PHS 540 |
| PHS | 542 | Integrated Mathematics and Physics | Mathematical models and modeling as an integrating theme for secondary mathematics and physics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHS | 550 | Physics and Astronomy | Astronomy curricula and projects for secondary school, with emphasis on the role of physics in astronomy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PHS | 556 | Astrophysics | Structure and evolution of stars, galaxies, and the universe. For secondary school teachers. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHS | 560 | Matter and Light | Interactions of light with matter. Lasers and spectroscopy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CHM 560 or PHS 560 |
| PHS | 570 | Spacetime Physics | Special and general theories of relativity with implications for space and time travel. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHS | 581 | Structure of Matter and its Properties | Models of matter and its properties. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CHM 581 or PHS 581 |
| PHS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |
| PHS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |
| PHS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |
| PHS | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |
| PHS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Physics | 1-4 | | |
| PHY | 101 | Introduction to Physics | Emphasizes applications of physics to life in the modern world. Presumes understanding of elementary algebra. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 4 | SQ | |
| PHY | 105 | Basic Physics | One-semester survey of the principles of physics. Primarily for students who intend to take PHY 121, 131 but have not taken high school physics. | N | REC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHY | 111 | General Physics | Noncalculus treatment of the principles of physics for nonphysics majors. Students whose curricula require a lab course must also register for PHY 113. Both PHY 111 and PHY 113 must be taken to secure SQ General Studies credit. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | SQ | Prerequisite(s): MAT 170 or higher with C or better or ALEKS score of 61 or higher or Corequisite(s): MAT 210 or higher OR Visiting University Student |
| PHY | 112 | General Physics | Continuation of PHY 111. Students whose curricula require a lab course must also register for PHY 114. Both PHY 112 and PHY 114 must be taken to secure SQ General Studies credit. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | SQ | Prerequisite(s): PHY 111 with C or better OR Visiting University Student |
| PHY | 113 | General Physics Laboratory | Elementary experiments in physics. Requires outside preparation for experiments and report writing. May be taken concurrently with, or subsequent to PHY 111. Both PHY 111 and PHY 113 must be taken to secure SQ General Studies credit. | N | LAB | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 1 | SQ | Pre- or corequisite(s): PHY 111 with C or better if completed OR Visiting University Student |
| PHY | 114 | General Physics Laboratory | See PHY 113. May be taken concurrently with, or subsequent to, PHY 112. Both PHY 112 and PHY 114 must be taken to secure SQ General Studies credit. | N | LAB | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 1 | SQ | Pre- or corequisite(s): PHY 112 with C or better if completed OR Visiting University Student |
| PHY | 118 | Explorations in Science Teaching | Examines the field of physical science education via in-class meetings and classroom settings. Discusses the theory, pedagogy and practice of teaching physical science. Reviews various curricula available for the teaching of physical science with a focus on state and national standards. Students work with course instructor(s) to design three lessons that work toward some of the objectives of each cooperating teachers' class. Students are aided in developing materials, guided in planning to teach the lesson, and given time to prepare and practice the lesson. | N | SEM | N | GNA | College of Liberal Arts and Sciences | Department of Physics | 1 | | Pre-requisite: Mathematics or Physics or other science major |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|-----------------------|-------|-----------------|--|
| PHY | 121 | University Physics I: Mechanics | Kinematics; Newton's laws; work, energy, momentum, conservation laws; dynamics of particles, solids, and fluids. Both PHY 121 and PHY 122 must be taken to secure SQ General Studies credit. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | SQ | Prerequisite(s): MAT 265 or 270 with C or better; Pre- or corequisite(s): MAT 266 or 271 with C or better if completed OR Visiting University Student |
| PHY | 122 | University Physics Laboratory I | Lab accompanying PHY 121. Both PHY 121 and PHY 122 must be taken to secure SQ General Studies credit. | N | LAB | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 1 | SQ | Pre- or corequisite(s): PHY 121 with C or better if completed OR Visiting University Student |
| PHY | 131 | University Physics II: Electricity and Magnetism | Electric charge and current, electric and magnetic fields in vacuum and in materials, and induction. AC circuits, displacement current, and electromagnetic waves. Both PHY 131 and PHY 132 must be taken to secure SQ General Studies credit. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | SQ | Prerequisite(s): MAT 266 or 271 with C or better; PHY 121 or 150 with C or better; Pre- or corequisite(s): MAT 267 or 272 with C or better if completed OR Visiting University Student |
| PHY | 132 | University Physics Laboratory II | Lab accompanying PHY 131. Both PHY 131 and PHY 132 must be taken to secure SQ General Studies credit. | N | LAB | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 1 | SQ | Pre- or corequisite(s): PHY 131 with C or better if completed OR Visiting University Student |
| PHY | 150 | Physics I | Introductory physics for majors. Kinematics, Newton's Laws, basic forces, energy, momentum. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 4 | SQ | Prerequisite(s): MAT 265 or 270 with C or better; Pre- or corequisite(s): MAT 266 or 271 with C or better if completed OR Visiting University Student |
| PHY | 151 | Physics II | Continuation of PHY 150. Electromagnetic fields; Ampere's and Faraday's Laws; Maxwell's equations; basic circuit elements. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 4 | SQ | Prerequisite(s): MAT 266 or 271 with C or better; PHY 150 or PHY 121 and PHY 122 with C or better; Pre- or corequisite(s): MAT 267 or 272 with C or better if completed OR Visiting University Student |
| PHY | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Department of Physics | 1-3 | | Prerequisite(s): freshman standing; maximum 25 hours OR Visiting University Student |
| PHY | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Physics | 1-4 | | |
| PHY | 201 | Mathematical Methods in Physics I | Differential equations, linear equations, vectors, matrices, Fourier series, and numerical methods. | N | LEL | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | CS | Prerequisite(s): MAT 267 or 272 with C or better; PHY 131 with C or better; PHY 132 with C or better OR MAT 267 or 272 with C or better; PHY 151 with C or better OR Visiting University Student |
| PHY | 202 | Programming for Physicists | Introduces programming in the Python programming language for physics majors. | N | LEL | N | GNA | College of Liberal Arts and Sciences | Department of Physics | 1 | | Prerequisite(s): MAT 267 or 272 with C or better; PHY 151 with a C or better or PHY 131 and PHY 132 with C or better OR Visiting University Student |
| PHY | 241 | University Physics III | Thermodynamics, kinetic theory, physical and wave optics, relativity, photons, matter waves, atomic physics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 131 or 151 OR Visiting University Student |
| PHY | 252 | Physics III | Thermodynamics, kinetic theory, physical optics and diffraction, modern physics, special relativity, quantum mechanics and Bohr atom. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 4 | SQ | Prerequisite(s): MAT 267 or 272 with C or better; PHY 151 or PHY 131 and 132 with C or better OR Visiting University Student |
| PHY | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Physics | 1-4 | | |
| PHY | 302 | Mathematical Methods in Physics II | Vector calculus, complex variables, partial differential equations, special functions, numerical methods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 201 with C or better OR Visiting University Student |
| PHY | 310 | Classical Particles, Fields, and Matter I | Particle kinematics, mechanics, conservation laws of single- and multi-particle systems, potentials, oscillations, Lagrangian dynamics, central force problems, dynamics in non-inertial reference frames, rigid body motion. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s) with C or better: (PHY 201; PHY 252) or (PHY 201; PHY 202; PHY 241); Corequisite(s): PHY 302 OR Visiting University Student |
| PHY | 311 | Classical Particles, Fields, and Matter II | Electrostatic and gravitational fields, Poisson and Laplace equations, dielectric materials, magnetic fields and materials, magnetic induction, Faraday's Law. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 302 with C or better; PHY 310 with C or better OR Visiting University Student |
| PHY | 312 | Mechanics and Electromagnetism | Covers two major topics in physics, both dealing with forms of energy and momentum and how they are transmitted in space. Covers mechanics and dynamics, describing how bodies with mass move under various types of forces. Also covers electromagnetism, which describes how electric charges and magnets, and their motions, generate fields of force. Also describes how time-varying electric and magnetic fields are associated with electromagnetic waves, which include light. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 201 with C or better; PHY 252 with C or better OR PHY 201 with C or better; PHY 202 with C or better; PHY 241 with C or better OR Visiting University Student |
| PHY | 314 | Quantum Physics I | Photons, models of the atom, wave properties of matter, introduction to wave mechanics, 1-D systems in quantum mechanics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 201 with C or better; PHY 252 with C or better, or both PHY 202 and 241 with C or better OR Visiting University Student |
| PHY | 315 | Quantum Physics II | General principles of quantum mechanics, 3-D problems, approximation methods, spin, relativity, introduction to many-particle systems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 302 with C or better; PHY 314 with C or better OR Visiting University Student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| PHY | 321 | Vector Mechanics and Vibration | Vector-based formulation of Newtonian mechanics of particles and rigid bodies, including oscillatory systems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHY | 331 | Principles of Modern Electromagnetism | Studies the unified description of electromagnetic phenomena provided by Maxwell's equations in differential and integral form. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHY | 333 | Electronic Circuits and Measurements | Basic principles of electronic circuit analysis and measurement techniques using modern instrumentation and computer-aided analysis of data. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): MAT 267 or 272 with C or better; PHY 131 with C or better; PHY 132 with C or better OR MAT 267 or 272 with C or better; PHY 151 with C or better OR Visiting University Student |
| PHY | 334 | Advanced Laboratory I | Selected experiments from contemporary physics. Emphasizes modern instrumentation, computer-assisted acquisition and analysis of data, and report form writing. | N | LEL | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; MAT 267 or 272 with C or better; PHY 151 (or PHY 131 and 132) with C or better; Pre- or corequisite(s): PHY 314, 361, CHM 345, or EEE 434 with C or better if completed OR Visiting University Student |
| PHY | 361 | Introductory Modern Physics | Special relativity and introductory quantum theory with applications drawn from atomic, nuclear, and solid-state physics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 131 or 151 with C or better; MAT 272 or 267 with C or better OR Visiting University Student |
| PHY | 371 | Driving Forces in Biology | What are the stable states of biomolecules? How do molecules interact? What forces drive molecules to bond and associate, to adsorb, to permeate through membranes, to undergo chemical reactions, to undergo conformational changes? Why are some changes gradual, as in the weakening of a ligand interaction with temperature, and others sudden (cooperative) such as protein folding or the insolubility of oil in water? Addresses these questions by statistical thermodynamics, a collection of principles and models that when combined with thermodynamics, aim to explain molecular forces and flows. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): CHM 341 or 346 with C or better OR Visiting University Student |
| PHY | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Physics | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PHY | 412 | Classical Particles, Fields, and Matter III | Electromagnetic fields of moving charges, Maxwell's equations, harmonic phenomena, oscillations, waves, electromagnetic radiation, covariant electromagnetism, introduction to general relativity. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 311 with C or better OR Visiting University Student |
| PHY | 416 | Quantum Physics III | Introduces the quantum theory of atoms, molecules, solids and nuclei, Dirac's equation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 315 with C or better OR Visiting University Student |
| PHY | 432 | Computational Methods in Physics | Provides a practical introduction to using the computer as a tool to solve problems in physics. Students learn how to work in a scientific computing environment (including software engineering "best practices"), to analyze a physical problem, select appropriate numerical algorithms to solve the problem, and to implement them. Covers computer graphics and object-oriented design. Students work in teams, critically evaluate their approaches and results, and present them in a professional manner to their peers. | N | LEL | N | GNA | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): MAT 267 or 272 with C or better; PHY 202 with C or better; Pre- or corequisite(s): PHY 241 or 252 with C or better if completed; Credit allowed for only PHY 432 or PHY 494 (Computational Methods in Physics) OR Visiting University Student |
| PHY | 441 | Statistical and Thermal Physics | Statistical and experimental basis of heat, temperature, and entropy. Mechanical and statistical basis of the laws of thermodynamics. Applies macroscopic thermodynamics. Phase equilibrium. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 311 with C or better; PHY 315 with C or better OR Visiting University Student |
| PHY | 444 | Fundamentals of Nanoscience | For senior science majors and beginning graduate students teaching the cross-disciplinary subject of nanoscience. There is a strong emphasis on basics, so the course starts with a fairly rigorous introduction to quantum mechanics, statistical mechanics and chemical kinetics, though enough material is provided to allow nonphysics majors to come up to speed in these areas. This is followed by a survey of experimental techniques in nanoscience: microscopy, optical spectroscopy and scanning probe methods, and nanofabrication methods including "top down" and self assembly. Finally we survey applications: electrons in nanostructures, molecular electronics, nanomaterials and bio-nanoscience. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): junior or senior standing; Credit is allowed for only PHY 444 or PHY 494 (Intro to Nanoscience) |
| PHY | 452 | Physical Optics | Principles of reflection, refraction, diffraction. Additional topics from contemporary optics may include Fourier transform spectroscopy, linear systems theory, holography. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 302 with C or better; PHY 311 with C or better OR Visiting University Student |

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|---------|----------------|-------------------------------------|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| PHY | 456 | Laser Optics | Theoretical and experimental aspects of applied optics including basic concepts of lasers, properties of optical beams, resonators and interferometry. Course consists of two parts: preparatory labs and applied projects. Preparatory labs provide theoretical and technical background for understanding of general features of electromagnetic wave propagation and technical features of optical lasers including high-power laser systems. Applied projects give students the opportunity to use laser optical systems to solve real-world problems. | N | LEL | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 4 | | Prerequisite(s): PHY 361; Credit is allowed for only ABS 494 (Advanced Laser Laboratory), ABS 494 (Laser Optics) or PHY 456 |
| PHY | 460 | Numerical Methods in Modern Physics | Advanced numerical methods with an emphasis on electromagnetism, quantum mechanics and materials science with computer labs on a multiprocessor cluster. | N | LEL | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): PHY 315 |
| PHY | 462 | Particle and Nuclear Physics | Nuclear properties, models, decays and reactions; fundamental forces, field theories, symmetry principles; hadrons, quarks, and leptons; the Standard Model. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 311 with C or better; PHY 315 with C or better |
| PHY | 465 | Advanced Laboratory II | Continuation of PHY 334. Students may substitute a short laboratory research project for one of the elective experiments of the course, in consultation with a faculty sponsor and the course instructor. | N | LAB | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 334 with C or better OR Visiting University Student |
| PHY | 472 | Advanced Biophysics Lab | Offers selected experiments from contemporary biophysics. Emphasizes modern instrumentation, computer-assisted acquisition and analysis of data, and report writing. Emphasizes the importance of good notebook keeping. | N | LEL | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): CHM 341 or 346 with C or better OR Visiting University Student |
| PHY | 473 | From Molecules to Cells | Offers selected subjects from biological physics covering the length scales from biomolecules to cells. Builds on knowledge acquired from thermodynamics and statistical mechanics to formulate basic principles behind the working of life systems. Free energy, entropic forces, chemical potentials and electrostatic interactions rule the "nanometer soup" of a living cell. Proton gradients across cell membranes are behind all the energy consumed by life. Random walks, dissipative dynamics, and hydrodynamic fluxes rule time-dependent phenomena. Covers systems including biomolecules, membranes, cells and nerves. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 371 with C or better; Pre- or corequisite(s): PHY 472 with C or better if completed OR Visiting University Student |
| PHY | 480 | Methods of Teaching Physics | Evaluates various approaches to the teaching of high school physics. Preparation of demonstrations and experiments. Organization of a lab. Designed for secondary school physics teachers. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHY | 481 | Materials Physics I | Fundamentals of materials physics: crystal structure, diffraction, elasticity, point defects, dislocations, lattice vibrations, thermal properties, periodic potential, band structure. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only MSE 526 or NAN 511 or PHY 481 or PHY 511 OR Visiting University Student |
| PHY | 482 | Materials Physics II | Electronic behavior of materials: energy bands, electronic properties, metals, semiconductors, insulators, optical properties, magnetic properties, superconductivity, biophysics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 481 with C or better; Credit is allowed for only MSE 525 or MSE 527 or MSE 598 (Fund of Elec, Optical, & Mag Matls & Device Apps) or NAN 512 or PHY 482 or PHY 512 OR Visiting University Student |
| PHY | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | Department of Physics | 1-12 | | Prerequisite(s): minimum 45 hours |
| PHY | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of Physics | 1-6 | | Prerequisite(s): Barrett Honors student |
| PHY | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | Department of Physics | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| PHY | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Physics | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PHY | 495 | Project Research | Supervised project in physics or astrophysics. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | Department of Physics | 1-3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PHY | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Department of Physics | 1-7 | | Prerequisite(s): minimum 45 hours |
| PHY | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of Physics | 1-3 | | Prerequisite(s): minimum 45 hours |
| PHY | 500 | Research Methods | Course on research methods in a specific discipline. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |
| PHY | 511 | Materials Physics I | Fundamentals of materials physics: crystal structure, diffraction, elasticity, point defects, dislocations, lattice vibrations, thermal properties, periodic potential, band structure. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Pre-requisite: Degree- or nondegree-seeking graduate; Credit is allowed for only MSE 526, NAN 511, PHY 511 |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|-----------------------|-------|-----------------|--|
| PHY | 512 | Materials Physics II | Electronic behavior of materials: energy bands, electronic properties, metals, semiconductors, insulators, optical properties, magnetic properties, superconductivity, biophysics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 511; Credit is allowed for only MSE 525 or MSE 527 or MSE 598 (Fund of Elec, Optical, & Mag Matls & Device Apps) or NAN 512 or PHY 482 or PHY 512 |
| PHY | 521 | Classical and Continuum Mechanics | Variational principles, Lagrange's and Hamilton's equations, canonical transformations, Hamilton-Jacobi theory, introduction to chaos and nonlinear dynamics, fundamentals of elasticity theory and fluid mechanics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHY | 523 | General Relativity | Special and general theories of relativity. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHY | 531 | Electrodynamics | Special theory of relativity, covariant formulation of electromagnetic interactions, Maxwell's equations, electrostatics and magnetostatics, dielectric media, inhomogeneous wave equations, Lienard-Wiechert potentials, interactions of charged particles and electromagnetic waves, scattering and diffraction. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHY | 541 | Statistical Physics | Postulates of statistical mechanics, equilibrium ensembles, Bose and Fermi statistics, density matrix, modern theory of phase transitions, fluctuations, and linear response theory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHY | 542 | Topics in Biophysics | Overview of modern biology, length scales: emphasizes molecular and cellular biology. Nonequilibrium systems: compare and contrast stochastic processes in biological and physical systems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Credit is allowed for only NAN 542 or PHY 542 |
| PHY | 544 | Introduction to Nanoscience | Survey of nanoscience: quantum/ statistical mechanics/kinetics; measurement and fabrication methods; applications to materials, nano-electronics, molecular electronics and nano-biology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only CHM 544, NAN 544, PHY 444 or PHY 544 |
| PHY | 546 | Surfaces and Thin Films | Thermodynamics and kinetics of surface structures and thin film processes. Ultra-high vacuum techniques for examining surfaces. Case studies of physics, chemistry and nanoscience applications. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Credit is allowed for only MSE 546, NAN 546 or PHY 546 |
| PHY | 547 | Data Modeling for the Natural Sciences: Applications, Basics and Computation | Data analysis courses that go beyond teaching elementary topics such as fitting residuals, error propagation and p-values are rarely offered in the physical sciences. Thus, data analysis, much like programming, is something often learned and improvised "on the job." Yet, with an explosion of experimental methods generating large quantities of data, students would benefit from a clear presentation of methods of data analysis, many of which are straightforward to implement and would raise our community standard for how data is currently being treated. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prereq(s): degree- or nondegree-seeking grad stdnt; Credit for only CHM 494/CHM 598/PHY 598 (Data-Driv Inf&StochProc) or CHM 494/CHM 598 (StatMechII: Stoch proc&inf) or CHM 494/CHM 598/PHY 598 (Unravel the noise:data-driv model&ana) or CHM 547 or PHY 547 |
| PHY | 552 | Electron Microscopy I | Kinematical and dynamical electron diffraction and microscopy. Defect structure and composition using STEM imaging, x-ray and electron-energy-loss spectroscopy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Credit is allowed for only MSE 552, NAN 552, SEM 552, or PHY 552 |
| PHY | 553 | Electron Microscopy Laboratory I | Lab support for PHY 552. | N | LAB | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Corequisite(s): MSE 552 or PHY 552; Credit is allowed for only MSE 553 or PHY 553 |
| PHY | 554 | Electron Microscopy II | Determination of structure and composition of materials using high-resolution imaging, convergent beam diffraction, and electron holography. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Credit is allowed for only MSE or PHY 554 |
| PHY | 555 | Electron Microscopy Laboratory II | Lab support for PHY 554. | N | LAB | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Credit is allowed for only MSE 555 or PHY 555 |
| PHY | 571 | Quantum Physics | Review modern physics, chemistry, math. Differential equation, operator, matrix formulations. Free particle, bound state problems. Examples from physics, chemistry and nanoscience. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Credit is allowed for only MSE 571, NAN 571 or PHY 571 |
| PHY | 576 | Quantum Theory | Operator methods in quantum mechanics, time-independent perturbation theory, variational methods, angular momentum and group representation theory, identical particles; quantum dynamics, including time-ordered operators, time-dependent perturbation theory, and Fermi's golden rule. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHY | 577 | Introduction to Quantum Field Theory | Explains necessity of generalizing quantum mechanics to a field theory viewpoint. Studies properties of scalar, spinor, and gauge fields; incorporates interactions; and learns to compute amplitudes, cross sections, and decay rates using formalism of Feynman diagrams. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PHY | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| PHY | 581 | Quantum Theory of Solids I | Crystal structures; electronic states; lattice dynamics; metals, insulators and semiconductors; and surface science. A brief introduction to optical properties, magnetism and superconductivity as time allows. Addresses the foundations of the subject, but time is devoted to modern and/or technologically important topics such as DFT modeling | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PHY | 582 | Quantum Theory of Solids II | Berry phase effects in solids, quantum Hall effect, topological insulators and semimetals, magnetism, superconductivity. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PHY | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |
| PHY | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |
| PHY | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |
| PHY | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |
| PHY | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Physics | 1-4 | | |
| PHY | 700 | Research Methods | Course on research methods in a specific discipline. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |
| PHY | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |
| PHY | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Department of Physics | 1-15 | | |
| PHY | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | Department of Physics | 1 | | |
| PHY | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Liberal Arts and Sciences | Department of Physics | 1-15 | | |
| PIT | 501 | Principles of Public Interest Technology | Fundamentals of public interest technology. Identifies and analyzes stakeholders, value chains, societal dimensions, and legal and policy issues in the context of emerging technologies such as smart cities, the internet of things, robotics and autonomous systems, and artificial intelligence. Covers the importance of socio-technical change, responsible innovation, public values, accountability, oversight, corporate responsibility and other key concepts when considering technologies working for the public interest. Students work on critical issues such as data ownership, consent, governance, privacy, security, accessibility and the digital divide. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PIT | 502 | Co-Designing the Future | Explores how new technologies for using, processing and managing information are changing how we interact and work. This practical learning and mentoring program helps students design and implement solutions to public interest problems using civic technology. Explores current trends, uses a wide variety of information and communication tools, and develops content to help develop a project from idea to implementation. Takes advantage of the latest innovations in open and participatory problem solving, including the application of open data, crowdsourcing, expert networks and systems. Unlike traditional accelerators, focuses only on public interest projects that work with real-world institutions and partners such as nongovernment organizations. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|-------------------------------|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| PIT | 503 | Technology Impact Assessments | Trains students to conduct a technology assessment--a systematic effort to anticipate and understand the impact of a technology. Serves as an "early warning" for policymakers, forecasting technological change and its consequences, to facilitate the prudent procurement of technologies, to plan R&D more effectively, to create the basis for evidence-based regulatory approaches, and to achieve other purpose that serve the public interest. Covers the uses of technology assessment and practices various methods. Each student carries out an abbreviated technology assessment on a topic of his or her choice and communicates it to their colleagues. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PIT | 504 | Public Engagement Strategies | Covers the concepts, tools, institutions and strategies to appropriately and effectively engage with a variety of stakeholders, including scientific and technical experts, policymakers and advocates for responsible research and innovation, and general publics. Students learn how to elevate the societal discourse about emerging and contemporary issues in science and technology through inclusive, informed, equitable, sustainable and democratic engagement with the public. Explores real-world case studies and provides students the opportunity to design and develop a public engagement strategy for stakeholders. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PIT | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PIT | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PIT | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | LEC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PIT | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PIT | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | GNA | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PIT | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | College of Global Futures | School for the Future of Innovation in Society | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PIT | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PLB | 300 | Plant Diversity and Evolution | An examination of the major groups of land plants, emphasizing evolutionary history, comparative data, and phylogenetic methods. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | L or SG | Prerequisite(s) with C or better: BIO 181; BIO 182; ENG 101, 105, or 107 OR BIO 281; BIO 282; ENG 101, 105, or 107; Credit allowed for only BIO 303 or ENV 300 or PLB 300 OR Visiting University Student |
| PLB | 302 | Plants and Civilization | Plants and plant products used by people throughout the world. Cultivation, processing, and uses in modern life (beverages, fibers, foods, medicinals, and perfumes). | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | L | Prerequisite(s) with C or better: BIO 181; BIO 182; ENG 101, 105, or 107 OR BIO 281; BIO 282; ENG 101, 105, or 107; Credit is allowed for only BIO 304 or ENV 302 or PLB 302 OR Visiting University Student |
| PLB | 308 | Plant Physiology | Concepts of plant function: carbon metabolism, energy acquisition, regulation of growth and development, stress responses, and water and nutrient uptake. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better; CHM 116 with C or better; Credit is allowed for only BIO 308 or PLB 308 OR Visiting University Student |
| PLB | 310 | The Flora of Arizona | Overview of Arizona's flora and plant communities; emphasizes identification, classification, and natural history of the state's native vascular species. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | | Prerequisite(s) with C or better: BIO 181 (or BIO 188) and BIO 182 (or BIO 187 or both PLB 200 and 201) OR BIO 281 and 282; Credit is allowed for only BIO 313 or PLB 310 |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|--|
| PLB | 388 | STEM Research Fundamentals | Teaches research skills in the natural sciences. Topics covered include the basic research techniques of the study organism and system, experimental design, literature searches, statistical analysis and preparation of scientific papers and posters. | N | LEL | Y | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 320, BIO 182, or MAT 272 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only ENV 388 or FOR 388 or LSC 388 or PLB 388 or PTX 388 OR Visiting University Student |
| PLB | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | Prerequisite(s): minimum 45 hours |
| PLB | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | Prerequisite(s): minimum 45 hours |
| PLB | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-3 | | Prerequisite(s): minimum 45 hours |
| PLB | 502 | Perspectives in Plant Biology | Provides an overview of current topics and introduces some of the practical tools used in plant biology, ecology and conservation (e.g., field and lab methods, urban planning, federal land management, biodiversity bioinformatics, phylogenetics, and GIS). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PLB | 558 | Molecular Mechanisms of Photosynthesis | Structure and function of photosynthetic complexes; mechanism of energy conversion in plants, bacteria, and model systems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BCH 568 or PLB 558 |
| PLB | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | |
| PLB | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | |
| PLB | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | |
| PLB | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | |
| PLB | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | |
| PLB | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | |
| PLB | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| PLB | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | |
| PLB | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | |
| PLB | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | |
| PLB | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | |
| PLB | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|--------|-----------------|--|
| PLC | 101 | Elementary Polish | Structural grammar, basic vocabulary; introduction and reinforcement of aural/oral, reading, and writing skills. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | |
| PLC | 102 | Elementary Polish | Structural grammar, basic vocabulary; introduction and reinforcement of aural/oral, reading, and writing skills. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | |
| PLC | 201 | Intermediate Polish | Systematic review of grammar. Development of vocabulary through reading and writing. Drill in aural/oral skills. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | |
| PLC | 202 | Intermediate Polish | Systematic review of grammar. Development of vocabulary through reading and writing. Drill in aural/oral skills. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | Pre-requisites: PLC 201 |
| PLC | 311 | Advanced Polish I | Develops writing ability and oral expression. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): PLC 202 with C or better OR Visiting University Student |
| PLC | 312 | Advanced Polish II | Develops writing ability and oral expression. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): PLC 311 with C or better |
| PLC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| PMG | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 0.25-4 | | |
| PMG | 240 | Introduction to Project Management | Examines various theoretical project management approaches as well as gives hands-on experience of project management tools and steps. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | |
| PMG | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 0.25-4 | | |
| PMG | 320 | Project Approaches | No project exists in a vacuum--projects of all sizes and degrees of complexity are imagined, executed and ultimately evaluated by stakeholders in the context of evolving environmental factors. Projects may fall along a spectrum of simple to complex, with some possessing known predictable requirements and implications while others involve a variety of known and unknown variables and implications. Addresses the primary project approaches used to accommodate differing projects along the continuum of project life cycles. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PMG | 321 | Project Leadership, Strategy and Scope | Explores how an organization's leaders are responsible for conceiving, designing, implementing and managing the overall objectives, culture, environment and processes as part of the project management process. Within this context, primarily focuses on understanding project management, aligning project management within an organization, project management oversight, projects as capital investments, globalization and resource optimization. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): PMG 240 (OGL 240) or PMG 320 (OGL 320); minimum 45 hours OR Visiting University Student |
| PMG | 322 | Project Schedule Management | Explores project scheduling and time management within the broader context of the planning effort. Students learn how important the determination of the timing and sequence of project activities is to the planning process--and ultimate project success. Primarily focuses on understanding bar charts, basic networks, the critical path network, precedence networks, resource allocation, schedule updating, schedule compression, scheduling and schedule risk management. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): PMG 240 or 320 (OGL 240 or 320); minimum 56 hours OR Visiting University Student |
| PMG | 323 | Project Cost Management | Concepts and complex processes of effective project cost management. Primarily focuses on project needs assessment, cost estimation, project cost control, project budgeting, cash flow management, financial management, value management, configuration management and supply chain management. Students also learn to appreciate the importance of integrating cost and value management processes. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): PMG 240 (OGL 240) or PMG 320 (OGL 320); minimum 56 hours OR Visiting University Student |
| PMG | 324 | Resources in Project Management | Major elements of project resource management as well as the broader context of this critical planning function. Students learn that sound resource management is an important part of developing a sustainable competitive advantage in the emerging global marketplace. Primarily focuses on operations and productivity, resources in project management, product design, process strategy, layout strategy, human resources and job design, supply chain, inventory management and scheduling. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): PMG 240 (OGL 240) or PMG 320 (OGL 320); minimum 56 hours OR Visiting University Student |
| PMG | 326 | Project Procurement Management | Concepts and processes of procurement management. Primarily focuses on sourcing management, supplier selection, contracts and legal requirements, risk management, negotiation, project management, quality, supplier management and financial decisions. Effective procurement requires the use of good business practices capable of maximizing value to the organization through the acquisition of goods and services. Students learn that procurement professionals control the entire sourcing and acquisition process. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): PMG 240 (OGL 240) or PMG 320 (OGL 320); minimum 56 hours OR Visiting University Student |
| PMG | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 0.25-4 | | |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|--------|-----------------|---|
| PMG | 401 | Applied Project Experience | Offers students the opportunity to apply their project management skills and knowledge through internships, directed projects or other experiential contexts. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Project Management BS major; PMG 423 with C or better; minimum 2.00 GPA OR Visiting University Student |
| PMG | 421 | Project Risk Management | Philosophy, principles, practices and techniques for managing risk in projects. Covers risk identification, qualitative risk management, risk treatment, monitoring and review, project processes, risk allocation, environmental risk and quantification of project risk. Students learn that risk management assists project managers in setting priorities, allocating resources and implementing actions and processes that reduce the risk of the project not achieving its objectives. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): PMG 321 (OGL 321); minimum 55 hours OR Visiting University Student |
| PMG | 422 | Project Quality Management | Process and theory of total quality management with primary emphasis on the total quality approach, ethics and corporate responsibility, strategic alliances, quality culture, employee empowerment, leadership and change, team building, effective communication, and tools and techniques. Students understand how continual improvement of people, processes, products/services, and environments can enhance the process and outcomes of project management. Students have the opportunity to develop practical total quality management skills as they apply theory and practice to real-world cases. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): PMG 321 (OGL 321); minimum 55 hours OR Visiting University Student |
| PMG | 423 | Project Strategic Analysis | Focuses on the importance of strategically analyzing and understanding an organization. Combines quantitative and qualitative methods to provide analysis of internal and external factors using a variety of tools and methods that enable students to synthesize results into a coherent strategic picture of the organization, environment and industry. Through this analysis and synthesis emerge insights into project requirements, value and risk. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Project Management BS major OR Visiting University Student |
| PMG | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | |
| PMG | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 0.25-4 | | |
| PMG | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PMG | 501 | Project Management Theory | Provides an overview of theories that guide conceptual development and application of project management (PM). Topics include theory building; paradigms of knowledge creation; and constructs related to the three domains of project management (people, process and business environment). Using a critical analysis approach, examines conventional and emerging theories of project management and related tasks, including: identifying and empowering stakeholders; leading and governing projects; communicating and building shared understanding among stakeholders; managing human resources; budgeting and allocating resources; and assessing and managing risks. Students develop analytical, communicative and creative skills that enable them to interpret, synthesize and apply theories to solve complex project management problems. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Master of Project Management student |
| PMG | 502 | The Thoughtful Project: Aligning Purpose with Approach | Students hone their capacity to ask questions and critically evaluate different approaches to data collection, decision-making, communication and documentation. Using a graduate seminar-style approach to examine some of the most recent findings and trends among social scientists and project management scholars and practitioners, students tackle weekly case studies pulled from diverse organizational contexts that reflect the project management principles of value, systems thinking, leadership, complexity, adaptability, resiliency and change. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Master of Project Management student; PMG 501; PMG 504 |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| PMG | 503 | Impact Analysis and Sustainability in Project Management | Sustainable development and project management are interconnected. This integrated engagement allows for the continual assessment and implementation of sustainable practices in the process of managing a project and addressing the following key concerns. What are the immediate and long-term environmental and social impacts of the project? What are the risks? Who are the stakeholders? Project managers have the capacity to affect the project cycle at each stage and apply models and techniques for planning, implementing, communicating, evaluating and completing projects through the lens of environmental and social sustainability. The project manager has the space to be a change agent in making a difference on each individual project and beyond as the world is increasingly focused on a more sustainable future. Critically evaluates the role of and methodology used by the project manager in implementing and evaluating sustainability in project life cycles. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Master of Project Management student |
| PMG | 504 | Social Psychological Perspectives in Project Management | Social psychology is defined by the social influence that all people have on the beliefs, feelings and behavior of others. Studies social influences, the behavioral ramifications associated with the psychology of social processes and the ramifications for organizations and project managers. The foundations of the field of social psychology, methodological approaches, interdisciplinary perspectives, and application-oriented ideas and innovations form a basis that integrates scholarship and applied social psychology to gain an enhanced perspective on the social influences associated with organizational and interpersonal behavior. From a project management perspective, explores ideas as diverse as social cognition, interpersonal influence, attitude formation and differentiation, social dynamics of teams, and persuasion. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Master of Project Management student; Credit is allowed for only OGL 520 or PMG 504 |
| PMG | 510 | Interactive Learning: Scope, Schedule and Cost Management | Built around interactive learning technology to provide opportunities for learning about the knowledge, processes and vocabulary of project management focused on scope management, schedule management, cost management and performance measurement. Encourages integrative thinking toward effectively managing any type of project. Adaptive learning technology allows students to proceed at their own pace so that they may review key concepts, technical knowledge and processes as needed. As students proceed through the case study, periodic assessments help the system direct them to content that either initiates or reinforces course objectives. All content for this course is contained within the simulation, with culminating assessments determining whether students have successfully completed the course or need additional learning opportunities. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PMG | 511 | Interactive Learning: Risk and Procurement Management | Built around interactive learning technology to provide opportunities for learning about the knowledge, processes and vocabulary of project management focused on risk management and procurement management. Encourages integrative thinking toward effectively managing any type of project. Adaptive learning technology allows students to proceed at their own pace so that they may review key concepts, technical knowledge and processes as needed. As students proceed through the case study, periodic assessments help the system direct them to content that either initiates or reinforces course objectives. All content for this course is contained within the simulation, with culminating assessments determining whether students have successfully completed the course or need additional learning opportunities. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| PMG | 512 | Interactive Learning: Quality, Resource and Communication Management | Built around interactive learning technology to provide opportunities for learning about the knowledge, processes and vocabulary of project management focused on quality management, resource management and communication management. Encourages integrative thinking toward effectively managing any type of project. Adaptive learning technology allows students to proceed at their own pace so that they may review key concepts, technical knowledge and processes as needed. As students proceed through the case study, periodic assessments help the system direct them to content that either initiates or reinforces course objectives. All content for this course is contained within the simulation, with culminating assessments determining whether students have successfully completed the course or need additional learning opportunities. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PMG | 531 | Leading Integrative Teams | Students read and analyze recent project management team research results. In a team setting, they design and propose strategies and approaches for tackling project team challenges within actual organizational contexts. The project team challenges may relate to the following concepts: facilitation, shared goals, alliance building, conflict management, negotiation, empathy, intellectual humility, intercultural respect, delegation, trust, commitment and mentoring. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Master of Project Management student |
| PMG | 532 | Project and Program Assessment | Examines methods and techniques of projects to insure the adoption of best practices for more agile and effective projects. Includes an analysis and application of contemporary issues and tools impacting assessment in project management. Provides a comprehensive analysis of project practices compared with current best practice standards. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Master of Project Management student |
| PMG | 533 | Stakeholder Engagement | No project exists in a vacuum--projects of all sizes and degrees of complexity are imagined, executed and ultimately evaluated by stakeholders, and stakeholders are often the key to project success or failure. Focuses on the importance of project stakeholders: the initial stage of identifying all parties involved or affected by a proposed project, analyzing their degree of involvement and impact on the project, planning how best to engage and communicate with stakeholders throughout the project lifecycle, and how to do so in an ethical way. While stakeholder theory is incorporated, the aim is for students to develop this key soft skill for interacting with and managing the interests of diverse stakeholders in real-world project situations. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Master of Project Management student |
| PMG | 534 | Master Class in Project Management: Wisdom from the Field | Creates a space for professional project practitioners across a diverse array of industries to bring their wisdom and experiences into the classroom. Supported by a fulltime faculty member, the master teacher focuses this seminar-style course on their firsthand experiences in utilizing advanced project management approaches, processes, structures and techniques to achieve organizational goals, solve problems and effect change around the globe. Framed around six of the degree program's competency areas and supported by weekly readings, class discussions and assignments encouraging students to consider how the approaches, techniques and processes presented by the master teacher can be transferable across industries. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PMG | 582 | Developing the Plan in Project Management | Capstone planning course builds upon the methods and techniques presented in prior core project management curriculum. Students undertake an applied project focused on a specific problem or opportunity area within an organization or business environment. Students use research, benchmarking and alternative evaluations followed by critical thinking and technical skills to frame analytical models and creative solutions within a predictive, agile or hybrid approach. This is reflective of the Project Management Institute's three domains of People, Process and Business Environment. Course outcomes are an original capstone project plan document. Expectations are quality business writing and presentations with appropriate graduate academic level in the research components. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): PMG 502 |
| PMG | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| PMG | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PMG | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PMG | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PMG | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | Prerequisite(s): PMG 582 |
| PMG | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PMG | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PMG | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 100 | Introduction to Population Health | Introduces population health in the United States. Familiarizes students with the broad discipline of population health and how it influences community and individual health status. Discusses the role of various agencies in population health, methods of measurement and evaluation, major population health issues in the United States, and factors that contribute to individual and community health. Solidifies concepts through the use of in-class discussion, group work and individual analysis. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only HCD 101 or POP 100 (or PBH 100) OR Visiting University Student |
| POP | 333 | Systems Thinking in Population Health | Covers systems science and its application to population health. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |
| POP | 444 | Population Health Field Experience | Provides opportunity to gain experience working in community and population health settings. Course meetings provide guidance during the field experience and an opportunity for students to share their projects. | N | LEC | Y | YGB | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 450; HCD 101 or POP 100 OR Visiting University Student |
| POP | 575 | Social Determinants of Population Health | Provides an understanding of health disparities and underlying social determinants. Develops an appreciation of social and environment factors that influence health outcomes and disparities in outcomes, for groups of people. Introduces techniques for conducting community health assessment, with an emphasis on equitable community partnerships and participatory approaches. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 599 | Thesis | Supervised research focused on preparation of a thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 605 | Population Health Systems Science and Theory | Systems science theory and methodology and its application to population health. Systems science is an interdisciplinary field of research that seeks to understand the general characteristics, dynamics and behaviors of systems. While the theory and methodology presented is applicable to a wide range of academic disciplines (e.g., physical systems, social systems, economic systems), this course focuses on population health systems. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|-----------------------------|-----------------------------|-------|-----------------|---|
| POP | 610 | Social Epidemiology | Social epidemiology considers how society's human activities and social interactions yield differential exposures that result in health disparities, including the identification of new disease-specific risk factors (e.g., social determinants of health) and how well-known exposures (e.g., cigarette smoking, lead paint, health insurance) emerge and are maintained by the social system. Considers dynamic social relationships and human activities that ultimately locate industries that pollute one neighborhood instead of another, make fresh foods available to some and not others, and permit some to enjoy resources such that they can purchase healthy environments and excellent health care. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 611 | Implementation Science in Population Health | Introduces Dissemination and Implementation (D&I) science, an interdisciplinary scientific field to address the sizable and persistent gap between research and practice. Covers conducting research to support the adoption, implementation, and sustainability of evidence-based interventions in public health, health care and other relevant settings. Topics include origins and theoretical frameworks of D&I science; organizational context; community engagement; implementation strategies; research designs, measures, and methods; selected tools for D&I practice; and emerging issues. | N | LEC | N | OP3 | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 615 | Organizational Behavior and Theory in Population Health | Covers important questions and perspectives relevant to understanding organizational behavior and theory (OBT) across the population health arena, including health care and public health sectors. Covers active paradigms in OBT, particularly perspectives important for understanding how health organizations and systems adapt, evolve and respond. Students analyze strengths and weaknesses of different theories and examine how they can be used as a foundation for research on health care and public health organizations and implications for health management and policy. Examines empirical research to clarify how important organizational constructs have been operationalized and to highlight the methodology-related challenges of studying organizations in health care/public health. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 633 | Population Health Ethics | Examines population health ethics and bioethics. Covers ethical analysis and research in health domains as driven by emerging health challenges, technological innovations and an ever-changing social and cultural landscape. Considers navigation and application of central issues to health ethics in disparate health fields. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): College of Health Solutions graduate student; Credit is allowed for only POP 633 or POP 598 (Population Health Ethics) |
| POP | 641 | Qualitative Research Methods | Covers conceptual foundations, methodological approaches and examples of effective qualitative research in health-related studies. Topics include selection of theory and research question formulation, practical guide to ethical approval, data collection strategies and analysis, qualitative coding, and report preparation/dissemination. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 644 | Epidemiology in Population Health | Introduces fundamental epidemiological concepts and prepares the student to read, comprehend, analyze, and synthesize epidemiological research and data. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | LEC | Y | OP2 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 691 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 700 | Research Methods | Course on research methods in a specific discipline. | Y | RSC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|------------------------------------|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| POP | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 791 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | RSC | Y | Z3 | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 799 | Dissertation | Supervised research focused on preparation of a dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Health Solutions | College of Health Solutions | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POR | 101 | Elementary Portuguese I | Introduces the Portuguese language. Encourages meaningful and contextualized use of the language through reading, writing, listening and speaking tasks based on authentic materials with a focus on Brazil. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Students who have credit for POR 102 or POR 201 or POR 202 or POR 301 (POR 320) or POR 302 (POR 321) or POR 313 or POR 314 may not enroll in POR 101 |
| POR | 102 | Elementary Portuguese II | Continues to develop students' abilities at the elementary level. Encourages meaningful and contextualized use of the language through reading, listening, writing and speaking tasks based on authentic materials with a focus on Brazil. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): POR 101; Students who have credit for POR 201 or POR 202 or POR 301 (POR 320) or POR 302 (POR 321) or POR 313 or POR 314 may not enroll in POR 102 OR Visiting University Student |
| POR | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| POR | 201 | Intermediate Portuguese I | Develops students' skills at the intermediate level of Portuguese language and culture through reading, listening, writing and speaking tasks based on authentic materials with a focus on Brazil. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): POR 102 with C or better; Students who have credit for POR 202 or POR 301 (POR 320) or POR 302 (POR 321) or POR 313 or POR 314 may not enroll in POR 201 OR Visiting University Student |
| POR | 202 | Intermediate Portuguese II | Continues to develop students' skills at the intermediate level. Encourages meaningful and contextualized use of the language through reading, listening, writing and speaking tasks based on authentic materials with a focus on Brazil. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): POR 201 with C or better; Students who have credit for POR 301 (POR 320) or POR 302 (POR 321) or POR 313 or POR 314 may not enroll in POR 202 OR Visiting University Student |
| POR | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| POR | 301 | Portuguese for Spanish Speakers I | Intensive introduction to the Portuguese language for Spanish speakers. Designed for students with an active competence in Spanish who wish to learn the essential elements of the Portuguese grammar at an accelerated pace, as well as acquire listening, speaking, reading and writing skills. Based upon the theory of "intercomprehension," which implies the speaker's ability to understand the speech of another speaker who communicates in a dialect of the same language or a related language. Due to the linguistic similarities with Spanish, students master the four basic skills of listening, speaking, reading and writing of in Portuguese at a faster pace. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): SPA 202 or 204; Students who have credit for POR 101 or POR 102 or POR 201 or POR 202 or POR 302 (POR 321) or POR 313 or POR 314 may not enroll in POR 301 (POR 320) OR Visiting University Student |
| POR | 302 | Portuguese for Spanish Speakers II | Intensive intermediate-level Portuguese language class designed for Spanish-speakers. Further develops the students' communication skills in Portuguese. Makes use of the many common elements between Spanish and Portuguese (particularly vocabulary and grammar) to achieve an accelerated learning of linguistic, sociolinguistic and pragmatic competences required for fluency. The class is mostly conducted in Portuguese: do not be afraid of making mistakes while speaking Portuguese because this is a natural part of the learning process. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): POR 102 or 301 (POR 320) with C or better; Students who have credit for POR 201 or POR 202 or POR 313 or POR 314 may not enroll in POR 302 (POR 321) OR Visiting University Student |

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|---------|----------------|-------------------------------------|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| POR | 313 | Portuguese Conversation and Culture | Develops students' linguistic skills in Portuguese, bridging the intermediate and advanced levels. Encourages meaningful and contextualized use of the Portuguese language with an emphasis on speaking and listening, and a focus on Brazilian culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): POR 202 or 302 (POR 321) OR Visiting University Student |
| POR | 314 | Portuguese Composition and Culture | Develops students' linguistic skills in Portuguese, bridging the intermediate and advanced levels. Encourages meaningful and contextualized use of the Portuguese language with an emphasis on reading and writing. Each class focuses on topics of personal and general interest, with a focus on Brazil. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): POR 202 or 302 (POR 321) OR Visiting University Student |
| POR | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| POR | 460 | Brazilian Society Through Music | Surveys Brazilian popular music in the 20th and 21st centuries, focusing on one main question: What images of Brazil have been imagined by Brazilian popular music in various socio-political contexts? Working with various genres, discusses how issues pertaining to race, social class, and citizenship have contributed to shape the Brazilian popular music scene and its representations of Brazil both at home and abroad. Taught in English. However, students who have completed POR 202 or POR 321 have the option of completing the assignments in Portuguese. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only POR 460 or POR 494 (Contemporary Brazilian Popular Music) or SLC 460 or SLC 494 (Contemporary Brazilian Popular Music) OR Visiting University Student |
| POR | 472 | Luso-Brazilian Civilization | Lectures, readings, and discussion of important aspects of Luso-Brazilian civilization. Topics from music, art, folklore, literature, history, and politics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): POR 313 with C or better; Credit is allowed for only POR 472 or POR 598 (Luso-Brazilian Civilization) |
| POR | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| POR | 490 | Consumer Culture in Latin America | Provides an in-depth study of consumer culture in contemporary Latin America, including the analysis of television series, music, literary texts, commercials, ads and films produced in or about Latin America since the turn of the 21st century. Knowledge of Portuguese and Spanish is a plus, but not necessary. Taught in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only POR 490 or SLC 490 or SPA 490 or HON/POR/SLC/SPA 494 (Consumer Culture in Latin America) OR Visiting University Student |
| POR | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| POR | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| POR | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| POR | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| POR | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| POR | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POS | 110 | American Government and Politics | Major institutions of modern government and processes of individual and group political activity, with emphasis on the American experience. Meets the federal government requirement for teacher certification. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | Credit is allowed for only POS 110 or POS 310 OR Visiting University Student |
| POS | 112 | Foundations of Democracy | Introduces an interdisciplinary study of democracy with special attention to its historical development as a form of government. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | HU & H | Credit is allowed for only HST 112 or POS 112 |
| POS | 150 | Comparative Government | Political institutions and processes in selected foreign countries, including origins, strengths, and weaknesses of contemporary political systems and political development. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | |
| POS | 160 | Global Politics | Nature of contemporary world politics through the study of both general theoretical topics and specific geographical areas. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | Credit is allowed for only POL 160 or POS 160 or POS 360 or POS 362 OR Visiting University Student |
| POS | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-3 | | Pre-requisites: Freshman status; Maximum 25 hours |
| POS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-4 | | Prerequisite(s): maximum 25 hours OR Visiting University Student |
| POS | 210 | Political Ideologies | Leading political ideas and belief systems, e.g., Marxism, liberalism, conservatism, theories of democracy, and alternative futures. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| POS | 211 | Arizona Constitution and Government | Constitution and government of the State of Arizona. Meets the Arizona constitution requirement for teacher certification. May not be counted for the major or a teaching major or minor in Political Science. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 2 | | Credit is allowed for only POS 211 or POS 216 or POS 417 |
| POS | 216 | State and Local Government | Surveys the operations, problems, and policies of state and local governments in the United States. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | Credit is allowed for only POS 211 or POS 216 or POS 417 OR Visiting University Student |
| POS | 230 | Current Issues in National Politics | Major issues facing national governments in the domestic field. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| POS | 240 | Introduction to Southeast Asia | Interdisciplinary introduction to the cultures, religions, political systems, geography, and history of Southeast Asia. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | (HU or SB) & G | Credit is allowed for only ASB 240 or GCU 240 or HST 240 or POS 240 or REL240 or SGS 240 OR Visiting University Student |
| POS | 245 | Introduction to India and South Asia | Provides an introduction to the history and major contemporary political, economic, social, religious and cultural features of the South Asia region at large and of selected South Asian nations in particular. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | HU & H & G | Prerequisite(s): ENG 101 or 105 or 107 with C or better; Credit is allowed for only HST 245 or POS 245 or REL 245 or SGS 245 or SLC 245 |
| POS | 247 | Introduction to Latin American Politics | General introduction to the politics and socioeconomic structures of Latin America. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | |
| POS | 260 | Current Issues in International Politics | Analyzes major current problems in world politics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | (L or SB) & G | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| POS | 270 | American Legal System | Concepts, institutions, classifications, and functions of law. Role of the courts and impact of judicial decision making on social change. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |
| POS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-4 | | |
| POS | 300 | Contemporary Global Controversies | Explores key controversies in global politics including security, economic stability, poverty, gender, race, and the environment. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | |
| POS | 301 | Empirical Political Inquiry | Logic of political inquiry, including research problems, concepts, hypotheses, theories, measurement, data collection, and analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only POS 301 or SGS 305 OR Visiting University Student |
| POS | 305 | Politics and Film | Examines portrayal of political events, ethnic groups, and sociopolitical situations in film, a major medium addressing questions of human values. May be repeated for credit when topics vary. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |
| POS | 310 | American National Government | Powers, functions, and agents of American political institutions. Meets the federal government requirement for teacher certification. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only POS 110 or POS 310 OR Visiting University Student |
| POS | 313 | The Congress | Lawmaking process in the U.S. Congress. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | Credit is allowed for only POL 313 or POS 313 OR Visiting University Student |
| POS | 314 | The American Presidency | Office, role, and power of the American presidency in the American political system. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |
| POS | 315 | The Supreme Court | Role of the Supreme Court in American society and politics; examines decision-making process and impact of decisions; restraint versus activism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |
| POS | 316 | American Political Institutions | Explores current issues involving American political institutions including electoral systems, legislative bodies, executive agencies, executive leadership, judicial bodies, political parties, interest groups, social movements, the media, and their interactions. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only POS 316 or POS 394 (American Political Institutions) OR Visiting University Student |
| POS | 317 | History of Postwar U.S. Conservatism | Traces the origins of U.S. conservatism as it developed in the work of U.S. and European thinkers, intellectuals and authors after WWII. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 317 or HST 294 (American Conservatism) or POS 317 OR Visiting University Student |
| POS | 325 | Public Policy Development | Examines one or more aspects of public policy development including agenda setting and policy formulation, implementation, and analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |
| POS | 331 | Public Opinion | Formation, expression, and influence of individual and organized opinion on political institutions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |
| POS | 332 | American Political Parties | Development of the American party system. Party organization and functions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |
| POS | 333 | Interest Groups | Examines how minority, corporate, labor, farm, consumer, environmental, health, education and public interest groups, and single-issue movements influence government. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |

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| POS | 335 | Power and American Democracy | Explores how persistent patterns of marginalization and privilege impede the realization of democratic ideals in U.S. society. In particular, unpacks how, in practice, different forms of political power reinforce or challenge persistent patterns of marginalization and privilege. In combination with the study of power as the repression and control of others' actions, the course also explores power as exercised in the collective production of social boundaries. Students learn how to better analyze, critique and engage with different forms of power operating in U.S. society. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only POS 335 or SBS 335 or POS 394 (Power and American Democracy) or SBS 394 (Power and American Democracy) |
| POS | 336 | Voters in America | Voting behavior and the attitudes, perceptions, and activities of the citizenry in the political process. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |
| POS | 337 | Political Psychology | Political psychology is an interdisciplinary field that applies theories from the study of human psychology to the study of politics. Focuses on how psychological processes influence political thoughts and actions. Thus, the initial portion of the course discusses the structure of political attitudes and opinions and some of the primary ways that politicians and the media can influence public opinion. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only POS 337 or POS 394 (Political Psychology) OR Visiting University Student |
| POS | 338 | Fake News: How to Identify and Refute It | Critically analyzes the implications of fake news for our democracy and democratic way of life. Examines why we should care about whether or not citizens consume fake news and how it affects our individual lives and public policy. Looks at a variety of topics, rooted in social science research drawing from psychology and political science. Also examines students and how they process fake news, the origins of fake news, elected officials' reliance on false information, fake news and statistics, fact-checking, and fake news and political bias. Additionally, students analyze elected officials' communications, including U.S. Presidents' State of the Union addresses. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only POS 338 or POS 394 (Fake News) or POS 394 (Fake News: How to Identify and Refute it) |
| POS | 339 | Grassroots Social Movements | Explores how groups mobilize collectively to produce social, political, economic and cultural change, with an emphasis on the United States. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ASB 339 or POS 339 or SBS 339 or SOC 339 OR Visiting University Student |
| POS | 340 | History of Political Philosophy I | Western political philosophers and their theories to the 17th century. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | HU & H | |
| POS | 341 | History of Political Philosophy II | Western political philosophers and their theories from the 17th to the 20th centuries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | HU & H | |
| POS | 342 | Political Theory | Surveys ancient, modern, and contemporary political theorists and ideas in European and American contexts. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | HU or SB | |
| POS | 346 | Problems of Democracy | Issues and problems in democratic theory, e.g., the nature of democracy, majority rule, representation, equality, and the value of political participation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | HU | |
| POS | 348 | Do You Want to Build a Nation? | Requires students to critically assess their assumptions about nation-states through a series of debates and simulation games. Through in-class, interactive games, students answer: What are the sources of legitimacy and defining elements of statehood? How do those defining elements, such as democratic structures, support or challenge certain functions of the nation-state? How does a nation's purported moral basis affect its foreign policy decisions and negotiations with other nations? | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum junior standing or minimum 45 hours OR Visiting University Student |
| POS | 350 | Comparative Politics | Theoretical approaches and political institutions, such as parties, pressure groups, legislatures, and executives, from a cross-national perspective. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | |
| POS | 351 | Democratization | Examines the consolidation of democracies in postauthoritarian and postcommunist settings (e.g., Latin America, Eastern Europe, Asia). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | |
| POS | 352 | European Democracies | Addresses questions such as, How has the relationship between European citizens and the democratic process changed in the post-WWII period? How do domestic political institutions influence this process? Explores different approaches to some of the most important questions facing the study of comparative and European politics. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 25 hours OR Visiting University Student |
| POS | 353 | Comparative Politics of the Middle East | Examines the historical, social, and economic context of contemporary Middle East politics; explores political dynamics of selected Middle Eastern regimes; and offers a comparative examination of key political trends and themes. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum junior standing or minimum 45 hours OR Visiting University Student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| POS | 354 | Central American Studies | Part of the summer ASU study abroad Costa Rica Program, which is a language and social sciences immersion program in the capital city, San Jose. A summer offering permits students to enroll in the program without conflicting with full course loads during the fall or spring semester. However, the course is proposed as a stand-alone course that can be offered in a regular semester as well. | N | REC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | Credit is allowed for only ASB 356 or GCU 356 or POS 354 or SBS 356 or SOC 356 |
| POS | 356 | European Union | History and workings of EU member states, including single market, Euro, legal system, ethnonationalism, immigration, expansion, trade wars, and defense. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | |
| POS | 357 | South Asia Politics | Political culture and systems of South Asia examined through study of political writings, novels, and poetry. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | Prerequisite(s): minimum 45 hours |
| POS | 358 | Southeast Asia | Political background, governmental institutions, political dynamics, and developmental problems of Southeast Asian nations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | |
| POS | 359 | African Politics and Society | Comparative analysis of socioeconomic forces, political processes, government institutions, and political novels in Sub-Sahara Africa. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | |
| POS | 360 | World Politics | Theory and practice of statecraft as applied to selected issues, regions, or eras. Emphasis may vary with instructor, but cannot be repeated for credit. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | Prerequisite(s): minimum 25 hours; Credit is allowed for only POS 160 or POS 360 OR Visiting University Student |
| POS | 361 | American Foreign Policy | United States in world affairs; foreign policy since World War I. Techniques in formulating American foreign policies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| POS | 362 | World Politics Theory | Theoretical examination of one or more aspects of international politics, e.g., foreign policy, negotiations, alliances, crises, wars, and international systems. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | Credit is allowed for only POL 160 or POS 160 or POS 362 |
| POS | 364 | National Security, Intelligence, and Terrorism | Theoretical and empirical assessment of U.S. national security policy in the post-cold war era. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |
| POS | 365 | Terrorism and Insurgency | Insurgency, civil war, revolution and terrorism are traditionally thought of as domestic events or "intrastate" conflicts between one violent domestic political group and the state. However, recent conflicts in Afghanistan, Libya and Syria, as well as the 9/11 attacks on the U.S. demonstrate that insurgencies often spill across borders and draw in actors far removed from the original conflict site. These conflicts also demonstrate that insurgencies and terror campaigns necessitate global policy responses. The international character of insurgency, therefore, requires students of political violence to consider a wide array of both international and domestic factors in order to better understand the origins, dynamics and resolution of modern insurgencies and terror campaigns. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only POS 365 or POS 394 (Terrorism and Insurgency) |
| POS | 367 | World Politics and Global Inequalities | Examines the topic of global inequality and the numerous challenges that arise from it, including perspectives and theories pertaining to third world development, the historical background to the political and economic relations between the wealthy countries of the world and the poorer countries, and policies and strategies designed to promote development and alleviate poverty. Studies some contemporary issues that are related to global inequality including ethics and third-world development, sweatshop labor, corporate responsibility, and the tension between globalization and the movement of people across sovereign borders. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | G | Prerequisite(s): minimum 25 hours OR Visiting University Student |
| POS | 368 | Ethics and Human Rights | Explores issues of ethics, morality, and human rights in the global community. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | |
| POS | 370 | Law and Society | Analyzes debates among social scientists and legal theorists concerning the relationship between law and society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| POS | 374 | Cultures and Politics of the Internet | Explores the culture and politics of the Internet in global perspective, including virtual communities, free software, copyleft, blogs, and hacktivism. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | Credit is allowed for only ASB 374, POS 374, SBS 374 or SOC 374 |
| POS | 377 | Arizona, Immigration, Latinos and Politics | Contemporary immigration and its related issues have generated significant debates, reforms and responses by government officials, businesses and private citizens, to name but a few in this country. This course provides a much-needed framework for understanding some of the immigration issues in Arizona and the country generally. It also focuses on some of the political responses by Latinos and their significant mobilization at the local, state and federal levels. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only JUS 377 or POS 377 or SGS 377 or TCL 377 or HST/JUS/POS/SGS/TCL 394 (Arizona, Immigration, Latinos and Politics) OR Visiting University Student |
| POS | 378 | Religion, War and Peace | In-depth study of the religious, political and ethical dimensions of violence and war. Compares perspectives of Christian, Jewish and Islamic traditions as well as secular viewpoints. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | L | Prerequisite(s): ENG 102, 105 or 108 with C or better; Minimum 24 hours; Credit is allowed for only POS 378, REL 378 or REL 394 (Religion, War and Peace) |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| POS | 379 | The Resource Curse | Explores the paradox known as the resource curse, examining the argument, its mechanisms for impeding development, and its effects. Examines successes and failures, and in doing so, examines the mechanisms of the resource curse and the potential to overcome the negative consequences of resource wealth for developing countries. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only POS 379 or POS 394 (The Resource Curse) or SGS 379 or SGS 394 (The Resource Curse) OR Visiting University Student |
| POS | 388 | Religion, Ethics, and International Politics | Religious and ethical dimensions of international politics. Addresses historical and contemporary ideas, movements, issues and events. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only POS 388 or REL 388 OR Visiting University Student |
| POS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-4 | | |
| POS | 401 | Political Statistics | Basic concepts in statistics as they facilitate the description, explanation, and prediction of social and political phenomena. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | CS | Prerequisite(s): DAT 401, POS 301 or SGS 305 with C or better; Credit is allowed for only POS 401 or SGS 401 OR Visiting University Student |
| POS | 410 | Governing American Cities | Reviews modern urban problems, their sources, and potential solutions, including structural and policy alternatives. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |
| POS | 414 | Political History and Leadership | Research seminar in political values and leadership. Combines lecture, readings and guest lectures by leaders in business, public affairs and the media. Culminates in a substantial written research effort. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours; Credit is allowed for only HST 414 or POS 414 |
| POS | 417 | Arizona Politics | Surveys the operations, problems, and policies of state and local governments in the United States. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | Prerequisite(s): minimum 25 hours; Credit is allowed for only POS 211 or POS 216 or POS 417 OR Visiting University Student |
| POS | 426 | Elements of Public Policy | Each section may cover one of the following topics: consumer protection, natural resources, criminal justice, environmental protection, science and technology, or theories of public policy. May be repeated for credit when topics vary. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum 45 hours |
| POS | 427 | Social Welfare and Health Policy | Examines the political conflicts and debates that underlie social welfare and health policy, and the provisions of major welfare-state programs in the U.S., with comparisons to other developed democracies. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for POS 427 or POS 394 (Social Welfare & Health Policy) |
| POS | 431 | Campaigns and Elections | Examines campaigns from a multitude of perspectives including the politician, reporter, campaign strategist, and voter. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |
| POS | 434 | Media and Politics | Studies mass media and politics in the United States, e.g., media and elections, media and government. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |
| POS | 435 | Women and Politics | Focuses on the uniqueness of women in modern political systems and political thought. Emphasis may vary with instructor. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & C | |
| POS | 436 | Gender, Sexuality, Nation-States | Issues and problems related to the interface of gender, sexualities, nationalisms, and states in various world contexts. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | |
| POS | 437 | Women, Power, and Politics | The roles and treatment of women within various political contexts. Specific focus may vary with instructor. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | G | Prerequisite(s): minimum 45 hours; Credit is allowed for only POS 437 or SOC 437 OR Visiting University Student |
| POS | 438 | Latino Politics | Examines contemporary political issues in the diverse Latino community. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & C | Prerequisite(s): minimum 45 hours |
| POS | 439 | Minority Group Politics in America | Role of minority groups in American politics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & C | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| POS | 442 | American Political Thought | Political theories and movements from the colonial period to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | HU | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| POS | 443 | Topics in Contemporary Political Theory | Major problems and theories in contemporary political thought. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | HU | |
| POS | 446 | Democracy | Issues and problems in democratic theory, e.g., the nature of democracy, majority rule, representation, equality, and the value of political participation. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | HU | |
| POS | 447 | Citizenship, Nationalism and Identity | Critical examination of citizenship, national belonging and identities by examining contemporary social issues and discourses from global and comparative perspectives. Aims to understand complexities of national belonging that go beyond legal, formal citizenship, such as how cultural, racial/ethnic, class and gender differences challenge the limits of national citizenship. Explores case studies that show how members of different societies demonstrate their positions as legitimate national citizens in different and often conflicting ways, especially in order to defend social justice and human diversity. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & C & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 447 or POS 447 or SBS 447 OR Visiting University Student |
| POS | 452 | China | Background of the Communist revolution, political processes, and developmental problems in China from a comparative perspective. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | |

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| POS | 453 | Latin America | Political institutions, process, and developmental problems of South American states examined through comparative analysis, novels and poetry. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | Prerequisite(s): minimum 25 hours |
| POS | 454 | Mexico | Politics, economy, institutions, and cultures in Mexico in historical and contemporary perspective. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | |
| POS | 456 | Latin American Cities | Urban studies of Latin American world cities, e.g., Mexico City, Santiago, emphasizing integration with U.S. cities, including Los Angeles, Phoenix. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | |
| POS | 464 | Border Cities: Action Research on Globalization | Examines the effects of globalization on U.S.-Mexico border cities and towns with particular emphasis on Mexican border cities. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | |
| POS | 465 | International Organization and Law | History, practical political significance, and future of international institutions, transnational regimes, and international law. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | |
| POS | 466 | Migration, Environment and Global Security | Human mobility within and across borders is on the rise with rapid globalization and infrastructural investments. National concerns over human security and resource allocation have prompted discussion over the drivers and consequences of emerging migration patterns related to environmental stressors. The objective is to gain perspective on the environmental refugee debate and learn how governments, donors, and international agencies are currently tackling the problem. Students are introduced to cross-disciplinary concepts of migration and environmental stressors (e.g., natural disasters, climate change, water scarcity, soil erosion) in order to understand and discuss recent scientific work, and investigate the challenges in documenting this phenomenon and its consequences on global security. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only POS 466 or SGS 466 or GCU/POS/PUP/SGS/SOS 494 (Migration, Environment, & Global Security) or GCU/GSC/PUP 598 (Migration, Environment, & Global Security) OR Visiting University Student |
| POS | 467 | International Security | Examines issues affecting the international security of states and peoples, e.g., military, economic, technological, environmental, and demographic. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | Prerequisite(s): minimum 45 hours |
| POS | 468 | Comparative Asian Foreign Policies | Foreign policies of the Asian states, emphasizing their security relations and movements toward regionalism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | |
| POS | 470 | Law and the Political Order | Investigates concepts of justice, political rights, adjudication and legislation, legal ordering, constitutional law, law as an instrument of change. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only POS 470 or CMN 598 (Law and the Political Order) or JHR 598 (Law and the Political Order) or MAS 598 (Law and the Political Order) |
| POS | 471 | Constitutional Law I | Development of the U.S. Constitution as reflected in decisions of the Supreme Court; jurisdiction and organization of the federal courts; judicial review; separation of powers; federalism; the commerce clause; national taxing and spending power; state police power. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| POS | 472 | Constitutional Law II | Development of the U.S. Constitution as reflected in decisions of the Supreme Court; due process; equal protection of laws; individual rights; civil liberties. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| POS | 475 | Morality and Politics | Should morality play a role in politics? Machiavelli gives us one sort of answer, urging politicians to be dishonest, deceptive and even cruel. Kant disagrees, arguing instead that politicians should adhere to their personal morality over political calculations. Explores this question in two ways. First, looks more at the disagreement between great thinkers in the Western political tradition. Second, investigates contemporary political actors who bring moral concerns to the fore, including dirty politicians and extremist citizens (for example, radical animal rights activists, militant environmentalists or global poverty zealots). Seminar course that incorporates in-class discussion and writing, options-based grading and creative assignments. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours. Credit is allowed for only POS 394 (Morality and Politics) or POS 475 |
| POS | 480 | Global Justice | Explores questions of justice that cross national borders, including delivery of foreign aid, immigration and military intervention. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | G | Prerequisite(s): minimum 45 hours; Credit is allowed for only JHR 494 (Global Justice) or JHR 550 or JHR 598 (Global Justice) or POS 480 or SBS 480 OR Visiting University Student |
| POS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | |
| POS | 485 | Political Economy | Problems, policies, and possibilities of various political-economic systems and the interrelationship of capitalism, socialism, and democracy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| POS | 486 | International Political Economy | Contending approaches to historical and contemporary issues of international political economy, including global welfare, equality, ecology, and peace. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | |

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|---------|----------------|------------------------------|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------------|-------|-----------------|--|
| POS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| POS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| POS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-4 | | |
| POS | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| POS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| POS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-3 | | |
| POS | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | |
| POS | 503 | Empirical Political Inquiry | Research methods and techniques of the discipline, emphasizing empirical foundations and analytic methods employed in subfields. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Pre-requisites: Political Science student |
| POS | 530 | American Politics | Examines major debates in the study of American political processes and institutions. Covers parties, media, elections, public opinion, interest groups, and the three branches of government. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | |
| POS | 540 | Ancient Political Theory | Surveys the historical and philosophical developments in political thinking from the ancient Greeks up to the Renaissance. The world studied predominantly is one of profound political conflict and change. Moves from the Greek cities to the edge of modern political developments. The movement encompasses the political transformation from city-states to empires to the establishment of an overarching Christian world order that balances secular and sacred power, only to be challenged if not foundationally shaken by Machiavelli and realism. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Pre-requisites: Graduate Political Science major |
| POS | 541 | Modern Political Theory | Surveys the development of modern political thought from Machiavelli--through Hobbes, Locke, Hume, Rousseau, Burke, Kant, Montesquieu, Constant, Bentham, Mill, and Hegel--to Marx. Focuses on the primary writings of these thinkers as well as reading secondary literature. In addition to focusing on the distinctive contribution and relevance of individual thinkers, further explores certain recurring themes among which are the following: Are freedom and equality foes or friends? What allegiance do we owe the state and why? Do we have rights against the state? What is a just state? Is private property essential to individual liberty? Do laws enhance or threaten liberty? Is self-interest an adequate basis for political allegiance? Why should we pursue the common good, if at all? Are self-interest and the common good reconcilable? | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Pre-requisite: MA or PhD major; Credit is allowed for only POS 541 or 591 (Modern Political Thought) |
| POS | 550 | Comparative Politics | Surveys major approaches across topical areas such as revolutions, authoritarianism, policy processes, interest groups, and electoral politics. Focus varies with instructor. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | |
| POS | 552 | Women and Politics | Serve as an introduction to the comparative study of women and politics. Not a course on feminist theory; instead focuses on questions such as: Does the descriptive representation of women guarantee their substantive representation? Which electoral rules favor the election of women? Do the negative effects of gender quotas outweigh their impressive ability to increase the number of women in office? Have the news media helped or harmed female candidates? Once in power do women govern differently than men? Focuses on the obstacles that women face in obtaining positions of power. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POS | 560 | International Relations | Surveys major theoretical approaches and debates in international relations. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | |
| POS | 565 | Games, Strategy and Politics | Provides an overview of game theory for graduate students in political science. Covers classical game theory, extensive form games, games of incomplete information and non-cooperative games. Applies game theory to international relations, political economy, comparative politics and American politics. Gives special attention to bargaining games, voting in elections and deterrence. Basic mathematical knowledge is helpful; reviews basic algebra and calculus in the class as needed. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only POS 565 or POS 598 (Games, Strategy and Politics) |

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|---------|----------------|---------------------------------|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------------|-------|-----------------|---|
| POS | 570 | The Politics of Public Policy | Examines the political dimensions of public policymaking. Emphasizes major theoretical explanations of the policy process--particularly elements such as agenda setting, implementation, and policy change--rather than on the substance of particular policies. Focuses primarily on U.S. domestic policy, with some comparative reference to other developed democracies. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POS | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | |
| POS | 586 | International Political Economy | International political economy (IPE) focuses on the relationship between the pursuit of wealth and power during the development and evolution of the global political economy. Assigned readings take an analytical approach to the subject, drawing on methods and theories developed in political science, economics, history and sociology. In addition to an overview of the methods and theories employed in the study of IPE, also examines a variety of current empirical research programs in the subfield. This seminar should enable students to read the academic literature, conduct independent research in the subfield, and understand contemporary problems in the global political economy. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | |
| POS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | |
| POS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | |
| POS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | |
| POS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1 | | |
| POS | 596 | Professionalization Workshop | Serves as a professionalization workshop and is intended for new political science doctoral students. However, graduate students at all levels in the program are welcome to take the course. Introduces the professional side of political science. Surveys topics such as attending conferences, applying for grants, publishing an article or a book, and going on the job market. Jointly builds a professional resource bank on our course page that serves as a resource for all students. | N | SEM | N | OP2 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only POS 596 or POS 598 (Teaching and Writing Worksh) |
| POS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POS | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | |
| POS | 601 | Advanced Experimental Research | Introduces experimental and quasi-experimental research designs in political research, including lab techniques and topics in the analysis of variance. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | |
| POS | 603 | Polimetrics I | Introduces theory and practice of linear regression analysis. Provides skills to read, understand, and evaluate professional literature using regression analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | |
| POS | 604 | Polimetrics II | Applies quantitative techniques to research topics producing publishable papers through exposure to time-series, logit and probit, and simultaneous equations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------------|-------|-----------------|---|
| POS | 652 | Religion and Politics | Analyzes the complicated and often conflictual relationship among major religious faiths, religious activists, and the state in the 20th and 21st centuries. Cover topics: secularization theory and its problems; religion as a cultural or attitudinal variable in politics; the rationality of religion, organized religions and their activists; the bases for conflicts between religion and the state; religion's role in conflict; the terms of reconciliation and collaboration; the conditions under which religion is politicized and becomes the basis of a political movement or party; and the means by which organized religions and/or their adherents seek to maintain an influence in 20th- and 21st-century politics and society. Does not provide a survey of religion and politics for all major world religions, or other religions. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): MA or PhD student |
| POS | 663 | Ethnic Conflict | Acquaints students with a variety of theoretical and empirical approaches to the study of conflict between nations and states, which is often called ethnic conflict. Aims to understand the nature of ethnic identity, the reasons it persists and changes over time, and the conditions under which it can be mobilized for political ends. Discussions are theoretical and comparative. Draws on empirical results and cases to support, qualify and refute propositions, and draw inferences. Prior social science course work preferred. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only POS 598 (Ethnic Conflict) or POS 598 (Deadly Ethnic Conflict) or POS 663 |
| POS | 664 | War, Peace, and Conflict Processes | Systematic analysis of the causes of war, the preconditions for peace, and approaches to the resolution of conflict. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | |
| POS | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1 | | |
| POS | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | |
| POS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-15 | | |
| POS | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1 | | |
| POS | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-15 | | |
| PPE | 215 | Teaching Team Sports | Practical application of biomechanical, physiological, psychological, and learning principles in the analysis of skill acquisition and performance. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2 | | |
| PPE | 220 | Teaching Lifetime Activity K-12 | Participating in and teaching sequenced activities K-12. | N | LEL | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2 | | |
| PPE | 230 | Teaching Group Exercise | Introduces instructional strategies appropriate for the teaching of group exercise classes in secondary school settings. | N | LEL | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2 | | |
| PPE | 235 | Teaching Strength and Conditioning for Health | Fundamental principles, strategies and assessments of strength training and conditioning methodologies that are necessary to effectively operate in a school-based setting. Most secondary schools offer some form of strength training in a physical education setting, either as a stand-alone course or as part of a traditional class structure. Therefore, new physical education teachers should be well informed on the scientific rationale for the use of strength and conditioning programs in schools, and be able to design and implement these programs safely. Provides prospective physical education teachers with the knowledge and skills needed to safely and effectively operate in a school-based strength training setting, whether it is for physical education or sport performance. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2 | | Credit is allowed for only PPE 235 or PPE 294 (Teaching Strength Conditioning for Health) |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|----------------------------------|---------------------------------|-------|-----------------|---|
| PPE | 240 | Physical Activity | Recognizing individual interests and abilities, the program provides courses covering a wide variety of physical activities. We make an effort to address contemporary trends and student, faculty and staff interests. Offerings may include but are not limited to classes in the areas of: aquatics, artistic and social dance, fitness development, martial arts, mind/body, outdoor recreation, resistance training, sports and games. | Y | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-2 | | |
| PPE | 300 | Introduction to Physical Education, Fitness and Sport | Introduces the fields of physical education, exercise science, sports medicine, and related fields. Discusses the history and trends of physical education as well as key concepts, programs, problems, and issues related to teaching physical education. Teaches essential background knowledge, better preparing for career success. The online (blackboard) component of this class provides practical experiential learning and assesses knowledge and comprehension of the key concepts presented in the course. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 60 hours; junior or senior standing; Credit is allowed for only PPE 300 or PPE 394 (Intro to Physical Education, Fitness & Sport) OR Visiting University Student |
| PPE | 310 | Healthy Learning Communities | Prepares educators with the knowledge, skills and dispositions to support learners' overall health. Focuses on educator's roles in creating healthy and active learning communities and addresses a variety of educational settings and learner ages. | N | LEL | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours |
| PPE | 315 | Pediatric Movement Sciences for Physical Educators | Provides a general overview of the functional anatomy of the human body as it relates to movement and the biomechanical principles underlying the execution of a given motor skill. Also examines the influence of physical growth and maturation on the development of motor skills. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| PPE | 320 | Exercise Physiology Concepts for Physical Educators | Provides an introductory-level understanding of how the body responds prior to, during, and after participation in dynamic and static exercise. Examines the physiological basis of human movement, with emphasis on reviewing what exercise physiologists have learned about the diversity of physical activity, specifically in children. Although many physiological responses to activity are predictable, the magnitude and pattern of responses are unique depending on the age, gender, and previous experience of the individual. Also examines the role an active lifestyle plays in the overall health and well-being of school-aged children and adolescents. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| PPE | 335 | Movement and Physiology Principles of Children and Youth in Physical Activity Environments | Provides an introductory-level understanding of mechanical principles underlying human movement, the developmental patterns reflected in human movement birth through childhood and adolescence, basic principles of motor learning and the physiological basis of human movement. Covers how these principles directly affect the development of physical activity opportunities in in community-based sport and recreation settings with a specific eye toward the role an active lifestyle plays in the overall health and well-being of children and youth between the ages of 6 and 18. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): junior or senior standing |
| PPE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| PPE | 396 | Clinical Experience: Physical Education Elementary (Grades 1-8) | Applies course content in elementary physical education classrooms grades 1-8; emphasizes observation, pupil management, planning and delivery of instruction, and assessment. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2 | | Prerequisite(s): admission to the Professional Program |
| PPE | 397 | Clinical Experience: Physical Education Secondary (Grades 6-12) | Applies course content in secondary physical education classrooms grades 6-12; emphasizes observation, pupil management, planning and delivery of instruction, and assessment. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2 | | Prerequisite(s): admission to the Professional Program |
| PPE | 450 | Physical Education for the Elementary School | Scope and values of physical education in elementary schools. Methods, materials, and practices in teaching for primary through upper grades. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours; Credit is allowed for only PPE 450 or PPE 550 |
| PPE | 455 | Physical Education in the Secondary School | Current trends and theories such as elective programs, coed classes, legal issues, contract teaching, curriculum, and administration. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours; Credit is allowed for only PPE 455 or PPE 555 |
| PPE | 460 | Adapted and Inclusive Physical Education | Teaching individuals with disabilities physical skills and activities. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours; Credit is allowed for only PPE 460 or PPE 560 |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|----------------------------------|---|-------|-----------------|--|
| PPE | 465 | Teaching Physical Activity Concepts | Focuses on teaching physical activity concepts in physical education settings and other settings such as fitness clubs or community health organizations. Analyzes and critiques state physical activity standards and national guidelines for promoting physical activity. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only PPE 465 or PPE 565 OR Visiting University Student |
| PPE | 477 | Student Teaching: Physical Education Elementary (Grades 1-8) | Student teaching in elementary physical education setting grades 1-8: synthesized experience in curriculum, instruction, assessment and classroom management. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 6 | | Prerequisite(s): admission to the Professional Program |
| PPE | 478 | Student Teaching: Physical Education Secondary (Grades 6-12) | Student teaching in middle/secondary physical education setting grades 6-12: synthesized experience in curriculum, instruction, assessment and classroom management. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 6 | | Prerequisite(s): admission to the Professional Program |
| PPE | 480 | Professional Seminar for Physical Education | Methods of instruction, organization, and presentation of appropriate content in elementary and secondary physical education. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| PPE | 485 | Physical Activity Leadership in Schools | Explores the development of school leadership skills for physical educators specific to promoting physical activity throughout the school day for all K-12 students. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours; Credit is allowed for only PPE 485 or PPE 586 |
| PPE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| PPE | 501 | Introduction to Research and Evaluation in Education | Overview of educational inquiry from controlled, quantitative to qualitative, naturalistic. Emphasizes locating and critically interpreting published research. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only COE 501 or ECD 503 or PPE 501 or SPE 501 or TEL 501 |
| PPE | 531 | Analysis of Skill and Game Performance | Develops analytic skills for informal and formal assessment of student learning in physical activity settings; designs authentic practice activities linked to specific learning objectives. | N | IND | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PPE 531 or PPE 598 (Analysis in Skill & Game Performance) |
| PPE | 532 | Principles of Sport Coaching | Focuses on the key components of developing an athletic program in an interscholastic or community-based setting. Provides individuals with an understanding and skills to develop such a program. Students learn: how to develop a coaching philosophy and style as well as an appreciation for other coaching styles; effective coaching techniques to develop skills, tactics and fitness of athletes, including addressing the unique, diverse, needs of all individual athletes. They also learn how to administer and manage a team, including developing communication skills to work across all stakeholder groups as well as how to manage the risk of injury and liability. Students learn about participating in continued professional development and to reflect on their coaching practices. | N | IND | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PPE 494 (Principles of Sport Coaching) or PPE 532 or PPE 598 (Principles of Sport Coaching) |
| PPE | 533 | Health Methods | Teaches an understanding of elementary, middle and high school health curriculum and how to implement the curriculum in a physical education environment. Students learn effective teaching techniques, how to effectively manage students in a classroom setting, and how to design and deliver innovative lessons. | N | IND | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PPE 533 or PPE 598 (Health Methods) |
| PPE | 535 | Introduction to Sport Education | Introduces a grade 5-12 school physical education curriculum that focuses on providing more complete and more authentic sport experiences. | N | LEL | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPE | 550 | Physical Education for the Elementary School | Scope and values of physical education in elementary schools. Methods, materials, and practices in teaching for primary through upper grades. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; Credit is allowed for only PPE 450 or PPE 550 |
| PPE | 551 | Innovative Programming in Elementary Physical Education | Provides an understanding of current trends and issues in elementary school physical education curriculum and how to implement the curriculum in a school environment. Students become familiar with a variety of best practices in curriculum and instruction specific to elementary children in physical activity settings. Emphasizes incorporating methods of effective teaching and activity organization, enhancing student learning, and effectively managing student behavior and the learning environment. | N | LEL | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPE | 555 | Physical Education in the Secondary School | Current trends and theories such as elective programs, coed classes, legal issues, contract teaching, curriculum, and administration. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PPE 455 or PPE 555 |
| PPE | 560 | Adapted and Inclusive Physical Education | Teaching individuals with disabilities physical skills and activities. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Pre-requisites: Graduate students (Degree and Non-degree); Credit is allowed for only PPE 460 or PPE 560 |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|---|
| PPE | 565 | Teaching Physical Activity Concepts | Teaching physical activity concepts in PE settings. Analyzes and critiques state and national physical education standards. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Pre-requisites: Graduate (degree or non-degree) student; Credit is allowed for only PPE 465 or 565 |
| PPE | 567 | Clinical Experience: Physical Education Elementary (Grades 1-8) | Applies course content in elementary physical education classrooms grades 1-8: emphasizes observation, pupil management, planning and delivery of instruction, and assessment. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPE | 568 | Clinical Experience: Physical Education Secondary (Grades 6-12) | Applies course content in secondary physical education classrooms grades 6-12: emphasizes observation, pupil management, planning and delivery of instruction, and assessment. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPE | 586 | Physical Activity Leadership in Schools | Explores the development of school leadership skills for physical educators specific to promoting physical activity throughout the school day for all K-12 students. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PPE 485 or PPE 586 |
| PPE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPE | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPE | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPE | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 501 | Fundamentals of Political Psychology | Core course focuses on the interdisciplinary study of political psychology and teaches the tools necessary to evaluate the application of political psychology to political marketing, campaigns and policy advocacy. Covers both the theoretical foundations underlying research in political psychology as well as foundational and contemporary applications. Examines topics including personality, emotions and genetic bases of behavior as well as approaches to the design and interpretation of experimental research. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 502 | Cognition and Emotions in Political Thinking | Focuses on key concepts in cognitive psychology and the scientific study of mental processes. Covers how people acquire, store, transform, use information. Topics may include perception, attention, language, memory, reasoning, problem solving, decision making and attributions. Also covers the relation between emotions and cognition. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 503 | Prejudices and Politics | Interrogates various theoretical approaches to intergroup conflict; why stereotypes and prejudice exist; the different forms these attitudes take (e.g., ethnocentrism, racial attitudes); and their implications for politics. Also introduces social identity theory and demonstrates how this theory can elucidate group processes. Moreover, covers theoretical arguments for and concrete examples of how prejudice can be reduced and tolerance increased. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|---------------------------|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------------|-------|-----------------|--|
| PPS | 504 | Attitudes and Persuasion | Focuses on the individual and contextual factors responsible for changes in beliefs, attitudes and behaviors. First covers the concept of attitudes and their measurement before examining in depth various theoretical approaches that explain how people come to change their attitudes. Also covers meta-cognitive as well as implicit factors in persuasion. Ends with a more applied look at persuasion, focusing on how persuasive messages can be crafted. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 505 | Biopolitics | Builds a foundational understanding of biological, evolutionary, genetic and neurobiological perspectives in political psychology. Draws on these perspectives to explain political attitudes and behavior, considering literature on nonhuman animals, developmental psychology, personality, psychophysiology, neurobiology, genetics, hormones, disgust sensitivity and mating. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 506 | Experimental Design | Focuses on the experimental paradigm that permeates political psychology. Introduces the logic of experimentation and how to design and evaluate experimental studies. Focuses on a variety of different experimental designs, highlighting the various benefits and drawbacks of laboratory experiments, survey experiments and field experiments. Readings combine both theoretical and methodological pieces on the design, analysis and interpretation of experiments with empirical applications. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 511 | Public Opinion | Provides an advanced examination of the political opinions of citizens. Covers how citizens structure their opinions and what factors can cause these opinions to change. In so doing, also evaluates various theoretical perspectives and methodological approaches used to study public opinion. Topics include political knowledge, ideology, partisanship and values. Moreover, provides insight into how these factors shape people's evaluation of government and how individual-level opinions are aggregated to produce public opinion. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 512 | Political Polarization | Advanced exploration of the concept of political polarization from a political psychology perspective. Introduces the concept of political polarization and provides an overview of recent trends in polarization in the U.S. while covering debates such as whether polarization has increased over time, whether Americans are polarized around issues or social identities, and how value divergence can culturally conflict. Also explores how the media and other external factors can affect citizens in ways that can either fuel or attenuate polarization. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 513 | Elite Decision Making | Provides a comprehensive examination of political psychology approaches to understanding and evaluating elite decision making. Introduces paradigms for analyzing elites' decisions that focus on the role of personality, leadership styles and prospect theory among others. Also focuses on covering frameworks that students can apply to systematically study how elite actors make decisions on the domestic and international stage. Combines conceptual readings explaining these approaches with applied readings that analyze the decision-making processes of elites through a range of case studies. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 514 | Campaigns and Elections | Provides a political psychology perspective on campaigns and elections. Topics include the effect of election rules, campaigns, social networks and the media on turnout and vote choice. Students engage with research that addresses these topics through psychological lenses focusing on the role of emotions, negativity, persuasion and learning. Combines theoretical literature with applied papers leveraging a variety of experiments conducted in campaign contexts. Also discusses implications for campaign organization and management. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 515 | Advances in Media Effects | Provides an advanced examination of contemporary research and debates on media effects. Covers the paradigms of agenda setting, priming and framing. Considers key issues in the field of media effects by paying particular attention to the underlying psychological mechanisms through which the media can affect citizens' attitudes and social judgment. Draws on a variety of examples to demonstrate both the power and limits of media to affect citizens. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|---|
| PPS | 550 | Capstone | Serves as the culminating experience of the Masters in Political Psychology. Students apply the theories, frameworks and evidence encountered during the course to explore a novel question or contribute to a contemporary research debate. In the process, students apply a multitude of tools to which they were exposed during the course of the program. Develops final products individually or in a small group based on consultation with course faculty. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | Prerequisite(s): Political Psychology MA student |
| PPS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PRM | 120 | Leisure and the Quality of Life | Conceptual foundations for understanding the role of leisure in the quality of life. Social, historical, psychological, cultural, economic, and political foundations of play, recreation, and leisure. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | SB | |
| PRM | 145 | Special Events Management | Principles of programming and managing special events for diverse populations. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | |
| PRM | 201 | Introduction to Parks, Recreation and Sport Management | Examines the role of parks, recreation and community sports at the local, national and international levels. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Credit is allowed for only CSM 201 or PRM 201 OR Visiting University Student |
| PRM | 203 | Program Planning | Overview of the conceptual foundations and professional competencies necessary to effectively assess, plan, implement and evaluate programs. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Credit is allowed for only CSM 203 or NLM 203 or PRM 203 OR Visiting University Student |
| PRM | 210 | Leisure Delivery Systems | Introduces development, management and organization of the public, nonprofit and private sectors for the leisure services professions. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Pre- or corequisite(s): NLM 160 or PRM 120 with C or better if completed OR Visiting University Student |
| PRM | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |
| PRM | 304 | Recreation and Sport Planning and Facilities | Surveys development and management of public, private, and commercial recreation areas and facilities with a focus on meeting program needs. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | L | Prerequisite(s): CRD 210 with C or better; ENG 101, 105, or 107 with C or better; MAT 142 or higher with C or better; minimum 2.50 GPA; minimum 45 hours OR Visiting University Student |
| PRM | 306 | Advanced Programming and Facilitation | Provides an experiential learning experience where students implement and reflect upon all aspects of an ongoing recreation program including program facilitation, budgeting, marketing, risk management, experience engineering and evaluation. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CSM 203 or PRM 203; Credit is allowed for only CSM 306 or PRM 306 OR Visiting University Student |
| PRM | 310 | Volunteer Management | Studies volunteer engagement practices integral to community organizations introducing management techniques such as program organization, recruitment, interviewing, placement, supervision, recognition and evaluation. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only NLM 310 or PRM 310 OR Visiting University Student |
| PRM | 315 | Creating Community Through Park and Recreation Systems | Explores the nature of community building and attachment. Examines public, nonprofit and private sector services. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PRM | 335 | Sports and Recreation for Youth Development | Provides an overview of definitions, statistics, theories and models, and types of programs surrounding youth development in relation to sports, recreation and leisure services. Addresses current trends related to youth development and collaborative partnerships in sports, recreation and leisure services at various levels within local, state, national and/or international systems. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Pre-requisite: Minimum 45 hours. Credit is allowed for only CSM 335 or PRM 335 |
| PRM | 340 | Outdoor Survival | Interdisciplinary approach to outdoor survival, including attitudes, psychological stress, physiological stress, preparation, hypothermia, navigation, flora, and wildlife. | N | PRA | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|--|
| PRM | 350 | Tourism, Recreation and Sports Marketing | Critical examination of marketing principles in leisure and related industries in diverse settings, including local, national, and international. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 210, CSM 201 or TDM 205; ENG 102, 105 or 108 with C or better; MAT 142 or higher with C or better; minimum 45 hours; Credit is allowed for only CRD 350 or CSM 350 or PRM 350 or TDM 350 OR Visiting University Student |
| PRM | 370 | Public Lands Management | Introduces outdoor recreation resource delivery systems; history of wilderness and outdoor recreation resources; the role of outdoor recreation in society; outdoor recreation agencies; related environmental issues. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PRM | 380 | Wilderness and Parks in America | Examines the American Conservation Movement and the relationships between the environment and recreation behavior. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | SB & H | |
| PRM | 401 | Managing Tourism and Leisure Enterprises | Basic principles of administration and their application in successful administrative situations. Analyzes administrative function, structure, and policies. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 210 or PRM 210 with C or better; CSM 203, NLM 203, PRM 203, or TDM 372 with C or better; minimum 2.50 GPA; Credit is allowed for only CRD 401 or CSM 401 or PRM 401 or TDM 401 OR Visiting University Student |
| PRM | 402 | Assessment and Evaluation of Community Services | Introduces applied leisure research with emphasis on program evaluation, research design, data collection techniques, and data analysis. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 210 or PRM 210; Credit is allowed for only CRD 402 or CSM 402 or NLM 402 or PRM 402 or TDM 402 OR Visiting University Student |
| PRM | 422 | Special Event Technology and Production | In-depth analysis of the theoretical and philosophical aspects of special event management relative to talent and entertainment, protocol, etiquette, ethics, and programming. Requires some field work in event management. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): PRM 145 (PRM 486) with C or better |
| PRM | 423 | Special Event Operations | Expands on the concepts of event programming with in-depth examination of the theoretical and philosophical aspects of event operations, festival site design, and working with subcontractors and vendors. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): PRM 145 (PRM 486) with C or better OR Visiting University Student |
| PRM | 427 | Where's the Money: Special Event Revenue Generation | Examines theoretical and philosophical aspects of revenue generation relative to special events through in-depth exploration of budgeting, accounting, and sponsorship opportunities. Requires field work at an event. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): PRM 145 (PRM 486) with C or better OR Visiting University Student |
| PRM | 451 | Grant Writing | How to increase grant funding: creating fundable ideas, identifying sponsors, following guidelines, writing effectively, constructing budgets, responding to reviewers. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Credit is allowed for only NLM 451, 565 or PRM 451 |
| PRM | 453 | Inclusive Community Sport | Examines historical and contemporary perspectives shaping the organization and delivery of competitive and cooperative sport and recreation at the local, regional, national and international levels. Emphasizes exploration of barriers to sport and recreation among diverse sociocultural groups (age, disability, gender, race, etc.) and strategies to facilitate access and participation through a continuum of program delivery options including adapted sport and therapeutic recreation. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CSM 453 or PRM 453 or RTH 453 OR Visiting University Student |
| PRM | 463 | Senior Internship | Supervised guided experience in selected agencies. | N | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3-12 | | Prerequisite(s): CRD 403 or RTH 413 (PRM 413) with C or better; Credit is allowed for only CRD 463 or CSM 463 or NLM 463 or PRM 463 or RTH 463 or TDM 463 |
| PRM | 470 | Environmental Communication | Park interpretation and environmental education that includes theories, principles and techniques. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 60 hours OR Visiting University Student |
| PRM | 475 | Entrepreneurial Recreation and Tourism | Explores basic business principles and innovative processes involved in starting a small business in the commercial recreation and tourism industry. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only PRM 475 or TDM 475 OR Visiting University Student |
| PRM | 483 | Sports Tourism | Examines the relationship between sports and tourism, and the role of recreation and amateur sports as an economic and community development strategy. Also considers the motives, behaviors and experiences of sport tourists; the impacts of sport tourism; and trends in sports tourism. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CSM 483 or PRM 483 or TDM 483 OR Visiting University Student |
| PRM | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | Prerequisite(s): CRD 210, CSM 201, NLM 220, or TDM 205; minimum 72 hours; minimum 2.50 GPA |
| PRM | 485 | Sports Events | Expands the basic concepts of recreation, leisure or tourism program planning and leadership as they are specifically related to sport events management. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CSM 485 or PRM 485 |
| PRM | 487 | Advanced Special Events Management | Advanced principles of special event sponsorship, public relations, marketing, contracting, risk management, and financial management. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): PRM 145 (PRM 486) with C or better |

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| PRM | 488 | Event Marketing and Promotion | In-depth look at the influence and role of print and social media in special event management. Studies theory, strategies, and planning relative to experience marketing, including the use of promotions. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): PRM 145 (PRM 486) with C or better |
| PRM | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-6 | | Prerequisite(s): Barrett Honors student |
| PRM | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| PRM | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |
| PRM | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| PRM | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-3 | | |
| PRM | 550 | Therapeutic Recreation and Community Health | Students gain an in-depth understanding of health and social needs among vulnerable populations. The interprofessional course combines field exposure and classroom instruction to maximize understanding and skill mastery assessing, planning and facilitating leisure education, and recreation therapy activities to promote community health. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PRM 550 or RTH 450 (PRM 450) |
| PRM | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OP2 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |
| PSB | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSB | 501 | Basic Principles of Applied Behavior Analysis | Fundamental principles of behavior including the history, theory, definitions, processes, concepts and characteristics of applied behavior analysis. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Psychology | 3 | | |
| PSB | 510 | Basic Principles of Experimental Analysis of Behavior | Practical applications of research methodology to examine the effects and evaluate the efficacy of behavioral interventions. Provides an empirical science approach to designing, conducting and critically evaluating research involving applications of the experimental analysis of behavior in the use of graphic displays, single-case, ABAB, multiple baselines, changing criterion and alternating treatment designs. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Psychology | 2 | | |
| PSB | 511 | Advanced Research Methods | Focuses on research techniques such as time-series methods for single-case assessment, behavior measurement and the effectiveness of treatment interventions on behavior. Topics include conducting component and parametric analyses and use of experimental designs such as withdrawal, reversal, criterion and multiple baselines. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Psychology | 2 | | Pre-requisite: PSB 501; PSB 510 |
| PSB | 520 | Ethical Issues and Professional Standards in Applied Behavior Analysis | Ethical standards and legal responsibilities including regulatory requirements and Arizona licensing statutes for ABA professionals who provide services to individuals with special needs and their families. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Psychology | 3 | | |
| PSB | 530 | Behavioral Observation and Functional Assessment | Focuses on how to conduct behavioral observations and functional analyses using various methods for assessment and for data collection, organization and interpretation. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Pre-requisite: PSB 501; PSB 510 |
| PSB | 540 | Development of Applied Behavioral Intervention Programs | Techniques for conducting task analyses; developing target intervention outcomes; determining alternative behaviors and environmental changes; use of behavior change procedures such as reinforcement, extinction, punishment, shaping, modeling, training and teaching. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSB 501, 510. Corequisite(s): PSB 530 |
| PSB | 563 | Basic Principles of Organizational Behavior Management | Overview and the use of Behavioral Systems Analysis (BSA) and Performance Management (PM) as they relate to the identification and modification of environmental variables that can affect and improve individual and organizational performance as a system. Basic techniques include analysis of antecedents, behavior and consequences and development of interventions to support the desired performance improvements and increase system productivity. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Psychology | 2 | | |
| PSB | 573 | Advanced Principles of Learning and Analysis of Behavior | Provides an in-depth review of the philosophy and theory of behaviorism and its scientific application. Includes Skinner's conceptual framework plus fundamental elements of behavior change and procedures. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Psychology | 3 | | |

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| PSB | 578 | Applied Behavior Analysis in Developmental Disorders | Provides an overview of the major theories and research related to the development of psychological disorders of childhood and adolescence including autism, attention deficit disorder, behavior disorders and intellectual disabilities. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): MS Applied Behavior Analysis major |
| PSB | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | |
| PSB | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSB | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | |
| PSB | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | |
| PSB | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | |
| PSB | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | |
| PSB | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | |
| PSB | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | |
| PSB | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | Department of Psychology | 1 | | |
| PSB | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-4 | | |
| PSB | 600 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSB | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSB | 683 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | |
| PSB | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | |
| PSB | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | |
| PSB | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | |
| PSB | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | |
| PSB | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | |
| PSB | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | Department of Psychology | 1 | | |
| PSY | 101 | Introduction to Psychology | Major areas of theory and research in psychology. Requires participation in department-sponsored research or an educationally equivalent alternative activity. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | SB | |

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| PSY | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-3 | | Prerequisite(s): Freshman; maximum 25 earned hours |
| PSY | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-4 | | |
| PSY | 211 | The Criminal Mind | Introduces the field of forensic psychology--how psychology and behavioral science are used to understand individual criminal behavior, investigate crimes and prosecute offenders. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | SB | |
| PSY | 224 | Introduction to Cognitive Neuroscience | Surveys topics relating brain activity to cognitive processes and behavior. Begins with an overview of neurophysiology and techniques to measure brain activity. Discusses perceptual and motor processes before investigating neural responses related to attention, memory and cognitive control. Concludes with a discussion of brain processes related to reward, decision making and social cognition. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Credit is allowed for only NEU 310 or NEU 394 (Fundamentals of Cognitive Neuroscience) or PSY 224 or PSY 294 (Introduction to Cognitive Neuroscience) |
| PSY | 230 | Introduction to Statistics | Basic concepts in descriptive and inferential statistics, emphasizing applications to psychology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | CS | Prerequisite(s): PSY 101 (PGS 101) with C or better; MAT 119, 170, 242, 243, 251, 260, 261, 262, 270, 271, 272, 274, 290 or 291 with C or better OR Visiting University Student |
| PSY | 231 | Honors Introduction to Statistics | Basic concepts in descriptive and inferential statistics, emphasizing applications to psychology for honors students. Lab includes learning to use statistical software packages. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 4 | CS | Prerequisite(s): Barrett Honors student; MAT 119, 170, 242, 251, or higher with C or better; PSY 101 with C or better |
| PSY | 244 | Introduction to Directed Child Study | Developmental theories and methods of social interaction with preschool children and supervised practicum in the Child Study Laboratory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | |
| PSY | 290 | Research Methods | Planning, execution, analysis, and reporting of experiments. Literature, procedures, and instruments in representative areas of psychological research. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 4 | L or SG | Prerequisite(s): ENG 102, 105 or 108 with C or better; PSY 101 (PGS 101) with C or better; ECN 221, JUS 302, POS 401, PSY 230, 231, QBA 221, SOC 390 or STP 226 with C or better OR Visiting University Student |
| PSY | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-4 | | |
| PSY | 302 | The Psychology of Positive Leadership | To thrive in the 21st century world requires innovation, collaboration and the ability to lead during times of change and complexity. There is increasing demand for leaders who can combine a high level of technical ability with the social skills that are necessary for groups of people to live and work productively and in harmony with each other. Focuses on helping students to understand and apply key psychological and social processes that create the conditions for leaders and teams to thrive in dynamic, collaborative environments. Students become familiar with foundational research insights through an "action learning" format that integrates theory with structured opportunities for self-reflection and individual- and group-level practice. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; PSY 101 OR Visiting University Student |
| PSY | 304 | Effective Thinking | Understanding and improving intellectual and behavioral skills; information analysis, inference, logic, problem solving, and decision making. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; MAT 119, 170 or higher or PSY 230 with C or better OR Visiting University Student |
| PSY | 306 | Environmental Psychology | Concepts and research strategies in the study of behavior in interaction with physical environment. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | SB | Prerequisite(s): PSY 101 (PGS 101) with C or better |
| PSY | 309 | Sleep and Dreaming | Explores something we usually take for granted: sleep--along with the party that occurs when the boss (rational thinking) is gone--dreaming! Our journey covers stages, physiology and genetics of sleep, myriad theories of dreaming, functions of both and dysfunctions (sleep disturbances and disorders). | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 101; minimum 30 hours; Credit is allowed for only PSY 309 or PSY 394 (Sleep and Dreaming) OR Visiting University Student |
| PSY | 310 | Consumer Psychology | Covers the whole range of consumer psychology on a fascinating journey: the psychology of desiring, acquiring, owning, consuming, reviewing (for other consumers), disposing, and saving (for future consumption). Overall goal is to raise awareness of marketing tactics and the psychology behind our desires, so that we can ultimately become wiser consumers! | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 101 with C or better; minimum 30 hours; Credit is allowed for only PSY 310 or PSY 394 (Consumer Psychology) OR Visiting University Student |
| PSY | 315 | Personality Theory and Research | Definition and description of personality in terms of theoretical and methodological approaches. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | SB | Prerequisite(s): PSY 101 with C or better; minimum 45 hours or PSY 290 with C or better OR Visiting University Student |
| PSY | 320 | Learning and Motivation | Principles of conditioning and motivation; approaches to learning, including acquisition of verbal materials, concepts, and motor skills; memory and transfer. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 290 with C or better OR Visiting University Student |

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| PSY | 323 | Sensation and Perception | Underlying processes of vision, audition, and the other senses. Integrates theory, research, and application. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 290 with C or better; Credit is allowed for only NEU 323 or NEU 394 (Neuroscience of Perception) or PSY 323 OR Visiting University Student |
| PSY | 324 | Memory and Cognition | Processes underlying information storage and retrieval, including different kinds of memory, forgetting, depth of processing, and control processes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 290 with C or better OR Visiting University Student |
| PSY | 325 | Physiological Psychology | Relationships of physiological processes to behavior. Emphasizes nervous system functioning. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 290 with C or better or two of the following courses with C or better: BIO 181 (or 188), 182 (or 187), 201, 202; Credit is allowed for only LSC 325 or PSY 325 or PTX 325 OR Visiting University Student |
| PSY | 326 | Fundamentals of Brain Research | Introduces the study of the mind through brain research. Students acquire foundational knowledge in functional neuroanatomy, brain-mind relationships and brain research methodologies. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): PSY 290 with C or better; Credit is allowed only for PSY 326 or PSY 394 (Fundamentals of Brain Research) OR Visiting University Student |
| PSY | 330 | Statistical Methods | Advanced application of statistics to psychology. Highly recommended for students interested in attending graduate school. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | CS | Prerequisite(s): ECN 221, JUS 302, POS 401, PSY 230, PSY 231, SBS 304, SOC 390, or STP 226 with C or better OR Visiting University Student |
| PSY | 335 | Positive Psychology | Examines the theoretical foundations, empirical bases and practical applications of positive psychology. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 101 with C or better; minimum 45 hours or PSY 290 with C or better; Credit is allowed for only PSY 335 or PSY 394 (Positive Psychology: The Science of Happiness) OR Visiting University Student |
| PSY | 336 | Applications of Positive Psychology | Explores the circumstances under which humans tend to flourish and report the highest levels of well-being. These areas include: (1) leisure, flow and optimized experience; (2) optimal well-being and positive health; (3) aesthetics and creativity; and (4) spirituality or other sense of meaning in life. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): PSY 101 with C or better; minimum 45 hours or PSY 290 with C or better OR Visiting University Student |
| PSY | 338 | Emotional Intelligence | Emotions are important; emotions have meaning and utility. Students have the opportunity to enhance their knowledge of positive psychology and emotional intelligence and practice skills related to supporting and enhancing emotional intelligence--a key factor in sustainable happiness and well-being. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): PSY 101 with C or better; minimum 45 hours or PSY 290 with C or better; Credit is allowed for only PSY 338 or PSY 394 (Positive Psychology of Emotional Intelligence) OR Visiting University Student |
| PSY | 340 | Psychology of Academic Motivation and Growth | There is a large self-help market claiming to harbor psychological secrets of success, but how do these claims and theories hold up to the science? Is it true that you just need to "believe it to achieve it"? Can you really engage in simple "brain exercises" to become a smarter person overall? This course critically reviews the behavioral science literature on psychological strategies of success, and explores the role of social cognitive influences that help form our academic self-concepts and beliefs and how they influence behaviors and performance. Contains a review of the literature examining the significance of short cognitive and psycho-educational interventions that can increase achievement motivation and improve academic performance. Finally, reflects on the role of society in applying this psychological literature toward improving educational systems and social policies. Students become familiar with the works of psychologists such as Albert Bandura, Carol Dweck, Allan Wigfield, Jacquelynne Eccles, Claude Steele, Joshua Aronson, Geoffrey Cohen, Paul Sackett and Arthur Jensen. Students critically appraise and challenge the controversial works of noted psychologists who suggest intelligence is an innate, fixed trait, or that intelligence differs in individuals as a function of belonging to a certain group or class of people. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): PSY 101 with C or better; minimum 30 hours; Credit is allowed for only PSY 340 or PSY 394 (Psychology of Academic Success) OR Visiting University Student |
| PSY | 341 | Developmental Psychology | Analyzes behavior development in terms of psychological principles. Current research in human development. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | SB | Prerequisite(s): PSY 101 with C or better; minimum 45 hours or PSY 290 with C or better OR Visiting University Student |
| PSY | 344 | Directed Child Study | Theories and methods of intervention with preschool children and supervised practicum in the Child Study Laboratory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | SB | Prerequisite(s): CDE 232, ECD 211 or PSY 341 (PGS 341) with C or better OR Visiting University Student |
| PSY | 350 | Social Psychology | Human social behavior, including such concepts as aggression, attraction, attribution, conformity, groups, helping, person perception, and persuasion. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | SB | Prerequisite(s): PSY 101 with C or better; Credit is allowed for only PSY 350 or PSY 351 OR Visiting University Student |

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| PSY | 351 | Honors Social Psychology | Critical analysis of human social behavior for honors students; topics include stereotyping, social influence, attraction, aggression, helping, groups, and attitudes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | L or SB | Prerequisite(s): Barrett Honors College student; ENG 101, 105, or 107 with C or better; PSY 101; Credit is allowed for only PSY 350 or PSY 351 |
| PSY | 360 | Cognitive Science | Examines cognition from the varied perspectives of philosophy, linguistics, psychology, computer science (artificial intelligence), and neuroscience. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 101 with C or better OR Visiting University Student |
| PSY | 365 | Community Psychology | Mental health and psychological well-being in the community, emphasizing current issues and related research. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | SB | Prerequisite(s): PSY 315 (PGS 315), PSY 350 (PGS 350) or PSY 351 (PGS 351) with C or better; PSY 290 with C or better |
| PSY | 366 | Psychological Disorders | Covers historical and current etiological theories, assessment, prevention and treatment of mental, emotional and behavioral disorders. Discusses sociocultural and neurobiological influences. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | SB | Prerequisite(s): PSY 101 with C or better; minimum 45 hours or PSY 290 with C or better OR Visiting University Student |
| PSY | 368 | Forensic Psychology | Clinical practice of forensic psychology: the assessment and treatment of people who interact with the legal system. Focuses on the ways in which psychologists do clinical work (assessment and treatment) to help courts make informed decisions about cases. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): PSY 101; PSY 290 or minimum 45 hours OR Visiting University Student |
| PSY | 369 | Biology of Human Sexuality | Multilevel perspective on human sexuality and reproduction. Integrates psychological with evolutionary, physiological and neuroscientific approaches. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): PSY 101 with C or better; one semester of biology; Credit is allowed for only LSC 369 or PSY 369 or PTX 369 OR Visiting University Student |
| PSY | 370 | Interpersonal Relationships | Development of personal skills for competent functioning in interpersonal relationships across multiple social contexts. Principles of mental health adjustment. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | SB | Prerequisite(s): PSY 101 with C or better OR Visiting University Student |
| PSY | 375 | Psychology of Addictive Behavior | Offers a psychological perspective on addictions, including those related to drug use, gambling, sex, eating and Internet use. Specific topics include basic pharmacology, behavioral processes in addiction, behavioral economics, impulsiveness, delay discounting, self-control, self-regulation, and prevention and treatment of addictions. Some of the data presented in the course derive from animal models; an evolutionary perspective is assumed throughout. Encourages students to think critically about drug use and dependence and about addictions in general. Students achieve these objectives through assigned readings (primarily empirical research), writing assignments, and active participation in, and facilitation of, class discussions. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only PSY 375 or PSY 394 (Psychology of Addictive Behaviors) OR Visiting University Student |
| PSY | 384 | Psychology Undergraduate Teaching Assistant | The UTA experience allows students to work with the faculty to contribute to the effectiveness of a particular class and provides them with a unique educational benefit commensurate with their receiving upper-division course credit. Provides students with experience in teaching and interacting with faculty and students. These experiences help students make a decision about whether to pursue a graduate degree in psychology and to develop a personal philosophy of learning and teaching. | N | PRA | Y | YGB | College of Liberal Arts and Sciences | Department of Psychology | 1-3 | | Prerequisite(s): PSY 101 with C or better; minimum 30 hours; Credit is allowed for only PSY 384 or PSY 394 (Undergraduate Teaching Assistant) OR Visiting University Student |
| PSY | 385 | Psychology of Gender | Examines, from a psychological perspective, multiple frameworks about gender to better understand the integral role that gender plays in the field of psychology and human development (e.g., physical/cognitive/social development, behaviors, experiences, attitudes). Relies on both scientific and anecdotal evidence to understand how biological and social forces interact to shape the construction, regulation, experience and expression of gender. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PSY | 390 | Experimental Psychology | Continuation of concepts in PSY 290, with emphasis on multifactor designs and programmatic sequence of experiments. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; PSY 290 with C or better OR Visiting University Student |
| PSY | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-4 | | Prerequisite(s): PSY 101 with C or better; minimum 30 hours OR Visiting University Student |
| PSY | 399 | Supervised Research | Experience within the context of current faculty research projects. Student is assigned responsibility depending on qualifications. | Y | RSC | Y | YGB | College of Liberal Arts and Sciences | Department of Psychology | 1-3 | | |
| PSY | 400 | Topics in Neuroscience | Covers in-depth important and emerging developments in neuroscience, emphasizing lectures that include readings of recent reviews and contemporary publications in peer-reviewed journals. Includes a significant writing component; students learn skills for writing scientific publications and grant applications. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): BIO 360 with C or better; Credit is allowed for only BIO 400 or KIN 400 or PSY 400 or SHS 400 |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| PSY | 414 | History of Psychology | Historical development of psychology from its philosophical beginnings to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; PSY 290 with C or better OR Visiting University Student |
| PSY | 420 | Analysis of Behavior | Research, applications, and philosophy of the analysis and control of human behavior. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; PSY 290 with C or better; PSY 320 with C or better OR Visiting University Student |
| PSY | 424 | Genetic Psychology | Introduces the concepts, methodologies, and findings of behavioral genetics for Psychology majors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better and PSY 290 with C or better OR Visiting University Student |
| PSY | 425 | Biological Bases of Behavior | Critical study of physiological psychology, e.g., brain mechanisms underlying motivation, learning. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; PSY 325 with C or better OR Visiting University Student |
| PSY | 430 | Industrial Psychology | Organizations and management systems: motivation and work performance; human factors in systems design and evaluation; personnel selection and testing. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): MGT 301 or PSY 101 with C or better OR Visiting University Student |
| PSY | 432 | Embodied Cognition | Do left-handers think differently from right-handers? Do paraplegics perceive the world differently from those who can walk? If you say about a potential date, "He leaves me cold," do you literally feel cold? And does a Botox treatment to alleviate frown lines makes it difficult to understand sentences about sadness? The surprising answer to all of these questions is YES! Embodied cognition proposes that thinking is based on neural and bodily systems of perception, action and emotion. Explores this claim through readings, discussions, debates and embodied interactions, and considers implications of embodied cognition across areas of psychology and applications in education. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Psychology | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; PSY 290 with C or better; Credit is allowed for only PSY 432 or PSY 498 (Embodied Cognition) or PSY 529 OR Visiting University Student |
| PSY | 434 | Cognitive Psychology | Human organism as a processor of information, from perception to cognition. Abstract concepts, semantic memory, attention, and mental imagery. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; PSY 323 or 324 with C or better OR Visiting University Student |
| PSY | 437 | Human Factors | Emphasizes human factors in high-technology systems. Specific topics include systems development, systems analysis techniques, displays, and controls. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; PSY 290 with C or better OR Visiting University Student |
| PSY | 440 | Industrial/Organizational Psychology | Examines personnel selection, performance assessment, job and workplace design, job satisfaction, organizational behavior, management systems, and industrial safety. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): PSY 101 with C or better |
| PSY | 441 | Cognitive Development | Experimental and theoretical literature in child development and behavior. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; PSY 341 with C or better; PSY 290 with C or better OR Visiting University Student |
| PSY | 443 | Child and Adolescent Psychological Disorders | Covers historical and current etiological theories, assessment, prevention and treatment of childhood and adolescent mental, emotional and behavioral disorders. Discusses sociocultural and neurobiological influences. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; PSY 290 with C or better; PSY 315, 341, or 366 with C or better OR Visiting University Student |
| PSY | 444 | Adolescent Psychology and Psychopathology | Advanced-level survey of normal adolescent psychological development and psychological disorders of this age period. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 290 with C or better; PSY 341 with C or better OR Visiting University Student |
| PSY | 446 | Social Development | Discusses theory, research, and issues regarding social development. Topics may include formation of attachments, prosocial development, and gender-role development. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; PSY 341 with C or better; PSY 290 with C or better OR Visiting University Student |
| PSY | 447 | Psychology of Aging | Analyzes loss, maintenance and gain associated with cognitive and affective aging. Individual differences in coping with normative life transitions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | SB | Prerequisite(s): Aging BS major or PSY 290 with C or better OR Visiting University Student |
| PSY | 451 | Stereotyping, Prejudice, and Discrimination | Critical investigation of the processes underlying, and the factors contributing to, stereotyping, prejudice, and discrimination. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; PSY 350, or 351 with C or better; PSY 290 with C or better OR Visiting University Student |
| PSY | 453 | Organizational Behavior | Surveys psychological theory and research as applied to the behavior of individuals in organizational settings. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | Prerequisite(s): PSY 350 with C or better; Credit is allowed for only PSY 453 or PSY 598 (Organizational Behavior) OR Visiting University Student |
| PSY | 458 | Group Dynamics | Theories and methods of group leadership, group effectiveness, communication within groups, and relations between groups and individual members. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 350 (PGS 350) or PSY 351 (PGS 351) with C or better; PSY 290 with C or better |
| PSY | 461 | Interpersonal Influence | Principles and procedures that affect the process of social influence; consideration of attitudinal, compliance-inducing, and perceptual influences. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | SB | Prerequisite(s): PSY 290 with C or better; PSY 350 (PGS 350) or 351 with C or better |
| PSY | 462 | Health Psychology | Contributions of psychology to health promotion and illness prevention, adaptation to acute and chronic illness, and to the healthcare system. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 290 with C or better OR Visiting University Student |

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| PSY | 465 | Psychology of Stress and Coping | Readings in theory and research in the area of stress and coping. Lecture, discussion, class presentations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 315 (PGS 315), 350 or 351 with C or better; PSY 290 with C or better |
| PSY | 467 | Psychology of Criminal Investigation | Covers the techniques and processes of criminal investigation with a focus on understanding psychological factors that affect the reliability of criminal evidence and the accuracy of criminal justice outcomes. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): PSY 101 with C or better OR Visiting University Student |
| PSY | 468 | Psychology and Law | Theories, research, and practice in psychology as related to law, including criminal, civil, domestic relations, and professional issues. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): CRJ 302; Law and Human Behavior certificate student OR PSY 290 with C or better OR Visiting University Student |
| PSY | 470 | Psychopharmacology | Basis of drug action at physiological and behavioral levels. Psychological and medical applications and limitations of drugs used in the treatment of mental illness. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): BIO 181, BIO 182, BIO 201, BIO 202, or PSY 325; Credit is allowed for only PSY 470 or PSY 570 OR Visiting University Student |
| PSY | 471 | Psychological Testing | Methods and theory of psychological testing; various types of psychological tests; consideration of ethical, social, and legal aspects of testing. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 290 with C or better |
| PSY | 472 | Clinical Psychology | Clinical psychology as a science and profession. Historical development, methods of interviewing, assessment, and therapeutic intervention. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 290 with C or better; PSY 366 or 443 with C or better OR Visiting University Student |
| PSY | 474 | Correctional Psychology | Covers the basic principles of correctional psychology, including psychologists' roles in prisons and jails, the unique challenges of working in these settings, establishing successful relationships with correctional staff and inmates, and the various career opportunities in correctional psychology. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): PSY 366; Credit is allowed for only CRJ 474 or PSY 474 OR Visiting University Student |
| PSY | 475 | Multicultural Issues in Clinical Psychology | Discussion-based course that focuses on cross-cultural conceptions of mental illness, diagnosis and treatment approaches, and beliefs and practices of specific ethnocultural groups in the United States. Encourage students to critically think about diversity issues in clinical psychology, one's own attitudes, and culture and psychology more broadly. Students achieve these objectives through reading empirical articles and chapters; taking quizzes and exams; completing hands-on exercises, essays and other writing assignments; and actively participating in and facilitating class discussions. | N | SEM | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Minimum 45 hours; Credit is allowed for only PSY 475 or 498 (Clinical Psychology: Multicultural Issues) |
| PSY | 482 | Social Influence and Consumer Behavior | Discusses social influence principles, emphasizing strategies employed by professionals that affect consumer behavior. Analyzes consumer defenses against manipulations. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): PSY 350 with C or better |
| PSY | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): minimum 45 hours |
| PSY | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 1-6 | | Prerequisite(s): Barrett Honors student |
| PSY | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| PSY | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-4 | | Prerequisite(s): PSY 290 with C or better OR Visiting University Student |
| PSY | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | N | SEM | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-6 | | Prerequisite(s): Barrett Honors student |
| PSY | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-7 | | Prerequisite(s): PSY 290 with C or better |
| PSY | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 1-3 | | Prerequisite(s): PSY 399 |
| PSY | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): Criminal Justice MA student, Forensic Psychology MA student, Psychology MA student, Law and Psychology MIP MSP student, or Law and Psychology PhD student |
| PSY | 501 | Supervised Teaching | Experience in and examination of perspectives on teaching undergraduate psychology. | N | PRA | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 502 | Professional Issues in Psychology | Introduce graduate students to various aspects of the professional roles of psychology, as well as to the ethical standards of the profession. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree-seeking graduate student; Credit is allowed for only PSY 502 or PSY 598 (Seminar on Professional Issues in Psychology) |
| PSY | 503 | History and Scope of Psychological Science | Overviews the historical landmarks in the development of psychology as a scientific discipline. Explores the major research areas within psychological science through classic research studies and applications of research findings. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| PSY | 505 | Cognitive Psychology: Theories and Applications | Covers the major research areas within cognitive psychology through classic theories, and highlights the overarching themes in the study of cognition. Students solidify conceptual knowledge by identifying opportunities where such knowledge is applied. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 506 | Advanced Cognitive Science | Examines cognition from the varied perspectives of philosophy, linguistics, psychology, computer science (artificial intelligence) and neuroscience. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree-seeking graduate student; Credit is allowed for only PSY 506 or PSY 598 (Advanced Cognitive Science) |
| PSY | 508 | Choice and Decision Making | Examines traditional and contemporary models of choice and decision making. Considers both the intuitive and rational decision-making systems and the influences of context, experience, attention, memory, information and uncertainty on choice behaviors and decision making. Requires frequent analysis of specific scenarios in order to identify common errors of judgment and choice and determine "best" actions for error avoidance. In-depth exploration of choice and decision making involves the critical evaluation of research in cognitive and social psychology, and application of theory and research to real-world situations. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree-seeking graduate student; Credit is allowed for only PSY 508 or PSY 598 (Choice and Decision Making) |
| PSY | 512 | Advanced Learning | Principles and theories of learning, emphasizing research literature. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 513 | Fundamentals in Quantitative Methods | Fundamental concepts in quantitative research, with an emphasis on basic statistical knowledge and skills. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PSY 513 or PSY 598 (Fundamentals in Quantitative Methods) |
| PSY | 514 | Fundamentals of Forensic Psychology Research | Overview of analyses and methods of forensic psychology research. Focuses on literacy and skills in assessment and scale development, experimentation and RCT, prediction and modeling, and presentation and synthesis of data. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 515 | Quantitative Analysis I | Introduces advanced experimental and quasi-experimental analysis. Focuses on group-based design and analysis of variance. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Criminal Justice MA student, Forensic Psychology MA student, Psychology MA student, Law and Psychology MIP MSP student, or Law and Psychology PhD student |
| PSY | 516 | Quantitative Analysis II | Advanced experimental and quasi-experimental analysis. Focuses on principles underlying linear regression and related statistical techniques. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): PSY 515 with B or better; Credit is allowed for only PSY 516 or PSY 598 (Psychological Methods II) |
| PSY | 517 | Quantitative Analysis III | Covers basic multivariate statistical techniques currently utilized in psychology with a primary focus on factor analysis and structural equation modeling. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): PSY 516 with B or better; Credit is allowed for only PSY 517 or PSY 598 (Quantitative Research Methodology & Statistics III) |
| PSY | 526 | Neuroanatomy | Covers the structure and function of the mammalian brain, including sheep brain dissection. | N | LEL | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only NEU 426 (PSY 426) or PSY 526 |
| PSY | 528 | Sensation and Perception | Principles of sensory and perceptual processes, emphasizing research literature. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 529 | Embodied Cognition | Do left-handers think differently from right-handers? Do paraplegics perceive the world differently from those who can walk? If you say about a potential date, "He leaves me cold," do you literally feel cold? And does a Botox treatment to alleviate frown lines make it difficult to understand sentences about sadness? The surprising answer to all of these questions is YES! Embodied cognition proposes that thinking is based on neural and bodily systems of perception, action and emotion. Explores this claim through readings, discussions, debates and embodied interactions, and considers implications of embodied cognition across areas of psychology and applications in education. | N | SEM | N | GNA | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): graduate standing in Psychology; Credit is allowed for only PSY 432 or PSY 529 or PSY 591 (Embodied Cognition) |
| PSY | 530 | Intermed Statistics | One-way and factorial designs; contrasts; post-hoc tests; probing of interactions; mixed designs; power; computer applications; and statistical programming in SAS, R or SPSS. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HSE 530 or HSE 598 (Statistics for Human Systems Research III) or PSY 530 |
| PSY | 531 | Multiple Regression in Psychological Research | Multiple regression and correlation; hierarchical regression; interactions; curvilinear relationships; categorical predictors; ANOVA in regression; regression diagnostics; regression graphics; and statistical programming in SAS, R or SPSS. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--|---------------------------------------|-------|-----------------|--|
| PSY | 532 | Analysis of Multivariate Data | Matrix algebra for multivariate procedures, component and factor analysis, canonical and discriminant analysis, classification, MANOVA, logistic regression, hierarchical linear model. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 533 | Structural Equation Modeling | Path analysis; exploratory and confirmatory factor analysis; recursive and nonrecursive latent variable models; mean and covariance structures; latent growth models. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 534 | Psychometric Methods | Theory and practice of psychological measurement using classical and modern test theories. Reliability assessment, test validation, test construction, test usage. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 535 | Cognitive Processes | Theoretical/empirical treatment of the human organism as a processor of information, including abstraction, memory structure, problem solving, and thinking. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 536 | Statistical Methods in Prevention Research | Statistical methods used in prevention research including epidemiological methods, logistic regression, program effect estimation, estimation, and mediation analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 537 | Longitudinal Growth Modeling | Growth modeling methodology to describe individual variation in development over time. Employs multilevel and structural equation modeling frameworks. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 538 | Advanced Structural Equation Modeling | Mean and covariance structure analysis. Includes multiple-group modeling, two-level hierarchical modeling, longitudinal growth modeling, analysis with categorical outcomes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 539 | Multilevel Models for Psychological Research | Multilevel (i.e., hierarchical linear) modeling, as described by Raudenbush and Bryk (2002) and others. Covers analytic strategies for analyzing a variety of different nested data structures (e.g., couples data, clients nested within group therapy settings, children nested within classrooms, longitudinal data). Covers two- and three-level models for cross-sectional and longitudinal data and also addresses related topics such as centering and estimation. Students perform and interpret the results of these models using a variety of statistical software packages. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Pre-requisite: PSY 531; Credit is allowed for only PSY 539 or 591 (Multilevel Modeling) |
| PSY | 540 | Missing Data Analysis | Covers analytic strategies for analyzing data with missing values, with a special emphasis on modern approaches for dealing with missing data, in particular maximum likelihood missing data handling and multiple imputation, maximum likelihood estimation and multiple imputation. Familiarizes students with missing data theory, traditional analysis methods (e.g., deleting incomplete cases, single imputation methods), maximum likelihood estimation, multiple imputation, planned missing data research designs, and the inclusion of auxiliary variables. Students learn how to perform and interpret the results of these models using a variety of statistical software packages. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Pre-requisite: PSY 532; Credit is allowed for only PSY 540 or 591 (Missing Data) |
| PSY | 541 | Research in Cognitive Development | Theoretical and empirical issues in the study of children's knowledge and cognitive processes. Comparison of research in Piagetian and other traditions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 542 | Social Development | Reviews and critiques major issues in the area of social development. Covers theory, research, and content. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 543 | Statistical Mediation Analysis | Specifically covers the substantive motivations for mediating variables and third-variable effects (interaction, confounder, covariate and mediator) in general. Mediation represents a chain such that one variable causes a mediating variable and the mediating variable causes a dependent variable. Describes the single mediator model in detail including assumptions, estimators and geometric interpretations. Once the details of the single mediator model are understood, analysis is extended to multiple mediator models, path analysis, and models with moderators and mediators. Discusses modern causal inference approaches for mediation along with latent variable models, multilevel models and special models for longitudinal data. Also describes research designs for investigating mediating variables. Students learn how to perform and interpret the results of analysis using a variety of statistical software packages. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 530; PSY 531; Credit is allowed for only PSY 543 or PSY 591 (Mediation) or PSY 591 (Statistical Mediation Analysis) |
| PSY | 544 | Advanced Psychology of Criminal Investigation | Reviews the different types of evidence that state and federal governments use to investigate crimes and incriminate suspected criminal offenders, with a focus on understanding psychological factors that affect the reliability of criminal evidence and the accuracy of criminal justice outcomes. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| PSY | 545 | Advanced Legal Psychology | Surveys psychological theory and research as applied to the cognitions, feelings and behavior of individuals in the legal system. Explores the implications of several subfields of psychology (e.g., social, cognitive, clinical) for legal settings, such as police departments, courtrooms, jury rooms. Provides foundation for those who are considering a career in forensic psychology, law, social work, criminal justice and should also be interesting to those who want to know more about the social and psychological issues at play in the legal system. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 546 | Advanced Forensic Psychology | Advanced overview of the clinical practice of forensic psychology: the assessment and treatment of people who interact with the legal system. Focuses on the ways in which psychologists do clinical work (assessment and treatment) to help courts make informed decisions about cases. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 547 | Advanced Correctional Psychology | Principles of correctional psychology, including psychologists' roles in prisons and jails, the unique challenges of working in these settings and with incarcerated populations, establishing successful relationships with correctional staff and inmates. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 549 | Capstone in Forensic Psychology | Culminating experience for students in the Master of Science in Forensic Psychology program. Students review and synthesize current literature in the field and make actionable research and policy recommendations through written exams. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): Forensic Psychology MS student |
| PSY | 550 | Advanced Social Psychology | Theory and research concerning interpersonal perception, decision making, attitude formation and change, group processes, social motivation, and interaction processes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 551 | Advanced Social Psychology | Continuation of PSY 550. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 553 | Capstone in General Psychology | Culminating experience for online students only in the Master of Science in Psychology program. Students review and synthesize current literature in the field and make actionable research and policy recommendations through written exams. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Psychology MS student |
| PSY | 554 | Item Response Theory | A collection of measurement models based on item response theory (IRT). The models express the probabilities of responses to test or questionnaire items as a function of latent respondent characteristics and item properties. IRT models form the basis for measurement in standardized educational testing, but generally are also now used in clinical, social and personality measurement in psychology, medicine and the social sciences. Assumptions underlying IRT models, methods of parameter estimation and fit evaluation. Also covers important applications of the models in computerized adaptive testing, the detection of measurement bias and multidimensional IRT. Uses several software tools useful in IRT modeling. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 534; Credit is allowed for only PSY 554 or 591 (Item Response Theory) |
| PSY | 555 | Experimental and Quasi-Experimental Designs for Research | Reviews research techniques. Analyzes lab and field research; applications to specific topics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 560 | Advances in Theoretical Psychology | Covers new empirical and theoretical work in psychology with emphasis on its applicability. | N | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 562 | Advanced Human Factors | In-depth study of the issues, methods, and findings in industrial and organizational psychology. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PSY 562 or SMC 562 |
| PSY | 563 | Prevention Planning and Evaluation in Service Settings | Provides the foundational and theoretical knowledge necessary for prevention planning and evaluation in service settings. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 564 | Prevention Education, Communication and Service Delivery | Provides the foundational and theoretical knowledge necessary for aspiring professionals planning to serve as a resource to community members and organizations regarding prevention education, the promotion of programs, services and activities as well as maintaining good public relations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 565 | Psychology of Mindfulness | Mindfulness refers to the concept that we can observe our experiences without judgment. Examines the origins of mindfulness and its increasing presence in psychological research. Students learn to evaluate the methodological quality and conclusions of studies investigating the effects of mindfulness on several health outcomes such as stress management, sleep quality and anxiety. Explores how mindfulness is being applied to these clinical concerns and how it supports greater resilience. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree-seeking graduate student; Credit is allowed for only PSY 494 (Psychology of Mindfulness) or PSY 565 or PSY 598 (Psychology of Mindfulness) |
| PSY | 567 | Prevention Organization and Community Change | Provides the foundational and theoretical knowledge necessary for affecting organizational and community change to promote and engage in evidence-based prevention practices. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| PSY | 568 | Stress and the Brain | Covers the fundamentals of stress and brain interactions. Presents a foundation from a historical perspective, then the basics of an organism's stress response, including the activation of the sympathetic nervous system and the hypothalamic-pituitary-adrenal axis. The stress response is highly conserved and allows organisms to respond and adapt to their environment. A highly effective and robust stress response facilitates adaptation and behavioral flexibility. However, a maladaptive stress response can produce detrimental outcomes. The ultimate goal is to understand the dynamic and reciprocal processes by which the stress response and brain interact to produce behavioral flexibility and resilience or detrimental outcomes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s) degree- or nondegree-seeking graduate student; Credit is allowed for either BIO 568 or PSY 568 |
| PSY | 569 | Professional Ethics, Growth and Responsibility in Prevention | Provides the foundational knowledge necessary for engaging and maintaining practices in prevention that are ethical, culturally responsive and adhere to the beneficence and non-maleficence principles. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 570 | Psychopharmacology | Provides a broad overview of numerous classes of both psychotherapeutic and addictive drugs (which are sometimes overlapping). Focuses on the classification, mechanism of action, pharmacokinetics/pharmacodynamics, and clinical efficacy of medications that are currently used for the treatment of various psychiatric disorders including mood disorders, anxiety, schizophrenia, ADHD and other conditions. The latter portion of the class focuses on therapeutic drugs that also have abuse potential, including some psychostimulants, opiates, sedative/hypnotics, cannabinoids, steroids and hallucinogens. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PSY 470 or PSY 570 or PSY 591 (Psychopharmacology) |
| PSY | 573 | Psychopathology | Theory and research relating to the contribution of psychological, social, physiological, and genetic factors to the development and persistence of abnormal behavior. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 574 | Psychotherapy | Detailed survey of the theoretical and empirical literature relating to verbal psychotherapy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 576 | Dynamical Systems in Psychology | Analyzes patterns of behavior change in psychological systems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 577 | Advanced Developmental Psychology | Provides an advanced overview of development across the lifespan. Through a critical examination of theories and research, explores historical and contemporary issues of development from prenatal development to death and dying in old age. Course materials are designed to help deepen understanding of the nature and needs of individuals within varying societal and cultural contexts. Discusses typical as well as atypical developmental trajectories and associated outcomes. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree-seeking graduate student; Credit is allowed for only PSY 577 or PSY 598 (Advanced Developmental Psychology) |
| PSY | 578 | Developmental Psychopathology | Covers major theories and research related to the development of psychological disorders of childhood and adolescence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 579 | Cross-Cultural Psychology | Enables students to gain familiarity with findings, theories and research methods and challenges within cross-cultural psychology. Also explores the use of social psychological science in understanding interpersonal behavior in various cultural contexts. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree-seeking graduate student; Credit is allowed for only PSY 498 (Cross-Culture Psychology) or PSY 579 or PSY 598 (Cross-Culture Psychology) |
| PSY | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 585 | Advanced Positive Psychology | The field of positive psychology has exploded over the last two decades as researchers have discovered the power of positive psychology to reframe our perspectives on negative life events and transform lives. Examines the evolution of the field from concepts of hope and resilience to concepts of positive pessimism and post-traumatic growth. Critically analyzes research on positive psychology interventions in an effort to differentiate solid discoveries from the "hype" that has invaded the popular literature. In addition, students apply several interventions to their own lives in an effort to deepen understanding of positive psychology through enactment and self-reflection. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree-seeking graduate student; Credit is allowed for only PSY 494 (Advanced Positive Psychology) or PSY 585 or PSY 598 (Advanced Positive Psychology) |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| PSY | 586 | Emotion | Focuses on (1) defining emotion and emotion regulation; (2) considering sociocultural and biological perspectives on emotion; (3) applying an understanding of emotional processes to relationship contexts (e.g., couples and families) and clinical contexts; and (4) learning about cutting-edge topics in emotion research, as driven largely by student interests. Encourages students to think critically about emotion and emotion research. Students achieve these objectives through assigned readings, written assignments and active participation in discussions. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree-seeking graduate student; Credit is allowed for only PSY 586 or PSY 598 (Emotion) |
| PSY | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | Department of Psychology | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 600 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 601 | Addiction and Substance Abuse: Assessment and Diagnosis | Discusses scientifically informed approaches to assessment. Reviews research-based practical strategies for assessing the clinical symptoms, treatment needs and clinical outcomes of individuals who have problems with substance use. Students examine and explore how sociocultural views of substance use relate to patterns of use, and impacts individuals with substance use disorders, and their families. Uses a biopsychosocial approach to discuss the processes involved in addictive behaviors. Addresses how to weave assessment through the entire process of care, from initial screening, through treatment, to relapse prevention. Examines various screeners and assessments, and diagnostic interviews used to detect substance use disorders, along with the strengths and limitation of each. Also reviews how to communicate findings of assessments and diagnoses to individuals, parents and legal entities. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--------------------------|-------|-----------------|--|
| PSY | 602 | Comorbidity in Substance Use Related Problems | Reviews common co-occurring psychiatric, medical and legal problems with substance use related disorders. Discusses scientifically informed approaches to assessment and treatment. Examines and explores how mental illness in combination with chemical dependency and/or substance abuse plus other challenges, such as disabilities and legal problems, impacts individuals, families and society. Uses a biopsychosocial approach to explore and identify evidence-based practice and research in dual diagnoses. Addresses all of the DSM 5 major disorders, including mood, anxiety and psychotic disorders occurring with substance abuse. Examines various screeners and assessments used to detect the presence of and severity of co-occurring disorders. Students learn about the efficacy of psychopharmacology and psychosocial treatments in the treatment of dual diagnoses disorders. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 603 | Evidence-Based Interventions for Substance Use Related Problems | Provides a comprehensive review of the evidence-based psychosocial and pharmacological treatments for substance use related problems. Although the current evidence base for the effects of psychosocial interventions is sizable, subsequent steps in the process of bringing a psychosocial intervention into routine clinical care are less well defined. This course details the reasons for the gap between what is known to be effective and current practice and offers recommendations for how best to address this gap by applying a framework that can be used to establish standards for psychosocial interventions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 604 | Multicultural Issues Related to Substance Use Related Problems | Cultural competence refers to an ability to interact effectively and respectfully with people of different cultural and socioeconomic backgrounds. Developing cultural competence results in an ability to understand, communicate with and effectively interact with people across cultures. Within the substance use field, programs with culturally responsive policies, assessments and treatment practices have been associated with higher retention of minorities in substance use treatment. Reviews the historical and cultural context of the most prominent cultures in the state of Arizona such as Hispanic Communities, Native Americans, African Americans, Asians and Pacific Islanders. Also reviews the historical and cultural context across sex, gender and sexual orientation as it relates to substance use. Spends the majority of the course time discussing the development of culture-centric approaches in practice, barriers to treatment and integrating diversity into treatment. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 605 | Group Therapy for Substance Use-Related Problems | Provides a comprehensive review of group dynamics and processes as they relate to addictions and substance use disorders. Reviews theories, research and evidence-based treatment interventions related to group therapy for addictions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 606 | Case Management for Substance Use Related Problems | Successful treatment of substance use disorders requires a comprehensive approach in order to be effective. Case management provides support for clients throughout the treatment process by assessing needs and then arranging, coordinating, monitoring, evaluating and advocating for a package of multiple services to meet the specific client's complex needs. Reviews the principles, knowledge, skills and attitudes necessary to provide evidence-based case management services. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): Addiction Psychology MS student |
| PSY | 607 | Family and Adolescent Treatment for Substance Use Related Problems | Surveys topics of treatment modalities, interventions, psychoeducation, crisis management, trauma-informed care and continuing care for families and adolescents. Covers empirically validated and evidence-based treatments. Students learn to implement interventions based on the assessment and guided by the treatment plan. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): Addiction Psychology MS student |
| PSY | 608 | Supervision of Addictions Counselors | Supervision provides a bridge between the classroom and the clinic, and it is necessary to improve client care, develop the professionalism of clinical personnel, and impart and maintain ethical standards in the field. Provides an overview of the fundamentals, principles, models and methods of clinical supervision. Examines the roles, functions, skills and competencies of clinical supervisors with consideration for the unique aspects of supervising addiction counselors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): Addiction Psychology MS student |
| PSY | 678 | Preventive Psychosocial Interventions that Work | Provides the foundational knowledge necessary for identifying evidence-based protocols. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|---------------------------------------|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| PSY | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OP3 | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OP3 | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | Department of Psychology | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | Department of Psychology | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PTX | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-3 | | |
| PTX | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | |
| PTX | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | |
| PTX | 301 | Basics of Pharmacology and Toxicology | Human pharmacology and toxicology focusing on mechanisms of drug action, clearance systems and dose response. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better; CHM 234 with C or better OR Visiting University Student |
| PTX | 325 | Physiological Psychology | Relationships of physiological processes to behavior. Emphasizes nervous system functioning. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): PSY 290 with C or better or two of the following courses with C or better: BIO 181 (or 188), 182 (or 187), 201, 202; Credit is allowed for only LSC 325 or PSY 325 or PTX 325 OR Visiting University Student |
| PTX | 369 | Biology of Human Sexuality | Multilevel perspective on human sexuality and reproduction. Integrates psychological with evolutionary, physiological and neuroscientific approaches. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): PSY 101 with C or better; one semester of biology; Credit is allowed for only LSC 369 or PSY 369 or PTX 369 OR Visiting University Student |
| PTX | 386 | STEAM Service Learning | Guided process in which students deepen their understanding of their STEAM content area through knowledge-based problem solving that provides a service to others in the community. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ACO 386 or ENV 386 or FOR 386 or LSC 386 or PTX 386 or LSC 494 (Service Learning in the Life Sciences) |
| PTX | 388 | STEM Research Fundamentals | Teaches research skills in the natural sciences. Topics covered include the basic research techniques of the study organism and system, experimental design, literature searches, statistical analysis and preparation of scientific papers and posters. | N | LEL | Y | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 320, BIO 182, or MAT 272 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only ENV 388 or FOR 388 or LSC 388 or PLB 388 or PTX 388 OR Visiting University Student |
| PTX | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | Prerequisite(s): minimum 45 hours |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|--|
| PTX | 401 | Forensic Toxicology | Focuses on toxicology as it pertains to forensic science. Topics include: the history of toxicology; the pharmacodynamics and pharmacokinetics of drugs and alcohol in the human body; as well as the legal applications of toxicology. Also discusses ethics, quality control and quality assurance, and courtroom testimony (as they relate to forensic toxicology). May address other topics such as environmental toxicology, poisons, and current topics related to forensic toxicology. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Pre- or corequisite(s): BIO 305 or FOR 286 with C or better if completed OR BIO 353 with C or better if completed; LSC 347 with C or better if completed; Credit is allowed for only FOR 401 or PTX 401 OR Visiting University Student |
| PTX | 404 | Forensic Toxicology Laboratory | Focuses on best practices and contemporary protocols and practices used by forensic toxicology labs. Offers topics and exercises dealing with drugs of abuse including alcohol, prescription medications, over the counter medications, and other substances which may be found in the body by the forensic toxicologist. | N | LAB | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Pre- or corequisite(s): BIO 305 or FOR 286 with C or better if completed; FOR 401 with C or better if completed; Credit is allowed for only FOR 404 or PTX 404 OR Visiting University Student |
| PTX | 432 | Fundamentals of Pharmacology | Aspects of pharmacology using an integrated approach to familiarize students with natural and synthetic therapeutic agents used in medicine. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): BCH 361, BCH 371, or BIO 353 with C or better; BIO 340 or LSC 347 with C or better; CHM 231 or 234 with C or better; Credit is allowed for only LSC 432 or PTX 432 OR Visiting University Student |
| PTX | 450 | Pharmacology and Toxicology Laboratory | Introduces methods for determination of toxicological effects. Students learn to evaluate analytical techniques to determine the cytotoxic and genotoxic effects of chemicals. In silico methods will be used to calculate the effective dose (ED50) and lethal dose (LD50) of chemicals, and the roles of small animal models in pharmaceutical research will be introduced. | N | LAB | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Prerequisite(s): BCH 372 or BIO 354 with C or better; Pre- or corequisite(s): FOR 475, LSC 432, LSC 475, PTX 432, or PTX 475 with C or better if completed OR Visiting University Student |
| PTX | 475 | Principles of Toxicology | Presents the fundamental principles of toxicology and its application to both human and environmental situations. Starts with the means of defining and quantifying toxic effects through dose response curves (e.g. LD50, EC50, LOEL, NOEL). Then focuses on absorption pathways for toxicants as well as the degradation metabolism pathways for toxicants. Finally focuses on the mechanism of toxic action for common poisons and environmental pollutants. Emphasizes toxicants that students are likely to encounter in forensics and environmental fields. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): BCH 361 or 371 with C or better; Credit is allowed for only FOR 475 or LSC 475 or PTX 475 |
| PTX | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | YGB | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): minimum 45 hours |
| PTX | 486 | Peer Mentoring in STEM | Advanced students learn and apply mentoring skills in science classes or teaching labs. | Y | SEM | Y | YGB | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ACO 486 or BIO 486 or LSC 486 or MAT 486 or PTX 486 or STP 486 OR Visiting University Student |
| PTX | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-6 | | Prerequisite(s): Barrett Honors student; minimum 45 hours |
| PTX | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better; minimum 45 hours |
| PTX | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PTX | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-6 | | Prerequisite(s): Barrett Honors student; minimum 45 hours |
| PTX | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-7 | | Prerequisite(s): minimum 45 hours |
| PTX | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | YGB | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-3 | | Prerequisite(s): minimum 45 hours |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| PTX | 565 | Laboratory Leadership, Policy and Practice | Focuses on essential laboratory management functions, knowledge and skills required to successfully function as a laboratory manager and/or senior-level scientist in clinical, academic, research and applied science laboratories (e.g., forensic science laboratories). Topics include quality assurance and quality control; laboratory accreditation and audits; standards for specific accrediting bodies including but not limited to CLIA, CAP, ASCLD/LAB, OSHA; documentation and sample accessioning; laboratory safety and chemical hazard programs; validation studies and protocol development; certification of individual scientists; and overall laboratory management "best practices." | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only FOR 565 or LSC 565 or PTX 565 |
| PUP | 190 | Sustainable Cities | Introduces technological, social, and cultural principles and innovations for cities under the notion of sustainability and sustainable development within the global, regional, and local contexts. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | (HU or SB) & G | Credit is allowed for only PUP 190 or SOS 111 OR Visiting University Student |
| PUP | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-3 | | Pre-requisites: Freshman standing; Maximum 25 hours |
| PUP | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| PUP | 200 | Cities in Cinema | Environmental, aesthetic, social, economic, political cultural, and other factors influencing global cities seen through films from around the world. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | HU & H & G | |
| PUP | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| PUP | 301 | Introduction to Urban Planning | Theoretical and practical aspects of city planning. Interrelationships among physical planning, environment, government, and society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| PUP | 343 | Latinas/os and the Environment | Examines the nexus among race/ethnicity, migration, class and the built and natural environment. Explores the proposition that Latina/o and other ethnic minorities and socioeconomically disadvantaged populations bear a disproportionate burden of environmental challenges and its consequences for equality, health and quality of life. Key topics include environmental racism, vulnerability and resilience, climate change, community organizing, and mobilization. Pays considerable attention to community-based efforts to deal with environmental problems affecting the Latina/o population in the U.S. Southwest. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): ENG 101 or 105 or 107 with C or better OR minimum 24 hours; Credit is allowed for only ASB 343 or PUP 343 or SOS 343 or TCL 343 or ASB/PUP/SOS/TCL 394 (Latinos and the Environment) |
| PUP | 360 | Urban Geography | External spatial relations of cities, internal city structure, and spatial aspects of urban problems in various parts of the world, particularly in the United States. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only GCU 361 or PUP 360 OR Visiting University Student |
| PUP | 361 | Planning Workshop | Basic site planning and design techniques. Collection and analysis of information and basic planning research. Report writing and public presentation skills. | N | PRA | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 4 | | Prerequisite(s): PUP 301 with C or better; Minimum 45 hours |
| PUP | 362 | Journey Stories: People and Place in Motion | Explores journeys, storytelling and geographies--real and imagined. Draws on novels, novellas, short stories, film and video in illuminating stories and storytelling as transformative of self, place and culture in human and more-than-human worlds. Enjoins journey stories through the trilogy movement, place and identity; signature themes in cultural geography that resonate across the arts, humanities and social sciences. Students respond to artfully rendered journeys in personal ways via word, image and sound, creating their own journeys en route. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | HU | Prerequisite(s): minimum 45 hours; Credit is allowed for only GCU 362 or PUP 362 or PUP 394 (Journey Stories: People & Place in Motion) OR Visiting University Student |
| PUP | 363 | History of Planning | Historical overview of western urban and regional planning and planning theory, focusing on the 19th and 20th centuries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): PUP 301 with C or better OR Visiting University Student |
| PUP | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| PUP | 410 | Public Participation in Planning | Theory and practice of public participation in planning. Examines and critiques participation techniques and roles of planners. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): PUP 301 with C or better OR Visiting University Student |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| PUP | 411 | Environment, Justice and Cities | Concepts of environmental, social and ecological justice as they relate in particular to the urban realm. Examines urban impacts on environmental systems, and against this backdrop applies theories of justice to critically analyze the social distribution of environmental benefits and burdens embedded in urban space. Examines the way in which urban space is produced; how rights to that space vary; and how environmental, economic and social inequalities shape urban justice issues. Examines cities in the developed and developing world, as well as the environmental impacts on the regions providing resources and receiving urban waste. Also discusses justice implications for future generations and nonhuman life. Emphasizes the role urban planners can play in identifying and mitigating justice issues in the urban environment. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only PUP 411 or PUP 494 (Environment, Justice & Cities) or PUP 598 (Environment, Justice & Cities) OR Visiting University Student |
| PUP | 412 | History of the City | The city from its ancient origins to the present day. Emphasizes European and American cities during the last five centuries. Requires advanced critical thinking and evaluative skills appropriate to students at the junior or senior level as analytical essays and an in-depth research paper are required in addition to regular tests and quizzes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | (L or HU) & H | Prerequisite(s): ENG 101, 105, or 107 with C or better; PUP 301 with C or better |
| PUP | 420 | Theory of Urban Design | Analyzes the visual and cultural aspects of urban design. Theories and techniques applied to selected study models. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; PUP 301 with C or better OR Visiting University Student |
| PUP | 424 | Planning Methods | Methods for urban planning research. Emphasizes research design, quantitative and qualitative methods, survey research, and data analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 4 | | Prerequisite(s): PUP 301 with C or better OR Visiting University Student |
| PUP | 425 | Urban Housing Issues | Nature, dimensions, and problems of urban housing, government policy environment, and underlying economics of the housing market. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB | Prerequisite(s): PUP 301 with C or better; Credit is allowed for only PUP 425 or PUP 525 |
| PUP | 430 | Transportation Planning and the Environment | Overview of transportation planning from the perspective of land use planning, economic development, environmental planning, and social needs. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): PUP 301 with C or better OR Visiting University Student |
| PUP | 432 | Planning and Development Control Law | Case studies on police power, eminent domain, zoning, subdivision controls, exclusion, preservation, urban redevelopment, and aesthetic and design regulation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): PUP 301 with C or better OR Visiting University Student |
| PUP | 434 | Economic Development Planning | Provides a broad overview of urban economic development planning in the U.S. This overview includes the role and goals of economic development planning in today's global information economy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; PUP 301 with C or better OR Visiting University Student |
| PUP | 436 | City Structure and Planning | Political structure and organization of government as it relates to planning. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; PUP 301 with C or better OR Visiting University Student |
| PUP | 442 | Environmental Planning | Environmental planning problems, including floodplains, water quality and quantity, solid and hazardous waste, air quality, landslides, and noise. | N | PRA | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): PUP 301 with C or better OR Visiting University Student |
| PUP | 445 | Women and Environments | Examines the role women play in shaping the built environment; ways built/natural forms affect women's lives. Focuses on contemporary U.S. examples. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | C | Prerequisite(s): junior, senior, post-baccalaureate undergraduate student, degree- or nondegree-seeking graduate student, or post-baccalaureate graduate |
| PUP | 451 | Geodesign and Urban Planning | Geodesign is a design and planning method which tightly couples the creation of design proposal with impact simulations informed by geographic contexts, systems thinking and digital technology. Covers the fundamental theory, concepts and frameworks of geodesign. Students become familiar with the geodesign process by reviewing case studies including specific case study applications from University of New South Wales and Arizona State University. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): GIS 205 or PUP 301 with C or better; Credit is allowed for GIS 451 or GIS 551 or PUP 451 or PUP 551 or GIS/PUP 494 (Geodesign and Urban Planning) or GIS/PUP 598 (Geodesign and Urban Planning) OR Visiting University Student |
| PUP | 452 | Ethics and Theory in Planning | Ethics and theory of professional planning practice in urban and regional communities. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; PUP 301 with C or better OR Visiting University Student |
| PUP | 462 | Graphic Design for Planners | Covers a synthesis of graphic design concepts for communication of complex data as well as advanced report production and public presentation skills. | N | PRA | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): PUP 301 with C or better OR Visiting University Student |
| PUP | 465 | Sustainable Urbanism | Examines the history, practice and core ideas of "sustainable urbanism," including leading thinkers, tools and strategies up to the present day. Topics include codes, metrics, certifications, charters, the Sustainable Development Goals and the New Urban Agenda. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prereq(s) w/C or better: Sustainability major or in a sustainability concentration; SOS 110; SOS 111 or PUP 190; min 45 hours OR non-Sus major, non-sus conc; PUP 301; Credit is allowed for only PUP 465 or PUP 565 or SOS 465 OR Visiting University Student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| PUP | 481 | Fundamentals of Spatial Optimization | Covers the fundamentals of optimization for spatial analysis. Introduces math-based optimization methods, specifically linear programming, integer programming, and branch and bound. Provides the basics for use and application of GIScience and spatial analysis methods for suitability analysis and network analysis. Objectives include: reviewing basics of linear algebra; formulating and solving optimization problems using linear and integer programming; applying raster and vector GIS methods to site suitability analysis, shortest path, and service area problems; and integrating GIS into problem formulation and result visualization. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): GIS 205 or 211; MAT 170, 270, 271, or 272 with C or better; Credit is allowed for only GIS 461 or GIS 561 or PUP 481 or PUP 581 OR Visiting University Student |
| PUP | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Pre-requisites: Urban Planning undergraduate student |
| PUP | 485 | International Field Studies | Organized field study, culture and language in specified international locations. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | G | Pre-requisite: Junior standing; Credit is allowed for only GCU 485 or GPH 485 or LAP 485 or POR 485 or PUP 485 or 585 |
| PUP | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-6 | | Prerequisite(s): Barrett Honors student |
| PUP | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| PUP | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | Prerequisite(s): junior, senior, postbaccalaureate undergraduate student, degree- or nondegree-seeking graduate student, or postbaccalaureate graduate OR Visiting University Student |
| PUP | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-7 | | |
| PUP | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-3 | | |
| PUP | 501 | Planning, History and Theory | Comprehensive review of planning profession within a political, governmental, multicultural, and gender framework. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) |
| PUP | 505 | GeoDesign Principles | Systematic exploration and evaluation of alternative complex human-environmental systems using spatially and temporally explicit theories, data and methods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 2 | | Prerequisite(s): GIS 601 and 602, or PUP 576; Credit is allowed for only GIS 505 or PUP 505 |
| PUP | 510 | Public Participation in Planning | Explores the history, theory and practice of public participation in urban planning, including the emergence and uses of participation in the planning field; how to manage different types of processes; and the relationship between participation and social equity. Starts by addressing foundational concepts, the political context of planning, and the history of public involvement in planning decision-making. Next, delves into the process of preparing a public participation plan and explores a range of commonly used information sharing and consensus building techniques. Covers how to effectively lead public meetings and analyze information gathered. The latter part of the class focuses on special topics pertaining to public participation. These include bottom up, community-led processes, overcoming communication issues, changing opportunities for participation in the information age, engaging diverse groups, and participatory processes in the Phoenix region. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; Credit is allowed for only PUP 510 or PUP 598 (Public Participation Planning) |
| PUP | 515 | International Planning and Development | Introduces globalization, international development, international planning practices and policies, urbanization and urban and regional planning in developing nations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 520 | Planning Practice, Ethics and Processes | Reviews past and current theoretical developments related to social change perspectives, the role and ethics of planners. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) |
| PUP | 525 | Urban Housing Issues | Nature, dimensions, and problems of urban housing, government policy environment, and underlying economics of the housing market. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only PUP 425 or 525 |
| PUP | 531 | Planning and Development Control Law | Case studies on police power, eminent domain, zoning, subdivision controls, exclusion, preservation, urban redevelopment, and aesthetic and design regulation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| PUP | 535 | Water Law and Planning | In-depth study of legal materials providing substantive knowledge of water law, water management issues, and land use planning options. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 542 | Environmental Planning | Environmental policies and their relationship to environmental planning practices. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PUP 442 or PUP 542 |
| PUP | 544 | Urban Land Use Planning | Theory and methods of urban land use planning, including the rational planning process, comprehensive, functional, and neighborhood plans. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 548 | Global Perspectives on Urban Resilience Planning | Theory and applications connecting sustainability sciences and practice to urban environmental planning. Sustainable urban development, restoration, and preservation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 550 | Transportation and the Environment | Examines transportation planning from the perspectives of land use planning, economic development, environmental planning, and social needs. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 551 | Geodesign and Urban Planning | Geodesign is a design and planning method which tightly couples the creation of design proposal with impact simulations informed by geographic contexts, systems thinking and digital technology. Covers the fundamental theory, concepts and frameworks of geodesign. Students become familiar with the geodesign process by reviewing case studies including specific case study applications from University of New South Wales and Arizona State University. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; Credit is allowed for GIS 451 or GIS 551 or PUP 451 or PUP 551 or GIS/PUP 494 (Geodesign and Urban Planning) or GIS/PUP 598 (Geodesign and Urban Planning) |
| PUP | 553 | Urban Infrastructure Anatomy and Sustainable Development | Understanding how built environment infrastructure systems interact with ecosystem services is critical for policies and decisions directing urban sustainability. Brings together students from several disciplines to develop a semester-long research project focused on a particular urban sustainability problem in Phoenix. During the semester, students are given background on how infrastructure systems work and are interdependent, and explore tools and methods for urban sustainability assessment with peers from several disciplines. As a class, students evaluate a particular urban sustainability problem for Phoenix, interact with local policy and decision makers in developing solutions, and present their findings at the end of the semester to the ASU community. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit for only CEE 507 or 598(Urban Infrastruct Anatomy/Sustainable Dev) or PUP553 or 598(Urban Infrastruct Anatomy/Sustainable Dev) or SOS547 or SOS598 (Urban Infrastr Anatomy & Sustain Dev) |
| PUP | 561 | Urban Design Workshop | Workshop course focuses on applying knowledge and skills in a "real world" setting, developing meaningful planning and design proposals for existing urban areas. | N | STO | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 562 | Tribal Community Planning | Study of tribal planning and best practice including underlying social, political and environmental issues. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 564 | Transportation Systems Professional Seminar | Provides a cross-disciplinary exploration of multimodal transportation systems, with particular emphasis on those issues affecting the state of Arizona. Designed for graduate students in the interdisciplinary Transportation Systems Certificate program (though open to all graduate students), the course offers a broad overview of key concepts; transportation modes (road, rail, air, transit, non-motorized); geographic settings (rural, urban, parks, tribal lands, international trade); and issues (economics, equity, planning, safety, finance, regulation, environment, public participation and alternative fuels). Features speakers from various fields and academic disciplines related to transportation, introducing a variety of perspectives, terminology and methods. Designed as a graduate-level seminar, emphasizes active participation by all students in group discussions based on required readings and information presented by guest lecturers and the instructor. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PUP 564 or PUP 591 (Transportation Systems Pro Sem) |
| PUP | 565 | Sustainable Urbanism | Examines the history, practice and core ideas of "sustainable urbanism," including leading thinkers, tools and strategies up to the present day. Topics include codes, metrics, certifications, charters, the Sustainable Development Goals and the New Urban Agenda. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PUP 465 or PUP 565 or SOS 465 |
| PUP | 571 | Planning Methods I | Theory, methods, and techniques of demographic and economic analysis utilized in urban planning. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 576 | GIS Workshop | GIS as a tool to address large, multifaceted problems. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| PUP | 577 | Communication and Visualization Tools in Planning | Covers graphic and verbal skills required to effectively communicate planning information and ideas. Emphasizes digital graphics and other computer-based tools and presentation formats, focusing on applying visual strategies and tools most often used by planners to make a persuasive argument. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 2 | | Prerequisite(s): degree- seeking or nondegree- seeking graduate student; PUP 570 and 571 with C or better |
| PUP | 579 | Planning Methods II | Covers key qualitative skills and techniques that planners require, including research design and the understanding of validity and reliability issues, case study research approaches, qualitative data collection strategies, and strategies for analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree- seeking graduate student; PUP 571 with C or better |
| PUP | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |
| PUP | 581 | Fundamentals of Spatial Optimization | Covers the fundamentals of optimization for spatial analysis. Introduces math-based optimization methods, specifically linear programming, integer programming, and branch and bound. Provides the basics for use and application of GIScience and spatial analysis methods for suitability analysis and network analysis. Objectives include: reviewing basics of linear algebra; formulating and solving optimization problems using linear and integer programming; applying raster and vector GIS methods to site suitability analysis, shortest path and service area problems; and integrating GIS into problem formulation and result visualization. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree- seeking graduate student; Credit is allowed for only GIS 461 or GIS 561 or PUP 481 or PUP 581 |
| PUP | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Pre-requisite: Urban/Environmntl Planning MUEP student |
| PUP | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree- seeking graduate student |
| PUP | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |
| PUP | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): Urban and Environmental Planning graduate student |
| PUP | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Pre-requisites: Urban and Environmental Planning graduate student |
| PUP | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | IND | Y | Z3 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): Urban and Environmental Planning graduate student |
| PUP | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| PUP | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Pre-requisites: Urban and Environmental Planning graduate student |
| PUP | 642 | Urban and Regional Economic Analysis | Land use and locational impact of economic activity and the urban real property market. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree- seeking graduate student |
| PUP | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |
| PUP | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |
| PUP | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|--------|-----------------|--|
| PUP | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |
| PUP | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |
| PUP | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |
| PUP | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | IND | Y | Z3 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | |
| PUP | 701 | Urban Planning Colloquium | Presents and discusses new research findings and methods in urban planning. | N | SEM | Y | YGB | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 710 | Current Planning Theory and Practice | Explores and critically evaluates planning theories and approaches with the objective of articulating new ideas for planning research. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 724 | Planning Methods for Doctoral Students | Tools useful for urban planning research; emphasis on research design and survey methods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) |
| PUP | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| QBA | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Economics | 1-12 | | Pre-requisites: Graduate Students only (degree and non-degree seeking) |
| RAS | 216 | Engineering Electrical Fundamentals | Introduces modeling of electrical systems using mathematical and scientific principles. Covers electrical circuit analysis techniques including Kirchhoff's and Ohm's laws, series and parallel circuit elements, equivalent elements and circuits, and nodal analysis. These techniques are developed for DC, AC, and transient conditions. Also introduces the basic structure of a modern electronic measurement system and relates this structure to measurement accuracy, precision and resolution. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): MAT 265 or 270 with C or better; Credit is allowed for only EGR 216 or RAS 216 OR Visiting University Student |
| RAS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 0.25-4 | | |
| RAS | 304 | Embedded Systems Design Project I | Design, implement and debug an embedded electromechanical system through an in-depth design project. Develops professional and engineering skills in this project setting. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 202 with C or better; EGR 216 or RAS 216 with C or better; EGR 219 with C or better; Credit is allowed for only EGR 304 or RAS 304 OR Visiting University Student |
| RAS | 314 | Embedded Systems Design Project II | Applies design principles to conceptualize, implement and characterize an embedded electromechanical system in a project setting. Project emphasizes communication with project stakeholders; applying a human-centered design approach in the context of an embedded system; critical thinking in developing system specifications and evaluating a prototype relative to these specifications; and increasing technical competence. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 304 or RAS 304 with C or better; Credit is allowed for only EGR 314 or RAS 314 OR Visiting University Student |
| RAS | 401 | Professional Design Project I | First half of a comprehensive project experience based on cumulative knowledge and skills gained in earlier coursework. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | L | Prerequisite(s): EGR 313, EGR 314, EGR 315, EGR 316, MFG 318, or RAS 314 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only EGR 401 or RAS 401 |

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|---------|------------|---------------------------------|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|--------|-----------------|--|
| RAS | 402 | Professional Design Project II | Second half of a comprehensive project experience based on cumulative knowledge and skills gained in earlier course work. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 401 or RAS 401 with C or better taken within one previous term; Credit is allowed for only EGR 402 or RAS 402 |
| RAS | 433 | Transforms and Systems Modeling | State-space and transform-domain modeling and analysis of electrical and electromechanical systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 216 or RAS 216 with C or better; EGR 455 or RAS 455 with C or better; MAT 274 or 275 with C or better; Pre- or corequisite(s): MAT 342 or 343; Credit is allowed for only EGR 433 or RAS 433 OR Visiting University Student |
| RAS | 455 | Robotic Systems I | Analysis and design of robotic systems focusing on kinematics, dynamics, coordinate transformations and modeling. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 217 with C or better; EGR 219 with C or better; Credit is allowed for only EGR 455 or EGR 545 or EGR 598 (Robotic Systems I) or RAS 455 or RAS 545 OR Visiting University Student |
| RAS | 456 | Robotic Systems II | Design of robotic systems focusing on dynamics, modeling and controlling a robot. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 455 or RAS 455 with C or better; Credit is allowed for only EGR 456 or EGR 546 or EGR 598 (Robotics Systems II) or RAS 456 or RAS 546 OR Visiting University Student |
| RAS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-12 | | |
| RAS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 0.25-4 | | |
| RAS | 545 | Robotic Systems I | Analysis and design of robotic systems focusing on kinematics, dynamics, coordinate transformations and modeling. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EGR 455 or EGR 545 or EGR 598 (Robotic Systems I) or RAS 455 or RAS 545 |
| RAS | 546 | Robotic Systems II | Design of robotic systems focusing on dynamics, modeling and controlling a robot. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | |
| RAS | 550 | Mechatronic Systems | Presents a clear and comprehensive approach to the area of mechatronic systems, including the sensors, actuators, microcontrollers and applications which are found at the heart of everyday products and devices. Provides a systems-level approach to integrating these elements into a functioning device. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only EGR 550 or RAS 550 |
| RAS | 555 | Mechatronics Device Innovation | Project-based course on the design of mechatronic devices to address needs identified by hospital-based clinicians. Students work in teams with physicians to develop a novel mechatronic device while in parallel an entrepreneurial mindset is fostered. The design process includes: needs finding; problem identification; prior art searches; strategy and concept generation; estimation; sketching; sketch modeling; machine elements, ergonomics and prototyping. Emphasizes the development of creative designs that is motivated by analytical models. Also includes lectures on specific aspects pertinent to novel devices including intellectual property, marketing, licensing and startups and lean launchpad for startups, provided by Skysong Innovations. Significant communication component as students present ideas in class and at an industry forum. Students also write a publication quality final paper, which they are encouraged to submit to a conference or journal. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EGR 494 (Mechatronics Device Innovation) or EGR 555 or EGR 598 (Mechatronics Device Innovation) or RAS 555 |
| RAS | 556 | System Control and Optimization | Topics include state-space models, Lyapunov stability, controllability and observability, optimization and optimal control, and nonlinear systems and control. Includes both theories and real-world engineering examples/demos, and students apply the advanced control system approaches to self-selected course projects. Prior knowledge in classical linear control theory is necessary to be successful in this course. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EGR 556 or EGR 598 (System Control & Optimization) or MAE 506 or RAS 556 |

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|---------|----------------|------------------------|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| RAS | 557 | Foldable Robotics | Organized around new types of robots being developed in research labs and industry across the country, foldable robots are designed and built using layered, flat sheets of a wide variety of materials and folded up to create both form and motion. Design of these devices begins with initial prototypes and proceeds through implementation and optimization, with a focus on application-specific projects that seek to solve problems of cost, parallelism, complexity and time using a relatively fast and easy prototyping method. Students delve deeper into the analytical problems associated with foldable mechanisms in topics such as design, kinematics, manufacturing, dynamics, simulation, optimization and stiffness analysis. Familiarity with programming fundamentals, scripted languages like Python or Matlab, linear algebra, differential equations, calculus, trigonometry and vector math is strongly suggested. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): Ira A. Fulton graduate student; Credit is allowed for only EGR 494 (Foldable Robotics) or EGR 557 or EGR 598 (Foldable Robotics) or RAS 557 |
| RAS | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RAS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RAS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RAS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RAS | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RAS | 599 | Thesis | Supervised research focused on preparation of a thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RAS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RAS | 799 | Dissertation | Supervised research focused on preparation of a dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RCR | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RCR | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RCR | 691 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RCR | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RCR | 791 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RCR | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RCR | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRO | Y | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): Edson College graduate student |
| RCR | 799 | Dissertation | Supervised research focused on preparation of a dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|----------------------------------|---|-------|-----------------|---|
| RDG | 291 | Children's Literature | Focuses on the reading, comprehension, interpretation and analysis of traditional, classic and contemporary children's literature. Provides an overview of the historical development of these texts. Explores the aesthetics of children's literature as a type of literature and its value as an art form. Deepens students' awareness of the role that children's literature plays in the social and cultural context in a multicultural American society. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | HU | |
| RDG | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| RDG | 322 | Language Literacy 1 in Elementary Schools | Theoretical knowledge and pedagogical skills for implementing a high-quality reading program. Course objectives and topics are aligned to standards for reading and research from the International Reading Association (IRA), Arizona College and Career Ready Standards (ACCRS), Interstate Teacher Assessment and Support Consortium (InTASC) standards, and the National Reading Panel Report (2000). Focuses on emergent literacy, phonemic awareness, phonics, fluency, vocabulary and comprehension. Presents strategies and assessments to support students of a variety of ability levels and cultural backgrounds with a specific focus on the struggling readers and English language learners. For education majors only. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program; Credit is allowed for only RDG 322 or SPE 325 |
| RDG | 323 | Literacy Processes in Content Areas | Principles and practices for planning subject matter units of instruction that explicitly address learning with texts across academic disciplines. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program OR Visiting University Student |
| RDG | 413 | Literacy Methods of Instruction and Assessment for Diverse Learners | The second of two required literacy courses for teacher certification. Focuses on instructional practices, assessment and interventions based upon scientifically-researched teaching methods, including systematic, explicit instruction in the essential components of literacy, multi-tiered systems of support and assessment-driven instruction. Content includes information and training on dyslexia and other types of reading challenges students may face when learning to read. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student; TEL 331; minimum 39 hours |
| RDG | 505 | Language and Literacy Across the Lifespan | Provides a foundational understanding of language and literacy development over the course of the lifespan. Addresses early literacy skills, decoding, comprehension, and affective factors of literacy. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate student |
| RDG | 507 | Content Area Literacy | Theory, teaching strategies, and practical application concerning learning from text across subject matter disciplines. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RDG | 508 | Essential Elements of Elementary Content Area Literacy (K-8) | Presents theory, rationale, and teaching strategies concerning learning from oral, print, and electronic texts across subject-matter disciplines. Emphasizes practical application of content area literacy principles. Familiarizes participants with the literate lives of today's youth, facilitate participants' inquiry into strategies to motivate students in content learning, and provide strategies to improve students' comprehension and application of content material. Readings, online inquiries, and assignments focus on application of course content. Emphasizes implications of recent research and theory in content literacy and adolescent literacy. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RDG | 510 | Literacies, Digital Technologies and Learning | Explores how literacies are changing as a result of emerging digital media and technologies, and the implications of these cultural and technological shifts for literacy teaching and learning. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RDG | 512 | Theoretical Foundations in Language and Literacy | Introduces theoretical lenses useful in understanding issues in language and literacy education and research. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RDG | 515 | Multimodal Literature for Children and Adolescents | Designed for classroom teachers, librarians and other interested literacy educators as part of the Masters of Arts degree in Literacy Education. Focuses on the analysis of children's, young adult and multimodal literature; understanding the modes of representation and communication used in these texts; and the various sociocultural roles these texts play in contemporary society. Provides participants with the opportunity to read, enjoy, analyze and discuss a wide variety of children's and young adult literature. Also explores numerous authors, illustrators, genres, formats and themes of children's and young adult literature. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): RDG 505; RDG 510; RDG 512 |
| RDG | 518 | Supporting Language and Literacy for Diverse Learners | Provides a foundation of theory and research related to literacy instruction for culturally and linguistically diverse learners. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): RDG 505; RDG 510; RDG 512 |

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| RDG | 519 | Writing Throughout the Lifespan | This language and literacy course provides a foundational understanding of writing development, instruction and assessment. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): RDG 505; RDG 510; RDG 512 |
| RDG | 520 | Essential Elements of Elementary Literacy (K-8) | Intended for practicing teachers, focuses on the development of a comprehensive approach to Reading and Writing Instruction K-8. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RDG | 530 | Literacy Methods, Assessment and Reflection for Children (Pre-K to Grade 5) | Literacy methods and assessment course with a nine-week practicum experience utilizing assessment and instructional techniques for individualized reading instruction for children in pre-kindergarten through fifth grade. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 6 | | Prerequisite(s): RDG 505; RDG 510; RDG 512 |
| RDG | 531 | Language and Literacy I | Focuses on the theoretical knowledge and pedagogical skills necessary to equip future teachers to plan and implement high-quality reading and writing instruction in a classroom setting. Course objectives and topics are aligned to standards for reading and research from the International Reading Association (IRA), Arizona College and Career Ready Standards (ACCRS), Interstate Teacher Assessment and Support Consortium (InTASC) standards, and the National Reading Panel Report (2000). Focuses on reading readiness, language development, phonemic awareness, phonics, fluency, vocabulary and comprehension. Presents strategies and assessments to support struggling readers as well as a variety of ability levels and cultural and linguistic backgrounds to include English language learners. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): Teachers College graduate student; Credit is allowed for only RDG 531 or SPE 538 |
| RDG | 532 | Language and Literacy II | Builds on the theoretical knowledge and pedagogical skills presented in the previous course. Uses diagnostic assessments in the planning and implementation of intervention literacy lessons for struggling readers/writers in a classroom setting as part of the course case study assignment. Includes differentiated instructional and assessment strategies to address the needs of diverse learners to include English language learners. Also includes an emphasis on writing and composition to ensure future teachers have the knowledge necessary to teach all forms of writing in the elementary classroom. Includes an overview of the historical development of children's literature and the criteria necessary for analyzing and selecting all genres of quality children's literature. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): Teachers College graduate student; Pre- or corequisite(s): RDG 531 |
| RDG | 540 | Literacy Methods, Assessment and Reflection for Adolescents and Adults (Grade 6-Adult) | Literacy methods and assessment course with a nine-week practicum experience utilizing assessment and instructional techniques for individualized reading instruction for adolescents (grade 6-12) and adults (age 16 and above not in K-12 setting). | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 6 | | Prerequisite(s): RDG 505; RDG 510; RDG 512 |
| RDG | 550 | Practicum Experiences in Elementary and Secondary Reading | Practicum experience utilizing assessment and instructional techniques for classroom settings. See RDG 557 for State of Arizona reading endorsement. | N | PRA | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RDG | 555 | Formal Measures of Literacy | Understanding the attributes of standardized tests and applying this information to analyze, select, and explore their use. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RDG | 556 | Assessment and Procedures in Elementary and Secondary Reading | Techniques for classroom and clinical reading/literacy assessment and instruction. Emphasizes continuous assessment. May be taken concurrently with RDG 550 or 557. Recommended for State of Arizona reading endorsement. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RDG | 563 | Children's Literature | Selects and uses children's literature and related nonprint media to support the elementary school curriculum. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| RDG | 572 | Literacy Teacher Leader | Provides a foundation in educational and instructional leadership that support continuous school literacy improvement. Also provides opportunities to apply these fundamentals by creating and conducting literacy workshops/professional development for a group of teachers or other literacy educators. Meets the leadership requirement for the AZ Reading Endorsement and serves as the capstone class for the Master of Arts in Curriculum and Instruction with a concentration in Language and Literacy. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Curriculum and Instruction (Literacy Education) MA student; Credit is allowed for only RDG 572 or RDG 598 (Literacy Teacher Leader) |
| RDG | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |

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| RDG | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 597 | Capstone | Provides a foundation in practitioner action research and literacy leadership with opportunities to apply these fundamentals by creating, conducting and researching literacy professional development for literacy educators and other community practitioners. Meets the leadership requirement for the AZ Reading Endorsement, addresses the International Literacy Association Standards for Literacy Professionals, and serves as the capstone class for the Master of Arts in Curriculum and Instruction with a concentration in Language and Literacy. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Literacy Education MA student |
| RDG | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 683 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |

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| RDG | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| REA | 380 | Real Estate Fundamentals | Real estate for the student/consumer with an emphasis on the applied aspects of each area of real estate specialization. Not open to Real Estate majors. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): minimum 2.00 GPA; minimum 56 hours OR nondegree-seeking student; minimum 2.00 GPA, OR degree- or nondegree-seeking graduate student OR Visiting University Student |
| REA | 401 | Real Estate Appraisal | Factors affecting the value of real estate. Theory and practice of appraising and preparation of the appraisal report. Appraisal techniques. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): FIN 300, 302, 303 or REA 380 with C or better; minimum 2.50 GPA; minimum 56 hours OR Visiting University Student |
| REA | 411 | Real Estate Law | Legal and ethical aspects of land ownerships, interests, transfer, finance development, and regulations of the real estate industry. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prereq(s): W.P. Carey BA or BS BUS mjr or non-BUS stdnt w/ min 56 hrs & min 2.50 gpa; FIN 300, 302, or 303 or REA 380 w/ C or better OR degree- or nondegree-seeking grad stdnt; Credit allowed for only LES 411 or REL 411 OR Visiting University Student |
| REA | 441 | Real Estate Land Development | Neighborhood and city growth. Municipal planning and zoning. Development of residential, commercial, industrial, and special purpose properties. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): W.P. Carey BA or BS Business major or non-business student with minimum 56 hours and minimum 2.50 GPA; FIN 300, 302, or 303 or REA 380 with C or better OR degree- or nondegree-seeking graduate student OR Visiting University Student |
| REA | 456 | Real Estate Investments | Analyzes investment decisions for various property types. Cash flow and rate of return analysis. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): FIN 300, 302, 303 or REA 380 with C or better; minimum 2.50 GPA; minimum 56 hours OR Visiting University Student |
| REA | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | GNA | W. P. Carey School of Business | Department of Finance | 1-12 | | |
| REA | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Finance | 1-4 | | Prerequisite(s): W. P. Carey BA or BS major OR non-Business major; minimum 56 hours; minimum 2.50 GPA OR undergraduate nondegree-seeking student; minimum 2.50 GPA OR degree- or nondegree-seeking graduate student OR Visiting University Student |
| REA | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Finance | 1-12 | | Pre-requisites: W.P. Carey degree seeking Graduate student |
| REA | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Finance | 1-12 | | |
| RED | 501 | Urban Economic and Real Estate Development Principles | Explores the basic principles of urban economics and their application to real estate decision making. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RED | 502 | Real Estate Valuation-Finance and Capital Markets | Addresses the concepts of valuation applied to real estate and teaches how to apply these principles. Intermediate- to advanced-level course in mortgage finance, and associated capital market innovations. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RED | 503 | Real Estate Market Analysis | Focuses on market analysis and market data gathering methods, means, and techniques necessary in identifying market opportunities and developing specific market strategies for successful real estate development. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RED | 504 | Real Estate Site Analysis, Master Planning and Design | Analyzes the physical characteristics of a property, including the site and physical area, legal, political, economic, and financial facts that impact the highest and best use of a property and what can be built upon the property. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RED | 505 | Land Use Law and Public Entitlement Process | Covers a basic understanding of the legal and practical zoning and governmental land entitlement process. Examines the legal history, structure, and implications of zoning, as well as the fundamentals of "real life" situations that occur in the entitlement and real estate development field. Provides a broad overview of this process from a legal and development viewpoint, but is not intended to be a comprehensive analysis of all entitlement issues. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RED | 506 | Real Estate Law for Developers | Covers the nature of property and the legal system as it relates to purchase agreements, title, surveys, declarations of covenants, defining easements, and licenses among other related topics. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate |

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| RED | 507 | Synthesis Project #1 Residential Development | Employs the students learning through application of developing a specific parcel of land. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate |
| RED | 508 | Real Estate Engineering and Construction | Explores the basic principles of engineering and construction of real estate development projects. Reviews construction technologies within the framework of architectural design and engineering as well as construction means, methods, and systems. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RED | 509 | Advanced Financial Analysis for Commercial Real Estate | Teaches more complex financial analysis of income-producing property, including various decision-making tools such as Monte Carlo, option pricing, assessing alternatives, and how to build these into financial models. Also teaches financial analysis of business structures to determine potential outcomes such as debt and equity structures, waterfalls, claw backs, and other business and ownership concepts. Emphasizes strategic alternatives, assessing risk and conversion events. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 2 | | Prerequisite(s): Real Estate Development MRED student |
| RED | 510 | Real Estate Development Business and Project Management | Teaches management of real estate development companies and process. Students learn the various aspects of project management, financial management and project accounting, lending relations and managing loans and pay applications as well as dispute resolution and strategic partnerships. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 2 | | Prerequisite(s): Real Estate Development MRED student |
| RED | 511 | Design of the Built Environment | Teaches the built environment and how that applies to creation of places, market positioning, capturing value and the importance of good design to the business of real estate. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 2 | | Pre-requisite: MRED student; Credit is allowed for only RED 511 or 691 (Real Estate Dev Project Mgmt) |
| RED | 512 | Real Estate Law for Developers | Teaches issues faced by developers such as various types of financing structures, including special districts, TIF and bond financing. Covers issues and process of raising capital and various forms of securing equity. Discusses private placement memorandums, limited liability companies, partnerships and public private partnerships. Students also learn about environmental law, income tax issues, negotiation, and alternative dispute resolution. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 2 | | Pre-requisite: MRED student; Credit is allowed for only RED 512 or 691 (Adv Real Estate Finance/Analys) |
| RED | 513 | Advanced Real Estate Engineering, Construction Management and Sustainable D 2 | Covers various construction delivery methods, construction project management and scheduling, construction contracts, mechanics and materialmans liens, and pay applications. Students also learn about sustainability and the built environment. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 2 | | Pre-requisite: MRED student; Credit is allowed for only RED 513 or 691 (Real Estate Dev. Project Mgmt) |
| RED | 514 | Synthesis Project #2 Income Property Development | Through application to a specific problem given by faculty, students work in teams to analyze and seek solutions to development of land for an income-producing property. Students investigate a specific parcel of land, performing due diligence, preparing a market and segmentation analysis, defining highest and best use(s), designing a solution, preparing residual land value analysis, defining a product offering, pricing points, building design, site planning and comparative valuation analysis. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): Real Estate Development MRED student |
| RED | 515 | Synthesis Project #3 Capstone Project Mixed-Use Property Development | Employs all that the students have learned through application to a specific problem given by faculty. Students work in a team to analyze and seek solutions to development of land for a complex, mixed-use project. Students investigate a specific parcel of land and are required to perform due diligence, prepare a market and segmentation analysis, define highest and best use(s), design a solution, prepare residual land value analysis, define a product offering, price points, building design, site planning and comparative valuation analysis. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 4 | | Pre-requisite: Master of Real Estate Development major; Credit is allowed for only RED 515 or 598 (Ret Analys; High Dens Mix Use) |
| RED | 516 | Real Estate Capital Markets | Covers capital markets on a macro level with an emphasis on real estate. Real estate is a capital-intensive business that necessitates investors and developers regularly securing significant amounts of debt and equity through capital markets. The real estate capital market consists of public, private, individuals and institutional investors that invest money, either directly or indirectly, into real estate. Explores sources of capital for the purchase, development and ownership of real property by evaluating the interaction of real estate space markets with the real estate capital markets. Students gain an understanding of the historic and current capital market participants of the public and private, debt and equity, commercial real estate capital markets. Also explores the use of capital in various real estate investment strategies and defines the major indices that measure public and private real estate investment returns over time. | N | LEL | N | Z1 | W. P. Carey School of Business | Department of Finance | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only RED 516 or RED 598 (Finance - Capital Markets) |

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| RED | 517 | Real Estate Financial Decision Making | Explores the risk, its meaning and measurement associated with real estate investment and development and how these are incorporated into real estate business decision making including capital market, valuation, market growth, operating, construction, leasing/sales, finance/leverage and tax risks. Explores how to apply these risks to financial analysis and decision making. Students learn the various typical risks incurred when buying, owning, operating, redeveloping and developing real estate and how to identify and incorporate known and unknown risks into real estate business decision making process. Covers the fundamentals of decision theory and various models of judgement used in real estate business including use of factors outside the parameters of the normal financial model. Introduces concepts such as real options analysis, trade-offs, opportunity costs, risk/return trade-offs, as well as various models used for risk measurement and assessment including the capital asset pricing and arbitrage pricing theory and tools option pricing models. | N | LEL | N | Z1 | W. P. Carey School of Business | Department of Finance | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only RED 517 or RED 598 (Real Estate Financial Decision Making) |
| RED | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | W. P. Carey School of Business | Department of Finance | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RED | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Finance | 1-4 | | |
| RED | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | W. P. Carey School of Business | Department of Finance | 1-12 | | |
| REL | 100 | Religions of the World | Introduces the history of religious traditions of the world, including Buddhism, Christianity, Hinduism, Islam, Judaism, and others. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Credit is allowed for only REL 100 or REL 200 OR Visiting University Student |
| REL | 101 | Religion, Culture and Public Life | Explores how religions are conditioned by cultural values and operate in the political sphere. | Y | LEC | Y | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | |
| REL | 107 | Religion and Globalization | Explores how different religions interact with the various processes of globalization, including how the world's major religions have been transformed by economic, political, cultural, and technological aspects of globalization. Topics include religious terrorism, human rights, religion, and gender. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Credit is allowed for only REL 107 or SGS 107 OR Visiting University Student |
| REL | 111 | Introduction to Asia | Offers a basic introduction to the geography, history, cultures, states, and societies of South and Southeast Asia as well as China, Japan, and Korea. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H & G | Credit is allowed for only HST 111 or REL 111 |
| REL | 133 | Elementary Biblical Hebrew | Offers an introduction to Biblical Hebrew, the language in which most of the books of the Hebrew Bible/Old Testament are written. Provides the basic tools to understand and translate Biblical Hebrew texts. Covers the alphabet, basic vocabulary, morphology and syntax. Emphasizes a linguistic, literary and historical approach to the biblical text. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G | Credit is allowed for only HEB 133 (HEB 131) or JST 133 (JST 131) or REL 133 (REL 131) |
| REL | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-3 | | Pre-requisites: Freshman standing; Maximum 25 hours |
| REL | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |
| REL | 200 | Exploring the World's Religions | Writing-intensive course introducing analytical skills necessary for understanding religious traditions. Beliefs, practices, and communities of several religious traditions of the world. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; maximum 75 hours; Credit is allowed for only REL 100 or REL 200 OR Visiting University Student |
| REL | 201 | Religion and the Modern World | Introduces the nature and role of religious beliefs and practices in shaping the lives of individuals and societies, with particular attention to the modern world. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| REL | 202 | Religion and Popular Culture | Explores various interectors between religion and the popular media, including music, news, advertising, the visual arts, literature, performance, and film. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & C | Credit is allowed for only FMS 202 or REL 202 OR Visiting University Student |
| REL | 203 | Saints and Sinners: Explorations in Sacred Biography | Comparison of the role of biography across religions to examine the process of categorizing people as saints or sinners. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | |
| REL | 205 | Life, Sex and Death | Ways that religions have understood birth, sexuality, death, and the passing of generations. Examples from traditions throughout the world. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | |
| REL | 207 | Ritual, Symbol, and Myth | Ritual, symbol, and myth as types of religious expression, with examples selected from the nonliterate religions of the world. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| REL | 210 | Introduction to Judaism | Beliefs, ceremonies, festivals, and institutions of Judaism emphasizing the contemporary era. Assumes no previous knowledge about Judaism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | Prerequisite(s): ENG 101 or 105 or 107 with C or better; Credit is allowed for only JST 210 or REL 210 |
| REL | 211 | Jews and Judaism in America | Chronological analysis of Jews and Judaism in American history and letters. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H & C | Credit is allowed for only HST 211 or JST 211 or REL 211 |
| REL | 225 | Africana Religious Studies | Introduces the history and development of African American and Black Diasporic religious traditions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & C | |
| REL | 230 | Introduction to Jewish Civilization | Overview of Jewish civilization from antiquity to the present. Answers the following questions: Who are the Jews? What do Jews believe? How did Jews interact with non-Jews? What was the lasting contribution of Jews to the world? In the attempt to answer these questions, provides the skills of being a good college student. Presents Judaism as an evolving civilization with an overarching distinctive culture but with a variety of subcultures and ethnic diversity. Presents the Jewish civilization through literature, films, music, and internet resources, with an overview of its complexity and diversity. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H & G | Credit is allowed for only HST, JST or REL 230 |
| REL | 233 | Intermediate Biblical Hebrew | Completes the study of Biblical Hebrew grammar. Prepares students to translate simple texts from Hebrew Bible and use critical editions of the biblical text. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G | Prerequisite(s): HEB 133 (HEB 131), JST 133 (JST 131), or REL 133 (REL 131) with C or better; Credit is allowed for only HEB 233 (HEB 132) or JST 233 (JST 132) or REL 233 (REL 132) OR Visiting University Student |
| REL | 240 | Introduction to Southeast Asia | Interdisciplinary introduction to the cultures, religions, political systems, geography, and history of Southeast Asia. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & G | Credit is allowed for only ASB 240 or GCU 240 or HST 240 or POS 240 or REL 240 or SGS 240 OR Visiting University Student |
| REL | 245 | Introduction to India and South Asia | Provides an introduction to the history and major contemporary political, economic, social, religious and cultural features of the South Asia region at large and of selected South Asian nations in particular. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H & G | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only HST 245, POS 245, REL 245, SGS 245 or SLC 245 |
| REL | 260 | Introduction to Islam | Examines Islamic beliefs, ceremonies, festivals, and institutions. Assumes no prior knowledge about Islam. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Credit is allowed for only HST 260 or REL 260 |
| REL | 270 | Introduction to Christianity | Beliefs, ceremonies, festivals, and institutions of Christianity, emphasizing the contemporary era. Assumes no previous knowledge about Christianity. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | |
| REL | 272 | Heretics, Saints and Emperors: Christianity in the Ancient World | Origins, development and expansion of Christianity; major themes and tensions from the New Testament world to the beginning of the Middle Ages. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only HST 272 or REL 272 (REL 372) OR Visiting University Student |
| REL | 282 | PreHispanic Native Am Wrldview | Surveys cosmological traditions of indigenous civilizations on the Pre-Columbian American continents | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | |
| REL | 287 | Topics in Film, Media, and Religion | Explores specialized topics in the study of film, media and religion. Analyzes how religious values, identities and practices related to various cultural traditions are constructed, communicated and presented through films and media. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Credit is allowed for only FMS 287 or REL 287 |
| REL | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |
| REL | 300 | The Future of Religions | Critical theorists of modern religious and secular beliefs argued that both theism and atheism have had their martyrs and tyrants. Nietzsche proclaimed "God" of the West dead, Marx unmasked religion as opium for the oppressed masses, and Freud analyzed religious future as an unconscious illusion. The future of secular progress has become equally suspect in the wake of the Holocaust, Hiroshima, the gulags, the killing fields of Cambodia, Rwanda. Globally motivated terror revealed itself as capable of religious as much secular justifications. The future of faith and reason has become a doubly open theoretical and practical question in philosophy, religious studies, literary study, critical theory, cultural and gender studies, and all sciences. Applies theoretical and methodological tools to critically exam beliefs, practices, and communities and their role in both generating and transforming the ethical and spiritual discontents of the global age. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only HON 394 (The Future of Religions) or PHI 303 or REL 300 |
| REL | 301 | Comparative Mysticism | Comparative examination of Eastern and Western mystical traditions from antiquity to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-------------------|--|
| REL | 307 | Religion: Theory and Practice | Examines the intellectual history of academic study of religion through various theoretical approaches, major themes, and thinkers. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; REL 101 with C or better OR Visiting University Student |
| REL | 310 | Western Religious Traditions | Religious traditions of Judaism, Christianity, and Islam, comparing their doctrinal, institutional, and ritual systems and social histories. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours |
| REL | 311 | Israeli Society and Culture | Different partitions of the Israeli society, based on ethnic origin, by religious affiliation or by political association. Depicts how Israel is an absorbing immigration state. Israel is a welfare state and the course covers aspects of a welfare state, such as health, retirement, public transportation, art, higher education and more. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only HEB 348 or HEB 394 (Israeli Culture and Society) or JST 348 or REL 311 or SLC 348 OR Visiting University Student |
| REL | 312 | History and Memory of the Holocaust | In-depth study of the history of the genocide of Jews, the rise of modern antisemitism within the context of Nazi Germany, and the memory and memorialization of the Holocaust post 1945. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 369 or JST 369 or REL 312 or HST 304 (Shoah: History, Memory, and Representation) or HST 394 (History of the Holocaust) |
| REL | 313 | Anti-Semitism in the Media | By examination and discussion of various media, explores the phenomenon of modern anti-Semitism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; FMS 100 with C or better OR Visiting University Student |
| REL | 314 | Jewish Philosophy | The history of Jewish philosophy from its origins in the Hebrew Scriptures to postmodern expressions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with a C or better; minimum 30 hours; Credit is allowed for only HST 390 or JST 314 or PHI 390 or REL 314 |
| REL | 315 | Hebrew Bible (Old Testament) | Nature, content, background, historical situation, and message of the books of the Hebrew Bible in English translation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only JST 315 or REL 315 OR Visiting University Student |
| REL | 316 | Literary Readings of the Hebrew Bible | Literary analysis of two of the main genres of the Hebrew Bible: narrative art and poetry. Students learn the main literary conventions of biblical prose and poetry, and how these conventions are applied or subverted. Each class comprises the study of a literary aspect, close readings, and thematic discussions. Biblical texts are read only in translation. They are situated in the religious, literary and artistic traditions that have developed on their basis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ENG 316, HEB 316, JST 316, REL 316 OR Visiting University Student |
| REL | 318 | Contemporary American Jewish Identities | Analyzes the complexity and diversity of the contemporary American Jewish community in religious and secular affairs. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & C | Prerequisite(s): ENG 102, 105 or 108 with C or better; Minimum 24 hours; Credit is allowed for only JST 318, REL 318 or SOC 375 |
| REL | 319 | Religion, Violence and America | In-depth study of ways in which religion and violence have shaped American history, culture and identity. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105 or 108 with C or better; Minimum 24 hours; Credit is allowed for only REL 319 or 394 (Religion, Violence & America) |
| REL | 320 | American Religious Traditions | Examines the formation, development, and interaction of major American religious traditions (indigenous, African American, Asian American, and Euro-American). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & C & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 24 hours OR Visiting University Student |
| REL | 321 | Religion in America | History of religion in America with attention to issues of historiography, pluralism, gender, race, ethnicity, politics, and social reform. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & C & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| REL | 323 | African American Religion | Examines the experiences, motivations, and contributions of a number of figures associated with African American religion. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours |
| REL | 324 | Sacred Healing and Arts of the Africana World | Multidisciplinary exploration of religion and religiosity with respect to Black cultural developments such as music, art, food and healing. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| REL | 326 | Hispanic Religion, Culture and Healing | U.S. Hispanic and Latin American religious history with special attention to what are mestizo hybrid cultures and their healing methods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only REL 326 or TCL 328 OR Visiting University Student |
| REL | 330 | Native American Worldviews | Presents worldviews through the art, architecture, writing, mythology, ritual and folklore of tribes in Native America. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| REL | 331 | Indigenous American Religious History | Explores religion in post-European contact Indigenous American history, including hybrid adaptation and revitalization movements. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & C & H | Prerequisite(s): ENG 102,105, or 108 with C or better; minimum 24 hours OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-------------------|---|
| REL | 333 | Biblical Hebrew Literature I | Advanced study of Biblical Hebrew. Deepens understanding of the grammar and composition of the Hebrew Bible. Translates texts of different literary genres (narrative, legal, poetic, prophetic) and different periods. Introduces the basic principles of textual criticism and different approaches to interpret the texts of the Hebrew Bible. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G | Prerequisite(s): HEB 233 (HEB 132), JST 233 (JST 132), or REL 233 (REL 132) with C or better; Credit is allowed for only HEB 333 (HEB 231) or JST 333 (JST 231) or REL 333 (REL 231) OR Visiting University Student |
| REL | 334 | Biblical Hebrew Literature II | Readings in prophetic and wisdom texts of the Hebrew Bible and cognate literature (Dead Sea Scrolls, inscriptions, etc.). Addresses advanced topics in Biblical Hebrew language and literature, as well as in translation and interpretation. Topics and texts change annually. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G | Prerequisite(s): HEB 333 (HEB 231), JST 333 (JST 231), or REL 333 (REL 231) with C or better; Credit is allowed for only HEB 334 (HEB 232) or JST 334 (JST 232) or REL 334 (REL 232) OR Visiting University Student |
| REL | 338 | Daode Jing: Way to the West | At 5,000 words, the Daode Jing [Tao-te ching, "the Scripture of the Way and its Powers," attributed to the Sage Laozi] is perhaps the shortest religious book in the world. It is also the most widely misinterpreted. In China, Daoists, Buddhists and Confucians have each taken its short, pithy statements as warrant for their very different belief systems. In the West, missionaries, new-age pundits, hippies, rock-stars, mystics and LSD advocates each claim to understand the "true meaning" of Laozi's mystical words. But "the farther one travels, the less one knows..." Students read representative samples of these explanations to understand why this brief book of wisdom has endured for over 2000 years. Requires no knowledge of Chinese. Presents all Chinese texts in the translations of the instructor. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only CHI 338 or REL 338 OR Visiting University Student |
| REL | 343 | Daoism | Introduces the history, doctrines, and practices of Taoism from the mid-second century CE up to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & G & H | Prerequisite(s): minimum 24 hours; ENG 102, 105, or 108 with C or better; Credit is allowed for only CHI 343 or REL 343 OR Visiting University Student |
| REL | 344 | Religion and Values in Japanese Life | Japanese values expressed in the life and annual cycles of the family, local and national identities, and popular culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Prerequisite(s): ENG 102, 105 or 108 with C or better; Minimum 24 hours |
| REL | 345 | Asian Religious Traditions | Introduces the major concepts of religious beliefs, rituals, and practices in Hinduism and Buddhism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Prerequisite(s): ENG 102, 105 or 108 with C or better; Minimum 24 hours |
| REL | 346 | Chinese Religions | Examines the history and practices of Chinese religions with particular attention to culture, society, and history. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only CHI 346 or REL 346 OR Visiting University Student |
| REL | 347 | Religions of India | In-depth analysis of major Indian religious traditions in historical and contemporary context, with attention to theologies, textual genres, doctrines, rituals, political and cultural expressions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| REL | 348 | Religion and Culture in Southeast Asia | In-depth study of the religious diversity of Southeast Asia including Hinduism, Buddhism, Islam, Christianity, spirit cults and ancestral religions. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102 or 105 or 108 with C or better; minimum 24 hours; Credit is allowed for only REL 294 (Southeast Asia Global Crossroads) or REL 348 |
| REL | 349 | Nature, Sustainability and Religion | Explores how world religions have conceptualized the natural world, what they have contributed to the current environmental crisis and how they might also serve as inspiration to address the crisis. By focusing on Judaism, Christianity and Islam, the course introduces students to the field of religion and ecology and explores its relationship to other academic disciplines such as environmental philosophy and ethics, justice studies and gender studies. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only HPS 349 or JST 349 or REL 349 or SOS 349 or JST, REL, or SOS 394 (Religion and Ecology) or JST, REL, or SOS 394 (Religion and Environment) |
| REL | 350 | Hinduism | Studies diverse forms of Hinduism through its institutions, literature, folklore, art, and architecture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| REL | 351 | Buddhism | Doctrines, practices, and institutions of the Buddhist religion, emphasizing its role in the history and culture of Asian societies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| REL | 352 | Modern Buddhism | Focuses on modern issues related to Buddhism with special attention to colonialism, nationalism, the development of the nation-state and globalization. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105 or 108 with C or better; Minimum 24 hours; Credit is allowed for only REL 352 or 394 (Modern Buddhism) |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|---|
| REL | 353 | Zen and Japanese Culture | Students conduct historical, philosophical and sociological analyses of some of the fundamentals of Zen, mainly those of Japanese tradition. Examines the influence of Zen thoughts on value, culture and society in both pre-modern and modern Japan. Classes consist of lectures, documentary films and discussion sessions. Taught in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only JPN 354 or JPN 394 (Zen and Japanese Culture) or REL 353 or SLC 354 or SLC 394 (Zen and Japanese Culture) OR Visiting University Student |
| REL | 354 | Religions of Korea | Explores major religious traditions and folk religions in Korea. Covers diverse topics such as mythology, indigenous practices, doctrinal and meditation Buddhism, early and Neo-Confucianism and Christianity as well as the new religions of modern times. Discusses the development of religious ideas and practices in light of the political, cultural and social milieus. Focuses on cultural importation and adaptation as well as interaction and conflict among the different religious traditions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102 or 105 or 108 with C or better; minimum 24 hours; Credit is allowed for only KOR 354 or REL 354 |
| REL | 355 | Japanese Cities and Cultures to 1800 | Relations among ideas and literary, visual, and performing arts of the ancient aristocracy, medieval samurai, and early modern townspeople. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | |
| REL | 356 | Buddhism in America | Examines diverse Buddhist traditions in the U.S. among Asian-American communities and converts to this religion. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours |
| REL | 357 | Theravada Buddhism in South and Southeast Asia | Examines Theravada Buddhist institutions, practices, and communities in ancient and contemporary south and southeast Asia. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours |
| REL | 360 | Ancient Greek Religion | Surveys ancient Greek religion, including its gods, ritual practices and festivals. Analyzes the development of the religion over time, and how both ancient and modern figures interpreted its meaning. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 101 (or ENG 105 or 107) with C or better; Credit is allowed for only GRK 362, REL 360, SLC 362 or SLC 394 (Ancient Greek Religion) |
| REL | 361 | Roman Religion | Roman religion was never static, despite the best efforts of the Roman state to make it so. Understands the artifacts and procedures of Roman state cult from its earliest origins to the late empire, using ancient literary sources, archaeology throughout the ages and modern scholarly theories. Clarifies the forces that influenced development and change in Roman religion, both internal and external. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only LAT 361 or REL 361 or SLC 361 or SLC 394 (Roman Religion) OR Visiting University Student |
| REL | 362 | Islam and Islamic Societies in Africa: Social and Political History | An in-depth study of the fundamental principles of Islam. Course will examine various forms of development of Muslim societies and institutions in Africa through time. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours; Credit is allowed for only AFR 372 (or AFS 372) or REL 362 or SGS 366 or AFS 394/REL 394/SGS 394 (Islam and Islamic Societies in Africa: Social and Political History) |
| REL | 363 | Islam and World Affairs | Advanced examination of complex trends to construct the roles of Islam as a belief, its institutions, leaders and ordinary believers in contemporary world affairs. Studies different developments, including the rise of (political Islam) fundamentalism, to subsequent changes in the Muslim world, challenges Muslims face, and domestic and international conflicts. Challenges students to reconceptualize and broaden their understanding of the powerful presence of religion in this era of globalization. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours. Credit is allowed for only AFR 373 (or AFS 373) or REL 363 |
| REL | 364 | Islam in Eurasia and Central Asia | Examines the changing role of Islam in Eurasia and Central Asia through history and interprets current transformations in the region. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105 or 108 with C or better; Minimum 24 hours; Credit is allowed for only REL 364 or 394 (Islam in Eurasia & Central Asia) |
| REL | 365 | Islamic Civilization | Global historical survey of Islamic cultures and societies up to the modern period. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only HST 336 or REL 365 OR Visiting University Student |
| REL | 366 | Islam in the Modern World | Examines the worldwide transformations of Islamic religion, cultures, and societies in the modern period. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 24 hours; Credit is allowed for only HST 339 or REL 366 OR Visiting University Student |
| REL | 367 | Religion, Philosophy and Culture in Japan | Examines the influence of Japanese thoughts on value, culture and society while surveying the major religious and philosophical traditions in both pre-modern and modern Japan focusing on Shinto, Confucianism, Daoism, Buddhism and New Religions. Classes consist of lectures, documentary films and discussion sessions. Taught in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only JPN 367 or JPN 394 (Religion, Philosophy, and Culture in Japan) or REL 367 or SLC 367 OR Visiting University Student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|---|
| REL | 369 | Women in Islam | Examines the roles women have played through Islamic history (Middle East) and the changing discourse on gender identity. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | |
| REL | 371 | New Testament | Origins and literature of early Christian communities; historical investigations of the types of oral and written tradition in the New Testament. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | |
| REL | 374 | Witchcraft and Heresy in Europe | Background, origins, and development of the Inquisition; persecution of women and marginal groups. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & H | Prerequisite(s): ENG 102, 105 or 108 with a C or better; minimum 30 hours; Credit is allowed for only HST 361 or REL 374 OR Visiting University Student |
| REL | 375 | Lost Scriptures, Forgotten Gospels | Wide diversity of early Christianity and its suppressed and lost texts, which have been found in modern times. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| REL | 376 | Virgin Mary in History, Film, and Culture | Introduces formation and development of cult of the Virgin Mary; analyzes transformations of Mariology within historical, cinematic, and cultural contexts. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L or HU | Prerequisite(s): ENG 102, 105, or ENG 108 with C or better; Credit is allowed for only FMS 376 or REL 376 |
| REL | 377 | Religion in Russia | Examines the history of the various religious traditions of Russia and the former USSR from an interdisciplinary perspective. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| REL | 378 | Religion, War and Peace | In-depth study of the religious, political and ethical dimensions of violence and war. Compares perspectives of Christian, Jewish and Islamic traditions as well as secular viewpoints. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L | Prerequisite(s): ENG 102, 105 or 108 with C or better; Minimum 24 hours; Credit is allowed for only POS 378, REL 378 or 394 (Religion, War and Peace) |
| REL | 379 | Religion, Nationalism, and Ethnic Conflict | Examines the role of religion in national and ethnic conflict in the contemporary world. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only REL 379 or SGS 343 OR Visiting University Student |
| REL | 381 | Religion and Moral Issues | Manner in which human religiousness relates to social concerns, e.g., sexuality, the environment, bioethical issues, and violence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| REL | 382 | Magick, Religion and Science | Relationship and conflict among magic, religion and science in the West from antiquity to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L or HU | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 24 hours |
| REL | 383 | Religion and Sports | Religion and sport in America are both long-held and passionately maintained cultural components. The first part provides a framework for understanding scholarly analyses and approaches regarding the intersections of religion and sport primarily in the 20th and 21st centuries. Indeed, religious sentiments and doctrines have played and continue to play an important role in creating today's American sporting culture. The second part seeks to understand particular arguments framing sports as a space of religious expression or more boldly as a religion in the United States. To gain various perspectives, students engage with various materials including scholarly works, recorded lectures and podcasts, popular culture videos, and conduct qualitative interviews with student athletes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only ASB 383 or REL 383 or REL 394 (Religion and Sports) |
| REL | 385 | Contemporary Western Religious Thought | Introduces contemporary Jewish and Christian thought. Topics include religion and politics, problem of evil, interpretations of God, and feminist theology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 24 hours |
| REL | 387 | Religion and Conflict: Theories and Cases | In-depth study of religion and conflict across multiple traditions and regions. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 24 hours; Credit is allowed for only REL 387 or 394 (Religion and Conflict: Theories and Cases) |
| REL | 388 | Religion, Ethics, and International Politics | Religious and ethical dimensions of international politics. Addresses historical and contemporary ideas, movements, issues and events. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only POS 388 or REL 388 OR Visiting University Student |
| REL | 389 | Black Religion: Sex, Power and Eroticism | Explores sexuality and eroticism in the context of the religion, more specifically, the religion of the African Diaspora and Black religious experience in the Americas. Takes an interdisciplinary journey into the intersections of race, sexual norms and mores, and gender dynamics as it pertains to religious praxis, identity and embodied faith. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; min 24 hrs; Credit is allowed for only AFR 368 or AFR 394 (Black Religion: Sex, Power, and Eroticism) or AFS 394 (Religion:Sex,Power,Eroticism) or REL 389 or WST 394 (Religion, Sex, Power, Erotism) |
| REL | 390 | Women, Gender and Religion | Examines the role of women and the construction and practice of gender identities across religious traditions and cultures. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only REL 390 or WST 390 OR Visiting University Student |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|--|
| REL | 391 | Historical Perspectives on Philosophy and Religion | Comprehensive, advanced study of central concepts in the philosophy of religion in the history of Western philosophy. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or ENG 108 with C or better; minimum 30 hours; Credit is allowed for only HST 357 or PHI 391 or REL 391 |
| REL | 393 | Religion and Sex | Examines what issues are involved in incorporating sexuality into religion and how/why religious traditions seek to control sexuality. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours |
| REL | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |
| REL | 401 | Sacred Scriptures and Social Choices | Examines relationships among contemporary moral issues and the sacred scriptures to support choices at individual, group, and public levels. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & G | |
| REL | 405 | Problems in Religious Studies | Selected topics in religious studies; involves students in research interests of instructor. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Religious Studies major; REL 307 with C or better |
| REL | 406 | Religious Studies Capstone I | Develops skills necessary for conducting and presenting in-depth research in the field of religious studies. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1 | | Prerequisite(s): Religious Studies major; REL 307 with C or better; senior standing |
| REL | 407 | Religious Studies Capstone II | Uses previously developed research to produce original research project in religious studies. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 2 | | Prerequisite(s): REL 406 |
| REL | 410 | Judaism in Modern Times | Variety of expressions of Judaism and Jewishness in the modern period. Topics may include American Judaism or religious responses to the Holocaust. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | |
| REL | 411 | Judaism and the Beginnings of Christianity | Studies the beginnings of Christianity in relation to Judaism: their common context, the process of their distinction and their mutual influence. Through a historical and thematic approach, explores the parallel construction of Jewish and Christian identities. Combines readings from primary sources (Hellenistic Judaism, Qumran, New Testament, Early Christianity, Rabbinic Judaism) and up-to-date scholarly literature. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | Prerequisite(s): ENG 101,105,107,108 or HST 100,102 or REL 100 or SLC 142, 202 w/ C or better; Credit is allowed for only HEB/JST/REL 411 or HEB 394 (Judaism & the Origins of Christianity) or HEB 494 (Judeo-Hellenistic Lit) OR Visiting University Student |
| REL | 413 | Sacred Crimes: Religion and Violence | Religion is capable of doing great good in the lives of humans, leading them to personal betterment and positive social contributions. Yet, throughout human history religion has also led some individuals to engage in acts of violence and other dangerous behaviors. This course explores the history of several religious traditions and texts and their complicated connections to violence and criminality. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | G & H | Prerequisite(s): ENG 102, 105, or 108 w/ C or better; Credit is allowed for only CRJ 423 or FOR 413 or REL 413 or FOR 494 (Sacred Crimes: Religion, Violence & Crim) or REL 494 (Sacred Crimes: Religion, Violence & Crim) OR Visiting University Student |
| REL | 420 | Religion in American Life and Thought | Influence of religion on American society, culture, and ideas; the distinctive character of religion in America. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | |
| REL | 429 | Studies in European Literature and Culture | Literary, cultural, and historical issues. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s) with C or better: ENG 101, 105, 107; ENG 200; one ENG 200- or 300-level literature course OR ENG 101, 105, 107; min 45 hours; Credit is allowed for only CEL 429 or ENG 429 or REL 429 or SLC 429 or THE 429 OR Visiting University Student |
| REL | 450 | Philosophical and Spiritual Issues in Death and Dying | From Plato to Maimonides to Heidegger to Kubler-Ross, scholars, clinicians and spiritual writers have recognized that attitudes about death and dying contribute to understandings of human existence. Recalling the ancient Socratic, biblical and other spiritual traditions of the cura animarum (care for and cure of the soul) and joining contemporary post/secular conversations relevant to integration of body-mind-spirit, this course introduces basic concepts and practices of care ethics and spirituality. Focuses on relations among existential (ontological), therapeutic (psychosomatic), and spiritual (religious) dimensions of care. Theoretically, the course is inter-faith in approach, holistic in scope, and specialized in content. Practically, students examine real-life issues in care ethics and spirituality from multiple perspectives. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only IAS 450 or MAS 550 or PHI 450 or PHI 494 (Issues in Death & Dying) or REL 450 or REL 494 (Issues in Death & Dying) OR Visiting University Student |
| REL | 454 | History of Genocide | Examines the individuals and institutions responsible for the most infamous episodes of state-sanctioned violence in the 20th century. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only FOR 454 or HST 454 or REL 454 OR Visiting University Student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|--|
| REL | 459 | God and the Problem of Suffering | Examines whether a Western theistic conception of God (that is, an omniscient, omnibenevolent, omnipotent being--the God of the three main Western religions) is compatible with the existence of what appears to be an abundance of pointless suffering in the world. Addresses the logical and evidential problem of (moral and natural) evil, as well as a variety of proposed theodicies through the study of philosophical texts, literature and film. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only PHI 422 or REL 459 or PHI 494 (God and the Problem of Suffering) or REL 494 (God and the Problem of Suffering) |
| REL | 460 | Islam and Politics | Examines Islamic political ideas with respect to texts, history, society and movements from Muhammad to the present day. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| REL | 461 | Different Voices Within Contemporary Islamic Discourse | Examines modern Muslim discourse on major contemporary issues such as Shari'a, Jihad, secularism, gender, civil rights, democracy, extremism, religious violence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AFR 480 or REL 461 or SGS 442 |
| REL | 470 | Religion in the Middle Ages | Religious aspects of medieval life and thought; variety of forms of dissent, heresy, and reform movements from the 4th to 13th centuries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | |
| REL | 471 | Reformation and Modern Christianity | Protestant Reformation to contemporary Christian movements; includes factors in the dissolution of the Medieval Christian synthesis, variety of reform movements and reformation patterns, Catholic counter-reform measures, formation of liberal theology, ecumenical movement, and the World Council of Churches. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | |
| REL | 480 | Religion and Global Politics | Explores the nature and role of religion in international politics in the modern period. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L & G | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only REL 480 or SGS 441 OR Visiting University Student |
| REL | 483 | Religion and Science | Investigates the correlation between science and religion as an interdisciplinary study from a historical perspective. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | |
| REL | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Pre-requisite: Minimum CUM GPA of 2.00 |
| REL | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| REL | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| REL | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |
| REL | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-7 | | |
| REL | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-3 | | |
| REL | 501 | The Study of Religion I: Genealogies, Disciplines and Power. | Explores the historical formation and theoretical foundations of the study of religions. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| REL | 502 | The Study of Religion II: Epistemology, Practice and Mediation | Engages with advanced contemporary studies of religions. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| REL | 503 | Black Intellectual Thought and Radical Imaginary | Brings together philosophy, religion and history to explore the ways Black intellectuals have developed new ways of being, seeing and thinking. Critically examines the lives, work and writings of Africana religious studies as they engage religion, race, gender and modernity. Although increasingly critical of "religion" and religious institutions, prophets, philosophers and poets creatively employed religious and spiritual language, scholarship, symbols and ideals as potent weapons in opposition to racial, religious, gendered and economic oppressions globally. By creatively linking both activism and scholarship would be also pioneering contributions to a number of academic disciplines including religious studies, journalism, Africana studies, history, sociology, literature, womanist/feminist studies and justice studies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AFR 494 (W.E.B. Du Bois & Religious Imagination) or REL 494 (W.E.B. Du Bois & Religious Imagination) or REL 503 or REL 591 (W.E.B. Du Bois & Religious Imagination) |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|--|
| REL | 504 | Digital Humanities: Critical Theory and Methods | Digital technologies are now intricately woven into our lives--whether it's in terms of authoring a paper in a text editor, sending texts and emails, or doing data analysis. Popular narratives of the "big" and the "new" celebrate and sometimes bemoan the ways that these tools shape our communication, access to information, habits and even our physical bodies. Focuses on the histories of these technologies, their operations, popular conceptions about such tools, and their affordances and limits for humanities scholarship. Students learn how to leverage digital technologies, but also how to critically read them. Broad ranging; in addition to surveying the "big tent," students are encouraged to utilize their final projects to engage with specific disciplinary digital tools and methods relevant to their scholarly work. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CDH 501 or HST 504 or REL 504 |
| REL | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | |
| REL | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| REL | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | |
| REL | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | |
| REL | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1 | | |
| REL | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| REL | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | |
| REL | 603 | Teaching World Religions | Seminar designed to prepare participants to teach a course similar to ASU's REL 100. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Pre-requisites: Phd or Masters student in Religious Studies |
| REL | 620 | Theories in the Anthropology of Religion | Premised on the study of religion as formations of discourse that are embedded in cultural contexts and histories and involve people, practices and texts. This seminar provides the literacy and competence to critically examine and be conversant in the following areas of emphasis: (1) classical and contemporary theories in the anthropology of religion; including foundational authors such as Marx, Mauss, Durkheim, Weber, Geertz, Sahlins and Tambiah, and contemporary works by Cannella, Kean, Pels, Asad, and others; (2) themes like ritual, time, practice, discourse, memory, material culture and commodification; and (3) the anthropological study of particular religious traditions, e.g., the anthropology of Buddhism, Islam or Christianity. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only REL 620 or ASB 691 (AnthroTheories of Religion) or REL 691 (Anthro of Religion) or REL 691 (AnthroTheories of Religion) or REL 691 (Theories in Anthro of Religion) |
| REL | 621 | Ethnography Theory and Methods | Ethnographic theory and method approaches to recording and studying lived cultural practice. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Religious Studies MA or PhD student; Credit is allowed for only REL 621 or REL 591 (Ethnography Theory and Method) or REL 691 (Ethnography Theories and Methods) |
| REL | 626 | Themes in the Anthropology of Religion | Under this rubric, faculty offer seminars on thematic concerns such as: the anthropology of ritual, memory, modernity, post-colonialism, conflict and revolution, hybridity, peacemaking and secularism, semiotics, conversion, iconography, embodiment, material culture. Topics may vary depending on instructor. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only REL 626 or CHI 691 (Buddhism in Chinese Society) or REL 691 (Religion & Colonialism) or REL 691 (Buddhism in Chinese Society) |

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| REL | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | |
| REL | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | |
| REL | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| REL | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-15 | | |
| REL | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1 | | |
| REL | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-15 | | |
| ROM | 101 | Elementary Romanian Language and Culture I | First course in a four-semester sequence that teaches Romanian as a foreign language at ASU. Provides the development of basic speaking, listening, writing, reading and cultural awareness skills. Interactive classroom activities focus on practicing everyday Romanian and ultimately enable students to successfully handle a variety of simple tasks in straightforward social situations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | HU & H & G | Students may not enroll in ROM 101 if credit with C or better earned in ROM 102, ROM 201, ROM 202, ROM 313, ROM 314, ROM 411, ROM 412 OR Visiting University Student |
| ROM | 102 | Elementary Romanian Language and Culture II | Advances the development of basic speaking, writing, reading and cultural awareness skills. Interactive classroom activities focus on practicing everyday Romanian and ultimately enable students to successfully handle a variety of tasks in straightforward social situations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | HU & H & G | Prerequisite(s): ROM 101 with C or better OR Visiting University Student |
| ROM | 201 | Intermediate Romanian Language and Culture I | Third course in a four-semester sequence that teaches Romanian as a second language at ASU. This module is the first part of an intermediate-level course, emphasizing both oral and written communication through the development of speaking, writing, reading and cultural awareness skills. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | HU & H & G | Prerequisite(s): ROM 102 with C or better OR Visiting University Student |
| ROM | 202 | Intermediate Romanian Language and Culture II | Second part of an intermediate-level course placing emphasis on both oral and written communication through the development of speaking, writing, reading and cultural awareness skills. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | HU & H & G | Prerequisite(s): ROM 201 with C or better OR Visiting University Student |
| ROM | 310 | Migration and Identity: Digital Storytelling | Represents a fusion of basic theoretical concepts such as globalization, migration, transnationalism and identity with personal narratives in the digital space. Structured in four sections in which students (a) learn a basic theoretical framework of migration studies; (b) listen to and reflect on narratives of migration and identity; (c) learn about digital storytelling; and (d) produce their own digital autobiographical account or interview a migrant. Students engage in a dialogue throughout the course, both in the classroom and in the virtual space (in online discussion forums). In this oral history course, students are at the center of the production of digital stories. At the end of the course students also have the opportunity to provide peer feedback and critically engage in the stories produced in class. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 108 with C or better; Credit is allowed for only ROM 310 or SLC 310 or SLC 394 (Migration and Identity-Digital Storytelling) OR Visiting University Student |
| ROM | 313 | Romanian Composition and Conversation | Develops skills in written Romanian and correct oral expression. Must be taken in sequence with ROM 314. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H & G | Prerequisite(s): ROM 201 OR Visiting University Student |
| ROM | 314 | Romanian Composition and Conversation | Continuation of ROM 313. Develops skills in written Romanian and correct oral expression. Must be taken in sequence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H & G | Pre-requisite: ROM 313 |
| ROM | 343 | Culture and Society Transformation | Uses video documentaries and movies to explore the way in which cultural values, economic background and human interaction impact and transform societies. Societal changes in Central and Eastern Europe make a good case study for contrasting and comparing with other societies and understanding global trends and issues in today's world. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & G | Prereq(s): ENG 101, 105, or 107 with C or better; Credit for only ASB 345 or ASB 394 (Cult & Soc Transform) or JUS 343 or JUS 394(Cult & Soc Transform) or ROM 343 or SLC 343 or SLC 394 (Cult & Soc Transform) or SOS 344 or SOS 394 (Cult & Soc Transform) |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|---|---|-------|-------------------|--|
| ROM | 411 | Advanced Spoken and Written Romanian I | Improvement of spoken and composition skills. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H & G | Prerequisite(s): ROM 101 with C or better; ROM 201 with C or better; ROM 313 with C or better; ROM 314 with C or better OR Visiting University Student |
| ROM | 412 | Advanced Spoken and Written Romanian II | Improvement of spoken and composition skills. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H & G | Prerequisite(s) with C or better: ROM 101; ROM 201; ROM 313; ROM 314; ROM 411 |
| ROM | 442 | Dracula and Vampire Lore | Vampire stories are not only local phenomena placed in Transylvania, as the common stereotype is incessantly spread. Legends about Dracula and the Count himself may be "untrue," but events that took place during the life and reign of the Wallachian Voevode Vlad Tepes, better known as Vlad the Impaler, are nonfictional. He ruled during the time of the Ottoman Empire extension to Europe and his fight against the Turks give us thought on the altered understanding of Vlad as a vampire figure. Occurring and recurring in continuously changed environments, Count Dracula affects everyone to the same degree, but still remains as secret and elusive as before, pitted against a vision of mysterious spaces that evoke the faraway castles from Whitby, UK (the origin of Stoker's Dracula), from Bran and Poenari Castles in Transylvania as well as the visions of Jules Verne's Castle of the Carpathians. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G & H | Prereq(s): ENG 101, 105 or 107 w/C or better; Credit for only ROM 442 or SLC 442 or SLC 494 (Drac&Vamp Belief in the Wrld) or SLC 494 (Drac&Vamp Castles) or SLC 494 (Drac:Between Myth&Hist) OR Visiting University Student |
| ROM | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| ROM | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| ROM | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | REC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| ROM | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| RTH | 284 | Recreational Therapy Lab | Facilitates hands-on structured experiential learning activities to develop skills and abilities in a variety of recreational therapy interventions (e.g., meditation, creative arts, aquatics, adapted sports, fitness). Students practice and integrate cognitive learning with associated psychomotor skills required to develop proficiency with leadership and practice of the specific recreation activity. | Y | LAB | Y | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-3 | | |
| RTH | 364 | Foundations of Recreation Therapy | Overview of the fundamentals of therapeutic recreation. Introduces the delivery of treatment services for individuals with a variety of illnesses and disabling conditions experienced throughout the lifespan. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| RTH | 384 | Recreational Therapy Practicum | Facilitates a structured fieldwork experience with classroom instruction to integrate knowledge and develop skills and abilities in recreational therapy. Students gain direct service experience with health care, human services, education or recreation programs under the supervision of recreational therapists. | N | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3-12 | | Pre- or corequisite(s): RTH 364 (PRM 364) OR Visiting University Student |
| RTH | 400 | Intervention Techniques in Recreational Therapy | In-depth analysis of theoretical and philosophical approaches to therapeutic recreation practice with emphasis on various facilitation techniques used in therapy. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Pre- or corequisite(s): RTH 364 (PRM 364) OR Visiting University Student |
| RTH | 406 | Program Design and Administration in Recreational Therapy | Examines management strategies and standards of practice applied in a variety of therapeutic recreation programs. Students write a comprehensive program plan including methods of assessment, documentation, service planning, service delivery and evaluation. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): RTH 364 (PRM 364) OR Visiting University Student |
| RTH | 413 | Leadership and Professional Development in Recreational Therapy | Examines therapeutic recreation leadership theory and strategies, current professional issues, and refinement of professional philosophy and competencies that enable transition from student to professional. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| RTH | 440 | Advocacy in Therapeutic Recreation | Explores trends and issues facing the field of therapeutic recreation and applies advocacy practices to promote awareness and access. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CRD 563 or RTH 440 (PRM 440) OR Visiting University Student |
| RTH | 450 | Therapeutic Recreation and Community Health | Explores health and social needs among vulnerable populations through classroom instruction and field exposure to maximize understanding and skill mastery assessing, planning and facilitating recreational therapy activities to promote community well-being. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only PRM 550 or RTH 450 (PRM 450) OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|---|---|-------|-------------------|---|
| RTH | 453 | Inclusive Community Sport | Examines historical and contemporary perspectives shaping the organization and delivery of competitive and cooperative sport and recreation at the local, regional, national and international levels. Emphasizes exploration of barriers to sport and recreation among diverse sociocultural groups (age, disability, gender, race, etc.) and strategies to facilitate access and participation through a continuum of program delivery options including adapted sport and therapeutic recreation. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CSM 453 or PRM 453 or RTH 453 OR Visiting University Student |
| RTH | 455 | Recreational Therapy and Play with Children, Youth and Families | In-depth study of the philosophical concepts, principles and techniques of play and recreation applied in practice to promote holistic health and well-being among children, youth and families. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Pre- or corequisite(s): CDE 244 or RTH 364 (PRM 364) with C or better if completed OR Visiting University Student |
| RTH | 460 | Assessment and Documentation in Recreational Therapy | In-depth study of the therapeutic recreation assessment process, including examination of interview techniques, assessment instruments, treatment planning, outcomes, evaluation, research, and documentation. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Corequisite(s): RTH 364 (PRM 364) OR Visiting University Student |
| RTH | 463 | Senior Internship | Supervised guided experience in selected agencies. | N | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3-12 | | Prerequisite(s): CRD 403 or RTH 413 (PRM 413) with C or better; Credit is allowed for only CRD 463 or CSM 463 or NLM 463 or PRM 463 or RTH 463 or TDM 463 |
| RUS | 101 | Elementary Russian I | Structural grammar and basic vocabulary. Introduces and reinforces aural/oral reading and writing skills. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | | Students may not enroll in RUS 101 if credit with C or better earned in RUS 102 or RUS 201 or RUS 202 |
| RUS | 102 | Elementary Russian II | Structural grammar and basic vocabulary. Introduces and reinforces aural/oral reading and writing skills. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | | Prerequisite(s): RUS 101 with C or better OR Visiting University Student |
| RUS | 141 | Russian Civilization: From Tsars to Putin | For centuries, Russians have argued about who they are as a people and a nation by turning to their history, religion, literature, arts and language. With a foundation in Russian history and geography and using primary sources, we survey debates over Russian history and civilization to understand how Russians have imagined themselves and their nation and empires. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G & H | Pre- or corequisite(s): ENG 101, 105, or 107 with C or better if completed; Credit is allowed for only HST 141 or RUS 141 or SLC 141 OR Visiting University Student |
| RUS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEL | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| RUS | 201 | Intermediate Russian I | Systematic review of grammar. Develops vocabulary through reading and writing. Drill in aural/oral skills. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): RUS 102 with C or better OR Visiting University Student |
| RUS | 202 | Intermediate Russian II | Systematic review of grammar. Develops vocabulary through reading and writing. Drill in aural/oral skills. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): RUS 201 with C or better; Credit is allowed for only RUS 202 or RUS 295 OR Visiting University Student |
| RUS | 211 | Conversational Russian I | Intensive aural/oral drill to supplement reading and grammatical skills acquired in RUS 101, 102, 201 and 202. Target proficiency level: Intermediate Low. Required of Russian majors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): RUS 102 with C or better; Corequisite(s): RUS 201, 202, or 295 OR Visiting University Student |
| RUS | 212 | Conversational Russian II | Intensive aural/oral drill to supplement reading and grammatical skills acquired in RUS 101, 102, 201 and 202. Target proficiency level: Intermediate Low. Required of Russian majors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): RUS 102 with C or better; Corequisite(s): RUS 201, 202, or 295 OR Visiting University Student |
| RUS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| RUS | 295 | Russian for Heritage Speakers | Heritage speakers of Russian learn to consciously analyze their passive knowledge of Russian grammar and learn grammatical analysis so that they can master advanced grammatical structures which their native Russian peers use in college-level superior proficiency discourse. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Students may not enroll in RUS 295 if credit with C or better earned in RUS 202 |
| RUS | 311 | Russian Society I | Activates and practices Russian speaking, writing and reading skills; continues a broad introduction to Russian grammar and culture--the customs, behaviors, interests and traditions of the Russian people. Target proficiency level: Intermediate. Required of Russian majors and minors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): RUS 202 or 295 with C or better OR Visiting University Student |
| RUS | 312 | Russian Society II | Activates and practices Russian speaking, writing and reading skills; continues a broad introduction to Russian grammar and culture--the customs, behaviors, interests and traditions of the Russian people. Target proficiency level: Intermediate. Required of Russian majors and minors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): RUS 202 or 295 with C or better OR Visiting University Student |
| RUS | 322 | Scandals and Scoundrels: The Nineteenth-Century Russian Novel | An in-depth study of the Golden Age of Russian literature, including novels of Pushkin, Lermontov, Gogol, Khvoshchinskaia, Turgenev, Dostoevsky, Tolstoy, and Chekhov. Taught in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| RUS | 323 | Russian Literature and Revolution: The Twentieth Century | An in-depth study of 20th-Century Russian prose and poetry by Zinovieva-Annibal, Gorky, Bely, Babel, Mayakovsky, Platonov, Pasternak, Erofeev, Petrushevskia, and other writers. Taught in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G | Pre-requisites: ENG 102, 105 or 108; Credit is allowed for only RUS or SLC 323 |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| RUS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| RUS | 411 | Russian Language, History and Culture I | Students read, listen to, discuss and analyze such authentic materials as Internet forums, blogs, advertisements, various genres of nonfictional writing and TV reporting. Expands knowledge of contemporary culture and history. Target proficiency level: Advanced Low. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): RUS 312 with C or better OR Visiting University Student |
| RUS | 412 | Russian Language, History and Culture II | Students read, listen to, discuss and analyze such authentic materials as Internet forums, blogs, advertisements, various genres of nonfictional writing and TV reporting. Expands knowledge of contemporary culture and history. Target proficiency level: Advanced Low. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): RUS 312 with C or better OR Visiting University Student |
| RUS | 421 | Pushkin | Pushkin's poetry, plays, and prose fiction, including Eugene Onegin, The Little Tragedies, Tales of Belkin, Queen of Spades and The Captain's Daughter. Taught in English. Does not satisfy the College of Liberal Arts and Sciences language requirement for BA degree. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| RUS | 423 | Dostoevsky and Tolstoy | An in-depth study of Dostoevsky's and Tolstoy's major works, including "Crime and Punishment", "Brothers Karamazov", and "Anna Karenina". Taught in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| RUS | 425 | Chekhov and Russian Drama | An in-depth study of Chekhov's major works, representative short stories and major plays, including "The Cherry Orchard" and "Three Sisters". Taught in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 102, 105 or 108 with C or better; Credit is allowed for only RUS or THE 425 |
| RUS | 430 | Russian Short Story | Detailed study of representative works of the Russian short story genre. Includes authors from both Imperial and Soviet Russia. Instructed in Russian. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; RUS 312 with C or better OR Visiting University Student |
| RUS | 439 | Art in Exile: Vladimir Vladimirovich Nabokov | In English. The scandalous success of Lolita (1955) allowed Vladimir Nabokov to retire from teaching at Cornell University and move to Switzerland to devote himself to fiction, translation, criticism and lepidoptery. This was only one of the many metamorphoses that Nabokov, a Russian noble, underwent while in exile, moving from Russia to the Crimea, Cambridge UK, Berlin, Paris, Cambridge MA, Ithaca, Hollywood and finally Montreux. Examines the Russian roots of Nabokov's Russian (in translation) and American novels about exile: his first novel, Mary (1926), The Defense (1929), Glory (1932), and his tribute to 19th-century Russian literature, The Gift (1938), which he considered his greatest Russian novel. These are followed by Lolita (1955), Pnin (1957) and Pale Fire (1962), his memoirs, Speak, Memory (1966), and some essays and short stories. Films include Lolita by Stanley Kubrick (1962) and Adrian Lyne (1997). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 102 or 105 or 108 with C or better; Credit is allowed for only RUS 439 or SLC 439 or ENG/RUS/SLC 494 (Art in Exile: Vladimir Vladimirovich Nabokov) |
| RUS | 440 | Russian Mass Media | Explores various aspects of modern Russian life through printed mass media, especially Internet media sources, and helps to develop advanced spoken, listening, reading and written skills in Russian. Students work with live television news broadcasts and investigate the most important general sources of electronic information, including electronic newspapers and the main Russian Web sites on a wide range of issues such as culture and the arts, government and politics, business and economics, armed conflicts, and accidents and catastrophes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): RUS 211 with C or better; RUS 212 with C or better. Credit is allowed for only RUS 440 or RUS 494 (Russian Mass Media) OR Visiting University Student |
| RUS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| RUS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| RUS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| RUS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| RUS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| RUS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SAO | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Office of the Provost | Office of the Provost | 1-4 | | |

| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| SAO | 196 | Study Abroad Office Placeholder | Reserved for undergraduate participants in Study Abroad Office (SAO) Partnership and Exchange study abroad programs. This placeholder course remains on the student's academic record until the student's record is updated by SAO following the completion of the student's study abroad program. This course is then dropped and replaced with the ASU courses, credits, and grades equivalent to the coursework completed abroad. Students must register for at least the number of credits equivalent to full-time study at ASU (i.e., 12 hours during the fall and spring semesters, or 1-6 hours during the summer session). Students participating in an SAO Partnership program must register for the topic "SAO: Study Abroad Program"; participants in an SAO Exchange Program must register for the topic "SAO: Exchange Program." NOTE: This placeholder course is not an indication of the level of coursework or the total number of credits the student may complete abroad. Acceptance to an ASU Study Abroad Office program is required. | Y | LEC | Y | OPT | Office of the Provost | Office of the Provost | 1-18 | | |
| SAO | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Office of the Provost | Office of the Provost | 1-4 | | |
| SAO | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Office of the Provost | Office of the Provost | 1-4 | | |
| SAO | 596 | Study Abroad Office Placeholder | Reserved for graduate participants in Study Abroad Office (SAO) Partnership and Exchange study abroad programs. This placeholder course remains on the student's academic record until the student's record is updated following the completion of the student's study abroad program. This course is then dropped and replaced with the ASU courses, credits, and grades equivalent to the coursework completed abroad. Students must register for at least the number of credits equivalent to full-time study at ASU (i.e., 9 hours during the fall and spring semesters, or 1-6 hours during the summer session). Students participating in an SAO Partnership program must register for the topic "SAO: Study Abroad Program"; participants in an SAO Exchange Program must register for the topic "SAO: Exchange Program." NOTE: This placeholder course is not an indication of the level of coursework or the total number of credits the student may complete abroad. Acceptance to a Study Abroad program is required. | N | LEC | Y | OPT | Office of the Provost | Office of the Provost | 1-18 | | |
| SBS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-4 | | |
| SBS | 200 | Introduction to Social and Behavioral Sciences | Overview of the social and behavioral sciences, indicating their contributions to society and emphasizing interdisciplinary integration | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | |
| SBS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-4 | | |
| SBS | 300 | Careers in Psychology | Professional and academic careers in psychology, with a focus on both career and adult development. Provides opportunities to enhance self-assessment and evaluation strategies for both academic planning and postbaccalaureate professional pursuits while also addressing current issues that affect us at any stage of development. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SBS | 301 | Cultural Diversity | Critical analysis of the complexities of the cultural politics of difference in the contemporary United States. Through interdisciplinary and comparative study, examines a range of theoretical and public/popular cultural discourses about the cultural contributions, experiences, perspectives of, by, and about U.S. residents of diverse racial, ethnic, class, gender, sexual, and transnational origins or identities. Analyzes the social conditions and historical precedents that have shaped current diversity concepts and debates, deepening knowledge and understanding of multiple perspectives on these issues and their relevance to social and behavioral sciences. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | (L or SB) & C | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum junior standing OR Visiting University Student |
| SBS | 302 | Qualitative Methods | Basic methodological issues in the systematic application of qualitative analysis of human social life. Surveys range of qualitative methods used by social and behavioral scientists. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | |
| SBS | 303 | Quantitative Methods | Concepts underlying design and implementation of quantitative research methods. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | |
| SBS | 304 | Social Statistics I | Statistical techniques of the social and behavioral sciences. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | CS | |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| SBS | 335 | Power and American Democracy | Explores how persistent patterns of marginalization and privilege impede the realization of democratic ideals in U.S. society. In particular, unpacks how, in practice, different forms of political power reinforce or challenge persistent patterns of marginalization and privilege. In combination with the study of power as the repression and control of others' actions, the course also explores power as exercised in the collective production of social boundaries. Students learn how to better analyze, critique and engage with different forms of power operating in U.S. society. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only POS 335 or SBS 335 or POS 394 (Power and American Democracy) or SBS 394 (Power and American Democracy) |
| SBS | 339 | Grassroots Social Movements | Explores how groups mobilize collectively to produce social, political, economic and cultural change, with an emphasis on the United States. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ASB 339 or POS 339 or SBS 339 or SOC 339 OR Visiting University Student |
| SBS | 342 | Mexico-U.S. Borderlands | Contemporary examination of socioeconomic and political dimensions of border communities, and formation of Mexican-origin communities within and outside the Southwest. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & C | Credit is allowed for only ASB, SBS or SOC 342 |
| SBS | 356 | Central American Studies | Part of the summer ASU study abroad Costa Rica Program, which is a language and social sciences immersion program in the capital city, San Jose. A summer offering permits students to enroll in the program without conflicting with full course loads during the fall or spring semester. However, the course is proposed as a stand-alone course that can be offered in a regular semester as well. | N | REC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | Credit is allowed for only ASB 356 or GCU 356 or POS 354 or SBS 356 or SOC 356 |
| SBS | 374 | Cultures and Politics of the Internet | Explores the culture and politics of the Internet in global perspective, including virtual communities, free software, copyleft, blogs, and hacktivism. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | Credit is allowed for only ASB, POS, SBS or SOC 374 |
| SBS | 389 | Ethnographic Field Lab | Hands-on, guided ethnographic qualitative research and interpretative analysis. | N | LAB | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-6 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 389 or SBS 389 or SOC 389 |
| SBS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-4 | | |
| SBS | 404 | Social Statistics II: Multivariate Analysis | Analysis of variance, multiple regression, dummy variable regression, path analysis, and related topics. Computer application to problem solving. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | CS | Prerequisite(s): SBS 303 with C or better; SBS 304 with C or better |
| SBS | 430 | Aging and Social Policy | Guides students through an exploration of social policies and policymaking that address the needs of older adults and their families. Situates the experiences of older adults in the context of their environment, examining social welfare policies that affect the rights and interests of older adults. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SBS | 447 | Citizenship, Nationalism and Identity | Critical examination of citizenship, national belonging and identities by examining contemporary social issues and discourses from global and comparative perspectives. Aims to understand complexities of national belonging that go beyond legal, formal citizenship, such as how cultural, racial/ethnic, class and gender differences challenge the limits of national citizenship. Explores case studies that show how members of different societies demonstrate their positions as legitimate national citizens in different and often conflicting ways, especially in order to defend social justice and human diversity. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & C & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 447 or POS 447 or SBS 447 OR Visiting University Student |
| SBS | 450 | Topics in Local/Global | Examines links among social, political, economic changes at local, national, global levels. May be repeated for credit when topics vary. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | |
| SBS | 456 | Studies in Forensic Linguistics | Focuses on the three main aspects of that branch of applied linguistics, namely language and the law, court cases where language is the central dispute, and linguistic evidence. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 456 or FOR 456 or PAX 456 or SBS 456 |

| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| SBS | 460 | Global Cities | This close look at megacities in the global south decisively challenges the outdated impression that the rest of the world's cities still lag way behind the U.S. and Europe. The social sciences' debate over "global cities" anchors our examination of the reorganization of metropolitan social space under impact of neoliberal globalization since the 1970s. Explores urban inequalities of slums and dreamworlds; compares vernacular and transnational styles of urbanism (in architecture, design, markets, consumerism, jobs, ads, ways of living); and asks how transnational flows of people, capital and culture have reconfigured ethnic relations and national identities rooted in global cities. Students become virtual transnational flâneurs, tacking between the slums and skyscrapers of global cities, and conduct guided research on a global megacity to investigate how the production of the global city changes the lived space and urban culture of local residents, and how they respond. We ask, whose city is it? | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | Prerequisite(s): minimum junior standing; Credit is allowed for only ASB 442 or SBS 460 |
| SBS | 480 | Global Justice | Explores questions of justice that cross national borders, including delivery of foreign aid, immigration and military intervention. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | G | Prerequisite(s): minimum 45 hours; Credit is allowed for only JHR 494 (Global Justice) or JHR 550 or JHR 598 (Global Justice) or POS 480 or SBS 480 OR Visiting University Student |
| SBS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | |
| SBS | 490 | Senior Thesis I | Supervised, independent, interdisciplinary research and writing on an intellectual issue or social problem chosen by the student. First part of a six-semester-hour sequence, followed by SBS 491. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | |
| SBS | 491 | Senior Thesis II | Supervised, independent, interdisciplinary research and writing on an intellectual issue or social problem chosen by the student. Second part of a six-semester-hour sequence. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | |
| SBS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| SBS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| SBS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-4 | | |
| SBS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| SBS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-3 | | |
| SBS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-4 | | |
| SCM | 200 | Society, Supply Chains and You | Examines the history of supply chains from a domestic and global perspective, the major functions within a supply chain (the Supply Chain), and how supply chains have led to advancements in economics and improved quality of life (Society). Also discusses how technology has led to more efficient supply chains and policies' role in supply chain management and competitiveness. | N | LEC | N | Z1 | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | |
| SCM | 245 | Logistics for the Maritime Environment | Looks at ocean shipping from a civilian shipping perspective. Students gain a greater understanding of the costs associated with ocean shipping. Examines what it takes to clear customs and ship goods across global borders. Also looks at how the sea has affected civilization and how the application of ocean logistics continues to affect the world we live in today. | N | LEC | N | Z1 | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): MAT 117 with C or better OR Visiting University Student |
| SCM | 279 | Maritime Logistics Application Capstone | Uses data and statistics to analyze the efficiency of logistics operations. Students apply the skills and knowledge learned in military/maritime environments and demonstrate a knowledge of the specific demands of those environments using emerging technology such as predictive analytics, process automation and artificial intelligence. | N | LEC | N | Z1 | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): SCM 245 with C or better |
| SCM | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 1-4 | | |

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|---------|----------------|-------------------------------------|---|-------------------|-------------------|-----------------|---------------|--------------------------------|---------------------------------------|-------|-----------------|--|
| SCM | 300 | Global Supply Operations | Explores modern global integrated supply chain management. Covers traditional supply chain topics such as procurement, inventory management, operations, quality management, customer service, performance management and analytics, logistics and transportation. Also discusses issues related to sustainability, humanitarian logistics, ethical business practices and supply chain analytics in the context of evolving supply chains around the world. Students discover how business processes, performance metrics and modern supply chain IT tools aid in the management and growth of effective and efficient supply chains. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prereq(s) w/C or btr: BUS or Non-BUS maj w/min 2.50GPA; ACC 231,232 or 261; CIS 105,236 or CON 251; ECN 221,231 or STP 280; MAT 210,251,265 or 270 OR Engr Mgt maj; CSE 205; IEE 380; MAT 266; Pre/coreq(s): ACC 241,242 or 271 OR Visiting University Student |
| SCM | 303 | Honors Global Supply Operations | Provides an overview of supply chain management, specifically for Barrett Honors students. Explains principles and concepts from a managerial perspective and how they are used for decision making. Course topics include supply management, operations management and logistics management as applied to a supply chain system. Discusses planning, forecasting, performance measurement and improvement, and collaboration from the perspective of providing excellent customer service. Current topics of interest include the impact of sustainability, security and globalization on managing today's supply chains with an emphasis on supply chain technology. Class methodology focuses on an open-forum discussion of principles and a detailed analysis of case studies. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): W.P. Carey BA or BS major; Barrett Honors student; ECN 221 or 231 with C or better; Pre- or corequisite(s): ACC 241, 242, or 271 |
| SCM | 314 | Analytics for Logistics | Focuses on practical tools and technology for real-world decision making, financial and performance analytics. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): W.P. Carey BA or BS major; SCM 300 or 303 with C or better OR Visiting University Student |
| SCM | 315 | Business Decision Models | Covers quantitative tools used to aid decision making in supply chain management. Focuses on analytics using technology and software to include Tableau and Microsoft Excel. Other topics include the use of tools in performance management, project management and supply chain finance. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): MAT 211, 266, or 271 with C or better; SCM 300 or 303 with C or better OR Visiting University Student |
| SCM | 344 | Applied Logistics Management | Presents a synthesis of the principles in global logistics (and supply chain) emphasizing the operation and integration of activities such as transportation, inventory, warehousing, facility location, customer service, packaging and materials handling. Examines applicable technology supporting each activity. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Pre- or corequisite(s): SCM 314 with C or better if completed OR Visiting University Student |
| SCM | 345 | Logistics Management | Provides a deep analysis of many logistics services to include: global logistics, customer service and order management, distribution/fulfillment operations, demand and inventory planning and management, network analysis and design, and transportation operations, carrier selection, costing and negotiation. In addition, reviews current logistics technology process support and integration, as well as how emerging technology is changing the future of logistics. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): W.P. Carey Supply Chain Management BS major; Pre- or corequisite(s): SCM 315 with C or better if completed OR Visiting University Student |
| SCM | 354 | Procurement of Services | Discusses management of the supply function for logistics-based organizations. Allows students to better understand the nature of procuring a service, contracting that service and establishing appropriate performance metrics. Also focuses on supply chain finance, performance management and analytics. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): SCM 300 or 303 with C or better OR Visiting University Student |
| SCM | 355 | Supply Management | Discusses management of the supply function, including organization, procedures, supplier selection, quality, inventory decisions and price determination. Students also review project management and governance, supply chain strategy and change management. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 3 | L | Prerequisite(s): W.P. Carey Supply Chain Management BS major; ENG 101, 105, or 107 with C or better; SCM 300 or 303 with C or better OR Visiting University Student |
| SCM | 380 | Supply Chain Management Foundations | Explores how organizations effectively and efficiently buy things, make things and move things. Topics include procurement, inventory management, manufacturing and operations, as well as logistics and transportation. Students learn about the primary supply chain challenges organizations face and the strategies used to meet customer expectations. Also addresses supply chain issues related to sustainability, ethics, global business and analytics. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prereq(s): Applied Business and Technology Solutions BA, Entrepreneurial Leadership BA, or non-Business major; min 2.00 GPA; min 30 hours OR nondegree-seeking undergrad student OR degree- or nondegree-seeking grad student OR Visiting University Student |
| SCM | 385 | Business and Sustainability I | First of two related courses; provides a general overview of sustainability topics that are important to business today with a focus on consumer products and services and the social and environmental impact of the organizations that provide them. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): SCM 300, SCM 380, or SOS 110 with C or better; minimum 60 hours; Credit is allowed for only SCM 385 or SOS 385 OR Visiting University Student |
| SCM | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 1-4 | | |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------|---------------------------------------|-------|-----------------|--|
| SCM | 432 | Planning and Control Systems for Supply Chain Management | Covers processes essential to the determination and direction of the flow of resources needed to produce goods and services. Uses Microsoft Excel for supporting analysis. Includes processes, methods, technology and financial impact to forecast, manage inventory, plan needed capacity, determine resources needed for production, determine priority and sequencing of activities, perform master scheduling and material requirements planning. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): W.P. Carey Supply Chain Management BS major; SCM 315 with C or better; SCM 345 with C or better; Pre- or corequisite(s): SCM 355 OR Visiting University Student |
| SCM | 440 | Quality Management/Measurement | Provides a broad introduction to quality management frameworks and tools, with an emphasis on supply chain and operations management issues. Introduces modern quality management approaches including Total Quality Management, Lean and Six Sigma. Students learn how to define quality for a product or service, develop appropriate measurement systems, and apply statistical and systems thinking to control and improve the underlying processes. Covers quality awards and performance excellence programs and quality management systems such as the ISO 9000 family of standards. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): W.P. Carey Business (Retail Management) BA or Supply Chain Management BS major; SCM 300 or 303 with C or better OR Visiting University Student |
| SCM | 445 | Advanced Logistics Management | Logistics processes account for approximately 8% of U.S. GDP; therefore, the efficient and effective execution of these processes is critical to supply chain managers in corporations, government entities and nonprofit organizations. Includes an overview of the processes involved to include customer service, performance management, analytics, technology and supply chain strategy. Includes a survey of the institutions and players in the processes, and the analytical tools to evaluate their efficiency and effectiveness. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): SCM 344 with C or better OR Visiting University Student |
| SCM | 455 | Research and Negotiation | Supply management ensures an organization has resources (i.e., materials, services, equipment) to deliver on promises to stakeholders. This happens by strategically designing supply systems for categories of spend and creating favorable supply agreements. A real-world class project and a real-time contract negotiation simulation helps students understand (1) the relationship among organizational, supply management and purchase category objectives; (2) frameworks and tools to analyze the supply conditions of a category, specifically spend analysis, market/demand analysis and price/cost analysis; (3) how to develop category strategies to ensure adequate and highest value resource supply into the future; (4) the translation of category strategies into manageable supply contracts; and (5) the requisite skills and processes for planning and executing successful contract negotiations. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): W.P. Carey Supply Chain Management BS major; SCM 355 with C or better OR Visiting University Student |
| SCM | 463 | Global Supply Chain Management | With increased globalization and offshore sourcing, global supply chain management is becoming an important issue for many businesses. Like traditional supply chain management, the underlying factors behind the trend are reducing the costs of procurement and decreasing the risks related to purchasing activities. The big difference is that global supply chain management involves a company's worldwide interests and suppliers rather than simply a local or national orientation. Enables students to appreciate the challenges of operating supply chains across international boundaries including how to manage various salient issues including sociocultural, economic, technological and political factors that may shape decisions relating to sourcing and moving goods and services across different geographical boundaries. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 3 | G | Prerequisite(s): W. P. Carey BA or BS major; SCM 300, 303, or 380 with C or better OR Visiting University Student |
| SCM | 479 | Supply Chain Strategy | Discusses supply chain strategy at the strategic level and from a systems point of view in an open-forum and detailed analysis of case studies. Students work in teams to investigate and report on key supply chain functions, drivers and metrics within an integrated system to include network design, innovation, technology enablement, customer service, sustainability, coordination and management of the critical areas of the supply chain. Includes additional focus on project management, corporate social responsibility and governance and financial implications. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 3 | L | Prerequisite(s): W.P. Carey Supply Chain Management BS major; ENG 101, 105, or 107 with C or better; SCM 355 with C or better; SCM 432 with C or better OR Visiting University Student |
| SCM | 485 | Business and Sustainability II | Second of two related courses focusing on the environmental, social and economic dimensions of sustainable technologies and exposes students to a variety of related concepts and theories. Describes technology hotspot analysis, life cycle assessment and a variety of models of technology forecasting and diffusion. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): SCM 385 or SOS 385 with C or better; Credit is allowed for only SCM 485 or SCM 494 (Business and Sustainability II) or SOS 485 |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------|---------------------------------------|-------|-----------------|---|
| SCM | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 1-6 | | Prerequisite(s): Barrett Honors student |
| SCM | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | W. P. Carey School of Business | Department of Supply Chain Management | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| SCM | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 1-4 | | Prerequisite(s): minimum 60 hours OR Visiting University Student |
| SCM | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 1-7 | | |
| SCM | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Supply Chain Management | 1-3 | | |
| SCM | 501 | Fundamentals of Operations and Supply Chain Management | This contemporary class explores basic operations and supply chain management topics, including process analysis, managing waiting lines, inventory, quality and general supply chain issues and concepts. Designed for students with limited business experience and without an undergraduate supply chain degree to set a foundation of understanding. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): degree-seeking graduate student |
| SCM | 502 | Operations and Supply Chain Management | Explores supply chain management topics including environmental, project and supply chain processes. Additionally, covers processes in the areas of new product introduction development; quality control; TQM (Total Quality Mgt). | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 2-4 | | Prerequisite(s): W. P. Carey MBA or Global Logistics MS student |
| SCM | 515 | Decision Models for Supply Chain Management | Covers decision modeling approaches for supply chain management such as optimization, simulation and decision analysis. Focuses on technology enablement, performance management and analytics, and strategy change and management. Emphasizes modeling using spreadsheet-oriented approaches. Additionally, focuses on financial spreadsheet analysis and its use in optimization. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 2-4 | | Prerequisite(s): W. P. Carey MBA or Global Logistics MS student |
| SCM | 516 | Descriptive and Predictive Analytics | Provides a survey of concepts, structure and analytical tools that lay the foundation for employing quantitative techniques (descriptive and predictive) to gain insights that help decision makers make better decisions. Familiarizes students with descriptive statistics, probability and probability distributions, confidence intervals, hypothesis testing, linear regression, logistic regression and forecasting methods | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): W. P. Carey Business Analytics MS or Global Logistics MS student |
| SCM | 517 | Business Process Analytics | Addresses the use of analytics tools and techniques to enhance the ability of quality management approaches to improve processes. Introduces modern quality management approaches including six sigma and design for six sigma. Covers the define, measure, analyze, improve and control (DMAIC) improvement cycle: the core process used to drive six sigma projects. DMAIC refers to a data-driven improvement cycle used for improving, optimizing and stabilizing business processes and designs. Provides an analytics roadmap to help users work through the DMAIC problem-solving process. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): W. P. Carey MBA or Business Analytics MS student |
| SCM | 518 | Analytical Decision Modeling | Explains the skills and knowledge necessary for mastery of the use of quantitative modeling tools and techniques to support a variety of business decisions. Also explores deterministic optimization techniques, including linear programming, nonlinear programming, integer programming; network models and a brief introduction to metaheuristics. Covers the use of these models for a variety of common business problems. Practical application of these models uses Excel and standalone software. Also studies how to ensure that these solutions work in a wide variety of situations (what-if analysis). | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): W. P. Carey MBA or Business Analytics MS student |
| SCM | 519 | Quantitative Risk Management | Addresses the skills and knowledge necessary to model situations where uncertainty is an important factor. Covers models including decision trees, queuing theory, Monte Carlo simulation, discrete event simulation and stochastic optimization. Uses these models for a variety of common business problems and requires implementation of these models using Excel and standalone software. Studies how to ensure that these solutions work in a wide variety of situations (what-if analysis). Describes each of these methods in detail. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): Business Analytics MS student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------|---------------------------------------|-------|-----------------|---|
| SCM | 520 | Strategic Procurement | Applies principles, philosophies and processes of supply management to facilitate the continuous improvement and strategic design of an organization's supply management system on a global basis. Focuses on topics like performance management and analytics, project management and governance and finance. Provides a comprehensive understanding of supply management and its impact on the organization. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): W. P. Carey MBA or Global Logistics MS student; SCM 502 with C or better |
| SCM | 521 | Supply Management and Negotiation | Explores the supply management process of selecting, developing and executing of appropriate sourcing strategies and processes. Covers the importance of driving cost, quality and relationship management, as well as organizational change impacts on supply management of a business. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 2-4 | | Prerequisite(s): SCM 520 |
| SCM | 532 | Supply Chain Cost and Design Issues | Strategic design and development of supply chains. Focus on cost-management tools applied to supply chain design and supplier management. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 1-4 | | Pre-requisites: W.P. Carey degree seeking Graduate student |
| SCM | 541 | Logistics in the Supply Chain | Covers theories and practices of modern logistics management within a market-driven supply chain. Begins with an outline of reasons why some operations are not efficient, then introduces management tools to improve efficiency and responsiveness followed by application of analytical tools to evaluate the current logistic management practices. Topics include logistics strategy, demand management, distribution and warehouse management, distribution/warehouse design and location decisions, transportation and delivery frequency, reverse logistics, humanitarian logistics and responsive supply chains. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 2-4 | | Prerequisite(s): W. P. Carey degree-seeking graduate student |
| SCM | 542 | Logistics, Globalization, and Economic Development | Global trade, global networks and the influence those networks have on economic development worldwide. Exposes geographic, economic and sociopolitical perspectives on these issues and invites students to draw conclusions from an increasingly informed perspective. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Pre-requisite: SCM 502 and 541; Co-requisite: SCM 515 |
| SCM | 545 | Cases in Global Logistics | Capstone experience for students in the MS in Global Logistics program. Synthesizes learnings from previous courses and applies this learning to specific issues that have a major global logistics component. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Pre-requisite: SCM 502, 515, 541 and 542 |
| SCM | 551 | Operations Planning and Execution | Studies management of the conversion of raw materials to finished goods including scheduling, work-in-process inventory management, and postponement/customization. Students gain a deeper understanding of the integrated supply chain of plan, source, make, deliver and return. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SCM | 581 | Management of Technology and Innovation | Technology life cycles, technology forecasting, new product development process, innovation teams, innovation best practices. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 2-4 | | |
| SCM | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | N | LEC | N | Z1 | W. P. Carey School of Business | Department of Supply Chain Management | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SCM | 587 | Project Management | Provides a comprehensive understanding of project management with particular focus on planning, scheduling and control of business processes. Emphasizes understanding team dynamics and risk analysis, as well as program management tools, governance and enabling of technology to drive supply chain processes. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SCM | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 1-12 | | Pre-requisites: W.P. Carey degree seeking Graduate student |
| SCM | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | N | LEC | N | Z1 | W. P. Carey School of Business | Department of Supply Chain Management | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SCM | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Supply Chain Management | 1-12 | | |
| SCM | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 1-12 | | |
| SCM | 791 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 1-12 | | Prerequisite(s): W. P. Carey graduate student |
| SCM | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Supply Chain Management | 1-15 | | |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|----------------------------------|---------------------------------------|-------|-----------------|--|
| SCM | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | LEC | N | Z3 | W. P. Carey School of Business | Department of Supply Chain Management | 1 | | |
| SCM | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | W. P. Carey School of Business | Department of Supply Chain Management | 1-15 | | |
| SCN | 201 | Discovering the Deserts of the Southwest | Introduces deserts of the Southwest. Explores the Southwest desert flora, fauna and geology with particular focus on the Sonoran Desert. Introduces desert habitats, identification of local animals and plants, ecology and adaptations of desert organisms, desert climates and geographical features and human cultures and impacts. This lab course requires field experiences. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 4 | | |
| SCN | 202 | Sustainability Science Literacy for Engaged Global Citizens | Introduces relevant science concepts and issues that are essential for sustainability literacy. Includes topics related to water, energy and climate. Grounded in UN's Sustainable Development Goals (SDGs) and linked to the Arizona K-12 and NGSS science standards, introduces foundational science concepts related to and their relationship to grand local and global sustainability challenges. Includes a range of lab and field experiences, emphasizing issues facing Arizona and its surrounding regions as examples. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 4 | SG & G | |
| SCN | 205 | Tropical Ecology and Sustainable Living | To better understand the astonishing diversity of tropical ecosystems, students work together to investigate the ecology and cultures of Neotropical ecosystems: how they were formed and how they are changing. Students also examine their own cultural perspectives and beliefs. Focuses on four areas: (1) background on the history and present-day society of Costa Rica; (2) living in Costa Rica, community, family and education; (3) the relationships between food systems, ecology, conservation and sustainability; and (4) the location of Costa Rica, the rainforests' impact on the world, climate, cultures and contributions to science. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Credit is allowed for only SCN 205 or SCN 305 or SCN 505 |
| SCN | 207 | Introduction to Biomimicry | Foundational course that introduces everyone, no matter their discipline or background, to the emerging field of biomimicry. Biomimicry is the practice of looking to nature for strategies to solve human challenges. We are living in a time when scientists and researchers are finding sustainable solutions to solve local and global challenges by looking to nature and imitating how nature solves similar challenges. Get inspired and look at the world through a whole new lens--one inspired by nature! | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 4 | | |
| SCN | 208 | Nature and Society: An Introduction to Environmental Studies | Introduces environmental studies and urban environmental practices. Widespread environmental problems such as biodiversity loss, resource depletion and environmental change and degradation are among the most pressing global issues of our day. Identifies and explores some of the pressing questions in the field regarding complex environmental problems and solutions from a global perspective. Explores social science and humanities approaches to environmental issues and addresses environmental practices that foster individual and community well-being, environmental quality in cities and urban sustainability. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 4 | SG & G | Credit is allowed for only SCN 208 or SCN 294 (The Exploration of Environmental Studies) |
| SCN | 209 | Introduction to Environmental Education Project | Covers topics in environmental education that assist students with being able to learn about and investigate their environment in order to make intelligent and informed decisions. | Y | LEC | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | |
| SCN | 250 | Physical Science by Inquiry | Laboratory-based development of concepts and reasoning skills in the physical sciences. Emphasizes open-ended investigations, dialogues between the instructor and individual students, and small group discussions. Helps students think of physical science as an active process of discovery in which they can participate. Helps preservice teachers understand inquiry and develop inquiry skills. Liberal arts students gain experience in the scientific process. Useful for students who wish to improve their science preparation before taking further science courses. Forms foundation for scientific literacy. | N | LAB | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 4 | SQ | Credit is allowed for only SCN 250 or 294 (Physical Science by Inquiry) |
| SCN | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |

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| SCN | 300 | Foundations of Environmental Education | Introduces environmental education, including the philosophy, historical development, resource identification, curriculum development, field trips and other activities designed to provide the structure and development of the field of environmental education. Explores the antecedents to the present-day field and connects the field of environmental education to curricular programs that are an outgrowth of perceived and actual need in the field of environmental education. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | |
| SCN | 301 | Ecology and Natural History of the Sonoran Desert | Overview of the plants, animals, and geology of the desert ecosystem based on the Arizona K-12 Science Standards. Provides students with basic knowledge of the Sonoran Desert characteristics and its relationship to the total school curriculum. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 4 | SG | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SCN | 302 | Environmental Education: A Global Perspective | Ignites questions, wonder and reflection about how we educate ourselves and future generations as stewards of this planet. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | L & G | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| SCN | 303 | Environmental Education Internship | Provides opportunities to learn more about natural sciences and local history; outdoor education and field trip course facilitation and training; individual and group development; facility care and maintenance including landscaping, gardening and carpentry; and the restoration and maintenance of the grounds and teaching materials. Supports and/or develops education projects and programs as outlined by the locations' Educational Outreach office. Various other tasks include: field trip coordination, development of curriculum and classroom materials, hands-on fieldwork, school outreach, off-site outreach events support, and Outdoor Education event support. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-3 | | Prerequisite(s): minimum 45 hours |
| SCN | 304 | Sonoran Desert Flora | Plants and plant communities support much of the diversity of life in the Sonoran Desert and the surrounding regions. Covers the fundamentals of ecology from the perspective of plants including population, community and ecosystem ecology. Also includes identification and classification of plants and plant communities in the Sonoran Desert region. Incorporates practical field exercises designed to acquaint the student with plant community analysis, classification and description. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours |
| SCN | 305 | Tropical Ecology and Sustainability | To better understand the astonishing diversity of tropical ecosystems and sustainable practices, students work together to investigate the ecology and cultures of the neotropical ecosystems: how they were formed and how they are changing. Students also examine their own cultural perspectives and beliefs. Focuses on four areas: (1) background on the history and present-day society of Costa Rica; (2) living in Costa Rica, community, family and education; (3) the relationships between food systems, ecology, conservation and sustainability; and (4) the location of Costa Rica, the rainforests' impact on the world, climate, cultures and contributions to science. | Y | LEC | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only SCN 205 or SCN 305 or SCN 505 OR Visiting University Student |
| SCN | 307 | Biomimicry: Nature's Sustainable Solutions | Covers the interdisciplinary field of biomimicry and how we learn from nature. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | G | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SCN | 308 | Urban Environmental Education | Environmental education and educators translate the complex web of earth systems science, sustainability, environmental issues and environmental change for the public. Provides opportunity to understand and experience the interface between humans and the planet to facilitate ecological literacy and ecologically responsible behavior. Assists students in becoming more sensitive to and aware of earth systems and environmental change. Also provides the knowledge, skills and motivation for understanding sustainable living in the urban environment. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SCN | 309 | Environmental Education Project | Covers topics in environmental education that assist students with being able to learn about and investigate their environment in order to make intelligent and informed decisions. | Y | LEL | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SCN | 310 | Biodiversity Conservation: An Educational Inquiry | The world is in a period of unprecedented environmental change. Examines the causes and consequences of one of the most prominent forms of change in the modern era--changes in biological diversity. Explores the scientific evidence that shows how and why Earth's biological resources are being altered, how these changes impact ecosystems and the benefits various ecosystems provide to society. Describes the social and economic consequences of biodiversity loss and understands current management strategies used to curb changes in our planet's biological resources. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 4 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only SCN 310 or SCN 294 (Biodiversity Conservation) or SCN 494 (Biodiversity Conservation) OR Visiting University Student |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|----------------------------------|---|-------|-----------------|--|
| SCN | 311 | Nature Mindfully | Provides an opportunity for students to do in-depth exploration of the reciprocal relationship between human beings and the natural world. Introduces students to what is currently meant by the term ecopsychology, which studies the relationship between human beings and the natural world through ecological and psychological principles. Participants cultivate the knowledge and skills to integrate mindfulness-based best practices with natural settings. As a species, we came of age with nature, and a need for nature still resides within the architecture of our bodies and minds. Abundant research demonstrates physical and psychological benefits of interacting with nature. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours |
| SCN | 400 | Sustainability Science for Teachers | Explores the challenges of sustaining human health and well-being on Earth due to human exploitation of natural resources. Seeks sustainable solutions through science, technology and society acting at global and local levels. Covers diverse approaches used by scientists, scholars and practitioners to study and assess human-environment interactions pertaining to sustainability challenges and solutions. Focuses on how to teach sustainability concepts in the K-8 classroom. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only SCN 400 or SCN 401 OR Visiting University Student |
| SCN | 401 | Sustainability Science, Technology, and Society | Explores the challenges of sustaining human health and well-being on Earth due to human exploitation of natural resources. Prepares students to think and engage critically with the world around them. Seeks sustainable solutions through science, technology and society acting at global and local levels. Uncovers diverse approaches used by scientists, scholars and practitioners to study and assess human-environment interactions pertaining to sustainability challenges and solutions. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): non-Teacher Preparation student; minimum junior standing; Credit is allowed for only SCN 400 or SCN 401 OR Visiting University Student |
| SCN | 411 | Science in Elementary Schools | Science education standards, curriculum, instructional and assessment strategies for all children. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours; Credit is allowed for only EED 411 or SCN 411 |
| SCN | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| SCN | 501 | Ecology and Natural History of the Sonoran Desert | Gives students an opportunity to study the common plants and animals of the southwest Sonoran Desert. Study also includes their distribution, adaptations, behavior and ecology. Also includes the physical geography and geology of the region. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SCN | 502 | Outdoor Education | Ignites question, wonder and reflection related to the ways we educate ourselves and the next generations as stewards of this planet. Through lived experiences, classroom exercises, relevant readings, individual and group projects and activities, students gain a wider and deeper appreciation of ecological, sustainability and science education. Explores the historical and philosophical foundations of the diverse emphases and uses of outdoor, experiential education and place-based education. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SCN | 504 | Sonoran Desert Flora | Plants and plant communities support much of the diversity of life in the Sonoran Desert and the surrounding regions. Covers the fundamentals of ecology from the perspective of plants including population, community and ecosystem ecology. Also includes identification and classification of plants and plant communities in the Sonoran Desert region. Incorporates practical field exercises designed to acquaint the student with plant community analysis, classification and description. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SCN | 505 | Tropical Ecology and Sustainable Development | To better understand the astonishing diversity of tropical ecosystems and sustainable practices, students work together to investigate the ecology and cultures of the neotropical ecosystems: how they were formed and how they are changing. Students also examine their own cultural perspectives and beliefs. Focuses on four areas: (1) background on the history and present-day society of Costa Rica; (2) living in Costa Rica, community, family and education; (3) the relationships between food systems, ecology, conservation and sustainability; and (4) the location of Costa Rica, the rainforests' impact on the world, climate, cultures and contributions to science. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SCN 205 or SCN 305 or SCN 505 |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|------------------------------------|---|-------|-----------------|--|
| SCN | 507 | Learning from Nature: Biomimicry and STEM | Offers an introduction to biomimicry, an emerging discipline that seeks to learn from nature to solve human problem. "Biomimicry" (from bios, meaning life, and mimesis, meaning to imitate) is a new discipline that studies nature's best ideas and then imitates these designs and processes to solve human problems. With an emphasis on getting outside and exploring the land, focuses on observing, appreciating and learning from nature and natural systems in our local environment. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SCN | 508 | Urban Environmental Education | Environmental education and educators translate the complex web of earth systems science, sustainability, environmental issues and environmental change for the public. Gives students an opportunity to understand and experience the interface between humans and the planet to facilitate ecological literacy and ecologically responsible behavior. Assists in becoming more sensitive to and aware of earth systems and environmental change and also provides the knowledge, skills and motivation for understanding sustainable living in the urban environment. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SCN | 509 | Environmental Education Project | Covers topics in environmental education that assist students with being able to learn about and investigate their environment in order to make intelligent and informed decisions. | Y | LEL | Y | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SCN | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SDO | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): Master of Human Resources and Employment Law or Master of Legal Studies student |
| SDO | 501 | U.S. Law and Legal Analysis: Masters | Introduces the U.S. legal system and the types of legal reasoning used by legal professionals. Provides the necessary instruction to use legal reasoning in both academic work and professional endeavors, including reading and evaluating legal cases, statutes and public policy. Students complete extensive written legal analysis exercises, draft case briefs and complete discussion board posts critically analyzing current legal issues. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources and Employment Law, Master of Laws, or Master of Legal Studies student; Credit is allowed for only SDO 501 or SDO 598 (US Law & Legal Analysis-Masters) |
| SDO | 503 | Professional Writing: Masters | Writing strategies, techniques and genres for use in professional business environments. Presents techniques for crafting and using appropriate workplace grammar and spelling, written structure for memos, emails, reports and presentations, and communication style in a professional setting. Introduces distinct methods for writing for a digital environment as well as general writing skill improvement for success in a professional academic program. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): Human Resources and Employment Law MHREL, Laws LLM, or Legal Studies MLS student; Pre- or coreq(s): SDO 501 or 598 (US Law/Legal Analysis-Masters); Credit for only SDO 503 or SDO 598 (Prof Writ & Comm-Masters) or SDO 598 (Prof Writing-Masters) |
| SDO | 504 | Professional Communication: Masters | Facilitates understanding human communication relative to small group projects, public speaking and interpersonal relationships in the professional environment. Specifically introduces the theory and practice of human communication. Explores communication topics related to interpersonal, small group and public communication. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501 or 598(US Law/Legal Analysis-Master); Credit allowed for only SDO 504 or SDO 598 (Prof Communication:Masters) |
| SDO | 510 | Business Organizations: Masters | Covers the primary forms of business organizations: partnerships, limited partnerships, limited liability companies and corporations. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Mast); Credit is allowed for only SDO 510 or SDO 598 (Business Organizations-Mast) |
| SDO | 511 | Administrative Agencies/Regulation: Masters | Begins with an accelerated introduction to federal administrative agencies, the sources and boundaries of their authority, and options for redress for parties aggrieved by administrative actions. Also briefly examines state administrative agencies in the same light. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS stdnt; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Masters); Credit allowed for only SDO 511 or SDO 598 (Admin Agencies & Reg-Masters) |

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| SDO | 512 | Compliance and Ethics: Masters | Focuses on developing competencies for building and leading an effective corporate compliance and ethics program. Students gain a broad understanding of compliance and ethics oversight, along with the skills necessary to identify corporate risks, develop policies and procedures, provide compliance training, investigate issues, resolve disputes and create effective compliance documents for board governance, audit committee and senior management use. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or coreq(s): SDO 501 or 598 (US Law/Legal Analysis - Master); Credit allowed for only SDO 512 or SDO 598 (Compliance & Ethics - Masters) |
| SDO | 513 | Sports Law: Masters | Studies law, policy and problem solving in the context of the sports industry at all levels. Exposes students to professional, amateur and international sports law issues, examining those issues in a problem-focused manner. The requirements of the course are designed to challenge the students. Expects students to think about, and not just read, the materials assigned. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis - Master); Credit is allowed for only SDO 513 or SDO 598 (Sports Law - Masters) |
| SDO | 514 | Intellectual Property: Masters | Surveys the laws conventionally grouped as intellectual property with a focus on patents, copyrights and trademarks. Explores the policy rationales for each body of law. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501; Credit is allowed for only SDO 514 or SDO 598 (Intellectual Property-Master) |
| SDO | 515 | Criminal Law: Masters | Reviews and analyzes different principles of the fundamentals of criminal law, including: the principles of punishment, burdens of proof, actus reus (acts and omissions), mens rea (mental states), presumptions, causation, strict liability, defenses and homicide | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): Human Resources & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS student; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Mast); Credit allowed for only SDO 515 or SDO 598 (Criminal Law-Mast) |
| SDO | 516 | Criminal Procedure-Masters | Consider the basic principles of criminal procedure and the methods by which the criminal justice system functions. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS student; Pre- or coreq(s):SDO 501 or SDO 598 (US Law/Legal Analysis-Masters); Credit is allowed for only SDO 516 or SDO 598 (Criminal Procedure-Masters) |
| SDO | 517 | Construction Law: Masters | Uses case studies based on actual construction projects as the primary teaching tool. Topics include: types of construction contracts, relationships among the owners, architects/engineers, general contractors, subcontractors and material suppliers on a project. Additionally, express and implied warranties; the role of the schedule and claims related to scheduling; change orders and concealed site condition claims; mechanics' liens, stop notices and other payment remedies; types of insurance and insurance coverage disputes on construction projects; proving damages; and the trial of a construction case and the use of expert witnesses. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws or Master of Legal Studies student; Pre- or corequisite(s): SDO 501 or 598 (US Law/Legal Analysis - Master); Credit allowed for only SDO 517 or SDO 598 (Construction Law-Masters) |
| SDO | 518 | Fundamentals of Contract Law: Masters | Explores the fundamental principles of contract law under the common-law and Uniform Commercial Code statutory provisions. Focuses on issues of contract formation and interpretation, defenses to enforcement, warranties and conditions, and remedies for breach of contract. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS student; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Mast); Credit allowed for only SDO 518 or SDO 598 (Fundamentals of Contract Law-Mast) |
| SDO | 519 | Environmental Law: Masters | Introductory survey of the fundamental concepts underlying sustainability and environmental policy, as well as the necessary legal foundation for understanding environmental law. Also, examines the main environmental law statutory schemes. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws or Master of Legal Studies student; Pre- or coreq(s): SDO 501 or 598 (US Law/Legal Analysis - Master); Credit is allowed for only SDO 519 or SDO 598 (Environmental Law - Masters) |
| SDO | 520 | Patent Law: Masters | Key principles, concepts and applications of patent law and practice. Patent law is one of the most dynamic and highest stakes area of legal practice. From a practical perspective, covers the basis of the patent system, the requirements of, process of obtaining patents, characteristics and valuation of patents, strategies for enforcing and defending patent assertions. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501 or 598 (US Law/Legal Analysis - Master); Credit is allowed for only SDO 520 or SDO 598 (Patent Law - Masters) |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|------------------------------------|------------------------------------|-------|-----------------|--|
| SDO | 521 | Property Law: Masters | Provides an introductory survey of legal rules and constructs that allocate interests in real and personal property that govern the acquisition, definition, scope and enforcement of those interests. Also examines how a wide range of legal doctrines and instruments help to balance competing public policy goals involving the nation's vast spectrum of scarce and valuable assets. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources and Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501 or 598 (US Law/Legal Analysis - Master); Credit is allowed for only SDO 521 or SDO 598 (Property - Masters) |
| SDO | 522 | Conflict Theory: Masters | Focuses on conflict before resolution strategies are considered. Thus, concentrating on the sources and nature of conflict--how and why it escalates, de-escalates or persists, and the conditions under which it can be constructive or destructive. Designed to give a better understanding of the meaning and dynamics of conflict to broaden understanding of how conflict resolution strategies operate within the broader structure of conflict situations. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws or Master of Legal Studies student; Pre- or corequisite(s): SDO 501 or 598 (US Law/Legal Analysis-Master); Credit is allowed for only SDO 522 or SDO 598 (Conflict Theory-Masters) |
| SDO | 523 | Organization & Workplace Dispute Resolution: Masters | Examines the complexity of workplace conflict through the role of organizational climate and culture, and the core communication challenges and strategies for managing workplace conflict. Focus is paid to providing the tools, such as team building and positive management, to address and create healthy conflict in the workplace. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or coreq(s): SDO 501 or 598 (US Law/Legal Analysis-Master); Credit is allowed for only SDO 523 or SDO 598 (Org & Work Disp Resol-Master) |
| SDO | 524 | Psychology of Conflict: Masters | The field of conflict resolution draws its foundational theory from a variety of interdisciplinary perspectives. One of those key perspectives is social psychology. Focuses on providing an empirically grounded understanding of social psychology as it relates to conflict processes and conflict resolution. In this context, the course discusses foundational principles within social psychology, the influence of individual-focused factors, the psychology of intergroup dynamics and other key topics. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501; Credit is allowed for only SDO 524 or SDO 598 (Psychology of Conflict-Masters) |
| SDO | 525 | Tort Law: Masters | High-level introduction to torts. Covers various types of tort causes of action, their various elements, defenses and factual patterns that fit those specific tort causes of action. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): Human Resources & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS stdnt; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Masters); Credit allowed for only SDO 525 or SDO 598 (Tort Law-Masters) |
| SDO | 526 | Divorce & Family Mediation: Masters | Learn the very essence of the family mediator, explore the structure of family mediation, and effective qualities and attitudes. Explains essential mediator techniques and how to use foundational and advanced mediator strategies. Addresses ethical challenges and special circumstances in mediation. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501; Credit is allowed for only SDO 526 or SDO 598 (Divorce and Family Mediation-Master) |
| SDO | 527 | Dispute System Design: Masters | Dispute Systems Design (DSD) is the process of identifying, designing, employing and evaluating an effective method by which your organization can resolve internal conflicts. Students learn a brief history of dispute resolution models, then show how, by using a foundation of mindfulness toward businesses, employees/stakeholders can revise an existing dispute resolution system or design one from scratch utilizing an analytic framework in dispute design. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources and Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501; Credit is allowed for only SDO 527 or SDO 598 (Dispute Systems Design - Masters) |
| SDO | 528 | Data Privacy & Protection: Masters | Students learn the regulatory and operational landscape surrounding data privacy and protection. More specifically, risks that impact businesses operating within the United States and internationally, regulatory framework, and steps needed to mitigate the risks associated with data privacy and protection. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501; Credit allowed for only SDO 528 or SDO 598 (Data Privacy and Protection-Masters) |
| SDO | 529 | US Constitutional Law: Masters | Surveys the law surrounding the allocation of governmental power between federal, state and tribal governments and the distribution of governmental authority within the federal government. It is a pervasive subject in the sense that such constitutional questions can emerge in such disparate areas of legal practice as immigration, corporations and securities, family law, criminal law, banking and insurance. Deals with individual rights protected by the U.S. Constitution. Specific areas include due process, freedom of expression and religion, and equal protection. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS student; Pre- or coreq(s): SDO 501 or SDO 598(US Law/Legal Analysis-Masters); Credit allowed for only SDO 529 or SDO 598(US Constitutional Law-Masters) |

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| Subject | CatalogNbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|------------|---|---|-------------------|-------------------|-----------------|---------------|------------------------------------|------------------------------------|-------|-----------------|--|
| SDO | 530 | Risk Assessment and Management: Masters | Covers risk and ways to assess and manage it within legal boundaries and obligations. Students gain a broad understanding of risk management and the interconnection between risk, strategy, compensation, compliance and governance. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501; Credit is allowed for only SDO 530 or SDO 598 (Risk Assessment/Mgt-Masters) |
| SDO | 531 | Employment Law: Masters | Covers employment law topics including testing, privacy, FLSA, benefits, rights to compensation, workplace emotional injuries, termination, and employer risk management strategies. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Practice) MLS student; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Masters); Credit allowed for only SDO 531 or SDO 598 (Employment Law-Masters) |
| SDO | 532 | Conducting Fact Investigations: Masters | Focuses on understanding and developing competencies for conducting fact investigations and reporting which result from allegations of misconduct and other violations of an organization's code of conduct. Students learn that fact investigations, also called internal investigations, can potentially create legal, financial and reputational risks for an organization if not conducted properly. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501; Credit is allowed for only SDO 532 or SDO 598 (Fact Investigation and Reporting-Masters) |
| SDO | 533 | Fraud Examination: Masters | Examines fraud and its impact on society. Fraud is a relentless evil that targets businesses, individuals and the government and results in financial, reputational and emotional costs. Examines the nature of fraud, why people commit fraud and how to lessen opportunities for fraud. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501; Credit is allowed for only SDO 533 or SDO 598 (Fraud Examination) |
| SDO | 534 | Health Industry Compliance: Masters | Focuses on the particular laws and regulations that significantly impact the health care industry. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501; Credit is allowed for only SDO 534 or SDO 598 (Health Care Industry Compliance-Masters) |
| SDO | 535 | Negotiation: Masters | Offers a basic introduction to the concepts, instruments, functions and theories of modern negotiation giving students some of the information needed to better understand the dynamics of interpersonal, business and legally related negotiation. Begins with a discussion of negotiations as interpersonal communication. Examines avoiding exploitation in mixed-motive exchanges. Explores distributive bargaining strengths and weaknesses. Examines the use of integrative bargaining techniques and those settings in which they might be best used. Finally, reviews the landscape of legal jurisprudence in order to apply appropriate ideologies and techniques to the complex adaptive system of American business and personal interaction in the shadow of the law. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): Human Resources & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS stdnt; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Master); Credit allowed for only SDO 535 or SDO 598 (Negotiation-Master) |
| SDO | 536 | Financial Ind Compliance: Masters | Covers compliance risk management programs in the financial services industry. The fundamental concepts students understand include: recent compliance program trends and hot topics, industry regulators and key legislative requirements, role and responsibility of the compliance officer (and compliance team members), core components of an effective compliance program and real-world practices and perspectives to manage compliance risks. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources and Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501; Credit is allowed for only SDO 536 or SDO 598 (Financial Industry Compliance-Masters) |
| SDO | 537 | Financing Ventures: Masters | Explores the laws, regulations, governmental agencies, instruments, strategies, funding sources and market forces that impact early stage ventures' efforts to raise capital. The legal aspects focus on Regulation D of the 1933 Securities Act, which sets out exemptions from the standard disclosure and registration requirements of US securities laws and regulations. The strategic fund raising aspects explores sources of capital, fund raising techniques, when and who to approach when capital needs to be raised, and how market forces and participants view the use of various financing options. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501; Credit is allowed for only SDO 537 or SDO 598 (Financing Early Stage Ventures-Masters) |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|------------------------------------|------------------------------------|-------|-----------------|---|
| SDO | 538 | Entrepreneurship, Law and Strategy: Masters | Overview of strategy and the law that are most crucial to educating potential entrepreneurs and lawyers who are interested in starting a business. Addresses the five potential major areas of evolution for a startup: the concept, seed, growth, sustaining and exit stages of the business. Focuses on topics around the formation of a company, growing and managing the business for long-term success. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies stdnt; Pre- or coreq(s): SDO 501 or 598 (US Law/Legal Analysis-Masters); Credit allowed for only SDO 538 or SDO 598 (Entrepreneur Law&Strategy: Idea to Exit) |
| SDO | 540 | Immigration Law: Masters | Provides an overview of the history of immigration law, policy and current events. Examines the tension between constitutional immigration powers and federal statutes versus the states' abilities to control immigration within their borders. Provides generalized knowledge of various forms of immigration relief. Students practice their research and writing skills as well as analyze the morality and human rights issues that are at play within the immigration context. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501 or 598 (US Law/Legal Analysis - Master); Credit allowed for only SDO 540 or SDO 598 (Immigration Law-Masters) |
| SDO | 541 | HR and Employment Law: Masters | Provides an introduction to the management of human resources, in an overview perspective. Students also gain a general understanding of the fundamentals of human resource management and employment laws and policies, and how they apply to organizations. Topics covered are: compensation and benefits, staffing, training and development, performance appraisals, organizational management, policy and maintaining effective relationships with employees. Exposes students to the dynamics of how the human resource department and the company strategically work together to balance employee morale and return on investment. Initiates a well-rounded learning experience of HRM and the effects on business operations. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Practice) MLS student; Pre- or coreq(s): SDO 501 or 598 (US Law/Legal Analysis-Masters); Credit is allowed for SDO 541 or LAW 598/SDO 598 (HR & Employment Law) |
| SDO | 542 | Regulation of Small Businesses: Masters | Introduces the wide array of regulations that businesses must navigate. (licensure, taxation, insurance and employment rules as well as other laws and regulations triggered by commerce). Additionally, provides a background into the agencies that create and enforce many of the regulations that impact small business and the legal basis for their ability to do so. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS student; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Masters); Credit allowed for only SDO 542 or SDO 598 (Regulation of Small Business) |
| SDO | 543 | Business Relationships: Masters | Introduces the legal frameworks that impact how business and individuals work together to achieve business and individual goals. Topics covered include contracts, strategic partnerships, IP licensing arrangements, franchising, and others. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Practice) MLS student; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Masters); Credit allowed for only SDO 543 or SDO 598 (Business Relationships) |
| SDO | 544 | Evidence: Masters | Focuses on the principles and practices governing the competency of witnesses and presentation of evidence, including the rules of exclusion and roles of lawyer, judge and jury under the adversary system. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Practice) MLS student; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Masters); Credit is allowed for only SDO 531 or SDO 598 (Evidence-Masters) |
| SDO | 545 | Arbitration: Masters | Focuses upon the law, policy and practices relating to arbitration process, using a third-party neutral to render a decision for disputing parties, as it is utilized in consumer and commercial sectors. The class will focus on the Federal Arbitration Act, important policy implications of arbitration, and issues that organizations and individuals should consider when both contemplating entering an arbitration agreement and participating in an arbitration process. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Practice) MLS student; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Masters); Credit is allowed for only SDO 545 or SDO 598 (Arbitration-Masters) |
| SDO | 546 | Mediation: Masters | Studies the process in which a trained neutral third party assists others in resolving a dispute or planning a transaction. Trains students in basic mediation skills through readings, lectures, video demonstrations and simulations, and discussions. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Practice) MLS student; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Masters); Credit is allowed for only SDO 546 or SDO 598 (Mediation-Masters) |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|------------------------------------|------------------------------------|-------|-----------------|---|
| SDO | 547 | Land Use Regulation: Masters | Surveys modern land use planning with an emphasis on the legal framework used to resolve conflicting land uses | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS student; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Masters); Credit allowed for only SDO 547 or SDO 598 (Land Use Regulation-Masters) |
| SDO | 548 | Water Law: Masters | Provides an introductory survey of the fundamental concepts underlying water law, as well as the necessary legal foundation for understanding sustainable water policy and management. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Practice) MLS student; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Masters); Credit is allowed for only SDO 548 or SDO 598 (Water Law-Masters) |
| SDO | 549 | Family Law: Masters | Primarily focuses on the law of marriage and divorce including the law governing entry into marriage, the legal consequences of being married, and the dissolution of the marital status. Topics include: the law of marriage, child custody, child support, alimony, division of property, the rights and obligations of unmarried cohabitants, and the establishment of paternity rights and obligations. In addition, touches upon issues of domestic violence, child abuse and neglect and assisted reproductive technologies. Relevant Arizona Statutes are referred to throughout the course where appropriate as examples, but the course is not limited to Arizona law. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Practice) MLS student; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Masters); Credit is allowed for only SDO 549 or SDO 598 (Family Law-Masters) |
| SDO | 550 | Energy Law and Policy: Masters | Examines energy law in the United States, with a focus on law and policy in an era of renewable energy portfolio standards, energy efficiency mandates and greenhouse gas emissions reductions regimes for electric and natural gas utilities. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501; Credit is allowed for only SDO 550 or SDO 598 (Energy Law & Policy - Masters) |
| SDO | 551 | Duties, Obligations and Rights in the Workplace: Masters | Examines the fundamental employee rights and employer obligations established by federal law and encompasses an examination of the National Labor Relations Act; the Worker Adjustment and Retraining Notification Act; the Equal Pay Act; the Occupational Safety and Health Administration; Worker's Compensation; the Family Medical Leave Act; the Pregnancy Discrimination Act; and the Genetic Information Nondiscrimination Act. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Empl Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS stdnt; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Mstrs); Credit is allowed for only SDO 551 or SDO 598 (Duties, Obligs & Rts in Wplc-Mstrs) |
| SDO | 552 | Employment Discrimination: Masters | Focuses primarily on Title VII of the Civil Rights Act of 1964, the Age Discrimination in Employment Act, and the Americans with Disabilities Act. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Empl Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS stdnt; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Mstrs); Credit is allowed for only SDO 552 or SDO 598 (Empl Discrimination - Mstrs) |
| SDO | 553 | Amateur Sports Law: Masters | Examines amateur sports law from legal, business and problem-solving (policy) perspectives. Focuses primarily on interscholastic and intercollegiate athletics, including an examination of gender and racial equity issues. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources and Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501; Credit allowed for only SDO 553 or SDO 598 (Amateur Sports Law - Masters) |
| SDO | 554 | Sports Career Planning & Business Communication: Masters | Addresses the hard and soft skills required to excel in a career in the sports industry. Content includes proper personal branding such as an online profile, cover letters, resumes, emailing, business communication skills and networking. Also includes guidance on strategic career planning, research and writing skills to build a career plan and familiarize students with the sports industry. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources and Employment Law, Master of Laws or Master of Legal Studies student; Pre- or corequisite(s): SDO 501; Credit is allowed for only SDO 554 or SDO 598 (Sports Career Planning & Bus Comm - Masters) |
| SDO | 555 | Professional Sports Law: Masters | Studies law, policy and problem solving in the context of the sports industry at the professional level, from both a legal and a business perspective. Exposes students to professional sports law issues, examining those issues in a problem-focused manner. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Empl Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS stdnt; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Mstrs); Credit is allowed for only SDO 555 or SDO 598 (Prof Sports Law - Mstrs) |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|------------------------------------|------------------------------------|-------|-----------------|--|
| SDO | 556 | Sports Analytics: Masters | Allows students to develop and apply analytical skills that are useful in nearly every career. Although the course focuses on applications in the sports context and uses approaches that are rapidly becoming important in the business of sports analytics, this is not a survey course about issues in sports. Instead, this class is about curiosity, storytelling and logic. An understanding and interest in both sports and numbers make this class good. General curiosity makes it great. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Empl Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS stdnt; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Mstrs); Credit is allowed for only SDO 556 or SDO 598 (Sports Analytics - Mstrs) |
| SDO | 557 | Sports Business Strategy: Masters | Explores the sports business ecosystem and the various stakeholders who play a role in sports business. Beyond stakeholders, the course discusses the various applications within sports business from marketing to venues. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Empl Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS stdnt; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Mstrs);Credit is allowed for only SDO 557 or SDO 598 (Sports Business Strategy-Mstrs) |
| SDO | 558 | Copyright Law: Masters | Includes topics such as copyright bundle of rights, registration, remedies, fair use, work made for hire contracts, licensing and assignments. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Empl Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS stdnt; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Mstrs); Credit is allowed for only SDO 558 or SDO 598 (Copyright Law - Masters) |
| SDO | 559 | Trademark and Unfair Competition Law: Masters | Trademark law is indisputably the most fun area of the law. This course covers, from a practical perspective, the basis and use of the trademark system; the requirements for, process of obtaining, opposing and enforcing trademarks and related rights; and the overlapping federal, state and common law rights and doctrines involved in trademark and unfair competition law including cybersquatting, false advertising and the right of publicity. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Empl Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS stdnt; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Mstrs); Credit is allowed for only SDO 559 or SDO 598 (TM & Unfair Competition Law-Mstrs) |
| SDO | 564 | American Indian Law: Masters | Examines the foundations of the contemporary relationship between Indian Nations, the United States government and the state governments. Topics include the history of federal Indian policy, the doctrine of discovery, tribal sovereignty, the federal trust relationship, federal power in Indian affairs, tribal treaty rights and modern day issues. Devotes particular attention to jurisdictional issues, including the framework for determining civil and criminal authority in Indian Country. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501; Credit is allowed for only SDO 564 or SDO 598 (American Indian Law - Masters) |
| SDO | 566 | Advanced Topics in Sports Law: Masters | Studies law, policy and problem solving in the context of the sports industry, at all levels. Exposes students to professional, amateur and international sports law issues, examining those issues in a problem-focused manner. A variety of industry professionals give the lectures, and each section focuses on a specific topic within the realm of sports. The requirements of the course are designed to challenge the students. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Empl Law MHREL, Laws LLM, Legal Studs MLS, or Legal Studs (PatentPrac) MLS stdt; SDO 598 (SprtsLaw-Mstr); Pre- or coreq(s):SDO 501 or SDO 598 (US Law/Legal Anlys-Mstr); Credit allowed for only SDO 559 or LAW 598/SDO 598 (AdvTopics SprtsLaw) |
| SDO | 567 | Advanced Topics in Criminal Law: Masters | Considers principles of criminal procedure with analytical emphasis on the right to counsel during trial, appellate and post-conviction proceedings. Also examines developments in the criminal justice system derived from the study of wrongful convictions during the Innocence Era. Students read portions of a summary treatise relevant to specific subject areas of criminal law and procedure, case law, law review articles, periodicals and case materials. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Empl Law MHREL, Laws LLM, Legal Stud MLS, or Legal Stud (Patent Prac) MLS std; SDO 515 or 598 (Crim Law-Mstrs); Pre- or coreq(s): SDO 501 or 598 (US Law/Legal Anlys-Mstrs); Credit is allowed for SDO 567 or 598 (Adv. Top in Crim Law-Mstrs) |
| SDO | 568 | Integrating Legal Principles and Business Practices: Masters | Survey course covers various substantive topics with a focus on applying the basic legal principles covered via court decisions and other reading assignments. Requires a basic understanding of "black letter law," but this is not a course that asks MLS students to provide the same level of nuanced legal analysis as would be asked of law students. Instead, merging business acumen and legal analysis is valued above a depth of legal understanding. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Empl Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS stdnt; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Mstrs); Credit is allowed for only SDO 568 or SDO 598 (Integ Leg Pp & Busi Pract-Mstrs) |
| SDO | 569 | Advanced HR and Employment Law: Masters | Covers the laws that govern the rights and duties between employers and employees. Goes beyond knowledge of the law and focuses on the application of the legal knowledge to scenarios HR professionals encounter in both the private and public sector. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Empl Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS stdnt; SDO 531 or 598 (Empl Law); Pre- or coreq(s): SDO 501 or 598 (US Law/Lgl Anlys); Credit is allowed for only SDO 569 or SDO 598 (Adv Top in HR & Emp Law) |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|------------------------------------|------------------------------------|--------|-----------------|---|
| SDO | 578 | Advanced Construction Law: Masters | An in-depth analysis of modern trends in construction law as the field is undergoing radical change under the pressures imposed by mass construction defect and construction material product defect class action lawsuits. Explores the historical forces that have caused courts to struggle with traditional concepts of contract and tort liability applicable to construction viewed as a service and principles of liability more applicable to viewing construction as a product. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; SDO 517 or 598 (Construction Law-Masters); Pre- or coreq(s): SDO 501; Credit is allowed for only SDO 578 or SDO 598 (Adv Construction Law-Masters) |
| SDO | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): Master of Human Resources and Employment Law or Master of Legal Studies student |
| SDO | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): Master of Human Resources and Employment Law or Master of Legal Studies student |
| SDO | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): Master of Human Resources and Employment Law or Master of Legal Studies student |
| SDO | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): Master of Human Resources and Employment Law or Master of Legal Studies student |
| SDO | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): Master of Human Resources and Employment Law or Master of Legal Studies student |
| SDO | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SDO | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): Master of Human Resources and Employment Law or Master of Legal Studies student |
| SDO | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): Master of Human Resources and Employment Law or Master of Legal Studies student |
| SDO | 685 | Human Resource and Employment Law Capstone | Develops a perspective on how the law interacts and impacts the human resources industry. Understanding and applying solutions for rapidly changing legal requirements related to employment is an essential part of business success. Analyzing the current HR legal environment to understand and plan for risk, opportunities and requirements is the starting point for creating a compliant and effective HR system. Students evaluate the impact of legal changes within Arizona, the United States and internationally, placing emphasis on ethical decision making. Students learn how to successfully navigate legal changes within the employment realm and manage relationships with employee groups. | N | PRA | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): Human Resources and Employment Law MHREL student; Pre- or corequisite(s): SDO 501 |
| SDO | 701 | Contract Review and Structure for Professionals: Masters | Helps students learn how to work with contracts by exploring the general parts of a contract, the purposes of contracts, and reviewing contracts with an eye on supporting business interests. Although students learn some drafting techniques, the focus of the course is not on drafting entire contracts from scratch. Rather, students learn how to review contracts within a specific framework and recognize how contract language affects a party's legal rights. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): LAW 515 or SDO 518; SDO 501 or SDO 598 (US Law/Legal Analysis-Masters); Credit is allowed for only SDO 701 or SDO 598 (Contract Review & Structure for Prof - Masters) |
| SEA | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Ocean Futures | 0.25-4 | | |
| SEA | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Ocean Futures | 0.25-4 | | |
| SEA | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Ocean Futures | 0.25-4 | | |
| SEA | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Ocean Futures | 0.25-4 | | |
| SEA | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OP3 | College of Global Futures | School of Ocean Futures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| SEC | 501 | Solar Engineering and Commercialization I | Examines the fundamentals of the solar energy enterprise regarded from a systems engineering perspective. Examines solar energy technology, economic issues and policy matters and reviews the impact of these three areas on the design process and system operation of photovoltaic systems at the residential and commercial scales. Objectives include learning the basic principles in photovoltaic system design; thinking critically and seriously about the nature of solar energy and its use; formulating views and insights regarding energy resources, conservation, photovoltaic economics, government subsidies; and expressing and defending these views orally and in writing. Includes lectures, case studies, interactive classroom projects and guest speakers. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; Credit is allowed for only SEC 501 or SEC 598 (PV Systems Engineering) |
| SEC | 502 | Solar Engineering and Commercialization II | Examines the fundamentals of the solar energy enterprise at the utility scale--the components, the design process, the economic issues, and the policy matters in large-scale photovoltaic systems--in both the design of these systems (both central plant and aggregated forms) and their interface with the existing (and future) electrical grid. The course educational Objectives include: learning the principles in utility-scale photovoltaic system design; thinking critically and seriously about the interaction of photovoltaic systems with the national grid; formulating views and insights regarding energy resources, conservation, economics, government incentives, and so on, at the utility scale; and expressing and defending these views orally and in writing. Includes lectures, case studies, interactive classroom projects and guest speakers. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 3 | | Prerequisite(s): SEC 501; Credit is allowed for only SEC 502 or SEC 598 (Solar Commercialization) |
| SEC | 510 | Solar Energy and Policy | Elucidates and amplifies the importance, role and mechanisms of solar energy policy. Underscores the significance of policy in the successful deployment of solar energy. Complements other courses in the curriculum of the Professional Science Masters (PSM) in Solar Energy, which is largely centered on engineering concepts and techniques. Content is guided by the principle that technical considerations alone are inadequate to stimulate future expansion of solar energy. Additionally, it is stressed that policy considerations are critical to any potential transition to a solar energy economy. Typically taken in conjunction with DC summer workshop "Science Outside the Lab," but may be taken by others as stand-alone course. Course consists of lectures and discussions of policy instruments at the national, state and local scales. Visiting experts from the energy industry provide their personal experience and real-world perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GCU 510 or GCU 598 (Solar Energy & Public Policy) or SEC 510 or SEC 598 (Solar Energy & Public Policy) |
| SEC | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SEC | 588 | Solar Energy Colloquium | Discussion-oriented class focusing on topical issues in solar energy. Knowledge of thermodynamics or electric power systems is recommended to succeed in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only MAE 588 or SEC 588 |
| SEC | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SEC | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | YGB | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SEC | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SEC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1-4 | | |
| SED | 111 | Exploration of Science Teaching | General overview of the profession of the science educator with a look at student, teachers, curricula, and classroom techniques. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|----------------------------------|---|-------|-----------------|--|
| SED | 322 | Classroom Leadership in Secondary Schools | Theories and practices for managing and maintaining secondary classrooms for learning; strategies for home/school communication; and leadership roles for teachers. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | L | Prerequisite(s): admission to the Professional Program; ENG 101, 105, or 107 with C or better |
| SED | 396 | Clinical Experience I | Applies course content in middle/secondary setting grades 6-12. Emphasizes observation, pupil management, planning and delivering instruction, and assessment. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): admission to the Professional Program |
| SED | 397 | Clinical Experience II | Applies course content in a middle/secondary school setting grades 6-12. Emphasizes observation, pupil management, planning and delivering instruction, and assessment. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 0-1 | | Prerequisite(s): admission to the Professional Program |
| SED | 398 | Clinical Experience | Applies course content in middle/secondary setting grades 6-12. Emphasizes observation, pupil management, planning and delivering instruction, and assessment. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | Prerequisite(s): admission to the Professional Program |
| SED | 403 | Secondary Principles, Curriculum and Methods | Advanced level of development of knowledge and skills of instructional planning and methods of teaching and evaluating in the secondary school. Requires observation/participation. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |
| SED | 404 | World and Native Language Methods and Assessment for K-12 Classrooms | Provides educators with a guided exploration of current methods, assessments and techniques related to teaching world and native languages in K-12 contexts; i.e., communication in languages other than English. Students deepen their understanding of language teaching pedagogy and expand their repertoire of teaching strategies and techniques for addressing the diverse learning needs of all students. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 4 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; Credit is allowed for only SED 404 or SED 504 |
| SED | 464 | Middle-School Curr/Org | Educational implications of the characteristics of a diverse adolescent population on middle-level organization and components, curriculum, instructional strategies, assessment. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |
| SED | 478 | Student Teaching: Secondary Education (Grades 6-12) | Student teaching in middle/secondary setting grades 6-12: synthesized experience in curriculum, instruction, assessment and classroom management. | Y | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3-15 | | Prerequisite(s): admission to the Professional Program |
| SED | 480 | Special Methods of Teaching Social Studies | Interdisciplinary approaches; production and collection of materials. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| SED | 481 | English Teaching Methods for Secondary Schools | Instructional, organizational, and presentation methods for English in secondary schools. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; minimum 56 hours |
| SED | 482 | Science Teaching Methods for Secondary Schools | Methods of instruction, organization, and assessment of science for secondary and middle grade schools. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; minimum 56 hours |
| SED | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| SED | 496 | Clinical Experience III | Applies course content in middle/secondary setting grades 6-12. Emphasizes observation, pupil management, planning and delivering instruction, and assessment. | Y | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): admission to the Professional Program |
| SED | 501 | Introduction to Effective Instruction | Introductory course for certification program in secondary education. Emphasizes developing basic classroom management, instruction, and evaluation. Includes a field assignment of at least 120 hours. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SED | 504 | World and Native Language Methods and Assessment for K-12 Classrooms | Provides educators with a guided exploration of current methods, assessments and techniques related to teaching world and native languages in K-12 contexts, i.e., communication in languages other than English. Students deepen their understanding of language teaching pedagogy and expand their repertoire of teaching strategies and techniques for addressing the diverse learning needs of all students. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 4 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; Credit is allowed for only SED 404 or SED 504 |
| SED | 510 | General Methods and Assessment | Provides an overview and application of teaching methods, unit planning, and research for secondary teachers. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SED | 511 | ELA Methods and Assessment | Methods in design, instruction and assessment of English Language Arts (ELA) for secondary schools. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|----------------------------------|---|-------|-----------------|---|
| SED | 512 | Secondary Mathematics Methods and Assessment | Mathematical knowledge for learning, teaching and assessment in grades 7 through 12. Focuses on methods for developing conceptual understanding of mathematics concepts through inductive, inquiry-based, problem-centered learning and teaching. Emphasizes concept development through visualization using concrete, digital and real-world representations; purposeful questions; and generalization of patterns. Focuses on theories of mathematics learning; design of learning sequences concrete-to-pictorial-to-abstract; visible thinking routines; teaching rehearsals; brain science messages for mathematics learning; and practices for creating equitable mathematics learning environments and students' positive growth mindset. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SED | 513 | Science Teaching Methods for Secondary School | Focuses on inquiry-based processes, lesson design, teaching methods and content overview to support science instruction in secondary and middle grades. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SED | 514 | Methods of Teaching Secondary Social Studies | Methods in design, instruction and assessment of the social studies subjects for secondary schools. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; admission to the secondary teacher preparation professional program |
| SED | 520 | Science Methods for Early Adolescence | Examines the interrelationships between theory and practice in teaching science. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SED | 522 | Secondary School Curriculum Development | Social processes, issues, principles, patterns, and procedures in curriculum development. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Pre-requisite: Graduate student |
| SED | 533 | Middle/Secondary Instruction, Management, and Assessment | Analyses of procedures, methods, techniques, and experiments in teaching in secondary schools. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Pre-requisites: Must be a graduate student |
| SED | 544 | Creating Classroom Climates | Emphasizes classroom management and instructional strategies for establishing positive classroom climates that facilitate learning. Includes field experience. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SED | 547 | Teaching Mathematics in the Middle Grades (5-9) | Strategies and methodologies to teach mathematics in the middle grades (5-9). | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SED | 557 | Internship I | Develops knowledge and skills for effective classroom management, establishing a positive classroom environment, and examining K-12 learner behavior. Provides opportunities for students to engage as a teacher and learner in a classroom setting. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-8 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 557 or SED 557 or SPE 556 |
| SED | 560 | Teaching Mathematics with Technology | Strategies and methodologies to teach mathematics with technology, focusing mainly on the middle grades (5-9). | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SED | 561 | Teaching Science with Technology | Strategies and methodologies for effective technology-enhanced science classrooms and improved learning. Models student-driven inquiry teaching throughout the course. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SED | 567 | Internship II | Develops knowledge and skills for effective classroom management, establishing a positive classroom environment and effective lesson delivery. Reinforces the application and evaluation of the NIET Aspiring Teacher Rubric. Provides opportunities for students to engage as a teacher and learner in a classroom setting. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-8 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 567 or SED 567 or SPE 570 |
| SED | 571 | Apprentice Teaching I | Semester one of apprentice teaching in an elementary (EED)/secondary (SED)/special education (SPE) setting for students who are currently working as the teacher of record. Introduces classroom management, curriculum, instruction and assessment supervised and reinforced by a clinical instructor. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 571 or SED 571 or SPE 571 |
| SED | 574 | Apprentice Teaching II | Semester two of apprentice teaching in an elementary (EED)/secondary (SED)/special education (SPE) setting for students who are currently working as the teacher of record. Reinforced application of developing proficiency in classroom management, curriculum, instruction and assessment occurs through supervision and individualized support by a clinical instructor. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 574 or SED 574 or SPE 574 |
| SED | 576 | Internship III | Develops knowledge and skills for creating learning experiences for a range of learners, executing instructional cycles, using assessment methods and reflecting on best teaching practices. Provides opportunities for pre-service educators to engage as a teacher and learner in a professional experience setting. | Y | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-8 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 576 or SED 576 or SPE 576 |
| SED | 578 | Residency/Student Teaching in Secondary Education | Student teaching in a secondary (SED) school classroom. Synthesized experience in curriculum, instruction, and classroom management. This course builds upon previous professional experiences to extend learning in a classroom setting and to obtain practice and feedback to continuously improve educator knowledge and skills. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SED | 579 | Apprentice Teaching III | Semester three of apprentice teaching in an elementary (EED)/secondary (SED)/special education (SPE) setting for students who are currently working as the teacher of record and enrolled in the masters plus certification program. Continued development toward proficiency in classroom management, curriculum, instruction and assessment. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 579 or SED 579 or SPE 579 |
| SED | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 593 or SED 593 or SPE 593 |
| SED | 596 | Residency/Student Teaching | Student teaching in elementary (EED), secondary (SED), or special education school classrooms. Synthesized experience in curriculum, instruction and classroom management. | Y | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-8 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 596 or SED 596 or SPE 596 |
| SER | 215 | Software Enterprise: Personal Process | Software engineering; personal software processes for individual professionalism; time and defect estimation, yield, and productivity. Software tools. Project based. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): CST 200 or SER 200 with C or better |
| SER | 216 | Software Enterprise: Personal Process and Quality | Introduces software engineering, software lifecycle models, personal software processes for individual professionalism, time and defect estimation, yield and productivity, software testing and quality management. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Pre- or corequisite(s): CSE 310, SER 222, or TGM 410 with C or better if completed OR Visiting University Student |
| SER | 221 | Programming Languages and Their Execution Environment | Introduces the fundamental programming language concepts of data, type, control, abstraction, and structure; software development and execution environments; programming language paradigms. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): CST 200 or SER 200 with C or better; Credit is allowed for only CST 220 or SER 221 |
| SER | 222 | Design and Analysis of Data Structures and Algorithms | Data structures and related algorithms for their specification, complexity analysis, implementation and application. Sorting and searching. Professional responsibilities that are part of program development, documentation and testing. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): CSE 205 or SER 200 with C or better; MAT 243 or 300 with C or better OR Software Engineering MS student OR Engineering Science (Software Engineering) MSE student OR Master of Computer Science student OR Visiting University Student |
| SER | 232 | Computer Systems Fundamentals | Logic design, number systems and arithmetic, Boolean algebra, digital systems components and hardware description languages. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | CS | Pre- or corequisite(s): SER 100 or CSE 110; MAT 117, 170, 171, 210, 251, 265, or 270 with C or better if completed or ALEKS score of 61 or higher; Credit is allowed for only CST 150 or SER 232 OR Visiting University Student |
| SER | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 1-4 | | |
| SER | 315 | Software Enterprise: Design and Process | Software process from the design perspective. Engineering design process, user-centered design and software safety design. User interface, software architecture and design patterns and software design constraints. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Software Engineering BS major; CSE 310, SER 222, or TGM 410 with C or better; Pre- or corequisite(s): FSE 100 with C or better if completed; CSE 360 or SER 216 with C or better if completed OR Visiting University Student |
| SER | 316 | Software Enterprise: Construction and Transition | Best practices in software construction in the context of a team project, including refactoring, defensive programming, unit testing, and configuration and release management. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Software Engineering BS major; CSE 310, SER 222, or TGM 410 with C or better; CSE 360 or SER 216 with C or better OR Visiting University Student |
| SER | 321 | Principles of Distributed Software Systems | Design and implementation of distributed software components; process and memory management underlying software applications; sockets, protocols, threads, XML, serialization, reflection, security, and events. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): CSE 310, SER 222, or TGM 410 with C or better; Pre- or corequisite(s): CSE 330 or SER 334 with C or better if completed; Credit is allowed for only CST 420 or SER 321 OR Visiting University Student |
| SER | 322 | Principles of Database Management | Fundamental methods in modeling and managing data-oriented systems. Relational, object and hierarchical data modeling techniques. Query languages including SQL. Semantics of transaction processing. Modern trends in data management including unstructured data, NoSQL and Graph databases. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): SER 222 with C or better; Credit is allowed for only ACO 220 or ACO 320 or CSE 412 or IFT 300 (or IFT 433) or SER 322 OR Visiting University Student |
| SER | 332 | Introduction to Graphics and Game Development | Foundations of graphics as used in modern rendering and basic principles of the game development pipeline. Graphics and math concepts and their application in games, graphics and visualization. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): CSE 205 or SER 200 with C or better |

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| SER | 334 | Operating Systems and System Programming | Fundamentals of operating systems: run-time environments, process management, scheduling, synchronization techniques, memory management and file management. Introduces programming concepts and tools for developing operating system modules, system utilities and low-level applications in POSIX environments. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): CSE 230 or EEE 230 with C or better; CSE 240 with C or better; Pre- or corequisite(s): CSE 310, SER 222, or TGM 410 with C or better if completed OR Software Engineering MS or Master of Comp Science student OR Visiting University Student |
| SER | 335 | Engineering Secure Software Systems | Software engineering principles applied to securing software systems. Software life cycle processes contextualized to security needs of software. Software requirements analysis and software verification and validation practices for security. Software architecture security assessment. Software engineering organization policies for security, including threat modeling and assessment, vulnerability classification, risk management, and preparing for security audits. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Pre- or corequisite(s): CSE 330 or SER 334 with C or better if completed; SER 315 with C or better if completed; SER 316 with C or better if completed; SER 321 with C or better if completed OR Visiting University Student |
| SER | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 1-4 | | |
| SER | 401 | Computing Capstone Project I | First half of a comprehensive project experience based on cumulative knowledge and skills gained in earlier coursework. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Software Engineering BS major; SER 316 with C or better; senior standing or postbaccalaureate |
| SER | 402 | Computing Capstone Project II | Second half of a comprehensive project experience based on cumulative knowledge and skills gained in earlier coursework. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Software Engineering BS major; SER 401 with C or better |
| SER | 415 | Software Enterprise: Inception and Elaboration | Third course in the four-course enterprise sequence. Students perform inception (project launch) and elaboration (requirements analysis) activities in project teams. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | L | Prerequisite(s): Software Engineering BS major; ENG 101, 105, or 107 with C or better or postbaccalaureate student; SER 315 with C or better OR Visiting University Student |
| SER | 416 | Software Enterprise: Project and Process Management | Project-centric course focusing on applying software process, project management, and technical leadership. Final course in the software enterprise sequence. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Software Engineering BS major; SER 316 with C or better |
| SER | 421 | Web-Based Applications | Distributed Web applications, their design, architecture and supporting technologies; user-interaction concepts and technologies; design and implementation of software servers for Web systems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): SER 321 with C or better OR Software Engineering graduate student OR Visiting University Student |
| SER | 422 | Web Application Programming | Design and implementation of Web application. Languages, frameworks, technologies, tools and methods used to realize Web client and server solutions. Approaches for securing, testing as well as determining the quality and reliability of Web applications. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): IFT 433 or SER 321 with C or better OR Software Engineering graduate student OR Visiting University Student |
| SER | 423 | Mobile Systems | Mobile applications, their architecture, design, and supporting technologies; mobile device operating systems and frameworks; synchronizing mobile applications, support for inter-application data-exchange; accessing and manipulating special-purpose device capability such as location, orientation and input modality. Practices for securing mobile runtimes and optimizing run-time performance. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): SER 321 with C or better OR Software Engineering MS student OR Engineering Science (Software Engineering) MSE student OR Visiting University Student |
| SER | 431 | Advanced Graphics | Topics in real-time rendering and graphics hardware. Uses graphics processing unit hardware to implement rendering of higher-order surfaces and special effects. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): SER 332 with C or better or graduate Software Engineering student |
| SER | 432 | Game Engine Architecture | Functional requirements of a modern game engine architecture. Students work in teams to develop advanced features for a game engine. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): SER 332 with C or better or graduate Software Engineering student |
| SER | 450 | Computer Architecture | Price/performance analysis, instruction set design, RISC/CISC, processor design and implementation, pipelining, instruction-level parallelism, memory hierarchy, storage and I/O systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): CSE 230 or EEE 230 with C or better OR Software Engineering MS student OR Visiting University Student |
| SER | 456 | Embedded Interfaces: Sensors and Actuators | Electromechanical sensors and electrical actuators, analog-to-digital and digital-to-analog conversion, hardware and software interfaces for embedded systems. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): CSE 120, EEE 120, or SER 232 with C or better; CSE 205 with C or better OR Software Engineering MS student; Credit is allowed for only CST 598 (Embedded Interfaces: Sensors and Actuators) or SER 456 OR Visiting University Student |
| SER | 460 | Software Analysis and Design | Object-oriented and structured analysis and design; software architecture and design patterns; component-based development; software safety and reliability. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prereqs w/min C: Comp Sci, Comp Sys Engr or Geo Info Sci major; CSE 360 OR Sftwr Eng major; CSE 310, SER 222 or TGM 410; SER 315 or 316 OR Comp Sci & Eng or online CS nondegree grad stdnt; Credit allowed for CSE 460/SER 460 OR Visiting University Student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| SER | 463 | Introduction to Human Computer Interaction | Design, evaluate, and implement interactive software intended for human use. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prereqs w/minC: Cmp Sci BS or Cmp Sys Eng BSE or GIS BS; CSE310 OR Dig Cltr (Mda Prcs) BA/BS or Inf BS; CPI310 OR Sftwr Eng BS; SER315 or 316; CSE310 or SER222 OR Cmp Sci & Eng or Sftwr Eng grd st; Crdt only CSE463 or SER463 OR Visiting University Student |
| SER | 464 | Software Quality Assurance and Testing | Software quality assurance (SQA), software quality metrics, software configuration management, software verification and validation, reviews, inspections, understanding software testing process, functional testing, structural testing, model-based testing, integration, system, and regression testing techniques, software life cycle models and software testing, testing distributed software, bug management, and use of testing tools. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prereqs w/min C:ComSci, ComSysEng, GeolInfoSci maj; CSE 360 OR SftwrEng maj; CSE 310, SER 222, or TGM 410; SER 315 or 316 OR CompSci&Eng or Online CS nondegree grad; Credit for CSE 464 or CSE 598 (SftQualAssrTst) or SER 464 OR Visiting University Student |
| SER | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Software Engineering | 1-12 | | Prerequisite(s): Software Engineering BS major; CSE 240 with C or better; SER 216 with C or better; SER 222 with C or better |
| SER | 486 | Embedded C Programming | Programming concepts for embedded systems. Interfacing and controlling LED, LCD, keypads, buttons. Embedded OS concepts. Timers and interrupts. Serial communication. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): CSE 310, SER 222, or TGM 410 with C or better; SER 321 with C or better OR Software Engineering MS student OR Visiting University Student |
| SER | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Software Engineering | 1-6 | | Prerequisite(s): Barrett Honors student |
| SER | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Software Engineering | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| SER | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 1-4 | | Prerequisite(s): CSE 330 or SER 334 with C or better OR Visiting University Student |
| SER | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Software Engineering | 1-3 | | |
| SER | 501 | Advanced Data Structures and Algorithms | Advanced algorithms and how they are effectively applied to solve problems. Algorithm design, analysis, classification, optimization, and application. Practice implementing and employing algorithms to solve realistic problems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Fulton Engineering graduate student |
| SER | 502 | Emerging Languages and Programming Paradigms | Emerging programming languages, their design, description, implementation, and advanced features; API design, including facilities for creating secure distributed applications, facilities supporting software services, naming and composition; language paradigms and the resulting implications on execution; run-time systems and storage management; approaches to compilation and execution. Requires ability to program in an object-oriented programming language and knowledge of data structures, algorithms, and analysis. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Fulton Engineering graduate student |
| SER | 515 | Foundations of Software Engineering | Software engineering overview, with an emphasis on component and service-based architectures, reliability, safety, dependability and software reuse. Introduces software engineering research methods and critical inquiry. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Software Engineering MS graduate student |
| SER | 516 | Software Agility | Focuses on quality software construction principles in an agile community context. Agile methods, open source communities, coding best practices, configuration management, software delivery and building in quality. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Software Engineering MS student |
| SER | 517 | Software Factory Capstone | One-semester capstone culminating experience for graduate students. Student teams work through concurrent product and service offering lifecycles in a project context. Covers concepts including opportunity assessment, risk management, technology evaluation, licensing models, resource planning, delivery models such as hosted, turnkey, Software as a Service (SaaS), technology acquisition, outsourcing, governance, quality assurance, software certification, and continuous process improvement. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Software Engineering MS student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------------|-------|-----------------|--|
| SER | 518 | Software Factory II | Second in a two-semester capstone culminating experience for graduate students. Student teams work through concurrent product and service offering lifecycles in a project context. Covers concepts including opportunity assessment, risk management, technology evaluation, licensing models, resource planning, delivery models such as hosted, turnkey, and Software as a Service (SaaS), technology acquisition, outsourcing, governance, quality assurance, software certification, and continuous process improvement. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): SER 517 |
| SER | 531 | Semantic Web Engineering | State-of-the-art semantics-based approaches and tools that can be leveraged to enrich and enhance today's big data. Covers approaches to ontology engineering, searching and filtering relevant information, representing big data, modern applications of these methods and techniques for Web-based intelligent applications and services. Discusses applications of semantic technology that could improve the processing of big data. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only SER 594 (Semantic Web) or CST 594 (Semantic Web) or SER 531 |
| SER | 533 | Database-Centric Enterprise Applications Development | Solutions for enterprise software systems based on relational database technology. Persistence solutions in middleware frameworks. O/R, XML, and scalability issues. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Fulton Engineering graduate student |
| SER | 540 | Internet-Enabled Embedded Devices | Accessing hardware devices through Internet, including Applets, HTTP, custom byte streams, XML-RPC, SOAP. Building network-based applications that interface hardware. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Fulton Engineering graduate student |
| SER | 554 | Distributed Computing | Topics in distributed systems, including communications, distributed operating systems, fault-tolerance, and performance issues. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Fulton Engineering graduate student |
| SER | 574 | Advanced Software Design | Presents some of the latest advancements in the area of software design and architecture, aiming to help students develop analytical thinking skills which are essential to a successful career in software engineering. Modeling has become the primary communication vehicle in many areas of software engineering, and particularly in the intersection of software and systems engineering. Presents different approaches to software modeling and design for applications in systems engineering. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Software Engineering MS student; SER 515 with C or better; Credit is allowed for only SER 574 or SER 594 (Advanced Software Design) |
| SER | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SER | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Software Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SER | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | REC | Y | Z1 | Ira A. Fulton Schools of Engineering | Software Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SER | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Software Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SER | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SER | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Software Engineering | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SER | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SER | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Software Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SES | 100 | Introduction to Exploration | Science and engineering of Earth, solar system, and space exploration. Experimental design, engineering design; teaming; the professions of science and engineering. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | CS | Prerequisite(s): ALEKS score of 61 or higher or Pre- or corequisite(s): MAT 170, 171, 210, 251, 265, or 270 with C or better if completed OR Visiting University Student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------------|-------|-----------------|--|
| SES | 106 | Habitable Worlds | Are we alone in the Universe? If so, why? If not, where are our cosmic cousins? Such questions, once the domain of science fiction, are on the verge of being answered with science facts. Astronomers are discovering planets around other stars. Planetary scientists are exploring the worlds in our solar system. Biologists are unlocking the secrets of metabolism and evolution. Geoscientists are determining how the Earth supports life. And as we struggle to build a sustainable future for ourselves, all of us are finding out how technologically advanced civilizations rise and how they might fall. This course surveys these topics. In the process, students master basic concepts from across the major areas of science and learn what makes the Earth a habitable world. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 4 | SQ | |
| SES | 107 | A Solar System Journey | Introduces modern planetary science--the exploration of our solar system by astronomers, geologists, chemists, physicists, engineers, astronauts and even biologists. Studies the historical and modern science of the Sun, planets, moons, rings, asteroids and comets in our solar system, and about new planets being found in other solar systems. Covers the scientific method as well as the specific techniques used in modern planetary science and space exploration that enable us to apply what we learn about our solar system neighbors to the study of our home planet, and vice versa. | N | LEL | N | GNA | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 4 | SG | Credit is allowed for only SES 107 or SES 194 (A Solar System Journey) |
| SES | 121 | Earth, Solar System and Universe | The Earth, solar system and universe are diverse and dynamic, featuring galaxies, solar systems, suns, planets and moons. Each type of feature is characterized by a suite of processes and features, such as volcanoes, landslides and climate. As scientists and engineers, we want to understand what is going on in our world. Understanding past events helps begin to predict future events. With the Earth, we examine past events and current natural processes to understand how this past and these processes affect humans. Accordingly, this course examines the processes, materials and features observed and inferred on the Earth, in the Solar System, and in the Universe. The course is purposely designed to be rather holistic, exploring concepts from stellar evolution, atmosphere and oceans on Earth and in extraterrestrial objects, plate tectonics, volcanoes and mountain building. Both SES 121 and SES 123 must be taken together to secure SQ General Studies credit. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | SQ | |
| SES | 122 | History of the Earth and Solar System | The Earth and solar system have a long and interesting history, spanning nearly five billion years. Earth and other objects in the solar system have evolved over time, punctuated by a series of events, such as mountain building, volcanic eruptions, impacts and extinctions. As scientists and engineers, we want to understand what events have occurred in our world and which aspects directly affect us or are most interesting. Understanding past events helps us comprehend what has happened and begin to predict future events. With the Earth, examines past events and current natural processes to understand how this past and these processes affect humans. Accordingly, examines the history of the Earth and solar system in the context of the processes, materials and features that can be observed and inferred. Explores the history of the Earth and solar system from a broad, interdisciplinary, perspective. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): SES 121 with C or better |
| SES | 123 | Earth, Solar System and Universe Laboratory | Studies astronomical and geological processes through observations and measurements. Requires field trips and evening telescopic observing. Both SES 121 and SES 123 must be taken together to secure SQ General Studies credit. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1 | SQ | Pre- or corequisite(s): SES 121 with C or better if completed OR Visiting University Student |
| SES | 124 | History of the Earth and Solar System Laboratory | Studies astronomical and geological processes and life through observations and measurements. Requires field trips and evening telescopic observing. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1 | | Prerequisite(s): SES 123 with C or better; Pre- or corequisite(s): SES 122 with C or better if completed |
| SES | 126 | Exploration of the Universe | Introduces the basic principles of modern astronomy, with a focus on "Exploration Science," or the methods by which we explore our planet, our solar system, other stars, and even other galaxies. How do we explore? What is the "scientific method"? How is modern science carried out? Study of such questions helps form a solid foundational core for a major in the science of astrophysics--a major that spans many aspects of the universe as a whole. Don't be surprised if class includes stories about how ASU research is proceeding, or how a lesson in class is relevant to some research experience. A key goal is for you to be excited and informed about the incredible era of Earth and space exploration that we're all a part of! | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): SES 121 with C or better; Pre- or corequisite(s): MAT 170, 171, 210, 251, 265, or 270 with C or better if completed |

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| SES | 128 | Exploration of the Universe Lab | Introduces the basic principles of modern astronomy, with a focus on "Exploration Science," or the methods by which we explore our planet, our solar system, other stars, and even other galaxies. How do we explore? What is the "scientific method"? How is modern science carried out? Study of such questions helps form a solid foundational core for a major in the science of astrophysics--a major that spans many aspects of the universe as a whole. A key goal is for you to be excited and informed about the incredible era of Earth and space exploration that we're all a part of! | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1 | | Prerequisite(s): SES 123 with C or better; Pre- or corequisite(s): SES 126 with C or better if completed |
| SES | 141 | Energy In Everyday Life | Energy permeates our everyday life and is at the heart of understanding how the world around us works. What is energy? How is energy used in the biological, chemical, electrical and mechanical systems that impact our daily lives? What would our world be like if there was a nearly infinite supply of inexpensive energy? This multidisciplinary survey course offers learners the opportunity to master practical job skills: the ability to observe, gather data, and think critically to make order-of-magnitude estimates. | N | LEL | N | GNA | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 4 | SQ | Credit is allowed for only SES 141 or SES 194 (Energy in Everyday Life) |
| SES | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-3 | | |
| SES | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | |
| SES | 220 | Biology of a Changing Earth | Offers a broad survey of basic biological principles, with an emphasis on aspects of biology that are particularly important in the context of interdisciplinary Earth and environmental sciences. Explores how life on Earth has emerged and diversified and how the ubiquity of this life affects the Earth's chemistry, land surface and climate. As many of our current environmental issues are a direct consequence of human impacts on organismal physiology, biodiversity patterns, or ecosystem processes, strongly focuses on application of biological knowledge. Includes weekly laboratory exercises. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): GLG 108 with C or better OR GLG 110 with C or better; GLG 111 with C or better OR SES 121 with C or better; SES 123 with C or better OR Visiting University Student |
| SES | 225 | Global Biogeochemical Cycles | Exposes students to the coupled biogeochemical cycles that link Earth's biosphere, hydrosphere, atmosphere and lithosphere. These cycles operate at the very long time-scales that stabilize Earth's climate and the very short time-scales that support the biosphere. Explores processes and changes through time and the human influence on these systems. Topics include: the rock cycle and the hydrologic cycle; biogeochemical systems; carbon, nutrient and oxygen cycles; global climate change; human forcing on the ecosphere; and future climate scenarios. Strongly emphasizes developing an understanding of the complex interactions among different systems and processes. Specific student interests inform some of the topics covered, and participation in the discussions and analyses are crucial to the success of this class. Develops understanding through readings, class discussion, in-class problem solving, written projects and student presentations. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): BIO 100, BIO 182, BIO 282, or SES 220 with C or better; CHM 101, or both CHM 107 and 108, or CHM 113, or CHM 114 with C or better; GLG 108, or both GLG 110 and 111, or both SES 121 and 123 with C or better OR Visiting University Student |
| SES | 230 | Coding for Exploration | A series of lectures and computer labs on data processing and analysis in Earth and space sciences using Python. Introduces programming with scratch and python. Numerical methods for data analytics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | CS | Prerequisite(s): AST 111, GLG 101, or SES 121 with C or better; Pre- or corequisite(s): MAT 265 or 270 with C or better if completed OR Visiting University Student |
| SES | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | |
| SES | 307 | Space Works I: Design, Build, Test | Provides an introduction to: (1) project design and fabrication, including the application of NX CAD software, training and use of the Space Works additive manufacturing equipment, and the implementation of a project from prototype through completion within a dedicated maker space; (2) analytical modeling and its application to planetary exploration; (3) space mission design and implementation; and (4) leadership training, including project organization, schedules, budgets and technical report writing. A key element includes interacting with and learning from engineers and scientists working on space projects. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Pre- or corequisite(s): MAT 265 or 270 with C or better if completed; Credit is allowed for only SES 307 or SES 394 (ASU SpaceWorks Project Level 1:Applied Design....) OR Visiting University Student |
| SES | 311 | Essentials of Astrobiology: Exploration for Life in the Universe | Origin and evolution of life on Earth. Strategies to explore for life in the cosmos. Possible field trips to explore regional geological analogues. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): BIO 181 (188), CHM 113 or PHY 121; MAT 265 or 270 |

| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------------|-------|-----------------|--|
| SES | 330 | Practical Electronics and Instrumentation | Applied principles of electronics and mechanical design as used by the modern instrument builder, using a systematic approach to the design process: Identify a scientific problem, develop specifications necessary to solve the problem, develop a prototype solution, test solution for plausibility, break down problem into components, design and build the solution then test in a relevant environment. Builds on introduction to circuits and engineering concepts from prerequisite courses. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 4 | | Prerequisite(s): EEE 202 with C or better; MAE 201 or 212 with C or better; PHY 131 and 132 with C or better (or PHY 151 with C or better) OR Visiting University Student |
| SES | 350 | Engineering Systems and Experimental Problem Solving | Introduces integration of scientific and engineering computational methods into scientific research and successful exploration. Provides an active, project-based environment for learning science and engineering by means of a common set of computational tools. Also provides a detailed overview of procedural and object-oriented programming with an emphasis on problem solving. Students solve problems by developing software in an interpreted language (Python). Problems may include visualizing data, interfacing with hardware, or solving numeric problems. Covers procedural programming concepts including data types, variables, control structures, arrays, and data I/O. Covers object-oriented programming concepts including object creation and use, object interaction, and the design of simple classes. Covers software engineering concepts including testing, incremental development, understanding requirements, and teamwork. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | CS | Prerequisite(s): MAT 267, 272, or 275 with C or better; PHY 151 with C or better, or both PHY 131 and 132 with C or better OR Pre- or corequisite(s): AST 301 OR Visiting University Student |
| SES | 376 | Communicating Astronomical and Planetary Sciences I | Develops science communication writing skills, specifically focusing on communicating scientific concepts and scientific results to a variety of audiences including astronomers and the general public. Through lectures, readings and discussions, introduces the characteristics of written science communication and public engagement within the context of astronomical and planetary sciences to include investigations into the ethics of science communication. Students gain proficiencies in science communication writing, visual data production and various digital technologies through relevant, project-based assignments, digital portfolio creation and contributions to a class blog. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): AST 111 with C or better; AST 112 with C or better; ENG 102, 105, or 108 with C or better OR Visiting University Student |
| SES | 377 | Communicating Astronomical and Planetary Sciences II | Develops science communication oral skills, specifically focusing on communicating scientific concepts and scientific results to a variety of audiences including astronomers and the general public. Through lectures, readings and discussions, introduces a variety of techniques for producing and presenting effective oral science presentations within the context of astronomy and planetary sciences. Students gain proficiencies in public speaking, visual data production and various digital technologies through relevant, project-based assignments, including digital portfolio creation and contributions to a class blog. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; SES 376 with C or better OR Visiting University Student |
| SES | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | |
| SES | 401 | Earth and Space Exploration Colloquium | Colloquium is an opportunity to gain exposure to research that is taking place beyond the School of Earth and Space Exploration (SESE). Colloquium facilitates the cross-disciplinary growth that is always evolving in SESE. Also provides an opportunity for all members of SESE to gather in one location to interact and learn about science. | N | LEC | Y | YGB | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SES | 405 | Exploration Systems Engineering | Provides an introduction to systems engineering with an emphasis on the following topics: the systems engineering process, requirements, design fundamentals, subsystem fundamentals, trade studies, integration, technical reviews, case studies and ethics. Prepares the student for the capstone spacecraft/mission design course. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): MAT 266 or 271 with C or better; PHY 121 and 122 (or PHY 150) with C or better |
| SES | 407 | Space Works II: Model, Fabricate, Test | Provides students with: (1) experience in complex project design and fabrication, including the application of NX software for thermal and structural modeling, use of the Space Works additive manufacturing equipment, and the testing of a team project within space-like conditions; (2) training in clean room protocol; (3) electrostatic discharge training; and (4) preparation of a Preliminary Design Review document which includes a team presentation. A key element includes interacting with and learning from engineers and scientists working on space projects. | N | LEL | N | GNA | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): SES 307 with C or better; Credit is allowed for only SES 407 or SES 494 (ASU SpaceWorks Project Level 2- Model, Fab, Test) OR Visiting University Student |

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|---------|----------------|-----------------------------------|---|--------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------------|-------|-----------------|---|
| SES | 410 | Senior Exploration Project I | Design and development of an Earth, solar system, or space exploration project. Conceptualization, design, development, deployment, data analysis, communication. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): Earth and Space Exploration BS major; ENG 101, 105 or 107 with C or better; minimum senior standing OR Visiting University Student |
| SES | 411 | Senior Exploration Project II | Continuation of SES 410. Development of Earth, solar system, or space exploration project. Conceptualization, design, development, deployment, data analysis, communication. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Pre-requisites: ENG 101, ENG 105 or ENG 107; SES 410 |
| SES | 421 | Foundations of Planetary Science | Provides a quantitative survey of the physical, chemical and geological processes that govern the formation and evolution of planetary bodies. Students (figuratively) tour the major planets, both terrestrial and giant, along with their diverse satellites and the myriad populations of "small bodies" such as comets and asteroids. The course centers on our solar system, but applies the foundational principles of planetary science to the study of exoplanets, including the remote characterization of both rocky and gas-rich exoplanets. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): AST 301 with C or better OR MAT 266 or 271 with C or better; PHY 121 with C or better; PHY 122 with C or better OR MAT 266 or 271 with C or better; PHY 150 with C or better OR Visiting University Student |
| SES | 480 | Teaching Earth and Space Sciences | Provides a practical review and active exploration of educational research and theory, published and online resources, and best practices, to inform effective teaching of the Earth and space sciences at the high school and undergraduate levels. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; AST 111, AST 112, GLG 101, GLG 102, GLG 108, GLG 110, SES 106, SES 121, or SES 122 with C or better; Credit is allowed for only SES 480 or SES 494/GLG 490 (Teaching Earth and Space Science) |
| SES | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): minimum 45 hours |
| SES | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-6 | | Prerequisite(s): Barrett Honors student |
| SES | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| SES | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | |
| SES | 495 | Undergraduate Thesis | Guided research culminating in the completion and presentation of an undergraduate thesis based on supervised research. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum senior standing OR Visiting University Student |
| SES | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-3 | | Prerequisite(s): minimum 45 hours |
| SES | 501 | SESE Colloquium | Colloquium is an opportunity to gain exposure to research that is taking place beyond the School of Earth and Space Exploration (SESE). Colloquium facilitates the cross-disciplinary growth that is always evolving in SESE. It also provides an opportunity for all members of SESE to gather in one location to interact and learn about science. | N | LEC | Y | YGB | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GLG 500 or SES 501 |
| SES | 502 | Exploring SESE Research | Weekly series of talks by faculty in the School of Earth and Space Exploration (SESE) about their current research. | N | LEC | Y | GNA | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GLG 591 (Faculty Research Seminar) or SES 502 |
| SES | 510 | Graduate Exploration Project I | Design and development of an Earth, solar system or space exploration project. Conceptualization, design, development, deployment, data analysis, communication. First part of a year-long project for the development and testing of experiments and instruments for scientific exploration. Expects students to define the mission and develop an experiment while applying realistic science-based goals and constraints to their design work. | N | PRA | N | GNA | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): Exploration Systems Design MS student; minimum 9 hours of CEN, EEE, IEE, or MAE graduate courses with C or better; minimum 6 hours of AST, GLG, or SES graduate courses with C or better |
| SES | 511 | Graduate Exploration Project II | Development of Earth, solar system or space exploration project. Conceptualization, design, development, deployment, data analysis, communication. Second of a year-long project for the development and testing of experiments and instruments for scientific exploration. Expects students to define the mission and develop an experiment while applying realistic science-based goals and constraints to their design work. | N | PRA | N | GNA | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): Exploration Systems Design MS student; SES 510 with B or better |
| SES | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SES | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------------|-------|-----------------|---|
| SES | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): School of Earth and Space Exploration master's student |
| SES | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | GNA | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SES | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SES | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | |
| SES | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): School of Earth and Space Exploration master's student |
| SES | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): School of Earth and Space Exploration graduate student |
| SES | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-15 | | Prerequisite(s): School of Earth and Space Exploration doctoral student |
| SES | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SES | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-15 | | Prerequisite(s): School of Earth and Space Exploration doctoral student |
| SFS | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-3 | | |
| SFS | 215 | Fundamentals of Sustainable Food Systems | Introductory food course provides students with a panoramic understanding of American agriculture. Explores American-grown food through history, policy, society, business innovation, and environmental sustainability. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | L | Prerequisite(s): ENG 101, 102, 105, 107, or 108 with C or better; Credit is allowed for only AGB 215 or SFS 215 or SOS 215 OR Visiting University Student |
| SFS | 216 | The Sustainable Plate | Introductory food course explores agriculture by subsectors, such as livestock, grains and fruits and vegetables. Students learn how dietary choices affect health, the environment, and the people who produce and process food. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): ENG 101, 102, 105, 107, or 108 with C or better; Credit is allowed for only AGB 216 or SFS 216 or SOS 216 OR Visiting University Student |
| SFS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-4 | | |
| SFS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-4 | | |
| SFS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Global Futures | School of Sustainability | 1-12 | | |
| SFS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | IND | Y | Z1 | College of Global Futures | School of Sustainability | 1-6 | | Prerequisite(s): Barrett Honors student |
| SFS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | IND | Y | Z1 | College of Global Futures | School of Sustainability | 1-6 | | Prerequisite(s): Barrett Honors student |
| SFS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-4 | | |
| SFS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------------|-------|-----------------|---|
| SFS | 560 | Tools and Tactics for Food Policy Change | Reviews competing theories, models and analytical frameworks for understanding the policy-making process. Provides advanced knowledge of the tools and strategies necessary to achieve food policy reform. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): Food Policy and Sustainability Leadership certificate student; Corequisite(s): SFS 561 |
| SFS | 561 | Food and Farm Immersion Experience | Exposes students to farmers, ranchers and supply chain businesses that are the focus of, or are otherwise directly impacted by, food and agriculture policies and programs. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): Food Policy and Sustainability Leadership certificate student; Corequisite(s): SFS 560 |
| SFS | 562 | Managing Natural Resources for Food Production | Highlights the relevance of natural resource conservation for ensuring healthy agricultural, food and environmental systems, as well as the various approaches to achieving sustainable systems. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): SFS 560; Corequisite(s): SFS 563 |
| SFS | 563 | Applied Food Policy Immersion Experience | Intensive seminar on leadership reviews leadership theories, builds leadership skills, and engages students in question-and-answer sessions with food policy leaders from a variety of sectors on the ASU campus and across Metro-DC. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): SFS 560; Corequisite(s): SFS 562 |
| SFS | 564 | American Agriculture in the Global Context | American agriculture both impacts, and is impacted by, the production and demands of other countries. Considers global food trends, global food policy governance regimes and institutions, and explores current controversies. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): SFS 560; SFS 562 |
| SFS | 565 | Organizational Leadership | Culminating research-based class organizes students into small teams and chooses a topic from a list of contemporary policy controversies provided by the professor. Class work requires original research, creation of policy solutions, and development of strategies to achieve proposed solutions. Each team produces a professional report to be broadly shared with sustainable food system advocates. The professional report is expected to advance food policy knowledge generally and provide certificate graduates visibility to highlight their accumulated skills. Organizes assignments so that students have individual assignments that must be completed and submitted for individual grades. Teamwork is also a highly valued skill for leaders and for this reason, a component of a student's grade is based on the final team report and presentation. | N | PRA | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): Food Policy and Sustainability Leadership certificate student; SFS 560; SFS 563; Pre- or corequisite(s): SFS 564 |
| SFS | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Global Futures | School of Sustainability | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SFS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRO | Y | Z1 | College of Global Futures | School of Sustainability | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SFS | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SFS | 596 | Capstone | Required capstone where students conduct research and write a professional report of publishable quality based on the research. | N | LEL | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): Sustainable Food Systems MS student |
| SFS | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SGS | 101 | Thinking Globally | Survey of globalization processes in historical context, including economic, political, cultural and technological dynamics, and human efforts to analyze and address contemporary global issues. Provides a grounding in patterns of global social change and diverse theoretical approaches to understanding them. Topics addressed vary and may include the emergence and dynamics of capitalism, trade, labor, economic inequality and development; the interstate system, democracy, nationalism, colonialism and post-colonialism; global governance, social movements and resistance to globalization; immigration, environmental and health challenges; media, art and identities including race, ethnicity, language and religion. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | Credit is allowed for only SGS 101 or SGS 301 OR Visiting University Student |
| SGS | 107 | Religion and Globalization | Explores how different religions interact with the various processes of globalization, including how the world's major religions have been transformed by economic, political, cultural, and technological aspects of globalization. Topics include religious terrorism, human rights, religion, and gender. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | HU & G | Credit is allowed for only REL 107 or SGS 107 OR Visiting University Student |
| SGS | 111 | Global History Since 1500 | Surveys Africa, the Americas, and Eurasia; changes in communication, communities, demography, economics, environment, politics, religion, technology, warfare, and women. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | HU & H & G | Credit is allowed for only HST 101 or SGS 111 OR Visiting University Student |
| SGS | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-3 | | |
| SGS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-4 | | |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------------|-------|-----------------|---|
| SGS | 203 | Contemporary Global Trends | Gives a grounding in patterns of international politics and global social change. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | |
| SGS | 204 | Professional Global Career Development | Orients the student to working in global contexts and to thinking critically about careers in the global arena. Focuses on working in organizational settings distinctly global. Three modules: nation-state, corporations, and working international organizations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | |
| SGS | 240 | Introduction to Southeast Asia | Interdisciplinary introduction to the cultures, religions, political systems, geography, and history of Southeast Asia. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | (HU or SB) & G | Credit is allowed for only ASB 240 or GCU 240 or HST 240 or POS 240 or REL 240 or SGS 240 OR Visiting University Student |
| SGS | 245 | Introduction to India and South Asia | Provides an introduction to the history and major contemporary political, economic, social, religious and cultural features of the South Asia region at large and of selected South Asian nations in particular. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | HU & H & G | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only HST 245, POS 245, REL 245, SGS 245 or SLC 245 |
| SGS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-4 | | |
| SGS | 301 | Principles of Global Studies | Advanced overview of globalization processes in historical context, including economic, political, cultural and technological dynamics, and human efforts to analyze and address contemporary global issues. Provides a grounding in patterns of global social change and diverse theoretical approaches to understanding them. Topics addressed vary and may include the emergence and dynamics of capitalism, trade, labor, economic inequality and development; the interstate system, democracy, nationalism, colonialism and post-colonialism; global governance, social movements and resistance to globalization; immigration, environmental and health challenges; media, art and identities including race, ethnicity, language and religion. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | G | Prerequisite(s): minimum 45 hours; Credit is allowed for only SGS 101 or SGS 301 OR Visiting University Student |
| SGS | 303 | Global Trends | Analyzes the process of globalization across boundaries through the investigation of the determinants and ramifications of globalization from the vantage of modern social sciences. Students are expected to conduct and articulate independent critical analyses toward a more in-depth understanding of this social phenomena, global history, and particularly the global economy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SGS | 304 | Foundations of Cross-Cultural Awareness | Addresses the theory and practice of studying, working and/or living in cultures other than your own, and focuses on cultural preparation to learn successfully in diverse cultures. Develops an awareness of intercultural sensitivity and recognizes its value, gains specific intercultural competencies (as defined within the course), and enables students to better understand their own culture so they can understand their host culture at a more meaningful level. Because of the variety of locations where students study or intern, focuses on culture-general skills, not culture-specific ones. Students also gain career development skills to prepare them to apply to study abroad programs and related scholarships, and guidance on how to best utilize international experiences for maximum benefit and long-term career planning. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only SGS 304 or SGS 394 (Cross-Cultural Awareness) or SGS 394 (Foundations of Cross-Cultural Awareness) OR Visiting University Student |
| SGS | 305 | Empirical Political Inquiry | Logic of political inquiry, including research problems, concepts, hypotheses, theories, measurement, data collection, and analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only POS 301 or SGS 305 OR Visiting University Student |
| SGS | 315 | Energy Policy | Examines the regulation of energy production and consumption in the U.S. at the federal, state and local levels. Identifies energy stakeholders in the U.S. and examines how they have shaped U.S. policies around energy. Explains past and current U.S. energy policies and how energy needs have shaped U.S. relations with other countries. Compares U.S. energy policies to that of other countries in the world, as well as how Arizona's energy policies compare to other states within the U.S. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only SGS 315 or SOS 315 OR Visiting University Student |
| SGS | 320 | Mechanisms of Global Governance | One of the fundamental issues in the social sciences concerns the problematic attainment of social order, which is the principal aim of governance. Presents the five principal mechanisms purported to account for social order, and illustrates these by providing empirical examples of each; includes film clips. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------------|-------|-----------------|---|
| SGS | 321 | International Institutions and Global Governance | Provides an in-depth examination as to how the international community organizes itself, through international institutions, to deal with serious international issues, and how the institutions of international governance can be improved. Studies diverse examples of international institutions primarily from the perspective of international relations (IR) theory and the role of international law (IL). | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours |
| SGS | 323 | International Development | Provides an introduction to the theories underlying international development and the remaining challenges facing academics, researchers, and policymakers in solving issues contributing to global poverty. Gives an overview of the state of the world, illustrating how indicators of economic growth and well-being are unequally distributed across countries. Conceptualizes the leading factors believed to drive these patterns and discusses the historical approaches to solving these problems. Gives particular attention to examples of policies and development strategies that either strengthened or weakened economies in the past. Second half of the course details current factors that continue to threaten development, such as poor health and education practices, limitations in agricultural growth and food security, and heightened risk due to climate change. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only SGS 323 or SGS 394 (International Development) or SOS 394 (International Development) |
| SGS | 324 | Global Trade in Real Time | Practical aspects of global trade including historic background, negotiations, supply chain, global terms, transportation, chartering, marine insurance, international arbitration, foreign exchange, letters of credit, barter, ethics, leadership, networking, country analysis and introduction to global management theories. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours or minimum junior standing OR Visiting University Student |
| SGS | 325 | Globalization and Socio-Economic Justice | Addresses a trend producing increasing interconnectedness of economies and societies, as well as creating new conflicts and divisions. Provides greater understanding of global forces, as well as the effect of these forces on global economic justice. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 2.00 GPA; Credit is allowed for only JUS 325 or SGS 325 or SOC 325 OR Visiting University Student |
| SGS | 330 | Globalization and the Environment: Problems and Solutions | Assesses the impact of globalization on the earth's environment. Examines such issues as biodiversity loss to pollution to urbanization to climate change, among others, and assess how globalization has driven, impacted or improved these environmental problems. Emphasis on understanding the social, political and economic factors that have contributed to global environmental change and the degree to which globalization processes are something 'new', as well as on examining the ability of communities, nations and transnational institutions to manage these global problems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SGS | 340 | Violence, Conflict and Human Rights | Interdisciplinary examination of the evolution and role of human rights in global society. Major themes include the political struggles over enforcement of human rights and curtailment of violence against individuals. Pays close attention to the role of non-governmental organizations and diplomacy in advancing human rights norms and also examines America's role in human rights, both at home and abroad. Focuses on the causes and effects of violence and human rights abuses in the context of torture, the "war on terror," and crimes against humanity. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SGS | 341 | Humanitarian Crisis and International Intervention | Focuses on political, legal, and ethical issues raised by decision about military interventions in genocide and humanitarian crisis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | |
| SGS | 343 | Religion, Nationalism, and Ethnic Conflict | Examines the role of religion in national and ethnic conflict in the contemporary world. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only REL 379 or SGS 343 OR Visiting University Student |
| SGS | 344 | Facing the Past: Truth, Memory, Denial After Atrocities | The past has never been so present as it is today. Over the last two decades, the world has shown an increasing interest in uncovering the hidden and forgotten histories of state-sponsored atrocities and acknowledging the fate of victims and survivors. Studies this movement for the recovery of truth, memory, and moral responsibility includes a wide range of actors and takes a number of different forms. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------------|-------|-----------------|---|
| SGS | 350 | Economic Development and Globalization | Major issues and models in economic development. Studies development policy and foreign aid practiced since the 1970s and recent critique of these practices. Analyzes the mistakes made in the last 40 years, and potential for improving the practice of foreign aid. Contemporary issues in development economics, including the impacts of bad governance, foreign aid, corruption, war, military intervention and democracy on economic growth with emphasis on policy evaluations in health, education, microfinance and monitoring corruption. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours |
| SGS | 360 | Cultural Aspects of Globalization | Cultural aspects of globalization, starting with a theoretical discussion of what culture is and then weaving this discussion into an empirical examination of UNESCO's World Heritage program as a practical means of studying the role of culture in globalization. A number of questions guide our inquiry: What is culture? What forms does it take? Can culture be preserved? If so, what are the consequences? How is the UNESCO World Heritage Program structured? How does it conceive culture? What is its understanding of the global and the role of the local in it? | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours |
| SGS | 361 | World Society: Imagining the World | Studies global processes by conceptualizing the world as a world society. This means that globalization is not just people being more interconnected enabling faster interactions. It suggests that interactions and institutions throughout the world are increasingly part of a whole, of a global consciousness, and while boundaries such as national boundaries are important, they do not delimit "society." The global is not just what is outside of national society or beyond the nation-state: it also constitutes what is inside the nation-state. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only SGS 361 or SGS 394 (World Society) |
| SGS | 366 | Islam and Islamic Societies in Africa: Social and Political History | An in-depth study of the fundamental principles of Islam. Course will examine various forms of development of Muslim societies and institutions in Africa through time. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | G | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours; Credit is allowed for only AFR 372 (or AFS 372) or REL 362 or SGS 366 or AFS 394/REL 394/SGS 394 (Islam and Islamic Societies in Africa: Social and Political History) |
| SGS | 370 | Geopolitics | Geopolitics is a field that deals with war, conflict and the politics of animosity and violence. It calls special attention to the distribution of power on a global scale, and to the spatial scales at which power, authority and control operate. At one time, this involved studying how various "great powers" and "wise men" carved up the world according to their goals and interests. But power is everywhere! To name only a few examples, it is present in the ways that NGOs operate in conflict zones, in global health advocacy and awareness, in media coverage of distant catastrophes and seemingly immanent risks, and in disaster management and emergency response plans. Scholars in this field study topics such as war, diplomacy, conflict, migration, religious strife, terrorism and similar fields. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours or minimum junior standing; Credit is allowed for only SGS 370 or SGS 394 (Global Geopolitics) OR Visiting University Student |
| SGS | 377 | Arizona, Immigration, Latinos and Politics | Contemporary immigration and its related issues have generated significant debates, reforms and responses by government officials, businesses and private citizens, to name but a few in this country. This course provides a much-needed framework for understanding some of the immigration issues in Arizona and the country generally. It also focuses on some of the political responses by Latinos and their significant mobilization at the local, state and federal levels. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only JUS 377 or POS 377 or SGS 377 or TCL 377 or HST/JUS/POS/SGS/TCL 394 (Arizona, Immigration, Latinos and Politics) OR Visiting University Student |
| SGS | 379 | The Resource Curse | Explores the paradox known as the resource curse, examining the argument, its mechanisms for impeding development, and its effects. Examines successes and failures, and in doing so, examines the mechanisms of the resource curse and the potential to overcome the negative consequences of resource wealth for developing countries. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only POS 379 or POS 394 (The Resource Curse) or SGS 379 or SGS 394 (The Resource Curse) OR Visiting University Student |
| SGS | 381 | Modern Southeast Asia | Vietnam, Laos, Cambodia, Thailand, Burma, Malaysia, Singapore, Brunei, Indonesia, and Philippines since 1750: imperialism, revolution, and independence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G & H | Pre-requisite(s): ENG 102, 105 or 108 with a C or better; Minimum 30 hours; Credit is allowed for only HST 391 or SGS 381 |
| SGS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-4 | | |
| SGS | 401 | Political Statistics | Basic concepts in statistics as they facilitate the description, explanation, and prediction of social and political phenomena. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | CS | Prerequisite(s): DAT 401, POS 301 or SGS 305 with C or better; Credit is allowed for only POS 401 or SGS 401 OR Visiting University Student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------------|-------|-----------------|--|
| SGS | 441 | Religion and Global Politics | Explores the nature and role of religion in international politics in the modern period. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | L & G | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only REL 480 or SGS 441 OR Visiting University Student |
| SGS | 442 | Different Voices Within Contemporary Islamic Discourse | Examines modern Muslim discourse on major contemporary issues such as Shari'a, Jihad, secularism, gender, civil rights, democracy, extremism, religious violence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): ENG 102 or 105 or 108 with C or better; Credit is allowed for only AFR 480 (or AFS 480) or REL 461 or SGS 442 |
| SGS | 454 | Gender, Culture, and Development | In-depth analysis of gender roles related to health, family, work, education and politics in developing countries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | (L or SB) & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; WST 100 or 300 or minimum 45 hours; Credit is allowed for only SGS 454 or SOS 447 or TCL 447 or WST 447 or TCL 598 (Gender, Culture & Development) OR Visiting University Student |
| SGS | 466 | Migration, Environment and Global Security | Human mobility within and across borders is on the rise with rapid globalization and infrastructural investments. National concerns over human security and resource allocation have prompted discussion over the drivers and consequences of emerging migration patterns related to environmental stressors. The objective is to gain perspective on the environmental refugee debate and learn how governments, donors, and international agencies are currently tackling the problem. Students are introduced to cross-disciplinary concepts of migration and environmental stressors (e.g., natural disasters, climate change, water scarcity, soil erosion) in order to understand and discuss recent scientific work, and investigate the challenges in documenting this phenomenon and its consequences on global security. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only POS 466 or SGS 466 or GCU/POS/PUP/SGS/SOS 494 (Migration, Environment, & Global Security) or GCU/GSC/PUP 598 (Migration, Environment, & Global Security) OR Visiting University Student |
| SGS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | |
| SGS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| SGS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| SGS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-4 | | |
| SGS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-7 | | |
| SGS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-3 | | |
| SGS | 501 | Global Theory | Examines theoretical and analytical frameworks employed by institutions to frame action related to increased global uncertainty including economic, sociological, psychological, decision theory, gaming and institutional behavior frameworks. Uses case studies in key global issue areas such as climate change/natural hazards, energy security, urbanization, food security, security, failed states. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SGS | 502 | Global Institutions and Actors | Examines key types of global institutions, (1) multinational businesses, e.g., Toyota, (2) international development organizations, e.g., the World Bank, and (3) voluntary organizations, e.g., the Red Cross/Crescent, in terms of the roles that they play in shaping localized outcomes. Using case studies, explores the impact of international actors in terms of the power and influence that they exert through international treaties, standards, information diffusion, influence on local governments and other organizations, dissemination of international "best practice." | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SGS | 503 | Methods: Global Decision Making Under Uncertainty | Examines and critically assesses approaches and methods used in decision making and planning under uncertainty in global contexts, e.g., scenarios, SWOT, risk analysis, contingency planning, gaming, economic forecasting, anticipation-foresight techniques, decision making under complex conditions, and rapid assessment techniques. Explores the strengths and weaknesses of different approaches under varying conditions, synergies achievable through application of multiple methodologies, and normative assumptions underlying various methodologies. Students gain "hands-on" experience in the use of a variety of techniques through assignments based on real-world situations. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): SGS 501; SGS 502; Pre- or corequisite(s): SGS 504 |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------------|-------|-----------------|---|
| SGS | 504 | The Individual As Decision Maker in Cross-Cultural Global Contexts | Focuses on the role of the Individual decision maker in cross-cultural contexts, acting in the context of globally engaged institutions. The individual is virtually always embedded in an institutional environment whether as manager, planner, advocate, frequently acting as part of a team. It is recognized that the various agents/stakeholders involved in addressing an issue, negotiating a deal, in a global context, almost invariably hold significantly different worldviews, cultural norms and decision-making styles. Deals with the individual decision maker in both public and private decision-making milieus. Discusses modes of intervention and initiative. Addresses issues of leadership, reconciliation of different decision-making modes, and acting effectively in cross-cultural environments. Emphasizes decision making under high uncertainty, using case studies, e.g., pending nationalizations or privatization. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): SGS 501; SGS 502; Pre- or corequisite(s): SGS 503 |
| SGS | 505 | Preparation for the Global Field Project | Prepares students for the global field project. In addition to scheduled classes, each student meets with her/his advisor at regular intervals during the semester to prepare for the Global Field Project. During the semester, students prepare a work plan for their Global Field Project, including objectives of the exercise, specifications of deliverables. Network building is an important secondary objective, and development of an esprit de corps among Global Studies masters students. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): SGS 501; SGS 502; Pre- or corequisite(s): SGS 503; SGS 504 |
| SHS | 205 | Exploring Communication Disorders in Children and Adults | Introduces hearing, language, and speech problems in children and adults. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |
| SHS | 230 | Peering into the Human Brain | An introductory look into the cognitive and language functions of the human brain, and the resulting behavioral consequences of injury, disease and disorders. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | SG | |
| SHS | 250 | Introduction to Phonetics | Introduces English phonetics with emphasis on phonetic transcription, articulation, phonology and disorders of speech. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Speech and Hearing Science BS major, minor, or BIS concentration student, or Communication Sciences and Disorders certificate student; minimum 45 hours OR Visiting University Student |
| SHS | 300 | Foundations of Rehabilitation Science | Provides a foundation to rehabilitation science and covers an overview of rehabilitation professions and work settings including acute care, rehabilitation centers, long-term care facilities and in-home services. Also provides an introduction to clinical methods, patient privacy and professional ethics as well as an overview of rehabilitation process and continuum for children and adults. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |
| SHS | 310 | Anatomical and Physiological Bases of Speech | Noncadaveric study of anatomical systems that underlie human speech and language, including respiration, phonation, articulation, and related nervous system processes. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BIO 160 or 201 with C or better; SHS 250 with C or better OR Visiting University Student |
| SHS | 311 | Hearing Science | Studies the physical characteristics of sound and of the structure and function of the human auditory system. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): PHY 101 with C or better OR PHY 111 and 113 with C or better OR Visiting University Student |
| SHS | 340 | Chronic Illness, Disability and the Environment | Over a billion people worldwide are estimated to live with some form of disability; however, disability is diverse in its association with chronic health conditions. Individuals with disabilities are vulnerable to deficiencies in health and social services. Depending on the group and setting, persons with disabilities may experience greater vulnerability to chronic illness, co-morbid conditions, age-related conditions, engaging in health risk behaviors and higher rates of premature death. Provide an overview of disability groups and the associated health conditions that impact their lives as well as discussion of the barriers to health care including health care costs, availability of services and physical barriers in the community. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |
| SHS | 360 | Rehabilitation for Children and Adolescents in Educational Settings | Gives an overview of habilitation services for children from early intervention through adolescence in terms of physical, occupational and speech therapy, as well as other support services and their role with early intervention, educational settings, pediatric rehabilitation contexts. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |
| SHS | 367 | Language Science | Psychological processes, linguistic principles and social influences relating to language and communication. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | SB | Prerequisite(s): minimum 30 hours OR Visiting University Student |
| SHS | 375 | Speech Science | Normative aspects of speech, hearing, and language. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): SHS 250 with C or better; SHS 311 with C or better; Pre- or corequisite(s): SHS 310 with C or better if completed OR Visiting University Student |

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| SHS | 400 | Topics in Neuroscience | Covers in-depth important and emerging developments in neuroscience, emphasizing lectures that include readings of recent reviews and contemporary publications in peer-reviewed journals. Includes a significant writing component; students learn skills for writing scientific publications and grant applications. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BIO 360 with C or better; Credit is allowed for only BIO 400 or KIN 400 or PSY 400 or SHS 400 |
| SHS | 401 | Principles of Audiology | Introduces hearing disorders and the purposes and procedures for basic clinical tests of auditory function. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): SHS 311 with C or better; Credit is allowed for only SHS 401 or SHS 501 OR Visiting University Student |
| SHS | 402 | Clinical Methods and Treatment of Communication Disorders | Principles and techniques for planning speech and language intervention, including observation experiences. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Pre- or corequisite(s): SHS 470, 485, or 565 with C or better if completed OR Visiting University Student |
| SHS | 410 | Deaf Culture | Provides students with an overview of issues related to deaf, hard of hearing and comprehensive vision hearing loss (CVHL). Topics include historical, cultural, educational and political issues, technology, arts and literature as it relates to the deaf community. Taught primarily in English. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | C | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ASL 410 or ASL 494 (Deaf Culture) or SHS 410 or SHS 494 (Deaf Culture) or SLC 410 or SLC 494 (Deaf Culture) OR Visiting University Student |
| SHS | 461 | Accent Modification | Increases speech intelligibility in non-native English speakers by changing their English pronunciation skills. International students learn the pronunciation of American English vowels and consonants, intonation and stress patterns, and rhythm of speech. Conducts pre- and post-assessments of the students' intelligibility to determine the need for improvement on specific sounds and speech patterns. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 2 | | |
| SHS | 465 | Speech and Language Acquisition | Speech and language development in the normal child; introduces disorders. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | SB | Prerequisite(s): SHS 250 with C or better; Credit is allowed for only SHS 465 or SHS 565 OR Visiting University Student |
| SHS | 470 | Developmental Speech and Language Disorders | The nature of speech and language disorders in children | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): SHS 465 with C or better OR Visiting University Student |
| SHS | 473 | Implementation of Treatment Plans for Individuals with Communication Disorders | Students will learn to follow written treatment plans, individual education programs, individual support plans or protocols developed by the supervising speech-language pathologist. Opportunities to learn methods for eliciting therapy targets and to apply critical thinking and problem solving during therapy will be provided. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): admission to Speech-Language Pathology Assistant certificate |
| SHS | 483 | Professional Issues and Ethical Considerations for the SLPA | Studies licensure laws, professional conduct, and ethical practice in the field of speech language pathology. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): admission to Speech-Language Pathology Assistant certificate |
| SHS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): minimum 45 hours |
| SHS | 485 | Acquired Speech and Language Disorders | Acquired speech and language disorders across the lifespan. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): SHS 310 with C or better; SHS 367 with C or better OR Visiting University Student |
| SHS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): Barrett Honors student |
| SHS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| SHS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| SHS | 496 | Aural Rehabilitation | Approaches to aural rehabilitation of children and adults. Introduces educational audiology and assistive listening devices. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): SHS 311 with C or better; SHS 375 with C or better; SHS 401 with C or better; Credit is allowed for only SHS 496 or SHS 596 OR Visiting University Student |
| SHS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| SHS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-3 | | |
| SHS | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite: MS Communication Disorders, Doctor of Audiology, or PHD Speech and Hearing Science student |
| SHS | 501 | Introduction to Audiology | Introduces hearing disorders and the purposes and procedures for basic clinical tests of auditory function. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): SHS 311 with C or better; Credit is allowed for only SHS 401 or 501 |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
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| SHS | 502 | Basic Audiometry | Covers the bases, purposes, rationales, and procedures for the core clinical tests of auditory function in adults and children. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): Doctor of Audiology or Speech and Hearing Science PhD student |
| SHS | 504 | Amplification I | Operation, electroacoustic measurement, selection, and prescriptive fitting of amplification devices. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): Doctor of Audiology or PHD Speech and Hearing Science student |
| SHS | 505 | Sign Language for Audiologists and Speech Pathologists | Facilitates effective manual and alternative methods of communication with deaf individuals in clinical settings. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 508 | Pediatric Audiology | Covers the development of the auditory system and the disorders that can result in hearing loss in children birth to 18 years of age, the diagnostic test techniques used to assess hearing in children from birth to 5 years of age, and best practices for auditory intervention at each stage of childhood. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Doctor of Audiology or PHD Speech and Hearing Science student |
| SHS | 510 | Amplification II | Verification and validation of hearing aid performance, benefit, and satisfaction. Fitting considerations for pediatric and geriatric populations. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): SHS 504 with B- or better |
| SHS | 511 | Auditory Perception by the Hearing Impaired | Psychophysical methods and behavioral aspects of hearing, with an emphasis on the perceptual consequences of sensorineural hearing loss. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Doctor of Audiology or PHD Speech and Hearing Science student |
| SHS | 512 | Topics in Management of Medical Aspects of Speech-Language Pathology | Focuses on varying topics in management of medically based speech and language disorders. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 513 | Auditory Neuroscience | Covers knowledge of neuroanatomy and neurophysiology of the auditory system. Topics include: cochlear functions, central auditory processing of simple and complex sounds, neural basis of auditory perception including speech and music. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree-seeking graduate student |
| SHS | 516 | Auditory Evoked Potentials | Electrophysiologic assessment of the peripheral and central auditory nervous system. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): Doctor of Audiology or Speech and Hearing Science PhD student |
| SHS | 517 | Balance Assessment | Clinical analysis and treatment of balance disorders and dizziness. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): Doctor of Audiology or Speech and Hearing Science PhD student |
| SHS | 518 | Rehabilitative Audiology | Study and clinical application of rehabilitative services for managing the effects of hearing impairment across the lifespan. Covers and applies principles of patient- and family-centered care. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Doctor of Audiology or PHD Speech and Hearing Science student |
| SHS | 520 | Auditory Pathologies/Disorders and Otoneurologic Applications | Familiarizes students with major pathologies and disorders of the human auditory system. Examines advanced otologic, neurologic, and audiologic approaches in the differential diagnosis and treatment of peripheral and central disorders of the auditory system. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): Speech and Hearing Science graduate student |
| SHS | 522 | Tinnitus/Advanced Audiometry | Discusses assessment and intervention procedures beyond the basic audiologic test battery. Includes a special focus on the mechanisms, evaluation and treatment of tinnitus. Examines the prevention, identification and management of hearing loss due to noise exposure. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Speech and Hearing Science graduate student |
| SHS | 523 | Central Auditory Processing Disorders | Discusses assessment and intervention procedures beyond the basic audiologic test battery and for special populations. Examines relevant new audiologic tests and procedures. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): SHS major; SHS 502 and SHS 513 |
| SHS | 524 | Counseling in Communication Disorders | Theories of counseling emphasizing the psychological and emotional impact and management of individuals with communication disorders and their families. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): MS Communication Disorders, Doctor of Audiology, or PHD Speech and Hearing Science student |
| SHS | 525 | Audiology Practice Management | Business practice issues, quality assurance, and professional ethics for the practicing audiologist. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Doctor of Audiology or PHD Speech and Hearing Science student |
| SHS | 526 | Launch to Clinical Methods in Audiology | Introduces clinical practices in audiology. Covers principles of evidence-based practices and ethical and professional conduct, the basics of billing and coding, report writing and clinical documentation, and infection control practices, as well as how to perform a speech and language screening. Introduces policies, procedures and software specific to the ASU Speech & Hearing Clinic operations, which is pertinent to success in clinical rotations. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): Audiology AuD student |
| SHS | 538 | Clinical Methods and Simulation in Speech Language Pathology | Provides the knowledge and skills in clinical methods for treatment and diagnosis in speech-language pathology. Topics cover essential information to participate in screening and prevention opportunities, to structure and implement therapy goals and strategies, to apply for internships, and to administer and interpret informal and formal diagnostic tests. | N | LEL | Y | GNA | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): MS Communication Disorders major. |

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| SHS | 539 | Professional Issues in Speech-Language Pathology | Covers professional issues in speech-language pathology to ensure that students meet the professional knowledge requirements set forth in the American Speech-Language-Hearing Association (ASHA) certification standards. The topics cover essential information that the student needs to have in order to meet graduation requirements, comply with ASHA's ethical requirements, complete ASHA certification requirements, comply with Arizona state licensure requirements, prepare for a Clinical Fellowship Year and be involved in education and advocacy for the profession of Speech-Language Pathology. | N | LAB | Y | GNA | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): Communication Disorders MS student |
| SHS | 541 | Data Analysis in Auditory and Language Neuroscience | Common statistical analyses for the interdisciplinary field of auditory and language neuroscience. Covers fundamental topics of statistics and their applications in this specialty area of neuroscience. Various data types, experimental designs and statistical analyses that are common in the field of auditory and language neuroscience. Through several hands-on activities, students learn to implement and to apply different statistical analyses to auditory and language data. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Speech and Hearing Science graduate student |
| SHS | 542 | Applied Research Methods in Auditory and Language Neuroscience | Team-taught course covering fundamental topics of experiment design and their applications in auditory and language neuroscience. Students learn about the fundamentals of experimental design, and their application in psychoacoustics, EEG, ERP and MRI. A series of hands-on activities require that students analyze existing experiments and a final project requires that students design a new experiment. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Speech and Hearing Science graduate student |
| SHS | 543 | Functional Neuroimaging of Language and Related Processes | Functional neuroimaging for anyone who is interested in its application to study brain functions including language, speech and auditory psychophysics. Functional MRI is a prominent method to see into the human brain. Its use as a research tool in the field of neuroscience (and language neuroscience in particular) has grown exponentially over the past decade. Through a combination of lecture, readings and practicum exercises, this course provides a broad introduction into functional MRI research, including how MRI can generate images; how these signals relate to neuronal activity; and how to design and analyze meaningful functional MRI experiments to investigate the neural computations of language, speech, hearing and other related functions. Students also review recent functional neuroimaging literature, and gain hands-on experience collecting and analyzing fMRI datasets. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SHS 543 or SHS 598 (Functional Neuroimaging of Cognition) |
| SHS | 544 | Introduction to Genetics: Implications for Health, Disease and Society | Foundational concepts in human genetics and precision health. Covers how genetic variations influence health conditions and their behavioral and environmental correlates. Considers complex societal and ethical issues involving genetics. Open to students from a diverse range of clinical, scientific and population health-oriented academic programs. | N | LEL | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SHS 544 or SHS 494/SHS 598 (Introduction to Genetics: From Molecules to Clinic) or SHS 598 (Molecules, Markers, Management: Intro Genetics) |
| SHS | 550 | Development, Assessment, Intervention: School-Age Children | Covers development, assessment and intervention of children from 6 years to 21 years of age, with a focus on school education. Includes child development of anatomical, neurophysiology, cognitive, motor, perceptual, speech, language, reading, writing and hearing aspects. Also addresses service delivery models in different contexts in children with atypical development in the different areas. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 4 | | Pre-requisite: SHS 540 |
| SHS | 552 | Physiological Measures of Auditory Function | Focuses on the measurement of otoacoustic emissions and acoustic immittance. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): Doctor of Audiology or Speech and Hearing Science PhD student |
| SHS | 555 | Cochlear Implants | Covers the research and clinical aspects of cochlear implantation with a focus on the principles of speech coding strategies. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): Doctor of Audiology or Speech and Hearing Science PhD student |
| SHS | 560 | Development, Aging, Assessment, Intervention in Adults | Covers development, aging, assessment and intervention in adults with a focus on the elderly and the contexts for their service delivery. Includes changes in the adults related to anatomy, neurophysiology, cognitive, motor, perceptual, speech, language, literacy and hearing aspects. Also addresses service delivery models in different contexts where elderly and young adults with acquired disabilities are served. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 4 | | Pre-requisite: SHS 550 |
| SHS | 565 | Speech and Language Acquisition | Speech and language development in the normal child; introduces disorders with added focus on common disorders of acquisition. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SHS 465 or SHS 565 |

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| SHS | 567 | Neural Bases of Communication Disorders | Neuroscience and its application to matters of normal and disordered communication. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): MS Communication Disorders, Doctor of Audiology, or PHD Speech and Hearing Science student |
| SHS | 568 | Special Populations in Communication Disorders | Covers basic knowledge of etiological aspects (genetics, embryology) and clinical assessment/intervention issues relevant for children with complex medical and developmental disabilities that impact communicative development. Places special emphasis on children with cleft lip and/or palate. Addresses interprofessional roles and team-based management of complex conditions and the development of evidence-based approaches to assessment and intervention in communicative development. Because of the growing knowledge of genetic etiologies in our field, SLPs will increasingly be in a position to make informed referrals to genetics professionals. Therefore, this course includes practical how-to information on spotting genetic red flags and referring for genetic counseling services. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): degree-seeking graduate student; Credit is allowed for only SHS 568 or SHS 598 (Special Populations in Comm Disorders) |
| SHS | 570 | Communication Disorders and Multicultural Populations | Studies racial and ethnic biases and the communication behaviors and disorders in various cultural groups. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): MS Communication Disorders, Doctor of Audiology, or PHD Speech and Hearing Science student |
| SHS | 571 | Augmentative Communication and Language Programming | Focuses on individuals across the age span who are unable or who are at risk for being unable to communicate with spoken language. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): MS Communication Disorders, Doctor of Audiology, or PHD Speech and Hearing Science student |
| SHS | 572 | Language Assessment and Intervention in Infants and Toddlers | Focuses on the birth to 3-year-old population who are at risk for or who have communication and language disabilities. Examines early developmental risk factors for speech and language delays and evidence-based assessment methods for young children and their families. In addition, explores models of early intervention delivery in homes, clinics, schools and through telepractice and their application in multicultural environments. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): Auditory and Language Neuroscience MS or Communication Disorders MS or Speech and Hearing Science (Auditory and Language Neuroscience) PhD student |
| SHS | 573 | Language Assessment and Intervention with School-Age Populations | Focuses on later language development, linguistic demands of academic settings, assessment and intervention strategies for older children and adolescents. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): MS Communication Disorders, Doctor of Audiology, or PHD Speech and Hearing Science student |
| SHS | 574 | Management of Feeding and Swallowing Disorders | Focuses on assessment and intervention of people with swallowing and feeding disorders. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): MS Communication Disorders, Doctor of Audiology, or PHD Speech and Hearing Science student |
| SHS | 575 | Aphasia and Related Neurogenic Language Disorders | Assessment and treatment of acquired neurolinguistic impairment. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2-3 | | Prerequisite(s): MS Communication Disorders, Doctor of Audiology, or PHD Speech and Hearing Science student |
| SHS | 576 | Neuromotor Speech Disorders | Evaluation and treatment of the dysarthrias and apraxia of speech. Emphasizes acquired adult disorders. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2-3 | | Prerequisite(s): MS Communication Disorders, Doctor of Audiology, or PHD Speech and Hearing Science student |
| SHS | 577 | Current Assessment, Intervention and Research in Autism | Addresses communication disorders in children and adults with autism, as well as evaluation and intervention across a variety of settings and theoretical frameworks. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 578 | Fluency Disorders | Provides the master's level student in speech language pathology understanding of the nature and treatment of stuttering and other fluency disorders. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 2 | | Corequisite(s): Communication Disorders MS student |
| SHS | 579 | Voice and Resonance Disorders | Provides an academic and clinical understanding of voice and voice-related disorders (including resonance and respiration). Includes the impact of voice and voice-related disorders on quality of life and ability to meet communicative ADLs (activities of daily living). Addresses principles of assessment and intervention. Requires students to identify and use relevant evidence-based resources to develop clinical materials to maintain and rehabilitate functional communication and to support interactions with patients, students, caregivers and colleagues. Utilization of evidence-based resources is a skill that speech-language pathologists use throughout their careers, and it represents best practice. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): Communication Disorders MS student |
| SHS | 580 | Clinical Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): degree-seeking graduate student |
| SHS | 581 | Traumatic Brain Injury and Cognitive Linguistic Disorders | Studies the nature, characteristics, and clinical management of cognitive and communicative impairments accompanying right hemisphere damage, TBI, and dementia. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SHS | 582 | Differential Diagnosis of Communication Disorders | Procedures for assessing speech/language disorders in children and adults. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): MS Communication Disorders, Doctor of Audiology, or PHD Speech and Hearing Science student |
| SHS | 584 | Clinical Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): degree-seeking graduate student |
| SHS | 585 | Articulation and Phonology: Assessment and Intervention | Assessment and treatment of developmental articulation and phonological disorders. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2-3 | | Prerequisite(s): MS Communication Disorders, Doctor of Audiology, or PHD Speech and Hearing Science student |
| SHS | 586 | Language Essentials for Teaching Reading | Focuses on the fundamentals of literacy instruction and assessment in children enrolled in preschool through high school. Although speech-language pathologists (SLPs) are not the primary reading teachers for students, they play an important role in improving learning in all areas of language, both oral and written. For this reason it is crucial for SLPs to have foundational knowledge in reading and writing development. Recommend a clear understanding of typical language development and language disorders. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SHS 586 or SHS 598 (Language Essentials for Teaching Reading) or SHS 598 (Reading Decoding) |
| SHS | 587 | Language Assessment and Intervention with Preschool Populations | Focuses on preschool language disorders and assessment and intervention strategies for preschool children. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): MS Communication Disorders, Doctor of Audiology, or PHD Speech and Hearing Science student |
| SHS | 588 | Bilingual Language Acquisition | Examines bilingual language development and language processing in children through adulthood across multiple languages. | N | SEM | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 589 | Audiology Grand Rounds | Grand Rounds bridges clinical and academic knowledge through case studies, application of emerging research, and clinical workshops. | N | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): degree-seeking graduate student |
| SHS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Health Solutions | College of Health Solutions | 1 | | |
| SHS | 596 | Aural Rehabilitation | Approaches to aural rehabilitation in children and adults. Introduces educational audiology and assistive listening devices. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only SHS 496 or 596 |
| SHS | 597 | Bilingual Speech-Language Pathology | Reviews speech and language assessment and intervention practices with bilingual populations from infants to adults. | N | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 701 | Scientific Writing and Presentation in Communication Sciences and Disorders I | Basics of launching a research project. Helps students gain an independent perspective of a research field, become competent in critical questioning and analysis of literature, learn how to develop a research question and initiate a research plan. | N | SEM | N | GNA | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): Ph.D. student; Credit is allowed for only SHS 701 or SHS 790 (Critical Thinking & Developing Research Questions OR Scientific Writing & Presentation 1) |
| SHS | 702 | Scientific Writing and Presentation in Communication Sciences and Disorders II | Covers the specific parts of an APA style research manuscript, including the structure of the Introduction, Method, Results and Discussion. Also introduces other alternate research manuscript styles such as those used in the biosciences. Discusses strategies and recommendations for creating a successful research presentation. | N | SEM | N | GNA | College of Health Solutions | College of Health Solutions | 1 | | Requisite(s): Ph.D. student; Credit is allowed for only SHS 702 or SHS 790 (Scientific Writing & Presentation 2) |
| SHS | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SHS | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Health Solutions | College of Health Solutions | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SLB | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | |
| SLB | 510 | Amateur Sports Law: MSLB | Studies law, policy and problem solving in the amateur sports context, focusing primarily on interscholastic and intercollegiate athletics. Title IX and racial equality in sports. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 676 or SLB 510 or LAW 791 (Amateur Sports Law) or LAW 791 (Non-Professional Sports Law) |
| SLB | 511 | Career Strategies & Business Communications in the Sports Industry | Focuses on examining job opportunities in the sports industry and the development of strategies for obtaining a position suitable to the talents and abilities of individual students. Students refine their skills in terms of searching for a job. Students also develop a career plan, beginning with an entry-level position for those who have worked in the industry or a next-level position for students currently working in the area. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): College of Law student; Credit is allowed for only SLB 511 or LAW 598 (Strategic Career Planning) |
| SLB | 512 | Professional Sport Law: MSLB | Studies law, revenue, branding and problem solving in the professional sports context, focusing primarily on professional sports league governance and regulation, labor relations, representing and marketing players and coaches, and issues of equity and race. Also examines international issues related to professional sports. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 675 or LAW 691 (Non-Amateur Sports Law) or LAW 691 (Professional Sports Law) or SLB 512 |
| SLB | 513 | Sports Law and Business | Studies law, policy and problem solving in the context of the sports industry at all levels. Exposes professional, amateur and international sports law issues, examining those issues in a problem-focused manner. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student |
| SLB | 514 | Negotiations & Alternative Dispute Resolutions in the Sports Industry | Provides a working or basic knowledge of contract law, with in-depth instruction with regard to negotiating and drafting in the sports context. As their final project, students select a player, coach, university or club and then negotiate a contract. Negotiation sessions are held during class sessions and students evaluate each other, as well as receiving evaluation from the professor. Replicates the negotiation process in the sports industry. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only SLB 514 or LAW 598 (Contracts in the Sports Industry) |
| SLB | 515 | Sports Business Strategies & Executive Decisions | Sports can involve a jog around campus or big business. Sports are interesting, important and a vivid context to learn about consumers, organizations, diverse stakeholders, media and entertainment, partnerships and sponsorship, highly competitive strategies in finance and marketing, managing community venues, big events, and other relevant business topics. Maintains a pragmatic, experiential, yet well-grounded focus, studying the role, nature and dynamics of sports business both in and around "sports industries" and in and around "conventional businesses." Builds and "tests" knowledge and exercise skills related to sports business analysis, decision making, communication and both strategy development and execution. Intellectually rigorous, yet fun. Develops a sophisticated, yet practical understanding of the nature, contexts and dynamics of sports business. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only SLB 515 or MKT 591 (Sports Business Strategy and Industry Dynamics) |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|------------------------------------|------------------------------------|-------|-----------------|---|
| SLB | 516 | Revenue Generation in the Sports Industry | Develops an appreciation for and understanding of the multiple stakeholders and diverse interests in and around sports business, and of their constantly changing and interactive impact on sports business practice and performance. Gives broad exposure to the major revenue generating domains in the sports industry. Explores the fundamentals of marketing and applies those fundamentals to the domains of sponsorship, endorsement, media, ticketing, merchandising and fundraising as means to create and maintain revenue streams. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): College of Law student; Credit is allowed for only SLB 516 or MKT 591 (Sports Business Development) |
| SLB | 517 | Marketing for Sports Organizations | Studies the role, nature and dynamics of sports business and builds knowledge and skills related to sports marketing analysis, decision making and strategy development and execution. Intellectually challenging and demanding, yet fun. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only SLB 517 or MKT 598 (Sports Marketing) |
| SLB | 518 | Sports Analytics | Develops and applies analytical skills that are useful in nearly every career. Although the course focuses on applications in the sports context and uses approaches that are rapidly becoming important in the business of sports analytics, this is not a survey course about issues in sports. Instead, this class is about curiosity, storytelling and logic. An understanding and interest in both sports and numbers make this class good. General curiosity makes it great. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): College of Law student; Credit is allowed for only SLB 518 or MKT 591 (Sports Analytics) |
| SLB | 519 | Pro Sport Team Operations and Legal Issues: MSLB | Deals with various legal issues confronted by the Team Counsel of a professional sports team. Reviews the business, risk management, intellectual property and financial issues that raise in connection with the operation of a team. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): Master of Sports Law and Business student; Credit is allowed for only LAW 670 or SLB 519 or SLB 598 (Pro Team Sports:Legal Issues in Business Operation) |
| SLB | 520 | Sports Venue Construction: Legal and Financial Issues: MSLB | Studies the structure and issues related to stadium financing in professional and collegiate sports. Covers issues related to professional league expansion and team relocation. Discusses carefully read assigned materials. | N | SEM | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): Master of Sports Law and Business student; Credit is allowed for only LAW 671 or SLB 520 |
| SLB | 521 | Risk Management for Venues: MSLB | American tort law, particularly the foundational elements of duty-breach-causation-harm, as well as causation and reasonableness, as a means of understanding the nature of risk and the tools available to address it in the many circumstances that arise during live sports and entertainment events. | N | SEM | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): Master of Sports Law and Business student; Credit is allowed for only LAW 673 or SLB 521 |
| SLB | 522 | NCAA Compliance, Infractions and Enforcement: MSLB | Provides a real-world view of a Division I Power 5 Conference Compliance Office and the manner in which such an office directs its institution's efforts to maintain compliance with National Collegiate Athletic Association and member conference legislation governing intercollegiate athletics. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): Master of Sports Law and Business student; Credit is allowed for only LAW 674 or SLB 522 or SLB 598 (Infractions/Compliance-Intercollegiate Athletics) |
| SLB | 523 | MLB's Impact on Law and Society: MSLB | Examines how MLB served as a catalyst for change in American law and society post WWII, and the legal and business developments that have shaped modern professional baseball. Addresses such diverse topics as the integration of African-American players into MLB and diversity in MLB; labor relations (collective bargaining, free agency, labor stoppages and drug testing); league operations; franchise relocation; expansion; globalization of the game; the business and marketing of the game in the digital age and the resulting legal implications; and the state of the game in the 21st century. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): Master of Sports Law and Business student; Credit is allowed for only LAW 672 or SLB 523 |
| SLB | 524 | Law and Business of Sports Branding: MSLB | Examines legal and business issues associated with personal and business branding, particularly in the context of professional and collegiate sports. Discusses and analyzes issues relating to: (1) what constitutes a "brand" and how a "brand" is developed; (2) the recent surge in personal branding by athletes, entertainers and other celebrity personalities; (3) athletes and other celebrities who have transformed their fame into personal branding platforms that support large business enterprises; (4) the basic principles of trademark law and how those principles apply to business and personal brands; (5) regulation and control of brands in professional and collegiate sports, and the Olympics; (6) licensing and corporate sponsorship; and (7) ambush marketing. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): Master of Sports Law and Business student; Credit is allowed for only LAW 677 or SLB 524 |
| SLB | 525 | Sports Big Events: Law/Biz/Ops: MSLB | Teaches the business, legal and operational issues of major sporting events. Examines bid preparation, marketing, sales, ticketing, operational, security, volunteer, sponsorship, legal and other issues related to these events. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Sports Law and Business student; Credit is allowed for only SLB 525 or SLB 598 (Sports Big Events:Law/Biz/Ops-MSLB) |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| SLB | 581 | U.S. Law and Legal Analysis Through Sport: MSLB | The U.S. legal system and the types of legal reasoning used by legal professionals. Provides the necessary instruction to use legal reasoning in both academic work and professional endeavors, including reading and evaluating legal cases, statutes and public policy. Students complete written legal analysis exercises, draft case briefs and participate meaningfully in class by critically analyzing current legal issues. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): Master of Sports Law and Business student |
| SLB | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): College of Law student |
| SLB | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | REC | Y | Z1 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SLB | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SLB | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): College of Law student |
| SLB | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): College of Law student |
| SLB | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand). | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): College of Law student |
| SLB | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | |
| SLB | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): College of Law student |
| SLC | 103 | Beginning Navajo I | Designed for non-Navajo speakers to develop basic skills in speaking, reading and writing in the Navajo language. Specifically focuses on pronunciation, sounds, basic vocabulary and simple conversation. First of four levels of the Navajo language. | N | LEL | N | GNA | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | Credit is allowed for only AIS 101 or AIS 194 (Beginning Navajo I) or SLC 103 or SLC 194 (Beginning Navajo I) OR Visiting University Student |
| SLC | 104 | Beginning Navajo II | Designed for non-Navajo speakers to continue basic skills in speaking, reading and writing in the Navajo language. Emphasizes a continued focus on pronunciation, sounds, basic vocabulary and simple conversation. Second of four levels of the Navajo language. | N | LEL | N | GNA | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | Prerequisite(s): AIS 101 or SLC 103; Credit is allowed for only AIS 102 or AIS 194 (Beginning Navajo II) or SLC 104 OR Visiting University Student |
| SLC | 115 | Japanese Popular Culture: Anime, Manga and Film | Examines different media of Japanese popular culture such as comics (manga), animation (anime) and film for evidence of how the Japanese express their self identity in Japanese society. By separating the media into themes such as technology and the future, war/apocalypse/disaster, violence in society, gender and sexuality, and human relations, understands the Japanese culture (and social consciousness) more intimately. Students view films, read scholarly articles on the subject matter, and actively participate in the course through written papers and discussion. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Credit is allowed for only JPN 115 or SLC 115 |
| SLC | 120 | Introduction to Chinese Culture | Introduces geographical, historical, literary, and intellectual premises of Chinese culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only CHI 120 or SLC 120 OR Visiting University Student |
| SLC | 123 | Gods and Monsters: Comparative Mythology | Guides students in comparing mythologies of a number of different cultures, including ancient Greek, Asian, Middle Eastern, European and American aboriginal traditions. Roots readings and assessments in the relevant literature from each tradition. Introduces students to (short selections from) texts from a variety of cultures, including ancient Greek epic and tragedy, the Ramayana, Norse eddas, the various flood stories from Mesopotamian cultures, African creation and Mesoamerican creation myths, and the legend of King Arthur. In addition, students encounter oral tradition and folklore from the Brothers Grimm, African-American trickster stories, American folklore, vampire legends, and Native American oral tradition. These types of texts invite discussion of cultural appropriation and the modern uses of such traditions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Credit is allowed for only SLC 123 or SLC 194 (Gods and Monsters: Comparative Mythology) |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-------------------|---|
| SLC | 140 | Greek and Latin Roots in Bioscientific Terminology | Introduces students to the ancient Greek and Latin root words most commonly used in biological, medical, and other scientific terminology, and gives practice identifying them in context. The knowledge of these root words enables students to memorize with greater ease and increased retention the bioscientific terminology they encounter in other coursework as well as in their medical or scientific profession. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Credit is allowed for only BIO 140 or GRK 140 or LAT 140 or SLC 140 OR Visiting University Student |
| SLC | 141 | Russian Civilization: From Tsars to Putin | For centuries, Russians have argued about who they are as a people and a nation by turning to their history, religion, literature, arts and language. With a foundation in Russian history and geography and using primary sources, we survey debates over Russian history and civilization to understand how Russians have imagined themselves and their nation and empires. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G & H | Pre- or corequisite(s): ENG 101, 105, or 107 with C or better if completed; Credit is allowed for only HST 141 or RUS 141 or SLC 141 OR Visiting University Student |
| SLC | 142 | Ancient Greek Civilization | Ancient Greek civilization and culture. Studies (in roughly equal parts) the art, archaeology, literature, culture and history of ancient Greece from prehistoric times until after the conquests of Alexander the Great (the Hellenistic Age). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Credit is allowed for only GRK 142, GRK 194 (Ancient Greek Civilization) or SLC 142 |
| SLC | 143 | Roman Civilization | Introduces ancient Roman civilization from the earliest times (ca. 1200 BCE) through the fall of the Western Empire (CE 476) and the reign of the Byzantine Emperor Justinian (6th c. CE). Examines ancient Roman society, history, art, architecture, literature, mythology and legends. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Credit is allowed for only LAT 143 or LAT 194 (Roman Civilization) or SLC 143 or SLC 194 (Roman Civilization) |
| SLC | 144 | The Ancient Mediterranean | Provides a comprehensive introduction to the Mediterranean world, focusing on (but not limited to) the period of the classical Greeks and Romans. Provides some history of the area, but focuses on the classical world and its interaction with the cultures that surrounded it, including Semitic, Near Eastern, and North African cultures, as well as some of the lost cultures of the area such as the Minoans and Etruscans. Introduces the sources that provide information about these cultures (literary, art historical and archaeological sources), and teaches students to think critically and write persuasively about these sources. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only SLC 144 or SLC 194 (The Ancient Mediterranean) |
| SLC | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | Pre-requisites: maximum 25 hours |
| SLC | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEL | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| SLC | 201 | Introduction to Linguistics | Examines the nature and diversity of world languages, linguistic structures and functions of language, language variation, pragmatics, and language acquisition. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU or SB | |
| SLC | 202 | Exploring Cultures: Words, Images, Stories | Introduces the fundamentals of cultural analysis to help students understand the ways in which the languages and literatures they are learning are embedded in a broader cultural context. With an emphasis on comparative perspectives and theoretical discussion, teaches methods of inquiry that enable students to formulate their own research questions and draw on their individual backgrounds as School of International Letters and Cultures majors, no matter the language, country, period or artistic medium they focus on. All course materials and instruction are in English. Interested students are encouraged to bring in and address primary and secondary sources in the target language of their focus. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | |
| SLC | 203 | Intermediate Navajo I | Designed for those who have some comprehension of the Navajo language, and have a beginner's level speaking ability. Continuation of Beginning Navajo; aimed to develop skills in speaking, reading, and writing in Navajo by focusing on pronunciation, vocabulary, conversational studies, and verb conjugation. Third of four levels of the Navajo language. | N | LEL | N | GNA | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | Prerequisite(s): AIS 101 or SLC 103; AIS 102 or SLC 104; Credit is allowed for only AIS 201 or AIS 394 (Intermediate Navajo I) or SLC 203 OR Visiting University Student |
| SLC | 204 | Intermediate Navajo II | Designed for those who have some understanding of the Navajo language and can speak some Navajo. Continuation of previous coursework; develops skills in speaking, reading and writing in Navajo by focusing on pronunciation, vocabulary, conversational studies and verb conjugation. Fourth and final level of Navajo. | N | LEL | N | GNA | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | Prerequisite(s): AIS 101 or SLC 103; AIS 102 or SLC 104; AIS 201 or SLC 203; Credit is allowed for only AIS 202 or AIS 394 (Intermediate Navajo II) or SLC 204 OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| SLC | 212 | Language and Culture Clash | Not limited to language majors and does not require any previous knowledge of a foreign language or culture. Students complete course projects using the material of their cultures of interest (the language they are taking interest in, including English). Focuses on the following topics in linguistics and cross-cultural communication: cultural norms, cultural conceptualizations, cultural scripts (as linguistic concepts), equivalence, communication failures. Emphasizes hands-on analysis, and also familiarizes participants with the basic concepts in the fields of cross-cultural linguistics and cross-cultural psychology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (HU or SB) & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only SLC 212 or SLC 294 (Language&Culture Clash/Communctn&Miscommunication) |
| SLC | 214 | The World's Game: History and Culture of Soccer | Provides a survey of the cultural significance and global reach of soccer, both historically and in contemporary culture. Students study materials from around the world in several mediums; they view films that explore the cultural impact of the game; read literary works that focus on soccer; and engage with scholarly articles and contemporary news media dedicated to the game. Provides a comprehensive sense of the history, personalities, rivalries, fandom, and even the finances and scandals related to the world's game. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): Credit is allowed for only HST 214 or HST 294 (The Beautiful Game: History & Culture of Soccer) or SLC 214 or SLC 294 (The Beautiful Game: History & Culture of Soccer) |
| SLC | 221 | Survey of Ancient Greek Literature | Introductory survey of ancient Greek literature. Familiarizes students with the important literary genres, texts, and authors of the ancient Greeks from Homer to the Hellenistic period. All readings in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Credit is allowed for only GRK 221 or SLC 221 |
| SLC | 222 | Survey of Roman Literature | Introductory survey of Roman literature. Familiarizes students with the literary genres, texts and authors of the Romans from the origins of the Latin language to the Silver age. All readings in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Credit is allowed for only LAT 222, SLC 222, LAT 294 (Roman Literature in Translation) or SLC 294 (Roman Literature in Translation) |
| SLC | 223 | Introduction to Greek and Roman Mythology | Familiarizes students with the characters and events of ancient Greek and Roman myths through their literary manifestations, and moves beyond mere narrative to consider the possible interpretations and functions of these myths, thus revealing the central concerns of ancient society and giving insights into the working of our own society and its literary and artistic traditions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Credit is allowed for only GRK 223 or LAT 223 or SLC 223 |
| SLC | 245 | Introduction to India and South Asia | Provides an introduction to the history and major contemporary political, economic, social, religious and cultural features of the South Asia region at large and of selected South Asian nations in particular. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H & G | Prerequisite(s): ENG 101 or 105 or 107 with C or better; Credit is allowed for only HST 245 or POS 245 or REL 245 or SGS 245 or SLC 245 |
| SLC | 250 | Middle East Culture in a Global Perspective | Introduces a broader view and examination of Arab culture in a global perspective. Increases students' knowledge of Arab culture, promotes awareness and understanding of Arab customs, values, attitudes and cultural diversity. Using an interdisciplinary thematic approach, students explore and analyze cultural differences, misunderstandings, stereotypes, and be able to explain how they contribute to Islamophobia and other misconceptions about Arabic culture. Thematic areas of emphasis include the Arab family, fine art/music, food, gender identities, religious life, political conflict and war, Islamic tradition and exile and immigration. Taught in English and requires no knowledge of Arabic. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ARB 250 or ARB 294 (Arab Cultures in a Global Perspective) or SLC 250 or SLC 294 (Arab Cultures in a Global Perspective) OR Visiting University Student |
| SLC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| SLC | 304 | Digital Humanities for Language Majors | Not limited to language majors (Slavic or otherwise). Students complete course projects using the material of their language of interest (the language they are taking interest in, including English). This course focuses on the following topics in digital humanities: (a) audio-visual representation of the content in humanities, (b) computer-assisted learning and assessment, (c) digitizing printed resources, (d) data and text mining, (e) working textual corpora, (f) statistical analysis, (g) computational lexicography, (h) data extraction and manipulation. While emphasizing hands-on skills, this course also familiarizes its participants with the basic concepts in the fields of digital humanities. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | CS | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only SLC 304 or SLV 304 |

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| SLC | 310 | Migration and Identity: Digital Storytelling | Represents a fusion of basic theoretical concepts such as globalization, migration, transnationalism and identity with personal narratives in the digital space. Structured in four sections in which students (a) learn a basic theoretical framework of migration studies; (b) listen to and reflect on narratives of migration and identity; (c) learn about digital storytelling; and (d) produce their own digital autobiographical account or interview a migrant. Students engage in a dialogue throughout the course, both in the classroom and in the virtual space (in online discussion forums). In this oral history course, students are at the center of the production of digital stories. At the end of the course students also have the opportunity to provide peer feedback and critically engage in the stories produced in class. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 108 with C or better; Credit is allowed for only ROM 310 or SLC 310 or SLC 394 (Migration and Identity-Digital Storytelling) OR Visiting University Student |
| SLC | 320 | Compassion: A Dialogue Between the Humanities, the Sciences and the Arts | Explores different aspects of compassion, understood as an emotion, a mental disposition and a motivation to action. Brings together the sciences, the humanities and the arts for an engaging conversation on the biology, history and ethics of compassion. Studies how scientists, philosophers and religious traditions understand empathy and compassion across cultures and languages. Examines various settings such as health care, justice and politics with attention to systemic oppression (e.g., gender, race, sexual orientation). Also explores how mindfulness and the arts (such as literature, film and dance) can promote compassion. Guest lecturers from various disciplines enrich our perspectives and guide us through practice. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only SLC 320 or SLC 394 (Compassion: Dialogue btwn Humanities/Sciences/Arts) OR Visiting University Student |
| SLC | 321 | Modern Korean Literature | Introduces various genres of Korean literature written from the seventeenth century to the present in English translation. Aims to help students to understand the history of modern Korean literature in transnational and transdisciplinary contexts. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only KOR 321 or SLC 321 |
| SLC | 331 | Arabic/Islamic Culture and Literature | General introduction to the Middle East that synthesizes cultural, social, and literary information. Focuses on the experiences of ordinary Middle Eastern people to convey a grassroots sense of the Middle East. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ARB 331 or SLC 331 OR Visiting University Student |
| SLC | 333 | China | Political, economic, social, and cultural history of the Chinese people from early times to the 17th century. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 30 hours; Credit is allowed for only CHI 333, HST 383 or SLC 333 |
| SLC | 334 | Modern China: 1700 to the Present | Political, economic, social, and cultural history of the Chinese people from the 17th century to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 384 or SLC 334 OR Visiting University Student |
| SLC | 336 | Interpreting China's Classics | Study of selected Confucian and/or Taoist classics and ways they have been read in both Asian and Western scholarship. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 30 hours; Credit is allowed for only CHI 336, HST 386 or SLC 336 |
| SLC | 340 | Approaches to International Cinema | Offers a historical survey of major film movements from across the world's national cinemas from the silent era to this day. Explores key cinematic works, situating them in their aesthetic, cultural and political contexts, and tracing their impact on the global cinematic culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 w/C or better; Credit is allowed for only FMP 340 or FMP 394 (Approach to Int'l Cinema) or FMS 341 or FMS 394 (Approach to Int'l Cinema) or SLC 340 or SLC 394 (Approach to Int'l Cinema) OR Visiting University Student |
| SLC | 343 | Culture and Society Transformation | Uses video documentaries and movies to explore the way in which cultural values, economic background and human interaction impact and transform societies. Societal changes in Central and Eastern Europe make a good case study for contrasting and comparing with other societies and understanding global trends and issues in today's world. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & G | Prereq(s): ENG 101, 105, or 107 with C or better; Credit for only ASB 345 or ASB 394 (Cult & Soc Transform) or JUS 343 or JUS 394(Cult & Soc Transform) or ROM 343 or SLC 343 or SLC 394 (Cult & Soc Transform) or SOS 344 or SOS 394 (Cult & Soc Transform) |
| SLC | 344 | Classics and Comics | Explores the connections between the classical tradition of Ancient Greek and Roman literature and the modern American superhero comic book tradition. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 101 or 105 or 107 with C or better; Credit is allowed for only GRK 344 or LAT 344 or SLC 344 or GRK/LAT/SLC 394 (Classics and Comics) or SLC 494 (Classics and Comics) |
| SLC | 345 | Ancient Greece I: Bronze Age through the Peloponnesian War | Traces Greek History from its prehistoric beginnings through the Peloponnesian War (431-404 B.C.), with a special focus on the Archaic (ca. 800-480 B.C.) and Early Classical periods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only GRK 347 or HST 347 or SLC 345 OR Visiting University Student |

| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| SLC | 346 | Ancient Greece II: Late Classical and Hellenistic Period | Traces the transformation of the Greek world between the end of the Peloponnesian War (404 B.C.) and the absorption of the last major Greek state by growing power of Rome (30 B.C.), with special attention to how Greeks in this period lived and thought and how the period's political and economic changes helped to create new forms of culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only GRK 346 or HST 346 or SLC 346 |
| SLC | 347 | Modern Israeli Literature in Translation | Modern Hebrew, or Israeli Hebrew, started at the end of the 19th century in Europe and today it is the language of the State of Israel. During this short period modern Hebrew developed literature with its unique local characteristic, as well as universal ideas. Reads and examines four books against their social and historical background. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ENG 347 or HEB 347 or JST 347 or SLC 347 or ENG/HEB/JST/SLC 394 (Modern Hebrew Literature in Translation) |
| SLC | 348 | Israeli Society and Culture | Different partitions of the Israeli society, based on ethnic origin, by religious affiliation or by political association. Depicts how Israel is an absorbing immigration state. Israel is a welfare state and the course covers aspects of a welfare state, such as health, retirement, public transportation, art, higher education and more. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101 or ENG 105 or ENG 107 with C or better; Credit is allowed for only HEB 348 or HEB 394 (Israeli Culture and Society) or JST 348 or REL 311 or SLC 348 OR Visiting University Student |
| SLC | 350 | Food and Culture: The Mediterranean Lifestyle in Italy | Analyzes the Mediterranean lifestyle (food and eating practices) in Italy from a historical/cultural, scientific and sociological perspective. Students first examine the history and regional cultures of the Mediterranean diet in Italy as they analyze its rich biological diversity and history of cultural exchange. Students then gain an understanding of the critical nutrients of the Mediterranean diet and of the scientific evidence for its health benefits, especially how it can help prevent chronic diseases like obesity and type 2 diabetes, which affect more than half of all adults in the U.S. In addition, students keep a food log for one week, which they then analyze in terms of the critical nutrients of the Mediterranean diet. Finally, Italian food cannot be studied without preparing it! As UNESCO points out, the sharing of food is an important part of the Mediterranean lifestyle. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit allowed for only ITA 350 or ITA 394 (Food & Culture: Mediterranean Lifestyle in Italy) or SLC 350 or SLC 394 (Food & Culture: Mediterranean Lifestyle in Italy) OR Visiting University Student |
| SLC | 351 | Tales of Troy | Provides an in-depth exploration of the ancient Greek archaic primary source material, including literary, art historical and archaeological sources. Uses stories about the Trojan War as a theme for the course, but does not limit exploration of the literature, art, history and culture of archaic Greece. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GRK 351 or GRK 394 (Tales of Troy) or LAT 394 (Tales of Troy) or SLC 351 or SLC 394 (Tales of Troy) OR Visiting University Student |
| SLC | 352 | The Rise and Fall of Ancient Athens | Comprehensive coverage of the cultural and historical world of the ancient Greek civilization from the end of the Greco-Persian wars in 479 BCE through the rise and decline of Athens (including the Peloponnesian War with Sparta) to the final defeat of the Greek cities by Philip of Macedon in 338 BCE. This holistic study addresses not only the history of this period but also its literature, art and philosophy, with an emphasis on how these phenomena relate to one another. This period advanced to the state that was regarded by later civilizations as their peak, and which inspired Rome and Europe in the Renaissance. Athens, as the cultural center of Greece at this time, boasted the tragedies of Aeschylus, Sophocles, and Euripides, the comedies of Aristophanes, the history of Thucydides, the philosophy of Plato, and the artistic achievement of the Parthenon. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GRK 352 or GRK 394 (Glory that was Greece) or LAT 394 (Glory that was Greece) or SLC 352 or SLC 394 (Glory that was Greece) OR Visiting University Student |
| SLC | 353 | Alexander and His Empires | Comprehensive coverage of the cultural and historical world of the ancient Greek civilization from the ascent of Alexander the Great to the Macedonian throne in 338-336 BCE, through the existence of the kingdoms that followed his conquests, until their final subjugation by the Roman Empire in 31 BCE. This holistic study addresses not only the history of this period, but also its literature, art, religion, philosophy and science, with an emphasis on how these phenomena relate to one another. This was a period of massive economic and military expansion (including colonization), accompanied by social dislocation and cultural and scientific innovation. In these respects, this period has much to teach us today. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GRK 353 or GRK 394 (Alexander and His Empires) or SLC 353 or SLC 394 (Alexander and His Empires) OR Visiting University Student |
| SLC | 354 | Zen and Japanese Culture | Students conduct historical, philosophical and sociological analyses of some of the fundamentals of Zen, mainly those of Japanese tradition. Examines the influence of Zen thoughts on value, culture and society in both pre-modern and modern Japan. Classes consist of lectures, documentary films and discussion sessions. Taught in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only JPN 354 or JPN 394 (Zen and Japanese Culture) or REL 353 or SLC 354 or SLC 394 (Zen and Japanese Culture) OR Visiting University Student |

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| SLC | 355 | Religious Practice of People in Modern Japan | Examines the influence of Japanese religions on Japanese value, culture and society while surveying the major religious traditions of modern Japan focusing on Shinto, Buddhism and new religions. Also explores current religious practices in Japan and how religion interacts with the government, community groups and daily lives of people. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only JPN 355 or SLC 355 or JPN 394 (Religious Practice of People in Modern Japan) or SLC 394 (Religious Practice of People in Modern Japan) OR Visiting University Student |
| SLC | 356 | Rome from Village to Empire | Provides an in-depth exploration of Republican Roman literature and explores how these primary sources shaped and were shaped by ancient Rome's history and culture during its formative Republican period. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only LAT 356 or LAT 394 (Rome Before the Empire) or SLC 356 or SLC 394 (Rome Before the Empire) OR Visiting University Student |
| SLC | 357 | Rome's First Emperor | Provides an in-depth exploration of Roman literature during the Augustan period, and explores how these primary sources shaped and were shaped by ancient Rome's history, literature and culture during its formative Republican period. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only LAT 357 or LAT 394 (Augustus and the Creation of the Roman Empire) or SLC 357 or SLC 394 (Augustus and the Creation of the Roman Empire) OR Visiting University Student |
| SLC | 358 | Saving the Roman Empire | In his autobiographical epitaph, the Res Gestae, Augustus, founder of the Roman Empire, claimed to have restored Rome to her former glory. His moral, social and political reforms solidified Roman control of the world and the imperial family's hold on ruling her. Through the next five hundred years, as the power of the empire waned and waxed, Augustus's successors turned time and again to reforming the empire and restoring her to her former glory - to saving the Roman Empire. In doing so they had to deal with problems both external and internal; sometimes their ideas worked, often they did not. Ultimately they failed, and Rome and the western empire fell in CE 476. Examines the rise, decline and fall of the Roman Empire from the perspective of internal and external problems the Empire faced, and asks which reforms worked, which did not work, and why. What could have been done differently? Should anything have been done differently, or was the western Roman Empire always doomed? | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GRK 294/HST 294/LAT 294/SLC 294 (Saving the Roman Empire) or LAT 358 or LAT 394/SLC 394 (Saving the Roman Empire) or SLC 358 OR Visiting University Student |
| SLC | 360 | Greece and Rome at War | Covers ancient Greek and Roman warfare and features military historical staples like strategy, tactics, logistics, battles and leadership. Other topics that intersect this exploration of ancient warfare include ethnolinguistic identity, state formation, religion, gender, imperialism, military theory, medicine, monumental building and slavery. Students acquire wide knowledge of the relevant history and are encouraged to critically think about essential themes in historical studies. Also features a strong interactive component, including group discussions, theory-crafting and presentations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only GRK 360 or HST 397 or LAT 360 or SLC 360 OR Visiting University Student |
| SLC | 361 | Roman Religion | Roman religion was never static, despite the best efforts of the Roman state to make it so. Understands the artifacts and procedures of Roman state cult from its earliest origins to the late empire, using ancient literary sources, archaeology throughout the ages and modern scholarly theories. Clarifies the forces that influenced development and change in Roman religion, both internal and external. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only LAT 361 or REL 361 or SLC 361 or SLC 394 (Roman Religion) OR Visiting University Student |
| SLC | 362 | Ancient Greek Religion | Surveys ancient Greek religion, including its gods, ritual practices and festivals. Analyzes the development of the religion over time, and how both ancient and modern figures interpreted its meaning. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 101 or ENG 105 or ENG 107 with C or better; Credit is allowed for only GRK 362, REL 360, SLC 362 or SLC 394 (Ancient Greek Religion) |
| SLC | 363 | Ancient Magic and Witchcraft | Examines magical spells, curses, amulets and other materials from ancient Greece and Rome. Students read anthropological discussions of magic worldwide to understand how ancient magic operated, what its function was within Greco-Roman society, and how it developed over the centuries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GRK 363 or LAT 363 or SLC 363 or GRK 394/LAT 394/REL 394/SLC 394 (Magic and Witchcraft in Antiquity) OR Visiting University Student |
| SLC | 367 | Religion, Philosophy and Culture in Japan | Examines the influence of Japanese thoughts on value, culture and society while surveying the major religious and philosophical traditions in both pre-modern and modern Japan focusing on Shinto, Confucianism, Daoism, Buddhism and New Religions. Classes consist of lectures, documentary films and discussion sessions. Taught in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only JPN 367 or JPN 394 (Religion, Philosophy, and Culture in Japan) or REL 367 or SLC 367 OR Visiting University Student |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| SLC | 370 | Japanese Aesthetics: Art and Beauty in Japan | Surveys the history of Japanese art and beauty and investigates several issues of Japanese aesthetics from historical, philosophical and sociological perspectives. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only JPN 370 or JPN 394 (Japanese Aesthetics: Art & Beauty in Japan) or SLC 370 or SLC 394 (Japanese Aesthetics: Art & Beauty in Japan) OR Visiting University Student |
| SLC | 371 | Language Hegemony and Culture | Historical and cultural analysis of language and the ideological constructs imposed upon resident populations in the Southwest North American region since 1540. Analyzes the suppositions, ideologies, premises and mechanisms by which Spanish and English became imposed among Native peoples and later national populations of Mexicans during the 19th century and continuing with their descendants and migrating populations crossing the bifurcated border. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 371 or HST 371 or SLC 371 or SPA 371 or TCL 371 or ASB/HST/SLC/SPA/TCL 394 (Language Hegemony & Culture in SW North America) |
| SLC | 373 | Roman History I: Foundations and Republic | Traces the growth of Roman power from Rome's humble beginnings in the eighth century B.C. to its domination of the Mediterranean and the transformation of the Roman Republic into the Roman Empire after the Battle of Actium (31 B.C.). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 373 or LAT 373 or SLC 373 |
| SLC | 374 | Roman History II: The Roman Empire | The Roman Empire from the reign of the first emperor, Augustus (27 B.C.-A.D. 14), to that of Justinian (A.D. 527-565), focusing on the lives of the Roman emperors, the society and culture of the empire, and the profound changes that eventually contributed to the empire's collapse. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 374 or LAT 374 or SLC 374 |
| SLC | 375 | Intercultural Communication in Korea | Focuses on the fundamental knowledge of Korean intercultural values and communication. Explores and analyzes Korean communication styles and patterns in regard to the relationship between language use in cross-cultural communication, social meaning and cultural motivations. While the main focus is on Korean language, course is conducted in a comparative and interdisciplinary manner on how communicative strategies differ between Korea and other countries (such as China, Japan and the U.S.) due to underlying differences in their cultural values. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & G | Prerequisite(s): minimum 30 hours; Credit is allowed for only KOR 375 or KOR 394 (Intercultural Communication in Korea) or SLC 375 or SLC 394 (Intercultural Communication in Korea) |
| SLC | 380 | Natural Disasters: Environmental and Cultural Resilience in Italy | The Italian peninsula is home to some of the most diverse physical and geological landscapes on earth. Over time, natural disasters such as earthquakes, volcanic eruptions and landslides have transformed Italian culture, creating a distinct, reciprocal and enduring relationship between nature and Italian society. Studies pivotal natural disasters that have occurred throughout Italian history, including the Mt. Vesuvius, Pompeii and Etna volcanic eruptions; the Messina, Belice Valley, Campania, Friuli and L'Aquila earthquakes; and the Vajont landslide. Identifies and measures the physical and geological features of Italy that make it susceptible to natural disasters. Incorporates a variety of sources designed to give students both a theoretical and practical understanding of Italian culture and natural disasters. Uses class discussions, collaborative projects, creative writing, academic texts, personal narratives, films, videos, guest lectures and current articles. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ITA 380 or SLC 380 or HON/ITA/SLC 394 (Natural Disasters: Environmental & Cultural Resilience) OR Visiting University Student |
| SLC | 385 | Cinema and Culture of Spain | Offers a historical and cultural survey of major films from Spain. Studies key works with a focus on their aesthetic, cultural, political and historical context. Trains students to develop the skills to critically view how films are constructed, how films create meanings and values, and how films are connected to the cultural and historical contexts in which they are created and watched. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only SLC 385 or SPA 385 or FMS 394 (Cinema and Culture of Spain) or SLC 394 (Cinema & Culture of Spain) or SPA 394 (Cinema & Culture of Spain) OR Visiting University Student |
| SLC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEL | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| SLC | 401 | Translation Theory and Practice | Translation theories and professional practices and ethics; bibliography, computer technology, and sample texts for natural and social sciences and humanities. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 301; SPA 412; Credit is allowed for only SLC 401 or SPA 440 OR Visiting University Student |
| SLC | 410 | Deaf Culture | Provides students with an overview of issues related to deaf, hard of hearing and comprehensive vision hearing loss (CVHL). Topics include historical, cultural, educational and political issues, technology, arts and literature as it relates to the deaf community. Taught primarily in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | C | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ASL 410 or ASL 494 (Deaf Culture) or SHS 410 or SHS 494 (Deaf Culture) or SLC 410 or SLC 494 (Deaf Culture) OR Visiting University Student |

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| SLC | 414 | French and Italian Popular Culture | Popular culture no longer holds the ancillary role traditionally reserved for whatever does not carry the definition of high culture. That popular culture is instead able to provide us with very relevant insights on the identity of a nation and a people is now widely accepted. As a consequence, this class aims at examining popular culture-related artifacts in Italy and France in order to shed a light on crucial issues such as the culture of food and its historical and social significance; the meaning of fashion and design within an urban context, with a special attention to gender roles; the importance of the comics, given in particular the exceptional success the bande dessinée genre is currently enjoying in France throughout the whole age range of the population; the show business with a particular attention to music; and the social function and role of sport with respect to the two dominant sports in both countries (soccer and cycling). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better OR minimum 45 hours; Credit is allowed for only FRE 414 or ITA 414 or SLC 414 OR Visiting University Student |
| SLC | 415 | Korean Popular Culture | Examines production, consumption and interpretation of Korean popular culture in the modern historical context from the early twentieth century to the present. Looks at a range of products and fandom of popular culture, including music, drama, fashion, film and game, focusing on their global circulation to and from Korea through radio, television and online social media. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better OR min 45 hours; Credit is allowed for only KOR 415 or KOR 494 (Asian Popular Culture) or SLC 415 or SLC 491 (Asian Popular Culture) or SLC 494 (Asian Popular Culture) OR Visiting University Student |
| SLC | 420 | Emotions Across Languages, Cultures and History | Presents the main academic approaches to emotions that have been developed in the humanities and social sciences. Explores, among other topics: the different notions and constructions of emotions in various languages, societies and time periods; the cross-linguistic and cross-cultural use of metaphorical expressions of emotions; the social functions of emotions; the use of emotions in the formation of identities. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only KOR 420 or SLC 420 or HEB 494/HEB 598/KOR 494/KOR 598/SLC 494/SLC 598 (Emotions Across Language, Culture, & History) OR Visiting University Student |
| SLC | 421 | Japanese Literature in Translation | Readings selected by theme or genre or period from various works of Japanese literature in English translation. May be repeated when topics vary. Graduate students by permission. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| SLC | 423 | Italian Organized Crime in Films and History | Through an analysis of historical, anthropological, literary, political and cinematic texts, explores representations of the Italian organized crime in Italian and American films from the early 20th century to today. Discovers different "Mafias" originating in Italy, but whose reach extends much further, such as the Cosa Nostra in Sicily, the Camorra in Naples, and the 'Ndrangheta in Calabria. Examines the fiction, stereotypes, myths and legends surrounding the mafia through a scrupulous analysis of some of the most important American and Italian films portraying mafia culture. Italians have used the medium of film to address the issue of the mafia, raising awareness about the harsh reality of life in the mafia and the ways in which it reaches into every aspect of Italian politics and society. Explores how Italian mafia films subvert international fascination with the mafioso by disrupting the glamorized myths that are mainly perpetuated by American popular cinema. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better or min 45 hours; Credit for only FMS 423 or ITA 423 or SLC 423 or ITA 494/SLC 494 (Italian Organized Crime in Films & History) or FMS 494/ITA 494/SLC 494 (Mafia & Film) OR Visiting University Student |
| SLC | 425 | Globalization: From Colonialism to Climate Change | Allows students to engage with the broader experience of globalization by examining cultural material in relation to the circumstances and conditions of the globalization process. Organized chronologically and divided into four units: the period before European hegemony, the era of European colonialism and imperialism, the period of decolonization and modernization, and the contemporary context. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| SLC | 428 | Arab Women's Writing | Offers a survey of Middle Eastern women's literary work in English translation. Themes focus on a comprehensive view of women's writing through several lenses, including: gender, religion and socio-political systems to introduce women's writing in modern Arabic literature through the prisms of Arabic literary criticism and feminist theory within historical contexts. Explores different genres, including autobiographical, short stories and novels, and cinematic production. Selective literary texts include leading 20th-century female writers whose works in translation represent a wide range of geographical, ideological and cultural influence. Featured writers include Rajaa al Sania, Latifa Zayyat, Radwa Ashur, Hanan al-Shaykh, Nawal Al Sadawi and others. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ARB 428 or ARB 494 (Arab Women Writing Across Generations/ in Eng) or SLC 428 or SLC 494 (Arab Women Writing Across Generations/ in Eng) OR Visiting University Student |

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| SLC | 429 | Studies in European Literature and Culture | Literary, cultural, and historical issues. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s) with C or better: ENG 101, 105, 107; ENG 200; one ENG 200- or 300-level literature course OR ENG 101, 105, 107; min 45 hours; Credit is allowed for only CEL 429 or ENG 429 or REL 429 or SLC 429 or THE 429 OR Visiting University Student |
| SLC | 430 | Buddhist Meditation in East Asia | Surveys various types of Buddhist meditation in different schools, starting from those of India, and more from East Asia, particularly Japan. Investigates the pragmatic function of each meditative technique, how some of the fine/performing/martial arts were integrated with Buddhist ideas to become "meditation in action." | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only JPN 430 or SLC 430 or JPN 494 (Buddhist Meditation in Asia) or SLC 494 (Buddhist Meditation in Asia) OR Visiting University Student |
| SLC | 439 | Art in Exile: Vladimir Vladimirovich Nabokov | In English. The scandalous success of Lolita (1955) allowed Vladimir Nabokov to retire from teaching at Cornell University and move to Switzerland to devote himself to fiction, translation, criticism and lepidoptery. This was only one of the many metamorphoses that Nabokov, a Russian noble, underwent while in exile, moving from Russia to the Crimea, Cambridge UK, Berlin, Paris, Cambridge MA, Ithaca, Hollywood and finally Montreux. Examines the Russian roots of Nabokov's Russian (in translation) and American novels about exile: his first novel, Mary (1926), The Defense (1929), Glory (1932), and his tribute to 19th-century Russian literature, The Gift (1938), which he considered his greatest Russian novel. These are followed by Lolita (1955), Invitation to a Beheading (1957) and Pale Fire (1962), his memoirs, Speak, Memory (1966), and some essays and short stories. Films include Lolita by Stanley Kubrick (1962) and Adrian Lyne (1997). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 102 or 105 or 108 with C or better; Credit is allowed for only RUS 439 or SLC 439 or ENG/RUS/SLC 494 (Art in Exile: Vladimir Vladimirovich Nabokov) |
| SLC | 440 | Film Theory and Criticism | Examines the major positions and issues in film theory from an historical perspective. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, ENG 105, ENG 108, or FMS 100 with C or better; Credit is allowed for only FMS 461 or SLC 440 OR Visiting University Student |
| SLC | 441 | Fairy Tales | Foundational texts from the oral and written traditions collected and edited by the Brothers Grimm and those created by Hans Christian Andersen in the 19th century, as well as the reception of these tales primarily in the print and visual media of Germany, Europe and the United States, provide a basis of comparison for students to critically reflect on the function of the tales in the 19th century and particularly in the contemporary 20th- and 21st-century global communities. Students perceive the myriad ways in which ancient tales can be re-imagined to reflect different sociocultural environments (more than 50% of the material comes from outside the U.S.) and understand the contemporary theoretical debate on the study of these tales and popular culture. Taught in English with German minors/majors doing some of the reading and writing assignments and the final paper/project in the target language. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GER 441 or SLC 441 OR Visiting University Student |
| SLC | 442 | Dracula and Vampire Lore | Vampire stories are not only local phenomena placed in Transylvania, as the common stereotype is incessantly spread. Legends about Dracula and the Count himself may be "untrue," but events that took place during the life and reign of the Wallachian Voevode Vlad Tepes, better known as Vlad the Impaler, are nonfictional. He ruled during the time of the Ottoman Empire extension to Europe and his fight against the Turks give us thought on the altered understanding of Vlad as a vampire figure. Occurring and recurring in continuously changed environments, Count Dracula affects everyone to the same degree, but still remains as secret and elusive as before, pitted against a vision of mysterious spaces that evoke the faraway castles from Whitby, UK (the origin of Stoker's Dracula), from Bran and Poenari Castles in Transylvania as well as the visions of Jules Verne's Castle of the Carpathians. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G & H | Prereq(s): ENG 101, 105 or 107 w/C or better; Credit for only ROM 442 or SLC 442 or SLC 494 (Drac&Vamp Belief in the Wrld) or SLC 494 (Drac&Vamp Castles) or SLC 494 (Drac&Vamp Lore) or SLC 494 (Drac:Between Myth&Hist) OR Visiting University Student |
| SLC | 444 | Heroes, Ancient and Modern | Explores the heroic literature of the ancient Greeks and Romans, then traces the classical tradition and reception of the classical hero in medieval and modern texts. Incorporates history, art history and material culture from the relevant societies to supplement study of the texts involved. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only GRK 444, LAT 444, SLC 444 or SLC 494 (Heroes: Ancient and Modern) |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--------------------------------------|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| SLC | 445 | Holocaust, War and German Memory | Examines representations of the Holocaust from across different media (literature, film, architecture, memoir, photography) and from across multiple generations of German engagement with this period in history. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 102, ENG 105, ENG 108, FMS 100, FMS 200, JST 210, or JST 230 with C or better; Credit is allowed for only FMS 445 or GER 445 or JST 445 or SLC 445 OR Visiting University Student |
| SLC | 446 | Weimar-Era German Film | Examines early film production in Germany during the period of the Weimar Republic. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, ENG 105, ENG 108, FMS 100, or FMS 200 with C or better; Credit is allowed for only FMS 446 or GER 446 or SLC 446 OR Visiting University Student |
| SLC | 447 | German Modernism | Examines examples of modernism in literature, art and film from German-speaking Europe. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GER 447 or SLC 447 |
| SLC | 450 | Experimental Narrative | Examines texts that experiment with form, content and narrative perspective within print, film and digital media. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only ENG 447 or FMS 442 or SLC 450 OR Visiting University Student |
| SLC | 451 | Chinese Cultural History I | China's classics in translation studied both for their intrinsic ideas and for the origins of Chinese thought. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (HU or SB) & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 55 hours; Credit is allowed for only CHI 451, HST 451 or SLC 451 |
| SLC | 452 | Chinese Cultural History II | Evolution of Confucian thought, its synthesis with Taoism and Buddhism, and modern reactions against, and uses of, Confucian traditions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & G & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 55 hours; Credit is allowed for only CHI 452 or HST 452 or SLC 452 |
| SLC | 455 | Berlin: Migration, Arts and Activism | Deals with the culture and politics, arts and activism of migrants in Germany based on the example of Berlin, using historical and contemporary examples. Critically engages with such concepts as migration and identity, transnationalism, assimilation, multilingualism, artivism, activism, xenophobia and racism. Examines examples from various art forms, including film and the creative arts, literature, media and social media to help understand the impact of migration and immigrants on Germany and German society and compares it to experiences in other countries, especially the U.S. A focus on Berlin allows an in-depth and focused micro-observation of the differences and commonalities of various immigrant groups and responses of the local communities in a defined urban space. In order for students to reflect on the impact of migration in German society and the migrants themselves, also looks at migration through the lens of movements for social change and justice. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only GER 455 or SLC 455 |
| SLC | 457 | Premodern Korea in a Global Context | Offers a comprehensive outline of the literary and cultural traditions of premodern Korea from historical and crosscultural perspectives. Targets both undergraduate and graduate students. Gives students an opportunity to read a variety of texts ranging from literary works, historical, philosophical and religious documents, diaries and travelogues, to important recent scholarly works in the field. Identifies representative literary works and terms. Discusses important topics and issues on premodern Korean literature and the cultural exchange between Korea and Japan, and Korea and China, bringing to bear students' own thoughts and ideas which are articulated in their final research papers. All readings are available in English translation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): minimum 45 hours; Credit is allowed for only KOR 457 or SLC 457 or KOR 494 (Pre-modern Korean Literature and Cultural Exchange) or SLC 494 (Pre-modern Korean Literature and Cultural Exchange) OR Visiting University Student |
| SLC | 459 | Latin American Jewish Culture | Focuses on forms of cultural production in Latin America marked by or under the aegis of Jewish diasporic identity from the late nineteenth century to the present. While Jewish immigrants and Latin Americans of Jewish descent may be found in all Latin American societies, cultural production is found concentrated in countries like Argentina, Brazil, Mexico and Chile. Investigates essentially cultural versions of a sociohistorical consciousness, and ranges across a broad spectrum of Latin American Jewish texts in an investigation of what forms of production have emerged to represent this important immigrant component of Latin American national societies. Examines novels and other literary works, along with photography and films, and looks at theme, motifs, characters that can be identified with what might be called a Jewish consciousness or Jewish sensitivity. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only JST 459 or JST 494 (Jewish Latin American Culture) or SLC 459 or SLC 498 (Jewish Latin American Culture) or SPA 459 or SPA 498 (Jewish Latin American Culture) |

| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
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| SLC | 460 | Brazilian Society Through Music | Surveys Brazilian popular music in the 20th and 21st centuries, focusing on one main question: What images of Brazil have been imagined by Brazilian popular music in various socio-political contexts? Working with various genres, discusses how issues pertaining to race, social class, and citizenship have contributed to shape the Brazilian popular music scene and its representations of Brazil both at home and abroad. Taught in English. However, students who have completed POR 202 or POR 321 have the option of completing the assignments in Portuguese. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only POR 460 or POR 494 (Contemporary Brazilian Popular Music) or SLC 460 or SLC 494 (Contemporary Brazilian Popular Music) OR Visiting University Student |
| SLC | 465 | Intercultural Communicative Competence | Focuses on the importance of culture(s) and the ways in which culture(s) effects and interrelates with communication. Communicating across cultures is very important in order for us to be able to function in a globalized, diverse world, e.g., workplace, city. Using our own experiences and discussions as well as the readings, course increases our sensitivity, understanding and awareness of our own culture(s) as well as other culture(s). Approaches the study of intercultural communicative competence in a theoretical and practical way. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only GER 465 or SLC 465 or GER 494 (Intercultural Communicative Competence) or SLC 494 (Intercultural Communicative Competence) |
| SLC | 475 | Latin American Film | Examines the role of film in contemporary Latin American culture; films viewed and analyzed as casebook examples. Focuses on the aesthetics and generic conventions of contemporary Latin American films. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, 108, FMS 100, or SLC 202 with C or better; Credit is allowed for only FMS 475 or SLC 475 or SPA 475 or THE 475 or FMS 494/SLC 494/SPA 494/THE 494 (Latin American Film) OR Visiting University Student |
| SLC | 479 | Introduction to Teaching Foreign Languages | Introduces teaching methodologies, language learning, and current best practice in teaching foreign languages in U.S. middle and high schools. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SLC | 480 | Methods of Teaching Foreign Languages | Teaching foreign languages and literatures at secondary and college levels. Does not meet the The College of College of Liberal Arts and Sciences General Studies requirement for humanities and fine arts. Required for admission to SED 478. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): SLC 479 with C or better |
| SLC | 481 | Technical and Scientific Translation | Resources, practices, strategies, and lexicon for translation of professional texts in subjects such as engineering, architecture, agriculture, computer technology, electronics, and physical and biological sciences. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 301 with B or better; SPA 412 with B or better; Credit is allowed for only SLC 481 or SPA 441 |
| SLC | 482 | Business and Financial Translation | Resources, practices, strategies, and lexicon for translation of professional texts in subjects such as economics, finance, insurance, management, marketing, accounting, advertising, and real estate. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 301 with B or better; SPA 412 with B or better; Credit is allowed for only SLC 482 or SPA 442 |
| SLC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SLC | 485 | Translation of Legal Texts | Provides guided practice in the successful completion of professional translation tasks in the legal field. Studies the origin and traditions of contrasting legal approaches as each system of governance (Civil Law Tradition and Common Law Tradition) perceives reality and structures its institutions to reflect differing cultural and linguistic norms. Students work with a broad selection of legal texts involving property rights, family law and commercial law. Places particular emphasis on criminal law. Analyzes legal texts from several Latin American countries as well as from Spain for content and translated into English. Similarly analyzes and translates into Spanish specialized texts currently used in Maricopa County Superior Court. | N | LEL | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 301 with B or better; SPA 412 with B or better; Credit is allowed for only SLC 485 or SPA 443 (or SPA 410) OR Visiting University Student |
| SLC | 486 | Medical Translation | Guided practice in the successful completion of professional translation tasks in the medical and scientific domain: medical correspondence, discharge instructions, medical information for patients, general information on topics related to the medical field with a focus on low-literacy issues. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 301 with B or better; SPA 412 with B or better; Credit is allowed for only SLC 486 or SLC 494 (Medical Translation) or SPA 444 |
| SLC | 490 | Consumer Culture in Latin America | Provides an in-depth study of consumer culture in contemporary Latin America, including the analysis of television series, music, literary texts, commercials, ads and films produced in or about Latin America since the turn of the 21st century. Knowledge of Portuguese and Spanish is a plus, but not necessary. Taught in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only POR 490 or SLC 490 or SPA 490 or HON/POR/SLC/SPA 494 (Consumer Culture in Latin America) OR Visiting University Student |
| SLC | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| SLC | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| SLC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEL | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| SLC | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-7 | | Prerequisite(s): minimum 56 hours |
| SLC | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| SLC | 510 | Computer-Assisted Language Learning Praxis | Offers graduate students an in-depth practical experience in Computer-Assisted Language Learning (CALL) praxis, including tools, approaches to using technology in the language classroom, the techniques and best practices of online instruction, and the development of a teaching portfolio. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Pre- or corequisite(s): APL 557, ENG 557, or SLC 557; Credit is allowed for only APL 558 or SLC 510 |
| SLC | 515 | Second-Language Acquisition | Discusses and applies theories of second-language acquisition. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SLC 515 or SPA 515 |
| SLC | 545 | Concepts of Literary Criticism | Aims and methods of modern literary scholarship. Discusses major theories of literary analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SLC 545 or SPA 545 |
| SLC | 546 | Heritage Language Pedagogy | Sociolinguistic and pedagogical issues around the teaching and learning of heritage languages. Through a close examination of seminal articles in the field of heritage language pedagogy and research, students gain an understanding of the issues that concern these students and the teaching of this population. Defines the field, describes heritage language learners, and discusses the goals and sociolinguistic concerns of HL instruction. Also reviews the most appropriate teaching methodologies and principles for the heritage language classroom, especially in relation to literacy development. Contains a practical component that includes observations together with lesson plan and material development to prepare future teachers for effective classroom experiences and/or language program development. Course requirements include critical essays, online discussions, class observations, lesson plans and a research/applied paper. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SLC 546 or SPA 546 or SPA 598 (Heritage Language Pedagogy) |
| SLC | 547 | Applied Linguistics: Online Learning | Technology has changed the way we teach and learn languages. Examines how online language learning is informed by research and theory; explores how different tools and environments can support online language learning. Familiarizes students with research methods and tools used to examine online language learning. Participants either design and develop the instructional materials for an online course of their choice or design and conduct a research project. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SLC 547 or SPA 547 or SLC 598 (Topics in Applied Linguistics: Online Learning) or SPA 598 (Topics in Applied Linguistics: Online Learning) |
| SLC | 551 | Global Approaches to Translation | Familiarize students with various approaches to translation practice. Examines issues related to the cultural role of translation. Students [prepare a translation, justification of translation choices, and discussion of the complexities posed by the translation. Readings address a broad array of translation theories, with most focused on translation as a globally theorized phenomenon in the 20th and 21st centuries. Readings and discussions focus on how one translates, and on translation as a culture-making enterprise inextricably tied to the questions of who translates, in what context, for whom, and to what ends. Students understand translation theories from different eras and cultures; understand how translation is implicated in different forms of intercultural contact (colonialism, commerce, proselytization); gain experience translating texts from a source language into English; and can explain why they translated the way they did. | N | RSC | N | GNA | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SLC | 557 | Computer-Assisted Language Learning | Explores the field of computer-assisted language learning. Traces the development of computer-assisted language learning (CALL) over the last three decades. Focuses on research that explores how computer technology can help facilitate second language development; relies primarily on empirical data to do so. Examine established as well as new research methods in CALL. Participants participate in one research study and apply theoretical and practical aspects of CALL in these projects. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only APL 557 or ENG 557 or SLC 557 |

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|---------|----------------|-------------------------------|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|--------|-----------------|--|
| SLC | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SLC | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SLC | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SLC | 596 | Second Language Methodologies | Provides a solid overview of current methodologies in foreign/second language teaching and learning, including the World-readiness standards for learning languages and the Proficiency Guidelines of the American Council on the Teaching of Foreign Languages (ACTFL). Focuses on current pedagogical trends and theories in several areas of second language acquisition, including grammar and vocabulary, reading, writing, listening and speaking, and intercultural competence. Also provides opportunities to obtain practice in creating and adapting instructional materials, preparing and implementing individual lesson plans, written and oral assignments, and exams. Focuses on discussing student diversity in today's classrooms and differences between heritage and second language learners. Students have the opportunity to research a topic of their interest. Course consists of lectures, discussion, hands-on experience to encourage meaningful and collaborative learning. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking grad stdnt; Credit only allowed for CHI 591 (Lang Teach Mthd & Prin) or CHI 596 or SLC 591 (Lang Teach Mthd & Prin) or SPA 591 (Teach Mthd) or SPA 591 (Lang Teach Mthd & Prin) or SPA 596 |
| SLC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SLC | 602 | Comparative Cultural Theory | Trains SILC Ph.D. students in a range of theories and methods of cultural analysis and comparison, and explores some of the conceptual tools used in the production of comparative studies scholarship. Exposes students to texts by authors from diverse historical and geopolitical contexts and encourages them to reflect upon these various commentaries on the nature and interpretation of culture and cultural production. Discussion centers on the relationship between cultural production and material realities and on the interdependence of cultural production and social, economic and political issues. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SLC | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SLC | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SLC 691 or SPA 691 |
| SLC | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SLC | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-15 | | |
| SLC | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SLC | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SLV | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 0.25-4 | | |

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| SLV | 304 | Digital Humanities for Language Majors | Not limited to language majors (Slavic or otherwise). Students complete course projects using the material of their language of interest (the language they are taking interest in, including English). This course focuses on the following topics in digital humanities: (a) audio-visual representation of the content in humanities, (b) computer-assisted learning and assessment, (c) digitizing printed resources, (d) data and text mining, (e) working textual corpora, (f) statistical analysis, (g) computational lexicography, (h) data extraction and manipulation. While emphasizing hands-on skills, this course also familiarizes its participants with the basic concepts in the fields of digital humanities. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | CS | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only SLC 304 or SLV 304 |
| SLV | 440 | History of Slavic Languages | Comparative evolution of East Slavic, West Slavic, and South Slavic languages from the earliest record to the standardizing of national languages in the 19th and 20th centuries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SLV | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SLV | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| SLV | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| SLV | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-7 | | |
| SLV | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| SLV | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SMC | 562 | Advanced Human Factors | In-depth study of the issues, methods, and findings in industrial and organizational psychology. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PSY 562 or SMC 562 |
| SOC | 101 | Introductory Sociology | Fundamentals of sociology, organization of human groups and society, processes of interaction, and social change. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Credit is allowed for only SOC 101 or SOC 301 OR Visiting University Student |
| SOC | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-3 | | Pre-requisites: Freshmen; maximum 25 earned hours |
| SOC | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | |
| SOC | 201 | Careers in Sociology | Introduces students to the program in sociology and aids in career exploration and development for sociology majors and nonmajors who may be interested in declaring this as a major. Students learn what careers and jobs sociologists do and what skills can be translated into practice for a sociological career in different professions. Students learn how to prepare for the job market through the creation of various written materials as well as through professional development and networking opportunities. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1 | | Credit is allowed for only FAS 201 or SOC 201 |
| SOC | 210 | Sociology of Murder | Sociological perspectives on various forms of murder and types of murderers. Also considers forms of punishment for murder. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | Credit is allowed for only FOR 210 or SOC 210 |
| SOC | 220 | Sociology of Sport | Examines sports in American society as a source of socialization and an institution where gender, race/ethnicity, and class interact. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | |
| SOC | 241 | Modern Social Problems | Race relations, poverty, unemployment, and other current issues. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | |
| SOC | 264 | Sociology of Gender | Examines how society influences perceptions of difference and identity within institutions and interactions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & C | Prerequisite(s): ENG 101, 105, 107, or 111 with C or better; Credit is allowed for only FAS 264 or SOC 264 OR Visiting University Student |
| SOC | 270 | Sociology of Race and Ethnicity | Examines how racial, ethnic and cultural identities and structures are related to various social, political and economic institutions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & C | |
| SOC | 290 | Introduction to Social Science Research | Students learn the fundamentals of how social research is conducted and use critical thinking skills to access, analyze, interpret and summarize research. Students gain an appreciation for the value of social research in our everyday lives. Explores both qualitative and quantitative methods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): CDE 232, FAS 101, or SOC 101 with C or better; Credit is allowed for only FAS 290 or SOC 290 OR Visiting University Student |

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| SOC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | |
| SOC | 298 | Honors Directed Study | Independent study or practicum under the supervision of a faculty member. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-6 | | Prerequisite(s): Barrett Honors student |
| SOC | 303 | Transborder Theory | Studies historical, cultural, and economic theories contributing to understanding the emergence of Mexican and Latina/o origin populations in the Americas. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only SOC 303 or TCL 303 OR Visiting University Student |
| SOC | 312 | Adolescence | In-depth examination of the developmental and social processes that help explain modern adolescence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): CDE 232, PSY 101, SOC 101, or TEL 215 with C or better; minimum 24 hours; Credit is allowed for only CDE 312 or SOC 312 OR Visiting University Student |
| SOC | 314 | Transborder Latin American Migration to the U.S. | Historical/contemporary overview of Mexican and other Latin American migration into and within the U.S.; factors affecting population movement, settlement patterns and migrants' incorporation into society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | (L or SB) & H & C | Prerequisite(s): ENG 101, 105 or 107 with a C or better; minimum 45 hours; Credit is allowed for only SOC 314 or TCL 314 OR Visiting University Student |
| SOC | 315 | Sociology of Dating, Relationships and Marriage | In-depth study of dating, intimate relationships and marriage across different social settings from a sociological perspective. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): FAS 101, PSY 101, or SOC 101 with C or better; minimum 24 hours OR Visiting University Student |
| SOC | 320 | Transborder Community Development and Health | Emphasizes core concepts and practices relevant to regional community development and health, including demographic health indicators, individual, and community models. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only SOC 320 or TCL 321 OR Visiting University Student |
| SOC | 324 | Sociology of Work and Organizations | Historical and comparative examination of changes in the structure and meaning of work and current shifts in people's work lives with a focus on race, ethnicity, gender, social class and social networks. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only FAS 324 or SOC 324 OR Visiting University Student |
| SOC | 325 | Globalization and Socio-Economic Justice | Addresses a trend producing increasing interconnectedness of economies and societies, as well as creating new conflicts and divisions. Provides greater understanding of global forces, as well as the effect of these forces on global economic justice. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; minimum 2.00 GPA; Credit is allowed for only JUS 325 or SGS 325 or SOC 325 OR Visiting University Student |
| SOC | 328 | Migration and Culture | Examines migration and culture embedded in a transnational field of social, economic and political processes. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 340 or SOC 328 OR Visiting University Student |
| SOC | 331 | Environmental Sociology | Analyzes human organizational responses to population growth, technological change, and environmental stressors on both a national and global scale. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & G | Prerequisite(s): minimum 45 hours |
| SOC | 332 | The Modern City | In-depth analysis of the growth, characteristics, and problems of the modern city. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | G | Prerequisite(s): FAS 101, PSY 101, or SOC 101 with C or better; minimum 24 hours OR Visiting University Student |
| SOC | 333 | Population | Global trends in population growth, composition, and distribution; theories, policies, and impact of population trends on environmental quality and development. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & G | |
| SOC | 334 | Technology and Society | Development of technology in relation to society, work, science, the environment, public health, and cultural values related to social change. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | L or SB | Prerequisite(s): ENG 101, 105 or 107 with C or better; minimum 45 hours; Credit is allowed for only ASB 344 or SOC 334 OR Visiting University Student |
| SOC | 339 | Grassroots Social Movements | Explores how groups mobilize collectively to produce social, political, economic and cultural change, with an emphasis on the United States. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ASB 339 or POS 339 or SBS 339 or SOC 339 OR Visiting University Student |
| SOC | 340 | Social Deviance | Sociological analysis of behaviors, identities and groups that are contrary to established social norms. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): SOC 101 OR Visiting University Student |
| SOC | 342 | Mexico-U.S. Borderlands | Contemporary examination of socioeconomic and political dimensions of border communities, and formation of Mexican-origin communities within and outside the Southwest. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & C | Credit is allowed for only ASB, SBS or SOC 342 |
| SOC | 343 | Social Demographics of Latino Populations | Provides an introduction to social demography of Latinos in the U.S. from the 19th century to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & C | Prerequisite(s): minimum 45 hours; Credit is allowed for only SOC 343 or TCL 342 |
| SOC | 350 | Inequality and Diversity in Education | Advanced exploration of various dimensions of diversity in relation to educational systems and outcomes. Through sociological and psychological research, case studies and films, students examine how educational inequality is created and reproduced through individual actions and institutional constraints. Also considers the connection between schooling and human rights and ways in which educational inequality may be addressed. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | L & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; AFR 212, APA 200, APA 210, CDE 232, JUS 210, TCL 210, or minimum 24 hours; Credit is allowed for only AFR 350, APA 350, CDE 350, JUS 365, SOC 350, or TCL 360 OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| SOC | 352 | Social Change | Patterns of social change, resistance to change, and change-producing agencies and processes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & G & H | |
| SOC | 353 | Death and Dying in Cross-Cultural Perspective | Scientific and humanistic approaches to the study of death and dying from the perspective of anthropology and allied disciplines. Uses a global, comparative approach across space and time from the earliest human burials to contemporary funeral events. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3-4 | (HU or SB) & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 353 or SOC 353 OR Visiting University Student |
| SOC | 354 | The Global Politics of Human Rights | Examines political forces that have shaped gradual construction of an international human rights regime and a universal culture of rights, including civil and political rights, as well as economic, social, and cultural rights. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only JUS 352 or SOC 354 OR Visiting University Student |
| SOC | 355 | Human Rights Organizations and Institutions | Investigates the emergence and evolution of the organizations and institutions designed to promote and protect human rights at global, regional and national scales. Explores reasons why it is necessary to institutionalize human rights, the trial and error process that led to postwar international human rights regime, challenges and the future of human rights. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only JUS 355 or SOC 355 OR Visiting University Student |
| SOC | 356 | Central American Studies | Part of the summer ASU study abroad Costa Rica Program, which is a language and social sciences immersion program in the capital city, San Jose. A summer offering permits students to enroll in the program without conflicting with full course loads during the fall or spring semester. However, the course is proposed as a stand-alone course that can be offered in a regular semester as well. May be repeated once for credit. | N | REC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | Credit is allowed for only ASB 356 or GCU 356 or POS 354 or SBS 356 or SOC 356 |
| SOC | 360 | Sociological Psychology | Interaction patterns between the sociocultural order and individuals; socialization process; norms, roles, and statuses; collective behavior. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): SOC 101, PSY 101(PGS 101), FAS 101, or FAS 330 with C or better; Minimum 24 hours |
| SOC | 363 | Men and Masculinity | Sociological analysis of how masculine identity is defined, negotiated, and variously constructed depending upon class, ethnicity, age, and sexual orientation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): SOC 101 |
| SOC | 364 | Popular Culture and Society | Studies the social approaches to popular culture, focusing on the function of various forms (literature, film, theatre, and music). | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | Prerequisite(s): minimum 45 hours |
| SOC | 365 | Sociology of Mass Communication | Sociological exploration of the major mass media as a communicative process in American society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | |
| SOC | 366 | Film and Society | Studies the social approaches to film as an art form, mass medium, and ideological construct. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | |
| SOC | 371 | Inequality and Sustainability | Efforts to shift societies onto a sustainable trajectory are facing profound challenges from the degree and dynamics of global inequalities of income, wealth, and life chances. Data and ideas from a spectrum of disciplines are employed to examine, analyze, and criticize the prospects for redressing global inequalities in a sustainable manner. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 371 or ASB 394 (Inequality and Sustainability) or SOC 371 or SOS 371 or SOS 394 (Inequality and Sustainability) |
| SOC | 374 | Cultures and Politics of the Internet | Explores the culture and politics of the Internet in global perspective, including virtual communities, free software, copyleft, blogs, and hacktivism. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | Credit is allowed for only ASB 374, POS 374, SBS 374 or SOC 374 |
| SOC | 378 | Migration and Society | Application of social scientific theories and principles in order to understand the social and ethnic consequences of international migration with a focus on the United States. Students will communicate views formulated from empirical evidence and reasoned analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & C | Prerequisite(s): ASB 102 or SOC 101 with C or better; 45 minimum hours |
| SOC | 389 | Ethnographic Field Lab | Hands-on, guided ethnographic qualitative research and interpretative analysis. | N | LAB | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-6 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 389 or SBS 389 or SOC 389 |
| SOC | 390 | Social Statistics I | Descriptive and inferential statistical methods for analysis of social data. Computer applications. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | CS | Prerequisite(s): MAT 142 or higher with C or better OR Visiting University Student |
| SOC | 391 | Applied Research Methods | Learn how to apply methodological approaches to social research questions. Learn to evaluate, interpret, synthesize, produce and present research. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | L or SB | Prerequisite(s): CDE 232, FAS 101, or SOC 101 with C or better; ENG 101, 105, or 107 with C or better; PSY 230, SBS 304, SOC 390, or STP 226 with C or better; Credit is allowed for only FAS 361 or SOC 391 OR Visiting University Student |
| SOC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | |
| SOC | 399 | Supervised Research Experience | Practical, firsthand experience within current faculty research projects in family studies or child development or sociology. May be repeated for total of 6 hours. | Y | RSC | Y | GNA | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FAS 390 or SOC 399 OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| SOC | 400 | Perspectives on Aging | Broad overview of gerontological issues; e.g., physical aging, retirement, living options, caregiving, theoretical background, death. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | |
| SOC | 410 | Race, Medicine, and the Body | Explores how body and embodiment and race and ethnicity are constructed within and by biomedical sciences and technology development. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only SOC 410 or TCL 410 OR Visiting University Student |
| SOC | 415 | The Family | Family considered from the institutional viewpoint; in-depth look at its historical development and its adaptation to a changing culture; analysis of the family system in many cultures. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): FAS 101, PSY 101, or SOC 101 with C or better; minimum 30 hours OR Visiting University Student |
| SOC | 418 | Aging and the Life Course | Examines aging as a process of change and adaptation over the lifespan, patterned by social, cultural, and historical forces. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & H | Prerequisite(s): FAS 101, 330, PSY 101 or SOC 101 with C or better; minimum 30 hours; Credit is allowed for only CDE 418 or SOC 418 OR Visiting University Student |
| SOC | 420 | Sociology of Religion | Interrelationship of culture, society, and religion; religion and social stratification; religious, economic, and political institutions; social change and religion. Emphasizes American society and institutions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| SOC | 421 | Education and Society | Uses contemporary sociological perspectives to examine effects of schools and schooling on individuals and society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 421 or SOC 421 OR Visiting University Student |
| SOC | 424 | Women and Health | Women as health care workers and an in-depth analysis of issues of health, illness, and health care for women. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): FAS 101, FAS 330, PSY 101, or SOC 101 with C or better; minimum 30 hours OR Visiting University Student |
| SOC | 425 | Women, Work, and Justice | Examines gender inequality in the workplace, including the nature of women's work, theoretical issues, and models for promoting gender justice at work. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | (L or SB) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only JUS 420 or SOC 425 |
| SOC | 426 | Social Inequalities | Examines stability and change in social inequalities based on class, race and gender. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SOC | 427 | Sociology of Health and Illness | Social aspects of illness and sociological analysis of the healthcare system and its practitioners. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SOC | 432 | Racial Justice | Racial inequality remains a dominant theme in understanding social, legal, and economic justice in the U.S. today. Explores controversial topics surrounding race and justice. Emphasizes current legal, economic, political, and social conceptual frameworks. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only JUS 432 or SOC 432 OR Visiting University Student |
| SOC | 435 | Advanced Marriage and Family Relationships | In-depth examination of research, issues, and trends relating to marriage and family interaction. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; FAS 101, FAS 331, PSY 101, or SOC 101 with C or better; minimum 30 hours; Credit is allowed for only FAS 435 or SOC 435 OR Visiting University Student |
| SOC | 437 | Women, Power, and Politics | The roles and treatment of women within various political contexts. Specific focus may vary with instructor. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | G | Prerequisite(s): minimum 45 hours; Credit is allowed for only POS 437 or SOC 437 OR Visiting University Student |
| SOC | 443 | Sociology of Corporations | Examines corporations as social institutions and the implications of their status as a legal person on politics, culture, and economy. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | |
| SOC | 445 | Globalization, Development, and Resistance | Explores the interconnections among globalization, development, and grassroots movements for social change in Africa, Asia, and Latin America. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | |
| SOC | 448 | Epidemics and Society | How epidemics occur; how they are perceived in society; how epidemics affect society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & G | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SOC | 451 | Comparative Sociology | Cross-cultural study of basic social institutions; the methodology of cross-cultural research. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & G | |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| SOC | 455 | Human Rights and Sustainability | Addresses the connections between human rights and environmental sustainability. Legal and scholarly approaches linking these areas present new perspectives for addressing some of the greatest challenges of our time, given the important resource dimensions of economic and social rights and the human dimensions of sustainability. Yet human rights demands and environmental concerns are not always in harmony. Explores these tensions and opportunities by examining three substantive areas: urban ecology and human rights, the human right to food, and the human rights implications of extractive industries such as oil and mining. Following an introduction to the key concepts of human rights and sustainability, explores the substantive areas through theoretical and empirical readings on each; grassroots accounts of struggles over environment-related human rights; and selections from literature and film that illustrate the environmental justice issues at stake. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | (L or SB) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only JUS 456 or JUS 497 (Seminar in Human Rights) or SOC 455 or SOS 456 |
| SOC | 456 | Political Sociology | Social factors associated with voting; nature and structure of the electorate and political parties and the nature of national and international power structure. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | |
| SOC | 457 | Global Social Movements | Examines how groups mobilize across borders to pursue social goals, including equality, justice, peace, and salvation in a global context. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | |
| SOC | 460 | Leadership, Research, and Collaboration in Community Change | Advanced understanding of leadership and the development of proposals for innovative plans that enhance the well-being of children, youth and families. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): minimum 60 hours; Credit is allowed for only FAS 460 or FAS 498 (Leadership Research & Collaboration in Change) or SOC 460 |
| SOC | 469 | Multivariate Statistics for Social Sciences | Provides instruction and hands-on experience with statistical methods for examining the effects of multiple variables. Focuses on multivariate techniques and how statistical techniques can lead to a better understanding of substantive issues. As this is an applied course, lectures and coursework focus more on the application and interpretation of multivariate techniques than on the mathematics behind the statistical techniques. Topics typically include data visualization, correlation, simple regression, multiple regression, logistic regression, multinomial regression, ordinal regression, and principal component analysis. Also teaches how to conduct these statistical techniques and undertake basic programming in the R computer program. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): DAT 300, ECN 221, GIS 270, PSY 230, SOC 390, or STP 226 with C or better; Credit is allowed for only CDE 469 or GIS 469 or SOC 469 or CDE 498/GIS 494 (Multivariate Statistics for Social Sciences) OR Visiting University Student |
| SOC | 483 | Sociological Theories | Social issues explored through sociological theories. Ideological factors in theory, philosophical issues, the nature of theory and its relationship with methodology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; SOC 101 with C or better; minimum 45 hours OR Visiting University Student |
| SOC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | |
| SOC | 486 | Contemporary Theory | Contemporary issues and crises in social theory with major focus on particular theorists. Ideological factors in theory, philosophical issues, the nature of theory and its relationship with methodology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): SOC 101 or 301 OR Visiting University Student |
| SOC | 490 | Advanced Sociological Research Methods | In-depth investigation of sociological research and its application to social issues. | N | LEL | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; PSY 230, SOC 390, or STP 226; SOC 101 with C or better; SOC 290; SOC 483; minimum 45 hours OR Visiting University Student |
| SOC | 491 | Advanced Sociological Perspectives | In this capstone course, students reflect on the knowledge and skills they have gained in their sociology courses, and explore how to apply their sociological training outside of the university as they further their education or join the labor force. | N | LEL | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; PSY 230, SOC 390, or STP 226; SOC 290; SOC 483; minimum 45 hours |
| SOC | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-6 | | Prerequisite(s): Barrett Honors student |
| SOC | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| SOC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | |
| SOC | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-6 | | Prerequisite(s): Barrett Honors student |
| SOC | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-7 | | |
| SOC | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-3 | | |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| SOC | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOC | 501 | Social Statistics | Understands and uses statistics for applications in the social sciences. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): Degree- or Nondegree-seeking graduate; Credit is allowed for only CDE 501, SOC 501 or SOC 598 (Statistics for Social Sciences) |
| SOC | 505 | Applied Regression Analysis | Multiple linear regression topics relevant to social science data analysis. Computer applications. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisites: Credit is allowed for only FAS or SOC 505; Graduate students only (degree and non-degree) |
| SOC | 507 | Categorical Data Analysis | Logistic regression and related topics relevant to categorical data analysis in social sciences. Computer applications. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisites: Credit is allowed for only FAS or SOC 507; Graduate students only (degree and non-degree) |
| SOC | 508 | Structural Equation Analysis for the Social Sciences | Theory and application of structural equation modeling. Path analysis and latent variable models such as CFA, multiple group analysis and models for longitudinal data. Projects involve conducting analyses and writing results. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisites: Credit is allowed for only FAS or SOC 508; Graduate students only (degree and non-degree) |
| SOC | 509 | Event History Analysis | Proportional hazards models and other methods for analyzing longitudinal data and establishing hazard rates of events for exploratory variables. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisites: Credit is allowed for only FAS or SOC 509; Graduate students only (degree or non-degree) |
| SOC | 510 | Bayesian Analyses in the Social Sciences | Discusses principles and practices of Bayesian approaches to statistical inference and modeling. Topics include: philosophical underpinnings of Bayesian inference; associated interpretations of probability; univariate and multivariate models prevalent in the social sciences; Markov chain Monte Carlo estimation; data-model fit; model comparisons procedures; missing data analyses. Course consists of lectures, demonstrations of software, reading assignments, homework assignments and a project. Exposes students to key concepts in Bayesian methods and gains technical foundations necessary to be consumers and contributors to applied and methodological research. Assumes previous knowledge of statistics through multiple regression, and recommends additional topics: multivariate statistics, latent variable modeling, probability theory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CDE 591 (Bayesian Analyses in the Social Sciences) or CDE 591 (Introduction to Bayesian Analyses) or FAS 510 or SOC 510 |
| SOC | 512 | Secondary Data Analysis | Works with existing data to produce a publishable article. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only FAS or SOC 512 |
| SOC | 515 | Studies of the Family | Current developments in the study of marriage and the family. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOC | 516 | Family Demography | Current developments in the study of family demography. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | |
| SOC | 523 | Social Stratification | Overviews significant themes, issues, and bodies of work in the field of social stratification, a fundamental topic of sociological inquiry. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | |
| SOC | 533 | Demographic Methods | Emphasizes methods and techniques in demographic analyses such as life tables. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | |
| SOC | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOC | 585 | Sociological Theory | Analyzes major sociological theories, from classical to contemporary. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOC | 586 | Capstone I | Professional exploration and goal specification for non-thesis capstone project. | N | PRA | N | GNA | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree-seeking graduate student in the Sanford School of Social and Family Dynamics; Credit is allowed for only FAS 586 or SOC 586 |
| SOC | 587 | Capstone II | Develops professional expertise and area of focused interest. | N | RSC | N | GNA | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): FAS 586 or SOC 586. Credit is allowed for only FAS 587 or SOC 587 |
| SOC | 588 | Capstone III | Applies developed expertise and knowledge to professional goal. | N | PRA | N | GNA | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): CDE 501 or SOC 501; CDE 531 or SOC 585; FAS 500 or SOC 500; FAS 587 or SOC 587; 12 additional graduate-level hours in CDE, FAS, and/or SOC; Credit is allowed for only FAS 588 or SOC 588 |
| SOC | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOC | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| SOC | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | |
| SOC | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | |
| SOC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOC | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOC | 603 | Perspectives in Sociological Inquiry | Provides an overview of core theoretical frameworks and associated analytic approaches in sociology. Taught by faculty members from across the university with sociological training or research interests, providing students with foundational and advanced research tools as well as introducing them to ongoing research at ASU, the distinctive contributions of sociological perspectives to inter- and transdisciplinary projects, and potential opportunities for research residency. | N | SEM | N | GNA | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOC | 685 | Applied Social Theory | Overviews main classical and contemporary theoretical paradigms and concepts in sociology and provides advanced training on using them to build empirical analytic models. Students identify theoretical perspectives appropriate for research questions, build corresponding conceptual frameworks, and formulates testable hypotheses. Seminar format and therefore students' active participation is expected. | N | SEM | N | GNA | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOC | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | |
| SOC | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOC | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | |
| SOC | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOC | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOC | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 100 | Introduction to Sustainability | Introduces basic concepts, global trends, and local responses, philosophical, ethical, and cultural dimensions. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | G | Prerequisite(s): Non-Sustainability majors or non-Sustainability concentrations OR Visiting University Student |
| SOS | 101 | Introduction to Applied Mathematics for the Life and Social Sciences | Introduces quantitative techniques as applied to problems in the life and social sciences. Includes challenges like understanding the complexities of the human genome or the implications of globalization for infectious disease, human health, and economic stability. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | MA | Prerequisite(s): MAT 117 or higher with C or better or ALEKS score of 61 or higher; Credit is allowed for only AML 100 or SOS 101 OR Visiting University Student |
| SOS | 110 | Sustainable World | Lays the groundwork for understanding the fundamental geological, biological, and social processes that gave rise to the world we live in and continue to maintain its viability for human life. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | SB | |
| SOS | 111 | Sustainable Cities | Introduces technological, social, and cultural principles and innovations for cities under the notion of sustainability and sustainable development within the global, regional, and local contexts. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | (HU or SB) & G | Credit is allowed for only PUP 190 or SOS 111 OR Visiting University Student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|---------------------------|--------------------------|-------|-----------------|--|
| SOS | 117 | Food System Sustainability | Food systems are particularly important for human societies to sustain and are also particularly vulnerable to multiple threats related to the interconnected sustainability challenges we face. Introduces the concepts and issues involved in food systems sustainability. Divided into four modules, the first three of which address the other systems with which food systems interact--socio-ecological, socio-cultural and socio-technical systems. The final module addresses the future of food systems. Teaches students about the main issues in food system sustainability and allows students to enhance their critical thinking skills by applying them to the many sustainability challenges associated food system activities via solutions-based learning including the social, ecological, economic and institutional dimensions. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | |
| SOS | 171 | The Thread of Energy | Follows the thread of energy through every aspect of our lives. Discusses the technical, social, legal, and policy contexts of all energy resources, including present and unconventional fossil fuels, nuclear power, and renewable resources. Addresses energy use throughout history, the influence of energy on quality of life, the role it plays in political strategies and environmental quality, how it shapes our neighborhoods and cities, its contribution to our personal comfort and national security, and how its importance is reflected in the worlds of business and the humanities. Its dual role is as a stand-alone introduction to energy, and as a first step to more advanced studies of energy in the natural, technical, and social sciences. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | SB & G | Credit is allowed for only GCU 171 or SOS 171 OR Visiting University Student |
| SOS | 181 | Technological, Social, and Sustainable Systems | Introduces the importance and role of technological, social, and sustainable systems in the modern world. Provides a framework for the theory and practice of sustainable engineering. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | HU | Credit is allowed for only SOS, FSE or CEE 181 |
| SOS | 182 | Water Planet | Overview of the processes that control water supply to natural ecosystems and human civilizations. Part I introduces the basic science that helps us understand the water planet, including the hydrologic cycle, glaciers and ice; rivers, oceans, and natural hazards associated with water such as flooding, landsliding and tsunamis. Part II covers some of the management and resource allocation topics that face humanity today, including droughts, groundwater contamination, impacts on fisheries, conflicts over water, patterns of water use, and effects of global climate change on future water supplies. Uses water issues facing Arizona and California as examples. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 4 | SQ | Credit is allowed for only GLG 108 or SOS 182 OR Visiting University Student |
| SOS | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | SEM | Y | OPT | College of Global Futures | School of Sustainability | 1-3 | | |
| SOS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-4 | | |
| SOS | 201 | Introduction to ASU and School of Sustainability for Transfer Students | Introduces all ASU transfer students to the unique elements, culture, challenges and opportunities of the university. | N | LEC | N | YGB | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): Sustainability BA or BS or Sustainable Food Systems BS major; minimum 24 hours OR Visiting University Student |
| SOS | 210 | Society and Environment | Examines the interaction among social processes, key environmental issues, and nature's role as a resource at global and regional scales. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | G | Credit is allowed for only GPH 210 or SOS 210 |
| SOS | 211 | Calculus and Probability for the Life and Social Sciences | Introduces two of the most important and useful mathematical frameworks used to study natural and social phenomena: probability and calculus. Probability is used to describe an attitude of mind toward some proposition whose truth is not certain. Calculus is the branch of mathematics used to study the behavior and dynamics of functions: calculus is the mathematical study of change. Students gain the basic competence needed for applying probability and calculus when thinking about and research problems in sustainability. Focuses on and discusses applications, the meaning of important concepts, the origins of the rules of derivation and integration, and logic behind why the methods work. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | MA | Prerequisite(s): AML 100 or SOS 101 with C or better OR Visiting University Student |
| SOS | 212 | Systems, Dynamics and Sustainability | Introduces the evaluation and construction of mathematical models used in the life and social sciences. Includes the basic steps in developing a model, analyzing it, and testing it with actual data. Covers the first steps concerning how to use formal mathematical techniques including developing equation-based relationships, plotting graphs, linear regression, and solving equations using computer software. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): SOS 211 OR Visiting University Student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|---------------------------|--------------------------|-------|-----------------|---|
| SOS | 215 | Fundamentals of Sustainable Food Systems | Introductory food course provides students with a panoramic understanding of American agriculture. Explores American-grown food through history, policy, society, business innovation, and environmental sustainability. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | L | Prerequisite(s): ENG 101, 102, 105, 107, or 108 with C or better; Credit is allowed for only AGB 215 or SFS 215 or SOS 215 OR Visiting University Student |
| SOS | 216 | The Sustainable Plate | Introductory food course explores agriculture by subsectors, such as livestock, grains and fruits and vegetables. Students learn how dietary choices affect health, the environment, and the people who produce and process food. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): ENG 101, 102, 105, 107, or 108 with C or better; Credit is allowed for only AGB 216 or SFS 216 or SOS 216 OR Visiting University Student |
| SOS | 220 | Systems Thinking | Introduces systems thinking and complexity science, with an emphasis on analytical relevance for thinking about a myriad of issues involved in sustainability. Hones students' abilities to read critically, articulate their views clearly, and think about the many systems that shape their lives. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): PUP 190 or SOS 111 with C or better; SOS 110 with C or better OR Visiting University Student |
| SOS | 230 | Professional Skills in Sustainability | Builds interpersonal competence, which is a key competence in sustainability. Students work on a small hands-on sustainability project in order to practice professional skills in four domains: teamwork, project management, self-directed and continuous learning, and stakeholder engagement. Students learn how to effectively collaborate in teams, use project management tools to achieve quality products in time, innovate their ways of learning, and create productive dialogue with stakeholders. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): PUP 190 or SOS 111 with C or better; SOS 110 with C or better |
| SOS | 231 | Careers in Sustainability | Aids in career exploration and development for School of Sustainability majors. Explores values, motivations and career options. Students learn how to approach the job search and how to communicate sustainability to employers; also how to prepare a quality résumé, cover letter, and gain a better understanding of the benefits of networking. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): Sustainability BA or BS major or Sustainable Food Systems BS major; PUP 190 or SOS 111 with C or better; SOS 110 with C or better; minimum 45 hours OR Visiting University Student |
| SOS | 232 | Professional Skills in Sustainability Practice | Students learn how to effectively and compassionately communicate, engage in collaborative teamwork, use project management tools to achieve quality products on time, innovate their ways of self-directed and continuous learning, engage with stakeholders on solutions, and ensure mindful self-care. Students work on a sustainability project, practicing this set of professional skills in a real-world context. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; PUP 190 or SOS 111 with C or better; SOS 110 with C or better OR Visiting University Student |
| SOS | 246 | Exploring Sustainability Research | Introduces diverse research in sustainability, along with research concepts, approaches and career opportunities. Also helps students navigate how to pursue research opportunities as an undergraduate student. | N | RSC | N | Z1 | College of Global Futures | School of Sustainability | 1 | | Credit is allowed for only SOS 246 or SOS 294 (Exploring Sustainability Research) |
| SOS | 272 | Economic Justice | Surveys key environmental justice issues and movements. Uses interdisciplinary social science perspectives to review and analyze U.S. and international case studies. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | SB | Credit is allowed for only ASB 272 or SOS 272 |
| SOS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-4 | | |
| SOS | 300 | Advanced Concepts and Integrated Approaches in Sustainability | Integrates disciplinary contributions to sustainability, teaches advanced concepts in sustainability, and explores methods for identifying sustainability challenges and generating solutions. Focuses on diversity of sustainability research, and integrates specialized approaches in sustainability. Advanced concepts in sustainability, including systems-thinking, complexity, nonlinearity, cascading effects, coupled natural-human systems, governance, future thinking, unintended consequences, normative concerns, transformation, power, participation, and equity. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): SOS 100, 110, 111 or PUP 190 with C or better; minimum 45 hours OR Civil Engineering (Sustainable Engineering) BSE major OR Visiting University Student |
| SOS | 309 | History and Philosophy of Sustainability | Examines sustainability issues in a broadly interdisciplinary way, but with a special emphasis on humanities perspectives, focusing on human ideas, values and institutions as they have evolved over time. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): ENG 102 or 105 or 108 with C or better; minimum 25 hours; Credit is allowed for only HST 308 or PHI 322 or SOS 309 or BIO/HST/PHI/SOS 394 (History & Philosophy of Sustainability) |
| SOS | 310 | Equity, Justice and Sustainability | Introduces the "social justice" aspects of sustainability science and practice. Sustainability problems are a special class of problems arising from a complex set of issues spread across time, space and institutional scales. These problems can threaten underlying social, economic and ecological systems which are highly intertwined and interdependent. Explores these issues through study of both theory and practice. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): PUP 190 or SOS 111 with C or better; SOS 110 with C or better OR Visiting University Student |

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|---------|------------|--|---|-------------------|-------------------|-----------------|---------------|---------------------------|--------------------------|-------|-----------------|--|
| SOS | 311 | Future Thinking and Strategies | Offers a critical introduction to future-oriented theories and methods. Explores anticipation in contemporary society through a series of cases studies that probe real-world sustainability issues and how the future is created and contested. By characterizing and critiquing future-oriented practices across governmental, academic and private sectors, offers a critical perspective on different methodological approaches and the implications of their use. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): PUP 190 or SOS 111 with C or better; SOS 110 with C or better OR Visiting University Student |
| SOS | 314 | Basic Energy Science | Explains the concepts of the science of energy for those without a background in engineering. Allows non-engineering students to better grapple with the issues that surround sustainable energy issues. Covers the most common methods of electricity generation as well as renewable technologies and fuels. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SOS | 315 | Energy Policy | Examines the regulation of energy production and consumption in the U.S. at the federal, state and local levels. Identifies energy stakeholders in the U.S. and examines how they have shaped U.S. policies around energy. Explains past and current U.S. energy policies and how energy needs have shaped U.S. relations with other countries. Compares U.S. energy policies to that of other countries in the world, as well as how Arizona's energy policies compare to other states within the U.S. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only SGS 315 or SOS 315 OR Visiting University Student |
| SOS | 320 | Society and Sustainability | Establishes an understanding of the human, social, and cultural dimensions of sustainability from multi- and interdisciplinary perspectives and at a variety of spatial and temporal scales. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | L or SB | Prereq(s) with C or better: Sust or Bus (Sust) mjr; ENG 101, 105 or 107; SOS 110; SOS 111 or PUP 190 OR Non-Sust mjr with 2 of the following courses: SOS 100, SOS 110, SOS 111 or PUP 190, SOS 300; ENG 101, 105 or 107 OR Visiting University Student |
| SOS | 321 | Policy and Governance in Sustainable Systems | Explores the wide array of political questions that are raised when we view the Earth's environment as an integrated, global system. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prereqs: Sustainability or Business (Sust) major; SOS 110 & SOS 111 (or PUP 190) w/C or better OR Non-Sustainability major with 2 of the following courses: SOS 100, SOS 110, SOS 111 (or PUP 190), SOS 300 w/C or better OR Visiting University Student |
| SOS | 322 | International Development and Sustainability | Historical roots of the idea of development; economic theories of growth and their implications for sustainability; interrelationship among population growth, food security, poverty, inequality, urbanization, technological change, international trade, and environmental change at local, regional and global scale. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prereqs: Sustainability or Business (Sust) major; SOS 110 & SOS 111 (or PUP 190) w/C or better OR Non-Sustainability major with 2 of the following courses: SOS 100, SOS 110, SOS 111 (or PUP 190), SOS 300 w/C or better OR Visiting University Student |
| SOS | 323 | Sustainable Urban Dynamics | Human and physical processes shaping urban ecologies and environments; human-environment interactions in the context of an urban region; effect of the institution and regulatory framework on the ability of social and urban-ecological systems to be resilient and sustainable; urban design, materials, transport, planning, and regulation. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prereqs: Sustainability or Business (Sust) major; SOS 110 & SOS 111 (or PUP 190) w/C or better OR Non-Sustainability major with 2 of the following courses: SOS 100, SOS 110, SOS 111 (or PUP 190), SOS 300 w/C or better OR Visiting University Student |
| SOS | 324 | Sustainable Energy Technology and Systems | Comprehensive survey of current and future energy systems; thermodynamics and energy analysis; environmental, economic and social impacts; resources, technologies and infrastructure for electricity and transportation. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prereqs: Sust or Business (Sust) mjr; SOS 110 & SOS 111 (or PUP 190) w/C or btr OR Non-Sust mjr w/ 2 courses: SOS 100, SOS 110, SOS 111 (or PUP 190), SOS 300 w/C or btr; Credit is allowed for only EVE 411 or SOS 324 OR Visiting University Student |
| SOS | 325 | The Economics of Sustainability | Applies economic principles to the allocation of environmental goods and services, external environmental effects, and environmental public goods; decision-making under uncertainty, adaptation to and mitigation of environmental change. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prereqs: Sustainability or Business (Sust) major; SOS 110 & SOS 111 (or PUP 190) w/C or better OR Non-Sustainability major with 2 of the following courses: SOS 100, SOS 110, SOS 111 (or PUP 190), SOS 300 w/C or better OR Visiting University Student |

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| SOS | 326 | Sustainable Ecosystems | How human activities and management practices alter biodiversity, ecosystem functioning, and the provisioning of ecosystem services; use of economic and other social science perspectives to estimate the value of ecosystem services; evaluation of options for achieving the sustainable flow of services from ecosystems. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prereqs: Sustainability, Sustain Food Syst, or Business (Sust) major; SOS 110; SOS 111 or PUP 190 OR Non-Sustainability major with 2 of the following courses: SOS 100, SOS 110, SOS 111 (or PUP 190), SOS 300 with C or better OR Visiting University Student |
| SOS | 327 | Sustainable Food and Farms | Food systems and sustainability. Theories of food security, rural livelihood sustainability, and food sovereignty. Critically examines the social, ecological, economic, and institutional dimensions of the many sustainability challenges associated food system activities (production, processing, distribution, consumption, waste). Students develop a food system framework and apply knowledge to an assessment of the sustainability of one aspect of the local food system. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prereqs: Sustainability, Sustain Food Syst, or Business (Sust) major; SOS 110; SOS 111 or PUP 190 OR Non-Sustainability major with 2 of the following courses: SOS 100, SOS 110, SOS 111 (or PUP 190), SOS 300 with C or better OR Visiting University Student |
| SOS | 328 | Sustainability and Enterprise | Examines the evolving interface between sustainability and human enterprise. Explores and reviews key fundamental concepts in the sustainability arena, including economic and scientific drivers and select historical and structural aspects that create the current context for the enterprise and sustainability interface found today. Delves into more specific case studies of attempts by current businesses to become greener and more sustainable, exploring challenges and opportunities that are commonly found as well as how decisions are often made in today's business settings and by whom. Explores alternative enterprise models and examples of businesses that are using the current context to redefine the sustainability and enterprise. Given the emergent nature of this effort, uses timely and real-world examples from current events where possible. Explores and applies an integrated approach to sustainability and enterprise. Readings include popular texts, original research articles and current events. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): Sustainability or Business (Sustainability) major; SOS 110 and 111 (or PUP 190) with C or better; OR Non-Sustainability major with 2 courses: SOS 100, 110, 111 (PUP 190), SOS 300 with C or better OR Visiting University Student |
| SOS | 330 | Sustaining the Commons | Equips students with tools to analyze the conditions in which communities can be successful in managing their common resources such as forest, water and clean air. Students learn the institutional analysis and development framework to evaluate such collective action problems. Applies this approach of analysis to various sustainability topics from irrigation systems and fisheries to climate change and energy systems in urban environments. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| SOS | 343 | Latinas/os and the Environment | Examines the nexus among race/ethnicity, migration, class and the built and natural environment. Explores the proposition that Latina/o and other ethnic minorities and socioeconomically disadvantaged populations bear a disproportionate burden of environmental challenges and its consequences for equality, health and quality of life. Key topics include environmental racism, vulnerability and resilience, climate change, community organizing, and mobilization. Pays considerable attention to community-based efforts to deal with environmental problems affecting the Latina/o population in the U.S. Southwest. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): ENG 101 or 105 or 107 with C or better OR minimum 24 hours; Credit is allowed for only ASB 343 or PUP 343 or SOS 343 or TCL 343 or ASB/PUP/SOS/TCL 394 (Latinos and the Environment) |
| SOS | 344 | Culture and Society Transformation | Uses video documentaries and movies to explore the way in which cultural values, economic background and human interaction impact and transform societies. Societal changes in Central and Eastern Europe make a good case study for contrasting and comparing with other societies and understanding global trends and issues in today's world. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | SB & G | Prereq(s): ENG 101, 105, or 107 with C or better; Credit for only ASB 345 or ASB 394 (Cult & Soc Transform) or JUS 343 or JUS 394(Cult & Soc Transform) or ROM 343 or SLC 343 or SLC 394 (Cult & Soc Transform) or SOS 344 or SOS 394 (Cult & Soc Transform) |
| SOS | 346 | Developing Research Skills | Guides students in developing research skills such as posing questions and hypotheses, collecting and analyzing data, and presenting and communicating research outcomes and their applications to problem solving or solution building. | N | RSC | N | Z1 | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only SOS 346 or SOS 394 (Sustainability Research Design & Practice) OR Visiting University Student |
| SOS | 349 | Nature, Sustainability and Religion | Explores how world religions have conceptualized the natural world, what they have contributed to the current environmental crisis and how they might also serve as inspiration to address the crisis. By focusing on Judaism, Christianity and Islam, the course introduces students to the field of religion and ecology and explores its relationship to other academic disciplines such as environmental philosophy and ethics, justice studies and gender studies. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only HPS 349 or JST 349 or REL 349 or SOS 349 or JST, REL, or SOS 394 (Religion and Ecology) or JST, REL, or SOS 394 (Religion and Environment) |

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| SOS | 353 | The Western Diet | Covers political, ethical, social and cultural issues inherent in the U.S. food system. Topics include examination of U.S. food guidance; the food system and food environment; the history of food and farm policy; food security and aspects of sustainability in relation to food system impacts on the health of humans, society and the environment. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only NTR 353 or SOS 353 OR Visiting University Student |
| SOS | 363 | From Cells to Society: Understanding Complexity | Equips students with concepts and empirical examples they need to understand the role of complexity in the world around them. Complexity science is based on the fundamental principle that entities and phenomena in the world around us are systems composed of many parts that interact to produce their global characteristics. For example, cells interact to produce organs and tissues, which in turn interact to produce physiological processes (i.e., the capacity to metabolize food to produce new compounds and energy) and physical infrastructure (skeletal and muscular structure) which produce organisms. Organisms, (e.g., humans) interact to form groups, villages, cities, nations. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AML/ASB/BIO/SOS 394 (From Cells to Societies) or ASB 363 or BIO 363 or CAS 363 or SOS 363 OR Visiting University Student |
| SOS | 370 | Ethics of Eating | This multidisciplinary course examines the elements of modern food systems and current ethical issues regarding food production, distribution and consumption. Also provides a foundation for investigating the effects of social inequality in food systems and global and local responses to address those challenges. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | L or SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ASB 370 or ASB 394 (Production, People, and Environments) or ASB 394 (Ethics of Eating) or SOC 370 or SOS 370 or SSH 370 |
| SOS | 371 | Inequality and Sustainability | Efforts to shift societies onto a sustainable trajectory are facing profound challenges from the degree and dynamics of global inequalities of income, wealth, and life chances. Data and ideas from a spectrum of disciplines are employed to examine, analyze, and criticize the prospects for redressing global inequalities in a sustainable manner. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ASB 371 or ASB 394 (Inequality and Sustainability) or SOC 371 or SOS 371 or SOS 394 (Inequality and Sustainability) |
| SOS | 372 | Earth Science in Arizona and the Southwest | Place-based application of geology and allied Earth system sciences to explore and interpret the landscapes, rocks, geologic history, climate, resources, and natural hazards of Arizona and the Southwest. Integrates case studies of the interactions of Southwest cultures and societies (past and present) with Earth systems, and inquiry into the future sustainability of Southwestern communities and lifeways. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): ENG 101, 105 or 107 with C or better; GLG 101, 102, 110, GPH 111 or SES 121; MAT 117 or higher; Credit is allowed for only GLG 301 or GLG 394 (Earth Sci in AZ & SW) or SOS 372 OR Visiting University Student |
| SOS | 373 | Minerals, Energy, and Society | Studies the science and technology of the minerals and energy industries, how these industries interact with society, and how these interactions may change in the future. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): ENG 101, ENG 105 or ENG 107 with C or better; GLG 101, GLG 102 or GLG 110 or GPH 111 or SES 121 or Junior standing; Credit is allowed for only GLG 304, GLG 394 (Minerals, Energy & Society) or SOS 373 |
| SOS | 374 | Earth's Critical Zone | The Earth's near surface environment (the "critical zone") supports most life and is the dynamic interface between the solid Earth and its fluid envelopes where much of the geologic record is produced. We now know that we face rapid climate change and the consequences of changes in land use, water resources, and ecosystems. Critical to planning a response to, or mitigation of, environmental change is understanding how the Earth surface works. Focuses on how changes to the environment manifest themselves in the critical zone-- in the form and function of the Earth's surface (landforms, water resources, soils, ecosystems). Offers a quantitative introduction to the form and function of the processes impacting the Earth's critical zone to build an understanding of the interactions of physical, chemical and biotic processes in shaping the surface and determining fluid, solute and sediment fluxes. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s) with C or better: CHM 101 or higher or PHY 101 or higher; both GLG 101 and 103, or both SES 121 and 123, or SES 225; MAT 170, 171, 210, 251, 265, or 270; Credit is allowed for only GLG 327 or SOS 374 OR Visiting University Student |
| SOS | 375 | Humans and the Environment: What's the Connection? | How do diverse human groups across global ecosystems (desert, tropics, arctic, alpine, urban) interact with and adapt to their environments and how are these relationships changing in response to globalization, climate change and other social, historical and political-economic drivers? Cultures situated in landscapes are the basis for an incredible global diversity of worldviews and behaviors that in turn affect how humans experience and "use" their environments. This course will provide an introduction to current and benchmark literature and methods in environmental and ecological anthropology that address people-environment interactions. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | (L or SB) & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ASB 375 or SOS 375 OR Visiting University Student |

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| SOS | 380 | Entrepreneurship for American Indian Sustainability | Concentrates on developing a product or service idea, creating an entrepreneurial model and plan to implement the product or service in the context of an AI sustainable venture (profit and nonprofit). Begins with a review of established AI context with additional focus on tribal economic development throughout the course. The innovation process executed during the semester and the resulting product/service ideas and choices. Students are also encouraged to embark on new venture ideas as well. Students are then introduced to all aspects of venture (profit and non-profit) and entrepreneurial model creation, including strategy, product/service development planning, marketing, operations, alliances, management, finance and investment. In parallel, teams continue refinement and, where possible, further prototyping of the idea they chose from the previous semester and/or creation of new high-impact, high-potential ideas. | N | LEL | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AIS 385 or AIS 394 (Entrepreneurship for American Indian Sustainability) or SOS 380 |
| SOS | 385 | Business and Sustainability I | First of two related courses; provides a general overview of sustainability topics that are important to business today with a focus on consumer products and services and the social and environmental impact of the organizations that provide them. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): SCM 300, SCM 380, or SOS 110 with C or better; minimum 60 hours; Credit is allowed for only SCM 385 or SOS 385 OR Visiting University Student |
| SOS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-4 | | Prereqs: Sustainability or Business (Sust) major; SOS 110 & SOS 111 (or PUP 190) w/C or better OR Non-Sustainability major with 2 of the following courses: SOS 100, SOS 110, SOS 111 (or PUP 190), SOS 300 w/C or better OR Visiting University Student |
| SOS | 412 | Conservation in Practice | Global biodiversity patterns, processes, and conservation; global environmental change; sustainable use of natural resources; emphasizing international approaches to conservation biology. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only BIO 412 or SOS 412 |
| SOS | 414 | Urban and Environmental Health | Integrates theory and practice of social sciences (including anthropology, demography, and human geography) to understand environmental contexts of health, particularly urban. | N | SEM | Y | OPT | College of Global Futures | School of Sustainability | 3 | SB | Prerequisite(s): AML 100, ASB 100, 102, 222, 223, ASM 104, SOS 100, 110, 111 with C or better; minimum 45 hours |
| SOS | 421 | Landscape Ecology | Discusses how landscape heterogeneity interacts with ecological processes, and implications for biodiversity conservation, resource management, and landscape and urban planning. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): BIO 320 with C or better; Credit is allowed for only BIO 421 or BIO 521 or SOS 421 or SOS 521 OR Visiting University Student |
| SOS | 424 | Dynamic Modeling in Social and Ecological Systems | Introduces the development and use of dynamic mathematical models to study social and ecological phenomena. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 4 | | Prerequisite(s): MAT 210, 251, 265, or 270 with C or better; Credit is allowed for only ASM 424 or BIO 424 or SOS 424 OR Visiting University Student |
| SOS | 429 | Human Impacts on Ecosystem Functioning | Explores our current understanding of how humans are impacting the functioning of ecosystems and how changes in ecosystems would affect provisioning of ecosystem services and ultimately human well-being. The two primary drivers of ecosystem change are growth of the human population and increased consumption per capita. These drivers affect the Earth's cycles of carbon, nitrogen and water, as well as regional and global-scale changes in biodiversity and climate. Includes an in-depth discussion of scenarios for the next 50 and 100 years, which articulate costs and benefits of alternative development pathways in terms of climate change, food production, clean water and biodiversity. Scenarios of change in biodiversity lead to the topic of the consequences of biodiversity change for the functioning of ecosystems from the point of view of their productivity and stability. Human activities have disrupted several biogeochemical cycles including nitrogen and carbon cycles. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): BIO 320 (or SOS 326); Credit is allowed for only BIO 429, BIO 528, SOS 429, SOS 528, or SOS 494/598 (Human Impacts on Ecosystem Functioning), or BIO 494/598 (Human Impacts on Ecosystem Functioning) |
| SOS | 433 | Sustainable Water Use | A clustered learning network on the problem of water scarce regions, includes insights from hydrology, engineering, biology, economics and public policy. May be repeated once for credit. | N | SEM | Y | OPT | College of Global Futures | School of Sustainability | 3 | | |
| SOS | 434 | People and Nature: Ecosystem Services | Explores the drivers of biodiversity change and the consequences they have for human wellbeing, taking both an ecological and an economic perspective. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Pre-requisites: MAT 117 or SOS 101; junior standing. Credit is allowed for only BIO 434, SOS 434, or BIO 494 (Ecosys Servcs:People&Nature) |

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| SOS | 435 | U.S. Energy: Pathways to Sustainability | Organized around four mores of energy and environmental policy: energy supply, technology for efficiency, environmental sustainability and infrastructure. Also incorporates the wider context of energy and the environment in the society in which we live, taking into account our historic past and future potential life experience with energy availability and use. Through critical examination and analysis of these mores, students apply knowledge to the creation of a comprehensive energy and environmental policy plan that addresses past conditions, present states and future possibilities. | N | SEM | N | GNA | College of Global Futures | School of Sustainability | 3 | | Credit is allowed for only SOS 435 or SOS 494 (Energy and Environmental Policy) or SOS 494 (US Energy: Pathways to Sustainability) or SOS 555 or SOS 594 (Energy & Environmental Policy) |
| SOS | 441 | Mathematical Concepts and Tools in Sustainability | Explores various mathematical analysis and models pertinent to sustainability science drawn from both social and natural sciences and introduced in a problem-based context. Demonstrates basic concepts from game theory such as pure-strategy and mixed-strategy Nash equilibriums in such classic games as prisoner's dilemma, hawk-dove, coordination. Explores the evolutionary dynamics of these games through the replicator equations. Studies important concepts of stability and regime shift for selected problems. Also discusses some basic solution concepts in cooperative game theory (depending on interest and time). | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s) with C or better: AML 253, or SOS 210(or SOS 294 Intro to Math Tools & Modeling). Credit is allowed for only AML 441 or 494 (Math Concepts & Tools in Sustainability) or SOS 441 or 494 (Mathematical Concepts and Tools in Sustainability) |
| SOS | 442 | Sustainability Indicators | Measures of sustainability (or sustainable development), focusing on sustainability indicators and indices (SIs). Discusses key conceptual and methodological issues on gauging sustainability and examines a wide range of sustainability indicators and indices that have been commonly used at global, regional and local scales. | N | SEM | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): minimum 45 hours. Credit is allowed for only SOS 442, 494 (Sustainability Indicators and Indices), 542 or 598 (Sustainability Indicators and Indices) |
| SOS | 444 | Climate Change, Society and Sustainability | Provides foundational knowledge of climate change science and examines the social, cultural and political intersections of climate change. Examines how climate change impacts different ecosystems and societies and how societal response to climate change has evolved in the U.S. and around the world. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only SOS 444 or SOS 494 (Social Dimensions of Climate Change) or SOS 544 or SOS 598 (Social Dimensions of Climate Change) OR Visiting University Student |
| SOS | 447 | Gender, Culture, and Development | In-depth analysis of gender roles related to health, family, work, education and politics in developing countries. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | (L or SB) & G | Prerequisite(s): ENG 101, 105 or 107 w/ C or better; WST 100 or 300 or minimum 45 hours; Credit is allowed for only SGS 454 or SOS 447 or TCL 447 or WST 447 or TCL 598 (Gender, Culture & Development) OR Visiting University Student |
| SOS | 456 | Human Rights and Sustainability | Addresses the connections between human rights and environmental sustainability. Legal and scholarly approaches linking these areas present new perspectives for addressing some of the greatest challenges of our time, given the important resource dimensions of economic and social rights and the human dimensions of sustainability. Yet human rights demands and environmental concerns are not always in harmony. Explores these tensions and opportunities by examining three substantive areas: urban ecology and human rights, the human right to food, and the human rights implications of extractive industries such as oil and mining. Following an introduction to the key concepts of human rights and sustainability, explores the substantive areas through theoretical and empirical readings on each; grassroots accounts of struggles over environment-related human rights; and selections from literature and film that illustrate the environmental justice issues at stake. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | (L or SB) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only JUS 456 or JUS 497 (Seminar in Human Rights) or SOC 455 or SOS 456 |
| SOS | 463 | Political Ecology of the Border | Examines the political ecology of the human-environment relationship in Mexico and on the U.S.-Mexican border. Through case studies, students learn about the most pressing environmental issues facing human populations and their communities on both sides of the U.S.-Mexican border and the various ways in which these issues are dealt with. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | SB & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 463 or SOS 463 or TCL 443 |
| SOS | 465 | Sustainable Urbanism | Examines the history, practice and core ideas of "sustainable urbanism," including leading thinkers, tools and strategies up to the present day. Topics include codes, metrics, certifications, charters, the Sustainable Development Goals and the New Urban Agenda. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prereq(s) w/C or better: Sustainability major or in a sustainability concentration; SOS 110; SOS 111 or PUP 190; min 45 hours OR non-Sus major, non-sus conc; PUP 301; Credit is allowed for only PUP 465 or PUP 565 or SOS 465 OR Visiting University Student |

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| SOS | 467 | Art and Ecology | Designed for students with advanced independent studio art practices or sustainability studies students who have an interest in the way that their lives and practices engage environments. Through readings, slide presentations, discussions, guest visits, hands-on activities and screenings, explores the work of many contemporary ecological artists engaging with environments and environmental issues from a multitude of angles. Artists engage land remediation, agriculture, socio-ecological justice, sustainable materials, landscape design and much more. As cultural workers must be informed, the course content addresses some basic literacy with regard to environmental concerns and shares examples of realized accessible sustainable solutions. In addition to learning about ecologies and artists, students complete three art or research projects, inspired by assignments. | N | STO | Y | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ART 467 or ART 494 (Art and Ecology) or ART 567 or ART 598 (Art and Ecology) or SOS 467 or SOS 494 (Art and Ecology) or SOS 567 or SOS 598 (Art and Ecology) |
| SOS | 474 | Collaborative Design Development I | Team-based product development course featuring applied projects. Open to senior students from business, engineering, design, and other disciplines. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 5 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ENT 464 (or MGT 464) or GRA 464 or IND 464 or SOS 474 OR Visiting University Student |
| SOS | 475 | Collaborative Design Development II | Team-based product development course featuring applied projects. Open to senior students from business, engineering, design, and other disciplines. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 5 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ENT 465 (MGT 465) or GRA 465 or IND 465 or SOS 475 OR Visiting University Student |
| SOS | 476 | Earth's Past Climates: The Key to our Sustainable Future | Dynamic interactions among the oceans, earth surface and atmosphere that control Earth's climate in its present state, in the context of past climates and projections for future climates. Assesses the factors that affect the trajectory of future climate change, and the sources and measurement of the critical climate parameters that are essential for guiding decisions for a sustainable future. Also considers recent climate science-related controversies, as well as assessments of scientific statements related to these controversies. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only GLG 476 or GLG 576 or SOS 476 or SOS 576 or GLG 494 (Climate Sci Sustain) or GLG 598 (Climate Sci Sustain) or SOS 494 (Climate Sci Sustain) or SOS 598 (Climate Sci Sustain) |
| SOS | 480 | Achieving Career Success in Sustainability | The need for sustainability-minded workers and leaders has never been more important than right now. Yet sustainability as a career track is still very new and means different things to different people. Challenges students to explore their own ambitions and "personal brands," to shape their work personas, to model the behaviors and competencies that build long-term career success, and to uncover the sustainability potential of any job, whether or not "sustainability" is in the job title. | N | SEM | N | GNA | College of Global Futures | School of Sustainability | 3 | | Pre- or corequisite(s): SOS 110, SOS 111, PUP 190 with C or better if completed; Credit is allowed for only SOS 480 or SOS 494 (Achieving Career Success in Sustainability) |
| SOS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Global Futures | School of Sustainability | 1-12 | | Prerequisite(s): School of Sustainability undergraduate student |
| SOS | 485 | Business and Sustainability II | Second of two related courses focusing on the environmental, social and economic dimensions of sustainable technologies and exposes students to a variety of related concepts and theories. Describes technology hotspot analysis, life cycle assessment and a variety of models of technology forecasting and diffusion. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): SCM 385 or SOS 385 with C or better; Credit is allowed for only SCM 485 or SCM 494 (Business and Sustainability II) or SOS 485 |
| SOS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Global Futures | School of Sustainability | 1-6 | | Prerequisite(s): Barrett Honors student |
| SOS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | IND | N | Z1 | College of Global Futures | School of Sustainability | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| SOS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | SEM | Y | OPT | College of Global Futures | School of Sustainability | 1-4 | | Prerequisite(s): Sus or Bus Sus major; SOS 110 w/C or better; SOS 111 or PUP 190 w/C or better OR non-Sus major w/2 of the following courses: PUP 190, SOS 100, SOS 110, SOS 111, SOS 300 w/C or better OR Visiting University Student |
| SOS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-7 | L | Prerequisite(s): School of Sustainability undergraduate student; ENG 101, 105 or 107 with C or better; minimum 9 hours of SOS upper-division courses |

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| SOS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | SEM | Y | Z1 | College of Global Futures | School of Sustainability | 1-3 | | |
| SOS | 501 | Foundations of Sustainability | Provides a knowledge base to help students to succeed in the online MSL program. Supports MSL students in the four learning threads of the program, which include communications and sustainability, global context, strategic sustainability and sustainability leadership. | N | LEC | N | YGB | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 502 | Tools and Techniques for Sustainability | Forthcoming federal legislation and Executive Orders will set new standards for operational efficiencies, energy and water conservation, use of renewable energy sources, and waste minimization in the Army and Army National Guard. Tools and Techniques for Sustainability presents a systems approach to meet those standards by integrating principles of sustainability into existing Army policies, procedures, and reporting systems. The course features the Framework for Sustainable Strategic Development as an organizing framework to analyze systems and develop strategic plans to move toward sustainability. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): Global Sustainability Leadership certificate student; Pre-or co-requisite: SOS 501 |
| SOS | 503 | Operationalizing Sustainability | Sustainability is a means to addressing the significant physical, statutory, and regulatory requirements that affect and can encumber the Army's ability to train Soldiers at ranges and maneuver areas across the United States. With hundreds of imperiled species proposed for federal protection in the next few years, threatened and endangered species and sensitive habitat will continue to be a concern. Participants in Operationalizing Sustainability will explore how innovative training practices, improved land and natural resource management practices, and enhanced community relationships can ensure continued access to the land and water assets needed to maintain readiness and can help to 'win hearts and minds.' Proactive approaches to promoting well-being for soldiers, families, civilians, neighbors, and communities, both at installations and downrange, are stressed. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): Sustainability Leadership certificate student; SOS 501; SOS 502 |
| SOS | 504 | Energy and the Built Environment | Provides practical approaches to applying sustainability principles and practices to public works activities, housing, facilities operations and management, military construction, master planning, and energy management. Presents approaches to implement high-performance sustainable building design, construction, operation and management, maintenance, and deconstruction. Also covers cost-effective, innovative strategies, such as highly reflective and vegetated roofs, to minimize consumption of energy, water, and materials. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): Sustainability Leadership certificate student; SOS 501; SOS 502 |
| SOS | 505 | Sustainable Military Acquisition and Logistics | Sustainable Military Acquisition and Logistics provides practical approaches to applying sustainability principles and practices to all areas of procurement, acquisition, and logistics. Through weapon systems acquisition or procurement of installation goods and services, the Army hopes to drive innovation and promote sustainability while reducing costs. The inclusions of energy and resource efficiency and other sustainability criteria in acquisition and procurement decisions can reduce long-term operation and maintenance costs, conserve resources, and continue to expand innovation throughout the supply chain. This course introduces the application of sustainability principles to procurement and acquisition, transportation, and materiel. The use of life cycle analysis and multicriteria assessment for all 10 classes of supply is also featured significantly in the course. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): Sustainability Leadership certificate student; SOS 501; SOS 502 |
| SOS | 508 | Pathways to Sustainability | Covers the fundamentals of sustainability and sustainability science. Gives beginning graduate students, or prospective graduate students, a broad look at sustainability using global examples that prepare them for future coursework in the field. As such, exposes students to the concepts and competencies, with examples, that are essential for achieving sustainability outcomes. Explains, in detail, the essential competencies a student of sustainability must attain in order to be appropriately equipped for graduate coursework and/or working in the field. Finally, examines sustainability leadership; that is, how to move from the what and the why of sustainability challenges to the how to use knowledge and skills to initiate sustainability solutions in various organizations. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SOS | 509 | Leading Sustainability Transitions | The vast majority of organizations must significantly change their operational models in order to become sustainable. Leaders must determine how to champion this change, generate momentum, and align internal reward systems to facilitate these transitions. Exposes students to different change models that are applicable to private, public and nonprofit organizations. Introduces a variety of practical cases that serve as a foundation to apply different frameworks that help transition organizations toward being sustainable. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 510 | Perspectives on Sustainability | University-wide course covering basic perspectives on sustainability. Uses case studies; faculty and students from engineering, architecture, social sciences, and natural sciences exchange ideas on the major challenges faced in forming a sustainable future at the local, national, and global levels. | N | SEM | Y | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): School of Sustainability graduate student |
| SOS | 511 | Advanced Sustainability Problem Solving | Conveys advanced procedures of how to identify and analyze sustainability problems and how to develop solution visions and strategies that can solve and mitigate sustainability problems. Introduces and facilitates training in how to use an integrated framework for sustainability problem solving, which is applicable to all sustainability-related professions. Prepares students for their applied projects on sustainability solutions. | N | LEC | Y | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): School of Sustainability graduate student |
| SOS | 512 | Environmental and Resource Economics | Microeconomic theory applied to problems of the environment and natural resources, principles of nonmarket valuation of the environment, market failures in the provision of environmental goods and services, dynamic management of natural capital stocks, the economics of sustainable development. | N | SEM | Y | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 513 | Science for Sustainability | Key ideas, concepts and principles of sustainability science that focuses on the dynamic relationship between society and nature. Examines the structure, functioning and dynamics of coupled human-environment systems (CHESs) on local, regional and global scales with a systems perspective. Covers major sustainability science issues including: fundamentals of ecology, energy, agro-food systems, renewable and non-renewable resource systems, economic development and human well-being. | N | SEM | Y | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 514 | Human Dimensions of Sustainability | Concepts and definitions of the human dimensions of sustainability; the role of attitudes and values in shaping sustainability goals, practices, and programs; the diversity of values and socio-cultural contexts relating to sustainability; bottom-up and top-down sustainable policy development, social data collection methodologies. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GCU or SOS 514 |
| SOS | 515 | Industrial Ecology and Design for Sustainability | The conceptual, ethical, and practical challenges in the design, manufacture, and life cycle performance of products; environmental evaluation via materials flow analysis and life cycle assessment; global economic, environmental, cultural, and social aspects of competitive and functional product development and manufacture. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Credit is allowed for only CEE 582 or SOS 515 |
| SOS | 516 | Science, Technology and Public Affairs | Explores the political, economic, cultural, and moral foundations of science and technology policy and governance in democratic society. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only BIO 515 or GLG 547 or HSD 515 or PAF 547 or SOS 516 |
| SOS | 517 | Sustainability and Enterprise | Examines the evolving interface between sustainability and human enterprise. Explores and reviews key fundamental concepts in the sustainability arena, including economic and scientific drivers and select historical and structural aspects that create the current context for the enterprise and sustainability interface found today. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SOS 517 or SOS 591 (Sustainability and Enterprise) |
| SOS | 518 | Uncertainty and Decision Making | Knowledge is always incomplete, yet decisions must be made. Explores uncertainty and its relation to decision making, with a particular focus on the ways that science and science-derived information is applied with the intent of improving decisions. Explores the many meanings and origins of uncertainty, using theoretical and case-based approaches. A central theme is the relation among uncertainty, scientific prediction, and decision making, especially in politically charged issues, for example as related to management of the environment. Ultimately understands how effective decisions can be made in the face of inevitable uncertainties and contested knowledge. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only ASB 517 or BIO 517 or BIO 591 (Uncertainty & Decision Making) or HSD 517 or POS 527 or SOS 518 |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|---------------------------|--------------------------|-------|-----------------|--|
| SOS | 519 | Research Data Management | Provides foundations of sound research data management. Upon completion of the course, students are aware of tools and approaches to effectively manage research data from project inception through publication of both findings and data. Topics include sound data management principles, version control, database concepts, metadata generation, data management plans, research collaboration, and tools for data processing (e.g., spreadsheets, R). This is a hands-on course in which students perform exercises with sample data and/or their own research data. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SOS 519 or SOS 494 (Research Data Management) or SOS 598 (Research Data Management) |
| SOS | 520 | Research Design and Methods for Sustainability | Provides skills and knowledge that help students design their own research and place it in the context of other disciplines or bodies of work. Not a "methods" class because no specific method is taught in depth. Instead, it is an initial introduction to the research design process and is intended as a platform through which students develop the skills to appreciate and contextualize the approaches taken (and methods used) by others, and during which they can identify the types of specific training they require as they define their own research. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Pre- or corequisite(s): SOS 510; Credit is allowed for only SOS 520 or SOS 598 (Intro Design/Mthds) |
| SOS | 521 | Landscape Ecology | Discusses how landscape heterogeneity interacts with ecological processes, and implications for biodiversity conservation, resource management, and landscape and urban planning. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only BIO 421 or BIO 521 or SOS 421 or SOS 521 |
| SOS | 522 | Qualitative Methods for Sustainability Problems | Theory and application of qualitative methods to sustainability research and practice. Students define and frame a sustainability problem and apply a range of qualitative methods to it, articulate the strengths and weaknesses of these methods, and have a framework for assessing the appropriate use and evaluation of qualitative methods. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SOS 522 or SOS 591 (Qualitative Methods for Sustainability Problems) |
| SOS | 525 | Social-Ecological-Technical Systems (SETS): Domains and interfaces | Guide students in developing an integrated approach and framework for thinking about complex systems in a sustainability context. Presents overviews of content, theories and methods from each of the SETS domains (Social, Ecological and Technical Systems); primarily focuses on how to bring these domains together. Explores the SETS interfaces (intersections) from an integrated perspective and equips students to make those linkages in their research and in subsequent elective courses. Each semester students use a sustainability problem or theme to explore the concepts presented in the course. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 526 | Sustainability Science: Interactions Between Human and Environmental Systems | Addresses core ideas in sustainability science--an emerging field of research dealing with the interactions between human and environmental systems. The problem that motivates the course is the challenge of sustainability: improving the well-being of present and future generations in ways that conserve the planet's life support systems over the long term. Students critically discuss a set of presentations and papers covering the field in a systematic way, drawing on and integrating contemporary research from earth systems science, resource economics, institutional analysis, ecology, geography, development studies, health sciences, engineering, and other disciplines. Covers from the theory of sustainability to its multiple applications in the field and explores the impacts of different value systems on both theory and applications. | N | SEM | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 526 or GCU 526 or SOS 526 or BIO 591 (Sust Sci: Int Btwn Hum &Env Sys) or GCU 591 (Sust Sci: Int Btwn Hum &Env Sys) or SOS 591 (Sust Sci: Int Btwn Hum &EnvSys) |
| SOS | 527 | Environmental Ethics and Policy Goals | Advanced seminar in applied environmental ethics, focusing on the most influential and policy-relevant approaches in the field of environmental ethics. Core topics include the historical and philosophical foundations of alternative understandings of environmental responsibility; the debate over utility and preservation in environmental policy argument; and the interplay of ethical principles, scientific knowledge and societal priorities in environmental decision making. Consideration of the ethical and value dimensions of biodiversity conservation, wilderness protection, environmental valuation, environmental activism, climate change and sustainability, among other challenges. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 527 or SOS 527 or BIO 591 (Environ Ethics & Policy Goals) |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|---------------------------|--------------------------|-------|-----------------|---|
| SOS | 528 | Human Impacts on Ecosystem Functioning | Explores our current understanding of how humans are impacting the functioning of ecosystems and how changes in ecosystems would affect provisioning of ecosystem services and ultimately human well-being. The two primary drivers of ecosystem change are growth of the human population and increased consumption per capita. These drivers affect the Earth's cycles of carbon, nitrogen and water, as well as regional and global-scale changes in biodiversity and climate. Includes an in-depth discussion of scenarios for the next 50 and 100 years, which articulate costs and benefits of alternative development pathways in terms of climate change, food production, clean water and biodiversity. Scenarios of change in biodiversity lead to the topic of the consequences of biodiversity change for the functioning of ecosystems from the point of view of their productivity and stability. Human activities have disrupted several biogeochemical cycles including nitrogen and carbon cycles. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; Credit is allowed for only BIO 429, BIO 528, SOS 429, SOS 528, or SOS 494/598 (Human Impacts on Ecosystem Functioning), or BIO 494/598 (Human Impacts on Ecosystem Functioning) |
| SOS | 529 | Research Seminar in Environmental and Sustainability Economics | Runs in parallel with the ASU-wide biweekly seminar in Environmental and Resource Economics in that class sessions consist exclusively of these seminar sessions. Research presentations in the seminar are given by graduate students, faculty and visiting speakers. | N | SEM | Y | OPT | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 530 | International Development and Sustainability | Historical roots of the idea of development; economic theories of growth and their implications for sustainability; interrelationship among population growth, food security, poverty, inequality, urbanization, technological change, international trade, and environmental change at local, regional and global scale. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 531 | Achieving Career Success in Sustainability | The need for sustainability-minded workers and leaders has never been more important than right now. Yet sustainability as a career track is still very new and means different things to different people. Students explore their own ambitions and "personal brands," to shape their work personas, to model the behaviors and competencies that build long-term career success, and to uncover the sustainability potential of any job, whether or not "sustainability" is in the job title. | N | SEM | N | GNA | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): SOS 510; Credit is allowed for only SOS 531 or SOS 598: Achieving Career Success in Sustainability |
| SOS | 532 | Sustainable Urban Dynamics | Human and physical processes shaping urban ecologies and environments; human-environment interactions in the context of an urban region; effect of the institution and regulatory framework on the ability of social and urban-ecological systems to be resilient and sustainable; urban design, materials, transport, planning, and regulation. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 533 | Sustainable Water | Hydrological, legal, political, and ecological implications of alternative water management strategies; effect of institutional and regulatory frameworks; changes in water demand and supply due to human (population growth, economic changes) and natural (drought, climate change) factors | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 534 | Sustainable Energy and Material Use | Sustainable engineering; overall energy needs and impacts; thermodynamics, heat transfer, and fluid mechanisms; atmospheric energy systems; field investigation; current and future urban energy systems. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CEE 516 or SOS 534 |
| SOS | 535 | Sustainable Ecosystems | How human activities and management practices alter biodiversity, ecosystem functioning and the provisioning of ecosystem services; use of economic and other social-science perspectives to estimate the value of ecosystem services; evaluation of options for achieving the sustainable flow of services from ecosystems. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only ELS 535 or SOS 535 |
| SOS | 536 | Food System Sustainability | Broad view of food systems and the sustainability of such systems. Concepts, theory, methods and empirical analyses from diverse disciplines, including agro-ecology, agronomy, political science, agricultural economics, geography, anthropology, and food and nutrition studies. Students choose a theme that is a core concern to food system sustainability and pursue that theme in diverse course activities and through engaging in the broader food system we are embedded in as residents in the Phoenix area. Culminates with a term paper/project that synthesizes experience and knowledge, providing a unique perspective on their role in food systems. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|---------------------------|--------------------------|-------|-----------------|---|
| SOS | 537 | Disasters as Opportunity for Sustainability | Explores how disasters can give rise to sustainability transitions and sustainability solutions. Disasters are revealing crisis. As hazards roll into disasters they lay bare the underlying conditions of socio-ecological vulnerability and inequities that affect almost all aspects of daily life. They also affect the infrastructures and institutions supporting daily life. This realization stimulates improvisation and ideas for just, green, inclusive and resilient futures. Investigates case studies to reconstruct how people, affected by and surviving a disaster, advanced sustainability transitions and reduced disaster risk. Uses an interdisciplinary perspective to analyze these transitions, drawing on theories of change from sustainability transitions and transformation as well as disaster management research. Moreover, students ground the literature in concrete experiences as shared through guest speakers, professional experiences, documentaries and an applied project. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PAF 568 (CPP 537) or SOS 494 (Disasters as Opportunities for Change Towards Sust) or SOS 537 or SOS 598 (Disasters as Opportunities for Change Towards Sust) |
| SOS | 539 | Human Well-Being and Sustainability | Many of us take it for granted that human well-being is the ultimate end of sustainability or sustainable development. But what is a well-being, really? Social scientists collect empirical data and develop indices, indicators and other proxies to represent and measure well-being; but is it the kind of phenomenon that can be explained? In other words, is there a correct theory of human well-being? How does one measure well-being? Moreover, what are we to make of the relationship between well-being and sustainability? Where do these two concepts coincide? Where do they come apart? Does human well-being presuppose a commitment to sustainability? If the ultimate end of sustainability is human well-being, then is sustainability a redundant concept? This interdisciplinary course tackles such questions by critically examining the most prominent philosophical theories of well-being and by considering how they might be reconciled with relevant empirical evidence. Also spends considerable time reflecting on the problems that arise with respect to measuring well-being, particularly in the context of public policy. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HPS/PHI/SOS 591 (Human Well-Being and Sustainability) or PHI 538 or SOS 494 (Human Well-Being and Sustainability) or SOS 539 |
| SOS | 540 | Statistical Modeling for Sustainability | Equips students with sufficient knowledge of statistical theory and methods of applied data analysis to begin conducting empirical analyses in their domains of interest; bring students to a high level of competency in using a cutting-edge statistical software package (Stata) for data management and data analysis tasks; expose students to applications of statistical methods in the economics/policy/social science sustainability literatures in order to develop an understanding for how statistical tools are operationalized in the research world; and develop an appreciation for the careful synthesis of social and natural science theory, knowledge of data and its limitations and command of statistical tools that constitute quality empirical research. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 4 | | Prerequisite(s): degree- or non-degree-seeking graduate student; Credit allowed for only AML, ESS or SOS 540 |
| SOS | 541 | Mathematical Concepts and Tools in Sustainability | Explores various mathematical analysis and models pertinent to sustainability science drawn from both social and natural sciences and introduced in a problem-based context. Demonstrates basic concepts from game theory such as pure-strategy and mixed-strategy Nash equilibriums in such classic games as prisoner's dilemma, hawk-dove, coordination. Explores the evolutionary dynamics of these games through the replicator equations. Studies important concepts of stability and regime shift for selected problems. Also discusses some basic solution concepts in cooperative game theory (depending on interest and time). | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit allowed for only AML 494 (Math Concepts & Tools in Sustainability), AML 541, SOS 494 (Math Concepts & Tools in Sustainability), SOS 541 or SOS 598 (Math Concepts & Tools in Sustainability) |
| SOS | 542 | Sustainability Indicators | Measures of sustainability (or sustainable development), focusing on sustainability indicators and indices (SIIs). Discusses key conceptual and methodological issues on gauging sustainability and examines a wide range of sustainability indicators and indices that have been commonly used at global, regional and local scales. | N | SEM | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only SOS 442, 494 (Sustainability Indicators and Indices), 542 or 598 (Sustainability Indicators and Indices) |
| SOS | 544 | Climate Change, Society and Sustainability | Provides foundational knowledge of climate change science and examines the social, cultural and political intersections of climate change. Examines how climate change impacts different ecosystems and societies and how societal response to climate change has evolved in the U.S. and around the world. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SOS 444 or SOS 494 (Social Dimensions of Climate Change) or SOS 544 or SOS 598 (Social Dimensions of Climate Change) |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|---------------------------|--------------------------|-------|-----------------|--|
| SOS | 545 | Creating Sustainable Organizations | Sustainability is a strategic concern for managers in all types of organizations: private, public and nonprofit. Forward-thinking managers are redefining their operational strategies to balance economic development, environmental quality and social justice needs. By drawing on practical cases and a real-time project with a local client, students explore these connections through multiple lenses. Topics covered include creating organization change, involving stakeholders, transformational vs. incremental sustainability, sustainability market strategies, strategic alliances, enhancing the organization value from sustainability initiatives, and assessing organization sustainability. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; Credit is allowed for only PAF or SOS 545 |
| SOS | 546 | Life Cycle Assessment for Civil Systems | Covers fundamental and advanced concepts of the life cycle assessment framework exploring products, services, activities and infrastructure systems. Examines key concepts for system boundary selection, functional unit selection, inventorying, impact assessment and interpretation stages with a focus on energy and environmental assessment. Advanced concepts include allocation of effects, problem formulation for assessing footprints versus decisions or policies, and assessment of infrastructure interdependencies and supply chains. Exposes tools and data sources and presents approaches for evaluation of sensitivity and uncertainty of results. Encourages students with broad sustainability interests to enroll and explore how life cycle assessment can aid their work by shifting their views from direct to cradle-to-grave effects. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; Credit is allowed for only CEE 506 or CEE 598 (Lifecycle Assessment) or SOS 546 or SOS 598 (Lifecycle Assessment) |
| SOS | 547 | Urban Infrastructure Anatomy and Sustainable Development | Understanding how built environment infrastructure systems interact with ecosystem services is critical for policies and decisions directing urban sustainability. Brings together students from several disciplines to develop a semester-long research project focused on a particular urban sustainability problem in Phoenix. During the semester, students are given background on how infrastructure systems work and are interdependent, and explore tools and methods for urban sustainability assessment with peers from several disciplines. As a class, students evaluate a particular urban sustainability problem for Phoenix, interact with local policy and decision makers in developing solutions, and present their findings at the end of the semester to the ASU community. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit for only CEE 507 or 598(Urban Infrastructure Anatomy/Sustainable Dev) or PUP553 or 598(Urban Infrastructure Anatomy/Sustainable Dev) or SOS547 or SOS598 (Urban Infrastructure Anatomy & Sustain Dev) |
| SOS | 548 | Transformational Sustainability Entrepreneurship | Familiarizes students with concepts and examples of sustainable entrepreneurship models that are radically different from conventional business models. With a focus on small- and medium-sized enterprises, students learn about structure and function of sustainability-oriented benefit corporations (B Corps), cooperatives, business incubators, impact investment companies and other models. Discusses each model in general and then illustrates through one or more business case studies from around the world. Guest speakers (sustainability entrepreneurs) from Arizona, interdisciplinary peer teaching and learning, online elements, a field visit, and review panels provide a diverse and active learning environment. Open to graduate students from across Arizona State University and has included in the past students from as many as 7 different graduate programs. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; Credit is allowed for only SOS 548 or SOS 598 (Transformational Sust Entrepreneurship) |
| SOS | 549 | ESG Reporting and Ethics | Prepares accounting and finance-oriented students to lead organizations. Explores corporate governance topics including sustainability reporting and related ethical issues from the perspectives of accounting and finance professionals. Corporations employ different governance structures each with its strengths, weaknesses and differing ethical norms. Corporate governance is changing quickly now with thousands of companies that are incorporating environmental, social and governance (ESG) issues and metrics into their internal finance and accounting operations and their external reporting. Utilizes cases supplemented with articles (no textbook) along with substantial discussion and writing components. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): Business graduate student; Credit is allowed for only ACC 581 or ACC 591 (Corporate Gov, Ethics & Sustainability Rptg) or SOS 549 |
| SOS | 552 | Advanced Earth Systems Engineering and Management | Advanced introduction to earth systems engineering and management, and the technological, economic and cultural systems underlying the terraformed Earth. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Credit is allowed for only CEE 581 or SOS 552 |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|---------------------------|--------------------------|-------|-----------------|--|
| SOS | 553 | Changing Human-Nature Relationships | Explores key concepts in Western and non-Western thinking now intersecting in the Anthropocene to influence human interactions with and descriptions of Nature. Humans may protect Nature, but simultaneously use/overuse resources and drive change in social-ecological systems. Examines evolving assumptions about Nature, values/world views, progress, change, uncertainty, rationality, knowledge, tradeoffs and control/management, using a range of theoretical lenses (e.g., environmental/ecological/historical anthropology, culture, geography, ecology, economics, institutions, economic development, complex systems and sustainability science). Also studies a set of iconic Human-Environmental challenges and examines how theories and assumptions explain behaviors and human, ecological and policy outcomes. In turn, focuses on lessons that emerge for interdisciplinary scholarship. Encourages students to apply methods, concepts and theories to their evolving research questions. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASB 530 or SOS 553 |
| SOS | 555 | US Energy: Pathways to Sustainability | Organized around four mores of energy and environmental policy: energy supply, technology for efficiency, environmental sustainability and infrastructure. Also incorporates the wider context of energy and the environment in the society in which we live, taking into account our historic past and future potential life experience with energy availability and use. Through critical examination and analysis of these mores, students apply knowledge to the creation of a comprehensive energy and environmental policy plan that addresses past conditions, present states and future possibilities. | N | SEM | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit for only SOS 435, SOS 494 (Energy & Environ Policy) or SOS 494- US Energy: Pathways-to Sustain or SOS 555 or 594 (US Energy: Pathways to Sustainability) or SOS 594 (Energy & Environmntl Policy) |
| SOS | 557 | Global Sustainability Research Preparation | First part of the project track of the double-degree master's program Global Sustainability Science (GSS). The project track runs from semester 1 to semester 3/4. This course prepares GSS students to develop their research proposal as well as to conduct sustainability research in transnational teams. | N | RSC | N | OPT | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): School of Sustainability graduate student |
| SOS | 558 | Global Sustainability Research Project | Takes a solutions-oriented sustainability learning approach in which students work on real-world sustainability solutions and collaborate in small teams coached by instructors. Trains students in the use of an analytical-evaluative framework for sustainability solutions and applies it to different solution efforts. | N | RSC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SOS 558 or SOS 594 (Global Sustainability Research) |
| SOS | 559 | Global Sustainability Science Perspectives Seminar | Seminar fulfills four functions: (1) students get familiar with sustainability research areas and faculty across ASU, based on the collective interest of the GSS cohort; (2) students receive training on scientific writing; (3) students have the opportunity to participate in a community of sustainability students that supports exchange, bonding and peer-teaching; and (4) students reflect on and provide feedback on the GSS program and their academic development, as well as receive feedback on their pathway through the program and beyond (career opportunities). | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): SOS 557 |
| SOS | 567 | Art and Ecology | Designed for students with advanced independent studio art practices or sustainability studies students who have an interest in the way that their lives and practices engage environments. Through readings, slide presentations, discussions, guest visits, hands-on activities and screenings, explores the work of many contemporary ecological artists engaging with environments and environmental issues from a multitude of angles. Artists engage land remediation, agriculture, socio-ecological justice, sustainable materials, landscape design and much more. As cultural workers must be informed, the course content addresses some basic literacy with regard to environmental concerns and shares examples of realized accessible sustainable solutions. In addition to learning about ecologies and artists, students complete three art or research projects, inspired by assignments. | N | STO | Y | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 467 or ART 494 (Art and Ecology) or ART 567 or ART 598 (Art and Ecology) or SOS 467 or SOS 494 (Art and Ecology) or SOS 567 or SOS 598 (Art and Ecology) |
| SOS | 570 | Fundamentals of CAS Science | Many phenomena of critical relevance to human society are dynamic systems that change over individual and evolutionary time scales, and are highly interactive, both within and between systems. That is, they are complex adaptive systems (CAS), and thus share isomorphic properties like near-decomposability, hierarchical organization, scale-free networks, self-organized criticality, and emergence. Fundamentals of CAS science explores the diverse, interdisciplinary applications of a complex adaptive systems across the social, behavioral, and life sciences. | N | SEM | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASM 570 or BIO 570 or CAS 570 or SOS 570 |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|---------------------------|--------------------------|-------|-----------------|---|
| SOS | 571 | Sustainable Energy Technologies and Systems | Provides a primer on the scientific, technological and social aspects of energy. Includes three core modules: (1) primer on physical, economic and environmental metrics used to measure energy; (2) a review of power systems and electricity generation technologies; and (3) a review of transportation systems and fuel/vehicle technologies. Focuses on energy technology and also incorporates discussions of the human dimensions of energy systems. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 572 | Sustainable Energy Transitions | A sustainable future requires a transition away from fossil fuels. This process is far more complex than a simple substitution of fuels. Energy transitions are multifaceted and complex social phenomena, involving economic, technological and political processes that unfold across decades. Delves into these processes for past energy transitions, addressing how energy use evolved throughout history, how it influenced urbanization and socioeconomic development, and how technological change facilitates and constrains energy transitions. What do past energy transitions tell us about how easy or hard it will be to undergo another energy transition? | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 573 | Sustainable Energy Policy | Provides a comprehensive survey of energy policies that are shaping the transition to sustainable energy. For context, begins with two views of energy transitions: interdisciplinary socio-technical perspectives and conventional environmental economic perspectives. Next, examines theory and case studies for numerous policies, including carbon pricing, regulatory standards, subsidies, utility regulation, community energy and innovation policies. Lastly, discusses the political drivers and energy system impacts of energy policies. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 574 | Data Analytics for Sustainable Energy | Examines the data sources, methodologies and metrics used to measure sustainable energy and explores how they are used to shape public policy and track progress toward sustainability goals. The metrics, which relate to cost, efficiency and environmental impacts, provide the foundation for assessing the relative merits of energy technologies and systems based on a variety of criteria. In addition to quantitatively evaluating a multiplicity of energy sources and systems, the course builds skills in research methods, data analytics and critical thinking. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 575 | Sustainable Energy Research Seminar | Seminar-based course for sustainable energy Ph.D. students focusing on research skills for interdisciplinary energy research. Taken over two years. Second-year students are expected to take on more of a leadership role in the class and to contribute more developed research presentations in the spring semester. The seminar has a different focus in the fall and spring. In the fall, the course focuses on research methods. In the spring, the course focuses on the process of generating research ideas and writing effective research proposals. | N | SEM | Y | GNA | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 576 | Earth's Past Climates: The Key to our Sustainable Future | Dynamic interactions among the oceans, earth surface and atmosphere that control Earth's climate in its present state, in the context of past climates and projections for future climates. Assesses the factors that affect the trajectory of future climate change, and the sources and measurement of the critical climate parameters that are essential for guiding decisions for a sustainable future. Considers recent climate science-related controversies and assessments of scientific statements related to these controversies. | N | SEM | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GLG 476 or GLG 576 or GLG 494/598 (Climate Science for Sustainability) or SOS 476 or SOS 576 or SOS 494/598 (Climate Science for Sustainability) |
| SOS | 577 | Interdisciplinary Writing Seminar | If you want your work to make a difference in the world, you need to be able to communicate your ideas to diverse audiences in a way that is interesting and accessible. Teaches students to write clearly, persuasively and ethically to people in their disciplines, in other disciplines, and outside academia. Approaches writing as a way to think critically and refine ideas, as well as to communicate them to others. | N | SEM | Y | GNA | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is only allowed for ESS 577 or SOS 577 or SOS 598 (Interdisciplinary Writing) or SOS 598 (Writing Seminar) |
| SOS | 578 | Writing Papers for Publication | Students produce a draft of a research paper for submission to a peer-reviewed journal. Analysis of exemplary published papers and narrative strategies, along with peer review, support the writing process. | N | SEM | N | GNA | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SOS 578 or SOS 598 (Writing Papers for Publication) |
| SOS | 579 | Proposal Writing | Proposal writing and reviewing with a focus on the NSF dissertation improvement grant format. Discusses professional development. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Credit is allowed for only ASM 579 or SOS 579 |

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| SOS | 581 | Synthesis for Sustainability Research | Aimed at students who have already gained training in content areas and are writing their research or projects for publication in peer-reviewed journals or other outlets. Challenges students to link their own research to other disciplines and the broader field of sustainability research. | N | RSC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): SOS 510; SOS 520; SOS 525; Corequisite(s): SOS 596 or 599 |
| SOS | 582 | Project Management for Sustainability | Provides exposure to the tasks and challenges facing project managers, i.e., those people responsible for the vital function of managing complex projects in sustainability in today's environment. Successful project managers have the abilities and skills to simultaneously manage people, schedules, risks, and resources while delivering successful outcomes. This course is a prerequisite for the MSUS culminating experience. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): Graduate Sustainability major; SOS 510. Pre- or corequisite: SOS 511 |
| SOS | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Global Futures | School of Sustainability | 1-12 | | |
| SOS | 589 | Community of Graduate Student Scholars | Provides the opportunity to develop new skills, to foster cohort building, to interact with other students and faculty, and to network and build support with the alumni network. Overseen by a faculty member but is primarily directed by the students. All MA or MS students take this course each semester. Although there is an overall structure as demonstrated in the course schedule, the specific content of the course varies each semester depending on the needs and interests of the students. | N | LEC | Y | YGB | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): School of Sustainability graduate student |
| SOS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Global Futures | School of Sustainability | 1-12 | | |
| SOS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Global Futures | School of Sustainability | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z2 | College of Global Futures | School of Sustainability | 1-12 | | |
| SOS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Global Futures | School of Sustainability | 1-12 | | |
| SOS | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | STO | Y | OPT | College of Global Futures | School of Sustainability | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | LEC | Y | Z3 | College of Global Futures | School of Sustainability | 1 | | |
| SOS | 596 | Capstone: Scientific Paper | MA/MS students are required to devote six hours to conducting research and writing a scientific paper of publishable quality based on the research. The paper topic, the research methodology, and the written format must be approved by the supervisory committee. Students must decide if they will complete the paper on their own or as a group. | N | RSC | Y | GNA | College of Global Futures | School of Sustainability | 1-6 | | Prerequisite(s): Sustainability MA or MS student; SOS 510 |
| SOS | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | SEM | Y | OPT | College of Global Futures | School of Sustainability | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | N | RSC | Y | Z2 | College of Global Futures | School of Sustainability | 1-12 | | |

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| SOS | 656 | Human Rights and Sustainability | Addresses the connections between human rights and environmental sustainability. Legal and scholarly approaches linking these areas present new perspectives for addressing some of the greatest challenges of our time, given the important resource dimensions of economic and social rights and the human dimensions of sustainability. Yet human rights demands and environmental concerns are not always in harmony. Explores these tensions and opportunities by examining three substantive areas: urban ecology and human rights, the human right to food, and the human rights implications of extractive industries such as oil and mining. Following an introduction to the key concepts of human rights and sustainability, explores the substantive areas through theoretical and empirical readings on each; grassroots accounts of struggles over environment-related human rights; and selections from literature and film that illustrate the environmental justice issues at stake. | N | SEM | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only JUS 656 or SOS 656 or JUS 691 (Human Rights & Sustainability) |
| SOS | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Global Futures | School of Sustainability | 1-12 | | |
| SOS | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | College of Global Futures | School of Sustainability | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z2 | College of Global Futures | School of Sustainability | 1-15 | | |
| SOS | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | Y | Z3 | College of Global Futures | School of Sustainability | 1 | | |
| SOS | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Global Futures | School of Sustainability | 1-15 | | |
| SPA | 101 | Elementary Spanish I | Fundamentals of the language. Emphasizes listening, speaking, reading, and writing. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): Spanish Placement Test score of 0-249; Students may not enroll in SPA 101 if credit with C or better earned in SPA 102, 110, 111, 201, 202, 203, 204, 210, 313, 314, 315, 316, 325, or 412 OR Visiting University Student |
| SPA | 102 | Elementary Spanish II | Fundamentals of the language. Emphasizes listening, speaking, reading, and writing. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): SPA 101 w/ C or better OR Spanish Placement Test score of 250-369; Students may not enroll in SPA 102 if credit w/ C or better earned in SPA 110, 111, 201, 202, 203, 204, 210, 313, 314, 315, 316, 325 or 412 OR Visiting University Student |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| SPA | 103 | Beginning Spanish for Bilingual and Heritage Students | First course for Spanish heritage learners who grew up in an environment where Spanish was frequently spoken and are oftentimes capable of understanding spoken Spanish but encounter considerable difficulties in producing the language. Designed for students who were naturally exposed to Spanish-speaking environments, typically during childhood and have receptive skills in Spanish. Builds on the linguistic competence students already have in order to help them expand their conversational skills in a wide variety of contexts. Also covers basic grammar structures. Develops conversational skills in Spanish, expands vocabulary, strengthens listening abilities, teaches more about Spanish written language, and develops reading skills in a confidence-building environment. Through oral and listening activities, videos, class discussions, group-work and written and Web assignments, students achieve greater flexibility in their abilities in the language in a wide range of social contexts. Learners deepen their knowledge of their cultural heritage and develop an appreciation for the cultural and linguistic variation present in the Spanish-speaking world. Special emphasis on Spanish varieties and cultures in the U.S. to explore students' linguistic and cultural heritage in the United States. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | Prerequisite(s): SPA 101 or Español Placement Test score of 0-100; Students may not enroll in SPA 103 if credit with C or better earned in SPA 102, 110, 111, 201, 202, 203, 204, 210, 313, 314, 315, 316, 325, 412, or 416 OR Visiting University Student |
| SPA | 110 | Intensive Spanish I | First-semester intensive course for students who (1) have never taken Spanish language courses before, or (2) have studied Spanish for one year at the high school level, or (3) have authorization from the Spanish section. This six-hour course meets on Mondays, Tuesdays, Wednesdays and Thursdays for 75 minutes in the classroom. To achieve the maximum level of proficiency, the course focuses on the development of speaking and written skills. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 6-8 | G | Prereq(s): Spanish Placement Test score of 0-249; Students may not enroll in SPA 110 if credit w/ C or better earned in SPA 101 or 102 or 111 or 201 or 202 or 203 or 204 or 210 or 313 or 314 or 315 or 316 or 325 or 412 OR Visiting University Student |
| SPA | 111 | Fundamentals of Spanish | Primarily for students with two years of high school Spanish who need review to enter second-year study. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | Students may not enroll in SPA 111 if credit earned in SPA101, 102, 201, 202, 203, 204, 311, 312, 313, 314, 315, 316, 325, or 412 |
| SPA | 118 | Basic Spanish for Health Care Professionals | Focuses on helping students develop basic oral Spanish skills that allow them to interact with patients in health care settings. Health care-related vocabulary, simple medical scenarios and basic grammar form the majority of the course curriculum. Students are responsible for completing virtual oral dialogues with a partner each week. Requires no prior knowledge of Spanish. | N | LEL | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Spanish Placement Test score of 0-369 OR Visiting University Student |
| SPA | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| SPA | 201 | Intermediate Spanish | Continuation of fundamentals. Emphasizes the development of the skills of reading, listening comprehension, speaking, writing, and culture. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prereq(s): SPA 102, 110, or 111 with C or better OR Spanish Placement Test score of 370-420; Students may not enroll in SPA 201 if credit with C or better earned in SPA 202, 203, 204, 210, 313, 314, 315, 316, 325, or 412 OR Visiting University Student |
| SPA | 202 | Intermediate Spanish | Continuation of fundamentals. Emphasizes the development of the skills of reading, listening comprehension, speaking, writing, and culture. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): SPA 201 or 203 with C or better OR Spanish Placement Test with a score of 421-520; Students may not enroll in SPA 202 if credit with C or better earned in SPA 204, 210, 313, 314, 315, 316, 325, or 412 OR Visiting University Student |
| SPA | 203 | Intermediate Spanish I for Bilinguals | In lieu of SPA 201. For heritage learners who have been exposed to Spanish from the household, relatives or community and who can understand and hold a basic conversation in the language. Builds on the skills students already have in order to expand their written and oral proficiency for real communication in a confidence-building environment. Students also explore their cultural heritage and learn about Hispanic cultures in the United States and the language diversity of its speakers. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | C & G | Prereq(s): SPA 102, 103, 110 or 111 with C or better OR Espanol Placement test score of 101-369; Students may not enroll in SPA 203 if credit with C or better earned in SPA 201, 202, 204, 210, 313, 314, 315, 316, 325 or 412 OR Visiting University Student |
| SPA | 204 | Intermediate Spanish II for Bilinguals | For heritage learners who have been exposed to Spanish from the household, relatives or community and who can understand and hold a conversation in the language. Builds on the Spanish language skills students already have in order to expand their written and oral proficiency in a nurturing environment. Students also learn about Hispanic cultures, traditions and customs in the United States and Latin America and the language diversity of its speakers. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | C & G | Prerequisite(s): SPA 201 or 203 w/ C or better OR Espanol Placement Test score of 370-520; Students may not enroll in SPA 204 if credit w/ C or better earned in SPA 202, 210, 313, 314, 315, 316, 325, or 412 OR Visiting University Student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| SPA | 210 | Intensive Spanish II | Second-semester intensive course for students who have authorization from the Spanish section. This six-hour course that meets on Mondays, Tuesdays, Wednesdays and Thursdays for 75 minutes in the classroom. To achieve the maximum level of proficiency, the course is focused on the development of speaking and written skills. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 6-8 | G | Prerequisite(s): SPA 102 or SPA 111 with B or better OR SPA 110 with C or better; Credit is allowed for only SPA 201 and SPA 202, or SPA 203 and SPA 204, or SPA 210 |
| SPA | 218 | Intermediate Spanish for Health Care Providers | Intermediate Spanish course that focuses on helping students develop oral Spanish skills that allow them to interact with patients in the health care settings. Health care-related vocabulary, the impact of culture on health care, medical scenarios and intermediate grammar form the majority of the course curriculum. Students are responsible for completing virtual oral dialogues with a partner each week. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): SPA 118 OR Visiting University Student |
| SPA | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| SPA | 313 | Spanish Conversation and Composition | Designed to develop skill and accuracy in spoken and written Spanish. Required of majors; SPA 313 and 314 must be taken in sequence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): SPA 202, 204, or 210 with C or better OR Spanish placement test score of 521+; Students may not enroll in SPA 313 if credit with C or better earned in SPA 314 or SPA 315 or SPA 316 or SPA 325 or SPA 412 OR Visiting University Student |
| SPA | 314 | Spanish Conversation and Composition | See SPA 313. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): SPA 313 or 315 with C or better; Students may not enroll in SPA 314 if they have received a C or better in SPA 412 OR Visiting University Student |
| SPA | 315 | Advanced Spanish I for Bilinguals | In lieu of SPA 313. For heritage learners who have been exposed to Spanish from the household, relatives or community and who can speak and understand the language. Students strengthen their written and oral language to use them fluently in professional and academic contexts. Provides a rich cultural context to critically examine issues related to language and Spanish speakers in the United States. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | C | Prerequisite(s): SPA 202, 204, or 210 with C or better OR Espanol placement test with score of 521+; Student may not enroll in SPA 315 if credit with C or better earned in SPA 313 or SPA 314 or SPA 316 or SPA 325 or SPA 412 OR Visiting University Student |
| SPA | 316 | Advanced Spanish II for Bilinguals | In lieu of SPA 314. For heritage learners who have been exposed to Spanish from the household, relatives or community and who can read and write in the language. Students continue to strengthen their written and oral language to develop advanced skills for use in professional, educational and academic contexts. Provides a dynamic cultural context to critically examine issues related to Hispanic communities, bilingualism and education in the United States. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L & C | Prerequisite(s): ENG 101, 105 or 107 with C or better; SPA 313 or 315 with C or better; Students may not enroll in SPA 316 if credit with C or better earned in SPA 314 or SPA 412 OR Visiting University Student |
| SPA | 317 | Spanish for the Professions | Advanced-level course that serves as an introduction to the Spanish for the Professions minor or certificate. Develops oral and written skills that prepares students to use their Spanish in their careers and/or professional fields of interest. Also covers several cultural points that facilitate effective interaction with Spanish speakers in the professional world and global community. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | G | Prerequisite(s): SPA 314 or 316 OR Visiting University Student |
| SPA | 318 | Advanced Spanish for Health Care Professionals | Advanced Spanish course that focuses on helping students develop oral Spanish skills that allow them to interact with patients in the health care settings. Health care-related vocabulary, the impact of culture on health care, medical scenarios and advanced grammatical structures form the majority of the course curriculum. Students are responsible for completing virtual oral dialogues with a partner each week. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Spanish Language Placement Score of 521+ or any upper-division Spanish course OR Visiting University Student |
| SPA | 319 | Business Correspondence and Communication | Organization and presentation of clear, effective business communications; vocabulary applicable to modern business usage. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): SPA 314 or 316 OR Visiting University Student |
| SPA | 325 | Introduction to Hispanic Literature | Critical approach to and analysis of literary types, including poetry, drama, short story, and novel. Required of all majors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): SPA 313, 314, 315, 316, 412, 413, or 416 with C or better OR Visiting University Student |
| SPA | 371 | Language Hegemony and Culture | Historical and cultural analysis of language and the ideological constructs imposed upon resident populations in the Southwest North American region since 1540. Analyzes the suppositions, ideologies, premises and mechanisms by which Spanish and English became imposed among Native peoples and later national populations of Mexicans during the 19th century and continuing with their descendants and migrating populations crossing the bifurcated border. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 371 or HST 371 or SLC 371 or SPA 371 or TCL 371 or ASB/HST/SLC/SPA/TCL 394 (Language Hegemony & Culture in SW North America) |

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| SPA | 382 | Spanish for Biomedical Sciences | Focuses on developing the communicative skills necessary to engage students with the human aspect of health in Spanish. Students develop cultural and linguistically appropriate skills which address the communication needs across the healthcare continuum, to provide culturally competent services. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): SPA 202, 204, or 210 with C or better or Spanish placement test score of 521+; Credit is allowed for only BIO 382 or BIO 394 (Spanish Biomedical Sciences) or SPA 382 or SPA 394 (Spanish Biomedical Sciences) OR Visiting University Student |
| SPA | 385 | Cinema and Culture of Spain | Offers a historical and cultural survey of major films from Spain. Studies key works with a focus on their aesthetic, cultural, political and historical context. Trains students to develop the skills to critically view how films are constructed, how films create meanings and values, and how films are connected to the cultural and historical contexts in which they are created and watched. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only SLC 385 or SPA 385 or FMS 394 (Cinema and Culture of Spain) or SLC 394 (Cinema & Culture of Spain) or SPA 394 (Cinema & Culture of Spain) OR Visiting University Student |
| SPA | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| SPA | 400 | Fundamentals of Spanish Linguistics | Introduces the discipline and methods of linguistics through the study of Spanish data. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & G | Pre- or corequisite(s): SPA 412, 413, or 416 OR Visiting University Student |
| SPA | 401 | Spanish Oral Communication for the Professions | Explores the process of creating and delivering effective public communication in the Spanish language in the context of serving U.S. Latinx community (e.g., government, nonprofit organizations, schools, media). Topics include the cultural conventions of public speaking in Spanish, perceptions of others, the articulation of verbal and nonverbal messages, and techniques of oral presentation and persuasion. This course is practice-oriented and aims at reducing students' anxiety in public presentations, emphasizing research, design and delivery, and trains students on how to evaluate their performance and that of others. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): SPA 314 or 316 OR Visiting University Student |
| SPA | 402 | Written Communication for the Professions | Students hone their Spanish literacy (reading and writing) skills in the context of serving U.S. Latino clients in the community (e.g., schools, government agencies, social work settings, medical settings) or reporting on issues of interest to the Hispanic community. Students read and understand documents in Spanish that they would come across in the process of assisting monolingual Spanish-speakers in the public sector or doing research on the Hispanic community (e.g., birth certificates, academic transcripts, medical reports, criminology documents, newspaper or magazine articles). Students gain practice in creating written documents in Spanish that would assist their communication with Latino clients in formal (professional) and informal contexts or that would allow them to report intelligently on issues of interest to the Hispanic community. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | C | Prerequisite(s): SPA 314 or 316; Credit is allowed only for SPA 494 (Spanish Written Communication) or SPA 402 OR Visiting University Student |
| SPA | 403 | Spanish Grammar and Stylistics for the Professions | Students raise their level of awareness of appropriate grammatical, lexical and stylistic forms to use in their oral and written communication with U.S. Latino clients in formal (professional) and informal contexts in the community (e.g., schools, government agencies, social work settings, medical settings) or for reporting on issues of interest to the Hispanic community. Students enhance their analytical skills by analyzing and comparing Spanish oral and written discourse for genre-appropriate features (stylistics), grammaticality, mechanics, coherence and for a logical flow of ideas in public documents and oral discourses meant for a U.S. Latino audience. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): SPA 314 or 316; Credit is allowed for only SPA 494 (Span Gram & Stylistics for Pro) or SPA 403 OR Visiting University Student |
| SPA | 404 | Spanish in U. S. Professional Communities | Students investigate linguistic issues that impact the U.S. Latino community's interaction with professionals (e.g., interaction with service providers in schools, government agencies, social work settings, medical settings; language planning at state and local levels; Spanish spoken in different regions in the U.S.; Spanish language assessment of public sector employees; creation of Spanish for Professional Purposes courses). Students also learn to report on issues of interest to the Hispanic community. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | (L or HU) & C | Prerequisite(s): ENG 101, 105 or 107 with C or better; SPA 314 or 316; Students who have credit for SPA 494 (Spanish in the Community) may not enroll in SPA 404 OR Visiting University Student |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-------------------|---|
| SPA | 405 | Latino Cultural Perspectives for the Professions | Requires students to investigate the Latino cultural perspectives that underlie and affect communication in the professional world. Students come to understand the historical context that has affected the lives of Latino community in the U.S. and take a critical look at values traditionally associated with Latino culture (e.g., the importance of family ties, fatalism, honor, respecting elders, machismo or marianismo), which provide background information for professionals in the public sector who need to serve the needs of the Hispanic community. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | (L or HU) & C & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; SPA 314 or 316; Credit is only only for SPA 405 or SPA 494 (Latino/a Cultural Perspect Pro) OR Visiting University Student |
| SPA | 406 | Introduction to Spanish/English Medical Interpretation | Provides an introduction to interpretation theory and practice with a specific focus on interpretation for medical fields. Constitutes an academic introduction to the field and does not certify students to be medical interpreters. Students who enroll in this course should have an advanced level of conversational Spanish. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): SPA 314, SPA 316, or SPA 394 (Intro to Spanish for the Prfssions); Credit is allowed for only SPA 406 or SPA 494 (Interp for Mdical/Law Enfrmnt Prsonnl) or SPA 494 (Intro to Spanish/Eng Mdicl & Legal Interp) OR Visiting University Student |
| SPA | 412 | Advanced Conversation and Composition | Oral and written Spanish communication skills, with particular attention given to developing fluency and facility. Required of majors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): SPA 314, 316, or 413 with C or better; Credit is allowed for only SPA 412 or SPA 416 OR Visiting University Student |
| SPA | 413 | Spanish Grammar in Context | Intensive analysis of the Spanish language. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): SPA 314, 316, 412, or 416 with C or better OR Visiting University Student |
| SPA | 414 | Spanish for Sustainability and Environmental Studies | Provides language skills to engage in meaningful communication and official transactions in sustainability and environmental studies with an intermediate to high level of Spanish speaking, reading and writing competence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): SPA 314 or 316 with C or better; Credit is allowed for only SPA 394 (Spanish for Sustainability) or SPA 414 |
| SPA | 416 | Advanced Spanish Conversation and Composition for Spanish Heritage Learners | Oral and written Spanish communication skills for Spanish heritage learners to expand and strengthen advanced skills for use in a variety of contexts such as professional, educational and academic. Provides a dynamic cultural context to critically examine topics of culture, history, linguistics and literature from authors from Latin America where students learn to distinguish and write different types of texts such as narrative, descriptive, journalistic, advertising and scientific-technical. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; SPA 314, 316, or 413 with C or better; Credit is allowed for only SPA 412 or SPA 416 OR Visiting University Student |
| SPA | 417 | The Sounds of Spanish | Analyzes the speech sounds of the Spanish language, including articulatory and acoustic phonetics as well as phonology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | CS or SB | Prerequisite(s): SPA 412, 413, or 416 with C or better OR Visiting University Student |
| SPA | 418 | Architecture of Spanish | Introduces the syntax of the Spanish language by analyzing different word categories, their groupings in phrases, and the structure of both simple and complex sentences. Advanced course that requires some previous knowledge of basic structures of the language and their internal structure. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): SPA 412 or 413 with C or better OR Visiting University Student |
| SPA | 419 | Spanish Around the World | Spanish dialectology and variationist/quantitative sociolinguistics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | CS & C | Prerequisite(s): SPA 400 with C or better OR Visiting University Student |
| SPA | 420 | Applied Spanish Linguistics | Applies linguistic principles to the teaching of Spanish. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L | Prerequisite(s): ENG 101, 105 or 107 with C or better; SLC 201 or SPA 400 with C or better OR Visiting University Student |
| SPA | 421 | Spanish in the Southwest | Discussion and linguistic analysis of Southwest Spanish. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | C | Prerequisite(s): SPA 412 or 416 with C or better OR Visiting University Student |
| SPA | 425 | Understanding Spain: Literature and Culture Before 1700 | Surveys Spanish literature from its beginning to 1700. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; SPA 325 OR Visiting University Student |
| SPA | 426 | Literature and Society in Modern Spain | Surveys Spanish literature from 1700 to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): SPA 325 OR Visiting University Student |
| SPA | 427 | Colonial and Postcolonial Latin American Literature | Surveys major works, figures, and movements from Colonial period to 1880. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; SPA 325 OR Visiting University Student |
| SPA | 428 | Foundational Texts of Latin American Literature Since Modernismo | Surveys major works, figures, and movements from 1880 to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; SPA 325 OR Visiting University Student |
| SPA | 429 | Writing Mexico: Major Texts | Selected readings from pre-Columbian writers/poets (e.g., Macuilxochitl) through the novel of the Revolution to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; SPA 325 OR Visiting University Student |
| SPA | 434 | Drama of the Golden Age | Dramatic works of Lope de Vega, Calderon de la Barca, and their contemporaries. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): SPA 325 |
| SPA | 440 | Translation Theory and Practice | Translation theories and professional practices and ethics; bibliography, computer technology, and sample texts for natural and social sciences and humanities. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 301; SPA 412; Credit is allowed for only SLC 401 or SPA 440 OR Visiting University Student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| SPA | 441 | Technical and Scientific Translation | Resources, practices, strategies, and lexicon for translation of professional texts in subjects such as engineering, architecture, agriculture, computer technology, electronics, and physical and biological sciences. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 301 with B or better; SPA 412 with B or better; Credit is allowed for only SLC 481 or SPA 441 |
| SPA | 442 | Business and Financial Translation | Resources, practices, strategies, and lexicon for translation of professional texts in subjects such as economics, finance, insurance, management, marketing, accounting, advertising, and real estate. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 301 with B or better; SPA 412 with B or better; Credit is allowed for only SLC 482 or SPA 442 |
| SPA | 443 | Translation of Legal Texts | Provides guided practice in the successful completion of professional translation tasks in the legal field. Studies the origin and traditions of contrasting legal approaches as each system of governance (Civil Law Tradition and Common Law Tradition) perceives reality and structures its institutions to reflect differing cultural and linguistic norms. Students work with a broad selection of legal texts involving property rights, family law and commercial law. Places particular emphasis on criminal law. Analyzes legal texts from several Latin American countries as well as from Spain for content and translated into English. Similarly analyzes and translates into Spanish specialized texts currently used in Maricopa County Superior Court. | N | LEL | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 301 with B or better; SPA 412 with B or better; Credit is allowed for only SLC 485 or SPA 443 (or SPA 410) OR Visiting University Student |
| SPA | 444 | Medical Translation | Guided practice in the successful completion of professional translation tasks in the medical and scientific domain: medical correspondence, discharge instructions, medical information for patients, general information on topics related to the medical field with a focus on low-literacy issues. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 301 with B or better; SPA 412 with B or better; Credit is allowed for only SLC 486 or SLC 494 (Medical Translation) or SPA 444 |
| SPA | 449 | Latin American Cinema: The Dead and the Disappeared | Studies Latin American politics and culture through film with particular focus on recent periods of Latin American history in which there have been social upheavals, dictatorships and state repression, and dirty wars. Discusses film as an art form with specific aesthetic goals, a tool to effect change within society, a mode of cultural and social expression, and a vehicle for reconciling collective trauma and preserving memory. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | G & H | Prerequisite(s): ENG 102, 105, or 108 w/C or better; Credit allowed for only FOR 449, LAS 449, SPA 449, FOR 494 (Lat Am Cinema: Dead & Disap), LAS 494 (Lat Am Cinema: Dead & Disap), SPA 494 (Lat Am Cinema: Dead & Disap) OR Visiting University Student |
| SPA | 456 | 20th-Century Spanish American Fiction | Major works and movements. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): SPA 325 |
| SPA | 459 | Latin American Jewish Culture | Focuses on forms of cultural production in Latin America marked by or under the aegis of Jewish diasporic identity from the late nineteenth century to the present. While Jewish immigrants and Latin Americans of Jewish descent may be found in all Latin American societies, cultural production is found concentrated in countries like Argentina, Brazil, Mexico and Chile. Investigates essentially cultural versions of a sociohistorical consciousness, and ranges across a broad spectrum of Latin American Jewish texts in an investigation of what forms of production have emerged to represent this important immigrant component of Latin American national societies. Examines novels and other literary works, along with photography and films, and looks at theme, motifs, characters that can be identified with what might be called a Jewish consciousness or Jewish sensitivity. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only JST 459 or JST 494 (Jewish Latin American Culture) or SLC 459 or SLC 498 (Jewish Latin American Culture) or SPA 459 or SPA 498 (Jewish Latin American Culture) |
| SPA | 464 | Jaitón Works in Chicano/a Literature | Representative literature in Spanish and English by Mexican Americans, emphasizing sociocultural as well as literary values. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (HU or SB) & C | Prerequisite(s): SPA 325 OR Visiting University Student |
| SPA | 470 | Law, Societies and Justice in Latino-America | Reviews justice-related sociological and criminological theories in the target language. Introduces the application of social theories and human right principles to the issues affecting Latino communities both in Latin America and the United States. Students engage in critical inquiries and focused research to develop culturally sensitive and insightful solutions to criminal and justice-related topics that affect Latinos in their communities (physical or virtual). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & G | Prerequisite(s) with C or better: ENG 102, 105 or 108; SPA 202 or 204 OR Spanish Placement Test score of 421-520 OR Español Placement Test score of 370-520; Credit allowed for JUS 475, SPA 470 or JUS/SPA 494 (Law, Societies & Justice in Latino-America) |
| SPA | 471 | Civilization of the Indohispanomexicano Southwest | Political, intellectual, social, economic, and artistic development of the Spanish-speaking people of the Southwest. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & C | Prerequisite(s): ENG 101, 105 or 107 with C or better; SPA 314 or 316 OR Visiting University Student |
| SPA | 472 | Latin American Society: Five Case Studies | Growth of the institutions and cultures of Spanish American people. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H & G | Prerequisite(s): SPA 314 or 316 |
| SPA | 473 | Old and New Spaniards: Culture and Civilization of Spain | Political, intellectual, social, economic, and artistic development of the Spanish nation from its origin to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (HU or SB) & G | Prerequisite(s): SPA 314 or 316 OR Visiting University Student |
| SPA | 474 | Revolutionary Mexico and Postmodern Revisions | Examines diverse aspects of Mexican culture since the 1910 Revolution. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G | Prerequisite(s): ENG 101, 105 or 107 with C or better; SPA 314 or 316 OR Visiting University Student |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| SPA | 475 | Latin American Film | Examines the role of film in contemporary Latin American culture; films viewed and analyzed as casebook examples. Focuses on the aesthetics and generic conventions of contemporary Latin American films. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, 108, FMS 100, or SLC 202 with C or better; Credit is allowed for only FMS 475 or SLC 475 or SPA 475 or THE 475 or FMS 494/SLC 494/SPA 494/THE 494 (Latin American Film) OR Visiting University Student |
| SPA | 481 | Dictatorships and Dirty Wars: Latin American Cinema from Resistance to Reconciliation | Examines aspects of Latin American politics and culture of and through the optic of social unrest. Examines films focusing on the period(s) of recent Latin American history in which there have been social upheavals, dictatorships and state repression, "dirty wars": understood as clandestine wars waged on the citizenry by the government, social movements from below. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only LAS 481 or SPA 481 or ENG 494 (Dictatorships/Dirty Wars:Lat Am Cinema) or SPA 494 (Dictatorships/Dirty Wars:Lat Am Cinema) |
| SPA | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SPA | 485 | Chicano/a Short Story: Espanglish, Barrio y Xicanisma | Critical study of contemporary short stories by Mexican American authors, with emphasis on their Spanish-language writings. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; SPA 325 OR Visiting University Student |
| SPA | 486 | Chicano/a Novel: Última, Rafa y Lala | Social and literary contexts of representative novelists, emphasizing their Spanish-language writings. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): SPA 325 OR Visiting University Student |
| SPA | 487 | Chicano/a Drama: Pachucos, Vendidos y Cerezitas | Representative dramatic works, with emphasis on the history and development of this genre from its regional origins to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | C | Prerequisite(s): SPA 325 |
| SPA | 490 | Consumer Culture in Latin America | Provides an in-depth study of consumer culture in contemporary Latin America, including the analysis of television series, music, literary texts, commercials, ads and films produced in or about Latin America since the turn of the 21st century. Knowledge of Portuguese and Spanish is a plus, but not necessary. Taught in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only POR 490 or SLC 490 or SPA 490 or HON/POR/SLC/SPA 494 (Consumer Culture in Latin America) OR Visiting University Student |
| SPA | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| SPA | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| SPA | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| SPA | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-7 | | |
| SPA | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| SPA | 515 | Second-Language Acquisition | Discusses and applies theories of second-language acquisition. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SLC 515 or SPA 515 |
| SPA | 520 | Preparing for Professional Careers | Professional training of graduate students who pursue an academic job. Guides these students through their career and provides the tools they need to navigate their new and demanding academic life, not only as current students but also as future faculty. Among others topics, covers the following: research, publishing, surfing the Internet and the library for articles and books, bibliographical matters, conferences and presentations, professional ethics, choosing a dissertation director, writing and publishing the dissertation, first job search, differences among institutions, cover letters, CVs, tenure issues, and balance of personal and professional life. Explores all the practicalities of the academic profession to direct students to the right track from the first day of graduate school. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPA | 536 | Generation of 1898 | Works of Unamuno, Baroja, Azorín, and their contemporaries, studied against the ideological background of the turn of century in Spain. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 537 | Women in Spanish Literature | Major female writers and their texts from Spanish literature (María de Zayas, Ángela Grassi, Concepción Arenal, Emilia Pardo Bazán, Carmen Laforet, Paloma Pedrero) interpreted via current feminist and other critical theories. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 538 | Chicana Writers | Major female figures and works in Spanish or translation by contemporary writers (Zamora, Castillo, Corpi, Anzaldúa, L.D. Cervantes, D. Chávez, Duarte, Cisneros) interpreted via current feminist and other critical theories. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPA | 540 | History of the Spanish Language | Analyzes and discusses the development of Spanish from Vulgar Latin to the present day. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| SPA | 541 | Spanish Language in America | Discusses and analyzes various regional and social varieties of Spanish in the Americas. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 542 | Studies in the Spanish of the Southwest | Examines bilingualism and the social and regional dialects of Spanish in the Southwest. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 543 | Structure of Spanish | Analyzes and discusses data on selected topics in Spanish morphology, semantics, and syntax. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 544 | Spanish Phonology | Surveys problems of Spanish phonology within the context of recent phonological theory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 545 | Concepts of Literary Criticism | Aims and methods of modern literary scholarship. Discusses major theories of literary analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SLC 545 or SPA 545 |
| SPA | 546 | Heritage Language Pedagogy | Sociolinguistic and pedagogical issues around the teaching and learning of heritage languages. Through a close examination of seminal articles in the field of heritage language pedagogy and research, students gain an understanding of the issues that concern these students and the teaching of this population. Defines the field, describes heritage language learners, and discusses the goals and sociolinguistic concerns of HL instruction. Also reviews the most appropriate teaching methodologies and principles for the heritage language classroom, especially in relation to literacy development. Contains a practical component that includes observations together with lesson plan and material development to prepare future teachers for effective classroom experiences and/or language program development. Course requirements include critical essays, online discussions, class observations, lesson plans and a research/applied paper. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SLC 546 or SPA 546 or SPA 598 (Heritage Language Pedagogy) |
| SPA | 547 | Applied Linguistics: Online Learning | Technology has changed the way we teach and learn languages. Examines how online language learning is informed by research and theory; explores how different tools and environments can support online language learning. Familiarizes students with research methods and tools used to examine online language learning. Participants either design and develop the instructional materials for an online course of their choice or design and conduct a research project. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SLC 547 or SPA 547 or SLC 598 (Topics in Applied Linguistics: Online Learning) or SPA 598 (Topics in Applied Linguistics: Online Learning) |
| SPA | 550 | Spanish for Reading Knowledge | Teaches nonspeakers of foreign language, or those with only basic notions of the language, how to read in a foreign language at an advanced level. Emphasizes developing reading and translation skills through exposure to a variety of texts (journalistic, historical, literary and scientific). Requires no previous knowledge of Spanish. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SPA 550 or SPA 598 (Spanish for Reading Knowledge) |
| SPA | 552 | Chicano/Chicana Film | Major figures and films by contemporary filmmakers (Sylvia Morales, Cheech Marín, Gregory Nava, Lourdes Portillo, Roberto Rodríguez, Evelina Fernández) interpreted via critical film theory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPA | 553 | Latin American Feminist Film | Examines Latin American feminist films in the context of contemporary Latin American culture; films viewed analyzed as casework examples. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): Degree- or Nondegree-seeking graduate; Credit is allowed for only SPA 553 or 583 (Feminist Filmmaking) |
| SPA | 564 | 19th-Century Spanish Prose Fiction | Principal figures and works of realism in the 19th-century novel, with emphasis on Galdós. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 566 | Generation of 1927 | Major poets of the Generation of 1927, with emphasis on works of Lorca, Guillen, Salinas, and Aleixandre. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 567 | Contemporary Spanish Novel | Major works of post-Civil War Spanish fiction. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 568 | Cervantes | Extensive analysis of the prose and theater of Cervantes as a key figure of the Spanish Golden Age. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 569 | Studies in Spanish Film | Examines major figures and films in Spanish cinema. Critically interprets films through current film theory, history, and critical theory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 572 | Spanish American Drama | Major contributions of Spanish American drama, with emphasis on contemporary dramatists. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 573 | Spanish American Essay | Major works of the essay, within the framework of intellectual history and literary movements. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 576 | Contemporary Spanish American Short Story | Principal short stories of the <i>Nueva Narrativa Hispanoamericana</i> within the context of contemporary theories of the narrative. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 577 | Regional Spanish American Literature | Figures and works of major national (Peru, Argentina, Chile, and Mexico) and regional (Caribbean) literatures. Topics offered on a rotating basis. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|--------------------------------|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| SPA | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SPA | 582 | Studies in Latin American Film | Examines the role of film in contemporary Latin American culture; films viewed and analyzed as casebook examples. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 586 | Chicano/Chicana Short Novel | Major novels and figures in Spanish or translation by contemporary Chicano novelists (Hinojosa-S., Méndez, Morales, Cota-Cárdenas, Cisneros) interpreted via current narrative theory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPA | 587 | Chicano/Chicana Drama | Major works of Chicano/a drama, with emphasis on contemporary playwrights (Valdez, Portillo-T., Morton, Moraga, Gómez-Peña) interpreted via current critical drama theory and other methods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPA | 588 | Chicano/Chicana Essay | Major figures and essays in Spanish or translation by contemporary essayists (Rendón, Anzaldúa, Villanueva, Rodríguez, Mora, Stavans) interpreted via current critical theory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPA | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SPA | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SPA | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SPA | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | |
| SPA | 596 | Second Language Methodologies | Provides a solid overview of current methodologies in foreign/second language teaching and learning, including the World-readiness standards for learning languages and the Proficiency Guidelines of the American Council on the Teaching of Foreign Languages (ACTFL). Focuses on current pedagogical trends and theories in several areas of second language acquisition, including grammar and vocabulary, reading, writing, listening and speaking, and intercultural competence. Also provides opportunities to obtain practice in creating and adapting instructional materials, preparing and implementing individual lesson plans, written and oral assignments, and exams. Focuses on discussing student diversity in today's classrooms and differences between heritage and second language learners. Students have the opportunity to research a topic of their interest. Course consists of lectures, discussion, hands-on experience to encourage meaningful and collaborative learning. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking grad stdnt; Credit only allowed for CHI 591 (Lang Teach Mthd & Prin) or CHI 596 or SLC 591 (Lang Teach Mthd & Prin) or SLC 596 or SPA 591 (Teach Mthd) or SPA 591 (Lang Teach Mthd & Prin) or SPA 596 |
| SPA | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPA | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SPA | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SLC 691 or SPA 691 |
| SPA | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |

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| SPA | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | |
| SPA | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SPA | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SPA | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-15 | | |
| SPA | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | |
| SPA | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-15 | | |
| SPE | 222 | Orientation to Education of Exceptional Children | Introduces legal aspects of special education and community services to support students with disabilities. Also examines the nature and characteristics of students with disabilities as defined by federal law. Introduces high-leverage practices (HLPs) in special education to promote effective, inclusive practices for K-12 students with disabilities. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | SB & C | |
| SPE | 223 | Intersection of Society, Disabilities and Inclusion | Examines foundational factors affecting the impact of a disability on: equity, inclusion, personality, life circumstances, support systems and members of society. Future educators enhance their knowledge of varied inclusive experiences. Emphasizes the understanding of individual characteristics, cultural differences, civil rights and stereotypes. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | |
| SPE | 317 | Special Education for Culturally and Linguistically Diverse Children and Youth | General issues and practical applications regarding the education of culturally and linguistically diverse students with disabilities. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 30 hours |
| SPE | 321 | Classroom and SPE Assessment | Norm-referenced and criterion-referenced assessment and evaluation of student learning to determine eligibility, plan individualized programs and monitor progress of students with disabilities. Includes academic, language disorders and transition assessments. Emphasizes integration and adaptation of curriculum, instruction and evaluation for all students. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student; minimum 39 hours |
| SPE | 323 | Effective Practices and Behavior Interventions: Supports for Exceptional Students | Create, evaluate and analyze behavioral interventions and strategies for effective management of classroom behavior for all students, including those with learning exceptionalities across all learning environments and settings. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |
| SPE | 325 | Language Literacy 1 in Elementary Schools | Theoretical knowledge and pedagogical skills for implementing a high-quality reading program. Course objectives and topics are aligned to standards for reading and research from the International Reading Association (IRA), Arizona College and Career Ready Standards (ACCRS), Interstate Teacher Assessment and Support Consortium (InTASC) standards, and the National Reading Panel Report (2000). Focuses on emergent literacy, phonemic awareness, phonics, fluency, vocabulary and comprehension. Presents strategies and assessments to support students of a variety of ability levels and cultural backgrounds with a specific focus on the struggling readers and English language learners. For education majors only. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program; Credit is allowed for only RDG 322 or SPE 325 |
| SPE | 365 | Concepts, Principles and Foundations of Behavior Analysis | Focuses on the behavior of organisms (humans, animals and organizations) from an operant learning theory perspective. Students learn the philosophical underpinnings of the field of applied behavior analysis as well as basic concepts and principles that can be used to change behavior. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |

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| SPE | 366 | Measurement and Experimental Analysis of Behavior | Covers measurement and experimental design used by behavior analysts in schools, clinics and other community settings. Students gain knowledge and skills in data collection methods commonly used by behavior analysts, learn to graph data to measure improvement, and examine trends and patterns in the data. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SPE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | Prerequisite(s): minimum 45 hours |
| SPE | 396 | Clinical Experience I | Provides opportunities for students to engage as a teacher and learner in a variety of classroom settings that serve students with visual impairments. Fulfills two (2) of six (6) required semester hours of practicum in Special Education: Visual Impairments. Develops knowledge and skills for effective implementation of strategies for teaching skills and adaptations specific to visual impairments. Introduces the TAP instructional rubric, the college professionalism rubric, backwards design of a direct instruction lesson plan, and strategies for co-teaching. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-2 | | Prerequisite(s): admission to the Professional Program |
| SPE | 397 | Clinical Experience II | Develops knowledge and skills for effective classroom management, establishing a positive classroom environment, and effective lesson delivery. Continues use of the TAP instructional rubric, the college professionalism rubric, and strategies for co-teaching. Provides opportunities for students to engage as a teacher and learner in a classroom setting. Emphasizes focused observation; co-planning with a placement teacher; and co-teaching lessons to a whole group, small group and individual students. Successful completion of this course fulfills two (2) of eight (8) required semester hours of practicum as required by SBR R7-2-608 for an Elementary Education Teaching Certificate or two (2) of eight (8) required semester hours of practicum as required by SBR R7-2-602 for a Special Education Teaching Certificate. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2 | | Prerequisite(s): admission to the Professional Program; Credit is allowed for only EED 397 or SPE 397 |
| SPE | 400 | Language Development and Disorders | Language development course for the general education or special education teacher candidate. Covers how language develops and disorders from infancy through adulthood. Topics include the receptive and expressive language (prelinguistic communication, phonology, morphology, syntax, semantics, pragmatics) in speaking, listening, reading and writing for infants through adults with and without related disabilities. Students also understand the principles of prevention, assessment and intervention within the school environment and across multiple ecologies through transdisciplinary practices. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours |
| SPE | 404 | Instructional Design for Culturally and Linguistically Diverse Students | Provides a foundation in instructional design to meet the academic and linguistic needs of culturally and linguistically diverse students, with a focus on English language learners. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours; Credit is allowed for only BLE 404 or ELL 504 or SPE 404 |
| SPE | 410 | Mathematics in Elementary Schools | Methods of teaching mathematics to all students at the K-8 level, instructional planning and assessment. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours; Credit is allowed for only EED 412 or MTE 412 or SPE 410 |
| SPE | 411 | Special Education History and Law | Emphasizes historical and current state and federal laws impacting students with disabilities and ethical processes and procedures for instruction and services. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student; minimum 39 hours |
| SPE | 416 | Quality Practices in the Collaborative Classroom | Develops skills, strategies, and a knowledge base for preservice teachers in building collaborative partnerships with special educators. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-3 | | Prerequisite(s): admission to the Professional Program |
| SPE | 417 | Inclusion Practices at the Secondary Level | Applies curricular practice and how preservice teachers work with students with special needs in middle and secondary levels. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| SPE | 423 | Evidence-Based Practices for Students with Exceptional Needs | Focuses on implementing evidence-based methods and instructional supports, in a variety of settings, for students with mild to moderate disabilities in K-12 schools. Candidates utilize data from a variety of assessments to develop educational plans and support resources. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |
| SPE | 424 | Evidence-Based Practices for Students with Intensive Exceptional Needs | Foundational special education methods course provides aspiring teachers the opportunity to develop evidence-based practices by analyzing data from a variety of sources to inform instructional decision-making processes including assessment, environment and transition to support students with intensive exceptional needs in a goal-oriented educational community. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |

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| SPE | 430 | Professional Practices, Foundations and Collaborative Teaching in Special Education | Methods and issues in cooperative teaching for students with disabilities in the general education classrooms. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | L | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; ENG 101, 105, or 107 with C or better; minimum 56 hours |
| SPE | 431 | Collaborative Teaching Methods for General Education Classroom Environments | Methods and issues in cooperative teaching for special education students in general education classrooms. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| SPE | 441 | Reading and Writing Braille | Provides future teachers of students with visual impairments with the knowledge and skills for reading and writing braille that enable mastery of the literacy braille code. Students produce braille using a variety of methods, research resources for braille materials and electronic devices that support the braille teacher and student, and explore methods for teaching braille to readers of all ages. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours |
| SPE | 442 | Teaching Methodologies for Students with Visual Impairments | Provides a foundation for understanding the education of students with visual impairments (VI) with past and current practices and philosophies situated in the context of special education. Begins with a brief history of VI education, legislation and educational philosophies, including the prevalence of visual impairment in society and an overview of the visual system. Prospective teachers of students with VI learn to assess, plan and implement strategies that support students in accessing academic content, career objectives and activities of everyday living across the lifespan. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours |
| SPE | 443 | Foundations of Instruction for Students with Visual Impairments | Principles of curricular and instructional design for children with visual impairments with respect to licensure (pre-K-12). Emphasizes selecting, developing and adapting curricular and instructional units/themes/lessons so that they are appropriate for children within the licensure range. Students demonstrate knowledge of basic terminology related to the function of the human vision system and the implications for teaching and learning. Also discusses adaptations and modifications, especially of the general education curriculum. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SPE | 444 | Diagnostic and Assessment: Procedures for the Visually Impaired | Future teachers of the visually impaired learn to interpret medical records, conduct assessment, establish meaningful and measurable goals for an ISFP or IEP, and make recommendations for classroom accommodations, modifications and goals. Examines the impact of strategies with dual sensory loss and deaf-blindness for students in the classroom. Following an overview of the senses of hearing, touch, taste, smell as well as the vestibular and proprioceptive senses, the course examines how each sensory system supports access to information. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours |
| SPE | 445 | Orientation and Mobility for Teachers of the Visually Impaired | Leads future teachers of the visually impaired (TVIs) to become familiar with the philosophy and history of orientation and mobility. Explores the skills taught in orientation and mobility and experiences techniques taught to demonstrate those skills including concepts, protective techniques, sighted guide, pre-cane techniques, guide dogs and electronic aids in order to be a confident and efficient traveler. Emphasizes early concept development and mobility for students with visual impairment and multiple disabilities. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SPE | 446 | Modes of Communication | Explores multimodal teaching methods (i.e., braille, typing, script, note-taking, sound reproduction systems, listening skills, electronic reading devices and calculation) to support students who are blind or have visual impairments with communication. Students participate in laboratory experiences, so students can develop and demonstrate competencies in the skill of reading, producing and teaching braille as well as the skill of identifying and using assistive technology. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): SPE 441 |
| SPE | 447 | Student Teaching for Teachers of the Visually Impaired | Student teaching in preK-12 school classrooms is a synthesized experience in curriculum, instruction and classroom management. Successful completion fulfills six (6) required semester hours of education courses, including practicum in grades prekindergarten-12, which teach knowledge and skills such as learning theory, classroom management, methods and assessment, as required by the Standard Visually Impaired Special Education Certificate. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-12 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |
| SPE | 448 | Assessing and Improving Challenging Behavior in Schools and Clinics | Prepares future educators and clinicians to assess and determine the function of challenging behaviors among individuals of varying ages and skill levels. Students gain knowledge and experience with development of function-based interventions designed to increase socially significant skills and reduce maladaptive behaviors. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Behavior Analysis minor OR Visiting University Student |

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| SPE | 449 | Assessment and Program Planning for Diverse Learning Needs | Provides guided opportunities for future educators and clinicians to conduct skills assessments, create socially significant instructional plans, and design educational programming that is individualized and focused on maintenance and generalization of skills taught. Students explore the use of applied behavior analysis to improve and increase socially significant behaviors and skills for individuals with a variety of learning needs. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Behavior Analysis minor OR Visiting University Student |
| SPE | 450 | Professional and Ethical Practice in Behavior Analysis Service and Supervision | Provides a comprehensive overview of the Behavior Analyst Certification Board (BACB) Ethics Code for behavior analysts, emphasizing responsible conduct of a behavior analyst, respect for client dignity, confidentiality and ethics in supervision. Students examine common ethical dilemmas and research the history, trends and issues within human services fields. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Behavior Analysis minor OR Visiting University Student |
| SPE | 478 | Student Teaching: Special Education (Grades K-12) | Student teaching in special education classrooms grades K-12: synthesized experience in curriculum, instruction, assessment and classroom management. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 8 | | Prerequisite(s): admission to the Professional Program |
| SPE | 496 | Clinical Experience III | Applies course content in an instructional setting serving students with visual impairments. Emphasizes observation, pupil management, assessment, planning and delivering instruction to students with visual impairments. Continues use of the TAP instructional rubric, the college professionalism rubric, and strategies for co-teaching. Emphasizes focused observation; co-planning with a placement teacher; and co-teaching lessons. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; minimum 56 hours |
| SPE | 501 | Introduction to Research and Evaluation in Education | Overview of educational inquiry from controlled, quantitative to qualitative, naturalistic. Emphasizes locating and critically interpreting published research. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only COE 501 or ECD 503 or PPE 501 or SPE 501 or TEL 501 |
| SPE | 502 | Language and Communication Methods and Assessment | Theory and practice of language and communication development from infancy through adolescence. Explores language and communication disorders in children with and without disabilities and children who are culturally linguistically diverse speakers. Includes phonological processing, syntactical rules and pragmatics/social communication embedded in culture; and how to use formal and informal assessment data for intervention and differentiation of instruction. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 503 | Collaboration, Consultation and Family-Centered Practices | Provides definitions, models, activities and exploration in the various roles in collaboration, consultation and teamwork in the field of special education. Explores connections in depth with families, professionals and support personnel across disciplines and agencies. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SPE 503 or SPE 540 or SPE 541 |
| SPE | 504 | Elementary Methods in Content Areas | Advanced level of development of knowledge and skills of instructional planning and methods of teaching and evaluating in elementary schools. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 550 or SPE 504 |
| SPE | 505 | Collaborative Transition Planning for Students with Moderate to Severe Support Needs | Provides an introduction to transition planning for students with moderate to severe disabilities, focusing on person-centered planning and collaborative practices with families and interagency professionals. Places primary emphasis on understanding employment resources, community participation, collaborative practices, family systems and person-centered planning. Emphasizes understanding diversity in values, beliefs and traditions. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 506 | Advanced Methods Assessment, Curriculum Planning and Instructional Strategies in Moderate/Severe | Prepares teachers with the skills to effectively work with children and young adults with moderate to severe/profound disabilities (i.e., intensive support needs). Topics focus on assessment, curriculum planning and instructional strategies using evidence-based practices. Activities include direct observation and assessment techniques in inclusive environments; designing curriculum within multiple contexts with a focus on access to the general education in inclusive environments; selecting and implementing behavioral, communicative and instructional strategies; collaborative practices; and supporting across the educational lifespan of students. Emphasizes current research-based evidence to support students with intensive support needs. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): TEL 510 or degree- or nondegree-seeking graduate student |

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| SPE | 507 | Augmentative and Alternative Communication for Students with Intensive Support Needs | Focuses on issues and strategies for teaching communication to individuals with intensive support needs (i.e., students with moderate to severe/profound disabilities such as intellectual disability, autism or multiple disabilities). This terminology is reflective of a support-based model of disability rather than a deficits-based model. Discusses specific assessment and intervention strategies as they relate to augmentative and alternative communication systems. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 508 | Serving Students with Moderate to Severe Disabilities | Provides an overview of the characteristics of individuals with moderate to severe disabilities (intellectual disabilities, multiple disabilities, sensory impairment and physical disabilities); characteristics of this population; and the associated support needs in inclusive environments. Topics focus on the historical and legal contexts that influence services for this population; supports-based assessment and instruction; and key issues related to person-centered, collaborative planning for children, youth and adults with moderate to severe disabilities. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 509 | Individualized Positive Behavior Supports for Students with Intensive Support Needs | Knowledge and skills to assess, implement and evaluate positive behavior supports for students with intensive support needs (moderate to severe/profound intellectual disability, autism spectrum disorder, multiple disabilities), terminology reflective of a support-based model of disability rather than a deficits-based model. Students learn and apply the foundations of positive behavior supports, understanding the function of behavior and developing replacement behaviors, and implementing plans from a person-centered perspective that reflects the cultural needs of individuals and their families while drawing on interdisciplinary team members' expertise. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 510 | Assistive Technology Supports for Students with Intensive Support Needs | Focuses on specialized health care needs, policies and procedures for working with students with intensive support needs (i.e., students with moderate to severe/profound disabilities such as intellectual disability, autism or multiple disabilities). This terminology is reflective of a support-based model of disability rather than a deficits-based model. Provides an overview of methods for accommodating students including task or environmental modifications, assistive technology and adaptive equipment options. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 512 | Individuals with Intellectual Disability | Etiology, diagnosis and management of individuals with intellectual disability. Current trends in prevention, programming and teacher preparation. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): graduate student (degree seeking or nondegree seeking). Credit is allowed for only SPE 312 or SPE 512 |
| SPE | 513 | Instruction and Assessment for Learners with Exceptionalities | Focuses on methods, instruction and assessment in special education for K-12 students with mild and moderate disabilities, emphasizing assessment terminology, procedures and ethical principles, reading, writing, behavior and social-emotional learning. Also focuses on collaboration, co-teaching and partnering with families. Builds a foundation for methods and assessment in special education. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 520 | Verbal Behavior | Based on the theories of B. F. Skinner, this course increases student knowledge and understanding of the role of verbal behavior in learning and communication. Students gain experience recognizing the function of communication, applying standardized assessment measures to assess and develop targeted interventions to address communication challenges. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 521 | Foundations of Autism Spectrum Disorders | Increases the understanding of characteristics of individuals with autism. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 522 | Advanced Methods of Instruction and Assessment for Learners with Exceptionalities | Focuses on methods, instruction and assessment in special education for K-12 students with mild and moderate disabilities, emphasizing mathematics, writing, content area learning, social skills, transition, strategy instruction, and self-determination. Extends and builds upon the methods and assessment concepts in previous course work. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): SPE 513 |
| SPE | 524 | Effective Classroom Behavior Management | Addresses behavioral management techniques for children with special needs, including the organization and delivery of instruction and functional behavioral analysis. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|----------------------------------|---|-------|-----------------|---|
| SPE | 525 | Measurement, Data Display, Interpretation and Experimental Design | Examines data collection techniques, design methodologies, visual analysis and interpretation approaches. Students gain expertise and practical experience in the interpretation and application of experimental design to inform decision making. Focuses on evaluation of the effectiveness of interventions through use of behavior analytic technologies in clinical and applied settings. Students learn to interpret and describe behavior in behavior analytic terms and explain concepts and approaches in everyday language. Students research and evaluate skill assessment approaches through strategic review of the behavior analytic literature. Course addresses single-subject methodologies to inform design and delivery of effective instruction and clinical interventions. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 526 | Concepts and Principles of Applied Behavior Analysis | Provides an overview of and introduction to the basic concepts and principles of applied behavior analysis. Students gain understanding of behavior analytic process and terminology, defining and providing examples of concepts and principles and applying to a range of situations. Applied behavior analysis is the process of systematically applying interventions based upon the principles of learning theory to improve socially significant behaviors to a meaningful degree, and to demonstrate that the interventions employed are responsible for the improvement in behavior. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 527 | Behavior Analytic Assessment | Focuses on assessment procedures of applied behavior analysis. Students learn to determine the need for behavior-analytic services; identify, design and prioritize socially significant behavior change goals; conduct assessments of relevant skill strengths and deficits; conduct preference assessments; describe the common functions of problem behavior; conduct a descriptive assessment of problem behavior; conduct a functional analysis of problem behavior and interpret functional assessment data. Critically evaluates environmental variables in order to make informed recommendations for behavior change. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 531 | Methods of Applied Behavior Analysis for Exceptional Populations | Methods based on the principles and concepts of applied behavior analysis. Students learn to operationally define problem behavior, conduct functional behavior assessment and generate recommendations for the development of behavior analytic interventions. Students gain knowledge and understanding of specific scientifically valid behavior change procedures. Discusses and applies their corresponding literature base. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 534 | Assessment and Evaluation for Children with Special Needs | Norm-referenced and criterion-referenced assessment and evaluation of student learning to determine eligibility, plan individualized programs, and monitor progress of students with disabilities. Includes assessments in academic areas, language disorders and transition. Emphasizes integration and adaptation of curriculum, instruction and evaluation for all students. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 535 | Curricula, Methods, Technology, and Adaptations in Special Education | Develops strategies for effective adaptation of special education and general education curriculum through use of technology. Includes methods for addressing special needs in reading, math and language disorders. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 536 | Characteristics of Children with Behavioral Disorders | Variables contributing to behavior patterns of behaviorally disordered children. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 538 | Language and Literacy I | Focuses on the theoretical knowledge and pedagogical skills necessary to equip future teachers to plan and implement high-quality reading and writing instruction in a classroom setting. Course objectives and topics are aligned to standards for reading and research from the International Reading Association (IRA), Arizona College and Career Ready Standards (ACCRS), Interstate Teacher Assessment and Support Consortium (InTASC) standards, and the National Reading Panel Report (2000). Focuses on reading readiness, language development, phonemic awareness, phonics, fluency, vocabulary and comprehension. Presents strategies and assessments to support struggling readers as well as a variety of ability levels and cultural and linguistic backgrounds to include English language learners. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): Teachers College graduate student; Credit is allowed for only RDG 531 or SPE 538 |
| SPE | 540 | Family-Centered Practices | Provides definitions, models, activities and exploration in the various roles in collaboration, consultation and teamwork in the field of special education. In-depth exploration of connections with families, professionals and support personnel across disciplines and agencies. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SPE | 541 | Consultation Frameworks and Issues | Models, activities, and roles of educational consultants working with families, professionals, and support personnel across disciplines and agencies. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 548 | Cross-Categorical Foundations: LD, ED, MR, & PI/OHI | Foundations course compares cognitive, motor, and affective developmental and educational issues across LD, ED, MR, and PI/OHI. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 555 | Inclusive Practices for Diverse Learners | Adapting instruction and assessment to meet the needs of all learners in inclusive settings. Includes the creation of plans to address challenging classroom behaviors. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 556 | Internship I | Develops knowledge and skills for effective classroom management, establishing a positive classroom environment, and examining K-12 learner behavior. Provides opportunities for students to engage as a teacher and learner in a classroom setting. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-8 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 557 or SED 557 or SPE 556 |
| SPE | 558 | Special Education Foundations: Law, IEPs, Assessment and Ethical Practice | Provides special education professionals with knowledge and skills to improve the academic achievement and functional performance of children with disabilities, including the use of scientifically based instructional practices, to the maximum extent possible. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 559 | Methods for Teaching Diverse Learners | Apprentice teachers select a specific population, based on placement (mild to moderate or moderate to severe), for individualized investigation. Utilizes practical strategies for curriculum development and IEP implementation. Gains a deeper understanding of their practice by analyzing and reflecting for the purposes of monitoring and adjusting instruction. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Pre-requisite: MEd Special Education (Teacher Certification) major |
| SPE | 560 | Behavior Change Procedures: Implementing Interventions in Behavior Analysis | Examines scientifically validated behavior change procedures. Students gain experience critically analyzing and selecting interventions informed by measurement, data display and interpretation. Students gain experience in application of knowledge by conducting a behavior change project, analyzing, interpreting and presenting results. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 561 | Characteristics/Diagnosis of Learning Disabilities | Theories related to learning disabilities, including identification and characteristics. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 562 | Personnel Supervision and Organizational Behavior Management in Educational Settings | Focuses on the use of data informed procedures for training, management, supervision and support of behavior health practitioners in educational settings. Students gain experience and develop expertise with organizational behavior management (OBM) techniques. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 563 | Philosophical Foundations of Applied Behavior Analysis in Educational Settings | Reviews the history and foundations of the field of applied behavior analysis in educational settings. Interprets the impact and utility of radical behaviorism and experimental analysis of behavior in classrooms, clinics, homes and community settings. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 564 | Controversial Therapies; Science, Fad and Pseudoscience in Educational Settings | Investigates the role and impact of fads, pseudoscience, false beliefs, dubious assumptions and spurious reasoning on treatment decisions of professionals, politicians, educators, parents and clients in educational settings. Interprets philosophical positions and traditions that influence and inform consumers in selection of treatments. Examines and designs responsible evaluation and strategies for effective communication. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 565 | Behavior Change Systems | Focuses on applied behavior analysis-based behavior change systems and procedures. Students learn to identify, implement, manage and supervise interventions based on fundamental elements of behavior change. Addresses behavior change considerations, including ethical use of behavior change systems and ongoing data collection for fidelity and progress monitoring. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): SPE 531; SPE 566; degree- or nondegree-seeking graduate |
| SPE | 566 | Applied Behavior Analysis in Inclusive Settings | Examines definitions, characteristics, assumptions and basic principles of applied behavior analysis. Describes and applies fundamental elements of behavior change, including reinforcement schedules, modeling, shaping, chaining and other behavior change procedures. Activities center on the design and delivery of social skill interventions with individuals with special needs in inclusive settings. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SPE | 567 | Ethics of Applied Behavior Analysis | Addresses knowledge and application of the Behavior Analyst Certification Board (BACB) Ethics Code for Behavior Analysts. Examines and resolves ethical dilemmas which may be encountered by behavior analysts. Addresses roles and responsibilities of members of a multidisciplinary treatment team composed of educators, behavior analysts, parents, learners and other professionals. Students conduct risk-benefit analysis of evidence-based treatment approaches and develop declarations of professional practices and procedures for behavior analysts. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 568 | Behavior Assessment | Focuses on critical aspects of applied behavior analysis, experimental design and the identification and implementation of effective assessment methodologies. Addresses client-centered responsibilities of the behavior analyst including problem identification, measurement, assessment, data collection and analysis. Students gain experience conducting functional behavior assessment and stimulus preference assessment to inform intervention design. Emphasizes measuring and ensuring treatment integrity. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): SPE 531; SPE 566; degree- or nondegree-seeking graduate. Credit is allowed for only SPE 568 or SPE 598 (Behavioral Assessment) |
| SPE | 569 | Research Methods in Applied Behavior Analysis | Students gain expertise and practical experience in the interpretation and application of experimental design to inform decision making. Focuses on evaluation of the effectiveness of interventions through use of behavior analytic technologies in clinical and applied settings. Students learn to interpret and describe behavior in behavior analytic terms and explain concepts and approaches in everyday language. Students research and evaluate skill assessment approaches through strategic review of the behavior analytic literature. Course addresses single-subject methodologies to inform design and delivery of effective instruction and clinical interventions. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; SPE 531; SPE 566 |
| SPE | 570 | Internship II | Develops knowledge and skills for effective classroom management, establishing a positive classroom environment and effective lesson delivery. Reinforces the application and evaluation of the NIET Aspiring Teacher Rubric. Provides opportunities for students to engage as a teacher and learner in a classroom setting. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-8 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 567 or SED 567 or SPE 570 |
| SPE | 571 | Apprentice Teaching I | Semester one of apprentice teaching in an elementary (EED)/secondary (SED)/special education (SPE) setting for students who are currently working as the teacher of record. Introduces classroom management, curriculum, instruction and assessment supervised and reinforced by a clinical instructor. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 571 or SED 571 or SPE 571 |
| SPE | 572 | Testing and Measurement in Gifted Education: Methods | Covers current and historical aspects of testing and measurement in the field of gifted education. Topics include: the history and purposes of IQ testing, definitions of various types of tests, purposes of testing for gifted education services, ability tests and achievement measures, how tests are used in Arizona in programs for gifted learners. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SPE 572 or SPE 591 (Testing&Measurement Gifted Ed) |
| SPE | 573 | Differentiating Instruction for Gifted Learners: Teaching Methods | Explores the design of differentiated curriculum and instruction for gifted learners in elementary and secondary education | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only SPE 573 or 591 (Diff Curriculum Gifted Child) |
| SPE | 574 | Apprentice Teaching II | Semester two of apprentice teaching in an elementary (EED)/secondary (SED)/special education (SPE) setting for students who are currently working as the teacher of record. Reinforced application of developing proficiency in classroom management, curriculum, instruction and assessment occurs through supervision and individualized support by a clinical instructor. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 574 or SED 574 or SPE 574 |
| SPE | 575 | Survey, Issues, and Foundations for the Exceptional Student | Explores the foundations of special education through characteristics and eligibility of exceptional students. Analyzes historical, political, social, and legal factors impacting special education services for exceptional students. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 576 | Internship III | Develops knowledge and skills for creating learning experiences for a range of learners, executing instructional cycles, using assessment methods and reflecting on best teaching practices. Provides opportunities for pre-service educators to engage as a teacher and learner in a professional experience setting. | Y | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-8 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 576 or SED 576 or SPE 576 |
| SPE | 578 | Residency/Student Teaching in Special Education | Student teaching in special education school classrooms. Synthesized experience in curriculum, instruction and classroom management. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SPE | 579 | Apprentice Teaching III | Semester three of apprentice teaching in an elementary (EED)/secondary (SED)/special education (SPE) setting for students who are currently working as the teacher of record and enrolled in the masters plus certification program. Continued development toward proficiency in classroom management, curriculum, instruction and assessment. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 579 or SED 579 or SPE 579 |
| SPE | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 581 | Dual Certification Residency | This eight-week residency experience meets the special education (SPE) requirement for dual certification in elementary and special education. Includes practicum-based experiences and supervision in curriculum, instruction and classroom management. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-8 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 585 | Creativity: Foundations of Research and Development in Gifted Education | Explores nature of creativity in terms of philosophical underpinnings, empirical evidence, human development, self-actualization, and the ecology surrounding the creative event. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 586 | Advising the Gifted Learner: Social and Emotional Needs | Focuses on educational planning and guidance, social and emotional development, and family problem solving regarding needs of gifted children. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 587 | Special Populations in Gifted Education | In-depth analysis of major controversies in educating the gifted, including nature/nurture, the role of mental tests, and sex differences. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 588 | The Gifted Learner: Foundations of Identification, Education and Development | Gifted children's characteristics, identification, needs, school and home environments, definitions, and misunderstandings. Research by Pressey, Stanley, Terman, and others. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 589 | Gifted Education Programming: Models, Methods and Services | Approaches for designing and implementing optimal and comprehensive gifted education services in a broad range of educational settings. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Special Education Graduate student |
| SPE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 593 or SED 593 or SPE 593 |
| SPE | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Special Education Graduate student |
| SPE | 596 | Residency/Student Teaching | Student teaching in elementary (EED), secondary (SED), or special education school classrooms. Synthesized experience in curriculum, instruction and classroom management. | Y | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-8 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 596 or SED 596 or SPE 596 |
| SPE | 597 | Capstone | Applies theoretical and practical information presented through coursework in a real-world setting. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Special Education Graduate student |
| SPE | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SPE | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Special Education Graduate student |
| SPE | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Pre-requisite: Special Education Doctoral student |
| SPF | 301 | Culture and Schooling | For the professional teacher preparation program. Overview of the cultural, social, and political milieus in which formal schooling takes place in the United States. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| SPF | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-12 | | |
| SPF | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| SPF | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Pre Requisite: Must be Post Bacc UG, Non Degree Graduate or Degree Graduate |
| SPF | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Pre Requisite: Must be Post Bacc UG, Non Degree Graduate or Degree Graduate |
| SSH | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | |
| SSH | 300 | Food and Culture | Uses the case of food to explore how culture shapes human well-being, including the impact of political-economic systems on what we have and chose to eat. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (L or SB) & C | Pre-requisite: ENG 101, 105, 107, or ENG 111; Credit is allowed for only ASB or SSH 300 |
| SSH | 301 | Global History of Health | Examines disease and health transitions in broadest context of human history, from primate ancestors to hunter-gatherers, to transcontinental contact, colonialism, industrialization, urbanization. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 301 or HST 301 or SSH 301 OR Visiting University Student |
| SSH | 314 | HIV/AIDS: Science, Behavior, and Society | Overview of the basic biological, behavioral, and psychosocial aspects of HIV disease and AIDS. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only MIC 314 or SSH 314 OR Visiting University Student |
| SSH | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | |
| SSH | 402 | Community Partnerships for Global Health | Supervised community-based activities relevant to a global perspective on contemporary U.S. health. Addresses community-identified issues using appropriate methodologies. | N | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3-9 | SB | Prerequisite(s): ASB 100; minimum 45 hours; Credit is allowed for only ASB 452 or SSH 402 OR Visiting University Student |

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| SSH | 403 | Cross-Cultural Studies in Global Health | Direct investigations of society, ecology, and health in international settings. | N | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3-6 | (L or SB) & G | Prerequisite(s): ASB 100; ENG 101, 105, or 107 with C or better; Credit is allowed for only ASB 443 or SSH 403 OR Visiting University Student |
| SSH | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | |
| SSH | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SSH | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | |
| SSP | 142 | Sports Performance Practical Training | Introduces protocols used when preparing athletes to perform at the highest intensity levels. Practical experience enables better appreciation of science and precise detail required to deliver effective sports performance programs and recognition of differences in training protocols among populations. | N | LEL | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |
| SSP | 242 | Resistance Training Foundations for Performance | Applied course that reviews the fundamental science behind resistance training and provides the student with opportunities to improve execution and learn appropriate coaching strategies for the foundational lifts used in a sports performance setting. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Pre- or corequisite(s): SSP 142 with C or better if completed OR Visiting University Student |
| SSP | 275 | Experiential Seminar for Sports Science | Experiential course designed to introduce students to the various career opportunities in the field of sports performance training or sports science. Students review current research, training concepts, discuss evidence-based practice in sports performance. Explores guest speaker and peer discussions on current trends in the field. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 101; Pre- or corequisite(s): SSP 242 OR Visiting University Student |
| SSP | 315 | Exercise and Sport Physiology | Develops an understanding of the body's abilities to perform various types and intensities of exercise and sport, to adapt to stressful situations, and to improve its physiological capacities. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BIO 160 or 201 with C or better; Corequisite(s): SSP 316 (EXW 316) OR Visiting University Student |
| SSP | 316 | Exercise and Sport Physiology Laboratory | Allows for exploration and application of exercise physiology theories in controlled experiments measuring performance capacities. | N | LAB | N | GNA | College of Health Solutions | College of Health Solutions | 1 | | Prereq(s): BIO 160 or 201 w/C or better; Coreq(s): non-Exercise & Wellness BS or non-Kinesiology BS maj: SSP 315 (EXW 315); Pre- or coreq(s): Exercise & Wellness BS or Kinesiology BS maj: KIN 340 w/C or better if completed OR Visiting University Student |
| SSP | 320 | Coaching Leadership, Performance Team and Facility Management | Discusses leadership traits and philosophies necessary to be an impactful coach and team leader. Reviews management details necessary to successfully operate a performance center and meets the business acumen competencies for the NSCA Certified Strength and Conditioning Specialist (CSCS) examination. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only EXW 320 or SSP 320 OR Visiting University Student |
| SSP | 325 | Applied Anatomy and Biomechanics of Sport and Movement | Provides a detailed introduction into the mechanics of motion and the underlying anatomy that provides the structure for that motion. Students learn to appreciate the consequences of external forces, how the body generates internal forces to maintain position, the consequences on the structure of handling the forces and an applied knowledge of how the result of these forces is motion. Emphasizes applying biomechanical principles to analysis of human performance and understanding the background for movement optimization science and the reduction of injury potential through movement correction. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): BIO 201 with C or better; KIN 101 with C or better OR Visiting University Student |
| SSP | 423 | Performance Testing and Technology | A detailed presentation of laboratory and field-based methods used to evaluate athletic performance and measure effectiveness and progress of sports performance training routines. Students are shown the skills to evaluate the most effective tools, techniques and technologies available to carry out individual and team based assessments. Students are exposed to the best practices of performance testing and the wide range of available methods to determine different performance measures, allowing them to make the most effective and cost-efficient choice when asked to make those decisions in the field. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): SSP 315 (EXW 315); SSP 316 (EXW 316); SSP 325 OR Visiting University Student |

| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
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| SSP | 434 | Plyometrics, Sports Movement and Conditioning | Applied course providing students with experience and knowledge in plyometric exercise, sprint technique, sports movement skills and sport conditioning program design. Information applies to professionals working with individuals in whom a major goal of their physical activity program is to maximize human performance potential either for personal fitness goals or success in specific sports or for applications in occupational athletes (military, fire and police). Guides students in development of techniques and skills critical to safe, effective and motivating instruction of advanced speed, agility and conditioning exercises and programs for varying individuals and teams. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): SSP 325; Pre- or corequisite(s): SSP 315 (EXW 315); Credit is allowed for only EXW 534 or SSP 434 (or EXW 434) OR Visiting University Student |
| SSP | 460 | Resistance Training Application and Theory | Covers advanced resistance training and performance programming methodologies. Applies to professionals working with individuals in whom a major goal of their physical activity program is to maximize human performance potential either for personal fitness goals or success in specific sports or for applications in occupational athletes (military, fire and police). Guides students in development of techniques and skills critical to safe, effective and motivating instruction of advanced resistance training exercises and programs for varying individuals and teams. Addresses a significant number of core competencies identified for the NSCA Certified Strength and Conditioning Specialist (CSCS) examination. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 215, EXW 216, or SSP 242 with C or better; minimum 60 hours; Credit is allowed for only SSP 530 (or EXW 530) or SSP 460 (or EXW 460) OR Visiting University Student |
| SSP | 461 | Performance Programming Components and Periodization | Culminating course allows students to construct complete performance training programs using all of the performance activity components (power, conditioning and strength) learned throughout the degree program. Students select how to apply correct periodization models to their program designs based on athlete or client needs and experience. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s) with C or better: EXW 330, KIN 335, or SSP 325; KIN 340 or SSP 315 (EXW 315); Credit allowed for only SSP 461 or EXW 494/598 (Plyometrics & Power Transfer Exercise) or EXW 598 (Plyometrics & Power Training) OR Visiting University Student |
| SSP | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): SSP 275 with C or better; SSP 315 (EXW 315) with C or better; SSP 325 with C or better |
| SSP | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SSP | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-3 | | |
| SSP | 501 | Data Collection, Analysis and Interpretation in Strength and Conditioning | Discusses the use of evidence-based practice and scientific principles to assess athletes, analyze the results and interpret the data for application. Provides a comprehensive understanding of the theories and methods which provide the framework for implementing strength and conditioning programs. Explores research methods and examines ethical and cross-cultural considerations when collecting testing data. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SSP | 530 | Advanced Performance Programming | Covers the application of periodization principles to the design of a comprehensive performance-based training program including appropriate assessment and recovery strategies. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 530; KIN 540 |
| SSP | 534 | Measurement and Monitoring in Sport and Fitness | Sports and/or tactical performance coaching involves the integration of athlete monitoring and readiness techniques. Presents the student with the assessment knowledge necessary to provide feedback for the sport coach and athlete to utilize in planning their performance. Covers information regarding the theory behind quantitative analysis techniques, proper equipment usage, data processing, and the connection of all of the above to exercise science principles. Students also gain experience utilizing advanced equipment and technologies common in the performance field. Additionally, students make recommendations and assign exercises to correct impaired movement, when appropriate. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 540 |
| SSP | 560 | Performance Sports Coaching | Discusses the use of evidence-based practice and scientific principles to design the optimal training session for athletes. Application of lessons learned from motor learning, skill acquisition and sport psychology shift the focus of training sessions to learning rather than performance outcomes. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Strength and Conditioning MS student |
| SSP | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | PRA | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SSP | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SSP | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SSP | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SSP | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SST | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-3 | | |
| SST | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| SST | 220 | Introduction to Social Transformation | Introduces key concepts in the study of social change, social innovation, and social transformation. Studies examples of social movements, social activism, community organizing, and coalition building and how such efforts have transformed society and culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Credit is allowed for only APA 220 or JUS 220 or SST 220 |
| SST | 235 | Disability, Justice and Advocacy | Overarching history of the disability rights movement and how it is similar to and different from other civil and rights movements. Examines how policies and activism are interconnected within this movement, in addition to looking at other human categories related to disabilities such as gender, sexuality, race and socioeconomic status. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | C | Credit is allowed for only COM 235 or JUS 235 or SST 235 or WST 235 |
| SST | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| SST | 301 | Mixed Research Methods for American Communities | Provides a foundation in the concepts and tools of community-based participatory research for studying American cultures, including how to identify and utilize appropriate quantitative and qualitative research methods for working with diverse American communities. Students learn to take part in participant observation, conduct surveys, interviews and focus groups as well as explore existing data sets to conduct secondary data analysis and utilize visual and narrative means of data collection and presentation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; MAT 117, 142, 170 or completion of MA General Studies course; minimum 2.00 GPA; minimum 24 hours |
| SST | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| SST | 428 | Critical Race Theory | In-depth analysis of the ways in which race has been historically utilized, constructed, and contested in American civil society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only AFR 428, APA 428, JUS 428 or SST 428 OR Visiting University Student |
| SST | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| SST | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-6 | | Prerequisite(s): Barrett Honors student |
| SST | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-6 | | Prerequisite(s): Barrett Honors student |
| SST | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| SST | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-7 | | |
| SST | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-3 | | |
| SST | 501 | Foundations of Social Transformation | Introduces the foundations of social transformation and social change. Looks at social transformation through an interdisciplinary lens and explores the connections between the objective and subjective factors that enable or inhibit social transformation in different contexts. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SST | 510 | Social and Cultural Pedagogy: Theoretical and Practical Issues | Engages students with the academic literature and scholarly debates on social and cultural pedagogy, reviews practical lessons from the field, and provides an overview of different areas of intervention and professional practice. Considers the historical, local, and international dimensions of social and cultural pedagogy, illustrating them with selected case studies. Encourages the study of social and cultural pedagogy using a critical and interdisciplinary perspective. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SST | 520 | Learning Technologies in Native Education | As the Internet and digital devices become more accessible in Indian country, educators are increasingly developing digital systems for formal and informal learning environments. From distance learning systems to digital language learning and apps for informal learning, this course reviews types of educational technologies in different American Indian and Indigenous educational settings, highlighting the relationship among technical affordances, pedagogical approaches, and social impacts. Students (1) understand how technical affordances shape learning in face-to-face and online environments; (2) describe the relationship between digital learning tools and curricular and programmatic objectives; and (3) describe and propose the basic limitations and possibilities of types of educational technologies for specific American Indian and Indigenous educational settings. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SST | 530 | Culture and Education | Examines the relationship between local cultures, local knowledge and education. Drawing from comparative and international education and paying particular attention to the world's most marginalized populations--Indigenous peoples. Additionally, explores historical trajectories of education, the global expansion of schooling, state and international education and language policies, as well as notions of local/Indigenous resistance, agency, response and educational innovation. Three major sections comprise the course: (1) patterns in education and language policy for historically underrepresented and underserved populations; (2) the role of families, communities and local and place-based pedagogies; and (3) alternative models of education toward social transformation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SST 530 or SST 591 (Culture and Education) |
| SST | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| SST | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| SST | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| SST | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| SST | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| SST | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| SST | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| SST | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Social Transformation | 1 | | |
| SST | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| SST | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | IND | Y | Z2 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |

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| SST | 604 | Sexuality Studies | Examines the social construction of sexuality, sexual identities and cultures, including LGBT people and other non-normative gender and sexual formations not captured by modern LGBTQ categories. Studies genders and sexualities that both pre-date current LGBT subjectivities and community formations, as well as develops theoretical and analytic tools to examine future gender and sexual possibilities. Interrogates forms of heterosexuality, heteronormativity and homonormativity, from an intersectional perspective. Examines issues and institutions that impact and are impacted by sexuality as a vector of power, such as sexual stratification, carceral genders and sexualities, reproductive rights/justice, sexual health and justice, HIV/AIDS and disease, sex work, the state and legal system, and transnational and diasporic sexualities, just to name a few. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SST | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| SST | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| SST | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| SST | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-15 | | |
| STC | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 501 | Theories of Data and Society | Surveys the development of social theory with regard to structures of knowledge and data exchange. Prepares students to engage in theory building and deploy theoretical frameworks that inform and support their social research. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 505 | Theories of Social Technology | Examines key theories of social technologies from social and behavioral perspectives. Examines the political dimensions of technologies; technology's role in constructing social structures; and how mobile technologies encourage, structure and delimit social interaction. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 510 | Data Wrangling | Provides a technical grounding in the processes of extracting, processing and combining data for the purposes of understanding social and institutional changes. Introduces structures of the Web, programming for the extraction of data, storing data effectively, and basic tools for manipulating, visualizing, summarizing and transforming collected data. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 512 | Data, Places, People and Things | While the Web continues to be our front door to networked data, the fastest growing segment of internet traffic is produced and consumed by sensors and embedded systems. Examines the ways in which these data may be acquired and used, and how new locative technologies may be prototyped to help understand their social impact. | N | LEL | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only STC 512 or STC 598 (Mobile & IoT Systems) |
| STC | 520 | Advocacy and Social Technology | Examines the potential for social technology in advocating for social change. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 525 | Politics and Social Technology | Concerns the political implications of social technology. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 527 | Ethics and Policies of Social Data | Explores the applied ethics of data, and how this relates to public policy, both from a social and an institutional perspective. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 528 | Communicating Data Science | Making use of data means more than just designing algorithms that work consistently. Big data is useless if it cannot be effectively communicated to those who need it, whether that is policy makers, managers or the public at large. Participants acquire techniques that allow them to effectively communicate complex data in writing, verbally, visually and through interfaces. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| STC | 530 | Algorithmic Society | Examines perspectives on the algorithmic turn, including the emergence of software studies, big data, platformed sociability and automation. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 535 | Networked Social Technology | Surveys human and social behaviors from the perspective of networks, with an emphasis on social technology. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 536 | Networked Publics | Traces the move from mass society to networked society and the changes this has led to in the public sphere, political participation and systems of governance. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 537 | Technologies of Community | Examines the ways in which communities form, manage themselves, and improve through the use of networked technologies. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 539 | Social Search and Filtering | Traces the role of search (and search engines) in the development of networked knowledge; how this biases social access to information; and the technologies of filtering, ranking and sorting that increasingly affect social access to information. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only STC 539 or STC 598 (Search, Algorithms, and Society) |
| STC | 540 | Critical/Cultural Approaches to Social Technology | Examines critical and cultural studies approaches to social technologies. Explains a critical/cultural studies approach to social issues and the cultural and social dimensions of technologies. Explores how social technologies both shape and are shaped by power and how cultural understandings of technology contribute to the shaping of everyday life. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 545 | Games as Social Technology | Explores how games as networked and collaborative technologies facilitate community formation, interaction and development. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 547 | Political Economy of Social Technologies | Examines the economic, political and material structures of contemporary social and participatory media. Considers patterns of ownership, regulatory policy, corporate ideology and practice, intellectual property, the nature of labor in the information economy, and more, all with an eye toward understanding how social technologies are developed, distributed and deployed. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 550 | Computational Social Methods I | Provides a foundation in the structure of scholarly inquiry and research design in the context of data and society. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 551 | Computational Social Methods II | Extends exposure to advanced computational methods in the practice of social science. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 570 | Social Data Projects | Participants collaborate on a substantial project relating to social use of data. In the process they bring to bear their theoretical and technical skills and demonstrate professional interaction and communication skills. Participants also produce a public portfolio of their work during their graduate program. | N | PRA | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | REC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| STC | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1 | | Prerequisite(s): Social Technologies MA student |
| STC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 599 | Thesis | Supervised research focused on preparation of a thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STM | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1-12 | | |
| STP | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| STP | 226 | Elements of Statistics | Basic concepts and methods of statistics, including descriptive statistics, significance tests, estimation, sampling, and correlation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | CS | Prerequisite(s): MAT 117 or 142 or other course meeting General Studies MA requirement with C or better or ALEKS score of 61 or higher OR Visiting University Student |
| STP | 231 | Statistics for Life Science | Concepts and methods of statistics; display and summary of data, interval estimation, hypothesis testing, correlation, regression. Applications to biological sciences. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | CS | Prerequisite(s): MAT 117 or 142 or higher with C or better or ALEKS score of 61 or higher OR Visiting University Student |
| STP | 280 | Probability and Statistics for Researchers | Methods for data summary, numerical summary measures, probability concepts, discrete and continuous probability distributions, expected values, statistics, sampling distributions, point estimation, and introduction to statistical inference for a single parameter. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | CS | Prerequisite(s): MAT 251, 265, or 270 with C or better OR Visiting University Student |
| STP | 281 | Statistical Analysis for Researchers | Confidence intervals, hypothesis testing, one- and two-factor analysis of variance, simple linear regression, multiple regression, chi-square tests, and introduction to statistical quality control. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): MAT 266 or 271 with C or better; STP 280 with C or better OR Visiting University Student |
| STP | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| STP | 298 | Honors Directed Study | Independent study or practicum under the supervision of a faculty member. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| STP | 310 | Design and Analysis of Experiments | Factorial and nested designs, randomized designs, randomized complete block designs, Latin squares, fixed and random effects, expected mean squares, multiple comparisons, and analysis of covariance. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 320 with C or better; STP 226 with C or better OR STP 281 or 420 with C or better OR Visiting University Student |
| STP | 311 | Regression and Time Series Analyses | Simple linear regression, multiple linear regression, indicator variables, influence diagnostics, stepwise selection, logistic regression, introduction to time series models, autocorrelation, and some ARIMA models. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 320 with C or better; STP 226 with C or better OR STP 281 or 420 with C or better OR Visiting University Student |
| STP | 315 | Statistical Computing | Statistical techniques using a professional statistical programming language (e.g., SAS, R). Emphasizes correct methods, writing and presentation of results | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 320 with C or better; STP 226 with C or better OR STP 280, 310, or 311 with C or better OR Visiting University Student |
| STP | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | |
| STP | 420 | Introductory Applied Statistics | Introductory probability, descriptive statistics, sampling distributions, parameter estimation, tests of hypotheses, chi-square tests, regression analysis, analysis of variance, and nonparametric tests. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | CS | Prerequisite(s): MAT 210, 251, 265, or 270 with C or better OR Visiting University Student |
| STP | 421 | Probability | Laws of probability, combinatorial analysis, random variables, probability distributions, expectations, moment-generating functions, transformations of random variables, and central limit theorem. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 267 or 272 with C or better; Credit is allowed for only ACT 415 or ACT 515 or STP 326 or STP 421 or Visiting University Student |
| STP | 425 | Stochastic Processes | Markov chains, stationary distributions, pure jump processes, 2-D order processes, and other topics in stochastic processes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 342 or 343 with C or better; MAT 371 with C or better; STP 421 with C or better OR Visiting University Student |
| STP | 427 | Mathematical Statistics | Limiting distributions, interval estimation, point estimation, sufficient statistics, and tests of hypotheses. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ACT 415 or STP 421 with C or better; STP 281 or 420 with C or better OR Visiting University Student |
| STP | 429 | Applied Regression | Statistical inference for controlled experimentation. Multiple regression, correlation, analysis of variance, multiple comparisons, and nonparametric procedures. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | CS | Prerequisite(s): STP 420 with C or better OR Visiting University Student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| STP | 450 | Nonparametric Statistics | Rank- and order-based tests and estimation procedures for 1 sample and 2 or more related or independent samples, measures of correlation, and introduction to resampling methods, including bootstrap and randomization tests. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): STP 311 with C or better OR Visiting University Student |
| STP | 451 | Quality Improvement | In-depth concentration on statistical process control for attribute and variables data, process capability analysis and measurement systems analysis. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): STP 310 with C or better OR Visiting University Student |
| STP | 452 | Multivariate Statistics | Statistical analysis of multivariate data including methods for preparation and presentation of multivariate data, MANOVA, discriminant analysis, principal component analysis, factor analysis, cluster analysis, random forests and classification trees. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): MAT 343 with C or better; STP 311 with C or better OR Visiting University Student |
| STP | 460 | Categorical Data Analysis | Statistical methods for the analysis of categorical (discrete, count) data. Topics include exact and approximate tests and confidence intervals for one- and two-binomial proportions, contingency tables, generalized linear models, logistic regression and loglinear models. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 272 with C or better; STP 310 with C or better; STP 311 with C or better OR Visiting University Student |
| STP | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z2 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | |
| STP | 485 | Statistics Capstone | Students work in a team and partner with a client to solve a real-world problem requiring statistical analyses. Emphasizes problem development, integration of technical skills, teamwork and communication among the students and with the client. Requires regular meetings and presentations with team, client and faculty advisor. | N | LEL | N | YGB | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Pre-requisite: Senior standing; STP 310, 311, 6 additional hours of upper-division STP excluding STP 492, 493, 498, 499 |
| STP | 486 | Peer Mentoring in STEM | Advanced students learn and apply mentoring skills in science classes or teaching labs. | Y | SEM | Y | YGB | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ACO 486 or BIO 486 or LSC 486 or MAT 486 or PTX 486 or STP 486 OR Visiting University Student |
| STP | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| STP | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| STP | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| STP | 495 | Undergraduate Research | Supervised research in statistical or probability studies. | N | RSC | Y | GNA | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | Prerequisite(s): minimum 45 hours. Credit is allowed for only MAT 494 (UG Research in Math) or STP 495 |
| STP | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-7 | | |
| STP | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-3 | | |
| STP | 501 | Theory of Statistics I: Distribution Theory 3 | Introduces rigorous probability theory, including distributions and expectations of random variables, transformations of random variables and order statistics, generating functions and basic limit concepts. Supplements the understanding of applied statistics with a firm grasp of the probabilistic underpinnings of theoretical statistics. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): graduate student (degree seeking or nondegree seeking); Credit is allowed for only STP 501 or STP 598, Theory of Statistics I |
| STP | 502 | Theory of Statistics II: Inference | Presents techniques and basic results of mathematical statistics at a rigorous level. Develops the structure of statistical inference procedures, including the principles of data reduction, theory of estimation, confidence sets, hypothesis testing, and prediction for common parametric models. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): STP 501 with B- or better; Credit is allowed for only STP 502 or STP 598, Theory of Statistics II |
| STP | 505 | Bayesian Statistics | Provides knowledge of Bayesian statistical methods. Covers the essential conceptual ideas for Bayesian analysis and discusses a variety of computational ideas that facilitate a Bayesian analysis in real-world applications. Assumes a mathematical and statistical maturity that is required for admission as a graduate student in statistics, including exposure to mathematical proof, linear algebra, multiple semesters of calculus, exposure to coding and a basic course in statistical concepts and methods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only STP 505 or STP 598 (Bayesian Statistics) |
| STP | 526 | Theory of Statistical Linear Models | Multinomial distribution, distribution of quadratic forms, full and nonfull rank models, generalized inverses, unbalanced data, variance components, and the large sample theory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|------------------------------------|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| STP | 527 | Statistical Large Sample Theory | Types of convergence, central limit theorems, theory of maximum likelihood estimation, efficiency, robustness, influence functions, theory of bootstrap methods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 530 | Applied Regression Analysis | Method of least squares, simple and multiple linear regression, polynomial regression, analysis of residuals, dummy variables, and model building. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 531 | Applied Analysis of Variance | Factorial designs, balanced and unbalanced data, fixed and random effects, randomized blocks, Latin squares, analysis of covariance, and multiple comparisons. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 532 | Applied Nonparametric Statistics | One-sample test, tests of 2 or more related or independent samples, measures of correlation, and tests of trend and dependence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 533 | Applied Multivariate Analysis | Discriminant analysis, principal components, factor analysis, cluster analysis, and canonical correlation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 535 | Applied Sampling Methodology | Simple random, stratified, cluster sampling; variance estimation in complex surveys; nonparametric superpopulation approaches; nonresponse models; computational methods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 540 | Computational Statistics | Presents computational tools for statistical inference and data analysis. Uses R software (the lingua franca of statistics) in a wide variety of examples. Emphasizes simulation of random variables, Monte Carlo experiments, evaluation of statistical models via cross-validation, construction of confidence intervals via bootstrap and hypothesis testing via permutations. Focuses on the numerical solution of least squares problems, on stepwise methods for model building and on estimation of regression models for high-dimensional data. Presents computational tools for maximum likelihood estimation with an emphasis on estimation of logistic regression models. Assumes a mathematical and statistical maturity that is required for admission as a graduate student in statistics, including mathematical proofs, linear algebra, multiple semesters of calculus, coding and statistical concepts. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only STP 540 or STP 598 (Computational Statistics) |
| STP | 550 | Statistical Machine Learning | Modern computing power has enabled the development of powerful tools for uncovering complex high-dimensional relationships in data. These tools form the basic components of the broad interrelated areas known as statistics, machine learning, big data, artificial intelligence and data science. Covers the methods which are most important in applications of statistical machine learning. Focuses on developing an intuitive understanding of these methods and their practical application. Useful background knowledge includes basic computing skills (e.g., R or python), linear algebra and calculus (preferable some exposure to multivariate calculus). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only STP 550 or STP 598 (Machine Learning / Statistical Learning) |
| STP | 551 | Time Series Analysis | Familiarizes students with and enables them to implement univariate and multivariate modern time series models. Considers univariate time series models including the family of autoregressive (fractionally) integrated moving average (ARIMA) models, dynamic linear models (aka state-space) models, Markov switching models, generalized autoregressive conditionally heteroskedastic (GARCH) and stochastic volatility (SV) models. Considers multivariate time series models including vector autoregressive (VAR) models, factor-augmented VARs, dynamic factor models and various time-varying covariance models. The inferential approach of this course is predominantly Bayesian, so briefly introduces key ingredients of Bayesian inference, model selection and criticism. Introduces the main Monte Carlo methods for Bayesian inference, such as MC integration, sampling-importance-resampling (SIR), Markov chain Monte Carlo (MCMC) and sequential MC (SMC). All classroom examples and implementations as well as projects are carried out by the open-source statistical software R. Useful background knowledge includes basic computing skills (e.g., R or python), linear algebra and calculus (preferably some exposure to multivariate calculus). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only STP 551 or STP 598 (Time Series) |
| STP | 560 | Experimental Statistics in Biology | Principles of experimental design, hypothesis testing and advanced data analysis in the biological sciences using statistical software (R and/or SAS). Applies statistical topics to biological data and emphasizes the identification of the appropriate statistical methodology. Topics include exploratory data analysis with visualization, experimental design, categorical data analysis, generalized linear modelling, survival analysis, CART methods and power analysis. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; BIO 614 |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| STP | 581 | Statistical Consulting Clinic | Provides practical experience in the application of statistical theory and methods to problems from a wide variety of disciplines, exposing students to a diverse range of data types and clients. Develops nontechnical consulting skills, for example explaining statistical concepts to non-statisticians, writing reports, and making oral presentations. | N | PRA | Y | GNA | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): STP 530 with B or better; STP 531 with B or better; Credit is allowed for only STP 581 or STP 598 (Statistical Consulting) |
| STP | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | |
| STP | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-15 | | |
| STP | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1 | | |
| STP | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-15 | | |
| STS | 101 | Introduction to Science, Technology and Society | Overview of the basic issues, definitions and literature involved in the study of science, technology and human systems. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Credit is allowed for only STS 101 or STS 304 OR Visiting University Student |
| STS | 102 | Engineering for All | Challenges students to uncover hidden valuable connections among a variety of disciplines while creatively seeking and solving problems in teams. Students learn and practice skills for how groups function and identify innovation while addressing the tensions between our inherent drives to seek and solve, to share and to sell. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Credit is allowed for only ASU 194 (Engineering for us all) or STS 102 |
| STS | 110 | Global Technology and Development | Introduces awareness and understanding of how technology, processes of globalization, and society influence one another. Credit is given for only STS 317 or 110. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB & G | Credit is allowed for only STS 110 or 317 |
| STS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |

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| STS | 235 | Technology and Urban Systems | Focuses on the relationship between technology and urbanization, especially on how technological innovation and change impact all aspects of urban systems, including urban social and economic development, sustainability, governance, environmental, and community change. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| STS | 260 | Politics of Science and Technology | Explores the relationship among government, politics, science, and technology, especially the interdependence of public policy and science and technological pursuits. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | |
| STS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| STS | 301 | Research in Science and Technology Studies | Examines methods of inquiry in the social sciences with emphasis on STS, including both qualitative and quantitative approaches, philosophy of science, and scientific revolutions. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | |
| STS | 302 | Philosophy of Science and Technology | Focuses on the nature and implications of science as a body of knowledge, set of practices, specific methods, and how these differ from other human enterprises and activities. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| STS | 303 | History of Science and Technology | Examines the history of technology within social, cultural, political, and economic contexts and the critical relationship between society and technology. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | H | Prerequisite(s): minimum 45 hours |
| STS | 304 | Science, Technology and Society | Overview of the major issues associated with the study of science, technology, and human systems, including theoretical approaches. Credit is given for only STS 304 or 101. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only STS 101 or STS 304 OR Visiting University Student |
| STS | 305 | Science and Social Theory | Explores the different theoretical traditions that inform social interpretations of science, including awareness of the historical traditions that define these interpretations. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | |
| STS | 306 | Social Effects of Science and Technology | Examines the effects of science and technology on social life and the contexts in which those effects manifest. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | |
| STS | 317 | Science, Technology, and Global Engagement | Overview of international issues associated with both the development and deployment of technologies, including matters concerning international relations. Credit is given for only STS 317 or 110. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB & G | Credit is allowed for only STS 110 or 317 |
| STS | 318 | Science, Technology, and Government | Examines the foundations of the interrelationship of science, technology, and democratic governance, with emphasis on the American political system. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | |
| STS | 325 | Science, Technology, and Public Policy | Examines the interaction of science and technology with American domestic policy. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | |
| STS | 328 | Science, Technology, and Culture | Overview of technology and international cultures, including cultural definitions of science and technology. May intersect issues of culture and religion. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | |
| STS | 329 | Technology in Developing Countries | Covers specific issues relating to building technological capability in newly industrializing countries. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB & G | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| STS | 330 | Information Technology and Globalization | Examines the intersection of advances in information technology and globalization and the impact of these processes on human systems. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB & G | |
| STS | 331 | Ethical Issues in Science and Technology | Examines the interconnections between values and science and technology by examining such topics as computers and privacy, medical malpractice, reproductive technologies, patents, and hazardous facilities. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | |
| STS | 332 | Global Issues in Science and Technology | Examines contemporary international debates in science and technology and how those issues impact globalization. | N | SEM | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | |
| STS | 364 | Science, Technology, and National Security | Examines how changing technologies impact all aspects of national security policy in the United States. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| STS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| STS | 401 | Statistics in Science and Technology Studies | Introduces statistical techniques for the social sciences, including the role and rationale of statistics, descriptive measures, associational measures, and inferential statistics. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | CS | Prerequisite(s): General Studies MA requirement satisfied OR Visiting University Student |
| STS | 425 | Law, Values, Science and Technology | Examines the interconnections of law, values, and science and technology with a view to establishing their reciprocal relationships. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| STS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | |
| STS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | | Prerequisite(s): Barrett Honors student |
| STS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | | Prerequisite(s): Barrett Honors student |
| STS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| STS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-7 | | |

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| STS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-3 | | |
| SWG | 501 | Human Behavior and the Social Environment I | Human behavior in the social environment, focusing on conception through middle childhood, analyzing theories of human development within an integrative multidimensional framework. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 502 | Human Behavior and the Social Environment II | Human behavior in the social environment, focusing on adolescence to end of life and systems-level influences. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 510 | Foundation Practice I | Basic social work methods with emphasis on the problem-solving process as it pertains to individuals, families, and small groups. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work MSW student; Pre- or corequisite(s): SWG 501 with C or better if completed |
| SWG | 511 | Foundation Practice II | Theory and methods of direct practice with groups and selected practice models. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Master or Doctor Social Work student; SWG 510 with C or better |
| SWG | 514 | Bridge Seminar I | Professional social work practice at the master's level. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work - Advanced Standing - Advanced Generalist or Social Work - Advanced Standing - Direct Practice or Social Work - Advanced Standing (Planning, Administration and Community Practice) MSW student |
| SWG | 515 | Bridge Seminar II | Generalist practice problem-solving skills with diverse individuals, groups, families and systems at the master's level. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Pre- or corequisite(s): SWG 514 |
| SWG | 516 | Social Work Skills Seminar | Focuses on the acquisition of practice skills for advanced interaction with individuals, families, groups and communities. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Corequisite(s): SWG 514; SWG 515 |
| SWG | 519 | Research Methods in Social Work | Conceptual foundations and methods of nomothetic research in social work. Includes problem identification, hypothesis formulation, measurement, sampling, and experimental design. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 520 | Domestic Violence Fatality Review | Covers the concept of domestic violence fatality review and applies it to the analysis of de-identified cases. Students closely examine an array of deaths and the social, cultural, economic and historical contexts within which they take place. They build case time lines; identify case antecedents; assess the degree of coordination, communication and collaboration among community agencies, organizations and stakeholders; and develop possible preventive interventions. Case types addressed include: male- and female-perpetrated intimate partner homicides, familicide and suicide. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWG 520 or SWG 598 (Domestic Violence: Fatality Analyses) or SWU 420 or SWU 494 (Domestic Violence: Fatality Analyses) |
| SWG | 526 | Mental Health for Sentencing | Helps justice system professionals understand existing mental health diagnoses, the DSM-5, and how specific DSM-5 categories are associated with specific types of crime. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 527 | Mitigation of Death and Life Cases | Issues and skills for practicing as a mitigation specialist in cases of death and life without parole. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 528 | Presentence Investigations | Examines the functions and objectives of presentence investigation reports and prepares students to perform different types of investigations for limited and general jurisdiction courts for local, state and federal courts. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 529 | Alternatives Penal Sanctions | Prepares individuals to practice as sentencing advocates on defense teams, as consultants to problem-solving courts, or as private presentence investigators hired by the defense to advocate for alternatives to incarceration. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 531 | Social Policy and Services | Conceptual, analytical, and historical perspectives on the social welfare institution. Emphasizes poverty and inequality. Principles of policy analysis. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 533 | Diversity, Oppression and Social Justice in Social Work | Explores issues of social inequality related to disability, ethnicity, gender, race, and sexual orientation. Emphasizes populations of the Southwest. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 540 | Professional Experience I: Introduction to the Profession | Explains the historical origins of the social work profession, discusses the values and ethics unique to the profession, and familiarizes students with resources available at the school and the university for students enrolled in the MSW online program. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work - Standard Program MSW student; Credit is allowed for only SWG 540 or SWG 598 (Professional Seminar I) |
| SWG | 541 | Field Practicum I | With SWG 542, two consecutive semesters (480 hours) of supervised social work practice in an approved placement. | N | PRA | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work MSW or PhD student; Pre- or corequisite(s): SWG 510 with C or better if completed |

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| SWG | 542 | Field Practicum II | See SWG 541 | N | PRA | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work MSW or PhD student; SWG 510 with C or better; SWG 541 with a Y grade; Pre- or corequisite(s): SWG 511 with C or better if completed |
| SWG | 545 | Domestic Violence and National AmeriCorps Service | Provides students with basic domestic violence education and training in preparation for working with domestic violence survivors in the community, as well as support throughout their first semester of internship placement. Provides training in evidence-based interventions, including the implementation of an evidence-based safety decision aid, a tool to enhance risk assessment, safety planning, and referral to additional community resources. Also emphasizes the unique mission of AmeriCorps members through the Corporation for National & Community Service. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWU 416 or SWU 494 (Domestic Violence Americorp Serv Practicum) or SWG 545 |
| SWG | 546 | Approaches to Teen Dating Violence Prevention | Covers theoretical and practice frameworks for understanding and preventing teen dating violence. Specifically, provides an overview of intimate partner violence in the adolescent developmental context, considers risk factors and impacts of victimizations and investigates methods of assessing and preventing dating violence in multiple contexts. Students critically engage with how practitioners and researchers might engage in dating violence risk reduction and prevention throughout the course, building up to a final project in which they develop their own prevention program. Focuses on issues of gender throughout the semester, and highlights the importance of community-based and culturally-responsive prevention and intervention. Students have the opportunity to think critically about the current understanding of dating violence, explore their own attitudes, and develop ideas for effective intervention and prevention | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 554 | Overview of Addictions | Addictions and their impact upon society including alcohol, legal and illegal drugs, gambling, the Internet, sex and pornography. Focuses on the etiology of addictions that impact our society on a micro, mezzo and macro level. Provides an ecological perspective to view human behavior across the life span as it relates to addictive behaviors. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWG 554 or SWG 591 (Overview of Addictions) or SWU 454 or SWU 498 (Overview of Addictions) |
| SWG | 556 | Immigrants and Refugees | Provides basic conceptual approach to understanding immigrant and refugee issues and how these factors influence social work practice with immigrant and refugee populations. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWU 456 or SWG 556 or SWG 591 (Immigrants and Refugees) |
| SWG | 557 | Southwest Borderland Immigration Issues | Reviews immigration history, trends, policies, and legislation. Focuses on immigrant experience from economic, educational, social, political, familial perspectives in Southwestern U.S. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWG 557 or SWU 457 |
| SWG | 558 | Introduction to Behavioral Health Services | Explores mental health. Develops a basic understanding of mental health and co-occurring conditions. Gains an understanding of public- and employer-financed contemporary behavioral health services with a focus on Arizona models. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWU 458 or SWG 558 or SWG 591 (Introduction to Behavioral Health Services) |
| SWG | 559 | Spirituality and the Helping Professions | Provides a framework for spiritually and culturally competent practice with diverse populations. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWU 459 or SWG 559 or SWG 591 (Spirituality & Helping Profession) or SWG 598 (Spirituality and the Helping Professions) |
| SWG | 560 | Legal Issues in Social Work | How the law relates to social work practice, administration and policy. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWU 460 or SWG 560 or SWG 591 (Legal Issues in Social Work) |
| SWG | 561 | Lesbian, Gay, Bisexual, Transgender and Queer Issues | Historical, socio-cultural introduction to lesbian, gay, bisexual and transgender communities and their resilience to challenges and barriers. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWU 461 or SWG 561 or SWG 591 (Lesbian and Gay Issues) |
| SWG | 562 | Global Social Welfare | Analyzes social work's response to international social issues and human need from the perspectives of globalization, development and human rights. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWG 562 or SWG 591 (International Social Work) or SWU 462 or SWU 498 (International Social Work) |

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| SWG | 563 | Multicultural Perspectives on Community Development | Analyzes solutions to contemporary social and economic problems from a global perspective. Focuses on local community issues; helps community members from diverse ethnic and cultural backgrounds understand differences and their impact on social behavior. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWU 463 or SWG 563 or CRD 494, CRD 598, NLM 494, PAF 494, PAF 591, SOS 494, SSH 494, SWG 591, or SWU 498 (Multicultural Perspective on Community Development) |
| SWG | 564 | Critical Issues in Child Welfare I | Promotes the acquisition of critical thinking in relation to systemic child welfare issues, namely racial and socioeconomic inequities, efficacy of interventions and services, and workforce capacities and sustainability. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWG 564 or SWG 591 (Child Networking I) |
| SWG | 565 | Critical Issues in Child Welfare II | Promotes the acquisition of critical thinking in relation to systemic child welfare issues, namely racial and socioeconomic inequities, efficacy of interventions and services, and workforce capacities and sustainability. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWG 565 or SWG 591 (Child Networking II) |
| SWG | 566 | Critical Issues in Child Welfare III | Promotes the acquisition of critical thinking in relation to systemic child welfare issues, namely racial and socioeconomic inequities, efficacy of interventions and services, and workforce capacities and sustainability. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWG 566 or SWG 591 (Child Networking III) |
| SWG | 570 | Aging in Perspective | Biopsychosocialspiritual perspectives on aging, including intergenerational matters, international trends, policies, programs, services and issues unique to populations of the Southwest. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWG 570 or SWG 591 (Aging Soc Wk Perspective) |
| SWG | 571 | Mental Health Aspects of Aging | Older adult mental health assessment, treatment, planning, policy and service delivery from a cross-cultural, interprofessional, intergenerational, international and continuum-of-care perspective. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWG 571 or SWG 591 (Mental Health & Aging) |
| SWG | 572 | Interprofessional Approaches to Healthy Aging | In-depth examination of healthy aging, interprofessional practice and interprofessional practice approaches designed to foster healthy aging for older adults. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 573 | Policies to Promote Healthy Aging | Age-based policy process and various social policies/programs that address financial, medical and psychosocial needs of older Americans. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 576 | War and Disaster | Covers traumatic and stressful aspects of natural and mass disaster and war for individuals, families and communities and implications for working with those affected. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWG 576 or SWG 591 (War and Disaster) |
| SWG | 577 | Traumatic Death: Theory, Counseling and Practice | Explores the various experiences of grief, trauma and bereavement through a phenomenological perspective and using creativity, art, literature, poetry, indigenous wisdom and evidence-based research. Practice techniques and psychosocial care to the traumatically bereaved. Examines the micro, mezzo and macro aspects of death and grief in contemporary society. Theory, philosophy and direct practice with individuals, families and groups experiencing traumatic death and grief. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Pre-requisite: Degree- or Nondegree-seeking graduate; Credit is allowed for only SWG 577, 591 (Trauma & Death Counseling) or 598 (Trauma&Death: Counseling, Theory, &Practice Issues) |
| SWG | 579 | Critical Incident Stress Management | Theory and research behind coping strategies and mechanisms commonly experienced by Emergency Management Teams (EMT) and DHS. Explores topics of stress, trauma, vicarious trauma and mass trauma as experienced by the individual and large populations. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | IND | Y | Z1 | Watts College of Public Service and Community Solutions | School of Social Work | 1-12 | | Prerequisite(s): Master or Doctor Social Work student |
| SWG | 585 | Macro Social Work Practice | Examines communities and human service organizations as social systems. Introduces strategies for initiating planned change. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | IND | Y | Z1 | Watts College of Public Service and Community Solutions | School of Social Work | 1-12 | | Prerequisite(s): Master or Doctor Social Work student |

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| SWG | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Social Work | 1-12 | | Prerequisite(s): SWG 606, 610, 623, or 645 with C or better; Pre- or corequisite(s): SWG 614 with C or better if completed; SWG 632 with C or better if completed; SWG 646 with C or better if completed |
| SWG | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 1-4 | | Prerequisite(s): Master of Social Work student |
| SWG | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | IND | Y | Z2 | Watts College of Public Service and Community Solutions | School of Social Work | 1-12 | | |
| SWG | 603 | Social Work Practice in Health/Behavioral Health Settings | Advanced social work practice in health and behavioral health settings, focusing on enhancement of client functioning and quality of life. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWG 542 with grade of Y or MSW Social Work (Advanced Direct Practice) or MSW Social Work (Planning, Administration and Community Practice) major |
| SWG | 604 | Advanced Social Work Practice in Health | Addresses the crucial social work practice issues of health and healthcare in the new millennium. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work (Advanced Direct Practice) MSW or Social Work (Policy, Administration and Community Practice) MSW student or SWG 542 with Y grade |
| SWG | 606 | Assessment of Mental Disorders | Theories and concepts of mental health and illness. Attention to classification systems and nomenclature used in assessing mental disorders. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work (Advanced Direct Practice) MSW or Social Work (Planning, Administration and Community Practice) MSW student; SWG 511 with C or better; SWG 542 with Y grade |
| SWG | 608 | Ecological Approach to Practice with Children, Youth, and Families | Provides a theoretical and practical orientation to working with children, youth, and families from an ecological strengths perspective. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work (Advanced Direct Practice) MSW or Social Work (Policy, Administration and Community Practice) MSW student or SWG 542 with Y grade |
| SWG | 609 | Advanced Child Welfare Practice with Children, Youth and Families | Furtheres the acquisition of advanced practice skills and strategies for promoting the safety, permanency and well-being of children and families in the context of child welfare social work. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work MSW student; SWG 542 with Y grade or Social Work (Advanced Direct Practice) MSW or Social Work (Policy, Administration and Community Practice) MSW student |
| SWG | 610 | Advanced Social Work Practice III | Knowledge and skills for advanced practice with individual and families. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work - Advanced Standing - Advanced Generalist MSW student OR SWG 542 with Y grade; Pre- or corequisite(s): SWG 640 with C or better if completed |
| SWG | 611 | Family Therapy | Prepares students to develop and practice essential skills to provide family therapy in an ethically and culturally appropriate manner. Students learn to work with diverse family structures such as grandparents raising grandchildren, LGBTQ+ families, single parent families, adoptive families, multigenerational families and refugee families. Applies all topics to families living in Arizona communities. Derives skills from the following theories: Bowenian family therapy, structural family therapy, experiential family therapy, CBT with families, solution-focused approach to family therapy and narrative family therapy. Role plays include: essential skills needed for initial sessions; the dynamics of roles and boundaries within families; intervening with families in the child welfare system; intervening with families experiencing illness or trauma; and significant family issues such as incest, transgenerational trauma, deportation and substance misuse. Prepares students to conduct family therapy in a wide variety of settings and with relevant topics facing families today. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work (Advanced Direct Practice) MSW or Social Work (Policy, Administration and Community Practice) MSW student or SWG 542 with Y grade |
| SWG | 612 | Social Work with Groups | Practices applications of knowledge and skill to social work with groups. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Pre-requisite: SWG 542 with grade of Y or MSW Social Work (Advanced Direct Practice) or MSW Social Work (Planning, Administration and Community Practice) major |
| SWG | 613 | Advanced Social Work Practice in Behavioral Health | This advanced direct practice course builds on the knowledge and skills established in foundation courses by expanding clinical application and skills using selected practice frameworks with corresponding interventions. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work MSW student; SWG 542 with Y grade or Social Work (Advanced Direct Practice) MSW or Social Work (Policy, Administration and Community Practice) MSW student |

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| SWG | 614 | Advanced Generalist Social Work Practice IV | Knowledge and skills for advanced practice with groups and communities. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWG 640 with C or better |
| SWG | 617 | Advanced Social Work Practice with Children and Adolescents | Theory, research, and intervention that focus on children and adolescents. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work MSW student; SWG 542 with Y grade or Social Work (Advanced Direct Practice) MSW or Social Work (Policy, Administration and Community Practice) MSW student |
| SWG | 618 | Advanced Practice in Domestic Violence | Theory, research, intervention, and prevention strategies relevant to child maltreatment, partner abuse, and elder abuse. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWG 542 with grade of Y or MSW Social Work (Advanced Direct Practice) or MSW Social Work (Planning, Administration and Community Practice) major |
| SWG | 619 | Practice-Oriented Research | Accelerated course in application of scholarly and scientific principles to field practice, problem formulation, interventional procedures, and impact assessment. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWG 519 with C or better or MSW Social Work (Advanced Direct Practice) or MSW Social Work (Planning, Administration and Community Practice) major |
| SWG | 621 | Integrative Seminar | Explores the fit between theoretical frameworks and practice with clients. Requires presentation of empirical studies with clients. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWG 606 with C or better; SWG 619 with C or better; SWG 641 with Y; Pre- or coreq(s): SWG 613 with C or better if completed OR SWG 617 with C or better if completed OR SWG 661 with C or better if completed; SWG 642 with Y if completed |
| SWG | 623 | Program Evaluation | Research design techniques and data collection in human service agencies and communities. Analysis for program evaluation and needs assessment. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work (Advanced Direct Practice) MSW or Social Work (Planning, Administration and Community Practice) or Social Work (Advanced Generalist) MSW major OR SWG 519 with C or better; SWG 542 with Y grade |
| SWG | 626 | Crisis Intervention and Short-Term Treatment | Comprehensive analysis of crisis and solution-focused brief intervention strategies and approaches used in advanced social work practice. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 630 | Brief Social Work Intervention | Concepts and techniques of solution-focused, systematic, and strategic approaches to therapy in the context of brief therapy. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWG 542 with grade of Y or MSW Social Work (Advanced Direct Practice) or Social Work (Planning, Administration and Community Practice) major |
| SWG | 632 | Policy Practice | Develops advanced knowledge and skills in social welfare policy analysis, policy formulation, and advocacy and intervention for policy change. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work (Advanced Direct Practice) MSW, Social Work (Advanced Generalist) MSW, Social Work (Planning, Administration and Community Practice) MSW student OR SWG 531 with C or better; SWG 542 with Y grade |
| SWG | 633 | Child Welfare Policy and Programs | Explores the issues and processes shaping child welfare policy and practice to formulate, analyze, implement, evaluate and disseminate evidence-informed policies and interventions at all system levels. Examines state and federal functions associated with oversight, leadership and system redesign in public child welfare. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work (Advanced Direct Practice) MSW or Social Work (Policy, Administration and Community Practice) MSW student or SWG 542 with Y grade |
| SWG | 640 | Professional Seminar II: Applying Theory to Advanced Generalist Social Work Practice | Applies social work's knowledge base to advanced generalist social work. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work - Advanced Standing - Advanced Generalist MSW major OR SWG 542; Credit is allowed for only SWG 640 or SWG 598 (Professional Seminar II) |
| SWG | 641 | Advanced Practicum: Direct Practice I | With SWG 642, two consecutive semesters (480 hours) of supervised social work practice in an approved placement related to the student's career goal. | N | PRA | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work (Advanced Direct Practice) MSW student OR SWG 542 with Y grade; minimum 3.00 GPA |
| SWG | 642 | Advanced Practicum: Direct Practice II | With SWG 641, two consecutive semesters (480 hours) of supervised social work practice in an approved placement related to the student's career goal. | N | PRA | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWG 641 with Y grade; minimum 3.00 GPA |

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| SWG | 643 | Advanced Practicum: Planning, Social Work Administration, and Community Practice I | With SWG 644, two consecutive semesters (480 hours) in social work practice in an approved placement related to the student's career goal. | N | PRA | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prereq(s): Social Work Adv Standing (Policy, Admin & Community Prac) MSW student OR SWG 542 with Y grade; min 3.00 GPA; Pre- or coreq(s): SWG 681 with C or better if completed; SWG 682 with C or better if completed; SWG 685 with C or better if completed |
| SWG | 644 | Advanced Practicum: Planning, Social Work Administration, and Community Practice II | With SWG 643, two consecutive semesters (480 hours) in social work practice in an approved placement related to the student's career goal. | N | PRA | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWG 681 with C or better; SWG 682 with C or better; SWG 685 with C or better; SWG 643 with Y grade; minimum 3.00 GPA; Pre- or corequisite(s): SWG 623 with C or better if completed; SWG 632 with C or better if completed |
| SWG | 645 | The Professional Experience III | With SWG 646, two consecutive semesters (480 hours) of supervised social work practice in an approved placement related to the student's career goal. | N | PRA | N | YGB | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work - Advanced Standing - Advanced Generalist MSW student OR SWG 542 with Y grade; SWG 640 with C or better; Pre- or corequisite(s): SWG 610 |
| SWG | 646 | The Professional Experience IV | With SWG 645, two consecutive semesters (480 hours) of supervised social work practice in an approved placement related to the student's career goal. | N | PRA | N | YGB | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWG 610 with C or better; SWG 645 with Y grade; minimum 3.00 GPA; Pre- or corequisite(s): SWG 614 |
| SWG | 647 | The Domestic Violence Movement: An Intersectional Framework | Provides training and education in preparation for political and community advocacy to address domestic violence and sexual assault from a macro social work perspective. Provides education in the history of the domestic violence movement, including its roots in the feminist perspective and the rape crisis movement. Furthermore, students critically analyze the domestic violence movement, examining the role of marginalized populations within the movement as well as unintended consequences of the movement. Concludes by planning for the future of the domestic violence movement, including next steps in policy advocacy, programming and community engagement. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 648 | Intimate Partner Violence Risk Assessment | Examines the use of intimate partner violence (IPV, aka, domestic violence) risk assessment in social work practice with survivors of IPV. Examines theories and research that explain, define and describe IPV risk assessment; the intended uses and predictive value of the various available IPV risk assessment instruments; and the use of IPV risk assessment instruments in social work practice interventions, including within risk informed collaborative interventions (e.g., the Lethality Assessment Program). Presents an evidence-based practice framework for the use of risk assessment in social work practice. Encourages students to think critically about the use of risk assessment across social work practice settings. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 654 | Introduction to Sexual Abuse | Develops general knowledge and skills for working with persons who have been impacted by sexual abuse. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 655 | Quality of Life, Mastering Mindfulness | The alchemy of a mindfulness practice blends with key elements of a balanced lifestyle to create health and wellbeing. Explores stress reduction, self-care and factors that contribute to quality of life. Through Socratic inquiry and a critical thinking lens, addresses the challenge of making sustainable lifestyle changes toward wellbeing and provides evidence-based practice and skills to support health at every level--physical, mental and emotional. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Assessment of Integrative Health Modalities (certificate) or degree-seeking graduate student |
| SWG | 656 | Treating the Whole Person | Treating the "whole person" is curated through the lens of science, positive psychology, cognitive behavioral therapy and the practice of mindfulness. Through actionable tools, intervention, treatment planning and experiential learning this course balances practice and research with real-world application. The "whole person" is viewed through an ecological perspective which utilizes a person's own cognitive resilience in developing long-term prevention tools to sustain change that takes into account multicultural practices and client preferences. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Assessment of Integrative Health Modalities (certificate) or degree-seeking graduate student |

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| SWG | 657 | Holistic Therapies for Modern Times | We are becoming a global community in regard to health and patient care. Evidence-based practice in North America is just one point of view. Over the past several decades consumers and health care providers have been increasingly curious about seeking information, knowledge and treatment regarding alternative modalities. Health professionals are broadening their viewpoints to integrate other healing traditions in the course of patient treatment. Explores ecopsychology, transpersonal healing, expressive arts, indigenous and traditional healing practices, contemplative and somatic practices. Offers learning opportunities to understand and explore how these teachings can be partnered with allopathic/Western medicine. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Assessment of Integrative Health Modalities (certificate) or degree-seeking graduate student |
| SWG | 661 | Cognitive Behavioral Models and Interventions | Knowledge and skills to understand and apply cognitive-behavioral approaches to treatment (CBT), including diagnostic information and empirically supported interventions targeted to individuals, families and groups across the lifespan. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work (Advanced Direct Practice) MSW student OR Pre- or corequisite(s): SWG 542 with Y grade |
| SWG | 662 | Social Work Practice With Adolescents | Advanced elective focuses on working with adolescents in a variety of intervention settings (e.g., mental health agencies and schools). | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Pre-requisite: SWG 542 with grade of Y OR MSW Social Work (Advanced Direct Practice) or Social Work (Planning, Administration and Community Practice) major; Credit is allowed for only SWG 591 (Social Work Practice With Adolescents) or 662 |
| SWG | 663 | Clinical Trauma Treatment | Explores the assessment and treatment of PTSD in people throughout the lifespan. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Pre-requisite: SWG 542 with grade of Y OR MSW Social Work (Advanced Direct Practice) or Social Work (Planning, Administration and Community Practice) major; Credit is allowed for only SWG 591 (Clinical Trauma Treatment) or 663 |
| SWG | 664 | Evidence-Based Approaches to Treatment of Substance Use Disorders | Knowledge and skills to understand substance abuse disorders, including diagnostic information and evidence-based interventions targeted to individuals, families and groups. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Pre-requisite: SWG 542 with grade of Y OR MSW Social Work (Advanced Direct Practice) or Social Work (Planning, Administration and Community Practice) major; Credit is allowed for only SWG 591 (Treatment Substance Use Disorders) or 664 |
| SWG | 681 | Social Work Administration | Administrative skill building and theory application within human service nonprofit social work settings. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work Advanced Standing (Advanced Direct Practice) MSW or Social Work Advanced Standing (Policy, Administration and Community Practice) MSW student OR SWG 542 with Y grade |
| SWG | 682 | Community Participation Strategies | Reviews strategies to involve citizens and the consumers of social and human services in community decision-making systems. Participation is viewed as a means to facilitate the empowerment of oppressed peoples. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work Advanced Standing (Advanced Direct Practice) MSW or Social Work Advanced Standing (Policy, Administration and Community Practice) MSW student OR SWG 542 with Y grade |
| SWG | 685 | Program Planning in Social Services | Social services planning process; includes needs assessment, goals and objectives, program design, budgeting, management information systems, and program evaluation. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work (Advanced Direct Practice) MSW or Social Work (Planning, Administration and Community Practice) MSW student OR SWG 542 with Y grade; SWG 585 with C or better |
| SWG | 686 | Developing Grants and Fund Raising | Identifies potential funding sources, technical and interpersonal/political aspects of proposal development and fund raising. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 687 | Public Policy and Advocacy | Covers public policy at the federal level, including administrative, legislative and judicial policy. Students understand how to develop congressional policy and methods to engage in advocacy at the federal level to impact macro social work practice. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWG 687 or SWG 591 (Advocacy and Public Policy) |
| SWG | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Watts College of Public Service and Community Solutions | School of Social Work | 1-12 | | Prerequisite(s): Master or Doctor Social Work student |

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| SWG | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 1-12 | | Prerequisite(s): Master of Social Work or Master of Social Work Advanced Standing student |
| SWG | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | SEM | Y | Z1 | Watts College of Public Service and Community Solutions | School of Social Work | 1-12 | | Prereq(s): SWG 606 w/ C or better; SWG 610 w/ C or better; SWG 623 w/ C or better; SWG 640 w/ C or better; SWG 645 w/ Y grade; Pre- or coreq(s): SWG 614 w/ C or better if completed; SWG 632 w/ C or better if completed; SWG 646 w/ Y grade if completed |
| SWG | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | IND | Y | Z3 | Watts College of Public Service and Community Solutions | School of Social Work | 1 | | Pre-requisites: MSW, MSW Adv Standing, or PhD student |
| SWG | 718 | Critical Qualitative Research Methods | Provides a comprehensive overview of critical qualitative research methods in social work and other related disciplines that challenge social inequities and strive for social justice. Students independently design a critical qualitative research project from start to finish. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): doctoral student |
| SWG | 719 | Quantitative Research Methods | Provides the tools for independently designing and conducting methodologically sound, ethical, quantitative research that advances social work and social welfare knowledge. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Pre-requisite: Doctoral student |
| SWG | 720 | Philosophy of Science Issues in Social Work | Critical examination of social science, social work practice, and policy in terms of philosophical assumptions and varying frames of reference. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Pre-requisite: Master or Doctor Social Work student. |
| SWG | 721 | Statistics | Logic and application of statistical methods for analyzing social welfare-based data pertaining to social work. Includes ethical issues concerning the appropriate application, interpretation and use of social research, as well as the potential limitations and biases of applications that fail to adequately consider issues of population diversity. Students learn to independently design a research project from start to finish employing statistical analysis of primary data. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Pre-requisite: doctoral major |
| SWG | 722 | Pedagogy in Social Work | Prepares doctoral students to teach for the profession of social work. Provides an opportunity for students to develop or enhance their philosophy of teaching, their attitudes toward learning, teaching and students, and the knowledge and skills necessary to teach effectively. Explores teaching to the diverse students present in social work programs, the challenges that teaching presents and the responsibilities that come with social work education. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Doctoral student; Credit is allowed for only SWG 722 or SWG 791 (Pedagogy in Social Work) |
| SWG | 723 | Research and Professional Development | Provides an opportunity for doctoral students to concentrate their energies and attention on preparing for the next step of their academic career: moving away from a class-based model of education to a self-directed and independent model of education. Students have an opportunity to focus on the next steps of their academic career, including preparing for academic conferences, developing a research agenda, identifying/engaging with mentors, creating materials for professional development, academic writing and the academic job market. Students have multiple opportunities for independent work and practice presenting their ideas, requesting feedback and facilitating discussion. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): doctoral student; Credit is allowed for only SWG 723 or SWG 791 (Proposal Development) |
| SWG | 731 | Welfare State | Examines the evolution of the welfare state as a problem of political economy. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Pre-requisite: Doctoral student; Credit is allowed for only SWG 731 or 791 (Welfare State) |
| SWG | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 1-12 | | Pre-requisite: Master or Doctor Social Work student. |
| SWG | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 1-12 | | Pre-requisite: Master or Doctor Social Work student. |
| SWG | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Social Work | 1-15 | | Pre-requisite: Master or Doctor Social Work student. |

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| SWG | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | IND | Y | Z3 | Watts College of Public Service and Community Solutions | School of Social Work | 1 | | |
| SWG | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | IND | Y | Z2 | Watts College of Public Service and Community Solutions | School of Social Work | 1-15 | | Pre-requisite: Master or Doctor Social Work student. |
| SWU | 171 | Introduction to Social Work | Descriptive and historical perspectives of social problems, social justice issues and society's response to them. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | SB & H | |
| SWU | 180 | Introduction to Lesbian, Gay, Bisexual and Transgender (LGBT) Studies | A historical, socio-cultural introduction to lesbian, gay, bisexual, transgender, transsexual, and intersexed communities and their resilience to challenges and barriers. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | SB & C | |
| SWU | 181 | Economics: A Social Issues Perspective | Introduces economic principles through the lens of contemporary social issues for social work and related fields. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Credit is allowed for only SWU 181 or SWU 194 (Economic and Social Issues in Perspective) OR Visiting University Student |
| SWU | 182 | Social Services Perspective of Government | Explores levels of government and policy practice in advancing social and economic justice and effective social services within the Southwest. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | SB | Credit is allowed for only SWU 182 or SWU 194 (AZ/National Government: Social Work Perspective) OR Visiting University Student |
| SWU | 183 | Introductory Ethics: A Social Issues Perspectives | Introductory exploration of ethics from a historical and multicultural perspective viewed through the lens of contemporary social issues. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | HU | Credit is allowed for only SWU 183 or SWU 194 (Intro Ethics: Social Issues Perspective) OR Visiting University Student |
| SWU | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 1-4 | | |
| SWU | 250 | Stress Management Tools I | Helps students develop an understanding and behaviors to create a healthy balance in their lives by studying the bio/psycho/social aspects of wellness. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | SB | |
| SWU | 291 | Social Service Delivery Systems | Federal, state, private not-for-profit and for-profit social service delivery system's purpose, structure, and professional roles. Includes 40 volunteer hours. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): PSY 101 or SOC 101; Pre- or corequisite(s): SWU 171 with C or better if completed OR Visiting University Student |
| SWU | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 1-4 | | |
| SWU | 295 | Foundations of Social Work Practice | Theoretical foundation and skill base for effective culturally competent communication and interviewing with individuals, families, small groups, and larger systems. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | SB & C | Prerequisite(s): PSY 101 or SOC 101; Pre- or corequisite(s): SWU 171 with C or better if completed OR Visiting University Student |
| SWU | 302 | Human Biology for Social Workers | Overview of human anatomy and physiology, and the reciprocal relationship between physical and social environments. May be repeated for credit. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | |
| SWU | 303 | Micro Human Behavior and the Social Environment | Human behavior in the social environment throughout the life cycle, analyzing theories of human development within an integrative multidimensional framework. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | L or SB | Prerequisite(s): Comm Advoc & Soc Pol BA major; ENG 101, 105 or 107 with C or better OR ENG 101, 105 or 107 with C or better; PSY 101 or SOC 101; SWU 171 with C or better; SWU 291 with C or better; SWU 295 with C or better OR Visiting University Student |
| SWU | 306 | Ethics in Social Services | Focuses on following the NASW Code of Ethics in making ethical decisions in social service settings. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; PHI 101, PHI 105, or SWU 183; SWU 171 with C or better; SWU 291 with C or better; SWU 295 with C or better OR Community Advocacy and Social Policy BA major OR Visiting University Student |
| SWU | 310 | Social Work Practice I | Introduces social work methods, emphasizing the following skills: relationship development, cross-cultural interviewing, communication patterns, and case-recording. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWU 171 or SWU 271 with C or better; SWU 291 with C or better; SWU 295 with C or better; Pre- or corequisite(s): SWU 303 with C or better if completed |
| SWU | 311 | Integrative Social Work Practice | Social work practice skills emphasizing cross-cultural interviewing, assessment and professional recording. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWU 171 with C or better; SWU 291 with C or better; SWU 295 with C or better; Pre- or corequisite(s): SWU 306; Corequisite(s): SWU 312 OR Visiting University Student |

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| SWU | 312 | Integrative Social Work Practice Skills | Applies social work content from SWU 311 focusing on practice skills and professional behavior. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWU 171 with C or better; SWU 291 with C or better; SWU 295 with C or better; Pre- or corequisite(s): SWU 306; Corequisite(s): SWU 311 OR Visiting University Student |
| SWU | 320 | Research Methods in Social Work | Applies critical research principles and methods to conceptualizing problems, informing social work practice and evaluating practice. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Pre- or corequisite(s): SWU 311 with C or better if completed; SWU 312 with C or better if completed OR Community Advocacy and Social Policy BA major OR Visiting University Student |
| SWU | 321 | Statistics for Social Workers | Teaches social work students how to use and interpret descriptive and inferential statistics in social work practice. May be repeated for credit. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | CS | Prerequisite(s): MAT 142 or an MA general studies course OR Visiting University Student |
| SWU | 332 | Social Policy and Advocacy | Contemporary social, political and economic issues. Special emphasis on advocating for oppressed populations. Analysis and development of social welfare policies and programs. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Community Advocacy and Social Policy major or Public Service and Public Policy major; POS 110 or POS 310 or SWU 182 OR Visiting University Student |
| SWU | 340 | Macro Human Behavior and the Social Environment | Human behavior in the social environment, focusing on groups, organizations and communities and examining theoretical perspectives in a macro context. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | SB | Pre- or corequisite(s): Community Advocacy and Social Policy BA major OR SWU 303 with C or better if completed OR Visiting University Student |
| SWU | 349 | Stress Management Tools II | Developing mindful strategies toward managing stress, developing instinct awareness; healthy decisions in nutrition, relationship with self, others and creating a personal carbon footprint. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | SB | Credit is allowed for only SWU 349 or SWU 294 (Stress Management Tools II) OR Visiting University Student |
| SWU | 350 | Whole Person Health Across the Lifespan | Development of mindful strategies toward managing stress and identification, implementation and integration of skills and knowledge for well-being across the lifespan. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| SWU | 351 | Sustainable Living, Mindful Eating | Addresses issues related to foods we eat, how we eat, and impacts of choices on health, the environment, locally and globally. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| SWU | 374 | Diversity and Oppression in a Social Work Context | Issues of social inequality related to race, ethnicity, gender, sexual orientation, and disability. Emphasizes populations of the Southwest. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | C | Prerequisite(s): Community Advocacy and Social Policy BA major or Social Work BSW major OR Visiting University Student |
| SWU | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SWU | 404 | Social Work Practice in Health Care Settings | Overview of social work practice in a variety of health care settings including inpatient care, outpatient care, community health clinics, hospitals, skilled nursing facilities, hospices and home care. Highlights health care systems, social justice issues in health care and access to health care on both a domestic and global scale. Addresses how future hospital social workers can provide comprehensive care for patients through addressing health care, mental health and substance use concerns through a biopsychosocial approach. Discusses social work practice in the health care setting to be a part of a better and brighter health care future. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWU 171 with C or better; minimum 45 hours; Pre- or corequisite(s): SWU 291 with C or better if completed; Credit is allowed for only SWU 404 or SWU 498 (Introduction Health Practice) OR Visiting University Student |
| SWU | 410 | Social Work Practice II | Knowledge and skills in social work practice with individuals and families. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work BSW major; PHI 101 or PHI 105 or PHI 306 or SWU 183; SWU 311 with C or better; SWU 312 with C or better; Corequisite(s): SWU 412; SWU 413 OR Visiting University Student |
| SWU | 411 | Social Work Practice III | Knowledge and skills in social work practice with groups, communities, and organizations. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work BSW major; SWU 410, 412, or 413 with C or better; Corequisite(s): SWU 414; SWU 415 OR Visiting University Student |
| SWU | 412 | Field Instruction I | 16 hours a week of supervised practice in an approved placement. "Y/E" grade only. | N | PRA | N | YGB | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work BSW major; SWU 311 with C or better; SWU 312 with C or better; minimum 2.00 GPA; Corequisite(s): SWU 410; SWU 413 OR Visiting University Student |
| SWU | 413 | Field Instruction Seminar | Field-focused seminar, including practice evaluation. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work BSW major; SWU 311 with C or better; SWU 312 with C or better; Corequisite(s): SWU 410; SWU 412 OR Visiting University Student |

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| SWU | 414 | Field Instruction II | 16 hours a week of supervised practice in an approved placement. Y/E grade only. | N | PRA | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work BSW major; SWU 410 with C or better; SWU 412 with Y grade; SWU 413 with C or better; minimum 2.00 GPA; Corequisite(s): SWU 411; SWU 415 OR Visiting University Student |
| SWU | 415 | Integrative Field Seminar | Field-focused seminar to help students integrate practice and theory. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work BSW major; SWU 410 with C or better; SWU 412 with C or better; SWU 413 with C or better; Corequisite(s): SWU 411; SWU 414 OR Visiting University Student |
| SWU | 416 | Domestic Violence and National AmeriCorps Service | Prepares students for working with domestic violence survivors in the community and to implement evidence-based practices in domestic violence services. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only SWU 416 or SWU 494 (Domestic Violence Americorp Serv Practicum) or SWG 545 OR Visiting University Student |
| SWU | 417 | Technology, Interpersonal Relationships and Abuse | Examines the influence, impact and role of information communication technologies within interpersonal relationships. Draws from theoretical concepts, current events and student experiences to understand the risks and benefits to incorporating mediated communications into personal relationships. Also examines ways that technology can further abuse and mistreatment of marginalized groups by reviewing research about online harassment, cyberbullying, cyberstalking, monitoring, surveillance, and other forms of online exploitation. Students use readings, lectures and assignments to understand ethical implications when incorporating technology into our social lives. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): minimum 45 hours |
| SWU | 418 | Global Violence Against Women | Examines experiences of and responses to violence against women (VAW) from global perspectives. Throughout the semester students explore drivers and consequences of violence against women across geographic and practice contexts. Examines critical approaches and evidence-based practice modalities. While the focus of the course is on women's experiences of violence, students have opportunities to explore a wide range of identities related to gender, sexual orientation, race, social status and differing abilities. Draws from local expertise in the practice community and offers integration of classroom content with contemporary issues related to both policy and practice at the local, state, national and international levels. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): minimum 45 hours |
| SWU | 420 | Domestic Violence Fatality Review | Covers the concept of domestic violence fatality review and applies it to the analysis of de-identified cases. Students closely examine an array of deaths and the social, cultural, economic and historical contexts within which they take place. They build case time lines; identify case antecedents; assess the degree of coordination, communication and collaboration among community agencies, organizations and stakeholders; and develop possible preventive interventions. Case types addressed include: male- and female-perpetrated intimate partner homicides, familicide and suicide. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only SWG 520 or SWG 598 (Domestic Violence: Fatality Analyses) or SWU 420 or SWU 494 (Domestic Violence: Fatality Analyses) OR Visiting University Student |
| SWU | 432 | Social Policy and Services | Contemporary social, political, and economic issues. Special emphasis on poverty and inequality in the Southwest. Analysis and development of social welfare policies and programs. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work BSW major; ECN 211 or SWU 181; POS 110, POS 310, or SWU 182; SWU 311 with C or better; SWU 312 with C or better; Corequisite(s): SWU 410; SWU 412; SWU 413 OR Visiting University Student |
| SWU | 442 | Child Welfare Practice | Focuses on the characteristics, strengths, and service needs of families and children in the Child Welfare System. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work BSW major; SWU 410 with C or better; SWU 412 with C or better; SWU 413 with C or better OR Visiting University Student |
| SWU | 450 | Mastering Mindfulness | Facilitates mastering mindfulness practice. Students teach a lesson and develop a training proposal that will be implemented and evaluated. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWU 250; SWU 349 |
| SWU | 454 | Overview of Addictions | Addictions and their impact upon society including alcohol, legal and illegal drugs, gambling, the Internet, sex and pornography. Focuses on the etiology of addictions that impact our society on a micro, mezzo and macro level. Provides an ecological perspective to view human behavior across the life span as it relates to addictive behaviors. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only SWU 454 or SWU 498 (Overview of Addictions) or SWG 554 |

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| SWU | 456 | Immigrants and Refugees | Provides basic conceptual approach to understanding immigrant and refugee issues and how these factors influence social work practice with immigrant and refugee populations. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | C | Prerequisite(s): minimum junior standing; Credit is allowed for only SWU 456 or SWU 498 (Immigrants & Refugees) or SWG 556 OR Visiting University Student |
| SWU | 457 | Southwest Borderland Immigration Issues | Reviews immigration history, trends, policies, and legislation. Focuses on immigrant experience from economic, educational, social, political, familial perspectives in Southwestern U.S. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | C | Credit is allowed for only SWU 457 or SWG 557 |
| SWU | 458 | Behavioral Health Services | Behavioral health conditions; their impact on the individual, family and community; and historical and contemporary service models. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only SWU 458 or SWU 498 (Behavioral Health Services) or SWG 558 OR Visiting University Student |
| SWU | 459 | Spirituality and the Helping Professions | Provides a framework for spiritually and culturally competent practice with diverse populations. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only SWU 459 or SWU 498 (Spirituality and the Helping Professions) or SWU 498 (Spirituality & Helping Profession) or SWG 559 |
| SWU | 460 | Legal Issues in Social Work | How the law relates to social work practice, administration and policy. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only SWU 460 or SWU 498 (Legal Issues in Social Work) or SWG 560 OR Visiting University Student |
| SWU | 461 | Lesbian, Gay, Bisexual, Transgender, and Queer Issues | Historical, socio-cultural introduction to lesbian, gay, bisexual and transgender communities and their resilience to challenges and barriers. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | C | Prerequisite(s): minimum junior standing; Credit is allowed for only SWU 461 or SWU 498 (Lesbian/Gay Issues) or SWG 561 OR Visiting University Student |
| SWU | 462 | Global Social Welfare | Analyzes social work's response to international social issues and human need from the perspectives of globalization, development and human rights. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | G | Prerequisite(s): minimum junior standing; Credit is allowed for only SWG 562 or SWU 498 (International Social Work) or SWU 462 |
| SWU | 463 | Multicultural Perspectives on Community Development | Analyzes solutions to contemporary social and economic problems from a global perspective. Focuses on local community issues; helps community members from diverse ethnic and cultural backgrounds understand differences and their impact on social behavior. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): junior standing; Credit is allowed for only SWU 463 or SWG 563 or CRD 494, CRD 598, NLM 494, PAF 494, PAF 591, SOS 494, SSH 494, SWG 591, or SWU 498 (Multicultural Perspective on Community Development) |
| SWU | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | LEC | N | Z1 | Watts College of Public Service and Community Solutions | School of Social Work | 1-12 | | |
| SWU | 488 | Advocacy Strategies | Comprehensive advocacy approach that spans administrative, legislative and community strategies. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWU 303; SWU 306; SWU 320; SWU 340; SWU 350; SWU 374; senior standing OR Visiting University Student |
| SWU | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Social Work | 1-6 | | Prerequisite(s): Barrett Honors student |
| SWU | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | IND | N | Z1 | Watts College of Public Service and Community Solutions | School of Social Work | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| SWU | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 1-4 | | |
| SWU | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | N | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| SWU | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Watts College of Public Service and Community Solutions | School of Social Work | 1-3 | | Pre-requisite: Bachelor of Social Work student |

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| TAM | 505 | Navigating Global and Regional Business Environments | Globalization has dramatically expanded opportunities for international trade, investment and economic development, but potential trade disputes, international financial crises, political risks, international environmental regulations and ethical dilemmas in global business have also emerged. Develops analytical tools for understanding the rapidly changing and dynamic global business environment, especially in the era of 4th Industrial Revolution. With these tools, managers are better prepared to manage risks and take advantage of opportunities in the global economy. Deals with the regional business environment. Begins with a brief geographical, demographic and cultural overview of the region, and develops tools for analysis useful to assessing the business environment. While the emphasis is on a specific region, the same tools could be applied to any region of the world. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TAM 505 or TGM 515 |
| TAM | 511 | Global Accounting: Managing with Numbers | Covers the fundamentals of financial accounting and managerial accounting in a global environment. Financial accounting focuses on providing useful information to users for external decision making. By understanding the structure and process of preparing a balance sheet, income statement and statement of cash flows, students learn how to interpret, analyze and evaluate domestic and international companies. Managerial accounting focuses on providing useful information for internal decision making. By identifying and understanding different types of cost information, students learn how to utilize and prepare cost-volume profit analysis, relevant cost analysis, activity-based costing and performance evaluation within global organizations. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TAM | 521 | Financial Value Creation for Leaders | Covers fundamental concepts and practices of modern financial management within a market-oriented framework. Develops analytical skills for sound financial decision making and management. Emphasizes practical applications and equips learners with tools necessary to make investment and financing decisions in a global setting. Achieves learning via problem solving, video lectures, case analysis and discussions. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TAM | 530 | Data Analytics and Digital Transformation in a Global World | Leaders must harness the data revolution and engender digital transformation in their organizations to be successful within and across societies in the 21st century. Provides knowledge and skillsets in the ever broadening range of types, forms and uses of data, data tools, data technologies and platforms for dynamic decision making. Provides learners with critical skillsets in visualizations and dashboarding that transform mere data into information and insights. Provides knowledge on how organizations benefit from a fourth industrial revolution technologies including sensors (IoT), Blockchain, artificial intelligence (AI), and augmented reality (AR) that move data-driven insights from the front-lines to the boardroom. Also examines implications for stakeholder relationship management, privacy, security and regulations that are shaping and are shaped by the data revolution and digital transformation. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TAM | 531 | Project and Operations Leadership | Strategies and challenges associated with leading projects and designing and improving service and manufacturing processes. Topics include project management, value-chain structures, supplier partnerships, logistics, risk management and value-stream mapping. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TAM | 534 | Global Venture Creation | Covers the most essential topics for first-timer startup founders. Teaches how to quickly identify and test new business ideas, and how to launch a new venture when an idea worth pursuing is found. Provides a good understanding of the entrepreneurial journey and what is involved when launching a new business. Students develop a new business idea, build and test business model and deliver a professional business pitch at the end of the course. Highly experiential and involves a great deal of customer interactions. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TAM 511; TAM 541 |

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| TAM | 541 | Strategy in a Competitive World | Focuses on choices that have an impact on the performance of the entire organization or business start up. Includes the problems faced by, and the decisions made by, executive leaders who have to balance the needs and expectations of stakeholders including customers, shareholders and employees with the requirements of local country practices and government regulations. Analyzes problems and decisions from the point of view of the founder, general manager or chief executive who has responsibility for the welfare of the entire organization. By focusing on policy decisions, concerns the choice of goals as well as the organization; management and deployment of scarce resources to pursue these goals within the context of an imperfect, changing and competitive world. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TAM | 542 | Global Leadership and Personal Development | Personal leadership development is optimized by grounded reflection, self knowledge and continuous learning as we interact with others. Therefore, the personal development part of this course cultivates introspective and skill-building competencies that include conceptual grounding that is based in an experiential learning focus. Discusses self- and other-awareness and engages in group/team interaction, as well as conducts individual self-assessments and individual feedback. In addition to developing ourselves at the personal level, developing ourselves as leaders at the organizational level is imperative to sustainability of the company. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird graduate student |
| TAM | 557 | Global Marketing in a Digital Age | The customer experience is being transformed across the world due to technological transformations but continues to vary across societies and regions. Leaders need to be fluent with the marketing mix (4Ps), namely pricing, product, promotion and place, and how these tools could be used to add value to firms in national and international settings and how they could be effectively applied to create, price, communicate and deliver value to customers and important stakeholders using quantitative and qualitative analysis. Leaders and managers need to be knowledgeable about macro issues such as market orientation, segmentation, targeting and positioning and their strategic implications for customer, competitor and context analysis to be successful. Leaders need to utilize decision tools to create competitive advantage and understand the similarities and differences in domestic and global marketing. Leaders must also be able to harness digital transformation and broader tools of the 4th industrial revolution such as artificial intelligence to design powerful customer experiences and marketing in today's globalized and technological world. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TAM | 582 | Communicating and Negotiating in a Dynamic Global World | Improves global mindset and negotiation skills by focusing on cross-cultural issues, communication issues and negotiation in cross-cultural environments. Provides an in-depth examination of culture, its managerial implications and negotiation. Explores various methodologies to understand and measure national cultures. Embarks on a rigorous and practical journey to examine the impact of national culture, no matter how it is measured, on communication dynamics in a cross-cultural environment and focuses on specific skill sets to help students succeed in such situations. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TAM | 589 | Global Field Seminar | Businesses confront significant differences among countries in regard to industry structures as well as economic, political, societal and cultural forces, especially in the new era of Industry 4.0. These differences create new challenges and opportunities for businesses that extend their activities internationally. Given the tremendous diversity and rapidly changing business environment across the globe, it is important to address (1) the forces impacting a country's business environment, (2) the implications of these factors for business strategies. Provides a framework and an analytical approach to study the dynamics of business environment in a particular region. Conducted on the ground in country, focuses on-site visits to companies and/or government entities, and interactive discussions with speakers. Emphasizes contemporary issues relevant to understanding the business environment. | Y | SEM | Y | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| TAM | 597 | Integrative Project | Integrates business subjects covered in the program online. Helps students fine tune their business plans and prepare presentations for potential fund raising. Provides tools for effective presentation, preparing pitch deck for fund raising and successful negotiation of the term sheets. Learning is achieved via lectures, discussions, presentations and role play as negotiators. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | Prerequisite(s): TAM 511; TAM 521; TAM 534; TAM 541; TGM 505; TGM 540; TGM 551; TGM 579 |
| TCL | 101 | Latinas/os in the U.S. | Historical and contemporary issues in Latina/o communities in the U.S.; focuses on the diverse economic, sociological, cultural and political status. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | HU & C | |
| TCL | 111 | Latinx Cultural Studies | Interdisciplinary analysis of customs, values, belief systems, and cultural symbols; special attention is given to cultural continuity and change. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | HU & C | |
| TCL | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-3 | | |
| TCL | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-4 | | |
| TCL | 201 | Transborder Society and Culture I: Interdisciplinary Approaches | Intensive overview of Mexican origin and Latina/o populations through various sociological, historical, anthropological, economic, political, cultural, literary, and analytical lenses. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | HU & C | |
| TCL | 202 | Transborder Society and Culture II: Contemporary Issues | Examines contemporary transborder culture; issues of health, gender, class, race, sexuality, family, colonialism, community development, migration and well being, within a transnational context. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB & C | |
| TCL | 210 | Introduction to Ethnic Studies in the U.S. | Covers diversity of experiences and relations among racial and ethnic groups in the United States. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | C | Credit is allowed for only AFR 212 or APA 210 or JUS 210 or TCL 210 OR Visiting University Student |
| TCL | 211 | Latinx Poetics | Writing seminar on Latina, Latino and Latinx poetics; intensive creative writing workshop. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | HU & C | |
| TCL | 220 | Transborder Latina/o Expressive Culture | Examines media, literature, performance, and visual art grounded in the historical experiences of transborder Latina/o communities. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | (L or HU or SB) & C | Prerequisite(s): ENG 101, 105, or 107 with C or better or minimum 24 hours OR Visiting University Student |
| TCL | 230 | The Expressive Culture of Latin America and the Caribbean: A Transborder Perspective | Interdisciplinary social science introduction to various forms of cultural expressions found throughout Latin America and the Caribbean region and in Latina/o communities within the United States. Uses a transborder perspective to examine how migration, race, ethnicity, gender, power, history and identity shape and influence different aspects of Latina/o culture and identity. Focuses on the study of a wide array of expressive practices including music, dance, verbal arts, myths and folktales, festivals, sports and food in Mexico, the Spanish Caribbean and their counterpart Latina/o communities in the United States. Class lectures and readings introduce basic concepts such as ethnography, ethno-musicology, culture, representation and globalization. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | (L or HU or SB) & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ASB 220 or TCL 230 OR Visiting University Student |
| TCL | 275 | Culture, Language and Learning | Examines the dynamic and complex interplay of language, culture and learning within and across individuals, groups, institutions and cultures in diverse multicultural, multilingual and transborder contexts. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB & C | Credit is allowed for only ASB 275 or TCL 275 |
| TCL | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-4 | | |
| TCL | 303 | Transborder Theory | Studies historical, cultural, and economic theories contributing to understanding the emergence of Mexican and Latina/o origin populations in the Americas. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only SOC 303 or TCL 303 OR Visiting University Student |
| TCL | 304 | Transborder Research Methods | Emphasizes critical skills: quantitative/qualitative, spatial, archival, and reflexive methodologies, including ethnographic, biographical, historical, and mapping. | N | RSC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB & C | Prerequisite(s): minimum 45 hours |
| TCL | 305 | Transborder Practicum and Field Research | Field work with faculty incorporating practical experience while honing research skills and ability. | N | PRA | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Pre- or corequisite(s): TCL 303 with C or better if completed; TCL 304 with C or better if completed |
| TCL | 310 | Folklore of the Southwest | Analyzes the folk beliefs, practices and expression of Mexican-origin and other Latinx populations. Focus includes art, music, performance and every day practices. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | HU & C | Prerequisite(s): ENG 101, 105, or 107 with C or better or minimum 24 hours |
| TCL | 314 | Transborder Latin American Migration to the U.S. | Historical/contemporary overview of Mexican and other Latin American migration into and within the U.S.; factors affecting population movement, settlement patterns and migrants' incorporation into society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | (L or SB) & H & C | Prerequisite(s): ENG 101, 105 or 107 with C or better; minimum 45 hours; Credit is allowed for only SOC 314 or TCL 314 OR Visiting University Student |
| TCL | 315 | Latinx Family Structures | Traditional and changing family relationships of Mexican-origin and Latinx populations; emphasizes gender and intergenerational relations and impact of modern society on traditional family values. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB | Prerequisite(s): ENG 101, 105, or 107 with C or better or minimum 24 hours |

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| Subject | CatalogNbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|-------------------------------|-------|-----------------|--|
| TCL | 321 | Transborder Community Development and Health | Emphasizes core concepts and practices relevant to regional community development and health, including demographic health indicators, individual, and community models. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only SOC 320 or TCL 321 OR Visiting University Student |
| TCL | 323 | Latina/o Health Issues | Health issues among U.S. Latina/o populations; interplay among political economy, health, family, culture and community. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB & C | Prerequisite(s): ENG 101, 105, or 107 with C or better or minimum 24 hours OR Visiting University Student |
| TCL | 326 | Health of Chicanas and Latinas | Examines gender, ethnicity, and health; critical issues affecting health status of Chicanas and Latinas. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB & C | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| TCL | 327 | Health and Migration | Focuses on health status among various immigrants; health trajectories following migrations, adaptive behaviors, health practices, and the role of policy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better or minimum 24 hours |
| TCL | 328 | Hispanic Religion, Culture and Healing | U.S. Hispanic and Latin American religious history with special attention to what are mestizo hybrid cultures and their healing methods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | HU & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only REL 326 or TCL 328 OR Visiting University Student |
| TCL | 331 | Mexican American History to 1900 | Mexican American history from pre-Hispanic origins to frontier journeys north through 19th-century life in the U.S. Southwest. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB & H & C | Prerequisite(s): ENG 102, 105 or 108 with a C or better; minimum 30 hours; Credit is allowed for only HST 331 or TCL 331 OR Visiting University Student |
| TCL | 332 | Mexican American History Since 1900 | Traces the formation of Mexican American communities across the rural and urban U.S. and examines 20th-century immigration from Mexico. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB & H & C | Prerequisite(s): ENG 102, 105 or 108 with a C or better; minimum 30 hours; Credit is allowed for only HST 332 or TCL 332 OR Visiting University Student |
| TCL | 335 | Historical Studies in Race, Crime, and the Law | Studies the historical relationship between the criminal justice system in the United States and a segment of society that has traditionally faced official and unofficial discrimination: American racial minorities. Focuses on the experiences of Mexican Americans and Africans Americans with the criminal justice system. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): ENG 101 with C or better; ENG 102 with C or better; Credit is allowed for only AFR 335 or HST 323 or TCL 335 OR Visiting University Student |
| TCL | 340 | Chicana/o and Latina/o Politics and Policy | Historical/contemporary analysis of Chicana and Chicano political ideologies, attitudes, strategies, and movements; relations with governmental agencies; and public policy issues. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | L & C | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| TCL | 341 | Latinas/os and the City | Examines major contemporary issues affecting Latina/o communities in U.S. cities. Explores elements and trends in the urban social fabric and landscape associated with a growing Latino presence and its connection with ethnic diversity, transnationalism, cultural resistance and resilience. Pays particular attention to the political economy and planning of Latino communities in the Southwest with selected comparison drawn from other U.S. cities. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | C | Prerequisite(s): ENG 101, 105, or 107 with C or better OR minimum 24 hours OR Visiting University Student |
| TCL | 342 | Social Demographics of Latino Populations | Provides an introduction to social demography of Latinos in the U.S. from the 19th century to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB & C | Prerequisite(s): minimum 45 hours; Credit is allowed for only SOC 343 or TCL 342 |
| TCL | 343 | Latinas/os and the Environment | Examines the nexus among race/ethnicity, migration, class and the built and natural environment. Explores the proposition that Latina/o and other ethnic minorities and socioeconomically disadvantaged populations bear a disproportionate burden of environmental challenges and its consequences for equality, health and quality of life. Key topics include environmental racism, vulnerability and resilience, climate change, community organizing, and mobilization. Pays considerable attention to community-based efforts to deal with environmental problems affecting the Latina/o population in the U.S. Southwest. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): ENG 101 or 105 or 107 with C or better OR minimum 24 hours; Credit is allowed for only ASB 343 or PUP 343 or SOS 343 or TCL 343 or ASB/PUP/SOS/TCL 394 (Latinos and the Environment) |
| TCL | 348 | The Borders of Language | In-depth focus on language use, multilingualism and social life in borderlands contexts, in and out of school. Explores the historical and contemporary dimensions of language use in the borderlands, including Indigenous languages, English and Spanish, and hybrid forms. Also introduces theories and methods in the field of linguistic anthropology. Students conduct research on everyday linguistic practice and connect it to broader sociopolitical realities. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | L | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only ASB 348 or ASB 394 (The Borders of Language) or ENG 348 or ENG 394 (The Borders of Language) or TCL 348 or TCL 394 (The Borders of Language) |
| TCL | 350 | Mexican and Chicana/o Artistic Production | Overview of Mexican and Chicana/o artistic production from colonial times to present; emphasizes religious and folk art. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | HU & C & G | Prerequisite(s): ENG 101, 105, or 107 with C or better or minimum 24 hours |
| TCL | 351 | Chicana/o and Latina/o Art | Intensive analysis of contemporary Chicana/o and Latina/o art movement as appraised within the context of contemporary American art and the art of Mexico. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | HU & C | Prerequisite(s): ENG 101, 105, or 107 with C or better or minimum 24 hours |
| TCL | 352 | Chicana/o Film | Explores how Chicano and Chicana filmmakers have interpreted the Chicano experience through the medium of film. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | C | Credit is allowed for only FMS 352 or TCL 352 |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|-------------------------------|-------|-----------------|--|
| TCL | 355 | Transborder Digital Media Making | Covers digital media-making with a focus on issues relating to the U.S.-Mexico border region, specifically within the Phoenix community. | N | LEL | N | GNA | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FMP 355 or TCL 355 or FMP 394 (Intro to Transborder Digital Media Making) or TCL 394 (Intro to Transborder Digital Media Making) |
| TCL | 360 | Inequality and Diversity in Education | Advanced exploration of various dimensions of diversity in relation to educational systems and outcomes. Through sociological and psychological research, case studies and films, students examine how educational inequality is created and reproduced through individual actions and institutional constraints. Also considers the connection between schooling and human rights and ways in which educational inequality may be addressed. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | L & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; AFR 212, APA 200, APA 210, CDE 232, JUS 210, TCL 210, or minimum 24 hours; Credit is allowed for only AFR 350, APA 350, CDE 350, JUS 365, SOC 350, or TCL 360 OR Visiting University Student |
| TCL | 362 | Urban Communication: Reinventing the Latinx City | Explores and reflects on the impact of mediated representations of Latinx ethnic enclaves in the configuration of notions of community, citizenship and sense of belonging. Also looks at the role of media in identity formation as a way of engaging and challenging cultural, social and political ideologies and struggles in urban contexts. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only COM 362 or COM 394 (Urban Communication: Reinventing the Latinx City) or TCL 362 or TCL 394 (Urban Communication: Reinventing the Latinx City) OR Visiting University Student |
| TCL | 363 | Transborder Mexican and Chicano/a Literature of Southwest North America | Development of Chicana and Chicano literature; study of genres and themes; attention to literary antecedents. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 363 or TCL 363 OR Visiting University Student |
| TCL | 370 | Signs of Aliens: Semiotics of Film and Popular Culture | Introduces semiotics and cultural studies; looks at various meanings ascribed to the sign of the alien. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | HU | Credit is allowed for only FMS 370 or TCL 370 |
| TCL | 371 | Language Hegemony and Culture | Historical and cultural analysis of language and the ideological constructs imposed upon resident populations in the Southwest North American region since 1540. Analyzes the suppositions, ideologies, premises and mechanisms by which Spanish and English became imposed among Native peoples and later national populations of Mexicans during the 19th century and continuing with their descendants and migrating populations crossing the bifurcated border. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 371 or HST 371 or SLC 371 or SPA 371 or TCL 371 or ASB/HST/SLC/SPA/TCL 394 (Language Hegemony & Culture in SW North America) |
| TCL | 373 | Latina/Chicana Issues | Critical examination of the roles Mexican American, Chicana, and/or Latina immigrant women play historically, socially, and politically in the United States and along the border. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB & C | Prerequisite(s): WST 100 (or WST 300) with C or better or minimum 30 hours; Credit is allowed for only TCL 373 or WST 373 OR Visiting University Student |
| TCL | 377 | Arizona, Immigration, Latinos and Politics | Contemporary immigration and its related issues have generated significant debates, reforms and responses by government officials, businesses and private citizens, to name but a few in this country. This course provides a much-needed framework for understanding some of the immigration issues in Arizona and the country generally. It also focuses on some of the political responses by Latinos and their significant mobilization at the local, state and federal levels. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only JUS 377 or POS 377 or SGS 377 or TCL 377 or JUS/HST/POS/SGS/TCL 394 (Arizona, Immigration, Latinos and Politics) OR Visiting University Student |
| TCL | 378 | Globalization: Migration, Mass Media, McDonald's | Explores the impact of globalization on local societies and cultures by focusing on the international migration of peoples, the global expansion of capitalism and global mass media and popular culture. Examines both the socioeconomic causes and consequences of globalization, as well as how local peoples around the world have been affected by, participated in and resisted the forces of globalization. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | (L or SB) & C | Prerequisite(s): ENG 101, 105, 107, or 111 with C or better; Credit is allowed for only ASB 378 or TCL 378 |
| TCL | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-4 | | |
| TCL | 410 | Race, Medicine, and the Body | Explores how body and embodiment and race and ethnicity are constructed within and by biomedical sciences and technology development. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only SOC 410 or TCL 410 OR Visiting University Student |
| TCL | 422 | U.S.-Mexico Border Health | Focuses on identifying health issues affecting Latino/Mexican families in the U.S.-Mexico borderlands using basic epidemiological techniques to analyze regional data. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): TCL 321 with C or better |
| TCL | 424 | Theory and Practice of Community Development and Health | Foundations of methodology of community mapping and establishment of community diagnosis, media literacy and advocacy applications for community-based public health. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB | Prerequisite(s): TCL 321 with C or better |
| TCL | 443 | Political Ecology of the Border | Examines the political ecology of the human-environment relationship in Mexico and on the U.S.-Mexican border. Through case studies, students learn about the most pressing environmental issues facing human populations and their communities on both sides of the U.S.-Mexican border and the various ways in which these issues are dealt with. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 463 or SOS 463 or TCL 443 |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|---|
| TCL | 444 | The Ethnography of Mexico and the Borderlands | Students learn basic principles of ethnographic research and obtain a better understanding of the social, ecological, cultural, political and economic processes affecting people in Mexico and in the U.S.-Mexico borderlands. Through case studies, students become aware of the variety of issues shaping the lives of those living in these regions. Focuses on contemporary issues such as migration, economy, gender, labor, health and the environment. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 464 or TCL 444 or TCL 598 (The Ethnography of Mexico and the Borderlands) OR Visiting University Student |
| TCL | 447 | Gender, Culture, and Development | In-depth analysis of gender roles related to health, family, work, education and politics in developing countries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | (L or SB) & G | Prerequisite(s): ENG 101, 105 or 107 w/ C or better; WST 100 or 300 or minimum 45 hours; Credit is allowed for only SGS 454 or SOS 447 or TCL 447 or WST 447 or TCL 598 (Gender, Culture & Development) OR Visiting University Student |
| TCL | 448 | Teaching Chicana and Chicano Studies in the Schools | Approaches/techniques for infusion of transborder studies content into elementary and secondary curriculum; designed for teachers who work with Mexican and Latino origin students. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): minimum 45 hours |
| TCL | 464 | Latina/o Literature | Development of Latina/o literature. Study of genres and themes; attention to literary antecedents of the new U.S.-based Latina literature. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | (L or HU) & C | Prerequisite(s) with C or better: ENG 101, 105, or 107; ENG 200; one ENG 200- or 300-level literature course OR ENG 101, 105, or 107; min 45 hours; Credit is allowed for only ENG 458 or FMS 464 or TCL 464 OR Visiting University Student |
| TCL | 471 | Latinos In Hollywood | Studies representations of Latinos in film; stereotyping, politics of metaphor, allegory, star discourse, self-representation, resistance, and independent film. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | HU & C | Credit is allowed for only FMS 471 or TCL 471 |
| TCL | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | |
| TCL | 485 | Chicana and Latina Writers | Critical reading of Mexican American women authors; emphasis on contemporary (post-1970) poetry, novels, short stories, and essays. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours OR Visiting University Student |
| TCL | 490 | Transborder Queer Performativity | Explores a rich and diverse body of border-crossing performative expression created by queer and/or Latina/o artists. Course readings and discussions include solo and collaborative works with an emphasis on solo autobiographical performance scripts as well as performer interviews and performance scholarship. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | HU & C | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 45 hours; Credit is allowed for only TCL or WST 490 |
| TCL | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Transborder Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| TCL | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Transborder Studies | 1-6 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| TCL | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-4 | | |
| TCL | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-7 | | Prerequisite(s): Transborder Chicana/o and Latina/o Studies BA major; minimum 56 hours |
| TCL | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Transborder Studies | 1-3 | | |
| TCL | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TDM | 205 | Introduction to Travel and Tourism | Provides an overview of tourism and its impacts on communities, cultures, economies and environmental systems. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | G | |
| TDM | 225 | Introduction to Resort and Hotel Management | Introduces local, national and international lodging and food service industries. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | |
| TDM | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |
| TDM | 345 | Meeting and Convention Planning | Basic aspects and skills in planning meetings and conventions. Industry and market overview of certified meeting planners. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): TDM 205 or RTM 373 with C or better OR Visiting University Student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|--|
| TDM | 350 | Tourism, Recreation and Sports Marketing | Critical examination of marketing principles in leisure and related industries in diverse settings, including local, national, and international. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 210, CSM 201 or TDM 205; ENG 102, 105 or 108 with C or better; MAT 142 or higher with C or better; minimum 45 hours; Credit is allowed for only CRD 350 or CSM 350 or PRM 350 or TDM 350 OR Visiting University Student |
| TDM | 372 | Tourism Planning | Applies economic and regional development concepts and theories to destination product development. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; MAT 142 or higher with C or better; TDM 205 with C or better; minimum 2.50 GPA; minimum 45 hours OR Visiting University Student |
| TDM | 386 | Convention Sales and Management | The role of convention and visitors bureaus or resort managers, including economic impacts of markets, structure, governance, membership, and advertising. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | |
| TDM | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |
| TDM | 401 | Managing Tourism and Leisure Enterprises | Basic principles of administration and their application in successful administrative situations. Analyzes administrative function, structure, and policies. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 210 or PRM 210 with C or better; CSM 203, NLM 203, PRM 203, or TDM 372 with C or better; minimum 2.50 GPA; Credit is allowed for only CRD 401 or CSM 401 or PRM 401 or TDM 401 OR Visiting University Student |
| TDM | 402 | Assessment and Evaluation of Community Services | Introduces applied leisure research with emphasis on program evaluation, research design, data collection techniques, and data analysis. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 210 or PRM 210; Credit is allowed for only CRD 402 or CSM 402 or NLM 402 or PRM 402 or TDM 402 OR Visiting University Student |
| TDM | 415 | Tourism Transportation Systems | Examines the role of various modes of transportation in domestic and international tourism development. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): TDM 205 or RTM 373 with C or better |
| TDM | 448 | Heritage and Cultural Tourism | Provides a solid conceptual understanding of the issues, problems, and management implications associated with heritage and cultural tourism. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): TDM 205 with C or better; Credit is allowed for only TDM 448 or CRD 598 (Heritage and Cultural Tourism) OR Visiting University Student |
| TDM | 458 | International Tourism | Global examination of international tourism and its significance as a vehicle for social and economic development. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | G | |
| TDM | 463 | Senior Internship | Supervised guided experience in selected agencies. | N | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3-12 | | Prerequisite(s): CRD 403 or RTH 413 (PRM 413) with C or better; Credit is allowed for only CRD 463 or CSM 463 or NLM 463 or PRM 463 or RTH 463 or TDM 463 |
| TDM | 475 | Entrepreneurial Recreation and Tourism | Explores basic business principles and innovative processes involved in starting a small business in the commercial recreation and tourism industry. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only PRM 475 or TDM 475 OR Visiting University Student |
| TDM | 480 | Sustainable Tourism | Tourism has a multitude of impacts, both positive and negative, on people's lives and on the environment. Critically analyzes the environmental, economic, and socio-cultural aspects of tourism development, and strategies to attain balance among these three dimensions to guarantee its long-term sustainability. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): PRM 120 or TDM 205 or minimum 60 hours OR Visiting University Student |
| TDM | 481 | Sustainable Food Management in Tourism | Focuses on the fundamentals of sustainability, sustainable food systems, relationships between food and tourism, and the applications of sustainable food practices in different types of global tourism. Defines sustainable development, explains the importance of sustainable food systems, recognizes the relationship between local food systems and global food challenges. Connects the challenges of creating and maintaining sustainable food systems with the needs of tourists and tourism destinations; defines leakage in reference to tourism and food. Creates and applies sustainability assessment criteria to food systems in a variety of different tourism spaces. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Pre-requisite: Junior standing; Minimum 60 hours |
| TDM | 482 | Sustainable Revenue Management | Introduces the fundamental economic principles that underlie revenue management and the practical application of new analytical technological services in the hotel and resort industry. Uses experienced revenue managers from local resorts and hotels as regular guest speakers and IdeaS system (a revenue management analytics subsidiary of SAS). | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Pre-requisites: MAT 142 or higher; Minimum 72 hours |

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|---------|----------------|--|---|----------------------|----------------------|--------------------|------------------|---|---|-------|--------------------|--|
| TDM | 483 | Sports Tourism | Examines the relationship between sports and tourism, and the role of recreation and amateur sports as an economic and community development strategy. Also considers the motives, behaviors and experiences of sport tourists; the impacts of sport tourism; and trends in sports tourism. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CSM 483 or PRM 483 or TDM 483 OR visiting University Student |
| TDM | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | |
| TDM | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-6 | | Prerequisite(s): Barrett Honors student |
| TDM | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-6 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| TDM | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |
| TDM | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| TDM | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-3 | | |
| TDM | 520 | Sustainable Thinking in Tourism I | First in a series of two courses introducing students to the basic concepts of sustainability and their application and implications for tourism. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TDM | 521 | Sustainable Thinking in Tourism II | Second in a series of two courses focusing on how to measure, assess, and plan for sustainability in the tourism industry. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): TDM 520 with C or better |
| TDM | 530 | Sustainable Tourism Destination Planning and Management I | Applies sustainable economic and regional development concepts and theories to destination planning and management. Students learn the fundamentals of sustainable planning, including stakeholder involvement and meeting community needs. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TDM | 531 | Sustainable Tourism Destination Planning and Management II | Applies sustainable economic and regional development concepts and theories to destination planning and management. Students learn the fundamentals of sustainable planning, including stakeholder involvement and meeting community needs. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): TDM 530 |
| TDM | 540 | Sustainable Food Management in Tourism | Focuses on the fundamentals of sustainability, sustainable food systems, relationships between food and tourism, and the applications of sustainable food practices in different types of global tourism. Students learn to define sustainable development; explain the importance of sustainable food systems, recognize the relationship between local food systems and global food challenges; connect the challenges of creating and maintaining sustainable food systems with the needs of tourists and tourism destinations; define leakage in reference to tourism and food; and create and apply sustainability assessment criteria to food systems in a variety of different tourism spaces. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TDM | 550 | Managing the Sustainable Tourism Business | Through case study analysis, students learn how sustainability impacts business operations, how successful sustainable businesses identify and assess alternative resource management techniques, and evaluate operational models for embedding sustainability practices into their business models. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TDM | 561 | Best Practices Workshop Preparation | First in a series of two courses investigating and sharing best practices in sustainable tourism. Provides an overview of best practices and innovative actions in tourism. A destination or business is identified to be used as a case study. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1 | | Pre- or corequisite(s): TDM 521 with C or better |
| TDM | 562 | Best Practices Workshop Presentation | Second in a series of two courses investigating and sharing best practices in sustainable tourism. Provides an overview of best practices and innovative actions in tourism. A presentation of a best practices case study is conducted for the class. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1 | | Prerequisite(s): TDM 561 with C or better |
| TDM | 570 | Sustainable Tourism | Critically examines the environmental, economic, and socio-cultural aspects of tourism development, and strategies to attain balance among these three dimensions to guarantee its long-term sustainability. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TDM | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|---|
| TDM | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TDM | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 101 | Professional Educator Series: The Student Experience | Introduces all new first-time Mary Lou Fulton Teachers College students to the unique elements, culture, challenges and opportunities of their university. Introduces future educators to the professional educator series and the themes that underpin the series, to include design-thinking, principled innovation, professional identity and legacy-minded thinking and actions. | N | SEM | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): Mary Lou Fulton Teachers College freshmen OR Visiting University Student |
| TEL | 102 | Professional Educator Series: Community Contexts | Explores the community context that impacts children and youths with specific focus on issues of diversity and social justice. Includes a service-learning component addressing a community-identified concern. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): Teachers College student |
| TEL | 111 | Exploration of Education | Education as an instrument in the development of the individual and society and its significance as an American Institution. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | SB | |
| TEL | 171 | Professional Educator Series: Equity in Education | Analyzes educational issues that are limiting equitable education experiences for children, youth and adults in educational systems birth-college and proposes solutions to meet those needs. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | |
| TEL | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| TEL | 200 | Social Embeddedness of Educational Endeavors | Serves as a pathway toward self discovery and professional identity. Course readings, reflections and self assessments help students develop personal and professional goals and goal-setting strategies. Course assignments provide students with a greater level of understanding regarding the reciprocal influences among community and culture and the student's life experiences. Students have an opportunity to clearly define themselves and share topics they are passionate about, as well as locate how they might fit into and contribute to their community. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | |
| TEL | 201 | Professional Educator Series: My Community Footprint | Explores the community context that impacts children and youths with specific focus on issues of diversity and social justice. Future educators enhance their knowledge, skills and attitudes of the professional educator series themes of design-thinking, character and moral development, professional identity, and legacy-minded thinking and actions. | Y | LEC | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): Teachers College student |
| TEL | 202 | Professional Educator Series: My Impact | Advances future educators' knowledge and skills as they apply the professional educator series themes of design-thinking, character and moral development, professional identity, and legacy-minded thinking and actions to become master learners and change agents for civic engagement and toward their personal and professional growth and fulfillment. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): Teachers College student |
| TEL | 203 | Collaborating, Planning and Implementing Instruction in Diverse Contexts | Prepares future educators to work with participants in a variety of learning environments and diverse contexts. Emphasizes innovative outcome-based and learner-centered approaches to planning and implementing instructional activities constructed using collaborative design-thinking. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | |
| TEL | 208 | Literacy in a Changing World | Examines literacy in the social context and the changing nature of literacy in the 21st century. Areas of inquiry include how students' cultural backgrounds and identities can serve as resources for literacy learning, linguistic diversity, media literacies, multi-modal literacies, and critical literacies. Explores issues of equity and social justice including the role of literacy to empower people into making positive changes in their lives and society. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | HU | |
| TEL | 212 | Understanding the Culturally Diverse Learner | Surveys cultural and linguistic diversity in American education, including education equity, pluralism, learning styles, and roles of schools in a multiethnic society. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | HU & C | |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|----------------------------------|---|-------|-----------------|--|
| TEL | 215 | Introduction to Child and Adolescent Development | Emphasizes the cognitive, social-emotional, and physical domains of child and adolescent development. From a knowledge base of theory, research, and current issues, students apply learning to developmentally appropriate principles and practices that guide relationships and learning experiences for all children. Uses available technologies; emphasizes the complex ecosystem of culture, ethnicity, family, and school. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | SB | |
| TEL | 270 | Professional Educator Series: Connecting Research to Practice | Assists students in shifting from a student perspective of education to a teacher perspective of education as they explore what it means to be a professional educator. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | |
| TEL | 271 | Professional Educator Series: Inclusivity in Practice | Students continue shifting from a student perspective of education to a teacher perspective of education by connecting newly expanding knowledge with experiences in the field to assist them in preparing for a career as an educator with specific focus on inclusivity and supporting students with a range of learner assets, abilities and needs. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | |
| TEL | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| TEL | 300 | Community, Family, and Education | Addresses education in a community and family context. Analyzes education and identifies education-focused community challenges in a broad variety of settings and across multiple times and places. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): TEL 200 OR Visiting University Student |
| TEL | 310 | Instructional Thought and Action: Instructional Design and Planning | Compares and contrasts theories of learning as well as how to identify and apply instruction based on these theories to foster rich student learning. Addresses a diversity of learners and perspectives, in differentiated contexts, across all specific professional educator pathways. Teaches aspects of instructional design and planning as prospective educators design instruction to meet student needs. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; TEL 203 or minimum 39 hours |
| TEL | 311 | Instruction and Management in the Inclusive Classroom | Planning and delivering instruction, organizing and managing classrooms, and making adaptations for English language learners and students with special needs. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| TEL | 313 | Technology in an Educational Setting | Focuses on using technology in an education setting and addresses the integration of technology in curricular areas for all students. Students receive a broad-based introduction to using and integrating technology into many different educational settings. | N | LEL | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): General Studies CS course OR Visiting University Student |
| TEL | 315 | Child and Adolescent Development | Physical, cognitive, social, and emotional development during childhood and adolescence; developmentally appropriate principles and practices to facilitate development for all students. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| TEL | 316 | Teaching, Imagination, and Creativity | Engages students in critical thinking and the complex terrain of aesthetic theory and intellectual, academic work and teaching practice. Students apply aesthetic consciousness teaching by teachers developing imagination, creativity, and intuition as tools to use every day in their classrooms. Emphasis on how teachers can integrate the arts into the curriculum, use the arts to support academic content, and develop aesthetic consciousness as a way of becoming attuned to the teaching environment as well as to learners' diverse cultures, talents, and needs. The arts will also be studied as multi-cultural and socio-cultural phenomena, aiding teachers to become consciously attuned to the culturally diverse learner within the larger society. consciousness as a way of becoming attuned to the teaching environment as well as to learners' diverse cultures, talents, and needs. Also studies the arts as multicultural and sociocultural phenomena in support of these ends, aiding teachers to become consciously attuned to the culturally diverse learner within the larger society. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Pre-requisites: Education majors; Minimum junior standing |
| TEL | 317 | Instructional Thought and Action: Learning Environment and Management | Develops and implements strategies and intervention for effective management of the classroom to promote the learning of students with and without disabilities. Creates plans for maintaining a positive, productive and culturally relevant classroom environment. Incorporates age-appropriate techniques addressing individual, social and academic competence. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; TEL 203 or minimum 39 hours |
| TEL | 318 | Instructional Thought and Action: Assessment for Learning | Prospective educators examine theories of assessments exploring why we assess, how we assess, and the ways assessments are interpreted in classroom settings. Emphasizes designing, selecting, implementing, and/or evaluating appropriate assessments specific to pathways and for students with diverse educational needs across all grade levels. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; TEL 203 or minimum 39 hours |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|----------------------------------|---|-------|-----------------|--|
| TEL | 320 | Introduction to Gifted Education | Overview of a variety of issues related to gifted students from preschool through high school. Provides background in order to create an optimal experience for students, parents and teachers when working with gifted students. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| TEL | 331 | Foundations of Literacy: The Science of Reading | In this educator core course, prospective educators gain a foundation in literacy development and instruction, including the science of reading, phonological awareness, vocabulary development, reading fluency, reading comprehension, and written and oral expression, with a specific emphasis on phonics. Content focuses on understanding the reading process, language development, the sequence of learning to read across a developmental continuum, the essential components of reading instruction, and an introduction to scientifically based approaches to teaching reading. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student; minimum 39 hours |
| TEL | 332 | Disciplinary Literacy Methods | Prospective educators identify the specific literacy practices and challenges students face within their academic discipline and apply research-based instructional strategies for delivering differentiated instruction. Content focuses on instructional and assessment strategies in order to develop essential academic vocabulary, comprehension and critical thinking within each academic discipline. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| TEL | 340 | Families, Communities and Cultures: Cultivating Networks of Culturally Responsive Relationships | Helps prospective educators develop an understanding of the role that families and communities play in schooling practices and the skills to cultivate culturally responsive practices. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | SB | Prerequisite(s): minimum junior standing OR Visiting University Student |
| TEL | 355 | Internship: Initial | Initial professional experience provides aspiring teachers with supervised opportunities to integrate theory and practice and apply knowledge and skills while working collaboratively with educators and peers in classrooms and other field settings. | Y | LEL | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-5 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; minimum 39 hours |
| TEL | 366 | Internship: Intermediate | Intermediate professional experience provides aspiring teachers with supervised opportunities to integrate theory and practice and apply knowledge and skills while working collaboratively with educators and peers in classrooms and other field settings. | Y | LEL | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-5 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; minimum 56 hours |
| TEL | 370 | Professional Educator Series: Building a Professional Network | Engages prospective educators in collaborative experiences to examine their profession in relation to educational systems. Students develop skills and practices needed to work effectively as a professional educator. Emphasizes the importance of a well-developed professional network and student advocacy. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student; minimum 39 hours |
| TEL | 371 | Professional Educator Series: Educational Policies | Engages prospective educators in collaborative experiences to examine their profession in relation to educational policies. Exposes students to pressing educational issues with an emphasis on the importance of understanding the influence of policies, procedures and regulations as they relate to the education system. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| TEL | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| TEL | 400 | Innovation in Educational Endeavors | Pursues innovative solutions to social problems with the courage and ability to impact change in individuals, communities and organizations. Reviews community problems, challenges or areas of improvement; learns underlying principles of social enterprise; and develops innovative methods that empower individuals and support educational initiatives. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): TEL 200; TEL 300 OR Visiting University Student |
| TEL | 404 | Current Issues in Education and Policy Reform in the United States | Specialized topics related to current issues in education with a focus on education reform efforts from the late 20th century into the 21st century. Explores current reform efforts in education as part of the larger public policy agenda in the United States, analyzing how external influences shape present education systems. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only TEL 404 or TEL 494 (Current Issues in Education & Policy Reform in US) |
| TEL | 405 | History of Education and Policy Reform in the United States | Specialized topics in education history with a focus on education reform efforts from pre-Revolutionary War time to the end of the 20th century. Explores the past reform efforts in education as part of what was happening historically in the United States, analyzing how those efforts have shaped the present education systems. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only TEL 405 or TEL 494 (History of Education & Policy Reform in the US) |
| TEL | 410 | Leadership and Advocacy in Educational Endeavors | Educators who take an active stance through advocacy and leadership are well-equipped to create societal change. Students learn about styles of leadership that are fitting for this need, study advocacy techniques, then position themselves as advocates and leaders as they create a plan, with goals, to address an identified community problem, challenge or area of improvement. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): TEL 200; TEL 300; TEL 400 OR Visiting University Student |

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| TEL | 420 | Curriculum Strategies for Gifted Learners | Overview of a variety of ways in which to create and adapt curriculum for gifted students from preschool through high school. Provides a broad range of resources for classroom teachers to use in order to help gifted students work to their full potential in a heterogeneously grouped classroom. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| TEL | 430 | Learning Outside of School | Studies and methods from a variety of nonschool environments for learning and development. Teaches knowledge and skills such as methods of identifying and evaluating free-choice learning that occurs through museum going, hobbies, family learning, media, community programs, sports, public health campaigns, and more. Covers career opportunities for educators in key creative environments besides classrooms. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only TEL 430 or TEL 494 (Learning Outside of School) OR Visiting University Student |
| TEL | 431 | Learning in Workplaces | School isn't the only place where people learn! Once you get a job, most of what you learn will occur as you do your job, and that kind of learning is crucial to the development of competence and expertise. Surprisingly, seventy to eighty percent of this important learning takes place outside of formal training. Studying learning in workplaces illuminates how learning happens universally, and helps teachers and trainers design effective educational programs. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only TEL 431 or TEL 494 (Learning in Workplaces) OR Visiting University Student |
| TEL | 470 | Professional Educator Series: Career Growth and Planning | Engages prospective educators in collaborative experiences to explore career paths within education, develop career plans, and consider routines for continuous professional growth. Exposes students to pressing educational issues with an emphasis on career planning, development and growth. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| TEL | 471 | Professional Educator Series: The Principled Educator | Prepares prospective educators to examine their professional role as an advocate for themselves, their students and families, and their profession. Emphasizes the importance of understanding their professional influence as principled educators on educational practices and systems through advocacy efforts. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): minimum junior standing OR Visiting University Student |
| TEL | 477 | Internship: Advanced | Advanced professional experience provides aspiring teachers with supervised opportunities to integrate theory and practice, and apply knowledge and skills while working collaboratively with educators and peers in classrooms and other field settings. | Y | LEL | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-5 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; minimum 56 hours |
| TEL | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-12 | | |
| TEL | 488 | Student Teaching | Student teaching in preK-12 classroom setting. Synthesized experience in curriculum, instruction and classroom management. | Y | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 6-12 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; minimum 56 hours |
| TEL | 489 | Educator Scholar | Requires students to demonstrate the capacity to apply possibility thinking to practical challenges by imagining new solutions and creating positive change for individuals, families or communities. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |
| TEL | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-6 | | Prerequisite(s): Barrett Honors student |
| TEL | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| TEL | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| TEL | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-3 | | |
| TEL | 501 | Introduction to Research and Evaluation in Education | Overview of educational inquiry from controlled, quantitative to qualitative, naturalistic. Emphasizes locating and critically interpreting published research. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only COE 501 or ECD 503 or PPE 501 or SPE 501 or TEL 501 |
| TEL | 502 | Exploration of Education: Child/Adolescent Development and Foundations of Special Education | Provides a general pedagogical framework in the cognitive, social-emotional and physical domains of child and adolescent development and how to apply that knowledge to the learning programs for neurotypical and exceptional learners. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 504 | Learning and Instruction | Introduces psychology of learning and instruction. Includes the foundations of learning theories and their application to educational practice. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ECD 504 or TEL 504 |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|----------------------------------|---|-------|-----------------|---|
| TEL | 505 | American Educational Policy | Political, social, historical, and philosophical analyses of American education at all levels. Examines primary sources, legal findings, and case studies. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 510 | Instructional Design, Planning and Assessment | Covers learning theories, instructional design, planning and assessment. Students plan a developmentally appropriate instruction that differentiates instruction and experiences for all learners. Explores formal and informal assessments and how they can be used to identify learners' strengths and needs and accordingly adjust instruction. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 511 | Research and Evaluation in Education | Overview of educational inquiry from controlled, quantitative to qualitative, naturalistic. Emphasizes locating and critically interpreting published research and foundation for future research. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 517 | Creating Equitable Learning Environment: Decision Making and Action | Researches, develops and implements strategies and intervention for effective management of classroom behavior for students with and without disabilities. Creates plans for maintaining a positive, productive and culturally relevant classroom environment. Incorporates age-appropriate techniques addressing individual, social and academic competence. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 531 | Foundations of Literacy: The Science of Reading | First of two required literacy courses for teacher certification. Focuses on the foundations of literacy development and examines the sequence of learning to read with an emphasis on systematic phonics instruction. Introduces, examines and practices designing and delivering early and advanced literacy instruction using scientifically based approaches, assessment and remediation. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 532 | Literacy Across the Disciplines | Prospective educators identify the specific literacy practices and challenges students face within their academic discipline and apply research-based instructional strategies for delivering differentiated instruction. Content focuses on instructional and assessment strategies in order to develop essential academic vocabulary, comprehension and critical thinking within each academic discipline including face to face and digital learning environments. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 540 | Cultivating Networks of Culturally Responsive Relationships Among Families, Communities & Cultures | Helps educators develop an understanding of the role that families and communities play in schooling practices and the skills to cultivate culturally responsive practices. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 570 | Educator Scholar Community I | Pre-service and apprentice teachers examine a relevant challenge in an educational context and support a K-12 learner with navigating complex challenges in classroom contexts. This is the first course in a three-part series. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 571 | Educator Scholar Community II | Pre-service and apprentice teachers engage in an applied experience with creative curricula by designing and implementing a creative learning activity for K-12 learners. This is the second course in a three-part series. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 572 | Educator Scholar Community III | Pre-service and apprentice teachers design and implement a legacy project in a K-12 classroom that requires learners to tackle an actionable challenge, take action, and make a positive difference by thinking and acting in new ways. This is the third course in a three-part series. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 683 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| TEL | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 701 | Quantitative Methods in Action Research | Quantitative methods of inquiry for action research: data collection, analysis, interpretation, complementarity analysis, evaluation and data-informed decision making. | N | LEL | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student; Credit is allowed for only EDA 701 or TEL 701 |

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| TEL | 702 | Dynamic Contexts of Education | Explores current ethical issues influencing leadership decisions with a focus on real problems in the educational setting. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student; Credit is allowed for only EDA 702 or TEL 702 |
| TEL | 703 | Innovation in Teaching and Learning | Development and psychological processes of human cognition, motivation, and performance applied to cognitively diverse, English language learners, adult professional development. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student; Credit is allowed for only EDA 703 or TEL 703 |
| TEL | 704 | Leadership for Organizational Change | Develops understanding of dynamic and systemic nature of organizations, with emphasis on leadership for building organizational capacity and learning. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student; Credit is allowed for only EDA 704 or TEL 704 |
| TEL | 705 | Systems Change and Leadership | Focuses on theoretical foundations of systems literature with a focus on education. Examines literature and scholarship that builds knowledge of educational theory on systems, and applies important related concepts to real-world problems of practice as they appear in students' current work context. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student |
| TEL | 706 | Action Research in Doctoral Studies | Prepares doctoral students for success, focusing on communities of practice, the action research process, and investigating problems of practice. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student |
| TEL | 707 | Reading the Research | Interprets and analyzes qualitative and quantitative research literature, as well as how to integrate information in professional scientific writing. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student |
| TEL | 708 | Collaborative Approaches to Data-Informed Decision Making | Examines data-informed decision making in educational learning communities, by focusing on data collection, analysis and interpretation, as well as the impact of collaborative learning communities. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student; Credit is allowed for only TEL 708 or TEL 791 (Collab approaches data-informed decision-making) |
| TEL | 709 | Directed Field-Based Study | Under the supervision of a faculty member and with the assistance of a mentor, students understand and develop their leadership, innovation and research skills. Provides an opportunity to (1) work with and learn from a leader outside students' normal spheres; (2) develop students' capacity to learn independently--to study, reflect, assess and expand their abilities as leaders, innovators and agents of change; and (3) extend and enrich student knowledge through reading and writing. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student; Credit is allowed for only TEL 709 or TEL 792 (Directed Field Based Study) |
| TEL | 710 | Innovations In Disseminating Research | Provides graduate students with the opportunity to develop a post-degree impact plan related to the scholarship and innovations they developed through the EdD program. A post-degree impact plan enlists research and practices related to the idea of knowledge mobilization in order to optimize access to and engagement with scholarly insights and innovations. Enables students to develop strategies and resources to extend the reach and enhance the impact of their scholarship, innovations and resources among relevant stakeholder groups. | N | SEM | N | YGB | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 2 | | Prerequisite(s): Leadership and Innovation EdD student; Credit is allowed for only TEL 710 or TEL 791 (Innovations in Disseminating Research) |
| TEL | 711 | Strategies for Inquiry | Develops knowledge and skills for research and program evaluation that foster innovation in education that leads to improved student learning. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student |
| TEL | 712 | Mixed Methods in Action Research | Uses qualitative and quantitative inquiry methods in action research including concept and skill application, data collection, analysis and interpretation. | N | SEM | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student; TEL 703; TEL 705; TEL 706; TEL 707; TEL 711 |
| TEL | 713 | Qualitative Methods in Action Research | Qualitative methods situated in action research: history, design, data collection, analysis and interpretation. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student |
| TEL | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 783 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| TEL | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | N | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEM | 100 | Seminar in Entrepreneurship | Exposes students to careers in entrepreneurship by inviting diverse entrepreneurs to discuss their businesses and backgrounds and share their stories on starting and growing their ventures. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1 | | |
| TEM | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-4 | | |
| TEM | 200 | My Technology Venture | Introduces the concept of entrepreneurship through venture practice and self-reflection to help students understand their potential roles in a technology-driven marketplace. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | |
| TEM | 201 | Applied Social Entrepreneurship I | Introduces the concepts and the different organizational models for social entrepreneurship ventures. Explores how to: address social problems, connect stakeholders, establish self-sustained financing approach, and measure and grow the social impact in the community or society. Students develop a social business model for a social cause. Examines the social enterprise's role and impact in society. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Credit is allowed for only TEM 201 or TEM 294 (Social Entrepreneurship I) |
| TEM | 230 | Creativity and Business Innovation | Introduces concepts, models and techniques of creativity and innovation. Exposes processes related to developing creative skills and habits with an emphasis on problem solving and design. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only OMT 230 or TEM 230 OR Visiting University Student |
| TEM | 250 | Design Methodology | Outlines product design method and provides opportunity to apply it to a design project including identifying needs, setting target specifications, generating and selecting concepts, prototyping and testing. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| TEM | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-4 | | |
| TEM | 300 | Career Management for Entrepreneurs and Innovators | Career-focused seminar in preparation for students' post-graduation plans, including venture startup, job search or graduate school acceptance. Focuses on career relationship-building techniques, job-readiness skills and the development of a professional portfolio. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1 | | Prerequisite(s): minimum junior standing OR Visiting University Student |
| TEM | 301 | Applied Social Entrepreneurship II | Students explore and learn about social entrepreneurship as applied to a real-world, hands-on experience. Emphasizes innovation and the use of technology as an approach to tackling real-world social challenges and issues. Teamwork, leadership and communication skills are an important part of the student experience. Students form social entrepreneurship project teams and/or work on individual projects to assess the feasibility and sustainability of their proposed plans for long-term projects that solve problems, benefit the customer, and often, the larger community. Project work often centers on the engineering, technology, computing, sustainability, business and other needs of a not-for-profit community partner. Interdisciplinary team interaction is an integral element for project success. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only TEM 301 or TEM 394 (Social Entrepreneurship II) OR Visiting University Student |
| TEM | 311 | Opportunity Analysis | The key to making sound business decisions involves the careful analysis of the situation, intelligent use of research, and successful practice. Entails the research and implementation of strategy to determine consumer expectations utilizing the skills especially important in today's competitive and turbulent market. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): TEM 200 or TMC 110 with C or better; Credit is allowed for only OMT 311 or TEM 311 OR Visiting University Student |
| TEM | 330 | Systems Innovation | Systems thinking course that investigates how innovators can incorporate the knowledge of complex systems into the processes of technology development, product/service innovation and venture development. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only OMT 330 or TEM 330 OR Visiting University Student |
| TEM | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-4 | | |
| TEM | 400 | Technology Entrepreneurship | Explores the fundamentals and principles of entrepreneurship suitable for both undergraduate business and technology students. Instructs students on the strategic path through entrepreneurship: ideation, validation, market selection, intellectual property, fundraising, launch and profitability. Also explores the impact and implications of technology. Through this course, students have the knowledge and skills to cultivate their ideas into businesses. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s) with C or better: ENG 102, 105, or 108; TEM 200 or non-Tech Entrepreneur & Mgmt BS major; Credit is allowed for only TEM 400 or TEM 501 or TEM 598 (Tech Entrepreneur) or TEM 598 (Tech Innov & Entrepreneur) OR Visiting University Student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| TEM | 405 | Data-Driven Decision Making | Addresses the challenge of making choices under uncertainty. Data-driven decision making impacts a wide variety of fields, from apps to driverless cars. Covers the methodologies related to data-driven thinking including: applied statistics, behavioral economics, scenario planning, optimization, algorithms, risk and game theory. Applications to all venture developments as well as innovation | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ECN 221, EGR 280, HSE 230, or PSY 230; minimum junior standing; Credit is allowed for only TEM 405 or TEM 494 (Data Driven Decision Making) or TEM 505 or TEM 598 (Data Driven Decision Making) OR Visiting University Student |
| TEM | 407 | Venture Digital Data Analytics | Instructs students on how to develop a digital promotion and marketing plan. Reviews and examines the basic concepts of Web (SEO, SEM, clickstream, e-mail); social (Facebook, Google+); and mobile marketing (Instagram, Snapchat) and analytics to measure effectiveness. Also reviews content, influencer, video and blog marketing. Focuses on inbound marketing. Students design, test and improve by feedback a marketing project of their own design or in support of a business. Through this course, students develop the skills to digitally promote. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): MKT 300 or TMC 330; Credit is allowed for only TEM 407 or TEM 494 (Digital Promotion and Analytics) or TEM 507 or TEM 598 (Digital Promotion and Analytics) OR Visiting University Student |
| TEM | 408 | Crowdfunding, Currency and Blockchain Innovations | Focuses on the evolving process of crowdfunding and the opportunities and implications of digital innovations. Initially reviews traditional crowdfunding and the laws that have enabled a new class of investors. Topics progress to the blockchain technology-based currencies (cryptocurrencies), their structure and applications. Finally, the course broadens the conversation to smart contracts, non-currency applications and start-up opportunities in this space. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prereq(s): ECN 221 or STP 226; MAT 210; minimum junior standing; Credit is allowed for only TEM 408 or TEM 494 (Crowdfunding, Currency & Blockchain Innov) or TEM 508 or TEM 598 (Crowdfunding, Currency & Blockchain Innov) OR Visiting University Student |
| TEM | 431 | Innovation Management | Focuses on execution challenges that innovation initiatives face, including: (a) Resources: Where do the resources for innovation initiatives come from? (b) Organization: How should innovation initiatives be organized? (c) Planning: How should plans for innovation initiatives be written and through what kind of process should they be revised? Explores the processes of innovation management for various sizes of companies utilizing smaller scale, local processes to large scale, globally dispersed innovation processes and teams. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; TMC 110 with C or better or non-Technological Entrepreneurship and Management BS major; Credit is allowed for only OMT 431 or TEM 431 or TEM 531 OR Visiting University Student |
| TEM | 450 | Design for the Developing World | Provides sustainable solutions to social problems that will improve the lives of residents in lower socio-economic communities through the integration of technology and social entrepreneurship. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): junior, senior, or graduate standing |
| TEM | 455 | Global Impact Entrepreneurship | Increases awareness and understanding of the complex nature of global poverty. Students think comprehensively about sustainable ways to address by focusing on business ventures and product design, which take advantage of local resources, networks and institutions. Students design and refine technologies and services that address the needs of communities in the developing world. Examines piloted technological innovations by ASU students in the west African nation of Ghana, India, and Latin American countries such as Mexico and Peru. Analyzes technological initiatives that have been piloted in Ghana and Peru, and attempts to create sustainable business ventures for them. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s) with C or better: ENG 102, 105, or 108; TMC 110 or non-Technological Entrepreneurship and Management BS major; min junior standing; Credit is allowed for only TEM 455 or TEM 598 (Global Impact Entrepreneur) OR Visiting University Student |
| TEM | 481 | Consulting Project | Students learn about technology entrepreneurship through consulting with leaders and owners of businesses, not-for-profit organizations and government agencies. Requires both out-of-class consulting projects and in-class instructional sessions focused on technology entrepreneurship and business strategy, including financing, promoting, leading and growing the venture and consulting skills. | N | PRA | Y | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): minimum junior standing OR Visiting University Student |
| TEM | 482 | Startup Workshop | Students launch their own technology-related ventures with collaboration and mentorship from colleagues and faculty. This class centers on hands-on learning and is appropriate for beginning as well as maturing start-ups. Students build their entrepreneurial networks and engage with stakeholders related to their business (customers, industry partners and investors). Explores the tactical challenges that come with developing an enterprise and forms strategies and methodologies to advance the venture. | N | PRA | Y | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): FSE 301 with C or better; senior standing; Credit is allowed for only TEM 482 or TEM 598 (Startup Workshop) OR Visiting University Student |
| TEM | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-12 | | |
| TEM | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-6 | | Prerequisite(s): Barrett Honors student |

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| TEM | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| TEM | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-4 | | |
| TEM | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-3 | | |
| TEM | 501 | Technological Innovation and Entrepreneurship | Presents opportunities and challenges that accompany starting and operating a technology entrepreneurial venture by exploring the fundamentals and principles of entrepreneurship suitable for graduate business and technology students. Reviews engaging with innovation and developing the mentality of entrepreneurs. Reviews the path through entrepreneurship and developing the techniques of an innovative mindset. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TEM 400 or TEM 501 or TEM 598 (Technological Entrepreneurship) or TEM 598 (Technological Innovation & Entrepreneurship) |
| TEM | 505 | Data-Driven Decision Making | Addresses the challenge of making choices under uncertainty. Data-driven decision making impacts a wide variety of fields, from apps to driverless cars. Covers the methodologies related to data-driven thinking including: applied statistics, behavioral economics, scenario planning, optimization, algorithms, risk and game theory. Applications to all venture developments as well as innovation. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TEM 405 or TEM 494 (Data Driven Decision Making) or TEM 505 or TEM 598 (Data Driven Decision Making) |
| TEM | 507 | Venture Digital Data Analytics | Instructs students on how to develop a digital promotion and marketing plan. Reviews and examines the basic concepts of Web (SEO, SEM, clickstream, e-mail); social (Facebook, Google+); and mobile marketing (Instagram, Snapchat) and analytics to measure effectiveness. Also reviews content, influencer, video and blog marketing. Focuses on inbound marketing. Students design, test and improve by feedback a marketing project of their own design or in support of a business. Through this course, students develop the skills to digitally promote. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TEM 407 or TEM 494 (Digital Promotion and Analytics) or TEM 507 or TEM 598 (Digital Promotion and Analytics) |
| TEM | 508 | Crowdfunding, Currency and Blockchain Innovations | Focuses on the evolving process of crowdfunding and the opportunities and implications of digital innovations. Initially reviews traditional crowdfunding and the laws that have enabled a new class of investors. Topics progress to the blockchain technology-based currencies (cryptocurrencies), their structure and applications. Finally, the course broadens the conversation to smart contracts, non-currency applications and start-up opportunities in this space. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TEM 408 or TEM 494 (Crowdfunding, Currency, & Blockchain Innovations) or TEM 508 or TEM 598 (Crowdfunding, Currency, & Blockchain Innovations) |
| TEM | 511 | Technological Opportunity Evaluation | Covers methodologies to evaluate business decisions as entrepreneurs and intrapreneurs. Addresses analysis of the situation, intelligent use of research, and successful practice to help industry transfer knowledge into products and processes that benefit society. Entails the research and implementation of strategy to determine consumer expectations utilizing the skills especially important in today's competitive and turbulent market. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TEM 511 or TEM 598 (Opportunity Evaluation) |
| TEM | 530 | Statistics Bootcamp for Industry | Provides foundational coverage of topics such as probability theory, descriptive statistics, sampling distributions, parameter estimation, tests of hypotheses, chi-square tests, and simple linear regression analysis, appropriate for first-year graduate students. Additionally, provides a fundamental understanding of probability theory and statistics as used in typical industrial applications. Presents and discusses illustrative problems from technology, entrepreneurship, aviation and psychology. Where possible, explores problems from the student's discipline to insure that the principles of statistics and probability are studied in the context of the student's chosen field. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Pre-requisite: Degree- or Nondegree-seeking graduate; Credit is allowed for only TEM 530 or 598 (Statistics Bootcamp for Industry) |
| TEM | 531 | Disruptive Innovation and Technological Evolution | Focuses on the processes of innovation management of various sizes of companies utilizing smaller scale, local processes to large scale, globally dispersed innovation processes and teams, with an emphasis on disruptive innovation and the evolution and forecasting of technology. Provides a survey of innovation management concepts and various technological forecasting and prediction approaches, both mathematical and nonmathematical, in conjunction with a study of the evolution of selected technologies and the management problems associated with emerging technologies. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only OMT 431 or TEM 431 or TEM 531 |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|---|--|-------|-----------------|--|
| TEM | 532 | Advanced Analysis of Systems | Introductory course in systems analysis and modeling. Develops basic competence in formulating and solving models of systems to aid decision making. Topics include: introduction to systems and systems modeling; a simple what-if analysis; overview and review of linear algebra and matrices; problem formulation and model development in optimization; linear programming (LP), economic interpretation and sensitivity analysis; introduction to integer programming (IP); special linear programs; project schedule network development and computations; overview of heuristic algorithms. Uses selected software in examples, short problems and in a project. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEM | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 101 | Principles of Global Management | Provides the basic concepts of management with particular emphasis on the functions of management in a global environment. Examines the antecedents of globalization; the role of global environments in shaping organization structure, strategy and processes, as well as the basic principles of managing in complex cross-cultural settings. Emphasizes global institutional arrangements and macroeconomic issues. Serves as an introductory course that provides a quick snapshot of key issues facing global corporations today with each of the major themes explored more fully in the set of advanced courses that follow. Applies global business concepts in understanding global political economics, legal systems and socio-cultural environments. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | G | |
| TGM | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | Prerequisite(s): maximum 25 hours OR Visiting University Student |
| TGM | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-4 | | |
| TGM | 200 | Principles of Accounting for Global Organizations | Focuses on financial and managerial accounting and examines how outsiders evaluate businesses, nonprofits and governmental operations and how economic events are reflected in a firm's financial statements, including balance sheets and cash flow statements. Examines key accounting methods that impact a company's financial statements and how they are used by shareholders, creditors, employees and customers to make credit decisions and/or value a firm's equity securities. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management undergraduate student OR Visiting University Student |
| TGM | 204 | Principles of Marketing for Global Organizations | Explores the ways in which global marketing strategies reflect a deep understanding of markets and create valuable offerings for customers globally. Broadly speaking, marketing strategy making is comprised of segmentation, targeting and positioning. Segmentation is the process by which we segregate a relatively heterogeneous mass market into relatively homogeneous market segments. Targeting is the process by which we analyze opportunities and identify those customers where our business has the greatest prospects for success. Positioning is the process of assembling the "total offering" (product, service, distribution and price) and communicating the benefits of this "total offering" to the members of our target market. Challenges students to think critically about global competition. As such, rote learning of terms and concepts is not sufficient to prepare students to manage a business in global markets. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management undergraduate major, Global Management certificate, or International Trade certificate student OR Visiting University Student |
| TGM | 268 | Intercultural Communication for Global Management | In a dynamic and interactive format, this course presents a framework of models and skills for building communication performance in competitive global business settings. Assists in implementing strategies for mastering interpersonal encounters, including conflict resolution, in multicultural environments. Examines theories of communication (the basic concepts, principles and skills vital for understanding and improving communication across racial, ethnic and cultural differences). Places students in experiential situations in order to develop valuable global management skills. Using cases, self-assessment questionnaires, multicultural team exercises and simulations, equips the global manager with the ability to solve problems and take advantage of opportunities in a multicultural world. Explores in depth intercultural theories from the TGM three regional areas--China, Latin America and the Middle East. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management undergraduate student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|--|
| TGM | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-4 | | |
| TGM | 300 | Principles of Finance for Global Organizations | Equips students with the tools necessary to make strategic financing and investment decisions for value creation in a competitive global environment. Topics addressed include financial analysis and projections; working capital management; and investment management (derivation of cash flows, cost of capital, discounted cash flow valuation and capital budgeting decisions). | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management undergraduate major, Global Management certificate, or International Trade certificate student OR Visiting University Student |
| TGM | 310 | Supply Chain Operations for Global Organizations | Studies the major elements of supply chain management. Students learn how to design an integrated supply chain and evaluate the fit with the business strategy. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management undergraduate major, Global Management certificate, or International Trade certificate student OR Visiting University Student |
| TGM | 312 | Big Data in the Global Economy | Understands how multinational organizations make strategic use of Big Data to gain a competitive advantage in the global economy. Covers the important aspects of Big Data from a managerial viewpoint. Delves into the understanding of global data and how this data must be standardized to account for differences in collection methods, legal constraints and cultural interpretation to create a reliable platform for evaluation. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Applied Business & Technology Solutions BA major, Global Mgmt cert, Intl Trade cert, or Thunderbird School of Global Mgmt major; Pre- or corequisite(s): ECN 221 or STP 226 with C or better if completed OR Visiting University Student |
| TGM | 353 | Regional Management Environment | Provides future global managers with the analytical tools and frameworks for understanding the political, social, cultural and economic contexts within which business activities take place in various countries and regions throughout the world. | N | LEC | Y | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | G | Prerequisite(s): Thunderbird School of Global Management undergraduate major, Global Management certificate, or International Trade certificate student OR Visiting University Student |
| TGM | 391 | Global Business and Professional Development Skills | Required for all continuing and transfer Thunderbird students that enhances critical thinking, communication, presentations and networking skills desired for success in upper-division TGM-specific classes as well as for international internships, study abroad and post-graduation work experiences. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1 | | Prerequisite(s): Thunderbird School of Global Management undergraduate student OR Visiting University Student |
| TGM | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-4 | | |
| TGM | 400 | Advanced Topics in Global Management | Focuses on advanced topics in global management designed to synthesize knowledge acquired from global business, language and cultural coursework. | N | LEC | Y | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management undergraduate student; minimum 60 hours |
| TGM | 410 | Data Structures and Algorithms | Advanced data structures and algorithms, including stacks, queues, trees (B, B+, AVL), and graphs. Searching for graphs, hashing, external sorting. | N | LEC | N | OPT | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prereqs w/min C: Comp Math Sci, Comp Sci, Comp Sys Egr, Data Sci, Dig Cult(Media Proc), Egr Mgt, Geo Info Sci or Informatics major; CSE 220 or 240; MAT 243 or 300 OR BMI/CEN/CS/Gbl Mgt Data Sci grad; Credit for CSE 310 or TGM 410 OR Visiting University Student |
| TGM | 430 | International Trade and Regional Economic Agreements | Explores recent trends in global finance and trade and in regional trade agreements (GFTAREAs), especially as they pertain to national business environments and the global political economy. Also explores how globalization and regionalism impact business decision making and policy making at the national level and in the global political economy. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management undergraduate major, Global Management certificate, or International Trade certificate student OR Visiting University Student |
| TGM | 460 | Global Risk Assessment and Management | Covers concept of regional and country risk as it affects foreign businesses and investors, and develops participants' abilities to identify, analyze and design management strategies for mitigating such risk. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Applied Business and Technology Solutions BA major, Global Management BGM major, International Trade BS major, or International Trade certificate student OR Visiting University Student |
| TGM | 468 | States and Markets in a Global Economy | Global managers operate in an international economy that presents tremendous opportunities as well as risks. Globalization has dramatically expanded opportunities for international trade, investment and economic development. At the same time, global managers have to deal with the prospect of trade wars, international financial crises and intensified competition over markets and resources. In addition, international organizations such as the International Monetary Fund, World Trade Organization and World Bank Group have a direct impact on international business operations. Develops analytical tools for understanding the rapidly changing and dynamic global political. With these tools, managers are better prepared to anticipate the risks and take advantage of opportunities in the global economy. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | SB & G | Prerequisite(s): Applied Business and Technology Solutions BA, Global Management BGM, Global Management certificate, International Trade BS, or International Trade certificate student OR Visiting University Student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|--|
| TGM | 478 | Cross-Cultural Communication and Negotiation | This two-part course begins by focusing on cross-cultural communication with the ultimate purpose of helping improve global mindset. In the second part, focusing on cross-cultural negotiation helps students understand the theory and processes of global negotiation so that they can negotiate successfully in a variety of settings. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Applied Business and Technology Solutions BA, Global Management BGM, Global Management certificate, International Trade BS, or International Trade certificate student OR Visiting University Student |
| TGM | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-12 | | |
| TGM | 487 | Global Entrepreneurship | Deals with entrepreneurship and new venture creation that takes place in international and global settings. As such, it integrates many of the ideas, concepts and frameworks of international business and global management with those of traditional entrepreneurship. Starts at the firm level, looking at basic ideas of how entrepreneurs start and launch new ventures. It then expands to the industry level, looking at the role of business models in new venture creation, industry analysis, and scaling promising ideas. Focuses on the international and global levels, on topics such as cross-national comparative entrepreneurship, born-global new ventures, entrepreneurship in emerging and developing countries, and the global venture capital market. Also includes a number of special topics in global entrepreneurship, such as social entrepreneurship and family business. Finally, students have the opportunity to apply theory. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management undergraduate major, Global Management certificate, or International Trade certificate student OR Visiting University Student |
| TGM | 489 | Multinational Organizational Leadership | Explores multinational organizational management strategies, organizational practices/systems, and related managerial skills which are an essential part of global competitiveness. Develops skills to understand the application of analytical tools and frameworks, executes complex strategy, and builds and leads competitive teams and people. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management undergraduate major, Global Management certificate, or International Trade certificate student OR Visiting University Student |
| TGM | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-6 | | Prerequisite(s): Barrett Honors student |
| TGM | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| TGM | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-4 | | |
| TGM | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| TGM | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | |
| TGM | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-12 | | |
| TGM | 501 | Global Accounting | Focuses on two aspects of accounting: financial and managerial accounting. Financial accounting is about how outsiders view and evaluate an organization such as a business, a not-for-profit entity or a governmental operation. It focuses on how economic events are reflected in a firm's financial statements including a balance sheet, an income statement and a statement of cash flows. It also focuses on how financial statement information is used by various stakeholders such as shareholders, creditors, employees and customers in making decisions with regard to the firm, including credit decisions and/or valuing a firm's equity securities. Analysis and equity management accounting involves providing information, both financial and non-financial, to management and employees to aid in planning, organizing activities, and monitoring and controlling business performance. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 502 | Financial Management for Global Value Creation | Equips students with the tools necessary to make strategic financing and investment decisions for value creation in a competitive global environment. Topics addressed include financial analysis and projections; working capital management; and investment management (derivation of cash flows, cost of capital, discounted cash flow valuation, and capital budgeting decisions). | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management graduate student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|---|
| TGM | 503 | Global Marketing | Provides a managerial orientation to the topic of global marketing in today's complex, rapidly changing international business environment. A key focus is developing competitive advantage by creating customer value. Course participants gain a fundamental understanding of marketing strategy and marketing analysis (i.e., customer, competitor and company analysis) as well as an appreciation of the basic strategic issues involved in market segmentation, market targeting and market positioning in the international arena. Also examines the major tactics/tools used by global marketers to facilitate the management of their international marketing plans (i.e., product development, pricing strategies, marketing communications, distribution management). Emphasizes developing skills for entering new markets and sustaining or growing current markets. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 504 | Managing Organizations from a Global Perspective | Covers two key aspects of successfully managing an organization in a global environment. The first component covers the strategic direction of the organization, and the second component discusses how to harness the power of people in the organization to build teams and lead people to execute the strategy. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 505 | States and Markets in a Global Economy | Global managers operate in an international economy that presents tremendous opportunities as well as risks. Globalization has dramatically expanded opportunities for international trade, investment and economic development. At the same time, global managers have to deal with the prospect of trade wars, international financial crises and intensified competition over markets and resources. In addition, international organizations such as the International Monetary Fund, World Trade Organization and World Bank Group have a direct impact on international business operations. Develops analytical tools for understanding the rapidly changing and dynamic global political. With these tools, managers are better prepared to anticipate the risks and take advantage of the opportunities they will encounter in the global economy. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 2-3 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 506 | Communicating and Negotiating Across Cultures | This dynamic and interactive course provides managers with an effective framework for achieving their goals in global management settings. Assists students to prepare for and execute time-tested strategies for achieving communication competence with persons from different cultures. Also covers negotiating in the global context. Not only examines theories of culture and communications, but also places students in an experiential situation to gain valuable skills for overcoming obstacles in global management environments. Through use of cases, multicultural team exercises, student negotiation exercises and simulations, equips the global manager with tools to solve problems and take advantage of opportunities in a multicultural world. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 507 | Global Organizational Consulting | Consulting course provides an overview of the field of consulting and the role of the management consultant. Familiarizes students with the tools and techniques used during a consulting engagement, including project entry, problem definition, intervention planning, data collection, problem solving, alternative generation, feedback, project exit, client relations skills and project management. Requires students to work in project teams to solve business problems in organizations through the application and expansion of technical skills acquired in other classes. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 2-3 | | Prerequisite(s): TAM 541 OR TGM 517; TGM 545; TGM 557 |
| TGM | 508 | Regional Business Environment I: Emerging Markets | As an extension of states and markets in a global economy, provides an analysis of contextual factors that influence dynamic business environments by employing frameworks that integrate political, economic, geographic, and sociocultural factors in a specific regional area. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | Prerequisite(s): Thunderbird School of Global Management graduate student; TGM 505 or 515 |
| TGM | 509 | Regional Business Environment II: Developed Economies | Provides future global managers with the analytical tools and frameworks for understanding the developed markets business environment. Also provides a broad understanding of those economies in order to be successful therein. In order to succeed as managers in the environment, requires knowledge of political, social, cultural, economic, business and economic factors, both across the developed markets landscape and within individual countries. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | Prerequisite(s): TGM 505 or 515 |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|---|
| TGM | 510 | Strategies in Global Development | The nuances and challenges of development in the less-developed countries (LDCs) and in the transition economies of the world. Analyzes the economic, social, political, cultural and other challenges that LDCs and transition economies face, and the strategies they are employing in their quest for development. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 515 |
| TGM | 511 | Global Financial Accounting | Accrual accounting concepts, teaching students how to prepare and understand the content of traditional financial statements. Topics include the recognition and measurement of accounting events; preparation and analysis of income statements, balance sheets and statements of cash flows; and the measurement of revenue, expenses, assets, liabilities and stockholders' equity, including both U.S. and international principles. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 512 | Managerial Accounting and Decision Making in a Global Environment | Teach students how to use accounting information to help organizations succeed in a rapidly changing global environment. Introduce a variety of tools and techniques such as cost allocation, cost-volume-profit, relevant costing, performance evaluation, budgeting, transfer pricing, customer profitability analysis, nonfinancial performance evaluation, and/or sustainability reporting. By applying these tools and techniques to different types of global organizations, students learn how to use accounting information to make effective decisions. Throughout the course, emphasizes integrating other subject areas such as strategy, data analytics, entrepreneurship, corporate social responsibility, and/or behavioral economics into the decision analysis process. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | Prerequisite(s): Thunderbird School of Global Management graduate student; TGM 501, 511 or 517 |
| TGM | 515 | Navigating Global and Regional Business Environments | Globalization has dramatically expanded opportunities for international trade, investment and economic development, but potential trade disputes, international financial crises, political risks, international environmental regulations and ethical dilemmas in global business have also emerged. Develops analytical tools for understanding the rapidly changing and dynamic global business environment, especially in the era of 4th Industrial Revolution. With these tools, managers are better prepared to manage risks and take advantage of opportunities in the global economy. Deals with the regional business environment. Begins with a brief geographical, demographic and cultural overview of the region, and develops tools for analysis useful to assessing the business environment. While the emphasis is on a specific region, the same tools could be applied to any region of the world. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TAM 505 or TGM 515 |
| TGM | 517 | Global Accounting and Financial Management | Two-part course covering global accounting and global financial management. The first section covers financial accounting from a global perspective. Students have an opportunity to learn how to develop and use financial accounting information for external decision-making purposes. The second section equips students with the tools necessary to make strategic financing and investment decisions for value creation in a competitive global environment. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 518 | International Finance and Trade | Covers the two major areas of international economics: international trade and international finance. Offers a detailed look at the foreign exchange market, instruments and practices, as well as related theories and government policies. Also places a significant focus on the macroeconomy and its relationship to capital flows and economic relations with other countries. Also examines the flows of goods and services in international trade and the policies that relate to this trade. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 519 | Derivatives and Risk Management: Strategies and Applications | Focuses on developing students' ability to strategize and apply financial and statistical methods to design creative solutions for risk management. Students develop (1) an understanding of derivative securities such as options, futures, forwards and swaps, and their pricing; (2) a familiarity with derivative trading strategies such as straddles, spreads, synthetics; (3) the skills to apply these derivative assets and strategies to manage diverse sources of risk, including market risk, interest rate risk, foreign exchange risk and commodity price risk; (4) the ability to manage the interest rate and default risk in fixed-income securities (requires an understanding of duration, convexity, credit default swaps); (5) a knowledge of important financial disasters and appreciation of the role played by speculators, hedge funds, arbitrage and liquidity in financial markets. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 517 |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|---|
| TGM | 521 | Managing for Global Value Creation | Equips students with the tools necessary to make strategic financing and investment decisions for value creation in a competitive global environment. Topics addressed include financial analysis and projections; working capital management and investment management (derivation of cash flows, cost of capital, discounted cash flow valuation, and capital budgeting decisions). | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 522 | Global Financial Decisions | Covers modern practices of financial decision-making and management in a market-oriented multinational framework. Topics include financial technology, cryptocurrencies, capital structure decisions, risk management involving financial derivatives and currency hedging, cross-border investment decisions, subsidiary management, and cross-border merger and acquisitions. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 2-3 | | Prerequisite(s): Thunderbird School of Global Management graduate student; TGM 517 or 521 |
| TGM | 523 | Global Investments | Surveys the investment management landscape and delivers the theory and technology attendant to intellectual and/or career pursuit in this domain. Topics explored include the domestic and international aspects of portfolio optimization; emerging markets and global asset allocation; security analysis and selection; stock sorting and screening algorithms; mutual fund performance decomposition and benchmarking; fixed income analytics and metrics; earnings quality; the franchise factor; distress prediction and credit scoring models; the behavioral finance salient; and financial derivatives from a portfolio management perspective, inter alia. A respectable floor of numeracy is advisable; a CFA® emphasis prevails. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 517 |
| TGM | 524 | Valuation of the Private Firm | Provides a practical and theoretical understanding of the valuation of non-trading private enterprises. Basic theory, methodology and application of modern financial concepts as they relate to the valuation of these types of business organizations. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 517 |
| TGM | 525 | Global Financing and Forecasting for the Private Firm | Focuses on finance concepts as applied in the real work by entrepreneurs. From the firm perspective, covers topics relevant to entrepreneurial finance, including financial statements, funding plans and venture capital. Prepares prospective general managers of entrepreneurial companies on how to make the financial decisions involved with building high-risk, high-growth new enterprises. Prepares business-minded students for careers focused on entrepreneurship and corporate entrepreneurship. Through the use of excel-based modeling, combined with lectures and readings from assigned sources, students understand aspects in finance that are critical to the entrepreneurial venture. Prepares students to deal with the various financing resources available to these same enterprises, including venture capitalists, angel investors, investment bankers and other financial stakeholders. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 517 |
| TGM | 526 | Global Portfolio Management | Develops (1) an understanding of the pricing of derivative securities such as options, futures, forwards and swaps; (2) an understanding of derivative strategies, such as straddles, spreads, synthetics; (3) the ability to use these derivative assets and strategies to manage diverse sources of risk, including market risk, interest rate risk, foreign exchange risk and commodity price risk; (4) the ability to manage the interest rate and default risk in fixed-income securities (requires an understanding of duration, convexity, credit default swaps); (5) a broad understanding of the role played by hedge funds, arbitrage and liquidity in financial markets. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 517 |
| TGM | 527 | Global Private Equity | Overview of the private equity industry globally, its role in economy, its participants, its operations and its recent development. Covers different phases of the private equity investment process and the players involved at each stage. Phases include: setting up a fund, selection and screening of investments, exploring valuation techniques, managing and exiting investments. Emphasizes the practical aspects of private equity transactions through case studies and interactions with private equity professionals. Recommended for students interested in private equity investing, investment management, investment banking, entrepreneurship and entrepreneurial finance. Does not require previous experience in private equity or financial skills beyond those taught in the finance core classes. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 517 |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|---|
| TGM | 528 | Business Intelligence | Examines the role that business intelligence--the systematic collection, synthesis and analysis of information on the external operating environment--should play in strengthening corporate strategies and decision making. Through lectures and client-sponsored competitive assessment projects, the course has two goals: to help students understand this management tool and to train them to be able to utilize it for competitive advantage. Also addresses the related issues of corporate/industrial espionage and information security. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 545 |
| TGM | 529 | Multinational Corporate Finance (FORAD) | Applies the theories of managerial and international finance to the problems of multinational treasury management. Topics include issues and techniques in multinational funds transfers; identifying and measuring foreign exchange and interest rate risk; multinational tax planning; managing foreign exchange and interest rate risk; hedging instruments, including forward contracts, options and swaps; and financially engineered synthetics. Students also manage the financial functions of a computer-simulated multinational corporation, construct a biennial report summarizing their management results and present oral reports to a board of directors consisting of professors and invited business professionals. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 517 |
| TGM | 530 | Big Data in the Age of the Global Economy | Creating a sustainable IT-dependent competitive advantage is a major goal for forward-thinking multinational organizations. Understands how multinational organizations make strategic use of Big Data to gain a competitive advantage in the global economy. Covers the important technological aspects of big data from a managerial viewpoint. Delves into the understanding of global data and how this data must be standardized to account for differences in collection methods, legal constraints and cultural interpretation to create a reliable platform for evaluation. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | Prerequisite(s): TGM 557 |
| TGM | 531 | Multinational Value Chain | Exposes students to the strategies and challenges associated with moving goods, services, information and associated payments across complex, globally dispersed value chains to end customers. Topics include value-chain structures, supplier partnerships, cross-cultural issues, technology, data networks, global logistics, risk management and value-chain mapping. A field project provides students with an opportunity to work in teams applying the course concepts to increase customer value in a real value chain. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 532 | Leading Global Projects | Provides an overview of the global context of project leadership. Global project leaders work at the intersection of project management, leadership in a project context and cross-cultural effectiveness. Exposes students to key project leadership approaches including stakeholder management, methods for increasing inclusion on global project teams and building high-performing global project teams. Uses case studies, a simulation, several exercises and interactive discussions. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 536 | Global Trade Risk Assessment and Mitigation | Firms of all kinds are attempting to improve their competitive positions by strategically managing the flow of services, raw materials, work-in-process inventories and finished goods on a global basis. Global managers must be concerned with the ever-increasing number of diverse risks to their businesses posed by political, social, physical and financial forces at work globally and in specific regions and countries. Centered on state-of-the-art assessment models used by businesses and foreign investors. Issues include methods of measuring, assessing and forecasting risk, and methods of mitigating risk. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 515 |
| TGM | 537 | State Power, Business Interests and Multinational Trade Agreements | Explores the political economy of trade and multinational trade agreements, especially as they pertain to national business environments and the global economy. Covers the domestic and international politics of trade, the formation and composition of multinational trade agreements, and the implications for national and multinational companies. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 505 or 515 |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|---|
| TGM | 538 | Corporate Partners | Experiential consulting practicum involving a highly visible, rapidly growing or start-up company or entity. Engages client in a specific activity such as strategic planning, opportunity assessment, policy or procedure redesign or competitive assessment. Requires the student team to integrate various skills encountered in Thunderbird's fundamental core courses to produce the desired deliverable. Students interact directly with the client during the semester to gain insights into the client's circumstances. The project results in complex deliverables and culminates in the presentation and recommendation to the client of suggested operational options or strategic directions. | N | PRA | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 517; TGM 545; TGM 557 |
| TGM | 540 | Managing People from a Global Perspective | Explores the mix of organizational practices and people that can be the basis of sustainable competitive advantage in the contemporary global business environment. Topics covered include cross-cultural issues in managing people, traditional and emerging models of organizations, organizational culture, leadership, employee skills and motivation, reward systems and change management. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-2 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 541 | Competitive Strategy from a Global Perspective | Focuses on choices that impact the performance of the entire organization. Examines central questions: Why are some industries and firms more profitable than others? How do firms create competitive advantage? How does the choice of strategy drive organizational performance? How do firms manage scarce resources in the pursuit of strategic objectives? How do firms create unique and sustainable industry positions? | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-2 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 545 | Global Leadership and Strategy | Creating value in modern organizations comprises the strategy that the organization deploys and the way in which its leaders execute the strategy to achieve superior economic returns. Thus, this course covers two distinct but interconnected domains dealing with competitive strategy and leadership. The strategy segment focuses on how organizations choose their strategic position, build sources of competitive advantage, and design their value proposition and business models. The leadership segment illustrates the integral role that leaders play in helping an organization realize its strategic potential and focus on what it means to compete through people in a way that produces positive results for individuals, teams and organizations. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 546 | Regional Industrial Analysis | Builds on concepts introduced in competitive strategy, global strategy and regional business environment. Focuses on the analysis of the strategies adopted by competing players and their impact on the global strategies pursued by the parent organization in the context of regional industry dynamics. Covers a spectrum of topics ranging from industry cluster formation, country-specific advantage, industry versus industry ecosystem analysis, the government's role in industry and regional development including national innovation systems, demand and supply chains in regions, and emerging market challengers. Applies multiple decision-making tools and frameworks to understand the Information and Communications Technology (ICT) industry in Asia Pacific--the fastest growing region in the world. Tools and frameworks learned in this course are applicable to other regions and other industries. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 2-3 | | Prerequisite(s): TGM 545 |
| TGM | 547 | Leading Change and Transformation in a Global Environment | Increases understanding of the nature of organizational change (through conceptual frameworks, readings and discussions). Specifies skills needed for managing change. Enhances sensitivity to the contribution and consequences of the human element as related to change. Helps student's own capacity to "thrive on change." | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | Prerequisite(s): TGM 545 |
| TGM | 548 | Global Strategy | Focuses on how global firms create value. Covers topics ranging from country-specific competitive advantage and the notion of distance to alternative global strategy archetypes and sources of competitive advantage for emerging market multinationals. The approach applies multiple decision-making tools and frameworks to untangle the complexities of managing in a global corporation. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | Prerequisite(s): TGM 545 |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|---|
| TGM | 549 | Global Leadership | Explores the concept of effective leadership within and across a variety of organizations and global contexts. Definitions of "leadership" and strategies for becoming an accomplished leader abound. Rather than attempt to narrowly focus our attention on definitions, leadership styles, and supposedly "definitive" theories of leadership, focuses on the demands of and competencies associated with excellent leadership. Most importantly, examines how leaders sense the need for and then manage organizational change. Given the increasingly complex world we live in and the ongoing and rapid rate of change, change management has become one of the most critical of leadership skills. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 551 | Global Marketing Strategy | Covers the major concepts involved in creating and sustaining customer value, analyzing the firm's macro environment, choosing whether or not to enter a foreign market, how to evaluate different foreign markets, the best methods for entering different markets, the market research design process, understanding consumer and B2B customer behavior, and ethical issues encountered in global marketing. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 2 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 552 | Global Marketing Management | Covers the functional aspects of marketing including decisions relating to segmentation, targeting, branding, product development, pricing, distribution and advertising/promotion. Students integrate their knowledge of these topics through the creation of an international marketing plan based on a product or service and in a country approved by the instructor. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 2-3 | | Prerequisite(s): TGM 557 |
| TGM | 553 | Global Customer Decision Making | Both theoretical and applied, the backbone and foundation of the course draws heavily from behavioral economics, consumer psychology and consumer information processing. Equips students with a comprehensive understanding of how and why consumers make decisions the way they do in the market (B2C). Although consumers desire to make rational decisions that maximize their utility, in reality, more often than not, they tend to make irrational and suboptimal choices. Offers why such phenomena occur and how consumers can improve their quality of decision making. Offers a richer appreciation of the heuristics and decision-making rules that consumers use and biases that affect consumer decision making. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 557 |
| TGM | 554 | Global Marketing Research | Focuses on the marketing research process from start to finish. Marketing research techniques provide competitive advantage in a global business context. Develops the necessary skills to plan a research project, collect data, analyze the data (include key statistical techniques) and report findings. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 557; TGM 558 |
| TGM | 555 | Global Product Development and Pricing | Combines global product development (GPD) and global pricing (GP). GPD examines how an organization can identify, develop and manage products for global markets. Pays special attention to issues such as the product development cycle, innovation charter, barriers to product development and effectively organizing for product development. GP provides in-depth knowledge of the field of global pricing, covering the psychology, economics and tactics of pricing for a business enterprise, product or service. Better pricing knowledge usually converts to better bottom-line results. Students learn pricing theory and tactics as well as develop hands-on pricing skills, all aimed at improving profitability. These skills can be applied across the full range of professional contexts--as entrepreneurs, brand managers, business unit managers, management and M&A consultants. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 557 |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|---|
| TGM | 556 | Global Strategic Services Marketing | Services have come to dominate our economy. Yet there remains a naïve belief that services marketing and management is a simple adaptation of goods marketing and management. Unlike physical goods, services are co-produced with customers at a time, and in a place, of the customer's choosing. This co-production directly involves an organization's front-line employees. As a result, it is more difficult for services to be inventoried and checked for quality assurance. Provides a thorough understanding of the management and continuous improvement of service operations, including a thorough understanding of the role of customers in service operations such that service firms can design effective service experience so as to minimize service failure. Provides students with an end-to-end hands-on customer experience management (e.g., customer satisfaction and loyalty), project that involves survey design, customer experience model development, data collection, data analysis, and recommendations. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 557 |
| TGM | 557 | Global Marketing and Data Analytics | Global companies are embracing digital technologies to better understand their customers' journey and subsequent word-of-mouth discussions consumers have about their product online. This course is about understanding how multinational organizations make strategic use of Big Data to gain a competitive advantage in the global economy. It delves into the understanding of global data, choosing whether to enter a foreign market, how to evaluate different foreign markets, the best methods for entering different markets, the market research design process, understanding consumer and B2B customer behavior, and ethical issues encountered in global marketing. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 558 | Global Data Analysis for Strategic Marketing | Provides an understanding of the key statistical techniques to improve business decision making. Course complements other quantitative courses by adopting a hands-on and software- (SPSS) based approach to strategic decision making. A combination of lectures and discussions, analyses of data-based cases and software usage facilitate understanding of the material. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 557 |
| TGM | 559 | Global Brand Management | Provides a managerial orientation to the topic of global brand management. Prepares participants for a career either in the role of the "traditional brand manager" or in the role of a "manager with brand-related responsibilities." A major portion of the course is working on a global brand field project to develop a brand management/marketing plan for a brand and brand challenge of student (and team) choosing. Emphasizes the ethical dimension of global brand management; focuses on an individual brand ethics project. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 557 |
| TGM | 560 | Space for Global Future Leaders | Provides an executive, semi-technical discussion of global space economics. The space economy, while currently dominated by a few nations, is inherently global in both its basis and effects. Introduces students to the aerospace sector with specific focus on space, related industries and the affect and effects of space on all sectors. Covers the history of human space exploration and commercialization, then considers each aspect of global space economics--including technology, finance, insurance, applicable law and policy, global issues, supply chain and applications. Particularly emphasizes space applications for countries around the world and comparative advantage of different countries. Students gain an understanding of the current state of space commercialization, the ability to evaluate the effect of space on different industries, the capability to engage in space entrepreneurship and to take advantage of new capabilities and opportunities presented by space. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TGM 560 or TGM 598 (Space for Future Global Leaders) |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|--|
| TGM | 561 | Global Space Policy and Law | The global space economy is currently transitioning from a state-dominated approach to a commercial one, which creates a need for updated perspectives about how law, policy and regulation enable or hinder these activities. Discovers the various aspects of the policy development process and investigates the implications of some specific policies, past and future. Researches the different aspects of space regulation, the challenges of keeping regulation up to speed with the pace of technology and looks at some of the tradeoffs that exist within the regulatory process. Examines traditional regulatory issues as well as future-oriented ones. Explores the various risks of commercial space enterprises. Analyzes the key issues of space policy, epistemic and institutional process as well as the drivers for space ambitions of the major powers (e.g., U.S., China, Russia, India) vs. the middle powers (e.g., UAE, U.K., Japan, Luxembourg, Nigeria). | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TGM 561 or TGM 598 (Global Space Policy and Law) |
| TGM | 562 | Global Space Entrepreneurship and Sustainability | Presents an overview of entrepreneurship and sustainable business for the global space industry. Involves acquiring a basic understanding of both global entrepreneurship and sustainable business. Students become familiar with the definitions applicable to these two topics, the basic place and role of these two domains in the global economy and relations to the global space industry, and the significance of the two domains in the creation of jobs and sustainable economic activity. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TGM 562 or TGM 598 (Global Space Entrepreneurship and Sustainability) |
| TGM | 563 | Space and Global States and Markets | Provides multiple sets of critical knowledge about how space impacts and is influenced by political economics. Begins with an overview economic and political system. Examines the financial policies of states around the world and the effects on their economics and markets, including an overview of key world financial systems and institutions. Introduces frameworks to predict economic outcomes. Given the inherently global nature of space, examines political risk, relationships and trade regimes that can affect commercial space. Explores how the political economy may evolve in space. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TGM 563 or TGM 598 (Space and Global States and Markets) |
| TGM | 567 | Career Development for the Global Creative Industries | This career acceleration and preparation course helps students interested in pursuing careers in the global creative industries by developing the professional attributes specific to and necessary for advancing in any of the various creative industries. Successful industry veterans, including ASU alumni, each bring a panel of industry guests so students get to practice their new empowering, employment abilities in "mock" interviews, pitch sessions and networking activities. Students gain insider insights and networking opportunities with these pros which they can use to develop a personal leadership and career plan to aid in their current or future professional endeavors. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|-------------------------------------|--|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|---|
| TGM | 568 | Metaverse and the Global Enterprise | Explores the global management and business dynamics for managing revenue, regulation, privacy and ethics in the metaverse, Industry 4.0 extended reality. The metaverse represents rapid evolution of the Internet as an information and communication ecosystem, combining data, sensory and emotional knowledge. It is a multiverse that interoperates digital and physical realities, delivering pervasive sensory experiences using technologies to compress space and time. This is the Web that acts in symbiosis with daily life, intertwined with what we do. First, students receive an overview of how companies conduct business in and for the metaverse. This includes metaverse product development and creation of products and value capture through unique digital artifacts such as Non Fungible Tokens (NFTs). Metaverse marketing and the collection of data about individuals' physiological responses, physical movements and potentially even emotions through brainwaves. Also covers metaverse commerce and the application of blockchain technology and decentralized finance. Second, students understand how leaders face unique organizational and societal challenges to manage in the metaverse. This includes the future of work in Augmented Reality (AR) and Virtual Reality (VR), representing new ways of collaborating. Discusses options for employee training, learning and development in the metaverse, as well as ethics, policy and governance needed to safeguard workers and global citizens. Collectively, how these trends have implications for new forms of sustainable global development. These are hallmarks of building metaverse communities in Industry 4.0. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TGM 568 or TGM 598 (Metaverse and the Global Enterprise) |
| TGM | 572 | Global Import Export Management | Requires understanding theoretic, strategic, finance and practical business principles complicated by the differences in business practices, culture, laws and currency regulations of multiple countries and regions. Focuses on important pragmatic aspects of selling and acquiring goods and services to and from trading partners in foreign markets. Today's global marketplace, while dynamic with opportunity, contains rapidly changing physical, fiscal, technological and regulatory considerations for those who manage such activities. Important concepts to be learned include establishing strategic direction, identifying and managing a multitude of risks, protecting company assets, lowering the cost of finance, building winning business relationships and profitably expanding business into new markets. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 573 | Country Risk Management | Global managers must be concerned with potential risks to their businesses posed by political, social and financial forces at work globally and in specific regions and countries. This course centers around state-of-the-art assessment models used by businesses and foreign investors. Issues include methods of measuring and forecasting risk and mitigating risk. Recommended for students interested in business risk forecasting as a function in and of itself, and in operations, marketing, and any arena in which business investors must be able to anticipate and manage risks. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 575 | Global Affairs | Examines major theories and concepts in global affairs including different schools of international relations thought and levels-of-analysis determinants of foreign policy. These theories and concepts provide key insights on contemporary global affairs issues, and are applied to real-world events and case studies. Covers the role of political economy in the separate course on states and markets in the global political economy. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 576 | Global Affairs Methods | Covers research methodologies and analytical techniques used to investigate global issues. Topics include research design, quantitative methods, qualitative methods, policy analysis and database resources. These tools are used in government, in intergovernmental organizations, in nongovernmental organizations, and in the private sector. They are applied to key issues in global affairs such as democratization and human rights, income inequality and development, political violence and international security, and political risks to foreign investors. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 515 |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|---|
| TGM | 577 | International Organizations | Examines the role of international organizations in global affairs particularly in the areas of international peace, security, humanitarian and environmental issues. Focuses on intergovernmental organizations such as the United Nations and International Criminal Court as well as regional organizations such as the North Atlantic Treaty Organization and the African Union. Also focuses on international nongovernmental organizations such as Amnesty International and International Red Cross. Examines the impact of as well as the constraints on international organizations in real-world events and case studies. Covers major economic intergovernmental organizations in the separate course on states and markets in the global political economy. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 515 |
| TGM | 579 | Communicating in a Global Context | In a dynamic and interactive format, presents a framework of models and skills for building communication performance in competitive global business settings. Assists in implementing strategies for mastering interpersonal encounters, including conflict resolution, in multicultural environments. Not only examines theories of communication, but places students in experiential situations in which they develop valuable global management skills. Using cases, self-assessment questionnaires, multicultural team exercises and simulations, equips the global manager with the ability to solve problems and take advantage of opportunities in a multicultural world. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-2 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-12 | | |
| TGM | 581 | Negotiating in a Global Context | Provide students with knowledge, skills, insights and experience necessary to be a competent negotiator. Covers theories of cross-cultural negotiation and how these impact business interactions. Students gain insight into personal and cultural underpinnings that influences cognitive, affective and negotiation behavioral processes. Expands skills in achieving communication and negotiating competence through the understanding and practice of increased appropriateness, flexibility and adaptability. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 2-3 | | Prerequisite(s): TGM 506 |
| TGM | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-12 | | |
| TGM | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-12 | | |
| TGM | 585 | Corporate Social Responsibility in a Global Context | Provides knowledge, skills, insights and experience necessary to be a competent negotiator. Covers theories of cross-cultural negotiation and how these impact business interactions. Students gain insight into personal and cultural underpinnings that influences cognitive, affective and negotiation behavioral processes. Expands skills in achieving communication and negotiating competence through the understanding and practice of increased appropriateness, flexibility and adaptability. Corporate Social Responsibility (CSR) has become essential for corporations seeking to succeed in an intensely competitive global economy. Provides an in-depth understanding of what CSR is, how to apply it effectively in an international context and how to manage it well. Using a case-based approach, focuses on actual experiences of corporations that have used CSR strategies successfully--and unsuccessfully--to draw practical lessons for international managers. Incorporates several guest lectures from executives who share their firsthand experiences with CSR in various regions of the world. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | Prerequisite(s): TGM 586 |
| TGM | 586 | Global Entrepreneurship and Sustainable Business | Presents an overview of entrepreneurship and sustainable business. Involves acquiring a basic understanding of both the global entrepreneurship space and the sustainable business space. Students become familiar with the definitions applicable to these two topics, the basic place and role of these two domains in the global economy, and the significance of the two domains in the creation of jobs and sustainable economic activity. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-12 | | |
| TGM | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | LEC | Y | OPT | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-12 | | |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|---|
| TGM | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-12 | | |
| TGM | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-12 | | |
| TGM | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-12 | | |
| TGM | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | RSC | Y | Z3 | Thunderbird School of Global Management | Thunderbird School of Global Management | 1 | | |
| TGM | 596 | Thunderbird Experiential Practicum | Capstone course offering students an opportunity to apply the full range of professional skills they have acquired during graduate business and management studies. Consists of participation in a consulting project for a client system in an emerging market country, including Central America, Latin America, the Middle East, Africa, central and eastern Europe, and the whole of Asia apart from Hong Kong, Japan, Singapore, Australia and New Zealand. Serves all sectors: public/governmental, private and NGO/nonprofit. | Y | PRA | Y | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-6 | | Prerequisite(s): TGM 506; TGM 517; TGM 545; TGM 557 |
| TGM | 597 | Thunderbird Personal Leadership Development | Capstone course designed to equip students with the skills to transition from students to global managers in the 4th industrial revolution. Students create and continuously update their Career Development Plan. This plan requires them to research career options, commit to a career focus, devise a strategy, implement a networking plan, create career documents such as resumes and cover letter, prepare for interviews. Students also create their own Personal Leadership Development plan. | N | LEL | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-4 | | |
| TGM | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-12 | | |
| TGM | 601 | Megatrends: Understanding Future Drivers and Their Influences | Provides broad exposure to emerging and future transdisciplinary drivers and their influences. The lead professor for this Phoenix-based course partners with faculty from ASU colleges including the Ira A. Fulton Schools of Engineering, the Walter Cronkite School of Journalism and Mass Communication, the School of Public Affairs, and the Sandra Day O'Connor College of Law (and possibly other ASU schools or units). Representative topics span from crisis management in an era of hypercompetition and mass communications to the global legal implications of digitalization (e.g., Industry 4.0) and the emerging role of NGOs in partnering with private companies to seek shared value and sustainability. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 5 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 602 | Sustainable Futures: Building, Tapping and Creating Shared Value in a Changing World | Provides broad exposure to emerging and future transdisciplinary environmental drivers and their influences on business, nonprofit organizations and governments. Focuses on four interwoven themes. First, how do global firms create, experience and leverage shared value creation to drive innovation and growth. Second, exploration and application of contemporary models for mapping and understanding today's complex, dynamic systems, ecosystem development and cluster formation. Third, by delving into the function of multilateral agencies such as the WTO, WHO, UNHRC, UNCTAD and WBCSD in shaping and driving environmental influence on organizations, and understanding the public policy value chain. And, fourth, unbundling the impact of environment on innovation and growth success drivers in "next generation" manufacturing industries such as pharmaceuticals or precision engineering; on service industries such as banking or nonprofit organizations; on governments; and on NGOs. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 5 | | Prerequisite(s): Thunderbird School of Global Management graduate student |

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| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|---|
| TGM | 603 | Shaping Markets: Market Entry and Winning Strategies | Provides broad exposure to emerging and future transdisciplinary drivers and their influences. Primarily focuses on how global firms create value and thus covers a spectrum of topics ranging from country-specific competitive advantage and the notion of distance, to alternative global strategy archetypes, and sources of competitive advantage for emerging market multinationals. Integrative approach that seeks to apply multiple decision-making tools and frameworks to untangle the complexities of managing in a global corporation. Anchors the experiential segment of the course module in an emerging market setting to provide students a hands-on view of the dynamics shaping the growth markets of today and tomorrow. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 5 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 604 | Capturing Dividends: Finding, Fostering and Exploiting New Insights | Provides broad exposure to emerging and future transdisciplinary drivers and their influences with respect to innovation, technology and creativity. The lead professor for this module partners with thought and practice leaders from Thunderbird/ASU colleges and beyond. Representative topics span from understanding technology trends and their drivers to structuring for innovation and creativity success, and the leader's role and relevant skillset therein. From input to process to output, this module provides access to leading-edge best practices for seeing what others miss (successfully finding and developing valuable innovation), effectively assessing, prototyping, and validating, and winning adoption for new ideas and insights (and fostering these skills in others). | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 5 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 605 | Delivering Results I: Resourcing and Influencing to Maximize Impact | Provides broad exposure to emerging and future transdisciplinary drivers and their influences on strategy formation in global organizations. Primarily focuses on how global firms create value and thus covers a spectrum of topics ranging from country-specific competitive advantage and the notion of distance, to alternative global strategy archetypes, and sources of competitive advantage for emerging market multinationals. The approach will be integrative in that it seeks to apply multiple decision-making tools and frameworks to untangle the complexities of managing in a global corporation. Anchors the experiential segment of the course module in an emerging market setting to provide students a hands-on view of the dynamics shaping the growth markets of today and tomorrow. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 5 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 606 | Delivering Results II: Peak Dynamism Execution and Comprehensive Debrief | Provides broad exposure to emerging and future transdisciplinary drivers and their influences with respect to execution of strategy on global and local levels. The lead professor for this module partners with thought and practice leaders from Thunderbird/ASU colleges and beyond. Representative topics span from implementing global strategy, evaluating and responding to regional dynamics in fast expanding markets, bridging potential headquarter and field chasms, and executing in peak dynamism. This module provides access to leading-edge best practices for implementing strategy in fast expanding, emerging markets. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 5 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 705 | Philosophies, Theories and Methods of Research | Provides the necessary background in the philosophy of science to better prepare students in conducting high quality productive research. Develops the process of reorienting the student's thinking from the receptive mode of thinking that occurs in traditional graduate classes to the critical mode of thinking necessary for doctoral research. Addresses key content elements including the problem of appropriately defining concepts for global management and leadership research, the problem of providing evidence in support of a claim, and the problem of identifying both philosophical assumptions in social science research as well as the epistemological and methodological constraints that those assumptions imply. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|--|
| TGM | 710 | Shaping the Future: The Fourth Industrial Revolution and Digital Transformation in a Global Economy | Addresses the Fourth Industrial Revolution (4IR) and how it differs from previous industrial revolutions, as well as the drivers, enablers, opportunities and challenges. Examines the relation between the state and market in the global economy and discusses implications of 4IR globally. Beyond the 4IR, looks at the relations between politics and economics and how they affect local, national and global outcomes. Students study how technology impacts, changes and profoundly transforms societies. Investigates human-centered technology and the response from our institutions, technology governance and the reach of Artificial Intelligence. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 715 | States and Markets in the 4th Industrial Revolution Global Economy: Applications for Global Leaders | Provides global managers and leaders with an in-depth assessment of the field of global political economy through the lens of the Fourth Industrial Revolution (4IR). Students develop the ability to critique and apply relevant concepts from 4IR to explain trends and developments in the global economy. They also use these concepts to help companies, governments and nonprofit organizations manage challenges and seize opportunities in operating in the global economy during the 4IR. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 720 | Qualitative Analysis for Systems Thinkers: Learning from the Field | Seminar in qualitative research methods including conceptualization, research design, tool choices and data collection processes with a focus on understanding and addressing leadership and management challenges applied to the student's research project. Familiarizes students with the selection and application of qualitative research methods that address real-world challenges in private and public organizations. Helps students gain a deep understanding of the rationale for and nature of field research in organizations that guide selection of the best tools to answer research questions. With an emphasis on global and 4th Industrial Revolution contexts, topics presented include an overview of qualitative research, research questions and how qualitative research may apply when conducting qualitative studies, ethics in qualitative research, and a variety of tools--interviews, focus groups, participant observation, document and artifact analysis, data synthesis and case study research method. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 730 | Systems Change and Transformation in the Anthropocene | Transnational hyper-connectivity is an essential feature of our time. Yet in government, business and civil society, our approaches to power, leadership and organization remain locked in the competition-based frameworks of the 20th century. To understand these all too common problems, we need to move beyond linear models--based on a fairly detailed knowledge of the present situation and supposed to be able to make reasonable forecasts of the future--which underlie much formal policy analysis and design. Understanding the implications of strategic behavior, nonlinear feedbacks and heterogeneous actors on policies is needed. Equally we need to understand the impact of policies at multiple scales and across a wide range of stakeholders. Assesses these topics through systems change and how this has led to transformation in the Anthropocene. The foundational premise of this course is that the traditional discipline for achieving objectives in global affairs--statecraft--is necessary but not sufficient for the networked age. New tools and strategies are needed to understand and influence a world based on connectivity. Network theory provides a starting point. Covers basic principles of network theory and helps understand their relevance to the design, development and management of fit-for-purpose networks involving business, civic organizations and nonprofits, and government. Examines case studies of different global problems--from health to human rights, war to economic renewal, the environment to terrorism. Much progress has been made in the scientific understanding of the kinds of systems--under the name of complexity. Explores the consequence of these new insights for policy. Discusses salient policy and management implications of a complex adaptive system frame. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|---|
| TGM | 740 | Leading and Managing Global Organizations: Advanced Topics | Organizations, private (business) and public (government, nonprofit and hybrid), all face chronic management and leadership problems that pose significant challenges to them. Organizations are complex and problematic entities, which is especially true for government organizations. These problems include the difficulty of designing organizations capable of coping with highly dynamic and rapidly changing environments, the challenge of developing strategies and structures for hypercompetitive conditions, and the greater complexity of managing global enterprises. Further issues addressed are the difficult task of shaping a corporate culture, managing politics and conflict between individuals and organizational units, and motivating employees who are more mobile than ever. Students learn to design incentive systems, as well as lead teams effectively. Covers how leaders of these organizations deal with these challenges. Helps students gain a deeper understanding of the nature of organizational change and the complexities that underlie them (through conceptual frameworks, organizational structure and design, the interaction of organizations with their environments and the behavior of individuals and groups within organizations; readings; and; discussions). Illuminates skills needed for managing change. Enhances sensitivity to the contribution and consequences of the human element as related to change. Helps students think about how to "thrive on and in change." | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 745 | Data Analysis for Global Leaders | Provides the quantitative tools used to conduct research in global leadership. Students study three overarching topics: (1) research design, with attention to forming hypotheses, matching appropriate research methods to those hypotheses, and operationalizing variables; (2) data structure and data sources; (3) specific quantitative techniques, including t-tests, chi-squared tests and multiple regressions. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 750 | Problem Identification and Research Design: Directed Study | Students engage in their identification of their research problem, formulation of the research objectives and design of the action plan for their project. | N | RSC | N | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 755 | Review of Literature: Directed Study | Students engage in the review of literature of their research problem or project, exploring deep functional knowledge in managing and leading in the 4IR. | N | RSC | N | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 760 | Project Impact Assessment: Directed Study | Students engage in the assessment of the project impact, exploring deep functional knowledge in managing and leading in the 4IR. | N | RSC | N | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 765 | Independent Applied Field Research: Directed Study | Students engage in independent applied field research related to their project exploring deep functional knowledge in managing and leading in the 4IR. | N | RSC | N | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 770 | Final Project Draft: Directed Study | Students engage in developing the draft of the final draft of the applied research project, exploring deep functional knowledge of their topic of study. | N | RSC | N | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 775 | Research Project Draft Refinement: Directed Study | Students engage in the refinement of the research project draft, exploring deep functional knowledge in managing and leading in the 4IR. | N | RSC | N | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRO | Y | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | RSC | Y | Z3 | Thunderbird School of Global Management | Thunderbird School of Global Management | 1 | | |
| THE | 100 | Introduction to Theatre | Introduces theatre and why it matters. Explores this dynamic art form from its roots up through our current time and how theatre functions as a part of human cultures. Students watch and analyze videos of incredible live performances and get a behind-the-scenes look at how theatre artists collaborate to create a production. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s): non-Theatre major |
| THE | 125 | Orientation to Theatre | Orientation to university and school resources and procedures. Academic success strategies, mentorship, goal setting. Community-building exercises. | N | REC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Performance and Movement BA, Theatre BA, Theatre (Acting) BA, Theatre (Design and Production) BA, or Theatre Exploratory BA major; freshman standing; Credit is allowed for only FMP 101 or THE 125 (THF 125) OR Visiting University Student |
| THE | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|---|------------------------------------|-------|-----------------|---|
| THE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| THE | 320 | History of the Theatre I | Centers on the historiography of world theatre as art, as a medium of cultural expression and as a social institution. Involves, along with the reading of plays, advanced methodological approaches to studying the creation of theatre within cultural and political contexts. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & H | Prerequisite(s): THF 220; minimum junior standing OR Visiting University Student |
| THE | 321 | History of the Theatre II | Traces major developments in theatre production from the 17th century to modern times. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & H | Prerequisite(s): THF 220 with C or better; minimum junior standing OR Visiting University Student |
| THE | 322 | Theatre History and Culture | Critically examines major developments in theatre history, historiography, and dramatic literature. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & H | Prerequisite(s): non-Theatre major OR Visiting University Student |
| THE | 325 | Play Reading for Educational Theatre | Assigned independent readings in plays for secondary school play production. | N | RSC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Theatre student OR Visiting University Student |
| THE | 359 | Comics, Cons, and Cosplay Phenomena | Creates an awareness and appreciation for the evolution of the comic, con and cosplay industries and related popular art forms primarily through the presentation of events that celebrate the historic and continuing contribution of the industries to art and culture. Organized in a historic timeline, beginning with ancient gods and myths, to the development of superheroes and science fiction characters beginning in the 1930s, to the impact that world conflict and social unrest and shifts had on the art form in the 1940s through 1990s, to the character reinvention and evolution during this century and fandom's impact on fashion and culture. | N | LEC | N | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only THE 359 or THE 494 (Comics, Cons and Cosplay Phenomena) or THP 494 (Comics, Cons and Cosplay Phenomena) OR Visiting University Student |
| THE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| THE | 406 | American Multicultural Film | Examines Native, African, Asian, and Latina and Latino American films and film artists in cinema history and production. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & C | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| THE | 420 | Theatre in America | Examines the major movements and pivotal moments in the history of American theatre from the 1700s to its current state, particularly its efforts to establish an identity that reflects the unique and changing citizenry of the United States. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s): minimum 40 hours. Credit is allowed for only AMS 420 or IAP 420 or THE 420 |
| THE | 421 | Shakespeare: Stage and Film | Examines Shakespeare's plays as written texts, stage performances, and film productions. Focuses on play reading, performance analysis, and film critique. Online course. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| THE | 422 | Latinx Theatre and Film | Explores issues of cultural identity through critical analysis of theatre and film by Latinx artists in the United States. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & C | Prerequisite(s): ENG 102, 105, or 108 with C or better or Theatre MA student OR Visiting University Student |
| THE | 423 | African American Theatre | Readings, discussion, video of the history and dramatic literature of African American playwrights and theatre companies in the United States. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | C | Prerequisite(s): ENG 102, 105, or 108 with C or better or Theatre MA student OR Visiting University Student |
| THE | 425 | Chekhov and Russian Drama | An in-depth study of Chekhov's major works, representative short stories and major plays, including "The Cherry Orchard" and "Three Sisters". Taught in English. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | L or HU | Prerequisite(s): ENG 102, 105 or 108 with C or better; Credit is allowed for only RUS or THE 425 |
| THE | 426 | Pre-Columbian Theatre of the Americas | Selected studies in pre-Columbian theatre forms and texts of the Aztecs, Mayans, Caribbean islands, and North American Indians. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): ENG 102, 105 or 108 with C or better, or Masters Theatre student |
| THE | 429 | Studies in European Literature and Culture | Literary, cultural, and historical issues. | N | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s) with C or better: ENG 101, 105, 107; ENG 200; one ENG 200- or 300-level literature course OR ENG 101, 105, 107; min 45 hours; Credit is allowed for only CEL 429 or ENG 429 or REL 429 or SLC 429 or THE 429 OR Visiting University Student |
| THE | 430 | History of Fashion I | Fashion is rarely set but rather evolves with eras of upheaval between one generation and the next. Clothes express the personality and rank of the individual creating an instantaneous and lasting impression. Introduces over 400 years of Western fashion history drawing parallels between the fashion and the period in which it existed. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s): minimum sophomore standing OR Visiting University Student |
| THE | 431 | History of Fashion II: 20th-Century Fashion | A century of fashion history, drawing parallels between the fashion and the period in which it existed. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only THE 431 or THE 494 (History of Fashion II) |
| THE | 440 | Experimental Theatre and Performance | An inquiry into avant-garde and experimental theatre/performance from the 19th century to the present. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | L | Prerequisite(s): Theatre undergraduate student; ENG 101, 105, or 107 with C or better; THE 320 or 321 with C or better; THF 220 with C or better OR Visiting University Student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|---|------------------------------------|-------|-----------------|---|
| THE | 475 | Latin American Film | Examines the role of film in contemporary Latin American culture; films viewed and analyzed as casebook examples. Focuses on the aesthetics and generic conventions of contemporary Latin American films. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, 108, FMS 100, or SLC 202 with C or better; Credit is allowed for only FMS 475 or SLC 475 or SPA 475 or THE 475 or FMS 494/SLC 494/SPA 494/THE 494 (Latin American Film) OR Visiting University Student |
| THE | 480 | Methods of Teaching Theatre | Applies materials, techniques and theories for theatre with students, grades 6 through 12. Emphasizes curriculum development and praxis. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 4 | | Prerequisite(s): THP 311 with B or better or graduate student; Credit is allowed for only THE 480 or THE 581 OR Visiting University Student |
| THE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | |
| THE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | | Pre-requisites: Barrett Honors Theatre or Film student |
| THE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | L | Prerequisite(s): Barrett Honors Theatre or Film student; ENG 101, 105 or 107 with C or better |
| THE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| THE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | |
| THE | 500 | Research Methods | Course on research methods in a specific discipline. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): graduate School of Film, Dance and Theatre major |
| THE | 504 | Studies in Dramatic Theory and Criticism | Surveys dramatic theory, criticism, and aesthetics as they relate to contemporary performance. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisites: Theatre student |
| THE | 505 | Critical Theory and Performance | Surveys contemporary theories of culture as they apply to theatre and performance studies. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisites: Theatre graduate student |
| THE | 510 | Studies in Literature | Assigned individual reading program in standard sources and masterpieces in theatre literature. May be repeated for credit. | N | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| THE | 520 | Theatre History and Literature | Surveys historiographical issues and dramatic literature related to key periods in theatre history. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisites: Theatre student |
| THE | 524 | Advanced Studies in Theatre for Youth | In-depth study of the history, literature, and contemporary practice of theatre for young audiences. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Theatre Education or Theatre for Youth student |
| THE | 525 | Advanced Studies in Theatre for Youth II | Project-oriented explorations of theory and practice of contemporary theatre for youth audiences. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THE 524 with B or better |
| THE | 562 | Dramaturgy Workshop | Advanced dramaturgical technique for the contemporary theatre, including trends in new play development, festivals and productions throughout the United States. Participation in Arizona Playwriting Competition. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| THE | 581 | Methods of Teaching Theatre | Applies materials, techniques and theories for theatre with students, grades 6 through 12. Emphasizes curriculum development and praxis. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only THE 480 or THE 581 |
| THE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisites: Theatre student |
| THE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | N | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisites: Theatre student |
| THE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisites: Theatre student |
| THE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| THE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisites: Master of Art Theatre student |
| THE | 600 | Research Methods | Course on research methods in a specific discipline. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | |
| THE | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisites: Theatre student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|---|------------------------------------|-------|-----------------|---|
| THE | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisites: Theatre student |
| THE | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | |
| THE | 700 | Research Methods | Course on research methods in a specific discipline. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre-requisite: Must be a Theatre Education or Theatre for Youth student or have instructor approval. |
| THE | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisites: Theatre student |
| THE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-15 | | |
| THE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-15 | | |
| THF | 101 | Acting Introduction | Introduces basic principles of acting. Topics include terminology, scene and character analysis, exercises and improvisation, audition preparation. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): non-Theatre student OR Visiting University Student |
| THF | 126 | Professional Development: Communication and Collaboration | Foundational course brings together students in several collaborative art forms to create original works and build community within the Herberger Institute. Provides introductions to the creative process and several key creative career skills: effective communication, conflict resolution, project management, building mentoring relationships, and creating equitable and inclusive project teams. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Herberger Institute for Design and the Arts student OR Visiting University Student |
| THF | 160 | Introduction to Storytelling | Introduces the nature, structure, and operations of story, as well as the functions of narrative in societies and cultures. Several modules introduce a different mode of storytelling. Students learn to create their own stories utilizing several of the approaches introduced in the modules. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | |
| THF | 215 | Design and Composition for Theatre and Film | Introduces the aesthetic principles and practices employed by designers/artists of the stage and screen, including: basic knowledge of the elements and principles of design; conceptualization of design for theatre and film; director/designer collaboration models; methods and modes of visual communication for theatre and film (storyboards, renderings, models, etc.). | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | |
| THF | 220 | Principles of Dramatic Analysis | Analysis, evaluation and interpretation of dramatic literature for theatrical and cinematic production. Emphasizes the traditional canon of dramatic literature, the language of narrative film, and traditional structures and forms of drama for stages and screens. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | L or HU | Prerequisite(s): Sidney Poitier New American Film School major or School of Music, Dance and Theatre major; ENG 101, 105, or 107 with C or better; Pre- or corequisite(s): THF 126 with C or better if completed OR Visiting University Student |
| THF | 370 | Seminar: Acting Concentration for Stage and Screen | Designed for a student's continued growth as a preprofessional acting student. Provides a series of master workshops focused on craft. In addition, under the guidance of the faculty facilitator, students receive career guidance and information to strengthen connections to the institute, the school and the university. | N | SEM | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): admitted to Theatre (Acting) BA concentration; Credit is allowed for only THF 370 or THP 394 (Acting Concentration Seminar) OR Visiting University Student |
| THF | 397 | Professional Development Seminar | Preparatory course for senior projects. Students research and create senior project proposals while formalizing faculty mentorships. | Y | SEM | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Film BA or Performance and Movement BA or Theatre BA major; minimum 56 hours OR Visiting University Student |
| THF | 429 | Astrobiological Arts | Is there life "out there"? Students investigate the science of astrobiology through a blend of research and creative processes. Utilizing exploration learning methods, students pursue inquiries into life in the universe and develop collaborative creative projects from initial idea to completion. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only THF 429 or HDA 494/HDA 598/SES 494/SES 598/THF 494/THF 598 (Life, the Universe & Creating: Astrobiological Art) OR Visiting University Student |
| THF | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |

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| THF | 497 | Senior Project | Mentored practicum for culminating capstone projects. | Y | PRA | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | | Prerequisite(s): Film BA, Film and Media Production BFA, Performance and Movement BA, or Theatre BA major; FMP 385, FMP 398, or THF 397 with C or better; minimum 56 hours |
| THF | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| THP | 102 | Acting I | Explores and applies basic principles of acting. Topics include terminology, scene and character analysis, exercises and improvisation, audition preparation. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Performance (Music Theatre) BM major or Performance and Movement BA major or Theatre BA major OR Visiting University Student |
| THP | 122 | Acting II | Actors learn how to mine a script for information to make the choices to develop a character such as the character's movement and vocal qualities, the character's world view and tactical choices, and how the character changes over the arc of the play or are impacted by the events and relationship shifts that take place within the script. Actors learn how to embody those choices as they act responsively and collaboratively with a scene partner. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THF 101 or THP 102 with C or better; Corequisite(s): THP 272; THP 277 OR Visiting University Student |
| THP | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| THP | 201 | Theatre Production Crew | Participation in university mainstage theatre production backstage and board operations. | Y | LAB | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | |
| THP | 202 | Acting II: Scene Study | Theatre techniques using improvisation and emotional truth. Rehearsal techniques and application of action to dramatic text. Multiple approaches. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THF 101 or THP 102 with C or better; THP 272 with C or better; THP 277 with C or better; Pre- or corequisite(s): THF 220 with C or better if completed OR Visiting University Student |
| THP | 203 | Acting III | Actors learn how to translate acting techniques from the stage to the screen. From working in the frame to relating to the camera, covers the basics of acting on screen. | N | LEL | N | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THF 101 or THP 102 with C or better; THP 272 with C or better; THP 277 with C or better; Pre- or corequisite(s): THF 220 with C or better if completed OR Visiting University Student |
| THP | 212 | Puppetry with Children | Construction and manipulation of puppets; practice in performance skills. Emphasizes educational and recreational uses of puppetry by and with children. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | |
| THP | 213 | Introduction to Technical Theatre | Procedures of technical theatre production and demonstration. Topics include design and construction of scenery, lighting, and properties. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Herberger Institute for Design and the Arts student OR Visiting University Student |
| THP | 214 | Introduction to Costuming | A survey of costume design and construction for performance. Cultivates basic sewing and crafting skills through hands-on projects. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Herberger Institute for Design and the Arts student OR Visiting University Student |
| THP | 216 | Stage Technology | Explores fundamentals and practical applications of lighting, sound and media equipment and technology for live events. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): BA in The Arts, Digital Culture (Theatre) BA, Film and Media Production BFA, Performance and Movement BA, or Theatre BA major; Credit is allowed for only THP 216 or THP 494 (Stage Technology) OR Visiting University Student |
| THP | 218 | Directing I: Introduction to Directing | Overview of emergence and practice of the director's craft. Explores director's role and responsibilities, play selection, conceptualizing, ground plans, blocking. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Film and Media Production BFA, Theatre BA, Theatre (Acting) BA, or Theatre (Design & Production) BA, or Theatre (Exploratory) major; THF 220 with C or better; THP 102 with C or better OR Visiting University Student |
| THP | 222 | Acting IV | Actors dive into cross-cultural and cross-historical texts that explore, expand, and exult language itself. Actors gain mastery of multiple forms of spoken theatrical language from classical to contemporary, dramatic to post-dramatic including scripts across mediums such as theatre, film, video games, etc. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THF 101 or THP 102; THP 122 OR Visiting University Student |
| THP | 251 | Student Production Board I | Performing arts entrepreneurship taught through the experience of operating a student-produced theatre company. Credit is available for acting, directing, design and technology. | N | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | |
| THP | 260 | Introduction to Dramatic Writing | Introduces writing for performance for stage, media and other forms. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |

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| THP | 272 | Movement I | Movement vocabulary and physical training in relaxation, alignment, conditioning, and stage presence. Application to performance. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | |
| THP | 277 | Voice and Speech I | Exercises and techniques to free the voice and improve quality and projection. Application to performance. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | |
| THP | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| THP | 301 | Theatre Production | Participation in university mainstage theatre productions (e.g., acting, construction, stage management). | Y | LAB | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | Prerequisite(s): THP 213 or 214 with C or better OR Visiting University Student |
| THP | 302 | Acting V | Advanced practice in methods, skills and research for rehearsal and performance with a focus on styles/non-realism. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 102 with C or better; THP 122 with C or better; THP 203 with C or better; THP 222 with C or better; minimum junior standing OR Visiting University Student |
| THP | 307 | Acting: Ten-Minute Plays | Acting in theatre projects, productions, or collaborative performances in directing classes. | N | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | Prerequisite(s): THF 101 or THP 102 with C or better OR Visiting University Student |
| THP | 311 | Drama and Education: Performance Methods for Teaching | Theories, materials and techniques for teaching and facilitating drama-based methodologies for teaching and learning with emphasis on praxis. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 25 hours OR Visiting University Student |
| THP | 317 | Stage Management | Readings in stage management and participation as a stage manager in a university theatre production. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Herberger Institute for Design and the Arts student OR Visiting University Student |
| THP | 318 | Directing II: Intermediate Directing | Explores approaches to staging and composition. Studio work culminates in presentation of a fully rehearsed ten-minute play. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 218 with C or better; THP 213 or THP 214 with C or better |
| THP | 330 | Costume Design | Explores the elements of design, taking abstract ideas and formulating them into concrete forms. Encourages the student to experiment with different ideas and mediums. Emphasizes design basics, research, figure drawing, and beginning rendering techniques. Uses projects that involve complex script and character analysis to promote the student's ability to effectively communicate. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THF 215 with C or better OR Visiting University Student |
| THP | 331 | Costume Construction | Students learn the basics of clothing construction for performance, guided through sewing and finishing techniques. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): FSH 202 or THP 214 with C or better OR Visiting University Student |
| THP | 332 | Makeup | Practical guide to the theory and practice of theatrical makeup. Basic principles of stage makeup design and application. Develops and increases skills in the application and design of the medium through a combination of reading assignments, lecture, demonstration and supervised practice sessions. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Theatre (Design and Production) major or minimum 45 hours; Credit is allowed for only THP 332 or 494 (Makeup/Advanced Makeup) |
| THP | 333 | Costume Crafts | Exposes students to ancillary crafts within costume construction. The first half of the course explores dying and painting fabric for the stage and screen. The second half of the course covers millinery by making both a buckram hat and a stretched felt hat. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): FSH 202 or THP 214 with C or better; Credit is allowed for only THP 333 or THP 494 (Costume Crafts) OR Visiting University Student |
| THP | 335 | Stagecraft | Explores theatrical construction techniques and processes, developing skills through hands-on projects. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 213 with C or better or THP 301 with B or better; minimum sophomore standing OR Visiting University Student |
| THP | 340 | Scene Design | Studio projects in designing scenery for contemporary stages. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): BA in The Arts, Digital Culture (Theatre) BA, or Film and Media Production BFA major or THF 215 with C or better OR Visiting University Student |
| THP | 344 | Hand Drafting for the Live Entertainment | Explores the fundamentals and practices of technical drawing for the entertainment industry. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Herberger Institute for Design and the Arts student OR Visiting University Student |
| THP | 345 | Lighting Design | Explores principles, theories and practices of lighting design for entertainment industries. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THF 215 with C or better OR Visiting University Student |
| THP | 350 | Sound Design | Investigates the use of sound as an element of theatrical design. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| THP | 351 | Arts Management | Management, organizational behavior and human behavior in the arts; marketing, financing and budgeting for the arts. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Herberger Institute for Design and the Arts student or minimum 45 hours OR Visiting University Student |
| THP | 352 | Everyday Audio Editing | Teaches the basics of editing and mixing in the Digital Audio Workstation REAPER. Employs plugins including EQ, compression (and other dynamics processing), as well as reverb (and other time-based effects), to craft a mix. Also includes an overview of editing audio to video, automation, MIDI implementation and the relationship between REAPER and other DAWs (e.g., Pro Tools, Logic). | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | CS | Prerequisite(s): minimum 45 hours; Credit is allowed for only THP 352 or THP 494 (Audio Editing) OR Visiting University Student |

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| THP | 355 | Media Design for Performance | Introduces the fundamental skills, practices and theories for media and projection design for live performance, building on traditional areas of design for the theatre. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): BA in The Arts, Digital Culture (Theatre) BA, or Film and Media Production BFA major or THF 215 with C or better OR Visiting University Student |
| THP | 360 | Intermediate Playwriting | Continued development of skills in playwriting through specific exercises and completion of a full-length play. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre- or corequisite: THP 260 with C or better or Prerequisite(s): ENG 210 |
| THP | 372 | Movement II | Movement techniques for the classical and nonrealistic theatre. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 272 with B or better; minimum junior standing OR Visiting University Student |
| THP | 377 | Voice and Speech II | Introduces phonetic alphabet, exercises, and techniques for voice and speech improvement. Application to performance. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 277 with B or better; minimum junior standing OR Visiting University Student |
| THP | 385 | Acting: Shakespeare and the Spanish Golden Age | Rehearsal and performance of Shakespeare and other classical playwrights. Emphasizes understanding poetic language, vocal and physical skills. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THF 101 or THP 102 with B- or better; THP 277 with B- or better |
| THP | 387 | Acting VI | Professional film acting techniques, terminology and on-camera experience. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 302 OR Visiting University Student |
| THP | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| THP | 401 | Theatre Practicum | Production assignments for advanced students of technical production, stage and business management and design. | N | LAB | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | Prerequisite(s): THP 213 with C or better or THP 301 (Production) with B or better OR Visiting University Student |
| THP | 411 | Methods of Teaching Drama | Applies materials, techniques and theories with youth, grades pre-K-5. Emphasizes curriculum development and praxis. Regular participation with children. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 4 | | Prerequisite(s): THP 311 with A- or better or graduate student; Credit is allowed for only THP 411 or THP 511 OR Visiting University Student |
| THP | 418 | Directing III: Advanced Directing | Studio work building on skills learned in intermediate directing, culminating in the presentation of a fully rehearsed one-act play. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 318 with C or better or Herberger Master of Art or Master of Fine Arts student OR Visiting University Student |
| THP | 420 | Acting: Solo and Collaborative Performance | Creation and development of original performance art works combining text, movement, multimedia, visual art; the actor as writer, designer, performer. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THF 101 or THP 102; minimum junior standing |
| THP | 428 | Theatre Capstone/Senior Project | Senior projects course that includes a culminating creative synthesis of student's knowledge. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THF 397 with C or better |
| THP | 430 | Rigging for the Stage | Develops a hands-on knowledge of methods and principles of theatrical rigging. Focuses on safety and utilizes industry-standard equipment to assemble standard and custom rigging systems. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Herberger Institute for Design and the Arts student; Credit is allowed for only THP 430 or THP 494 (Rigging for the Stage) OR Visiting University Student |
| THP | 431 | Advanced Costume Construction | Focuses on period garments, especially corset silhouettes and the specific sewing techniques required. | N | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 331 with C or better OR Visiting University Student |
| THP | 435 | Technical Direction | Seminar in fundamental principles and practices of technical directors as managers, engineers and artisans in theatre production. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 213 with B or better; THP 301 (Theatrical Construction) with B or better; minimum junior standing OR THP 301 (Production) with B or better; minimum junior standing OR Visiting University Student |
| THP | 440 | Advanced Scene Design | Advanced studio projects in designing scenery for a variety of stage forms. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 340 with C or better or Theatre (Performance Design) MFA student OR Visiting University Student |
| THP | 441 | Scene Painting | Studio projects in painting stage scenery. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 213 with C or better OR Visiting University Student |
| THP | 442 | Rendering for Design and Production | Techniques in drawing and rendering for scenic, costume, and lighting design. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prereq(s): BA in The Arts (Entertain Design or Fash Design), Dig Cltre (Theatre) BA, Film (Film & Media Prod) BA, Film (Filmmaking Practices) BA, Film & Media Prod BFA, Film & Media Prod minor, Theatre BA, or Theatre minor OR Visiting University Student |
| THP | 445 | Advanced Lighting Design | Specialized techniques in stage lighting. Advanced application of design process, graphic techniques of design presentation, and use of qualities of light. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 344 with C or better; THP 345 with C or better OR Visiting University Student |
| THP | 447 | Vectorworks for Live Entertainment | Explores CAD drafting fundamentals and practices for the entertainment industry through Vectorworks. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): BA in The Arts, Digital Culture (Theatre) BA, or Film and Media Production BFA major or THP 213 with C or better; Credit is allowed for only THP 447 or THP 494 (CAD Drafting) or THP 494 (Vectorworks) OR Visiting University Student |

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| THP | 448 | AutoCAD for Live Entertainment | CAD drafting fundamentals and practices for the entertainment industry through AutoCAD. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | CS | Prerequisite(s): BA in The Arts, Digital Culture (Theatre) BA, or Film and Media Production BFA major, or THP 213 with C or better OR Visiting University Student |
| THP | 449 | AutoCAD 3D for Live Entertainment | Comprehension and practice of 3D drafting and rendering techniques in AutoCAD. Focuses on applications in live entertainment. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 448 with C or better; Credit is allowed for only THP 449 or 494 (AutoCAD 3D) |
| THP | 450 | Theatre Organization and Management | Overview of nonprofit arts: organizational design, strategic planning, financial management, and leadership. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Herberger Institute for Design and the Arts student |
| THP | 451 | Student Production Board II | Performing arts entrepreneurship taught through the experience of operating a student-produced theatre company. Credit is available for the binary officers and administrators only. | N | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre- or corequisite(s): THP 450 OR Visiting University Student |
| THP | 452 | Arts Entrepreneurship Seminar | Challenges students to learn how individuals have used their creative skills to create new arts business models. Case studies examine how creativity can spur new opportunities in the arts industry. Students complete their own project proposals. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): HDA 252 with B or better |
| THP | 453 | Sound System Design and Engineering | Covers the design of sound systems, focusing on an understanding of the technical principles and the implications they have for design decisions. Also covers specialized topics in audio engineering including console programming, RF (wireless) coordination and the Dante protocol. Considers larger and more complicated systems by breaking them down into their more manageable component parts. With regard to loudspeaker deployment, focuses on achieving even coverage for systems, and not on the creative implications associated with consideration of imaging. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre- or corequisite(s): THP 216 or 350 with C or better if completed; Credit is allowed for only THP 453 or THP 494 (Sound System Design & Engineering) OR Visiting University Student |
| THP | 455 | Advanced Media Design | Explores advanced skills, practices and theories for media and projection design for live performance. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance, Film, Theatre, or The Arts BA major; THP 355 with C or better; Credit is allowed for only THP 455 or THP 555 OR Visiting University Student |
| THP | 457 | Digital Portfolio | Cross-disciplinary exploration of methods, technologies and aesthetics of portfolio presentation for professional designers and artists. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): The Arts (Fashion Design) or Theatre (Design and Production) major; minimum 56 hours; Credit is allowed for only THP 457 or THP 494 (Digital Portfolio) |
| THP | 482 | Theatre for Social Change | Interactive theatre techniques (e.g., Boal, drama therapy, playback theatre) to examine and combat institutional, social, cultural, interpersonal, and personal oppressions. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | C | Prerequisite: Minimum sophomore standing |
| THP | 483 | Acting: Viewpoints and Composition | Training in Anne Bogart's viewpoints and composition techniques; application to rehearsal and performance, and creating new work. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 202 with C or better; minimum junior standing or Performance and Movement major or MFA major |
| THP | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): Theatre or Film student |
| THP | 487 | Advanced Screen Acting | Builds on basic principles of on-camera acting to develop a range of acting styles in different formats on movie, television, computer and mobile device screens. Practical production includes a web series and community-based public service announcements. | N | SEM | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 387; Credit is allowed for only THP 487 or THP 494 (Acting: TV and Film II) |
| THP | 489 | Acting: Audition Techniques and Career Development | Familiarization with the business of performance: preparation and techniques for auditioning; self-promotion and marketing strategies; grant resources, interviews, and unions. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 102 or THF 101 with B or better; THF 220 with B or better; minimum junior standing OR Visiting University Student |
| THP | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| THP | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-7 | | Prerequisites: Theatre Design & Production student |
| THP | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | |
| THP | 500 | Research Methods | Course on research methods in a specific discipline. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| THP | 501 | Performance: Solo Performance | Students begin to define their mission in art. Emphasizes the actor as a solo storyteller, speaking as herself or himself. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-8 | | Prerequisites: Master of Arts or Master of Fine Arts Theatre student |
| THP | 505 | Graduate Colloquium | Orientation to graduate study of theatrical practice; cohort development, introduction to the advanced literature and media in the art form. | N | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre-requisites: Master of Fine Art Theatre student |
| THP | 511 | Methods of Teaching Drama | Applies materials, techniques and theories with youth, grades pre-K-5. Emphasizes curriculum development and praxis. Regular participation with children. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only THP 411 or THP 511 |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|---|------------------------------------|-------|-----------------|--|
| THP | 512 | Puppetry Workshop | Surveys puppetry in education, puppetry as an art form in design and performance. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Graduate student |
| THP | 513 | Touring Theatre | Provides an understanding of the theories and aesthetics of touring theatre and a practice in its conceptualization, creation, administration, and production. Examines a variety of styles and methods of creating "movable" theatrical material, focusing on forms that require minimal scenic and design support. Focuses on process and working toward a quality product. | N | LEL | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Fine Arts Graduate student; Credit is allowed for only THP 513 or 598 (Touring Theatre) |
| THP | 514 | Projects in Community-Based Theatre | Theories and techniques of improvisational theatre with emphasis on youth. Stresses professional development through projects combining research, theory, and practice. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite: Master in Arts, Master in Fine Arts or PHD Theatre major |
| THP | 517 | Stage Management | Advanced study of the principles and practices of stage management in the professional theatre. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Graduate student in the Herberger Institute for Design and the Arts, the School of Community Resources and Development, or the W.P. Carey School of Business |
| THP | 518 | Advanced Directing Lab | Active discovery of directing concepts through practical exercises and collaboration; deconstruction of contemporary/classic literature. Explores director as primary artist. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisites: Master of Arts, Master of Fine Arts, or PhD Theatre student |
| THP | 519 | Directing: Works in Progress | Advanced projects in directing concentrating on a collaborative process among director, playwright, actors, and designers. Focuses primarily on new scripts or adaptations of literature. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Master of Arts, Master of Fine Arts, or PhD Theatre student |
| THP | 520 | Directing the New Play | Advanced methods and studies in directing, focusing on new play development. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Master of Fine Arts Theatre student |
| THP | 521 | Performance I: Acting and Movement | Advanced studio work in the performer's body, voice, emotion, and imagination; emphasizes physical diagnostics and development. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Master of Fine Arts Theatre student |
| THP | 522 | Performance I: Acting and Voice | Advanced studio work in the performer's voice; emphasizes physical awareness, vocal anatomy, training, and interpretation of texts. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Master of Fine Arts Theatre student |
| THP | 523 | Performance II: Acting and Movement | Advanced studio work in the performer's body, voice, emotion, and imagination. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Master of Fine Arts Theatre student |
| THP | 524 | Performance II: Acting and Voice | Advanced studio work in the performer's voice. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Master of Fine Arts Theatre student |
| THP | 525 | Design I: Conceptualization and Collaboration | Conceptual structures of the design process in theatre; development of creativity, flexibility, and communication in the collaborative process. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Master of Fine Arts Theatre student |
| THP | 526 | Design I: Drawing and Rendering | Development of drawing and rendering skills, techniques, and evaluation in the presentation, realization, and communication of performance design. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Master of Fine Arts Theatre student |
| THP | 527 | Design II: Conceptualization and Collaboration | Offers students the chance to develop advanced skills in creating fully realized design ideas, particularly in working with new and experimental forms. Through the coursework, readings, and projects, students develop new methods and systems of thought for dealing with challenging dramatic works. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Master of Fine Arts Theatre major |
| THP | 528 | Design II: Visualization and Presentation | Advanced skills and techniques in rendering, visualizing and presenting design ideas and materials for performance. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Master of Fine Arts Theatre student |
| THP | 529 | Viewpoints and Composition | Training in Anne Bogart's viewpoints and composition techniques; application to rehearsal, performance and creating new work. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): School of Film, Dance and Theatre MFA or PhD student |
| THP | 540 | Scene Design Applications | Conceptual and practical application of the design process including graphic and sculptural projects. Practical design problems investigated in a lab. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisites: Master of Art or Master of Fine Art Theatre student |
| THP | 545 | Lighting Design Applications | Advanced studio projects in stage lighting design. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisites: Master of Fine Arts Theatre student |
| THP | 550 | Theatre Organization and Management | Overview of nonprofit arts: organizational design, strategic planning, financial management, and leadership. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: MFA Theatre student |
| THP | 551 | Arts Management | Advanced study of the principles and practices of arts management in the nonprofit and for-profit sectors. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Graduate student in the Herberger Institute for Design and the Arts, the School of Community Resources and Development, or the W.P. Carey School of Business |
| THP | 552 | Arts Entrepreneurship | Project-based course in new venture creation for the arts. | N | SEM | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Graduate student in the Herberger Institute for Design and the Arts, the School of Community Resources and Development, or the W.P. Carey School of Business |
| THP | 555 | Advanced Media Design | Advanced applications for skills and practices in media design for live performance, including content creation, systems design, and playback. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Theatre MFA student; Credit is allowed for only THP 455 or THP 555 |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|---|------------------------------------|-------|-----------------|--|
| THP | 556 | Performance Technology | Examines issues surrounding the integration of live performance and digital media. Students study the work of contemporary practitioners and theorists and experiment with creating their own works of digital art. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Graduate Theatre major |
| THP | 557 | The Digital Portfolio | Crossdisciplinary exploration of methods, technologies, and aesthetics for portfolio presentation for professional designers and artists. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Herberger Institute of Design and the Arts Graduate student |
| THP | 560 | Dramatic Writer's Workshop | Practice and study of creating characters, dialogue, scenes, plays, and monologues for the stage. | N | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisites: Theatre Master of Arts or Master of Fine Arts student |
| THP | 561 | Scripts in Progress | Studio work with the instructor centered on revisions of original plays. | N | IND | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisites: Theatre student |
| THP | 571 | Devising I: Concept, Collaboration and Authorship | Includes five primary objectives: (1) To understand the continuum between leadership and authorship; (2) To analyze collaboration through collaborative projects; (3) To learn strategies for developing a hunch and creating a source book; (4) To conceptualize a devising project starting from three distinct prompts: visual images, literary adaptations, and site-specific space; (5) To develop a blueprint for a devising process on paper that articulates time lines, budgets, development process, methods and conceptual design. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| THP | 572 | Devising II: Methods | Introduces three devising methodologies: (1) Moment Work by Tectonic Theatre Project; (2) Frantic Assembly; and (3) site-specific/immersive theatre and audience participation. Divided into three units that introduces the vocabulary of each methodology and an autocours (student-devised work) using that specific methodology. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 571 |
| THP | 573 | Devising III: Projects | Culmination of previous coursework where students form groups for the entire semester and determine (1) their leadership/authorship structure; (2) their "hunch" or idea; (3) their preferred devising method(s); and (4) their collaborative process. Over the course of the semester, each group begins developing a 30-minute original devised work to be showcased at the end of the semester for graduate faculty and an invited audience. The pieces can occur in a FAC space or site-specific location. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 571; THP 572 |
| THP | 574 | Devising IV: Projects | Culmination of previous coursework where students continue to work on their culminating applied project. Each weekly seminar, a student presents a work in progress of his or her original, devised work and receives mentorship, peer review and feedback. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 571; THP 572; THP 573 |
| THP | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | |
| THP | 582 | Theatre for Social Change | Advanced, interactive theatre techniques (e.g., Boal, drama therapy, playback theatre) to examine and combat institutional, social, cultural, interpersonal, and personal oppressions. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Graduate or Doctoral student |
| THP | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre-requisites: Theatre student |
| THP | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | |
| THP | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisites: Master of Arts, Master of Fine Arts, or PhD Theatre student |
| THP | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisites: Theatre Master of Arts of Master of Fine Arts student |
| THP | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre-requisites: Fine Arts Graduate student |
| THP | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): Fine Arts graduate student |
| THP | 611 | Sites of Inquiry in Performance | Examines scholarly, artistic and pedagogical pursuits in fieldwork and site-based studies in theatre, drama and performance. Requires development and execution of a research project. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Pre- or corequisite(s): THE 500 or 700 |
| THP | 618 | Theatre for Youth Practicum | Practical experience in theatre for youth projects: improvisation, education, production. | N | PRA | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2-3 | | Prerequisites: Master of Fine Arts or PhD Theatre for Youth student |

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| THP | 649 | Design Studio | Projects include design of scenery, costume, lighting, or sound for lab or mainstage productions. | N | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | Prerequisites: Master of Fine Arts Theatre student |
| THP | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | |
| THP | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisites: Master of Fine Arts or PhD Theatre student |
| THP | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | |
| THP | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite: Master of Arts, Master of Fine Arts, or PhD Theatre student |
| THP | 700 | Research Methods | Course on research methods in a specific discipline. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| THP | 783 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite: Master of Arts, Master of Fine Arts, or PhD Theatre student |
| TMC | 110 | Understanding the Enterprise | Introduces essential functions required in technology-based and innovative enterprises and viewed in the context of their relationship to each other; examines the enterprise's role in society. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | |
| TMC | 310 | Promotion of the Enterprise | Whether they are entrepreneurial ventures or established companies, effectively promoting products is key to enterprise performance. Focuses on how to promote products from ideation to launch to growth. Covers understanding customers (values, behavioral economics); formulating strategies (landscape, segmentation, positioning); tactics (4P's); networks and data; digital promotion and growth. Also reviews quantitative techniques (conjoint, DOE, optimization). Applies concepts to market challenges and derives optimal solutions through analysis, strategy and tactics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; TMC 110 with C or better OR Visiting University Student |
| TMC | 320 | Funding the Enterprise | Focuses on financial resource management techniques utilized by U.S. domestic companies and covers the unique aspects of revenue accounting and its application to company operations. Concepts covered include: data capture of requisite information from various computer systems; determination of revenues generated from sales of products and services to customers; in-depth analysis of operational expenses; preparation of accounting and financial data; monthly accounting requirements; account reconciliation; monthly/quarterly/annual reporting; development and analysis of financial reports and billing. Emphasizes accounting, planning and valuation concerns, as well as financial trends and industry prospects. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| TMC | 330 | Leading the Enterprise | Comprehensive overview of leadership strategies and development as it applies to individuals, organizations and events. Applies leadership development to workplace dynamics such as technology management, entrepreneurship and globalization. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): TMC 110 with C or better or non-Technological Entrepreneurship and Management BS major OR Visiting University Student |
| TMC | 331 | Quality Assurance | Instrumentation and methodologies for materials testing and quality control in various manufacturing processes. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ABS 350, ECN 221, ECN 231, EGR 280, HSE 230, IEE 380, PSY 230, STP 226, STP 420, or STS 401 with C or better OR Visiting University Student |
| TMC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-4 | | |
| TMC | 410 | Enterprise Operations | Emphasizes basic principles of enterprise operations management, including productivity, strategic management, global environment, forecasting, capacity planning, new technologies, location and layout strategies, supply-chain management, inventory control and scheduling. Uses common decision-making issues and related qualitative and quantitative techniques. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ABS 350, ECN 221, ECN 231, EGR 280, HSE 230, IEE 380, PSY 230, STP 226, STP 420, or STS 401; MGT 300 or TMC 330 with C or better OR Visiting University Student |
| TMC | 430 | Enterprise Strategy and Innovation | Enterprise strategic plan development and implementation, concepts of open innovation; vision, mission, steps of strategic plan development; strategic goals, objectives, tasks, schedule, resource considerations; organization's strengths and weaknesses; environmental opportunities and threats; strategy implementation, impact assessment and refinement, organizational- and management considerations, theory and practice of open innovation. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): MGT 300 or TMC 330 with C or better OR Visiting University Student |

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| TMC | 470 | Enterprise Planning and Implementation | Investigates and tests tools and techniques for effective design and management of enterprise projects and programs using computer applications. Develops and demonstrates teambuilding and leadership skills in course projects. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ABS 350, ECN 221, ECN 231, EGR 280, HSE 230, IEE 380, PSY 230, STP 226, STP 420, or STS 401; MGT 300 or TMC 330 with C or better; Credit is allowed for only OMT 570 or TMC 470 OR Visiting University Student |
| TMC | 480 | Senior Project | Capstone project experience refining skills in communication, research and information retrieval, critical analysis and criticism, and demonstrating technical competence in each student's area of study. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; TMC 430 with C or better; senior standing |
| TMC | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-7 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| TMC | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-12 | | Pre Requisites: Graduate or Non Degree Students Only |
| TMC | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-12 | | Pre Requisites: Graduate or Non Degree Students Only |
| TMC | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-12 | | Pre Requisites: Graduate or Non Degree Students Only |
| TMC | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-12 | | Pre Requisites: Graduate or Non Degree Students Only |
| TMC | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1 | | Pre Requisites: Graduate or Non Degree Students Only |
| TMC | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-12 | | Pre Requisites: Graduate or Non Degree Students Only |
| TSS | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 501 | A Deep History of the United States/Mexico Borderlands I | Using a comparative and relational approach, the seminar explores various layers of development starting with economic structures and culture and their impact on various aspects of transborder society including politics, social organization, demography, and cultural practice. Focuses on the period from pre-contact times to the Mexican American War. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 502 | Foundations of Transborder Studies | Using a comparative and relational approach, explores various layers of development starting with economic structures and culture and their impact on various aspects of transborder society including politics, social organization, demography, and cultural practice. Focuses on the period from the Mexican American War to the recent past. Centers on comparative economic growth and development of Mexico and the United States, the impact of unequal development on the border region and its people, and the development of a transnational society in the U.S./Mexico borderlands. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 503 | Epistemologies and Transborder Thought | Examines different approaches to the production and critique of knowledge relevant to transborder social, political, economic, cultural, and institutional structures and processes. The complexity of these structures and processes require transdisciplinary methods of inquiry that go beyond a single set of disciplinary assumptions. Explores the transdisciplinary articulation of theory and method, and considers the strengths and limitations of various approaches and critiques. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 504 | Theories and Methods for Transborder Research | Focuses on the selection of theories and methods appropriate for transborder research. Considers the pitfalls of conducting monodisciplinary research in a stratified, differentiated and multicausal world; the most robust methods used in various approaches; the main methodological obstacles to transdisciplinary research; and the challenges of using mixed methodology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|-------------------------------|-------|-----------------|--|
| TSS | 505 | Theories and Methods of Migration, Health & Applied Social Policy in a Transborder Context | Divided conceptually in three broad analytical areas: (1) migration with an emphasis on demography, (2) health with an emphasis on epidemiology, and (3) public policy analysis. Provides basic training in the application and interpretation of quantitative and qualitative methods and techniques commonly used in researching these areas. Applies these techniques to issues that are specific to the reality of transborder and/or transnational contexts. Students are required to apply and present an analysis in their field of interest which demonstrates their grasp of theory and method. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 506 | Theory and Methods of Transborder Media and Expressive Culture | Overview of the interdisciplinary theories and methods employed to research and analyze media and creative cultural production. Objects of analysis include literature, film, live performance, theater, Web-based media, popular culture production, and visual arts. Required readings elucidate strengths, limitations, and applicability of particular theories and methods to different types of creative expression and media production as well as to their historical and political contexts. Students engage with, critique, and contribute to the theories and methods presented in the course. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 507 | Theory and Methods of Transborder Cultural Acquisition, Language Development, and Learning | This course familiarizes graduate students with literature on relationship between culture, language, and learning, and their theoretical and methodological underpinnings within a transborder context. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 596 | Transborder Studies Capstone | Culminating capstone experience of the Masters of Advanced Study degree in Transborder Studies, allowing students to develop a project tailored to their interests, needs and goals. Each student has a minimum of one faculty member to support the capstone project. | N | RSC | N | GNA | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): Transborder Studies MAS student |
| TSS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 599 | Thesis | Supervised research focused on preparation of a thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 600 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 601 | Internship in Transborder Studies | Academic internship helps students become full participants in globalized, transnational contexts through a combination of practical experiences in community organizations, readings about transnational life in globalized contexts, reflection, and discussion. | N | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 607 | Colloquium in Transborder Studies | Provide students the opportunity to present their skills, learning, research, and topical interests before an open forum of faculty and students at the beginning of their third year and prior to their dissertation research. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| TSS | 608 | Transmitting Transborder Studies to Publics and Institutions | Provides students with the most recent advancements in presenting the underlying theory, methods, and techniques in transborder analysis and application. Designed to enter multiple audiences in public, professional, academic, and school settings, course takes advantage of the latest developments in multimedia, print, and electronic technology, film, and print in order to provide systematic and detailed learning opportunities. Provides the basis of developing capacities to create and develop learning modules, and programs on issues of transborder political ecology, economic transformations, cultural development and emergence, literary constructions and projections, and issues of identity, class, and gender. Course is conducted bilingually and makes use of Spanish- and English-language resources. For this reason, it is advisable, but not required, that students are at least conversationally proficient with Spanish and English. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 609 | Prospectus Design in Transborder Studies | Provides doctoral students with the necessary tools to prepare a research proposal that could be submitted as a dissertation prospectus or to a funding agency. Students bring a well-formulated idea of the kind of research they wish to pursue for their dissertation. They also bring a clear idea of the relevant concepts, literature and methods, required to complete the proposal. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 611 | Comparative and Transborder Perspectives on Learning | This small class emphasizes discussion, presentations by students, and written research papers. Surveys theoretical and methodological aspects related to the use of comparative and transborder perspectives to the study of education. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 612 | The Political Culture of Learning & Change in Transborder Context | Examines a variety of development and learning issues confronting linguistically and culturally diverse groups with an emphasis on immigrant children and families. Includes such topics as: (1) Theoretical foundations and their related impact on organizing interventions for learning and socialization. (2) The intersection of the development of language, culture, and learning in context of linguistic diversity and immigration. (3) The influence and impact of public policy on language minority groups of immigrant backgrounds. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 614 | Bilingualism in Diverse Acquisition and Practicing Contexts | Examines bilingualism, language in society, and languages in contact in transborder contexts and bilingual schooling. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): PhD student |
| TSS | 615 | Dialectical Inquiry in Transborder Contexts | Introduces the application of dialectical inquiry in value-relevant grounded research methods as a complementary approach to value-free scientific inquiry into practical problems in transborder cultural acquisition, language development, and learning. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 683 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Transborder Studies | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 783 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Transborder Studies | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| TSS | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Transborder Studies | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Transborder Studies | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TWC | 104 | Critical Inquiry in Engineering | Critical thinking. Systematic evaluation of information as input to well-informed decision making. Close reading and substantive writing in a technical setting. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | L | Pre- or corequisite(s): ENG 102, 105, or 108 with C or better if completed; Credit is allowed for only EGR 104 or TWC 104 OR Visiting University Student |
| TWC | 214 | Storytelling with Data | Students read and discuss theories of data visualization as well as produce a wide range of visualizations using a variety of data sets. Students learn how to process data to discover what's important about the data, and how to use data to tell visual stories that attempt to persuade, inform and engage audiences. Students learn basic principles of design and narrative to help them develop visually engaging data visualizations in narrative patterns that tell interesting and persuasive stories. And, they use a variety of software tools to construct data visuals and how to make choices in visualization style. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | |
| TWC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-4 | | |
| TWC | 301 | Fundamentals of Writing for Digital Media | Foundational concepts and technologies of writing for a variety of digital media. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours OR Visiting University Student |
| TWC | 312 | Introduction to Visual Culture | Visual information surrounds us. We engage with it to navigate the world, to act in our personal lives, to make decisions as members of society. And, the ways that we engage--the ways we look, see and interpret visual information--are social practices. Introduces visual culture, to the ways in which images wield power, shape our views of ourselves and others, and impact our perceptions of public issues. Develops awareness, understanding and the ability to think critically about visual culture. Explores the role of images and visual representation in a range of areas such as science and medicine, the environment and conflict. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only TWC 312 or TWC 394 (Introduction to Visual Culture) OR Visiting University Student |
| TWC | 314 | Data Visualization Tools and Techniques | Covers the latest tools and techniques needed to visualize data in a range of contexts. Students practice visualizing data and learn how to assess which tools and techniques are best suited to which communication goals. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| TWC | 347 | Written Communication for Managers | Strategies, techniques and genres for developing and presenting information intended for business and other workplace audiences. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours OR Visiting University Student |
| TWC | 361 | Writing for Health Care Management | Strategies, formats, and techniques for effective writing and presentation of information for nursing professionals. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | L | Prerequisite(s): RN-BSN student; ENG 102, 105, or 108 with C or better; Credit is allowed for only TWC 361 or TWC 362 OR Visiting University Student |
| TWC | 362 | Writing in Health Professions | Focuses on effective communication practices in health-related fields, emphasizing communicating professionally with both scholarly and workplace audiences. In addition to providing a foundation in workplace communication, emphasizes information and technology literacy to help students become proficient in collecting, analyzing, interpreting and synthesizing information using appropriate tools, sources and styles. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | L | Prerequisite(s): ENG 102 or 105 or 108 with C or better; Medical Studies major or Edson Nursing and Health Innovation student; Credit is allowed for only TWC 361 or TWC 362 OR Visiting University Student |
| TWC | 371 | The Science of Science Communication | Aims to teach science students how to effectively communicate across a range of audiences about why science matters, how it works and its relevance to the way we live our lives. Students learn to communicate effectively in a digital age where content is easily accessed, but understanding that content is harder to achieve. They also learn how to measure the effectiveness of their communication of science. | N | LEC | Y | NSW | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| TWC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-4 | | |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| TWC | 401 | Fundamentals of Technical Communication | Basic information design principles for producing effective technical communication, including rhetorical and audience analysis, as well as common workplace genres and technical communication tools. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only TWC 401 or TWC 501 OR Visiting University Student |
| TWC | 403 | Writing for Professional Publication | Analyzes the market and examines the publication process, including the roles of the author, editor, and reviewer. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 45 hours |
| TWC | 411 | Principles of Visual Communication | Principles and tools of visual communication in print and electronic media, with an emphasis on document design, including typography and color. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only TWC 411 or TWC 511 OR Visiting University Student |
| TWC | 413 | Managing and Analyzing Data | Develops the critical thinking skills students need to manage and make sense of the unending streams of data now available in the workplace and in modern life. Students learn the common formats and organizational structures of data, as well as how data are generated, inspected, queried, cleaned and modeled. Additionally, provides instruction for common tools used to accomplish these tasks. Covers basic statistical analysis as it relates to data forecasting and correlation. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| TWC | 414 | Visualizing Data and Information | Covers how to process data and information in ways that help discover what's important about the information and what the clearest way is to communicate that information. Covers how to manage data and use a variety of software tools to communicate patterns and tell visual stories, as well as how to make choices in visualization style in ways that will assist an audience to effectively interact with and process the information. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only TWC 414 or TWC 494 (Visualizing Information or Information Visualization) or TWC 514 or TWC 598 (Visualizing Information or Information Visualization) OR Visiting University Student |
| TWC | 421 | Principles of Web Authoring | Principles of writing for the Web, including information architecture, accessibility, usability and responsive design. Explores basics of markup language and content management. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only TWC 421 or TWC 521 OR Visiting University Student |
| TWC | 422 | Social Media in the Workplace | Analyzes different social media platforms and develops strategies and techniques for effective and appropriate use of social media in the workplace. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only TWC 422 or TWC 494 (Social Media in the Workplace) or TWC 522 OR Visiting University Student |
| TWC | 431 | Principles of Technical Editing | Principles and techniques of technical editing for print and electronic media, including standards, styles, copyediting, comprehensive editing and project management. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only TWC 431 or TWC 531 OR Visiting University Student |
| TWC | 435 | Global Issues in Technical Communication | Helps students understand issues that shape workplace communication in a global environment. Technical communicators are expected to be specialists who interact effectively with a broad range of audiences. Given the global nature of today's workplace, those audiences typically include people from many cultures and countries. Through readings, written assignments, and analysis of case studies, documents, and websites, explores ways in which culture and language shape professional interactions. Also examines other critical issues such as translation, localization, technology and distributed work teams that impact writing and designing documents in a globalized work environment. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | G | Prerequisite(s): minimum 45 hours; Credit is allowed for only TWC 435 or TWC 535 OR Visiting University Student |
| TWC | 436 | Project Management in Technical Communication | Effective project management processes are central to technical communication in the workplace, and project management figures prominently in job descriptions for technical communicators at all levels. Introduces the literature, tools and techniques of project management within technical communication. Focuses on learning effective project management best practices during the life cycle of technical communication projects, which may include documentation or training projects. Uses case studies and Web pages, group discussion, presentations and individual and team projects to aid in understanding and application of project management for technical communication. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only TWC 436 or TWC 494 (Project Management in Technical Communication) or TWC 536 or TWC 598 (Project Management in Technical Communication) OR Visiting University Student |
| TWC | 443 | Grant & Proposal Writing | Develops persuasive strategies and approaches for researching and writing professional funding proposals and grant applications. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only TWC 443 or TWC 543 OR Visiting University Student |

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| TWC | 444 | User Experience | Explores principles, techniques and tools of user experience (UX), including user and task analysis, user-centered design and usability testing. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only TWC 444 or TWC 544 OR Visiting University Student |
| TWC | 445 | Content Strategy | Explores concepts, techniques, strategies and technologies for authoring, managing, and publishing re-usable content in online documentation, help files and other types of technical communication. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only TWC 445 or TWC 545 OR Visiting University Student |
| TWC | 446 | Technical and Scientific Reports | Explores strategies and techniques for developing informational and analytical reports in a range of genres and for a variety of audiences in scientific and technical fields. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only TWC 446 or TWC 546 OR Visiting University Student |
| TWC | 451 | Copyright and Intellectual Property in the Electronic Age | Explores issues related to copyright and intellectual property laws, with emphasis on electronic environment. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only TWC 451 or TWC 551 OR Visiting University Student |
| TWC | 452 | Information in the Digital Age | Explores the creation, organization, dissemination, and use of information; the impact of technologies; and surrounding economic, legal, and social issues. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only TWC 452 or TWC 552 OR Visiting University Student |
| TWC | 453 | Information and Communications Technology in American History | Explores the historical development of information and related technologies in the United States from colonial times to the present. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | L & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only TWC 453 or TWC 553 OR Visiting University Student |
| TWC | 454 | Information Technology and Culture | Explores the historical impact and intersection of communications technology and culture in America. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only TWC 454 or TWC 554 OR Visiting University Student |
| TWC | 455 | Digital Ethics in Internet Policy and Governance | How should we maintain and govern the internet? This course considers various ethical approaches to internet governance and maintenance, then covers the status of arguments over internet maintenance and regulation. Students apply ethical approaches and principles to arguments over contemporary issues through in-class discussion and research of topics such as free speech, content moderation, infrastructure, the digital divide, cryptocurrencies and more. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only TWC 394 (Digital Ethics in Internet Policy and Governance) or TWC 455 OR Visiting University Student |
| TWC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | |
| TWC | 490 | Capstone | Development of a professional portfolio, creation of a culminating document, and synthesis of undergraduate experience. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 87 hours |
| TWC | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| TWC | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| TWC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-4 | | |
| TWC | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-3 | | |
| TWC | 501 | Fundamentals of Technical Communication | Basic information design principles for producing effective technical communication, including rhetorical and audience analysis, as well as common workplace genres and technical communication tools. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only TWC 401 or TWC 501 |
| TWC | 504 | Applied Rhetoric and Technical Communication | Foundation in applied and technical communication. Covers the emergence and development of technical communication as a profession and field; rhetorical concepts and their application to technical and applied communication, ethical issues; and the impact of internationalization. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Technical Communication MS student |

| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| TWC | 505 | Research in Technical and Applied Communication | Explores the research process and methods appropriate for technical and professional communication. Provides a foundation for understanding the research process; designing and planning valid research within the context of technical and professional communication; collecting and interpreting information, ethical issues related to research; and reporting results. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Technical Communication MS student; TWC 504 |
| TWC | 506 | Research Design and Development | Focuses on the research process, including the development of research questions, selection of appropriate methods, preparation of a literature review, and design of research projects. Prepares students to design the research for their applied project or thesis. Students apply their knowledge of research methods and the research process by preparing a fully developed proposal at the conclusion of the course. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Technical Communication MS student; TWC 505; minimum 24 graduate TWC hours |
| TWC | 511 | Principles of Visual Communication | Principles and tools of visual communication in print and electronic media, with an emphasis on document design, including typography and color. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only TWC 411 or 511 |
| TWC | 514 | Visualizing Data and Information | Covers how to process data and information in ways that help discover what's important about the information and what the clearest way is to communicate that information. Covers how to manage data and use a variety of software tools to communicate patterns and tell visual stories, as well as how to make choices in visualization style in ways that will assist an audience to effectively interact with and process the information. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only TWC 414 or TWC 494 (Information Visualization or Visualizing Information) or TWC 514 or TWC 598 (Information Visualization or Visualizing Information) |
| TWC | 521 | Principles of Web Authoring | Principles of writing for the Web, including information architecture, accessibility, usability and responsive design. Explores basics of markup language and content management. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only TWC 421 or TWC 521 |
| TWC | 522 | Social Media in the Workplace | Analyzes different social media platforms and develops strategies and techniques for effective and appropriate use of social media in the workplace. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TWC 422 or TWC 522 |
| TWC | 531 | Principles of Technical Editing | Principles and techniques of technical editing for print and electronic media, including standards, styles, copyediting, comprehensive editing and project management. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only TWC 431 or TWC 531 |
| TWC | 535 | Global Issues in Technical Communication | Helps students understand issues that shape workplace communication in a global environment. Technical communicators are expected to be specialists who interact effectively with a broad range of audiences. Given the global nature of today's workplace, those audiences typically include people from many cultures and countries. Through readings, written assignments, and analysis of case studies, documents and Websites, explores ways in which culture and language shape professional interactions. Also examines other critical issues such as translation, localization, technology and distributed work teams that impact writing and designing documents in a globalized work environment. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TWC 435 or TWC 535 |
| TWC | 536 | Project Management in Technical Communication | Effective project management processes are central to technical communication in the workplace, and project management figures prominently in job descriptions for technical communicators at all levels. Introduces the literature, tools, and techniques of project management within technical communication. Focuses on learning effective project management best practices during the life-cycle of technical communication projects, which may include documentation or training projects. Uses case studies and Web pages, group discussion, presentations, and individual and team projects to aid in understanding and application of project management for technical communication. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TWC 436 or TWC 494 (Project Management in Technical Communication) or TWC 536 or TWC 598 (Project Management in Technical Communication) |
| TWC | 543 | Grant & Proposal Writing | Develops persuasive strategies and approaches for researching and writing professional funding proposals and grant applications. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only TWC 443 or TWC 543 |
| TWC | 544 | User Experience | Explores principles, techniques and tools of user experience (UX), including user and task analysis, user-centered design and usability testing. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only TWC 444 or TWC 544 |
| TWC | 545 | Content Strategy | Explores concepts, techniques, strategies and technologies for authoring, managing and publishing re-usable content in online documentation, help files and other types of technical communication. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only TWC 445 or TWC 545 |

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| TWC | 546 | Technical and Scientific Reports | Explores strategies and techniques for developing informational and analytical reports in a range of genres and for a variety of audiences in scientific and technical fields. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only TWC 446 or TWC 546 |
| TWC | 551 | Copyright and Intellectual Property in the Electronic Age | Explores issues related to copyright and intellectual property laws; emphasizes electronic environment. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TWC 451 or TWC 551 |
| TWC | 552 | Information in the Digital Age | Explores the creation, organization, dissemination, and use of information; the impact of technologies; and surrounding economic, legal, and social issues. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TWC 452 or TWC 552 |
| TWC | 553 | Information and Communications Technology in American History | Explores the historical development of information and related technologies in the United States from colonial times to the present. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TWC 453 or TWC 553 |
| TWC | 554 | Information Technology and Culture | Explores the historical impact and intersection of communications technology and culture in America. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TWC 454 or TWC 554 |
| TWC | 560 | Capstone | Hands-on project in user experience. Requires a report based on research or applied work as a culminating experience. | N | SEM | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): User Experience MS student; Credit is allowed for only GIT 560 or HSE 560 or TWC 560 |
| TWC | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TWC | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TWC | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TWC | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TWC | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TWC | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TWC | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TWC | 596 | Technical Communication Capstone | Synthesizes and applies the concepts, skills, strategies and techniques learned in courses completed for the program. Also reflects upon that work, analyzing their strengths as a technical communicator and identifying areas for growth. Demonstrates ability to respond to the needs of specific audiences and communication situations by selecting from their work to craft a substantive professional dossier that presents a compelling story of their technical communication abilities, along with a reflective statement that discusses their work in relation to program outcomes. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Technical Communication MS student |
| TWC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TWC | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| UET | 305 | Introduction to Microelectronics | Quantifies the role of microelectronics technology and its associated skills as drivers for electronics systems development. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite: Academic Level greater than or equal to Junior |
| UET | 331 | Electronic Materials | Physical, chemical, electromagnetic, and mechanical properties of electronic materials. Solid-state device characteristics and their material properties. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: EST 210; CHM 113; PHY 112 OR Applied Science (Electronic Energy Systems) BAS student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|---|--|-------|-----------------|---|
| UNI | 110 | Critical Reading and Thinking | Prepares students to be successful in college-level academics and helps them improve their critical reading and critical thinking skills. | N | LEC | N | OPT | University College | Dean, University College | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| UNI | 120 | Academic Success | Assists students in creating strategies for success in their academic lives. Students explore personal and academic strengths and barriers that impact success, identify and utilize university resources available to support success at ASU, acquire and enhance academic skills necessary for success in the university, and discover ways to stay on course to meet academic goals. | N | SEM | N | GNA | University College | Dean, University College | 1 | | Credit is allowed for only ASU 120 (or ASU 150) or UNI 120 OR Visiting University Student |
| UNI | 150 | Future by Design: Major and Career Exploration | Encourages self-exploration and narrative-based learning as learners discover their interests, values, personality and skills. Learners focus on their unique qualities to determine next steps in their personal and professional futures. Learning outcomes focus on futures thinking and design thinking as mindsets to "find their own voice" and determine their numerous future pathways. | N | SEM | N | OPT | University College | Dean, University College | 1 | | |
| UNI | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | University College | Dean, University College | 1-4 | | |
| UNI | 220 | Mindset Connections | Explores how students' strengths and barriers influence success (i.e., how mindset, perception and beliefs influence behavior) and discovers methods for staying focused and meeting academic, personal and professional goals. Students acquire and enhance emotional intelligence skills for success in and out of the classroom. | N | SEM | N | GNA | University College | Dean, University College | 1 | | |
| UNI | 225 | Emotional Intelligence: Leadership and Success | Develops understanding of emotional intelligence and the influence it has on leadership, success and relationships. Focuses on basic theories of emotional intelligence and applies these concepts to real-world examples. Discussion and application-based course focuses on the development of self-awareness in our daily lives. | N | SEM | N | GNA | University College | Dean, University College | 1 | | Credit is allowed for only UNI 225 or UNI 294 (Emotional Intelligence: Leadership and Success) or UNI 294 (Researching Emotional Intelligence) |
| UNI | 240 | Researching Mindfulness | Explores mindfulness and the impact it has on success as a student, an individual and in the future. Therefore, students research instructor-approved topics within the subjects of psychology, emotional regulation and mindfulness in order to deepen their understanding of how the brain and the mind influence beliefs, choices, behaviors and learning. Students develop skills that support their academic, personal and professional goals, using tools such as Dweck's Mindset Theory and Rock's SCARF Model. Develops critical thinking skills, and how to apply research to their daily lives. | N | LEC | N | GNA | University College | Dean, University College | 1 | | Credit is allowed for only UNI 240 or UNI 294 (Mastering Mindsets) |
| UNI | 250 | ASU by Design: Choosing a Major | Choosing a major can be a complex challenge involving many unknowns. Students use design thinking to address and prepare for this challenge as they explore potential majors, minors and certificates and co-curricular activities so that they can thrive academically, socially and professionally. Identifies and practices skills and competencies that are key in future careers and utilizes various ASU resources to support personal and professional growth. | N | SEM | N | OPT | University College | Dean, University College | 1 | | |
| UNI | 270 | Work by Design: Preparing for a Career | Using futures thinking and design thinking, learners explore work futures through the use of reflection, research, evaluation and practice. Learners gain self-efficacy and confidence in vital work preparation skills including exploring internships, building a resume and cover letter, practicing interviewing skills and establishing a professional online presence. Showcases various job options related to degree programs of interest. | N | SEM | N | GNA | University College | Dean, University College | 1 | | |
| UNI | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | University College | Dean, University College | 1-4 | | |
| UNI | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | University College | Dean, University College | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| UNI | 400 | Society and the Individual | Various social institutions, how they shape the socialization process of a group and individual and give a community meaning, values and a set of norms. Focuses on Arizona as a case study for student research inquiries. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): Bachelor of General Studies major; ENG 101, 105 or 107 with C or better; minimum 2.00 GPA; minimum 90 hours; Credit is allowed for only UNI 400 or COM 494 (Society and the Individual) OR Visiting University Student |
| UNI | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | University College | Dean, University College | 1-4 | | |
| URB | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-4 | | |

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|---------|----------------|---|--|-------------------|-------------------|-----------------|---------------|---|---------------------------------|-------|-----------------|--|
| URB | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-12 | | |
| URB | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| URB | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-4 | | |
| USL | 210 | Service Learning: Intro to Diverse Community Issues | Correlates academic coursework with community service and provides reflection opportunities that examine community needs, the importance of civic engagement and an introduction to the effects of social injustice affecting ethnic minorities and other marginalized populations in contemporary American society. Students dedicate 70 hours at a preapproved site (including Title I K-12 schools, youth programs, health services, social services, environmental programs, government agencies) directly serving a population in need or supporting activities that contribute to the greater good of our community. Weekly seminar, course readings, discussions, and reflection assignments facilitate critical thinking and a deeper understanding of cultural diversity, citizenship, and how to contribute to positive social change in our community. Provides "real-world" experiences that exercise academic skills and knowledge applicable to each student's program of study and career goals. | N | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | L & C | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| USL | 216 | Service Learning: For Educators | Examines the effects of social justice issues on student achievement. Correlates academic coursework with required community service to analyze community needs, the importance of civic engagement and community issues affecting ethnic minorities and marginalized populations in contemporary American society, particularly how it applies to our education system. Students dedicate a minimum of 70 hours at a preapproved site (including Title I K-12 schools, youth programs, health services, social services) directly serving high-needs youth or adults. Weekly seminar, course readings, discussions and reflection assignments facilitate critical thinking and a deeper understanding of cultural diversity, citizenship and social injustices, and how to utilize this knowledge in the teaching profession to better serve all students. Provides "real-world" experiences that exercise academic skills and knowledge applicable to each student's program of study and career goals. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | L & C | Prerequisite(s): Mary Lou Fulton Teachers College major; ENG 101, 105 or 107 with C or better OR Visiting University Student |
| USL | 402 | Service Learning: Education & Youth | Correlates academic coursework with community service and provides reflection opportunities that examine community needs, the importance of civic engagement, and an in-depth study of the effects of social injustice affecting ethnic minorities and other marginalized populations in contemporary American society as they apply to education in Arizona and the United States (policy, student achievement, teacher and administration effectiveness and parental involvement). Students dedicate 100 service hours at a preapproved site (including Title I K-12 schools, youth programs, health services, social services, environmental programs, government agencies), directly serving high-needs youth. Weekly seminar, course readings, discussions and reflection assignments facilitate critical thinking and a deeper understanding of cultural diversity, citizenship and the importance of civic engagement particularly how it applies to the education system. Provides real-world experiences that exercise advanced academic skills and knowledge applicable to each student's program of study and career goals. | N | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours OR Visiting University Student |

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|---------|----------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| USL | 410 | Service Learning: Diverse Community Issues | Correlates academic coursework with community service and provides reflection opportunities that examine community needs, the importance of civic engagement and an introduction to the effects of social injustice affecting ethnic minorities and other marginalized populations in contemporary American society. Students dedicate 100 hours at a preapproved site (including Title I K-12 schools, youth programs, health services, social services, environmental programs, government agencies) directly serving a population in need or supporting activities that contribute to the greater good of our community. Weekly seminar, course readings, discussions and reflection assignments facilitate critical thinking and a deeper understanding of cultural diversity, citizenship and how to contribute to positive social change in our community. Provides "real-world" experiences that exercise academic skills and knowledge applicable to each student's program of study and career goals. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | L & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours OR Visiting University Student |
| USL | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-12 | | |
| USL | 496 | Service-Learning Capstone | Graded internship that allows students to integrate coursework with a hands-on service-learning experience. Applies theory from service-learning pedagogy and educational studies to real-world application and academic success. Provides field experience for students to exercise academic knowledge and skills applicable to career experience and program studies. Students must (a) successfully assess a community need in education that correlates to current research and (b) collectively plan a sustainable service project that benefits high-needs children. The student-directed service project addresses social justice issues in education related to corresponding research. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): USL 402 or 410 |
| USL | 497 | Service-Learning Capstone Project | Graded internship that allows students to integrate coursework with a hands-on service-learning experience. Implements a sustainable service project addressing social justice issues in education. Student-directed project corresponds to research and planning completed during the previous semester. Provides field experiences for students to implement academic knowledge and skills acquired through the Educational Studies program and to create realistic solutions to national and local community issues that impact student achievement. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): USL 496 |
| VIP | 194-BMI | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| VIP | 294-BMI | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| VIP | 394-BMI | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| VIP | 494-BMI | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| VTN | 101 | Elementary Vietnamese I | Basic skills in modern conversational Vietnamese and development of basic reading and writing skills, with special emphasis on tones. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | |
| VTN | 102 | Elementary Vietnamese II | Basic skills in modern conversational Vietnamese and development of basic reading and writing skills, with special emphasis on tones. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): VTN 101 with C or better |
| VTN | 201 | Intermediate Vietnamese I | Improves speaking, listening, reading, and writing competence through dialogues, reading passages, pattern drill, and grammar and communicative exercises. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): VTN 102 with C or better OR Visiting University Student |
| VTN | 202 | Intermediate Vietnamese II | Improves speaking, listening, reading, and writing competence through dialogues, reading passages, pattern drill, and grammar and communicative exercises. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): VTN 201 with C or better |
| VTN | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| VTN | 321 | Advanced Vietnamese and Literature I | Readings from modern, contemporary, and folk literatures as well as current periodicals. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): VTN 202 OR Visiting University Student |
| VTN | 322 | Advanced Vietnamese and Literature II | Continuation of VTN 321. Readings from modern, contemporary, and folk literatures as well as current periodicals. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Pre-requisite: VTN 321 |
| VTN | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| VTS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |

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| VTS | 301 | Experience of America's Modern Wars | Surveys the history of America's wars, military and veterans from the American Revolution through today. Also exposes how American society has understood the role of the military and those who served, both during and after their service in American wars. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only HST 300 or VTS 301 or HST 394 (Veterans, Society and Service: Core I) OR Visiting University Student |
| VTS | 302 | Representations and Self-Representations of Veterans in the Media and the Arts | Surveys the cultural history of veterans' representations from the early mythical verses about the Trojan War produced by Homer in the Odyssey (800 BC) to contemporary self-representations in social media platforms such as YouTube. Examines the various motives societies have for promoting specific kinds of representations of veterans, the veteran culture and their experiences. This course does not presume to offer a singular vision of the veteran experience. Instead, it seeks to expose students to the diversity of ways in which veterans are represented and self-represented. Readings and assignments provide an intersectional understanding of the veteran community, and the veteran and military cultures. By looking at the axis of race, gender, sexuality and class, students examine why specific modes of representations persist over time and encourage them to use this course as a starting point for future studies in any number of disciplines. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | H & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only COM 302 or VTS 302 OR Visiting University Student |
| VTS | 376 | Writing a Personal History | Interdisciplinary writing course emphasizing theories, methodologies, and issues of composing personal histories. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 376 or VTS 376 OR Visiting University Student |
| VTS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| VTS | 395 | Combat in Film | Interdisciplinary approach to and qualitative method for analyzing war movies and military dramas as both historical and cinematic narratives that represent the experiences of infantry marines and soldiers in 20th- and 21st-century U.S. wars. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 394 (Combat in Film) or ENG 395 or FMP 395 or HST 306 (Combat in Film) or HST 395 or VTS 395 OR Visiting University Student |
| VTS | 402 | Undergraduate Research | Students learn about various research tools and methodologies of use in developing individual or group research projects in the veteran studies field. Completed projects may include bibliographies, literature reviews or articles for publication. | N | RSC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): VTS 301; VTS 302 |
| VTS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | |
| VTS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| VTS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-7 | | |
| VTS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-3 | | |
| WAC | 101 | Introduction to Academic Writing | Combines classroom and supplemental instruction to teach academic genres of writing, including definition, summary, and analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | |
| WAC | 107 | Introduction to Academic Writing | For students for whom English is not the native language. Combines classroom and supplemental instruction to teach academic genres of writing, including definition, summary and analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | |
| WAC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| WPC | 101 | Student Success in Business | Introduces students to resources that help them to succeed in the W. P. Carey School of Business. | N | LEC | N | OPT | W. P. Carey School of Business | Prebusiness Office | 1 | | Credit is allowed for only ASU 101 (or equivalent) or WPC 101 or WPC 201 or WPC 194 (Business Student Development) OR Visiting University Student |
| WPC | 148 | First-Year Introduction to Career Development | Building career skills, interests and strengths as a college student. | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 0.25 | | Prerequisite(s): Business major; minimum 12 hours; Pre- or corequisite(s): ACC 101 or WPC 101; Credit is allowed for only WPC 148 or WPC 301 or WPC 347 OR Visiting University Student |
| WPC | 150 | Business and Society | Introduces the role and purpose of business in society, specifically how we can be a force of good in people's lives, in our environment, in our community and in the world. Students learn about the different core functions in business such as accounting, economics, finance, information systems, marketing, management and supply chain management as well as how each makes decisions that impact our society. | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 3 | | |

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| WPC | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | N | LEC | N | OPT | W. P. Carey School of Business | Prebusiness Office | 1-4 | | |
| WPC | 248 | Sophomore Career Narrative Design | Research methods and strategic thinking for finding internships. | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 0.25 | | Prerequisite(s): Business major; WPC 148 with C or better; minimum 30 hours; Credit is allowed for only WPC 248 or WPC 301 or WPC 347 OR Visiting University Student |
| WPC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Prebusiness Office | 1-4 | | |
| WPC | 300 | Problem Solving and Actionable Analytics | Provides foundational skills for exploring unstructured business problems. Covers techniques to approach decision making in a systematic manner, enabling students to become more comfortable in handling tasks or projects that are not initially well defined. Methods include exercises in brainstorming and iterating as well as use of more traditional analytical tools (such as spreadsheets and visualization software). | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 3 | | Prereq(s) w/min C: WPC maj; ACC 231,232,261; ECN 212,214; ECN 221,231; MAT 210,270 OR TechLdrshp BS or minor; min 30hrs; AME 230,CSE 110,SES 230; STP 226 OR DataSci BS; CIS 235; Pre/coreq(s) w/minC: WPC maj; ACC 241,242,271 OR Visiting University Student |
| WPC | 301 | Business Forum | Provides professional program business students with information on careers, interviewing, job hunting, and résumé skills. Must be taken in the first semester of the professional program for business students. | N | LEC | N | OPT | W. P. Carey School of Business | Prebusiness Office | 1 | | Prerequisite(s): Business BA or BS major; Credit is allowed for only WPC 148 or WPC 248 or WPC 301 or WPC 347 or WPC 348 or WPC 448 or WPC 449 OR Visiting University Student |
| WPC | 347 | Intermediate Career Management | Skills for transfer students for balancing career preparation with academic success as they transition to the W.P. Carey School of Business. | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 0.5 | | Prerequisite(s): Business major; Credit is allowed for only WPC 148 or WPC 248 or WPC 301 or WPC 347 OR Visiting University Student |
| WPC | 348 | Junior Networking Foundations | Career relationship-building techniques and full-time, job-readiness skills. | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 0.25 | | Prerequisite(s): Business major; WPC 248 or 347 with C or better; minimum 60 hours; Credit is allowed for only WPC 301 or WPC 348 OR Visiting University Student |
| WPC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Prebusiness Office | 1-4 | | Prerequisite(s): minimum 2.00 GPA; minimum 56 hours OR Visiting University Student |
| WPC | 448 | Senior Career Transition Management | Intensive application of the job search cycle and processes for students still seeking post-graduation employment. | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 0.25 | | Prerequisite(s): Business major; WPC 348 with C or better; minimum 90 hours; Credit is allowed for only WPC 301 or WPC 448 or WPC 449 OR Visiting University Student |
| WPC | 449 | Campus to Career | Transitional skills for workplace success for students who have obtained post-graduation, full-time, college-level positions or graduate school acceptance. | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 0.25 | | Prerequisite(s): Business major; WPC 348 with C or better; minimum 90 hours; Credit is allowed for only WPC 301 or WPC 448 or WPC 449 |
| WPC | 460 | Business Capstone | Strategic management takes the view of the CEO or general manager and addresses the question of why some firms outperform others. Firm performance, therefore, lies at the core of strategic management as firms use their resources and adapt to their environments to help them win against rivals in the marketplace. To help understand what it takes for firms to succeed in today's marketplace, students learn about the key factors that influence a firm's performance, how to assess its internal and external environments and appreciate the major elements of a successful business strategy. | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 1 | | Prerequisite(s) with C or better: Applied Business and Technology Solutions BA or Entrepreneurial Leadership BA major; ACC 382; AGB 302 or MGT 302; FIN 380; MGT 380; MKT 390; SCM 380; senior standing |
| WPC | 470 | Business Administration Capstone | Develops a general manager's or business owner's perspective on how organizations can create value. Creating long-run value by repeatedly producing goods and services that customers buy at prices that cover the costs of producing them is the key to success for business organizations. The starting point for thinking about how an organization might create value and gain sustainable competitive advantage is analyzing current and future environments to understand threats and opportunities in various institutional settings around the world. Evaluates the impact of institutional settings in different countries and ethical values on decision making. Students learn how to successfully manage relations with key stakeholders including customers, employees, suppliers of capital as well as other component goods and services, and stakeholders from various levels of government in different countries. | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 3 | | Prereq(s) w/C or better: W.P. Carey (Bus Admin or Health Care) BA major; FIN 300, 302 or 303; LES 305; MGT 300 or 303 or HCD 302; MKT 300, 302 or 303; SCM 300 or 303; WPC 300; Int'l Bus course; senior standing; Credit is allowed for only WPC 470 or 480 |

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| WPC | 480 | W. P. Carey Capstone Course | Develops a general manager's or business owner's perspective on how organizations can create value. Creating long-run value by repeatedly producing goods and services that customers will buy at prices that cover the costs of producing them is the key to success for business organizations. Analyzing current and future environments to understand threats and opportunities in various institutional settings around the world is the starting point for thinking about how an organization might create value and gain sustainable competitive advantage. Evaluates the impact of institutional settings in different countries and ethical values on decision making. Students learn how to successfully manage relations with key stakeholders including customers, employees, suppliers of capital as well as other component goods and services, and stakeholders from various levels of government in different countries. | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 3 | L | Prereq(s) w/ C or bttr: WPC BS mjr; ENG 101, 105 or 107; FIN 300, 302, or 303 or IEE 300 if Engr Mgmt mjr; LES 305; MGT 300 or 303; MKT 300, 302, or 303; SCM 300 or 303; WPC 300; Int'l Bus course; senior stndg; Crdit is allwd for only WPC 470 or WPC 480 |
| WPC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | W. P. Carey School of Business | Prebusiness Office | 1-12 | | |
| WPC | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | W. P. Carey School of Business | Prebusiness Office | 1-6 | | Prerequisite(s): Barrett Honors student |
| WPC | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | W. P. Carey School of Business | Prebusiness Office | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| WPC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Prebusiness Office | 1-4 | | Prerequisite(s): W. P. Carey BS or BA major; minimum junior standing OR Visiting University Student |
| WPC | 501 | Statistics for Business | Fundamentals of statistical analysis to aid management decision making. | N | LEC | N | OPT | W. P. Carey School of Business | Prebusiness Office | 2-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| WPC | 502 | Career Coaching | Prepares students to navigate the challenging MBA world of work. Applies theories and best practices of career management and job search to help students make informed career choices, to obtain an internship between year one and year two of the program, and to obtain a full-time position upon graduation. | N | LEC | N | OPT | W. P. Carey School of Business | Prebusiness Office | 0-4 | | Prerequisite(s): W.P. Carey MBA degree major; Credit is allowed for only WPC 502 or MGT 594 (Career Leadership) |
| WPC | 503 | Managerial Communications | Provides opportunity to develop and enhance all aspects of business communications including presentation skills, business writing, informal business communication and giving feedback. Students (1) use PowerPoint or other presentation tools to deliver an effective team presentation; (2) write an effective memo proposing a course of action to solve a business problem; (3) deliver effective feedback to peers to enable them to improve their communications skills; and (4) communicate effectively in a team problem solving setting. | N | LEC | N | OPT | W. P. Carey School of Business | Prebusiness Office | 0-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only WPC 503 or MGT 594 (Leadership Communication) |
| WPC | 504 | Fundamentals of Statistics for Managers | Provides conceptual introduction to the field of statistics and its many applications. Designed for students with limited business experience and without an undergraduate business degree. | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 3 | | Prerequisite(s): degree-seeking graduate student |
| WPC | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | W. P. Carey School of Business | Prebusiness Office | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| WPC | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | N | LEC | N | OPT | W. P. Carey School of Business | Prebusiness Office | 0-12 | | |
| WPC | 585 | Future Forward Leadership | Today organizations operate in a world that is globally and economically connected, complex and rapidly changing. Rapid technological change and start-up disrupting companies are changing the speed and nature of work. The evolving nature of work requires leaders who know how to contextualize and understand ambiguous, uncertain problems, to discover innovative and creative solutions. Future Forward Leadership develops the cognitive and leadership capabilities for this changing arena. The course builds on the knowledge gained in all of the prior courses in the MBA curriculum and applies it to ambiguous and volatile problems and issues. Team taught by faculty from across ASU and WP Carey using simulations and scenarios and hot evolving cases covering the following topics: design thinking, improvisation, super-flexibility, uncertainty, sense-making, execution through experimentation and recalibration. | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 2.5 | | Prerequisite(s): W.P. Carey MBA major |
| WPC | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | LEC | Y | OPT | W. P. Carey School of Business | Prebusiness Office | 1-12 | | |
| WPC | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | W. P. Carey School of Business | Prebusiness Office | 1-12 | | |

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| WPC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | W. P. Carey School of Business | Prebusiness Office | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| WST | 100 | Women, Gender, and Society | Interdisciplinary introduction examining critical issues in women's studies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Credit is allowed for only WST 100 or WST 300 OR Visiting University Student |
| WST | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-3 | | Pre-requisites: Must be a freshman with 25 or less total earned hours |
| WST | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| WST | 220 | Gender, Media and Culture | Introduction to gender and the media including magazines, films, advertising, new media, and other popular culture forms. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & C | Credit is allowed for only ENG 220 or WST 220 |
| WST | 235 | Disability, Justice and Advocacy | Overarching history of the disability rights movement and how it is similar to and different from other civil and rights movements. Examines how policies and activism are interconnected within this movement, in addition to looking at other human categories related to disabilities such as gender, sexuality, race and socioeconomic status. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | C | Credit is allowed for only COM 235 or JUS 235 or SST 235 or WST 235 |
| WST | 270 | Global Perspectives on Women | Through lectures, creative class activities and discussions, presents a comprehensive overview of gender and globalization with special emphasis on lived realities of women worldwide. Understands women's lives and gendered experiences through the issues of work, identities (nationality, race, class, age, ability), bodies and embodiment, belief systems, political economy and difference. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Credit is allowed for only WST 270 or WST 294 (Global Perspective on Women) |
| WST | 276 | U.S. Women's Movements | Historical survey of sources influential in the development of the feminist movement in the United States. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | H & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AMS 276 or WST 276 OR Visiting University Student |
| WST | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| WST | 300 | Women and Gender in Contemporary Society | Advanced interdisciplinary examination of such topics as gender, intersectionality, media and representations, sexuality, politics, health, violence and feminism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): minimum 30 hours; Credit is allowed for only WST 100 or WST 300 OR Visiting University Student |
| WST | 302 | History of Black Women in America | Advanced examination of the challenges that black women have faced historically in America and how they have responded to those challenges socially, politically, economically, and culturally. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & H | Prerequisite(s): AFR 200, WST 100, WST 300, or minimum 45 hours; Credit is allowed for only AFR 302 or HST 335 or WST 302 OR Visiting University Student |
| WST | 313 | Women and Sexuality | Explores U.S. women's sexuality in social context, including how women's sexuality is portrayed in popular media, medicine and education; how girls learn to think about sexuality; and how public policies address women's sexuality. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): WST 100 or WST 300 or minimum 30 hours OR Visiting University Student |
| WST | 320 | Gender, Drugs and Alcohol | Drug and alcohol use have multiple and diverse meanings shaped by their historical, social and cultural context. Examines how and why alcohol and drug use have been identified as social problems and the role of gender in shaping this process. Reviews multiple social and cultural aspects of gender, drug and alcohol use, as well as the emergence of gender-based health disparities within this context. Fulfills a science and society requirement. Basic scientific principles such as the formulation of research questions, data collection and analysis, have been used to develop our understanding of gender, drugs and alcohol. How society influences the nature of those questions, the perceived value attached to particular scientific studies over others, and how to critically evaluate law and policy around drugs and alcohol in light of those studies. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): WST 100 or WST 300 or minimum 30 hours; Credit is allowed for only WST 320 or WST 394 (Gender, Drugs and Alcohol) OR Visiting University Student |
| WST | 330 | Women, Film and Culture | Critical examination of the way films can reflect, reinforce or challenge mainstream cultural ideas about women. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 336 or WST 330 OR Visiting University Student |
| WST | 331 | Asian Pacific American Genders and Sexualities | In-depth exploration of gender and sexuality issues as they relate to Asian Pacific American experiences, including interracial relationships, stereotypes, feminism, queer theory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or SB) & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; APA 200 or APA 210 or minimum 24 hours; Credit is allowed for only APA 330 or WST 331 OR Visiting University Student |
| WST | 333 | Critical Perspectives on Sexuality | Examines critical theories of sexuality, including history, commerce, pleasure, LGBT issues, identity, medicalization of sexuality, disorders, sex crime, and pornography. | N | SEM | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): minimum 45 hours OR Visiting University Student |

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| WST | 334 | Class in America | Explores social class and inequality in the U.S. including history, culture, work, politics, globalization and intersections of gender, race, ethnicity and place. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only AMS 334 or ETH 333 or WST 334 OR Visiting University Student |
| WST | 335 | Lost in Space: Gender, Race, and Sexuality in Science Fiction | Surveys the complex interrelationships of biomedical research and discourses of biological difference as reflected in science fiction. Explores such questions as: How have biological scientists explained human differences along axes of gender, race, class, sexuality? In what ways have these scientific discussions manifested themselves in science fiction? | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): WST 100 or WST 300 or minimum 30 hours; Credit is allowed for only APA 394 (Science Fiction Adventures Race/Gender) or WST 335 or WST 394 (Lost in Space: Gender, Race, & Sexuality in Sci Fi) OR Visiting University Student |
| WST | 340 | Gender, Science, and Technology | In-depth examination of the complex interrelationships of gender, science, technology, and society in a number of different contexts. Looks at the participation of women in scientific and technical fields both historically and cross-culturally, and addresses such topics as: gender segregation by status and discipline, feminist theories of gender and science, the conditions under which women have succeeded in the sciences, gender and biological determinism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): WST 100 or 300 or minimum 30 hours OR Visiting University Student |
| WST | 341 | Latin American Women Writers | In the 20th and 21st centuries, Latin America has seen a proliferation of literature published by women authors. While this explosion of the written word owes in part to changing socioeconomic factors and the opening of the international markets, Latin American women's literary history is often ignored in the canon. Examines the concepts of feminism through a Mexican framework, starting from the point of view of Mexican women theorizing about their own. This is not a history of feminism, but it does aim to highlight certain fundamental texts and key concepts of Mexico's history from the position of women writers, including feminism's critique of social structures beyond the bounds of gender relations. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only LAS 340 or WST 341 |
| WST | 345 | Gender, Religion, and Global Violence | In-depth study of forms of gendered violence in which religion plays a key role in either the practice or perpetuation of that form of violence in a myriad of cultures and contexts. Analyzes current responses and proposes new approaches to combating or redefining these forms of violence, emphasizing the need to understand and respect the religious and cultural contexts in which these actions occur. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G | Pre-requisites: WST 100, 300 or minimum 30 hours |
| WST | 351 | Gender and Hip Hop | Interrogates the history and global proliferation of hip hop as a set of cultural and consumer practices including music, dance, art, fashion, language and entrepreneurialism. Uses an intersectional approach to unpack hip hop's contributions to larger social discourses around race, gender, gender expression, sexuality, sexual identity and sexual expression, and youth culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AFR 351 or AFR 394 (Gender and Hip Hop) or JUS 351 or JUS 394 (Gender and Hip Hop) or WST 351 or WST 394 (Gender and Hip Hop) OR Visiting University Student |
| WST | 360 | Women as Healers | Advanced examination of the role of women as caregivers, healers, physicians, midwives, and nurses in different cultures and historical periods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G | Prerequisite(s): WST 100, WST 300, or minimum 30 hours OR Visiting University Student |
| WST | 364 | Unruly Voices: Black Women and Cultural Narratives | In-depth study of African American women writers and how they (re)define female identities and engage a critical cross-cultural dialogue within the context of cultural history in the United States. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & C | Prerequisite(s): AFR 200 or minimum 45 hours; Credit is allowed for only AFR 365 or WST 364 OR Visiting University Student |
| WST | 365 | Women and International Health | Advanced study of gender-based disparities and global health, including impact of poverty, gender discrimination, political economy, and culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | G | Prerequisite(s): WST 100 (or WST 300) or minimum 30 hours |
| WST | 370 | Chronicling Women's Lives | Explores the lives of a selected group of American women as a point of departure for the chronicling of contemporary women's lives. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & C | Prerequisite(s): WST 100 or 300 with C or better OR Visiting University Student |
| WST | 371 | Sex and the City: Women, Sexuality, and Popular Culture | An in-depth study of the changing media representations of young, sexually autonomous women in the city. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & C | Prerequisite(s): WST 100 or WST 300 or minimum 30 hours OR Visiting University Student |
| WST | 373 | Latina/Chicana Issues | Critical examination of the roles Mexican American, Chicana, and/or Latina immigrant women play historically, socially, and politically in the United States and along the border. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): WST 100 (or WST 300) with C or better or minimum 30 hours. Credit is allowed for only TCL 373 or WST 373 OR Visiting University Student |
| WST | 374 | Desperate Housewives | In-depth examination of the representations of women as wives and/or mothers in the popular discourse from the 20th century to current day through an analysis of various forms of popular culture such as film, magazines, popular writing and television. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Pre-requisites: Minimum 30 hours; Credit is allowed for only WST 374 or 394 (Desp Housewives: Gender, Family & Pop Culture) |
| WST | 375 | Women and Social Change | In-depth course on feminist activism and social change. Combines research and theory on a contemporary social problem with a community action experience. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): WST 100 (or WST 300) or minimum 30 hours |

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| WST | 376 | Feminist Theory | Explores feminist theories and the intersection of gender, race, ethnicity, and class through critical analyses. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | H & C | Prerequisite(s): WST 100 or 300 with C or better OR Visiting University Student |
| WST | 377 | History of American Feminist Thought | Critical analysis of the origins and development of American feminist thought and political movements. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | H & C | Prerequisite(s): WST 100 or WST 300 or minimum 30 hours OR Visiting University Student |
| WST | 378 | Global Feminist Theory | In-depth studies of global feminist theories and exploration of the intersections of gender, race, ethnicity, class, and nation through critical analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | L & G | Prerequisite(s): ENG 101, 105 or 107 with C or better; WST 100 or 300 or minimum 30 hours OR Visiting University Student |
| WST | 380 | Race, Gender, and Class | In-depth examination of how social inequalities are reproduced and perpetuated. Explores the intersections of race, class and gender in culture and society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): WST 100 or WST 300 or minimum 30 hours; Credit is allowed for only AMS 380 or ETH 380 or WST 380 OR Visiting University Student |
| WST | 382 | American Indian Women | Investigate the economic, political and ideological factors contributing to American Indian women's intellectual and creative activities. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | C | Prerequisite(s): minimum 30 hours; Pre- or corequisite(s): AIS 180 or WST 100 or WST 300 with a C or better; Credit is allowed for only AIS 381 or WST 382 |
| WST | 390 | Women, Gender and Religion | Examines the role of women and the construction and practice of gender identities across religious traditions and cultures. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only REL 390 or WST 390 OR Visiting University Student |
| WST | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| WST | 407 | Utopia/Dystopia: Science Fiction and Media | Five science fiction novels by female authors, along with many science fiction films, provide the lens through which students examine the socio-political, artistic and scientific contexts/concepts of utopian and dystopian novels and cinema. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only IAP 407 or WST 407 or IAP 394 (Utopia/Dystopia: Science Fiction and Media) |
| WST | 408 | Gender, Sexualities and Literacies | Presents diverse perspectives on gender, sexualities and literacies from preschool to adulthood. Focuses on race, ethnicities, sexual orientation and gender identities to provide overviews of current research on gender, sexualities and ethnicities and examines how these subjectivities are expressed in multiple modes of communication. Explores representations and performances of gender and sexualities through literacy practices in sociocultural and educational contexts. Explores related issues through textbook readings, videos, websites, activities, online discussions and projects. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): min 45 hrs; Crdit is allwd for only ENG 408 or WST 408 or ENG 494 (Gndr, Sexualities, & Lit) or ENG 598 (Gndr, Sexualities, & Li) or MAS 598 (Gndr, Sexualities, & Li) OR WST 494 (Gndr, Sexualities, & Lit) OR Visiting University Student |
| WST | 413 | Queer Studies | In depth exploration of lesbian, gay, bisexual, transgender, and queer experiences in the U.S. and globally, from an interdisciplinary perspective. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & C | Prerequisite(s): WST 100 or 300 with C or better or minimum 45 hours |
| WST | 415 | Gender, Culture and Literacy | Explores the interactions and influences of gender and culture on literacy development and practice. Literacy is defined broadly as including the new literacies (e.g., blogs, wikis, zines or self publications) and multiliteracies (e.g., communication through oral, lyrical, visual, digital or written texts) within a broad view of what counts as text. Addresses varying feminist theories and perspectives on masculinities and gender in relation to literacy in home, school, community and work place settings. Participants explore their own written, digital and oral language practices through readings, videos, Web sites, Blackboard discussions, self-reflections, thought papers and action research essays. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 36 hours; Credit for only ENG 443 or ENG 494(Gender, Culture & Literacy) or MAS 598 (Gender, Culture & Literacy) or WST 415 or WST 494 (Gender, Culture & Literacy) OR Visiting University Student |
| WST | 417 | Masculinities, Femininities and Literacies | Explores perspectives on and representations of masculinities and femininities in literacy development and practice. Addresses, beginning with adolescence, a time of identity exploration, feminist and gender perspectives in relation to oral language, reading, writing and electronic communications in home, school, community, education and work settings. Examines gender performance as a local/global issue. Explores the influence of gender on written, digital and oral language practices through textbook readings, videos, websites, self-reflections, thought papers and/or alternative format responses to weekly questions on the course materials, and Blackboard discussions. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 36 hours; Credit is allowed for only ENG 449 or ENG 494 (Masculinities, Femininities, and Literacies) or MAS 598 (Masculinities, Femininities, and Literacies) or WST 417 or WST 494 (Masculinities, Femininities, and Literacies) |
| WST | 420 | Women of Color in Film | An in-depth analysis of the history and representations of women of color in film and the film industry through the intersections of gender, race, sexuality, class, and nationalism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & C | Prerequisite(s): WST 100, WST 300, or minimum 45 hours; Credit is allowed for only AFR 418 or WST 420 OR Visiting University Student |
| WST | 421 | Girlhood and Adolescence | Critical analysis of the changing construction of girlhood and female adolescence through history, memoir, fiction, myth, music, and media. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & C | Prerequisite(s): WST 100, WST 300, or minimum 30 hours OR Visiting University Student |

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|---------|----------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| WST | 422 | Women, Law, and Social Control | Examines social, economic, and legal factors that are relevant to mechanisms of social control of women, including formal legal control and informal control through violence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only JUS 422 or WST 422 |
| WST | 428 | Gender, Madness and Justice | Interrogates the interplay among gender, madness and justice; that is, the treatment of women and men within psychological discourses both individually and within the culture at large. Utilizes a feminist and social justice perspective to interrogate a variety of subjects related to the psychology of women and gender, including histories of madness, socialization, childhood, adolescence, intelligence, eating behavior, sexuality, queerness, violence, depression, therapy and activism. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB | Prerequisite(s): WST 100 or 300 with C or better OR Visiting University Student |
| WST | 430 | Gender on the Borderlands | Examines women's status in the U.S.-Mexico borderlands through key issues such as migration, labor, violence, education, and culture. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR WST 100 or 300 with C or better; Credit is allowed for only ETH 430 or LAS 430 or WST 430 or JHR 598 (Gender on the Borderlands) OR Visiting University Student |
| WST | 433 | Race and Sexualities in Social Justice Movements | Investigates queer communities, social control and political resistance. Topics include collective responses to trauma/violence, heteronormativity, and variants of institutionalized racism and sexism. Gives special attention to race and sexuality intersections as well as the politics of coming out, LGBT activism, antiracist movements, the role of allies, and social movement strategies. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prereq(s): ETH 100, HRC 200, or WST 100 w/C or better OR ENG 102, 105, or 108 w/C or better; minimum 36 hours; Credit is allowed for only ETH 433 or JHR 433 or WST 433 or ETH/WST 494 (Race, Sexuality, & Soc Justice Mvmts) OR Visiting University Student |
| WST | 440 | Politics of Women's Health | In-depth and interdisciplinary exploration of how women's social, cultural, and economic position affect their health and health care. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): WST 100, WST 300, or minimum 45 hours OR Visiting University Student |
| WST | 444 | Gender, Health, and Bodies | Explores gender and health from a feminist perspective, including critical analyses of medicine, science, and popular culture. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB | Prerequisite(s): WST 100 or 300 with C or better; Credit is allowed for only MAS 598 (Gender, Health, and Bodies) or WST 444 |
| WST | 447 | Gender, Culture, and Development | In-depth analysis of gender roles related to health, family, work, education and politics in developing countries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or SB) & G | Prerequisite(s): ENG 101, 105 or 107 w/ C or better; WST 100 or 300 or minimum 45 hours; Credit is allowed for only SGS 454 or SOS 447 or TCL 447 or WST 447 or TCL 598 (Gender, Culture & Development) OR Visiting University Student |
| WST | 449 | Hate Speech, Manifestos, and Radical Writings | Examines writings, speeches and texts that provoke radical or even revolutionary social change. At its core, this course asks: What is the radical and what does it do? How do radical writings function as texts, speech acts, inspirational documents, testimonies, accounts of madness, frightening moments, calls to arms, peacekeeping entities or speaking truth to power? Examines injurious speech and provocative writings that span a range of social movements and topics, including radical feminism, radical queer, Black power, indigenous rights, art and performance, anti-technology, animal rights, violence, madness and revolutionary resistance. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): minimum 35 hours; minimum 2.50 GPA; Credit is allowed for only AMS 449 or ETH 449 or WST 449 OR Visiting University Student |
| WST | 454 | Gender and Literature | Focuses on the representation of gender in literature. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ENG 454 or WST 454 OR Visiting University Student |
| WST | 457 | Women, Cultures, and Societies | Examines issues such as poverty, dependency, interdependency, race, class, and gender in different societies of the world. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & G | Prerequisite(s): WST 100 or 300 with C or better OR Visiting University Student |
| WST | 460 | Women and the Body | In-depth analysis of the cultural construction of the gendered body and societal prescriptions about beauty, body image, and size. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): WST 100 or 300 or minimum 45 hours OR Visiting University Student |
| WST | 467 | Ethnic Women Writers | Concentrates on selected women writers of the U.S. who are Native American, African American, Latina, and Asian-American. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & C | Prerequisite(s): WST 100 (or WST 300) with C or better; Credit is allowed for only ENG 460 or WST 467 |

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| WST | 469 | Abject Bodies and the Politics of Trash | Examines the possibilities inherent in "theorizing from the gutter"; looking at the world not from a lofty "Ivory Tower" but from the slime, the muck, the dumpster, the trash heap, the wasteland, the discarded and the downtrodden. Takes its theoretical framework from a radical 1960s manifesto called SCUM Manifesto by Valerie Solanas and from the French feminist philosophies of Julia Kristeva, who theorized the abject as a relationship with the grotesque that reveals the deep-seated fear of death. Uses these theoretical positions to examine trash, both abstractly and literally. Works through a variety of concepts ranging from actual trash, garbage, waste, toxic sludge, pollution and dirt, and tackles more abstract notions of trash such as the knowledge produced on the fringe in circuses, amusement parks, "trailer trash" zones, freak shows and the bodies of those marked as "Other" or different. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only AMS 469 or ETH 469 or JHR/MAS 598 (Abject Bodies and the Politics of Trash) or WST 469 OR Visiting University Student |
| WST | 470 | Gender and Popular Culture | Advanced interdisciplinary examination of how gender is constructed in various popular cultural forms such as film, television, magazines, and music. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & C | Pre-requisites: WST 100 or WST 300 or minimum 45 hours |
| WST | 471 | Women's International Human Rights | In-depth study of the core themes of a global movement for women's international human rights. Analyzes the historical evolution of the development of international human rights and women's rights within the United Nations and regional human rights systems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): WST 100, WST 300, or minimum 45 hours; Credit is allowed for only AFR 470 or AFR 598 (Women's International Human Rights) or WST 471 OR Visiting University Student |
| WST | 473 | Indigenous and Latina/Chicana Representation | Examines from an interdisciplinary perspective contemporary issues experienced by Indigenous and Chicana/Latina women in the U.S. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only ETH 473 or LAS 473 or WST 473 |
| WST | 477 | Gender and Violence | Critical examination of gender-based violence from societal, institutional and individual levels using intersectional and interdisciplinary perspectives. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): WST 100 or 300 or minimum 45 hours OR Visiting University Student |
| WST | 483 | Women Writers Across Cultures | Comparative approach to contemporary writings by women from around the world. | N | SEM | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & G | Prerequisite(s): WST 100 or 300 with C or better OR Visiting University Student |
| WST | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | GNA | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| WST | 485 | Women, Gender, and Leadership | Explores the gendered nature of leadership and studies strategies that enable women to lead successfully in areas such as business, education, and public service. | N | SEM | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): WST 100 or 300 with C or better OR Visiting University Student |
| WST | 490 | Transborder Queer Performativity | Explores a rich and diverse body of border-crossing performative expression created by queer and/or Latina/o artists. Course readings and discussions include solo and collaborative works with an emphasis on solo autobiographical performance scripts as well as performer interviews and performance scholarship. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & C | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 45 hours; Credit is allowed for only TCL 490 or WST 490 |
| WST | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-6 | | Prerequisite(s): Barrett Honors student |
| WST | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| WST | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| WST | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-7 | L | Prerequisite(s): Gender, Women and Sexuality Studies major; ENG 101, 105, or 107 with C or better; WST 100 or 300 with C or better |
| WST | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | GNA | College of Liberal Arts and Sciences | School of Social Transformation | 1-3 | | |
| WST | 501 | Foundations of Feminist Thought | Provides key concepts and theories that have shaped the field of women and gender studies. Also provides overview of resources for research in women's studies scholarship at ASU and prepares students to participate in the field. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only WST 501 or WST 691 (Foundations of Fem Thought) |
| WST | 502 | Interdisciplinary Gender Research Methodologies | Describes the ways in which feminist scholars conceptualize and design their research. Explores the decisions scholars make in their research including the choice of research topics, applications of feminist theories and methodologies, the choice of methods and how and why feminist scholars have increasingly incorporated interdisciplinary methods, and what is at stake in these decisions for the research design and research outcomes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|----------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------|-------|-----------------|--|
| WST | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| WST | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisites: degree-seeking graduate students only |
| WST | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| WST | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| WST | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Social Transformation | 1 | | |
| WST | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| WST | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | N | LEC | N | Z2 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| WST | 601 | Critical Concepts of Gender | Key concepts, theoretical frameworks, disciplinary and interdisciplinary approaches, and the critical debates that have shaped the field of gender studies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Pre-requisites: degree-seeking graduate students only |
| WST | 602 | Mapping the Intersections of Gender | Theoretical concepts, metaphors, and frameworks employed by feminist scholars to understand the way gender articulates with other categories of difference. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Pre-requisites: Degree-seeking graduate students only |
| WST | 603 | Engendering Methodology | Focuses on the methodologies, epistemologies, and ethical dilemmas of researching gender. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Pre-requisites: Degree-seeking graduate students only |
| WST | 615 | Masculinities | Explores the theoretical concepts, frameworks and disciplinary and interdisciplinary approaches that have accompanied the emerging analysis of masculinity studies as a field. Interrogates the ways in which masculinities have been defined in relation to femininities and other institutionalized constructions of difference, and how these definitions have contributed to material conditions and specific socio-historical contexts in which gendered bodies are included or excluded, privileged or disadvantaged, taken for granted or contested. Considers the articulations and contestations of diverse masculinities as expressed through gender, race, sex, ethnicity, sexuality, kinship, politics, popular culture, economics, nationalism, science and medicine, and violence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only WST 615 or WST 691 (Masculinities) |
| WST | 620 | Advanced Feminist Theory in a Transnational Context | Concentrates on transnational feminist theory and its intersections with queer theory, postcolonial theory, and critical race theory. Also looks at the ways in which (or indeed, whether) academic discourses have anything useful to say about the worlds in which we live. Among the questions we'll need to have constantly in our minds are: In what ways has feminist theorizing changed over time? Does transnational feminist theory challenge or even undermine previous feminist theoretical discussions or the perspectives you might be familiar with from your undergraduate days? What kinds of engagements do our authors have with theorists in other areas (queer studies, postcolonial studies, critical race theory)? Can you discern any sort of new feminist grand narrative emerging from these works? In what ways might our authors' perspectives help you conceptualize and contextualize your own work? | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only WST 620 or WST 691 (Feminist Theory) or WST 791 (Feminist Theory) |
| WST | 640 | Visual and Narrative Culture | Feminist analysis of gender representations in visual and narrative culture, including film, dramatic literature, fiction, and autobiography. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Pre-requisites: Degree-seeking graduate students only |
| WST | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |

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| WST | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree-seeking graduate student |
| WST | 701 | Research Design and Proposal Development in Gender Studies | Prepares students for careers in gender studies by developing skills in research design, proposal writing, and identifying funding outlets. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Pre-requisites: Degree-seeking graduate students only |
| WST | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| WST | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisites: Degree-seeking graduate students only |
| WST | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-15 | | |
| WST | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | IND | Y | Z3 | College of Liberal Arts and Sciences | School of Social Transformation | 1 | | |
| WST | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Social Transformation | 1-15 | | |
| WWS | 460 | World War II | Explores the causes, conduct and consequences of World War II. When did World War II start? How was it fought, and what did that mean for soldiers, the homefront and millions of civilians in Japanese or German occupied regions? What did the world that emerged in its wake look like? The course explores these fundamental questions with an emphasis on multiple explanations of the causes of the war in Asia and Europe and the contingency of Allied victory. Explores the war as both a total and a global war in which perceptions of race, class and gender shaped the experience of combatants and noncombatants, many of whom died in indiscriminate bombing campaigns. Racial ideologies also led to the brutalization of soldiers, which in turn fueled the violence against civilians, as exemplified by the Holocaust and Japanese war crimes. Finally, the course turns to the global order emerging after the war and the different narratives that emerged from it. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only HST 460 or HST 494 (Introduction to World War II Studies) or HST 494 (World War II Studies) or JST 460 or WWS 460 OR Visiting University Student |
| WWS | 561 | Decision Points I | In-depth analysis of the origins, impact and controversies over the key decisions related to the beginning and early years of World War II, with an emphasis on the contingent nature of historical events. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| WWS | 562 | Decision Points II | In-depth analysis of the origin, impact and controversies over the key decisions related to the later years and the ending of World War II, with an emphasis on the contingent nature of historical events. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| WWS | 563 | The Lived Experience of World War II | Using the vast oral history collection of the National World War II Museum in New Orleans, Louisiana, this course examines how individuals experienced the war. A number of factors shaped how people experienced the war--whether one was a soldier, non-combatant, resistor or collaborator. Focuses on how ordinary people made sense of their experiences during the war. In addition, students explore the theory and practice of collecting and using oral histories. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): WWS 561; WWS 562 |
| WWS | 564 | The Global War | Examines the global dimensions of World War II with particular focus on those regions which have been deemphasized in Western historical discourse. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): WWS 561; WWS 562 |
| WWS | 566 | World War II Today | Analyzes the impact and legacy of World War II, with an emphasis on the roots of contemporary problems and issues. A global conflict that impacted millions of people, World War II fundamentally reshaped the political and cultural landscape of our planet. Explores the new global order that emerged after the end of World War II in 1945. While the war had immediate impacts in the postwar era, the legacy of the war continues to inform current conflicts across the globe and resonates in the current social and political order. This is especially apparent in how contemporary narratives situate, remember and memorialize the war. Uses themes to help us think historically and uncover the historical roots of the present order. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): WWS 561; WWS 562 |

Fall 2023

| Subject | Catalog Number | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|----------------|----------------------------|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|--|
| WWS | 567 | World War II in Film | Offers a comprehensive survey of how film has represented the Second World War. Using a transdisciplinary approach, studies how films from the time of the Second World War to the present have portrayed that conflict. Compares different perspectives on the causes and results of the war, as well as engage in analysis of how important issues such as international political and economic relationships, religion, gender, ethnicity, class, race, technology and the psychological effects of violence get shown in movies about World War II. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ENG 567 or FMS 567 or WWS 567 |
| WWS | 568 | World War II in Literature | Explores the topic of World War II across fiction, non-fiction, film and other film genres. Focus areas and topics of literature covered in the course may vary from semester to semester, depending upon instructor preference. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ENG 568 or WWS 568 |
| WWS | 569 | Memory and Monuments | Focuses on the historical memory of World War II by examining the processes of commemoration, monument building, and memorialization. Through theoretical texts and case studies, students explore how societies remember and forget and how they create collective memory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| WWS | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| WWS | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| WWS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| WWS | 597 | Capstone | Students draw on the experiences, skills and competencies they developed throughout the WWII Studies MA program to generate a digital portfolio that showcases the breadth and depth of their MA experience. Students refine and extend work they produced in previous WWS courses and also develop reflective essays that critically assess their performance in the program, as well as essays that articulate the transferable value of the degree to potential employers or admissions committee members. Through required components in the portfolio students demonstrate competency in source analysis, comparative analysis and argumentation, as well as the ability to effectively communicate to scholarly and public audiences. | N | LEL | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): 21 hours of 500-level courses with C or better including WWS 561; WWS 562; WWS 563; WWS 566 |
| WWS | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

Spring 2024

Spring 2024

| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| ABS | 100 | Discovering the Professions | Focuses on learning and engaging with information and tools that provide the basis for successful life/career planning decisions. Also designed to assist students in balancing career preparation with academic success. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1 | | |
| ABS | 130 | Introduction to Environmental Science | Introduces the interconnected nature of Earth's hydrosphere, lithosphere (soils and rocks), atmosphere, and biosphere. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 4 | SQ | Credit is allowed for only ABS 130 or BIO 130 or ENV 130 OR Visiting University Student |
| ABS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| ABS | 200 | Building Your Professional Self | Focuses on developing a professional narrative, prepares students for the expectations of upper-division coursework and covers how to effectively use online resources resulting in developing the professional self. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 0.5 | | Prerequisite(s): ABS 100 or 272 OR Visiting University Student |
| ABS | 207 | Applied Plant Taxonomy | Introduces identification of vascular plants emphasizing seed plants. Surveys seed plant families. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): BIO 182 or BIO 282 |
| ABS | 225 | Soils | Fundamental physical, chemical and biological properties of soils as related to sustainable natural resource management. Both ABS 225 and ABS 226 must be taken to secure General Studies SQ credit. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SQ | Prerequisite(s): CHM 101 or 113 OR Visiting University Student |
| ABS | 226 | Soils Laboratory | Selected exercises to broaden the background and understanding of basic soil principles. Both ABS 225 and ABS 226 must be taken to secure General Studies SQ credit. | N | LAB | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1 | SQ | Pre- or corequisite(s): ABS 225 OR Visiting University Student |
| ABS | 260 | Fundamentals of Sustainable Horticulture | Principles and practices of horticulture, emphasizing development, growth, and propagation of horticultural plants and environmental factors that affect these processes. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 4 | SG | |
| ABS | 270 | Sustainable Biological Systems | Ecological foundations of sustainable biological systems, anthropogenic impacts on ecosystem structure and function, and ecological risk assessment. Examines climate change, water scarcity, deforestation, soil degradation, and human displacement on global ecosystem functions and utilization of natural resources. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | |
| ABS | 271 | Veterinary Medicine Today | Introduces the role of the veterinarian as related to the fields of food supply and veterinary medicine. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | |
| ABS | 272 | Discovering Dentistry | Dentistry is a vital component of whole person health care, as oral health directly impacts systemic health. Explores dentistry as a surgical specialty, as well as an introduction to dental terminology and anatomy. Briefly reviews the process for applying to dental school, as well as preparatory efforts to build a resume. Provides an opportunity to learn about life after dental school, which involves a wide variety of specialties, practice options and organizations that directly impact a career as an oral health care provider. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Credit is allowed for only ABS 272 or ABS 294 (Discovering Dentistry) |
| ABS | 274 | Introduction to Wildlife Management | Fundamentals of wildlife conservation and management through lectures, guest speakers and lab activities. Divided into three parts: (1) introduction to conservation, management and the scientific method; (2) themes of earth, water, fire and air; and (3) wildlife techniques and field methods. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 4 | | Prerequisite(s): BIO 182 or 282 OR Visiting University Student |
| ABS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| ABS | 300 | Career Competencies and Skills | Builds on skills developed in previous coursework. Focuses on ensuring students can articulate and give examples of their knowledge and experience in applied biological science core competencies as well as career readiness skills such as leadership, teamwork, communication, professionalism and technology. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 0.5 | | Prerequisite(s): ABS 200 OR Visiting University Student |
| ABS | 302 | Ethical and Policy Issues in Biology | Policy environment and ethics in the practice of biology. Covers ethical reasoning, policy formulation, and regulatory agencies with examples from biotechnology and the environment. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ABS | 311 | Molecular and Cellular Biology | Overview of the biology of the cell; emphasizes structure and function of biomolecules within the cell and their applications associated with recombinant DNA technology, genetic engineering, plant and agriculture biotechnology, and human pharmaceutical development. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): BIO 181 or 281 with C or better OR Visiting University Student |
| ABS | 312 | Structure and Function | Surveys structural and functional attributes of plant and animals of particular importance in the applied biological sciences. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): BIO 182 or 282 with C or better OR Visiting University Student |
| ABS | 314 | Applied Plant Physiology | Understanding control of plant growth and developmental processes through innovated technologies. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): BIO 182 or 282 OR Visiting University Student |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| ABS | 318 | Unseen Life on Earth | Develops an understanding of how microbes exist in the context of both their environment and the organisms they come in contact with. Focuses on how the microbial interactions with the environment play a vital role in the multitude of biological processes that support the Earth system. Studies a myriad of extreme environments that host microbial systems, such as cloud, hydrothermal vent, acid-mine drainage and gut microbiomes. Utilizes a synthesis-driven approach where students apply their knowledge on microbial systems to discern whether life is possible on other planets. Also pays attention to the tools used to evaluate microbial diversity and function, applications of microbial ecology, and how microbes can be harnessed to improve life on Earth. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ABS 318 or ABS 394 (Unseen Life on Earth) OR Visiting University Student |
| ABS | 319 | Food, Health and Human Biology | Simplifies and explains the most current scientific research findings on the link between different types of food and human health, and to clear some of the most common misconceptions that do not have scientific backing. Emphasizes the effects different types of foods have on the health of our bodies as well as our gut microorganisms (microbiota), which are tightly connected. In addition, examines the influence of the timing of meals on our health. Also reviews several immediate negative reactions to food and modern chronic illnesses that are associated with diet. Course content is based primarily on the most current literature in the field but is simplified and includes reviews of the relevant basic biological principles to aid understanding of the topics by all students. Intended for nonmajors and for those majoring in life sciences, biology and health-related sciences. Introductory probability, descriptive statistics, sampling distributions, parameter estimation, tests of hypotheses, chi-square tests, regression analysis, analysis of variance, and nonparametric tests. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ABS 319 or ABS 394 (Food and Human Health) OR Visiting University Student |
| ABS | 321 | Sexually Transmitted Infections | There are many infectious organisms that can be transmitted primarily through sexual activity. Covers sexually transmitted infections, their mode of transmission, prevention and treatment. Aims to educate students on the scientific side of these infections and their treatments. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ABS 321 or ABS 394 (Sexually Transmitted Infections) OR Visiting University Student |
| ABS | 350 | Applied Statistics | Statistical methods with applications in the biological sciences and natural resource management. Uses computers and the Internet. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | CS | Prerequisite(s): one course meeting General Studies MA requirement with C or better OR Visiting University Student |
| ABS | 355 | Ecology and Adaptations of Vertebrates | Evolution, systematics, diversity, zoology, conservation and anatomical and physiological adaptations and specializations of the vertebrates. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): BIO 182 or 282 OR Visiting University Student |
| ABS | 360 | Southwest Home Gardening | Multimedia course for nonmajors surveying contemporary topics in Southwest home horticulture, including landscaping, flower and vegetable gardening, citriculture, interiorscaping, and others. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 2 | | |
| ABS | 362 | Landscape Plants | Identification, design, and use of plants in urban landscapes. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 4 | | Prerequisite(s): minimum 45 hours |
| ABS | 363 | Sustainable Landscape Practice | Landscape technologies and practices including landscape design theory, job costing and bidding, sprinkler and drip irrigation design, landscape installation, landscape valuation techniques, landscape ordinances, and maintenance practices of commercial and residential landscapes. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 4 | | Prerequisite(s): ABS 260 |
| ABS | 364 | Urban Forestry | Care, maintenance, and valuation of the urban forest, including public and private landscape codes. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Pre-requisite: ABS 260 |
| ABS | 365 | Future of Agriculture: Vertical Farming | Examines vertical farming in today's agricultural market. Students study the applied innovative technologies, suitable plants, operation management, and the future of vertical farming in modern agriculture. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ABS 365 or ABS 394 (Future of Agriculture: Vertical Farming) OR Visiting University Student |
| ABS | 368 | Plant Propagation | Theory and application of sexual and asexual propagation techniques. Considers plant materials used both for urban horticulture and ecological restoration applications. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | |
| ABS | 369 | Hydroponic Food Crop Production | Covers the principles and practices of hydroponic systems and their applications for indoor vertical farming and greenhouse production. Covers fundamental topics of crop production in hydroponic systems, including plant nutrition, nutrient solution, growing media, soilless cultures, system applications and planting methods. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ABS | 370 | Ecology | Interactions between organisms and their environments; structure and dynamics of populations, communities, ecosystems, and landscapes, with emphasis on vegetation. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): BIO 182 or 282 OR Visiting University Student |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|-------------------------------------|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| ABS | 371 | Small Animal Veterinary Topics | Introduces students to entry-level veterinary clinic knowledge. Covers basic terminology and small animal anatomy, basic small animal behavior and safe animal handling, as well as case studies to review simple triage vitals assessments. Helps students better understand small animal and clinic personnel safety while creating a basic understanding of how a veterinary clinic works in medical record language and day-to-day tasks. Encourages research into the field of small animal veterinary medicine through projects and assignments. Students learn about important topics within veterinary medicine today including individual mental well-being, animal disease surveillance, client education and alternative medicine modalities. Related careers are roles in veterinary practice management, as a veterinarian, veterinary technician or assistant, or as an animal pharmaceutical representative and nonprofit animal work. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ABS 271; Credit is allowed for only ABS 371 or ABS 394 (Small Animal Veterinary Topics) OR Visiting University Student |
| ABS | 372 | Captive Animal Behavior Management | Natural animal behaviors during captive animal management including wild and domestic animal training and enrichment, exhibit design, husbandry, and livestock management. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): BIO 182 or 282 with C or better; Credit is allowed for only ABS 372 or ABS 394 (Applied Animal Behavior) OR Visiting University Student |
| ABS | 375 | Equine Science | Gives a scientific understanding of horses necessary for success in equine care and management. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ABS 375 or ABS 394 (Introduction to Equine Science) OR Visiting University Student |
| ABS | 376 | Wildlife Ecology | Explores population biology, conservation genetics, habitat ecology, ecological communities, competition, invasive species, habitat fragmentation and connectivity, and other related topics. Students work in small groups to design, implement, and complete a field-based research project on the ASU Polytechnic campus. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Pre- or corequisite(s): ABS 274; ABS 370 |
| ABS | 377 | International Wildlife Conservation | Studies wildlife around the world including biogeography, biodiversity, conservation topics and the complexity of conserving wildlife in both developed and developing nations. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): BIO 182 or 282; Credit is allowed for only ABS 377 or ABS 494 (International Wildlife Conservation) OR Visiting University Student |
| ABS | 378 | Animal Nutrition | Principles of nutrient metabolism in animal species; emphasizes understanding the interaction of animals with their environment. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Pre-requisites: BIO 181 or BIO 182; CHM 101 or CHM 113 |
| ABS | 379 | Animal Anatomy | Essential concepts in animal anatomy including structure and function of the bones, muscles, tissues and organs of common primarily, but not exclusively, domestic animals presented by organ system. Also covers basic comparative anatomy with farm and equine animals. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ABS 379 or ABS 394 (Animal Anatomy) OR Visiting University Student |
| ABS | 380 | Restoration and Wildlife Plants | Important wildland plants, including invasive and endangered species, wildlife food species, and species used for ecosystem restoration such as rangeland revegetation and seeding. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ABS 207 OR Visiting University Student |
| ABS | 381 | Natural Resources Policy | Policies and regulations affecting management of natural resources, with emphases on wildlife, rangeland and ecological restoration. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours |
| ABS | 384 | Natural Resources Measurements | Inventory, sampling and monitoring techniques of natural resources. Data evaluation and interpretation as related to management, restoration and conservation needs of natural resources. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ABS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| ABS | 414 | Plant Pathology | Identification and control of biotic and abiotic factors that cause common disease problems to plants. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): BIO 181 with C or better; BIO 182 or PLB 200 with C or better; ENG 101, 105 or 107 with C or better OR BIO 281 with C or better; BIO 282 with C or better; ENG 101, 105 or 107 with C or better |
| ABS | 417 | Comparative Immunology | Examines unique but also shared immunological characteristics of animals with the goal of understanding how different animals respond to microorganisms such as viruses, bacteria, fungi and parasites. Presentation of material is guided by hierarchy of structural organization, using molecules, organelles, cells, tissues, organs, organ systems, whole animals and even ecosystems and the environment to convey important concepts related to our relationships with pathogens. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ABS 417 or ABS 394 (Comparative Immunology) OR Visiting University Student |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| ABS | 419 | Microbiota in Health and Disease | Explores various aspects related to our microbiota, and its functional interactions between our own bodies in healthy and diseased states. Emphasizes the human microbiota. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): MIC 205; Credit is allowed for only ABS 419 or ABS 494 (Microbiota in Health and Disease) or ABS 598 (Microbiota in Health and Disease) OR Visiting University Student |
| ABS | 422 | Head and Neck Anatomy | Students acquire clinical problem solving skills through a basic understanding of the gross anatomy and related physiology of the head and neck region of human anatomy. Topics include skeletal system, muscular system, temporomandibular joint and glandular tissue, vascular and lymphatic system, and nervous system, all as they relate to the regional anatomy and physiology of the head and neck. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): BIO 160 or 201; Credit is allowed for only ABS 422 or ABS 494 (Head and Neck Anatomy) OR Visiting University Student |
| ABS | 430 | Watershed Management | Hydrologic, physical, biological, and ecological principles applied to watershed management. Impact of ecosystem manipulations on water yield and quality. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours |
| ABS | 434 | Soil Ecology | Soils viewed in an ecosystem context, soil-plant relationships, nutrient budgets, and abiotic factors that influence soil processes. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Pre-requisites: ABS 370 or BIO 320; Credit is allowed for only ABS 434 or BIO 418 |
| ABS | 435 | Applied Systems Ecology | Simulation modeling as a tool to study ecological processes and human impact on ecosystems and organisms. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Pre-requisites: ABS 370, ABS 350 (or STP 420) |
| ABS | 440 | Ecological Restoration Techniques | Techniques for ecological restoration, riparian and wetland restoration, and monitoring restoration success. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ABS 370 |
| ABS | 441 | Ecological Restoration Practicum | Field experience in the evaluation and monitoring of implemented ecological restoration projects. | N | LEL | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1 | | Pre/Co-requisite: ABS 440 |
| ABS | 452 | Commercial Applications of Fermentation | Biochemical applications and technologies of fermentation including use of fungi and bacteria in fermentation to improve human health and immunity, and produce pharmaceutical drug supplements and medicines, foods, beverages, and alternative fuels. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): BIO 181 or 281 with C or better; Credit is allowed for only ABS 452 or ABS 494 (Commercial Applications of Fermentation) OR Visiting University Student |
| ABS | 460 | Organic Gardening | Applies principles and practices of organic gardening in the low desert, including environmental impacts of modern food production. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 2 | | |
| ABS | 462 | Greenhouse/Nursery Management | Greenhouse structures, environment, and nursery operations. Includes irrigation, nutrition, and other principles relative to production of nursery crops. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 4 | | Pre-requisite: ABS 260 |
| ABS | 464 | Desert Horticulture | Students learn about and practice the principles of sustainable horticulture in an arid climate. Includes capstone projects on sustainability issues related to horticultural practice in arid environments. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ABS 260; Credit is allowed for only ABS 464 or ABS 494 (Sustainable Desert Horticulture) or ABS 498 (Desert Horticulture) OR Visiting University Student |
| ABS | 470 | Life History of Mammals | Evolution, classification, environmental, anatomical and physiological adaptations, ecology, and conservation of mammals worldwide. Emphasis on the identification, habitat relationships, conservation, and management techniques of Arizona and select North American mammals. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ABS 355 or BIO 370 |
| ABS | 472 | Applied Herpetology | Systematics, evolution, ecology and life history of amphibians and reptiles emphasizing wildlife management methodologies. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ABS 355 or BIO 370 OR Visiting University Student |
| ABS | 473 | Applied Ornithology | Evolution, ecology, classification and life history of birds, emphasizing wildlife management methodologies. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ABS 355 or BIO 370; Credit is allowed for only ABS 473 or ABS 494 (Applied Ornithology) |
| ABS | 474 | Riparian Ecosystem Management | Management principles of riparian ecosystems based on fluvial geomorphological and ecological concepts. Discusses human impacts to riparian ecosystems. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours |
| ABS | 475 | Habitat Management for Small Wildlife | Habitat management considerations and practices for small game and nongame wildlife species in North America. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ABS 370 or BIO 320 |
| ABS | 476 | Big Game Habitat Management | Conservation and management issues focused on large mammals in North America. Topics include habitat ecology, nutrition, migration, predator-prey dynamics, trophic cascades, habitat management and restoration of populations. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ABS 370 or BIO 320 OR Visiting University Student |
| ABS | 479 | Ecosystem Management and Planning | Principles of ecosystem management, with emphasis on economic and policy constraints on the planning process. Risk assessment and management. Includes the process of complying with NEPA while developing rangeland management plans. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): ENG 101, 105 or 107 with C or better; minimum senior standing OR Visiting University Student |
| ABS | 481 | Riparian and Wetland Restoration | Principles and problems in the restoration of degraded riparian and wetland ecosystems. Construction of wetlands. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ABS 370 |
| ABS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | |
| ABS | 485 | GIS in Natural Resources | Principles of Geographic Information Systems (GIS) utilized in natural resource management. Use of computers for spatial inventory and analysis of natural resources. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |

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| ABS | 486 | Introduction to Remote Sensing | Remote sensing is an important source of environmental information that can support a deeper understanding of trends and clarify management strategies in a wide range of ecological application. Focuses on the application of satellite and aerial/drone remote sensing in environmental science and management. With this basic background, course participants use remote sensing data to make spatial decision. Presents the concepts of biodiversity and wildlife management parallel to the remote sensing information. Image processing instruction and exercises begin with an analysis of digital imagery and proceed through the three broad classes of processing techniques: preprocessing, enhancement and information extraction. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 4 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ABS 486 or ABS 598 (Integration of Remote Sensing) or ABS 598 (Introduction to Remote Sensing) |
| ABS | 489 | Undergraduate Research | Undergraduate research under the supervision of an applied biological sciences faculty member. | N | RSC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-3 | | Prerequisite(s): Junior or senior standing OR Visiting University Student |
| ABS | 490 | Applied Biological Sciences Seminar | Current literature and significant developments related to applications of the biological sciences. May be repeated for credit. | N | SEM | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1 | | Prerequisite(s): Senior standing OR Visiting University Student |
| ABS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | | Prerequisite(s): Barrett Honors student |
| ABS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ABS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| ABS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-3 | | |
| ABS | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | |
| ABS | 541 | Advanced Rangeland Ecosystem Management | Combines the principles of ecology, planning and restoration in the application of rangeland ecosystem management. Studies fundamental topics such as range plant physiology, range plant ecology, rangeland stocking-rates and grazing systems in considering management practices for rangeland ecosystems. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ABS | 542 | Management of Fire Adapted Ecosystems | Fire adapted ecosystems which evolved with high-frequency and low-intensity fires now support a range of regimes from no fire to uncharacteristically large and intense fires, causing a concern about the current and future role of wildland fire as well as forest and rangeland health. Explores management considerations and techniques for reintroducing fire to these ecosystems. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ABS | 550 | Vegetation Dynamics | Dynamics of vegetation linking physiological, population, and community ecology. Collection and analysis of vegetation data. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ABS | 555 | Wildlife Dynamics | Students learn advanced concepts and analytical skills in population and habitat ecology and apply this knowledge to answer contemporary questions in wildlife conservation. The class consists of lectures, class discussions about scientific papers and active learning exercises. Students work with a diversity of real-world data sets, including from wildlife cameras, acoustic bat monitors, GPS telemetry and other field methods for a range of different species. Uses the statistical program R as an integral component of the class; a familiarity with R is desirable, but not required. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ABS | 560 | Ecological Modeling | Mathematical modeling of animal populations, food-web structural and ecological processes in space and time. May use modeling tools on computer clusters. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ABS | 570 | Advanced Animal Nutrition | Metabolic and physiological interactions of nutrients in wild and domesticated animals consuming natural feeds. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ABS | 586 | Remote Sensing in Environmental Resources | Principles and application of remote sensing technologies in natural resource management using computerized data from aerial photography and satellite imagery. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ABS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ABS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| ABS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ABS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): ABS 592 |
| ABS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ABS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ABS | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ABS | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACC | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | School of Accountancy | 1-4 | | |
| ACC | 231 | Uses of Accounting Information I | Introduces the uses of accounting information focusing on the evolution of the business cycle and how accounting information is used for internal and external purposes. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): CIS 105 or 236 with C or better; min 25 hours OR Technological Entrepreneurship Management major: EDT 180; min 25 hours OR Pre- or corequisite(s): Engineering Management major: CSE 205; min 25 hours OR Visiting University Student |
| ACC | 232 | Financial Accounting I | Develops an understanding of the theory, concepts, principles and practices underlying preparation, interpretation, and use of external financial reports. Emphasizes interpreting the economic substance of events and transactions and their association with contemporaneous and prospective events, relationships, and outcomes. Gains understanding of the accounting information model and develops an ability to analyze and record business transactions and analyze basic financial statements. Meant for prospective accounting and finance majors (and students who plan current majors in these areas) and develops skills and abilities facilitating success in higher-level accounting courses. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): Accountancy or Finance majors; CIS 105, 220 or 236 with C or better OR Visiting University Student |
| ACC | 241 | Uses of Accounting Information II | Introduces the uses of accounting information focusing on the evolution of the business cycle and how accounting information is used for internal and external purposes. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): ACC 231, 261, or 303 with C or better OR Visiting University Student |
| ACC | 242 | Managerial Accounting I | Develops an understanding of the theory, concepts, principles, and practices underlying managerial accounting. Emphasizes three functions managers must perform within their organizations: plan operations, control activities, and make decisions. Explains what accounting information is necessary, how to collect it, and how to interpret it. Meant for prospective accounting and finance majors and students who plan current majors in these areas and develop skills and abilities facilitating success in higher-level accounting courses. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey Accountancy and Finance majors, and others with School of Accountancy approval; ACC 231, 232, 261, or 303 with C or better OR Visiting University Student |
| ACC | 261 | Honors Fundamentals of Financial Accounting | Covers basic financial accounting concepts and applications. Develops an understanding of the environment in which financial reporting choices are made. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey School of Business Honors student; CIS 105 or CIS 220 or CIS 236 with C or better |
| ACC | 271 | Honors Fundamentals of Managerial Accounting | Covers basic managerial accounting concepts and applications. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey Business major; Barrett Honors student; ACC 231, 232, or 261 with C or better |
| ACC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | School of Accountancy | 1-4 | | |
| ACC | 310 | Intermediate Accounting for Corporate Accountants | Intermediate-level financial accounting course with in-depth focus on asset, liability and owner's equity measurement, revenue determination, investments accounting, lease accounting, financial statement preparation, presentation and analysis. Emphasizes the statement of cash flows and interpreting footnote disclosures. Where appropriate, compares International Financial Reporting Standards and U.S. GAAP (Generally Accepted Accounting Principles). | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey Business (Corporate Accounting) BA major; ACC 241, 242, or 271 with C or better; ECN 221 or 231 with C or better; MAT 210, 251, 265, or 270 with C or better OR Visiting University Student |

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| ACC | 320 | Management Accounting for Corporate Accountants I | Covers internal reporting systems for planning, control, and decision making. Deals with conceptually and computationally understanding the various accounting, economic and/or business models, frameworks and methods in order to be more knowledgeable and literate in these areas while building overall stronger decision-making skills. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey Business (Corporate Accounting) BA major; ACC 241, 242, or 271 with C or better; ECN 221 or 231 with C or better; MAT 210, 251, 265, or 270 with C or better OR Visiting University Student |
| ACC | 330 | Data Analytics in Accounting | Explores accounting concepts through the application of data analytics. Focuses on developing an analytics mindset and learning how to use big data analytical tools to examine and analyze data, and then effectively interpreting results to make business decisions. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s) w/C or better: WPC Accountancy or Finance BS major; ACC 241, 242 or 271; ECN 221 or 231; MAT 211, 266 or 271; Credit allowed for only ACC 330 or ACC 494 (Accounting Analytics or Data Analytics in Accounting) OR Visiting University Student |
| ACC | 340 | External Reporting I | Financial accounting theory and practice related to external reporting. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W.P. Carey Accountancy or Finance BS major; ACC 241, 242, or 271 with C or better; ECN 221 or 231 with C or better; MAT 211, 266, or 271 with C or better OR Visiting University Student |
| ACC | 350 | Internal Reporting | Internal reporting systems for planning, control, and decision making. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey Accountancy BS or Finance BS major; ACC 241, 242, or 271 with C or better; ECN 221 or 231 with C or better OR Visiting University Student |
| ACC | 354 | Governance, Risk, Compliance Internal Controls and Ethics | Equips students to understand, evaluate and participate in corporate governance. Surveys best practices in corporate governance including internal controls, enterprise risk management (ERM), fraud deterrence, and ethical organizational culture. Emphasizes the Committee of Sponsoring Organizations (COSO) framework. Provides the necessary background and understanding of key internal control and ERM concepts and tools for corporate accountants. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey Business (Corporate Accounting) BA major; ACC 310 with C or better; ACC 320 with C or better OR Visiting University Student |
| ACC | 382 | Accounting and Financial Analysis | Introduces financial accounting concepts related to operating, financing, investing, and ethical decisions. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 3 | | Prereqs:AppBus&TechSol BA, EntrprLdrs BA, Logstcs(Maritime) AS or non-Bus maj; min 2.0GPA; min 30hr OR nondeg stdt; min 2.0GPA OR grad stdt; Stdts may not take ACC 382 if min C earned in ACC 231,232,241,242,261,271, BUA 381 OR Visiting University Student |
| ACC | 410 | Financial Statement Analysis | Focuses on core knowledge and skills essential to financial statement analysis. Topics covered include strategic ratio analysis, cash flow analysis, forecasting, pro-forma financial statements and firm valuation. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey Business (Corporate Accounting) BA major; ACC 310 with C or better OR Visiting University Student |
| ACC | 420 | Management Accounting for Corporate Accountants II | Covers the higher-level managerial accounting topics and uses of accounting data to assist corporate accountants in their plans and decisions regarding complex resource allocation, organizational control, and performance evaluation issues. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey Business (Corporate Accounting) BA major; ACC 320 with C or better OR Visiting University Student |
| ACC | 430 | Taxes and Business Decisions | Federal income taxation of sole proprietors, partnerships, corporations, fiduciaries, and individuals with an emphasis on tax consequences of business and investment decisions. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey Accountancy BS student; ACC 340 with C or better; LES 305 with C or better OR Visiting University Student |
| ACC | 435 | Personal Tax Management and Planning | Strategies used by financial planners to help clients achieve greater tax efficiency. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): Business (Financial Planning) BA or Finance BS major; FIN 302, 303, or 380 with C or better OR Visiting University Student |
| ACC | 440 | External Reporting II | Continuation of ACC 340 with emphasis on the recognition, research, and resolution of financial reporting issues. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey Accountancy BS or Finance BS student; ACC 340 with C or better OR Visiting University Student |
| ACC | 444 | Enterprise Process Analysis and Design | Focuses on the flow of data through ERP systems and discusses the difference between several types of data and the flow of data from various transactions through the database. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s) with C or better: Accountancy BS major; ACC 241, 242, or 271; ECN 221 or 231 OR Computer Information Systems BS major; ACC 241, 242, or 271; CIS 235 or 236; ECN 221 or 231 OR Visiting University Student |
| ACC | 450 | Principles of Auditing | Standards and procedures in auditing. Planning, evidence gathering and accumulation, and reporting. Ethical and legal considerations. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W.P. Carey Accountancy BS major; ACC 340 with C or better OR Master of Taxation student OR Visiting University Student |

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| ACC | 454 | Taxes for Corporate Accountants | Integrates tax compliance, tax planning, accounting, economics and finance. Examines current tax rules while developing the ability to think about taxes in a way that is not specific to the current federal system. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey Business (Corporate Accounting) BA major; ACC 310 with C or better; ACC 320 with C or better OR Visiting University Student |
| ACC | 460 | Ethics for Professional Accountants | Addresses ethical obligations and responsibilities of professional accountants. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey Accountancy BS major; ACC 241, 242, or 271 with C or better; ECN 221 or 231 with C or better; MAT 211, 266, or 271 with C or better OR Visiting University Student |
| ACC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | W. P. Carey School of Business | School of Accountancy | 1-12 | | Prerequisite(s): W. P. Carey BS Accountancy major; ACC 340 with C or better; ACC 350 with C or better; ACC 430 with C or better; ACC 440 with C or better; ACC 450 with C or better; minimum 3.50 GPA; minimum 72 hours |
| ACC | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | W. P. Carey School of Business | School of Accountancy | 1-6 | | Prerequisite(s): Barrett Honors student |
| ACC | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | W. P. Carey School of Business | School of Accountancy | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ACC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | W. P. Carey School of Business | School of Accountancy | 1-4 | | Prerequisite(s): Accountancy BS major OR Visiting University Student |
| ACC | 501 | Fundamentals of Financial Accounting | Covers contemporary financial accounting and reporting systems; emphasizes the interpretation and evaluation of a company's external financial reports. Designed for students with limited business experience and without an undergraduate business degree. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 1.5 | | Prerequisite(s): degree-seeking graduate student |
| ACC | 502 | Financial Accounting | Contemporary financial accounting and reporting systems; emphasizes the interpretation and evaluation of a company's external financial reports. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 1-4 | | Prerequisite(s): W. P. Carey Finance MS or MBA student |
| ACC | 503 | Managerial Accounting | Managerial accounting concepts and procedures for internal reporting applied to the decision making activities of the professional managers. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 1-4 | | Prerequisite(s): W. P. Carey MBA student; ACC 502 with C or better |
| ACC | 504 | Fundamentals of Managerial Accounting | Covers managerial accounting concepts and procedures for internal reporting applied to the decision-making activities of the professional managers. Designed for students with limited business experience and without an undergraduate business degree. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 1.5 | | Prerequisite(s): ASU degree-seeking graduate student; Pre- or corequisite(s): ACC 501 with C or better if completed |
| ACC | 509 | Statistics for Accounting Analytics | Addresses theories of probability and uncertainty through the use of statistics including descriptive, predictive and prescriptive analyses as well as regression and other models to support audit decisions and conclusions. This heavily quantitative course starts with a realization that probability and uncertainty can be alleviated (or compounded) with different statistical decision making and so starts with theories of probability and uncertainty to properly understand these concepts. Once these concepts are grounded, this class focuses on data, techniques and technologies that can aid in appropriate decision making with accounting. Emphasizes formulating real-world models--driven by descriptive, predictive and prescriptive statistics--to represent complex real-world accounting decision problems and on using a variety of tools to gain better insight into properly addressing these problems. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): Master of Accountancy student |
| ACC | 510 | Internal Controls Audit and Fraud Prevention and Detection | Addresses internal control frameworks and U.S. Generally Accepted Auditing Standards (GAAS) related to an auditor's consideration of internal controls for purposes of financial statement audits and audits of internal control over financial reporting. Covers various schemes pertaining to misappropriation of assets, corruption and fraudulent financial reporting. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): Accountancy MACC student; Credit is allowed only for ACC 510 and ACC 591 (Int Contrls Audit, & Fraud Prevention & Detection) |
| ACC | 511 | Accounting for Income Taxes | Primarily the comprehensive study of financial accounting for income taxes. The core content focuses on ASC740, including preparation, review and audit of a corporate tax provision. Course is particularly valuable for students interested in a career in either audit or tax. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 1-4 | | Prerequisite(s): Business graduate student |
| ACC | 512 | Advanced Auditing | Builds on the skills obtained in the beginning auditing (assurance) course and focuses on audit planning, risk assessment, evidence, and reporting procedures and fraud. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 3 | | Pre-requisite: Master of Accounting student |

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| ACC | 513 | Advanced Financial Accounting | Focuses on advanced financial accounting topics along with their application in the financial reporting process. Topical coverage includes consolidations, mergers and acquisitions, derivatives, foreign currency translation, fair value accounting, and equity-based compensation. Addresses the implications of these topics for earnings management and earnings quality. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): Business graduate student |
| ACC | 520 | Statistics and Coding for Accounting Analytics | Addresses analytics in accounting, auditing and tax contexts. Focuses on the introduction of methods and techniques to analyze data sets while also making it easier to interpret, present and utilize the results for financial decision making. Presents frameworks and approaches to equip students to recognize and interpret patterns in data and models and recommend actions. Teaches multiple concepts to improve decision making related to accounting data. Also serves as a practical introduction to the extraction, cleaning and transformation of data for accounting applications. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): Accountancy MACC student; Credit is allowed for ACC 520 or ACC 591 (Accounting Analytics) |
| ACC | 521 | Accounting Analytics Concepts and Tools | Addresses analytics in accounting, auditing and tax contexts. Focuses on the methods and techniques to analyze data sets while also making it easier to interpret, present and utilize the results for financial decision making. Presents additional frameworks and approaches to equip students to recognize and interpret patterns in data and models and recommend actions. Students learn multiple concepts to improve decision making related to accounting data. Also serves as a continuation of the extraction, cleaning and transformation of data for accounting applications. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): Master of Accountancy student |
| ACC | 522 | Innovations with Auditing Technologies | Focuses on understanding the role of technology-related innovations on audits and auditing performance. Looks at both capturing data from recent innovations in technologies for audit applications (e.g., IoT) as well as examining the roles of these recent technology innovations for audit performance (e.g., cognitive computing). | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): Master of Accountancy student |
| ACC | 560 | Ethics for Professional Accountants | Reviews ethics in business, fiduciary responsibility, ethical issues, codes of conduct in the field of accounting. Individualized instruction. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): Master of Accountancy or Master of Taxation student; Credit is allowed for only ACC 560 or ACC 591 (Ethics for Professional Accountants II) |
| ACC | 571 | Taxation of Corporations and Shareholders | Tax aspects of the formation, operation, reorganization, and liquidation of corporations and the impact on shareholders. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 1-4 | | Prerequisite(s): W. P. Carey Taxation student |
| ACC | 573 | Taxation of Pass-Through Entities | Tax aspects of the definition, formation, operation, liquidation, and termination of a partnership. Emphasizes tax planning. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 1-4 | | Prerequisite(s): Taxation MTax student |
| ACC | 575 | Family Financial, Tax and Wealth Transfer Planning | Provides an understanding of family financial planning, individual income tax, taxation of wealth transfers during life (gifts) and at death (estate) with emphasis on identifying planning techniques to maximize family wealth and financial security for individuals and their families. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 1-4 | | Prerequisite(s): Business graduate student |
| ACC | 577 | Tax Research, Professional Responsibilities & Property Transactions | Federal tax issues and consequences, tax authority, property transactions and tax consequences of acquiring, holding and disposing of property. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): Master of Taxation major. Credit is allowed for only ACC 577 or ACC 591 (Tax Research, Professional Responsibilities & Property Transactions) |
| ACC | 581 | ESG Reporting and Ethics | Prepares accounting and finance-oriented students to lead organizations. Explores corporate governance topics including sustainability reporting and related ethical issues from the perspectives of accounting and finance professionals. Corporations employ different governance structures each with its strengths, weaknesses and differing ethical norms. Corporate governance is changing quickly now with thousands of companies that are incorporating environmental, social and governance (ESG) issues and metrics into their internal finance and accounting operations and their external reporting. Utilizes cases supplemented with articles (no textbook) along with substantial discussion and writing components. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): Business graduate student; Credit is allowed for only ACC 581 or ACC 591 (Corporate Gov, Ethics & Sustainability Rptg) or SOS 549 |
| ACC | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | W. P. Carey School of Business | School of Accountancy | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| ACC | 585 | Performance Measurement and Advanced Managerial Accounting | Covers advanced topics in strategic implementation and control, stressing their application to real-world settings. Topics include performance measurement, the design of compensation plans, and the design of information-based control systems to build winning organizations. Utilizes case studies drawn from a wide range of firms in various industries and countries, emphasizing the use of critical thinking to interpret data for solving managerial problems. Should be of interest to anyone thinking of a career in a corporate setting, consulting and private equity. Should also be useful for those interested in public accounting to develop an understanding of client organizations. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): Business graduate student |
| ACC | 586 | Shareholder Value Creation and Financial Statement Analysis | Develops skills necessary to exploit financial reporting information in a business environment and appreciation of reporting issues faced by management. | N | LEC | N | OPT | W. P. Carey School of Business | School of Accountancy | 1-4 | | Prerequisite(s): ACC 502; FIN 502 |
| ACC | 587 | State and Local Taxation | Multistate taxation and interplay between multistate tax issues and federal and state constitutional limitations. | N | LEC | N | GNA | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W.P. Carey Master of Taxation student |
| ACC | 588 | Professional Accounting Research | Applies the technical knowledge of accounting theory and principles developed in other academic courses through the use of "real life" case studies, where such knowledge and professional judgment is applied in resolving advanced accounting problems and issues. | N | RSC | N | OPT | W. P. Carey School of Business | School of Accountancy | 3 | | Pre-requisite: W. P. Carey Master of Accountancy student |
| ACC | 589 | International Taxation | Addresses the U.S. taxation of U.S. individuals and businesses that do business outside the U.S. as well as the U.S. taxation of foreign persons and tax treaties, allocation of income, foreign tax credits, and transfer pricing. Emphasizes planning related to some of the tax issues that commonly arise in cross-border businesses. | N | RSC | N | OPT | W. P. Carey School of Business | School of Accountancy | 3 | | Prerequisite(s): W. P. Carey Master of Taxation student |
| ACC | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | W. P. Carey School of Business | School of Accountancy | 1-12 | | Prerequisite(s): specific Business graduate students |
| ACC | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | W. P. Carey School of Business | School of Accountancy | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACC | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | W. P. Carey School of Business | School of Accountancy | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACC | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | W. P. Carey School of Business | School of Accountancy | 1-12 | | Pre-requisite: Business Administration (Accountancy) PHD student |
| ACC | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | W. P. Carey School of Business | School of Accountancy | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACC | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | W. P. Carey School of Business | School of Accountancy | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACC | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | W. P. Carey School of Business | School of Accountancy | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACC | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | W. P. Carey School of Business | School of Accountancy | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACO | 100 | All About Data: Design, Query, and Visualization | Data modeling and design, spreadsheets, relational databases and querying, visualization and XML. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | CS | |
| ACO | 101 | Introduction to Computer Science | Concepts of problem solving, structured and object-oriented programming in Java, fundamental algorithms, computer system concepts. Social and ethical responsibilities. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | CS | |
| ACO | 102 | Object-Oriented Programming | Object-oriented programming using introductory algorithms and data structures. Overview of concepts in computer science. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | CS | Prerequisite(s): ACO 101 with C or better; Credit is allowed for only ACO 102 or CSE 205 or CST 200 OR Visiting University Student |

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|---------|-------------|---------------------------------------|--|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|--|
| ACO | 131 | Global Cybersecurity | Introduces the basic concepts and tenets of cybersecurity from a global and cultural perspective, instead of a technical perspective. Explores how various nation-states view and employ cybersecurity in order to achieve their national strategic imperatives. Students articulate and understand fundamental cybersecurity concepts and principles rooted in U.S. and other national policy, compare and contrast various nation-state approaches to national security, the monitoring of other nations and foreign citizens, and how these relate to cybersecurity policies and practices. Students identify and describe cultural and political philosophies regarding personal data and personal privacy and their influence on national security policy and objectives. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | G | Credit is allowed for only ACO 131 or ACO 194 (Global Cybersecurity) |
| ACO | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | |
| ACO | 201 | Data Structures and Algorithms | Static and dynamic data structures, recursive and iterative sorting and searching, object-oriented design and programming, software design models and implementation/testing strategies, professional responsibilities. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | CS | Prerequisite(s): ACO 102 with C or better; MAT 210 or higher with C or better OR Visiting University Student |
| ACO | 240 | Introduction to Programming Languages | Introduces the procedural, object-oriented, functional and declarative languages. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 102 with C or better OR CSE 205 with C or better OR GIS major with GIS 222 with C or better OR Software Engineering graduate student; Credit is allowed for only ACO 240 or CSE 240 |
| ACO | 320 | Database Systems | Entity-relationship and relational data models. Database design theory. Relational algebra, calculus and SQL query languages. Query optimization. XML fundamentals. Transactions, recovery and concurrency control. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 201 with C or better; MAT 243 or 300 with C or better; Credit is allowed for only ACO 220 or ACO 320 or CSE 412 or IFT 300 (or IFT 433) or SER 322 OR Visiting University Student |
| ACO | 321 | Database Development & Applications | Stored procedures and triggers. Security and authorization. Call-level interface. Database Web applications. Advanced topics. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 320 with C or better; Credit is allowed for only ACO 321 or CSE 414 or IFT 458 or IFT 554 or IFT 598 (Middleware Programming & Database Security) OR Visiting University Student |
| ACO | 330 | Computer Networks | Network architecture and protocols, principles of network applications, socket programming, flow and congestion control, switching and routing, link-layer technologies, traffic capture and analysis, security. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 201 or CIS 325 with C or better; Credit is allowed for only ACO 330 or CSE 434 OR Visiting University Student |
| ACO | 331 | Network Forensics Analysis | Fundamental principles of network forensics and traffic analysis, evidence acquisition, network intrusion detection and analysis, anomaly detection and analysis, malicious activity detection, network tunneling, and malware forensics. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 330 with C or better; STP 226 or 280 with C or better; Credit is allowed for only ACO 331 or IFT 482 or IFT 523 or IFT 598 (Network Forensics) OR Visiting University Student |
| ACO | 350 | Systems Programming | Introduces operating systems as resource managers, processes, threads, memory allocation, file systems, protection, system calls, application program interfaces. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | CS | Prerequisite(s): ACO 201 with C or better; Credit is allowed for only ACO 350 or CSE 330 |
| ACO | 351 | Governance, Risk and Compliance | Broad requirements for effective cybersecurity governance, the elements required to develop an appropriate governance strategy, and the actions required to implement it. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 201 or CIS 235 with C or better |
| ACO | 361 | Secure Coding Concepts | Secure software development process including designing secure applications, writing secure code that can withstand attacks, and security testing and auditing. Focuses on the security issues a developer faces, common security vulnerabilities and flaws, and security threats. Explains security principles, strategies, coding techniques and tools that can help make code more resistant to attacks. Students write and analyze code that demonstrates specific security development techniques. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 201, ACO 240, or CIS 325 with C or better |
| ACO | 386 | STEAM Service Learning | Guided process in which students deepen their understanding of their STEAM content area through knowledge-based problem solving that provides a service to others in the community. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ACO 386 or ENV 386 or FOR 386 or LSC 386 or PTX 386 or LSC 494 (Service Learning in the Life Sciences) |
| ACO | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | |
| ACO | 399 | Supervised Research | Experience within the context of current faculty research projects. Student is assigned responsibility depending on qualifications. | N | RSC | Y | YGB | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-3 | | Prerequisite(s): ACO 102 with C or better; minimum 30 hours OR Visiting University Student |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|--|
| ACO | 401 | Managing Cyber Risks in Enterprise Business Processes | Covers the activities, decisions, risks and controls associated with enterprise business processes. Specific focus on the activities in the sales-to-cash (revenue cycle) and purchase-to-pay (expenditure cycle) processes. Students understand how IT enables performing those processes more efficiently and effectively. In addition to identifying internal controls necessary for accurate, complete performance of processes, also covers the fundamentals of cybersecurity. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 320 or CIS 235 or CIS 236 or CSE 310 or IEE 305 with C or better; Credit is allowed for only ACO 401 or CIS 401 OR Visiting University Student |
| ACO | 402 | Privacy, Ethics and Compliance Issues | Covers the activities, mechanisms and challenges associated with implementing the principles of privacy into corporate structures. Also provides an overview of the privacy regulatory landscapes as well as emerging challenges with privacy. Specific focus areas include the Generally Accepted Privacy Principles framework and the implementation of privacy controls via the use of process and technology. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 401, CIS 401, or CSE 465 with C or better; Credit is allowed for only ACO 402 or CIS 402 OR Visiting University Student |
| ACO | 420 | Big Data Systems | Modern technologies to manage, process and analyze big data. Data processing of large data sets with Map/Reduce. NoSQL data stores. NewSQL databases. Data visualization. Applications. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 320 with C or better |
| ACO | 421 | Data Mining and Warehousing | Introduces data mining from a database perspective, including classification, clustering, and association rules. Data warehousing methodologies. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 320 with C or better; STP 226 or 281 with C or better; Credit is allowed for only ACO 421 or CSE 478 or CSE 494 (Foundations of Data Visualization) OR Visiting University Student |
| ACO | 422 | XML and Databases | XML data model, schema specification and validation, querying, storage, indexing, and current research topics. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 320 with C or better |
| ACO | 423 | Data Science | Computational and machine learning methods to extract insights from data: data collection, data cleaning and transformation, exploratory data analysis, data visualization, and machine learning (supervised and unsupervised) algorithms. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 240 with C or better; ACO 320 with C or better; STP 226 or 280 with C or better OR Visiting University Student |
| ACO | 430 | Wireless Networks and Security | Comprehensive course on wireless networks and security covering current industry standards, protocols, research and future trends. Topics include fundamentals of wireless communications, wireless LAN configuration and analysis, wireless security and cellular networks. Sets the groundwork for students to acquire professional certifications such as CWNA, CWAP and CWSP. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 330 with C or better OR Visiting University Student |
| ACO | 431 | Network Security | Digital threats and attacks, cryptography, confidentiality, authentication protocols, message integrity, security in network applications, intrusion detection, malicious software countermeasures, firewalls. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 330 with C or better OR Visiting University Student |
| ACO | 432 | Distributed Systems | Distributed system models, distributed programming technique, clock synchronization, distributed snapshot, distributed mutual exclusion, concurrency control, fault tolerance, security, recent advances. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 330 with C or better OR Visiting University Student |
| ACO | 461 | Security Operations | How organizations monitor and manage the security of their infrastructures in the real world. Explains architecture principles, the use of monitoring tools and technologies, how to interpret different security data sources, as well as how to identify and respond to various security threats within a complex infrastructure. Requires students to utilize security toolsets within a laboratory setting to demonstrate their understanding of the technologies as well as course concepts. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 330 with C or better OR Visiting University Student |
| ACO | 482 | Design Thinking for National Security | Project-driven course teaches problem solving, creative thinking and solution development. Provides a menu of problems to solve, with each problem being sourced directly from a sponsor within the Department of Defense (DoD). Working directly with DoD personnel, class mentors and other experts, students spend the semester crafting and refining solutions that can be adopted in short order. Students' work and solutions have real-world impact. | N | PRO | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prereqs w/min C: App Comp or App Comp (Cybersec) BS; ACO 240; ACO 320; ACO 330; ACO 350; MAT 210; STP 226 OR non-App Comp BS major; sr stndg; Crdt for ACO 482 or LSC 482 or ACO/ENT/FSE/IVD/LSC/SES/STP 494/598(Hack for Dfns) OR Visiting University Student |
| ACO | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | IND | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): ACO 240 with C or better; ACO 320 with C or better; ACO 330 with C or better; MAT 210 with C or better; STP 226 with C or better |
| ACO | 486 | Peer Mentoring in STEM | Advanced students learn and apply mentoring skills in science classes or teaching labs. | Y | SEM | Y | YGB | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ACO 486 or BIO 486 or LSC 486 or MAT 486 or PTX 486 or STP 486 OR Visiting University Student |

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| ACO | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | IND | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| ACO | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | IND | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ACO | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | |
| ACO | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-3 | | Prerequisite(s): ACO 240 with C or better; ACO 320 with C or better; ACO 330 with C or better; ACO 350 with C or better; MAT 210 with C or better; STP 226 with C or better |
| ACO | 500 | Research Methods | Course on research methods in a specific discipline. | Y | RSC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACO | 501 | Database Systems and Problem Solving in Python | Design and implementation of databases for scientific applications. Defining and querying database systems using the SQL industry standard language. Data exchange using XML. Programming in Python to solve realistic problems using scientific data. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACO | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACO | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACO | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACO | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACO | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACO | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACO | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACO | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACO | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACO | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACO | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACT | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |

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| ACT | 201 | Introduction to Elements and Techniques of Actuarial Science | Introduces important aspects of actuarial work. Exposes the development of actuarial techniques in the context of life insurance, casualty and property insurance, superannuation and investment. Develops problem-solving skills and gives basic tools for risk management and financial modeling, including the use of Excel spreadsheets for both, calculations and simulations. Shows how studies in related disciplines (such as accounting, demography, economics, statistics, computing and mathematics) are essential to the education of an actuary. Guest speakers from the industry share their knowledge and insight on how to become a successful actuary. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 265 or 270 with B or better OR Visiting University Student |
| ACT | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| ACT | 301 | Risk Management and Insurance | Provides an introduction to the different types of risks faced by individuals, businesses and society along with ways in which they make an assessment of, control and transfer of different types of risks including property risk, liability risk, personal risks and speculative risks such as financial risks. Covers risk management techniques including risk control and risk financing with a focus on insurance policies, and also presents other major topics in personal financial planning, social insurance, insurance operations and regulations, and reinsurance. Also gives attention to contemporary issues and challenges in risk management and insurance. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | SB | Prerequisite(s): MAT 210, 265, or 270; DAT 401, ECN 221, STP 226, or STP 420 OR Visiting University Student |
| ACT | 302 | Fundamentals of Enterprise Risk Management | Examines in detail the Enterprise Risk Management (ERM) as a decision support system that helps organizations understand risk and assure the achievement of their goals. Provides understanding of what risk is and what an ERM process looks like for organizations, including some common challenges and pitfalls of institutionalizing an ERM culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ACT 301 OR Visiting University Student |
| ACT | 320 | Property and Casualty Insurance | Examines the fundamental principles and uses of property and casualty insurance. Also includes detailed examination of contracts, rating, underwriting, regulation and financial strength of insurers. In particular, devotes attention to the role of property and casualty insurance in addressing the economic and social problems encountered by businesses. Furthermore, also assists in the preparation to take the State of Arizona's Department of Insurance Property & Casualty exam. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ACT 301 |
| ACT | 330 | Life and Health Insurance | Develops an understanding of life and health insurance and the place of those products in the risk management plans of individuals and businesses. In particular, devotes attention to the role of life and health insurance in addressing the economic and social problems encountered by individuals and businesses. Furthermore, prepares the students to take the State of Arizona's Department of Insurance Life and Health Insurance exam. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ACT 301 |
| ACT | 370 | Software Tools for Business Analytics | Data analysis has become a core aspect of actuarial science. Course focuses on using three important software applications (Excel, R and Python) to conduct data acquisition and cleaning, preparing data for analysis, exploratory data analysis, basic statistical model building (linear regression), and data visualization. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 266 or 271 with C or better; Credit is allowed for only ACT 370 or DAT 301 or STP 494 (Exploring Data in R and Python) OR Visiting University Student |
| ACT | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| ACT | 410 | Mathematics of Finance | Prepares potential actuaries to master national exams. Provides an understanding of the fundamental concepts of financial mathematics and how those concepts are applied in calculating present and accumulated values for various streams of cash flows as a basis for future use in: reserving, valuation, pricing, asset/liability management, investment income, capital budgeting and valuing contingent cash flows. Topics include: mathematics of compound interest including annuities certain, amortization schedules, yields curves, sinking funds and bonds. Gives an introduction to financial instruments including derivatives and the concept of no-arbitrage as it relates to financial mathematics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ACT 201 with C or better; MAT 265 or 270 with B or better; Credit is allowed only for ACT 410 or ACT 510 OR Visiting University Student |

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|---------|-------------|--------------------------------------|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|---|
| ACT | 415 | Probability for Risk Management | Prepares potential actuaries to master national exams. Develops knowledge of the fundamental probability tools for quantitatively assessing risk. Topics include: introduction to probability concepts including definition of probability, independence, conditional probability, random variables, specific discrete and continuous probability distributions, multivariate random variables, moments and moment generating functions, functions of random variables, sampling distributions and central limit theorem. Emphasizes the application of these tools to problems encountered in actuarial science. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 267 or 272 with B or better; Credit is allowed for only ACT 415 or ACT 515 or STP 326 or STP 421 OR Visiting University Student |
| ACT | 420 | Rate-making and Reserving | Utilizes information on property and casualty rate-making and reserving techniques, from an actuarial perspective. Rate-making and loss reserving are the two fundamental functions performed by actuaries, and are necessary for satisfying an organization's strategic, operational and regulatory goals and requirements. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ACT 301; ACT 370 or DAT 301; Credit is allowed for only ACT 420 or ACT 520 OR Visiting University Student |
| ACT | 430 | Mathematics of Financial Derivatives | Prepares potential actuaries to master the national exams. Develops knowledge of the theoretical basis of certain actuarial models and the application of those models to insurance and other financial risks. Topics include: option pricing, Black-Scholes formula, delta hedging, exotic options, Brownian motion, interest rate models and simulations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ACT 410 (ACT 310); ACT 415 or STP 421; Credit is allowed for only ACT 430 or ACT 530 OR Visiting University Student |
| ACT | 435 | Statistics for Risk Modeling | Statistical techniques in business forecasting such as: simple linear regression, multiple linear regression, hypothesis testing and confidence intervals in linear regression models, testing of models, data analysis and appropriateness of models, linear time series models, moving average, regression-based and/or ARIMA models, estimation, data analysis and forecasting with time series models, forecast errors and confidence intervals, classification, clustering and tree-based methods. Emphasizes analysis of various types of real data using R. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ACT 370 or DAT 301; STP 427; Credit is allowed for only ACT 435 or ACT 535 OR Visiting University Student |
| ACT | 440 | Single Life Mortality | Develops an understanding of the key features of long-term insurance coverages (life, health and general); annuities and retirement benefits (pensions, retiree health care, etc.). Students accumulate knowledge of the theoretical basis of actuarial models and the application of those models to long-term insurance and other financial risks. Topics include: life tables, present value determination for life insurances and annuities and premium calculations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ACT 410; ACT 415 or STP 421; Credit is allowed for only ACT 440 or ACT 540 OR Visiting University Student |
| ACT | 441 | Long-Term Actuarial Mathematics | Focuses on reserving for insurances and annuities for long-term actuarial models including multiple lives and/or multiple decrement models. Expose students to different reserving types as well as interpretation of common profit measures. Other topics include applications of the long-term models to pension plans and retirement benefits. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ACT 440 with C or better; MAT 343 with C or better; Credit is allowed for only ACT 441 or ACT 541 OR Visiting University Student |
| ACT | 450 | Actuarial Models | Provides detailed understanding of the actuarial models and how to apply these models in solving business problems. Students analyze data from an application in a business context, determine a suitable model including parameter values and provide measures of confidence for decision making based on the model. Covers construction and inference for the severity, frequency and aggregate models and their modifications. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ACT 415 or STP 421; STP 427; Credit is allowed for only ACT 450 or ACT 550 OR Visiting University Student |
| ACT | 451 | Short-Term Actuarial Mathematics | Helps the student understand the steps involved in the modeling process and how to carry out these steps in solving business problems. Also enhances students' understanding in actuarial models. Topics include: selection of parametric models, Bayesian estimation, limited fluctuation credibility, Bayesian credibility, Buhlmann and Buhlmann-Straub models, empirical Bayesian methods, simulation techniques in actuarial science, bootstrapping algorithm, Markov Chain Monte Carlo method (MCMC). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ACT 450 with C or better; Credit is allowed for only ACT 451 or ACT 551 OR Visiting University Student |
| ACT | 455 | Quantitative Risk Management | Quantitative risk management is a quantitative science that uses mathematics in general, and probability and statistics in particular to describe, model and manage various types of risks. Provides an introduction to a set of fundamental concepts, quantitative methods and tools for modern financial risk management. Some topics include: coherent risk measures, financial time series, multivariate distributions, linear and rank correlations, copulas and extreme value theory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ECN 221, STP 226, or STP 420; Credit is allowed for only ACT 455 or ACT 494 (Quantitative Risk Measures) or ACT 555 or ACT 598 (Quantitative Risk Measures) OR Visiting University Student |
| ACT | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|---|
| ACT | 490 | Emerging Risks | Focuses on the development of students' written communication skills employed in a professional business setting by analyzing emerging issues in insurance. Emerging risks such as cyber, drones, driverless cars, climate change and pandemics aren't just trends and may affect insurers in the years to come. Understanding the impacts of such risks on business operations by performing relevant research, assessing credibility of sources, and then effectively communicating them to stakeholders helps prepare students to be successful young professionals as they transition to the workforce. Much of the course is conducted in a workshop format. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ACT 301; Credit is allowed for only ACT 490 or ACT 494 (Emerging Risks) OR Visiting University Student |
| ACT | 491 | Actuarial Exam Preparation Seminar | Provides potential actuaries with review and practice for an actuarial examination. | N | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1 | | Pre- or corequisite(s): ACT 410 (ACT 310) or 415 with B or better if completed OR Visiting University Student |
| ACT | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| ACT | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-3 | | |
| ACT | 505 | Actuarial Models for Enterprise Risk Management | Actuarial modeling methods used in enterprise risk management. These methods are useful for the quantification of many types of risks faced by businesses and other organizations. Furthermore, these methods look at the correlation between risks that can create unexpectedly large exposures. Students build risk models for an actual enterprise. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACT | 510 | Mathematics of Finance | Provides an understanding of the fundamental concepts of financial mathematics, and how those concepts are applied in calculating present and accumulated values for various streams of cash flows as a basis for future use in: reserving, valuation, pricing, asset/liability management, investment income, capital budgeting and valuing contingent cash flows. Topics include: mathematics of compound interest, including annuities certain, amortization schedules, yields curves, sinking funds and bonds. Introduces financial instruments including derivatives, and the concept of no-arbitrage as it relates to financial mathematics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; Credit is allowed only for ACT 410 or ACT 510 |
| ACT | 515 | Probability for Risk Management | Develops knowledge of the fundamental probability tools for quantitatively assessing risk. Topics include: introduction to probability concepts including definition of probability, independence, conditional probability, random variables, specific discrete and continuous probability distributions, multivariate random variables, moments and moment generating functions, functions of random variables, sampling distributions and central limit theorem. Emphasizes the application of these tools to problems encountered in actuarial science. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ACT 415 or ACT 515 |
| ACT | 520 | Ratemaking and Reserving | Provides knowledge of property and casualty ratemaking and reserving techniques from an actuarial perspective. Ratemaking and loss reserving are the two fundamental functions performed by actuaries and are necessary for satisfying an organization's strategic, operational and regulatory goals and requirements. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ACT 420 or ACT 520 |
| ACT | 530 | Mathematics of Financial Derivatives | Develops knowledge of the theoretical basis of certain actuarial models and the application of those models to insurance and other financial risks. Topics include: option pricing, Black-Scholes formula, delta hedging, exotic options, Brownian motion, interest rate models and simulations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ACT 430 or ACT 530 |
| ACT | 535 | Statistics for Risk Modeling | Uses statistical techniques in business forecasting such as: simple linear regression, multiple linear regression, hypothesis testing and confidence intervals in linear regression models, testing of models, data analysis and appropriateness of models, linear time series models, moving average, regression based and/or ARIMA models, estimation, data analysis and forecasting with time series models, forecast errors and confidence intervals. Emphasizes analysis of various types of real data using R. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ACT 435 or ACT 535 |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|---|
| ACT | 540 | Single Life Mortality | Develops an understanding of the key features of long-term insurance coverages (life, health and general); annuities and retirement benefits (pensions, retiree health care). Students accumulate knowledge of the theoretical basis of actuarial models and the application of those models to long-term insurance and other financial risks. Topics include: life tables, present value determination for life insurances and annuities and premium calculations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ACT 440 or ACT 540 |
| ACT | 541 | Long-Term Actuarial Mathematics | Focuses on reserving for insurances and annuities for long-term actuarial models including multiple lives and/or multiple decrement models. Exposes students to different reserving types as well as interpretation of common profit measures. Other topics include applications of the long-term models to pension plans and retirement benefits. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; ACT 540; Credit is allowed for only ACT 441 or ACT 541 |
| ACT | 550 | Actuarial Models | Provides detailed understanding of the actuarial models and how to apply these models in solving business problems. Students analyze data from an application in a business context, determine a suitable model including parameter values and provide measures of confidence for decision making based on the model. Covers construction and inference for the severity, frequency and aggregate models and their modifications. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ACT 450 or ACT 550 |
| ACT | 551 | Short-Term Actuarial Mathematics | Helps the student understand the steps involved in the modeling process and how to carry out these steps in solving business problems. Also enhances students' understanding in actuarial models. Topics include: selection of parametric models, Bayesian estimation, limited fluctuation credibility, Bayesian credibility, Buhlmann and Buhlmann-Straub models, empirical Bayesian methods, simulation techniques in actuarial science, bootstrapping algorithm, Markov Chain Monte Carlo method (MCMC). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; ACT 550; Credit is allowed for only ACT 451 or ACT 551 |
| ACT | 555 | Quantitative Risk Management | Quantitative risk management is a quantitative science that uses mathematics in general, and probability and statistics in particular to describe, model and manage various types of risks. Provides an introduction to a set of fundamental concepts, quantitative methods and tools for modern financial risk management. Some topics include: coherent risk measures, financial time series, multivariate distributions, linear and rank correlations, copulas and extreme value theory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ACT 455 or ACT 494 (Quantitative Risk Measures) or ACT 555 or ACT 598 (Quantitative Risk Measures) |
| ACT | 560 | Regression Modeling In Insurance | Introduces advanced applications of regression modeling methods for solving actuarial problems. The generalized linear models are important and frequently used modeling approaches in the insurance industry for traditional actuarial pricing and reserving problems and marketing and operational problems. Prepares students to understand these problems and gain experience in analyzing them through projects involving real-world data. Covered topics include linear models, categorical dependent variables, count dependent variables, generalized linear models, frequency and severity models and others. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACT | 561 | Machine Learning and Risk Management Applications | Exposes students to a wide variety of machine learning techniques applicable to data types and problems that are routinely found within the insurance industry. Application of machine learning is rapidly growing in insurance industry; this course creates a long-term knowledge base for students to remain empowered, and in time, master and use more sophisticated emerging techniques. Chapters covered include neural networks, spatial models, generalized additive models, discriminant analysis, mixture model-based approaches, and others. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACT | 565 | Regulation and Financial Reporting in P&C | Provides an overview of insurance regulation with regard to property and casualty coverages, ratemaking, pricing and solvency, and U.S. tort law as it affects the property and casualty business. Further identifies major U.S. insurance programs administered by government agencies and insurance industry organizations such as: automobile plans; crop insurance; flood insurance; government backstops; guaranty funds,; residential markets (auto, workers comp, property); workers compensation (including interaction with Medicare). While addressing financial reporting, solvency and taxation issues, students evaluate the financial health of an insurance entity by completing specific schedules and exhibits. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|--|
| ACT | 570 | Stochastic Calculus for Finance | Uses stochastic calculus as a foundation for advanced mathematics of financial derivatives. Topics covered include: stochastic calculus, martingales and arbitrage, Black-Scholes equation and pricing derivative securities, and fundamental theorems of asset pricing. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACT | 571 | Advanced Mathematics of Financial Derivatives | Applies stochastic calculus to advanced topics in mathematics of financial derivatives. Topics include: term structure models, pricing derivative securities, fundamental theorems of asset pricing, models of equity and fixed income markets, and exotic options. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACT | 575 | Portfolio Theory and Risk Management | Provides an overview of measurement and management of risk and enables students to master the methods and concepts of portfolio theory. Those models and concepts include risk aversion, utility functions as a representation of preferences, efficient frontiers, Markowitz Portfolio theory, the Capital Asset Pricing model, security market line, value at risk and expected shortfall, as well as concepts of coherent risk measures. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACT | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACT | 585 | Advanced Mortality Modeling and Management of Longevity Risk | Exposes students to a wide variety of advanced models for forecasting human mortality. Explains the relevant repositories of mortality data in the context of application of most-used advanced mortality forecasting models. Presents both discrete time as well as continuous time stochastic mortality models. Students also learn about approaches for managing longevity risk via natural hedging, reinsurance and mortality-linked derivatives as well as pricing of basic insurance products in the context of advanced mortality models. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACT | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | |
| ACT | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACT | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ACT | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ADE | 321 | Architectural Studio I | Introductory building design problems. Emphasizes design process, communication methods, aesthetics, construction, and technology. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Architecture BSD major; ALA 226 with C or better OR Visiting University Student |
| ADE | 322 | Architectural Studio II | Site and building design problems. Emphasizes programmatic and environmental determinants and building in natural and urban contexts. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Pre-requisites: Architectural Studies student; ADE 321 with C or better |
| ADE | 421 | Architectural Studio III | Topical design problems of intermediate complexity, including interdisciplinary problems. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): ADE 322 with C or better OR Visiting University Student |
| ADE | 422 | Architectural Studio IV | Topical design problems of advanced complexity, including interdisciplinary problems. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Architectural Studies BSD major; ADE 421 with C or better |
| ADE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | | Prerequisite(s): Barrett Honors student |
| ADE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ADE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| ADE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-3 | | |
| ADE | 510 | Foundation Architectural Studio | Fundamentals of architectural design, methodology, visualization, and representation. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 6 | | Pre-requisites: Master of Architecture student; Co-requisite: ATE 553 and ATE 563 |
| ADE | 511 | Core Architectural Studio I | Applies design fundamentals in architectural problems, including construction, technology, programmatic and environmental determinants. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 6 | | Pre-requisites: Master of Architecture student; ADE 510 with C or better |

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| ADE | 512 | Core Architectural Studio II | Applies architectural design fundamentals to increasingly complex problems, including specific sites and activities. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 6 | | Pre-requisites: Master of Architecture student; ADE 511 with C or better |
| ADE | 521 | Advanced Architectural Studio I | Design problems emphasizing theory, aesthetics, and tectonics as influences on architectural form. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Pre-requisites: Master of Architecture student; Co-requisite: ATE 553 and ATE 563 |
| ADE | 522 | Advanced Architectural Studio II | Design problems emphasizing the comprehensive integration of building systems and technologies as influences on architectural form. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Pre-requisites: Master of Architecture student; ADE 521 with a C or better; Co-requisites: APH 505 and ATE 556 |
| ADE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Herberger Institute of Design and the Arts Graduate student |
| ADE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Herberger Institute of Design and the Arts Graduate student |
| ADE | 621 | Advanced Architectural Studio III | Design problems emphasizing the urban context, planning issues, and urban design theory as influences on architectural form. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Pre-requisites: Master of Architecture student; ADE 522 with a C or better; Co-requisite: APH 515 OR Bldg Des(Energy Perform/Bldgs) MS student |
| ADE | 622 | Advanced Architectural Studio IV | Individual, student-initiated project reflecting a culminating synthesis of architectural ideas. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): ADE 621 with C or better; Master of Architecture student; Corequisite(s): APH 515 or Built Environment (Energy Perf/Climate Responsive Arch) MS student |
| AEE | 313 | Aircraft Dynamics and Control | Aircraft static stability; equations of motion; dynamic modes and stability; stability derivatives; response to controls; introduces automatic control of aircraft. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering major; AEE 360 with C or better; MAE 318 with C or better |
| AEE | 325 | Aerospace Structures and Materials | Applies structural analysis to aircraft and spacecraft structures. Loads on aerospace structures, buckling and stability, stiffened panels, primary wing and launch-vehicle structure, vibration of large structures, properties and selection of aerospace structural materials. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 4 | | Prerequisite(s): Aerospace Engineering major; MAE 202 with C or better; MAE 213 with C or better; MAE 384 with C or better; MAT 267 or 272 with C or better; Credit is allowed for only AEE 325 or MEE 322 OR Visiting University Student |
| AEE | 344 | Fundamentals of Aircraft Design | Aircraft performance, RFP's, Federal Aviation Regulations, aircraft sizing. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering major; AEE 360 with C or better; MAE 202 with C or better; MAE 214 with C or better; MAE 384 with C or better; Pre- or corequisite(s): AEE 325 with C or better if completed |
| AEE | 360 | Aerodynamics | Airfoils and wings in ideal flow. Potential flow solutions, thin airfoil theory, finite wings, lifting line theory. Laminar and turbulent boundary layers, Falkner-Skan solution, viscous drag. AEE 360, AEE 361 and AEE 362 must all be taken to secure L General Studies credit. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | L | Prereq(s) w/C or better:Aero Engr or Mech Engr BSE major; ENG 102, 105 or 108; MAE 242; MAE 384; MAT 267 or 272; Pre- or coreq(s):MAE 301 w/C or better if completed; Credit allowed for only AEE 360 or AEE 394 (Aerodynmscs I) OR Visiting University Student |
| AEE | 361 | Aerodynamics Laboratory | Flow measurement. Wind-tunnel testing. Engineering laboratory reports. AEE 360, AEE 361, and AEE 362 must all be taken to secure L General Studies credit. | N | LAB | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1 | L | Prerequisite(s) with C or better: ENG 102, 105, or 108; MAE 242; MAE 384; Pre- or corequisite(s) with C or better if completed: AEE 360; MAE 301; Credit is allowed for only AEE 361 or AEE 394 (Aerodynamics I Lab) OR Visiting University Student |
| AEE | 362 | High-Speed Aerodynamics | Compressible flow at subsonic and supersonic speeds; ducts, nozzles and diffusers; normal and oblique shocks, transonic flow, numerical solutions; experimental applications. AEE 360, AEE 361 and AEE 362 must all be taken to secure L General Studies credit. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 4 | L | Prerequisite(s): Aerospace Engineering BSE major; AEE 360 with C or better; AEE 361 with C or better; ENG 101, 105, or 107 with C or better; MAE 241 with C or better; MAE 301 with C or better OR Visiting University Student |
| AEE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-4 | | |
| AEE | 415 | Vibration Analysis | Free and forced response of single and multiple degree of freedom systems, continuous systems; applications in mechanical and aerospace systems numerical methods. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; MAE 213 with C or better; MAE 318 with C or better; MAE 384 with C or better; Credit is allowed for only AEE 415 or MAE 514 OR Visiting University Student |

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| AEE | 426 | Design of Aerospace Structures | Flight vehicle loads, design of semimonocoque structures, local buckling and crippling, fatigue, aerospace materials, composites, joints, and finite element applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Aerospace Engineering BSE major; AEE 325 with C or better; Credit is allowed for only AEE 426 or MAE 526 |
| AEE | 445 | Fundamentals of Spacecraft Design | Spacecraft subsystems. Systems engineering, space mission design, space environment. Cost analysis. Risk and reliability analysis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Aerospace Engr (Aeronautics) BSE major; AEE 325 w/ C or better; AEE 462 w/C or better; MAE 214 w/ C or better; MAE 318 w/ C or better; Pre- or corequisite(s): AEE 465 w/ C or better if completed; EEE 350 w/ C or better if completed |
| AEE | 462 | Space Vehicle Dynamics and Control | Attitude dynamics and control, orbital mechanics, orbital transfer/rendezvous, spacecraft control systems design. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; MAE 301 with C or better; MAE 318 with C or better |
| AEE | 463 | Aircraft Propulsion | Fundamentals of gas-turbine engines. Analysis and design of components. Alternative aircraft propulsion systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; AEE 362 with C or better; MAE 384 with C or better; Credit is allowed for only AEE 463 or MAE 563 OR Visiting University Student |
| AEE | 465 | Rocket Propulsion | Rocket flight performance; nozzle design; combustion of liquid and solid propellants; component design; advanced propulsion systems; interplanetary missions; testing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Aerospace or Mechanical Engineering major; AEE 362 with C or better; AEE 462 with C or better; Credit is allowed for only AEE 465 or MAE 565 OR Visiting University Student |
| AEE | 466 | Rotary Wing Aerodynamics and Performance | Introduces helicopter and propeller analysis techniques. Momentum and blade-element, helicopter trim. Hover and forward flight. Ground effect, autorotation and compressibility effects. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering major; AEE 360 with C or better; Credit is allowed for only AEE 466 or MAE 566 |
| AEE | 468 | Aircraft Systems Design | Group projects related to aircraft vehicle design, working from mission definition and continuing through preliminary design. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Aerospace Engineering (Aeronautics) BSE major; AEE 313 with C or better; AEE 325 with C or better; AEE 344 with C or better; Pre- or corequisite(s): AEE 463 with C or better if completed |
| AEE | 471 | Computational Fluid Dynamics | Numerical solutions for selected problems in fluid mechanics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering major; AEE 360 or MEE 340 with C or better; MAE 384 with C or better; Credit is allowed for only AEE 471 or MAE 561 |
| AEE | 478 | Fundamentals of Autonomous Aircraft Systems | First of a two-semester capstone sequence. Introduces autonomous aircraft performance and operations, aircraft performance prediction, ground control and support, sensors, communications and telemetry, aerospace ethics and law, design methods. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Aerospace Engineering (Autonomous Vehicle Systems) BSE major; AEE 313 with C or better; AEE 325 with C or better; AEE 360 with C or better; AEE 362 with C or better; MAE 214 with C or better |
| AEE | 479 | Design of Autonomous Aircraft Systems | Second of a two-semester capstone sequence. Autonomous aircraft design project. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): MAE 400 with C or better; AEE 478 with C or better |
| AEE | 480 | Space Systems Design | Group projects related to space systems design, working from mission definition and continuing through conceptual design. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Aerospace Engineering (Aeronautics) BSE major; AEE 445 with C or better; AEE 465 (or MAE 465) with C or better; EEE 350 with C or better; MAE 214 with C or better |
| AEP | 501 | Practical and Professional Ethics | Acquaints students with practical and professional ethics. Assumes no prior experience in ethics, and provides practicable knowledge as well as theoretical knowledge. The first in a series of courses for the MA program in Applied Ethics and the Professions, the course is primarily intended to prepare students in that degree program for their subsequent courses. However, it has been designed to be useful to all graduate students who are interested in learning about practical and professional ethics. The beginning of the course is devoted to the more general subjects of practical ("everyday") ethics and professional ethics, while the remaining weeks are spent focusing on the ethical issues that occur in the context of specific professions, with particular emphasis given to those professions that seem most relevant to the aspirations and interests of the students enrolled in the course. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): graduate student or Barrett Honors student |
| AEP | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| AEP | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AEP | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AEP | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRA | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AEP | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Global Futures | School for the Future of Innovation in Society | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AES | 101 | Heritage and Values I | Survey course introduces students and cadets to the Department of the Air Force (DAF) and the Air Force Reserve Officer Training Corps (AFROTC). Allows students and cadets to examine general aspects of the DAF, leadership fundamentals, service benefits and opportunities for officers. Also lays the foundation for becoming an Airman or Guardian by outlining our heritage and values. As a foundational course, provides a historical perspective such as lessons on war and U.S. military, DAF operations, principles of war and air power. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Aerospace Studies | 2 | | |
| AES | 102 | Leadership Laboratory | Dynamic and integrated grouping of leadership developmental activities designed to meet the needs and expectations of prospective Air Force second lieutenants and complement the AFROTC academic program. Emphasizes common Air Force customs and courtesies, drill and ceremonies, health and physical fitness through group participation. | N | LAB | Y | YGB | College of Liberal Arts and Sciences | Department of Aerospace Studies | 0 | | Corequisite(s): AES 101 OR Visiting University Student |
| AES | 103 | Heritage and Values II | Survey course continues introducing students to the Department of the Air Force (DAF), providing an overview of the basic characteristics, missions, communications and organization of the Air and Space Forces. Topics covered: What is War?, DAF Social Media, The Evolution of the Air Force, Principles of War and Tenets of Airpower, Department of the Air Force, Decision Making, What the Department of the Air Force Brings to the Fight and United States Air Force MAJCOMs. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Aerospace Studies | 2 | | |
| AES | 104 | Leadership Laboratory | Dynamic and integrated grouping of leadership developmental activities designed to meet the needs and expectations of prospective Air Force second lieutenants and complement the AFROTC academic program. Emphasizes learning the environments and dynamics of an Air Force officer. | N | LAB | Y | YGB | College of Liberal Arts and Sciences | Department of Aerospace Studies | 0 | | Co-requisite: AES 103 |
| AES | 201 | Team and Leadership Fundamentals I | Survey course provides a fundamental understanding of both leadership and team building. Students and cadets learn that there are many layers to leadership, including aspects that do not always come to mind. Such things include listening, understanding themselves, being a good follower and efficiently problem solving. Students and cadets apply these leadership perspectives when completing team building activities and discussing things like conflict management. Students and cadets should demonstrate basic verbal and written communication skills. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Aerospace Studies | 2 | | |
| AES | 202 | Leadership Laboratory | Dynamic and integrated grouping of leadership developmental activities designed to meet the needs and expectations of prospective Air Force second lieutenants and complement the AFROTC academic program. Provides application of advanced drill and ceremonies; issuing commands; knowing flag etiquette; and developing, directing, and evaluating skills to lead others. | N | LAB | Y | YGB | College of Liberal Arts and Sciences | Department of Aerospace Studies | 0 | | Corequisite(s): AES 201 OR Visiting University Student |

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| AES | 203 | Team and Leadership Fundamentals II | Survey course continues providing a fundamental understanding of both leadership and team building. Students and cadets learn that there are many layers to leadership, including aspects that are not always apparent. Such things include listening, understanding themselves, being a good follower and efficiently problem solving. Students and cadets apply these leadership perspectives when completing team-building activities and discussing things like conflict management. Students and cadets should demonstrate basic verbal and written communication skills. Covers the following topics: team building, human relations, conflict management, stress management and resiliency, financial future, leadership capstone and communication skills. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Aerospace Studies | 2 | | |
| AES | 204 | Leadership Lab | Dynamic and integrated grouping of leadership developmental activities designed to meet the needs and expectations of prospective Air Force second lieutenants and complement the AFROTC academic program. Emphasizes preparation for field training. | N | LAB | Y | YGB | College of Liberal Arts and Sciences | Department of Aerospace Studies | 0 | | Co-requisite: AES 203 |
| AES | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Aerospace Studies | 1-4 | | |
| AES | 301 | Leading People and Effective Communication I | Survey course studies leadership, management fundamentals, professional knowledge and communication skills required of an Air Force junior officer. Uses lecture, text, case studies and class discussion to examine all aspects of leadership including counseling, mentoring, empowering, problem solving, accountability and authority. Students and cadets develop upon basic written and oral communications skills primarily through written assignments and oral presentations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Aerospace Studies | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| AES | 302 | Leadership Laboratory | Dynamic and integrated grouping of leadership developmental activities designed to meet the needs and expectations of prospective Air Force second lieutenants and complement the AFROTC academic program. Advanced leadership experiences applying leadership and management principles to motivate and enhance the performance of other cadets. | N | LAB | Y | YGB | College of Liberal Arts and Sciences | Department of Aerospace Studies | 0 | | Corequisite(s): AES 301 OR Visiting University Student |
| AES | 303 | Leading People and Effective Communication II | Survey course studies leadership, management fundamentals, professional knowledge and communication skills required of an Air Force junior officer. Uses lecture, text, case studies and class discussion to examine all aspects of leadership including counseling, mentoring, empowering, problem solving, accountability and authority. Students and cadets develop upon basic written and oral communications skills primarily through written assignments and oral presentations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Aerospace Studies | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| AES | 304 | Leadership Laboratory | Dynamic and integrated grouping of leadership developmental activities designed to meet the needs and expectations of prospective Air Force second lieutenants and complement the AFROTC academic program. Emphasizes planning the military activities of the cadet corps and applying advanced leadership methods. | N | LAB | Y | YGB | College of Liberal Arts and Sciences | Department of Aerospace Studies | 0 | | Co-requisite: AES 303 |
| AES | 401 | National Security, Leadership Responsibilities and Commissioning Preparation I | Addresses the basic elements of national security policy and process. Cadets and students comprehend the air and space power operations as well as understand selected roles of the military in society and current domestic and international issues affecting the military profession. Students and cadets develop upon basic written and oral communications skills primarily through written assignments and oral presentations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Aerospace Studies | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| AES | 402 | Leadership Laboratory | Dynamic and integrated grouping of leadership developmental activities designed to meet the needs and expectations of prospective Air Force second lieutenants and complement the AFROTC academic program. Advanced leadership experience demonstrating learned skills in planning and controlling the military activities of the corps. | N | LAB | Y | GNA | College of Liberal Arts and Sciences | Department of Aerospace Studies | 0 | | Corequisite(s): AES 401 OR Visiting University Student |
| AES | 403 | National Security, Leadership Responsibilities and Commissioning Preparation II | Addresses the basic elements of national security policy and process. Cadets and students comprehend the air and space power operations as well as understand selected roles of the military in society and current domestic and international issues affecting the military profession. Students and cadets develop upon basic written and oral communications skills primarily through written assignments and oral presentations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Aerospace Studies | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| AES | 404 | Leadership Lab | Continuation of AES 402 with emphasis on preparation for transition from civilian to military life. | N | LAB | N | OPT | College of Liberal Arts and Sciences | Department of Aerospace Studies | 0 | | |
| AET | 210 | Measurements and Testing | Measurement systems, components, system response, and the characteristics of experimental data. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): PHY 112; Pre/Corequisite(s): MAT 266 |

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| AET | 215 | Aircraft Systems | Principles and design features of aircraft structures, systems, and materials. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 2 | | |
| AET | 300 | Aircraft Design I | Applied aerodynamics, standard atmosphere, speed measurement, infinite and finite wings, airplane performance. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: AET 215; MET 211, ECE 210, or MAE 212 |
| AET | 415 | Gas Dynamics and Propulsion | Introduces compressible flow, internal and external flow, and aerothermodynamic analysis of propulsion systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): AET 300; MET 340 or MAE 340 or Fulton Schools of Engineering graduate student |
| AET | 417 | Aerospace Structures | Analysis and design of aircraft and aerospace structures. Shear flow. Semimonocoque structures. Effects of dynamic loading. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): MET 213, MET 313 (or ECE 313); MET 212, AET 312 (or ECE 312); AET 300 |
| AET | 420 | Experimental Aerodynamics and Wind Tunnels | Experimental applied aerodynamics related to aeronautical and mechanical design. Wind tunnel design and testing. Low speed flows. | N | LAB | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1 | | Pre-requisites: AET 300; MET 340 |
| AET | 524 | Application of Heat Transfer | Energy conservation, steady-state and transient conduction, convection transfer, free and forced convection Reynolds analogy, blackbody and environmental radiation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 432 or MAE 340; Credit is allowed for only AET 524 or AET 432 |
| AET | 560 | Numerical Methods in Engineering Technology | Analyzes problems in physical sciences, models physical problems, perturbation techniques, curvefitting, data analysis, numerical solutions, ordinary and partial differential equations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Fulton Engineering students; Senior or higher academic level |
| AFR | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| AFR | 200 | Introduction to Africana Studies | Introduces the study of African and African-descended peoples; theory, themes, and perspectives. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G & H | |
| AFR | 202 | Immigration and Ethnic Relations in the U.S. | The ethnic and social consequences of international migration with a focus on the United States. Examines the impact of immigration on both American society and immigrant ethnic minorities over time. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Credit is allowed for only AFR 202 (or AFS 202) or ASB 202 |
| AFR | 210 | Introduction to African American Studies | Examines the political, historical, and cultural origins of African American studies as an academic discipline. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | C | |
| AFR | 212 | Introduction to Ethnic Studies in the U.S. | Covers diversity of experiences and relations among racial and ethnic groups in the United States. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | C | Credit is allowed for only AFR 212 or APA 210 or JUS 210 or TCL 210 OR Visiting University Student |
| AFR | 215 | Bob Marley and Reggae: Lyrics of Resistance | Studies political content, influence and impact of Caribbean popular music, in particular the music of Bob Marley. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & G | Credit is allowed for only AFR 215 or JUS 215 |
| AFR | 225 | Black Movements in America | Survey course on the historical and political development of mass movements by African Americans and Black resistance in the United States. Traces nearly 400 years of Black resistance against injustices and mass struggles for equality and liberation. Topics include the anti-slavery movement, anti-lynching campaign, the Civil Rights movement, the Black Power movement, prison abolitionism, the reproductive justice movement, and movements for economic justice. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Credit is allowed for only AFR 225 or JUS 200 (Black Movements in America) |
| AFR | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| AFR | 300 | Precolonial Africa | In-depth course study of contemporary Africa, providing thorough examination of the continent's pre-colonial history, particularly before 1900. The course will study the continent and its people, the way the history of the continent has been interpreted by non-Africans, how the continent's anatomy has affected historical development, and the methodology and interdisciplinary scholarship in the study of Africa | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G & H | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours; Credit is allowed for only AFR 300 (or AFH 300) or ASB 310 |
| AFR | 301 | Race and Racism in Africa/African Diaspora | Advanced study of the concepts of race and racism and how they manifest themselves in the USA, the Caribbean, and Africa. Examines the construction of race, racism, and race relations in Africa and the African Diaspora as well as practices to challenge ethnicity, racism, and racial oppression. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours; Credit is allowed for only AFR 301 (or AFS 301) or JUS 300 |
| AFR | 302 | History of Black Women in America | Advanced examination of the challenges that black women have faced historically in America and how they have responded to those challenges socially, politically, economically, and culturally. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & H | Prerequisite(s): AFR 200, WST 100, WST 300, or minimum 45 hours; Credit is allowed for only AFR 302 or HST 335 or WST 302 OR Visiting University Student |
| AFR | 304 | Islands of Globalization: Caribbean Politics and Political Economy | In-depth study of the complexities of contemporary Caribbean politics and political economy. Examines the countries that constitute the Caribbean community and common market and the Caribbean Latin American countries such as Cuba and the Dominican Republic and analyzes the historical evolution of the region's political and economic systems and the impact of globalization. Traces the development of the region's political economy from the colonial period to the present; looks at the impact of globalization on contemporary politics, economics, and culture and the region's response. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G & H | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours; Credit is allowed for only AFR 304 (or AFS 304) or JUS 304 |

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| AFR | 305 | The Global History of the Trans-Atlantic Slave Trade | Reading- and writing-intensive course that employs critical thought to look at the origins, development, abolition, and impact of Atlantic slave trade as a global economic enterprise and great human tragedy; slavery experience. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & H | Prerequisite(s): AFR 200 or HST 109 or minimum 45 hours; Credit is allowed for only AFR 305 (or AFH 305) or HST 326 OR Visiting University Student |
| AFR | 317 | Genes, Race and Society | An in-depth examination of the biological and social construction of race in western societies. Special emphasis is placed on examining these constructs from a historical perspective. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & H & C | Prerequisite(s): AFR 200 or minimum 30 hours; Credit is allowed for only AFR 317 or JUS 317 |
| AFR | 318 | African and African Diaspora Women Writers | Intersection of race, class, gender, and ethnicity in black women's fiction from the United States, the Caribbean, and Africa. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & G | Prerequisite(s): AFR 200 or WST 100 or WST 300 or minimum 45 hours |
| AFR | 320 | Africa: Politics, Environment, and Development | An in-depth analysis of the African experience as a way to understand the consequences of human environment relationships, wealth and power differentials, and individual and global citizenship. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours |
| AFR | 325 | Music as Political Discourse: Reggae, Calypso, and Hip Hop | This is a reading and writing intensive course that employs critical thought that explores African Diaspora popular music as a medium of social and political expression. It examines the political content of Reggae, Calypso and Hip Hop and their role in triggering and influencing popular discourse in the Caribbean and the USA. Course material will analyze the interrelationships among the musical forms and their role in fostering Black and Pan African Cultural Identity, Political Consciousness and World Peace. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & H & G | Prerequisite(s): AFR 200 (or AFS 200); minimum 45 hours; Credit is allowed for only AFR 325 (or AFS 325) or JUS 326 |
| AFR | 330 | Survey of African American Politics | In-depth study of the dynamics of the African American political experience. Examines the historical development of African American politics from the anti-slavery era to the Civil Rights breakthrough of the 1960's through the present political climate. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & H | Prerequisite(s): AFR 200 or minimum 45 hours; Credit is allowed for only AFR 330 or JUS 330 OR Visiting University Student |
| AFR | 335 | Historical Studies in Race, Crime, and the Law | Studies the historical relationship between the criminal justice system in the United States and a segment of society that has traditionally faced official and unofficial discrimination: American racial minorities. Focuses on the experiences of Mexican Americans and Africans Americans with the criminal justice system. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s):ENG 102, 105, or 108 with C or better; Credit is allowed for only AFR 335 or HST 323 or TCL 335 OR Visiting University Student |
| AFR | 336 | African Art | Anthropological perspective of ancient visual art traditions of Africa. In-depth studies focus on several important themes and case studies that are pivotal to the understanding of the rich and diverse artistic heritage of the African continent. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & G | Prerequisite(s): AFR 200 (or AFS 200) or ASB 102 or minimum 45 hours; Credit is allowed for only AFR 336 (or AFH 336) or ASB 336 |
| AFR | 340 | The Making of Modern Africa | Advanced study of the events and processes leading up to the colonization of Africa and the subsequent changes in African societies under colonial rule and independence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G & H | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours OR Visiting University Student |
| AFR | 345 | Peoples and Cultures of the Caribbean | Traces the socio-political history of the wider Caribbean from the 15th century to the present. Focuses on the following broad areas: the early years of European settlement and colonization; the construction of slavery and plantation society; and the transition from colonization to political independence. Critically examines the origins and building blocks of Caribbean society as well as analyzes the linkages between the region and the rest of the African diaspora. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G & H | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours; Credit is allowed for only AFR 345 (or AFS 345) or JUS 345 |
| AFR | 350 | Inequality and Diversity in Education | Advanced exploration of various dimensions of diversity in relation to educational systems and outcomes. Through sociological and psychological research, case studies and films, students examine how educational inequality is created and reproduced through individual actions and institutional constraints. Also considers the connection between schooling and human rights and ways in which educational inequality may be addressed. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | L & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; AFR 212, APA 200, APA 210, CDE 232, JUS 210, TCL 210, or minimum 24 hours; Credit is allowed for only AFR 350, APA 350, CDE 350, JUS 365, SOC 350, or TCL 360 OR Visiting University Student |
| AFR | 351 | Gender and Hip Hop | Interrogates the history and global proliferation of hip hop as a set of cultural and consumer practices including music, dance, art, fashion, language and entrepreneurialism. Uses an intersectional approach to unpack hip hop's contributions to larger social discourses around race, gender, gender expression, sexuality, sexual identity and sexual expression, and youth culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AFR 351 or AFR 394 (Gender and Hip Hop) or JUS 351 or JUS 394 (Gender and Hip Hop) or WST 351 or WST 394 (Gender and Hip Hop) OR Visiting University Student |
| AFR | 352 | Borders, Prisons and Suburbs | Explores how the relationship between race and space has been important to the development of broad patterns of social inequality in the United States. Through a variety of readings, films and other material, examines how ideas of race and space have been important to the making and maintenance of national boundaries, citizenship, regional histories and spatial typologies such as border, ghetto, suburb and prison. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): minimum 24 hours; Credit is allowed for only AFR 352 (or AFS 352) or APA 352 or JUS 353 or TCL 353 |

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| AFR | 353 | African American Literature: Beginnings through the Harlem Renaissance | Focuses on the history of African American literature through the Harlem Renaissance, as exemplified in selected slave narratives, poems, and fiction. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AFR 353 (or AFH 353) or AMS 353 or ENG 353 or ETH 353 |
| AFR | 354 | African American Literature: Harlem Renaissance to the Present | Examines the literary productions of African Americans from the Harlem Renaissance (about 1920) to the present focusing on fiction, poetry, drama, and essays. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AFR 354 (or AFH 354) or AMS 354 or ENG 354 or ETH 354 OR Visiting University Student |
| AFR | 355 | Democracy and Civil Society in Africa | Advanced examination of contending perspectives on the state and civil society of Africa. Course will specifically analyze the democratic struggles in sub-Saharan Africa. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours |
| AFR | 358 | The Yoruba and the Atlantic World | The Yoruba in the African diaspora is how Africans, separated from their home country and scattered in a new land, managed to retain their traditions and reform their identities. The slave trade led to the spreading of African culture, religion, dance, art and music from one hemisphere to another and contributed to the cultural diversity of the New World. Allows students to trace the experiences of one African cultural group throughout the cycle of the slave experience in the Americas. Utilizes different sources or approaches (e.g., anthropology, archaeology, written document, oral tradition) to provide an understanding of how the Yoruba were integrated into the Atlantic world, the transformations of Yoruba identities and culture, and the strategies for resistance employed by the Yoruba in the New World. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): minimum 30 hours; Credit is allowed for only AFR 358 or ASB 358 or AFS 394/ASB 394/HST 394/SGS 394 (Yoruba in the African Diaspora World) OR Visiting University Student |
| AFR | 360 | Black Families in the Diaspora: U.S. and Caribbean | Within a historical, cultural, social-economic, and international context, the institution of Black families begins with their lives in Africa, South America, and the Caribbean and follows the cultural continuities and adaptations impacting the structure and functioning of contemporary African America families. Theoretical models provide focus to studying voluntary and involuntary migration, family labor force involvement, gender roles, marital relations, parenting, kinship and community networks. Throughout the course attention is given to the role of social policies in shaping the well-being of Black families. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): AFR 200 or FAS 101; Credit is allowed for only AFR 360 or FAS 360 |
| AFR | 363 | African American History to 1865 | In-depth examination of African Americans' roles in American history, thought, and culture from slavery to 1865. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & H & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only AFR 363 or HST 333 OR Visiting University Student |
| AFR | 364 | African American History Since 1865 | In-depth examination of African Americans' role in American history, thought, and culture from 1865 to present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | (HU or SB) & C & H | Prerequisite(s): ENG 102 or 105 or 108 with C or better; minimum 30 hours; Credit is allowed for only AFR 364 or HST 334 OR Visiting University Student |
| AFR | 365 | Unruly Voices: Black Women and Cultural Narratives | In-depth study of African American women writers and how they (re)define female identities and engage a critical cross-cultural dialogue within the context of cultural history in the United States. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & C | Prerequisite(s): AFR 200 or minimum 45 hours; Credit is allowed for only AFR 365 or WST 364 OR Visiting University Student |
| AFR | 366 | African Archaeology: Precolonial Urban Culture | In-depth analysis of African civilization from the last 10,000 years up to 1850 via archaeological, documentary, and oral data. Places special study on the evidence relating to dynamics of civilizations in ancient Africa, their foundation, growth, and failure, which spans a period of two million years. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & H | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours; Credit is allowed for only AFR 366 (or AFS 366) or ASB 366 |
| AFR | 368 | Black Religion: Sex, Power and Eroticism | Explores sexuality and eroticism in the context of the religion, more specifically, the religion of the African Diaspora and Black religious experience in the Americas. Takes an interdisciplinary journey into the intersections of race, sexual norms and mores, and gender dynamics as it pertains to religious praxis, identity and embodied faith. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; min 24 hrs; Credit is allowed for only AFR 368 or AFR 394 (Black Religion: Sex, Power, and Eroticism) or AFS 394 (Religion:Sex,Power,Eroticism) or REL 389 or WST 394 (Religion, Sex, Power, Eroticism) |
| AFR | 370 | Family Ethnic and Cultural Diversity | Integrative approach to understanding historical and current issues related to the structure and internal dynamics of diverse American families. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Credit is allowed for only AFR 370 or FAS 370 |
| AFR | 372 | Islam and Islamic Societies in Africa: Social and Political History | An in-depth study of the fundamental principles of Islam. Course will examine various forms of development of Muslim societies and institutions in Africa through time. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | G | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours; Credit is allowed for only AFR 372 (or AFS 372) or REL 362 or SGS 366 or AFS 394/REL 394/SGS 394 (Islam and Islamic Societies in Africa: Social and Political History) |

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| AFR | 373 | Islam and World Affairs | Advanced examination of complex trends to construct the roles of Islam as a belief, its institutions, leaders and ordinary believers in contemporary world affairs. Studies different developments, including the rise of (political Islam) fundamentalism, to subsequent changes in the Muslim world, challenges Muslims face, and domestic and international conflicts. Challenges students to reconceptualize and broaden their understanding of the powerful presence of religion in this era of globalization. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | G | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours. Credit is allowed for only AFR 373 (or AFS 373) or REL 363 |
| AFR | 375 | Race, Gender and Sport | Advanced and interdisciplinary examination of the social concepts of race and gender and their economic impact on sports in America. In-depth studies will focus on the role of regulatory agencies, the impact of these regulatory agencies have on sport as well as multiple legal issues surrounding athletics | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): AFR 200 or minimum 45 hours OR Visiting University Student |
| AFR | 383 | Blacks in Science, Medicine and Public Health | In-depth study of Blacks who have made significant contributions to science and medicine in the U.S. Begins with a critical examination of ancient African scientific contributions. Highlights specific individuals, analyzing their life's path to their respective careers. Also discusses the role of racism and discrimination and their efforts to overcome these. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours. Credit is allowed for only AFR 383 (or AFS 383) or AFS 394 (Blacks in Science, Medicine, and Public Health) |
| AFR | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| AFR | 418 | Women of Color in Film | An in-depth analysis of the history and representations of women of color in film and the film industry through the intersections of gender, race, sexuality, class, and nationalism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & C | Prerequisite(s): WST 100, WST 300, or minimum 45 hours; Credit is allowed for only AFR 418 or WST 420 OR Visiting University Student |
| AFR | 420 | Race Ethnicity and Politics in the African Diaspora | Reading and writing intensive course that employs critical thought to look at the competition for political power among different ethnic groups in Africa, the Caribbean and the USA and the implications for political stability, economic development, democratic governance, democratization, nationhood and the empowerment of African and African Diasporan populations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G | Prerequisite(s): AFR 200 (or AFS 200) and minimum junior standing OR minimum 9 upper-division hours in any classes with the following prefix: AFH, AFS, AFR, APA, JUS, POS, SGS, SOC, WST; Credit is allowed for only AFR 420 or JUS 421 |
| AFR | 428 | Critical Race Theory | In-depth analysis of the ways in which race has been historically utilized, constructed, and contested in American civil society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only AFR 428, APA 428, JUS 428 or SST 428 OR Visiting University Student |
| AFR | 459 | Studies in African American/Caribbean Literatures | Studies in African American or Caribbean literatures according to genre, period, theory, or selected authors. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or HU) & G | Prerequisite(s) with C or better: ENG 101, 105, or 107; ENG 200; one ENG 200- or 300-level literature course OR ENG 101, 105, or 107; minimum 45 hours; Credit is allowed for only AFR 459 or ENG 459 OR Visiting University Student |
| AFR | 460 | Race, Gender, and Media | Readings seminar designed to give students a probing examination of the interface between AHANA Americans and the mass media in the United States. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | C | Prerequisite(s): minimum 2.00 GPA; Credit is allowed for only AFR 460 or MCO 460 OR Visiting University Student |
| AFR | 465 | Harlem Renaissance: a Cultural History: 1877-1945 | Socio-political, historical contexts and worldwide ramifications of the cultural productions (theater, music, visual arts, and literature) of the Harlem Renaissance. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | |
| AFR | 466 | Peoples and Cultures of Africa | An in-depth study of the diversity of African people and culture from an interdisciplinary perspective. Emphasizes social, political, and economic relations, as well as inequality, art, gender roles, slavery, and slave trade. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G | Prerequisite(s): AFR 200 or minimum 45 hours; Credit is allowed for only AFR 466 or ASB 466 OR Visiting University Student |
| AFR | 470 | Women's International Human Rights | In-depth study of the core themes of a global movement for women's international human rights. Analyzes the historical evolution of the development of international human rights and women's rights within the United Nations and regional human rights systems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): WST 100, WST 300, or minimum 45 hours; Credit is allowed for only AFR 470 or AFR 598 (Women's International Human Rights) or WST 471 OR Visiting University Student |
| AFR | 480 | Different Voices Within Contemporary Islamic Discourse | Examines modern Muslim discourse on major contemporary issues such as Shari'a, Jihad, secularism, gender, civil rights, democracy, extremism, religious violence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102 or 105 or 108 with C or better; Credit is allowed for only AFR 480 (or AFS 480) or REL 461 or SGS 442 |
| AFR | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| AFR | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-6 | | Prerequisite(s): Barrett Honors student |

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| AFR | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| AFR | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| AFR | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; 9 upper-division hours OR AFR 200; ENG 101, 105, or 107 with C or better; minimum junior standing |
| AFR | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-3 | | |
| AFR | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AFR | 502 | Africa and African Diaspora World | Combines lecture, critical discussion of readings, guest speakers, student presentations and individual research projects. Drawing on various sources (written, oral, archaeology), explores themes linking peoples of Africa and African heritage in Africa, the United States, the West Indies and Latin America, and Europe, the processes of cultural transformations in Africa and the evolution of African cultures and survival in the New World. Explores topics including transatlantic slave trade, comparative slavery, African-American and Latin America emigration to Africa, African immigration to the New World and the Pan-African movement. Emphasizes links between blacks in Africa, the West Indies and the United States, the cultural and political influences they had on each other and the legacy that remains in these areas today. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AFR 500 (Africa and the Diaspora World) or AFR 502 |
| AFR | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AFR | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AFR | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AFR | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AFR | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AFR | 600 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 100 | Introduction to Agribusiness | Overview of agribusiness industries and career opportunities. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | |
| AGB | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 1-3 | | |
| AGB | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 1-4 | | |
| AGB | 215 | Fundamentals of Sustainable Food Systems | Introductory food course provides students with a panoramic understanding of American agriculture. Explores American-grown food through history, policy, society, business innovation, and environmental sustainability. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | L | Prerequisite(s): ENG 101, 102, 105, 107, or 108 with C or better; Credit is allowed for only AGB 215 or SFS 215 or SOS 215 OR Visiting University Student |
| AGB | 216 | The Sustainable Plate | Introductory food course explores agriculture by subsectors, such as livestock, grains and fruits and vegetables. Students learn how dietary choices affect health, the environment, and the people who produce and process food. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): ENG 101, 102, 105, 107, or 108 with C or better; Credit is allowed for only AGB 216 or SFS 216 or SOS 216 OR Visiting University Student |

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| AGB | 250 | Economics of Resource Allocation: Food and Agriculture | Beginning class that focuses on the specific microeconomic principles that are needed to understand the food industry, agricultural production, food safety and production of renewable natural resources. Focuses extensively on the detailed information that students need to understand the nuances of specific issues associated with the food, agriculture and renewable natural resources, including a keen understanding of monopolistic competition, the economic rationale for governmental regulation, effects of property rights on renewable resources, agricultural price supports, prospect theory and behavioral economics. | N | LEC | N | GNA | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Credit is allowed for only AGB 250 or AGB 294 (Economics of Resource Allocation) OR Visiting University Student |
| AGB | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 1-4 | | |
| AGB | 302 | International Management and Agribusiness | Management and agribusiness issues in the transition of developing countries from subsistence to global operations and competition. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | G | Prerequisite(s): minimum 56 hours OR Visiting University Student |
| AGB | 321 | Agribusiness Marketing | Focuses on food and consumer products marketing at an intermediate level. Covers strategic concepts such as situational analysis, planning and objectives, and target marketing and positioning. Illustrates both the theory and application of strategic decision making through case analysis. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): minimum 56 hours OR Visiting University Student |
| AGB | 333 | Agribusiness Finance | Examines the markets, institutions and current issues important to financing firms in the food and agribusiness sector. Topics include cost of capital, specialized lending institutions (farm credit system), credit decisions, vendor financing, private equity, institutional ownership, cooperatives and risk management. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): minimum 56 hours |
| AGB | 340 | Food Processing | Introduces processed food quality assurance, statistical sampling, and inspection procedures. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | |
| AGB | 360 | Agribusiness Statistics | Statistical methods with applications in agribusiness and resource management. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | CS | |
| AGB | 366 | Food System Technology Innovations | Examines the food system innovation environment including the rapidly growing agri-tech, livestock-tech, bio-tech and food-tech ecosystems. Topics include the economic motivations for innovation in food value chains, adoption and diffusion of technology, the entrepreneurial and financing environment for food system innovation, assessing financial feasibility of new technologies and evaluating sustainability outcomes in the food value chain resulting from technology adoption. Uses guest speakers to bring insights into the strategies, risks and rewards of developing and adopting innovative technologies for the modern food system. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| AGB | 367 | Agribusiness Processing Technologies | Biotechnology and other methods used in the production, processing, and distribution of food. | N | LEL | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | |
| AGB | 370 | Food Retailing Strategy Development and Case Competition | Students develop an action plan to address a real-world problem facing food retailers. The National Grocers Association (NGA) provides the case-study question. The NGA is a trade organization representing independent food retailers, as well as wholesalers and suppliers that support these businesses. The course culminates with the student team presenting their recommendations to the case-study question at the NGA's Collegiate Case-Study Competition. Students develop skills in market research, strategy development, communication and presentation. Cash prizes are awarded to the finalist teams. Prospective students are encouraged to contact the professor to learn the case question for the current term. | N | PRO | Y | GNA | W. P. Carey School of Business | Morrison School of Agribusiness | 1-3 | | Prerequisite(s): MKT 300 or 390 with C or better; Credit is allowed for only AGB 370 or AGB 394 (Current Topics in Food Retailing) OR Visiting University Student |
| AGB | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 1-4 | | |
| AGB | 410 | Agribusiness Management | Business operations and human resource management principles applied to real-world problems faced by firms across the food and agribusiness value chain, with emphasis given to the formulation, implementation and evaluation of competitive strategies. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): minimum 56 hours OR Visiting University Student |
| AGB | 414 | Food and Agribusiness Policy Issues | Analysis of agribusiness firm decisions in the ecological, economic, social, and political environments. Special emphasis on ethical issues surrounding food production and consumption. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 56 hours OR Visiting University Student |
| AGB | 420 | Food Advertising and Promotion | Focuses on advertising and promotional strategies in the food industry, with emphasis on consumer packaged goods. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): minimum 56 hours |
| AGB | 425 | Food Supply Networks | Information, methods and resources used in the management of global food supply networks. Emphasizes systems of food marketing and distribution from the farm to the consumer. | N | LEC | N | GNA | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): minimum 56 hours OR Visiting University Student |

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| AGB | 429 | Marketing Communications in the Food and Agribusiness Industries | Focuses on written and oral communication in the food and agribusiness industries. Through real-world projects and collegiate marketing competitions, students address current issues in the food and agribusiness industries. Students learn how to effectively communicate strategic visions. Also entails research in the food and agribusiness industries to support strategic plans. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): AGB 321 or MKT 300, 302, 303, or 390 or minimum 56 hours |
| AGB | 431 | Agribusiness Financial Management | Comprehensive treatment of topics in financial management of agribusiness: capital structure, dividend policy, asset valuation, mergers and acquisitions, risk management. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): AGB 321, FIN 300 or TMC 320 |
| AGB | 433 | Agribusiness Financial Markets | Role and function of agribusiness in U.S. financial system. Topics include rural banking, farm credit system, monetary policy, and federal reserve. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): AGB 333 or FIN 300 |
| AGB | 435 | Commodity Futures and Options Markets | Provides an understanding of how to use futures and options markets in a risk management and pricing context, especially as it pertains to the marketing and procurement of agricultural commodities by grain and livestock merchandisers, food manufacturers, and producers/distributors/consumers of natural resources. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): minimum 56 hours OR Visiting University Student |
| AGB | 440 | Food Safety | Control, prevention, and prediction of microbial and chemical food-borne diseases. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | |
| AGB | 445 | Food Retailing | Critical examination of trends, problems and management functions of food retail managers across various retail institutions. Emphasizes the biological nature of food products and the dietary preferences of consumers. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): AGB 321 or MKT 300 or MKT 302 or MKT 303 or MKT 390 OR Visiting University Student |
| AGB | 452 | Global Food and Agricultural Trade | Applies international trade theory to analyze the effects of government policies and trade agreements on the global food and agribusiness sector. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): minimum 45 hours |
| AGB | 456 | Food Product Innovation and Development | The food product development process and how it interfaces with food technology and packaging concepts. Emphasizes the team approach, which is prevalent in the food industry. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): minimum 56 hours OR Visiting University Student |
| AGB | 481 | Strategic Pricing in Food Markets | By applying the basic concepts of microeconomics to real-world data, this course allows the student to not only gain a book-oriented understanding of how businesses in the food industry behave, but practical, hands-on experience that lasts far beyond the classroom. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): minimum 56 hours |
| AGB | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Morrison School of Agribusiness | 1-12 | | |
| AGB | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | W. P. Carey School of Business | Morrison School of Agribusiness | 1-6 | | Prerequisite(s): Barrett Honors student |
| AGB | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | W. P. Carey School of Business | Morrison School of Agribusiness | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| AGB | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 1-4 | | |
| AGB | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 1-7 | | |
| AGB | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Morrison School of Agribusiness | 1-3 | | |
| AGB | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 1-12 | | |
| AGB | 511 | Advanced Agribusiness Management | Analysis of organization behavior, change, and resource requirements within agribusiness systems. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 514 | Advanced Agribusiness Analysis | Vertical integration and differentiation in food and agricultural industries. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 528 | Advanced Agribusiness Marketing | Theory and analysis of marketing strategy related to food and fiber products. Covers concepts of strategic market planning (e.g., segmenting, targeting and positioning), with application of these concepts at an advanced level. Also examines the broad social, cultural, political and economic issues that impact marketing. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 529 | Advanced Agribusiness Marketing Channels | Analyzes agribusiness market channel systems. Formulation of marketing strategies. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 532 | Advanced Agribusiness Finance | Financial management of agribusiness firms; agribusiness financial analysis, investment analysis, agricultural risk management, and introduction to agricultural financial intermediaries. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 535 | Commodity Analysis | Analysis of commodity markets. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 552 | International Agricultural Policy | Uses international trade theory to analyze the effects of government policies, trade agreements, and exchange rates on agribusiness. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| AGB | 554 | Advanced International Trade | Advanced international practices in trading of agribusiness, technology, and resource products and services. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 560 | Advanced Agribusiness Management Systems | Development and use of decision support systems for agribusiness management decision making. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 561 | Applied Econometrics | Uses model building, hypothesis testing, and empirical analysis in solving agribusiness problems. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 570 | Managerial Economics for Agribusiness | Concepts in micro- and macroeconomics applied to agribusiness management environments: price formation, market structure, information economics, fiscal and monetary policy. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Morrison School of Agribusiness | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 589 | Agribusiness Capstone | Strategic management of organizations focusing on developing value-creating strategies in dynamic environments. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Morrison School of Agribusiness | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Morrison School of Agribusiness | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Morrison School of Agribusiness | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | W. P. Carey School of Business | Morrison School of Agribusiness | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | W. P. Carey School of Business | Morrison School of Agribusiness | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 600 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 701 | Advanced Agribusiness I: Advanced Agribusiness Analysis | Advanced topics include benefit-cost analysis, input-output analysis, consumer demand, agricultural policy, international trade, welfare economics and applied mathematical economics. | N | LEL | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 702 | Advanced Agribusiness II: Applied Econometrics | Econometric analysis techniques applied to multinomial and count models, welfare economics, demand models and maximum likelihood estimation using STATA. | N | LEL | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 703 | Advanced Agribusiness III: Advanced Empirical Models | Microeconomics applied to empirical models involving agribusiness including consumer and producer theory, empirical industrial organization, strategic choice and price behavior. | N | SEM | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Morrison School of Agribusiness | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| AGB | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | W. P. Carey School of Business | Morrison School of Agribusiness | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AGB | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | RSC | Y | Z3 | W. P. Carey School of Business | Morrison School of Agribusiness | 1 | | |
| AGB | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | W. P. Carey School of Business | Morrison School of Agribusiness | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 101 | Beginning Navajo I | Designed for non-Navajo speakers to develop basic skills in speaking, reading and writing in the Navajo language. Specifically focuses on pronunciation, sounds, basic vocabulary and simple conversation. First of four levels of the Navajo language. | N | LEL | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 4 | | Credit is allowed for only AIS 101 or AIS 194 (Beginning Navajo I) or SLC 103 or SLC 194 (Beginning Navajo I) OR Visiting University Student |
| AIS | 102 | Beginning Navajo II | Designed for non-Navajo speakers to continue basic skills in speaking, reading and writing in the Navajo language. Emphasizes a continued focus on pronunciation, sounds, basic vocabulary and simple conversation. Second of four levels of the Navajo language. | N | LEL | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 4 | | Prerequisite(s): AIS 101 or SLC 103; Credit is allowed for only AIS 102 or AIS 194 (Beginning Navajo II) or SLC 104 OR Visiting University Student |
| AIS | 180 | Introduction to American Indian Studies | Introduces the study of American Indian justice issues from an interdisciplinary perspective. Primary topics include sovereignty, law, and culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | C | |
| AIS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | American Indian Studies Program | 1-4 | | |
| AIS | 201 | Intermediate Navajo I | Designed for those who have some comprehension of the Navajo language, and have a beginner's level speaking ability. Continuation of Beginning Navajo; aimed to develop skills in speaking, reading, and writing in Navajo by focusing on pronunciation, vocabulary, conversational studies, and verb conjugation. Third of four levels of the Navajo language. | N | LEL | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 4 | | Prerequisite(s): AIS 101 or SLC 103; AIS 102 or SLC 104; Credit is allowed for only AIS 201 or AIS 394 (Intermediate Navajo I) or SLC 203 OR Visiting University Student |
| AIS | 202 | Intermediate Navajo II | Designed for those who have some understanding of the Navajo language and can speak some Navajo. Continuation of previous coursework; develops skills in speaking, reading and writing in Navajo by focusing on pronunciation, vocabulary, conversational studies and verb conjugation. Fourth and final level of Navajo. | N | LEL | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 4 | | Prerequisite(s): AIS 101 or SLC 103; AIS 102 or SLC 104; AIS 201 or SLC 203; Credit is allowed for only AIS 202 or AIS 394 (Intermediate Navajo II) or SLC 204 OR Visiting University Student |
| AIS | 280 | American Indian Sovereignty and the Courts | Examines the sovereign status of American Indians and legal relationships between the tribes and the U.S. government. | N | LEC | N | OPT | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | H & C | |
| AIS | 285 | Federal Indian Policy | Examines the sovereign status of American Indians and legal relationships between the tribes and the U.S. government. | N | LEC | N | OPT | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | H & C | |
| AIS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | American Indian Studies Program | 1-4 | | |
| AIS | 320 | American Indian Philosophies and World Views | Does it make sense to speak about American Indian intellectuals, thinkers or philosophers? Not only have Indians been thinking and thinking deeply for generations, but they have also produced a body of written works that have formed the foundation of contemporary American Indian studies. Covers some of the major figures, their works, and the ideas and opinions (many of which were controversial) that shaped their thinking. | N | LEC | N | OPT | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | HU & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; junior standing; Credit is allowed for only AIS 320 or AIS 394 (American Indian Philosophical/World Views) OR Visiting University Student |
| AIS | 360 | Issues in Urban Indian Country | In-depth examination of the historical, social, economic, and political implications of indigenous migrations to urban areas. Over 50% of Native people are living in cities. What are they doing? Why are they there? Are they still under the federal trust relationship? Evaluates the social, political, and economic structures built by American Indians living in the urban environment. | N | LEC | N | OPT | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum junior standing OR Visiting University Student |
| AIS | 365 | American Indian and Indigenous Film | Introduces and surveys contemporary American Indian and Indigenous narrative film from the rise of the first "Native blockbuster feature film" to the Native indie film "boom" of the 2000s and beyond. Begins with a baseline of the silent era in which American Indian/Native actors and filmmakers plied their craft to some acclaim, into the so-called "war paint years" of genre films, typecasting and tropes, to resistance and mold-breaking beginning in the 1970s. The course does not concern itself primarily with representations, rather it centers the creative work of Native film directors, screenwriters and actors, themselves while seeking to answer "what is an American Indian and Indigenous film?" | N | LEC | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AIS 365 or AIS 394 (American Indian & Indigenous Film) OR Visiting University Student |

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| AIS | 370 | American Indian Languages and Cultures | Emphasizes understanding of Indian language families and the relationship of oral traditions to culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | C | Prerequisite(s): AIS 180 with C or better |
| AIS | 375 | Innovation for American Indian Sustainability | American Indian tribes are poised at an historic opportunity to accelerate innovation within their communities. Many tribal leaders have stated that to create true sustainability, tribes need to practice innovation and sustainable development in a manner that is a cultural match to their traditions and values. Examines topics directly associated with creating tribal economies with innovation, entrepreneurial and sustainability in an American Indian context as key factors. Consists of class lectures, guest speakers, student discussion, individual and group teamwork, and presentations. Participants form into teams to identify, develop and define an innovative product or service idea that addresses a significant need in Indian Country that can be addressed through innovation. | N | LEC | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AIS 375 or AIS 394 (Innovation for American Indian Sustainability) |
| AIS | 380 | Contemporary Issues of American Indian Nations | Surveys legal, socioeconomic, political, and educational state of contemporary reservation and urban Indians. | N | LEC | N | OPT | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | C | |
| AIS | 381 | American Indian Women | Draws from a diverse range of Indigenous critical traditions to examine discourses of gender, identity, and sexuality as sites of cultural revitalization and conflict and theorizes the meaning of each of these categories from diverse Indigenous communities. Considers contemporary and traditional works by Indigenous women with a special emphasis on the historical, socio-cultural, and legal contexts of each work. | N | LEC | N | OPT | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | C | Prerequisite(s): WST 100, 300, or AIS 180 with C or better OR Corequisite(s) if completed 30 hours or more: AIS 180, or WST 100 or 300; Credit is allowed for only AIS 381 or WST 382 |
| AIS | 385 | Entrepreneurship for American Indian Sustainability | Concentrates on developing a product or service idea, creating an entrepreneurial model and plan to implement the product or service in the context of an AI sustainable venture (profit and nonprofit). Begins with a review of established AI context with additional focus on tribal economic development throughout the course. The innovation process executed during the semester and the resulting product/service ideas and choices. Students are also encouraged to embark on new venture ideas as well. Students are then introduced to all aspects of venture (profit and non-profit) and entrepreneurial model creation, including strategy, product/service development planning, marketing, operations, alliances, management, finance and investment. In parallel, teams continue refinement and, where possible, further prototyping of the idea they chose from the previous semester and/or creation of new high-impact, high-potential ideas. | N | LEL | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AIS 385 or AIS 394 (Entrepreneurship for American Indian Sustainability) or SOS 380 |
| AIS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | American Indian Studies Program | 1-4 | | |
| AIS | 420 | American Indian Studies Research Methods | Surveys diverse research methods, including statistical, historical, interpretative, and narrative approaches. | N | LEC | N | OPT | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | L | Prerequisite(s): AIS 180 with C or better; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| AIS | 430 | Contemporary Indigenous Spirituality | Why do so many indigenous people across North America want to revitalize their traditional ways when there is supposedly so much opportunity awaiting them in all segments of American society? What are the benefits of such an endeavor and what might be the consequences if this objective is not pursued? This course is premised on the hypothesis that indigenous customs and beliefs contain knowledge that is not only vital to the well-being of the communities in which this native wisdom is found, but also to those communities seeking a more sustainable way of living in the land they call home. After delving into a critique of the religious principles that went into the settling of America, complete with notions of manifest destiny, a way is opened for a more native-oriented discourse on community, nature, economy, and politics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum junior standing OR Visiting University Student |
| AIS | 440 | Cultural Professionalism | Emphasizes professional and leadership skills to prepare students for academic and career endeavors after undergraduate degree completion. Explores indigenous perspectives on communication, research, professional and leadership skills. Research focuses on addressing the needs of Arizona Indian Nations and Tribes and culminates in a research paper, in-class presentation and community development poster presentation. Showcases research posters in a research symposium in which guests vote on the most innovative and practical poster proposal. | N | LEC | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | C | Prerequisite(s): minimum junior standing; Credit is allowed for only AIS 440 or AIS 494 (Cultural Professionalism) |

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| AIS | 445 | American Indian Leadership and Resistance | Examines the modern challenges that leaders face in American Indian communities with a foundation in indigenous concepts of leadership, sovereignty and nationhood. Topics include pre-contact leadership principles and systems of governance, tribal sovereignty, nation-building, politics, governing systems, leadership styles, military leadership, internal disputes and conflict resolution, activism, mobilization, community leadership, political/elected leadership, and other leadership-related topics. | N | LEC | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | SB & H & C | Prerequisite(s): minimum junior standing or 3 hours of an AIS course; Credit is allowed for only AIS 445 or AIS 521 OR Visiting University Student |
| AIS | 450 | Indigenous Food Systems and Sovereignty | Allows students to understand the differences between Indigenous food systems, food justice and food sovereignty from an American Indian studies and Indigenous perspective. Explores the interconnections between Indigenous knowledge, food, food systems, ecology and culture. Examines how U.S. colonialism has affected American Indian foods, food systems and health and explores the ways Indigenous peoples and nations are reviving traditional foods and food systems or developing new markets, policies and opportunities for Indigenous food sovereignty. | N | LEC | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AIS 450 or AIS 494 (American Indian Food Justice and Sovereignty) OR Visiting University Student |
| AIS | 455 | Human Rights and Cultural Resource Laws | Examines how U.S. laws, policies, executive orders, and court decisions have affected Indian nations and peoples in matters of cultural resources and burial rights. Considers the protests, legal battles, and political campaigns Indians have waged to reaffirm their fundamental human rights in the areas of repatriation and sacred sites protection. Examines the ways in which filmmakers and the media present these issues to the public. Assesses the present status of Indian religious rights and cultural resource laws. Sovereignty and its relationship to Indian spirituality is a theme that permeates the course. | N | LEC | N | OPT | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum junior standing OR Visiting University Student |
| AIS | 470 | Tribal Governance | Critical and historical examination of Indigenous governance and leadership. Includes a survey of historical policy developments and political change that laid the foundation for contemporary Indian government and an assessment of the effectiveness of modern tribal administrations and decision-making bodies. Explores the diverse approaches to tribal governance, community-based political strategy and local interpretations and assertions of sovereignty and self-governance. Project work facilitates focused student learning on the challenges and opportunities in government for a specific Indian nation. Case work and consultation with practitioners in Indian government complement textbook reading in law, history and policy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Pre-requisite: AIS 285; Credit is allowed for only AIS 470 or AIS 494, Tribal Governance |
| AIS | 480 | Actualizing Decolonization | Provides an in-depth investigation of the theory and concepts of colonization, decolonization, and Indigenous peoples in America, with brief comparisons with global Indigenous peoples and experiences. Covers classic scholarly works on colonization and decolonization to understand the frameworks in which colonization and decolonization develops, expands, and impacts Indigenous peoples. Through that theoretical understanding, examines and formulates ways in which decolonization can impact and be integrated into Indigenous lives and communities. Students shift from theory to praxis by writing and presenting on an informal grant proposal for a decolonizing project that can be implemented in an Indigenous or non-Indigenous community. | N | LEC | N | OPT | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | HU & C & G | Prerequisite(s): ENG 101; ENG 102; junior standing; Credit is allowed for only AIS 480 or AIS 494 (Readings-Decolonization) OR Visiting University Student |
| AIS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | American Indian Studies Program | 1-12 | | |
| AIS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | American Indian Studies Program | 1-6 | | Prerequisite(s): Barrett Honors student |
| AIS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Liberal Arts and Sciences | American Indian Studies Program | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| AIS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | American Indian Studies Program | 1-4 | | |
| AIS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | American Indian Studies Program | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| AIS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | American Indian Studies Program | 1-3 | | |

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| AIS | 501 | American Indian Studies Paradigms | American Indian Studies emerged as an academic discipline in the late 1960s in part because of increasing dissatisfaction among Indians about the works of historians, anthropologists, and other scholars that was very often marred by methodological and conceptual flaws. Course provides an overview of ways of "doing" Indian studies from an American Indian Studies paradigm(s) through a critical examination of some of the most significant works emanating from this growing body of literature. Critiques paradigms that selected scholars have employed in the researching and writing of their topics. Seminar format allows students to take the lead in discussing each week's readings. Covers a range of scholarship dealing with American Indian issues; explores the development of American Indian Studies as an academic discipline; probes paradigms that Indigenous scholars have developed; and considers how those paradigms differ from those used by other disciplines. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 502 | American Indian Studies Research Methods | Prepares students for thesis research, writing, and completion. Surveys graduate research methods in the field of American Indian Studies including historical, interpretative, and narrative approaches. Focuses on methodological issues specific but not limited to American Indian and Indigenous Studies. Focuses on Indian-centered methodological approaches to research that are essential to qualitative writing of the various topics in Indian country and other issues. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 503 | Contemporary Issues of American Indian Nations | Provides an overview of the current status of American Indian Nations with regard to sovereignty, policy, politics, economy, and society. An exploration of current issues illustrates the unique challenges and innovative solutions put forth by Indian communities. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 504 | American Indian Film and Activism | Examines the American Indian film and activism with emphases on American Indian production, directing, editing, investigative journalism, documentary film, entertainment, and research. Exposes students to the development of activism in film and how film has been utilized to educate, inspire, and contribute to the challenges in Indian Country. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 505 | Contemporary Visual Arts of American Indians | Focuses on a critical analysis of art, film, and media as they intersect with shaping the image and sustaining the culture of American Indians in North America. Examines the persistent and inappropriate stereotypes of American Indians as portrayed in film and media, including explanations for the persistence of negative stereotypes drawing on various aspects of critical race theory including power, politics, and race. Also introduces the scope and diversity of American Indian art and artists and highlights how native artists portray their views and culture through contemporary image making and representations. Stresses the interplay of art with sovereignty, identity, and politics. Emphasizes the powerful and significant connection between contemporary American Indian art and the persistence of indigenous cultures. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 506 | Indigenous American Literature and the Tribal Community | Teaches Indigenous (Indian, Native American, First Nations) literature's role in Indigenous history, cultural history, philosophy, society, culture, and developing cultural traditions. Students learn how tribal communities articulate themselves intellectually and artistically through literature and its development locally, nationally, and internationally. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 508 | Revitalizing Indigenous Languages | Critically examines Indigenous languages, their decline and revitalization from a language ecology and a self-determination perspective. Includes historical, sociopolitical, educational, linguistic, sociolinguistic, and cultural issues that have had and continue to impact Indigenous peoples and their languages worldwide and their reclamation efforts. Also examines various epistemologies, theories, ideologies, and practices of Indigenous people (including American Indian, Indigenous Alaskan, Hawaiian, Maori, Quechua). Topics include: language policy and planning, language acquisition, child language socialization, identity development, bilingual education, Indigenous language pedagogy, and current models and approaches for Indigenous language maintenance and revitalization (ILMR). | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| AIS | 509 | American Indian and Indigenous Rights | Examines the rights of American Indian peoples with an emphasis on asserting indigenous rights in national as well as international forums. Challenges students to address issues related, but limited to: treaty rights, land rights, water rights, self-determination, rights to a distinct culture, religion, language, spiritual practices, customs, ceremonies, nationhood, autonomy, to seek redress and justice, rights to education, rights to protect from destruction and violence, rights to economic development, rights to protect lands from military, ecological, cultural, and environmental threats, and other rights that may effect the lives of American Indian people. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; Credit is allowed for only AIS 509 or AIS 494 (American Indian and Indigenous Rights) |
| AIS | 510 | Social Change in American Indian Communities | Committed to the preservation of political autonomy and cultural identity, American Indian communities are increasingly gaining rule over the effects of social change impinged upon them. Recapturing their histories and redefining colonial relationships, they are forging a preferred future grounded in their own traditional institutions of community, religions, and strengthening of self-determination. Provides students with: (1) an understanding of the enduring struggle of American Indian communities to resist the movement of collective assimilation and retain the right of self-determination; (2) an examination over time of social changes in American Indian communities' social structures and their political and social movements towards the establishment of environmental, economic, and social justice; and (3) knowledge of strategies and tactic for achieving social change within American Indian communities that support Indian self-determination and self-governance. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 511 | Genders and Sexualities in American Indian Societies | Grounds students in the theory and concepts of American Indian genders and sexualities. In American Indian societies, there were more than two genders. With colonization through laws, boarding schools, and loss of culture, language, and land, these different genders were attacked and made to disappear. Examine the concepts of gender and sexuality from Native perspectives and theory, and through western imperial views. Also covers the ways in which decolonization plays a role in understanding indigenous genders and sexualities. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 512 | Historical Trauma, Healing, and Decolonization | In recent years, scholars have begun to explore the prevalence of historical trauma among American Indian communities. This research argues that the genocide, violence, breakdown of customary cultures through external coercion; and oppression that Indians continue to face at the hands of foreign colonizers has left Indians with harmed with intergenerational self-destructive behavior, domestic violence, suicide, anxiety, depression, low self-esteem, and anger. As a result of this violence and oppression, they have developed models of recovering healthy nations while challenging violations of their human rights in the domestic and international arenas. This history has given rise to a widespread cultural revitalization movement often referred to as decolonization. Scholars from an array of academic disciplines are producing a growing body of literature about decolonization. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 513 | Urban Indian Issues | According to the 2010 Census, 64.1% of the American Indian/Alaskan Native population resides in a place outside of tribal areas. Cities such as Los Angeles, New York, and Phoenix have historically counted more than 25,000 American Indian residents. What draws Indigenous families to urban areas? How does an urban address impact the federal trust relationship with nonreservation Indians? What are the social, political, and economic implications for a family who lives off the reservation and away from tribal homeland? Course explores these issues and dynamics and challenges the student to examine the unique identity and contributions of urban Indians. Students learn the history of Indigenous migrations to the city and assess current needs and concerns through consultation work coordinated with Phoenix area Indian Centers and nonprofit organizations. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 514 | American Indian Intellectuals | Does it make sense to speak about American Indian "intellectuals," "thinkers," or "philosophers"? Not only have Indians been thinking and thinking deeply for generations, but they have produced a body of written works that have formed the foundation of contemporary American Indian studies. Course covers some of the major figures, their works, and the ideas and opinions (many of which were controversial) that shaped their thinking. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| AIS | 515 | The Work and Legacy of Vine Deloria, Jr | Vine Deloria, Jr, Standing Rock Sioux (1933-2005) has often been referred to as "Uncle Vine" for his role in the intellectual development of innumerable scholars, as well as legal and political figures, all of whom have striven along side Deloria at making the world a better and more just place for indigenous communities. As such, Deloria has also been labeled "the Dean of American Indian Studies" because of his work at shaping the intellectual and political agenda, which began in 1969 with the seminal publication of Custer Died for Your Sins: An Indian Manifesto and continued posthumously with works on the medicine man traditions throughout North America and a reflection on Carl Gustav Jung's analyses of american indian customs and beliefs. this seminar, the first of its kind, takes a comprehensive look at Deloria's philosophical and legalistic legacy by examining his major works and analyzing, in addition to critiquing, the ideas and opinions that shaped his intellectual career. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 516 | Concepts of Power and Indigeneity | Grounds students in the theory and concepts of power and indigeneity with comparisons with global Indigenous peoples and experiences. Through that theoretical understanding, examines and understands ways in which these concepts impact Indigenous communities and formulates ways in which to develop practical ways to address these issues. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 517 | Customary Tribal Law and Governance | Examines traditional governance systems, institutions, and cultures of American Indians, with emphasis on customary law, justice, and government. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 518 | Tribal Jurisdiction | Examines traditional governance systems, institutions, and cultures of American Indians, with emphasis on customary law, justice, and government. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 519 | Burial Rights, Repatriation, and Sacred Places Matters | Probes U.S. laws and policies, court cases, and Indian struggles for dignity, burial rights, repatriation, and religious freedom from the late 1800s to the present. Examines developments in the United Nations and international arena pertaining to Indigenous human rights, religious freedom, repatriation, and sacred places protection. U.S. policies, laws, practices, court decisions, land developers, pot hunters, and archaeologists have restricted the human rights of American Indians in term of burial rights and religious freedom. Congress has enacted cultural resource and environmental protection laws, religious freedom, and reburial laws that aim to regulate the use and abuse of cultural resources and Indian rights. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 521 | American Indian Leadership and Resistance | Examines the modern leadership struggles in American Indian communities with a foundation of traditional concepts of leadership. Topics include leadership qualities and systems pre-contact, federal-tribal relations, state-tribal relations, tribal politics, internal disputes, activism, mobilization, cultural continuity, social change, community leadership, political/elected leadership, diplomacy, political agendas, and other topics related to American Indian leadership and resistance. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AIS 445 or AIS 521 |
| AIS | 522 | Tribal Governance | Explores American Indian leadership, political ideology, and the history and current state of tribal government. What makes tribal governments tick? Examines past and present challenges faced by leaders and members of indigenous communities. Brainstorms potential strategies for the further enhancement, protection, and assertion of this indigenous "brand" of governance. How do politics, policy development and the ever-changing face of indigenous sovereignty impact the way we think about governance? How can we educate and inspire tribal communities to have greater ownership and interest in government? Students engage with the current research, debate the issues, and learn from people who provide governance to indigenous communities. Case studies focus on specific issues in local communities. Individual portfolio project work facilitates learning and the articulation of leadership and governance as practiced by one particular tribe of your choice. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| AIS | 523 | Community Development with American Indian Communities | Tribal community development is more complicated than large urban population centers or even rural communities because tribal communities continue to struggle with years of colonial, paternalistic, and assimilationist federal policies that have impeded their efforts to become self-determined and self-governing nations. Provides students with the knowledge and skills they need to support community development in American Indian communities within a self-determined and self-governing context. Content includes: (1) a framework for review of current economic, political, social, and cultural issues facing American Indian communities; (2) an overview of community development theories, of the underlying values behind those ideas, and of the linkages between theory and practice in American Indian and other Indigenous communities; and (3) a sampling of intervention strategies and tactics for effective community development in American Indian communities. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 524 | Indian Control of Indian Education: Tribal Colleges and Universities | Examines American Indian control of education from a tribal college and university perspective. Focuses on the tribal college movement, including the historical and contemporary political, policy, research, and best practices that have influenced and sustained tribal colleges and universities. | N | SEM | N | GNA | College of Liberal Arts and Sciences | American Indian Studies Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | American Indian Studies Program | 1-12 | | |
| AIS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | American Indian Studies Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | American Indian Studies Program | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | American Indian Studies Program | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AIS | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | American Indian Studies Program | 1-12 | | |
| ALA | 100 | Introduction to Environmental Design | Surveys environmental design: includes historic examples and the theoretical, social, technical, and environmental forces that shape them. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU & H & G | Credit is allowed for only ALA 100 or PUP 100 OR Visiting University Student |
| ALA | 102 | Landscapes and Sustainability | Surveys ideas relating to landscapes and sustainability and the role of landscape architecture in the creation of humanized environments. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU & G | |
| ALA | 121 | Design Fundamentals I | Development of visual literacy. Introduces drawing and graphic representation as methods of seeing and problem solving. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Architectural Studies, Environmental Design, Interior Design, or Landscape Architecture major; Credit is allowed for only ALA 121 or INT 120 OR Visiting University Student |
| ALA | 122 | Design Fundamentals II | Exercises in basic design, stressing creative problem-solving methods, principles of composition, and aesthetic evaluation. Development of vocabulary for environmental design. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): ALA 121 with C or better; Architecture, Environmental Design or Landscape Architecture major. Corequisite(s): ALA 124 |
| ALA | 124 | Design Fundamentals II Lecture | Theory and applications of basic design principles, history and theory of how architecture, interior design and landscape architecture design is impacted by basic design. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): Architectural Studies BSD or Environmental Design BS or Interior Design BSD or Landscape Architecture BSLA major; Corequisite(s): ALA 122 or INT 122; Credit is allowed for only ALA 124 or INT 124 |
| ALA | 225 | Design Fundamentals III | Applies history and theory of design fundamentals with an emphasis on architectural and landscape architectural design issues. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 4 | | Prerequisite(s): Architectural Studies major; ALA 122 with C or better; passed Architectural Studies milestone; Corequisite(s): ALA 235 OR Visiting University Student |
| ALA | 226 | Design Fundamentals IV | Basic design, stressing creative problem-solving methods, principles of composition, and aesthetic evaluation. Development of vocabulary for environmental design. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 4 | | Prerequisite(s): ALA 225 with C or better |

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| ALA | 235 | Introduction to Computer Modeling | Fundamentals of computer operation, geographic information systems, geometric modeling of 3-D forms and rendering of light, mathematical modeling of processes using spreadsheets. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | CS | Prerequisite(s): Architectural Studies BSD major; Corequisite(s): ALA 225 OR Environmental Design BS major; Pre- or corequisite(s): EDS 223 OR Landscape Architecture BSLA major; Corequisite(s): LDE 261 OR Visiting University Student |
| ALA | 240 | Sustainable Design in Built Environment | Reviews the physical principles used in the design of sustainable buildings, landscapes, and urban environments. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| ALA | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| ALA | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| ALD | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Aging and Lifespan Development | 1-4 | | |
| ALT | 405 | Power Conditioning | Fundamentals of power electronics; DC-DC converters and DC-AC inverters; battery charge controllers. Lab experience. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: EST 310; Credit is allowed for only ALT 405 or 505 |
| ALT | 412 | Village Energy Systems | The role of energy resources in economic development. The need for and use of energy at the Base of the Economic Pyramid (BoP). Individual Problem Based Learning (PBL) investigations of potential solutions to energy-poverty at the BoP. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Senior Standing in Engineering, Engineering Technology, Mathematics or another Science-based curriculum. Credit is allowed for only ALT 412 or ALT 494 (Village Energy Systems) |
| ALT | 420 | Electrochemical Energy Technologies | Thermodynamic and electrochemical principles of fuel cells. Hands-on experience on fabrication and testing of fuel cells; problem solving skills. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: CHM 113; ALT 360 |
| ALT | 435 | Applied Photovoltaics | Overview of solar radiation, operating principles of photovoltaics, qualitative analysis on influencing parameters. market trends, basics of PV systems. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: ALT 360; ALT 410 (not required for BAS students); Credit is allowed for only ALT 435 or 535 |
| ALT | 445 | Automotive and Stationary Fuel Cell Systems | Practical overview of fuel cell systems for stationary, residential, and transportation applications based on load and duty cycle requirement of specific application. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: ALT 360; CHM 113; Credit is allowed for only ALT 445 or 545 |
| ALT | 502 | Batteries for Portable Electronics | Theoretical and practical overview of primary, secondary, and lithium batteries. Key performance characteristics, construction materials, typical applications, recycling, and disposal. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ALT | 505 | Power Conditioning | Fundamentals of power electronics, DC-DC converters and DC-AC inverters, battery charge controllers. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Credit is allowed for only ALT 405 or 505 |
| ALT | 507 | Evaluations of Photovoltaic and Fuel Cell Systems | Field testing, data collection, and evaluation of real-world photovoltaic and fuel cell systems available on campus and data analysis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ALT | 512 | Village Energy Systems | Establishes leadership in the development of energy resources at the Base of the Economic Pyramid (BoP). Individual Problem-Based Learning (PBL) investigations of potential solutions to energy-poverty at the BoP. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Graduate Standing in Engineering, Engineering Technology, Mathematics or another Science-based curriculum; Credit allowed for only ALT 512 or ALT 598 (Village Energy Systems) |
| ALT | 515 | Alternative Energy Reliability and Standards | Alternative energy systems and their reliability issues, accelerated life and safety testing, standards and codes, regulatory requirements. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ALT | 535 | Applied Photovoltaics | Term projects, overview of solar radiation, operating principles, qualitative analysis on influencing parameters, market trends, basics of PV systems. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: Graduate status; Credit is allowed for only ALT 435 or 535 |
| ALT | 545 | Automotive and Stationary Fuel Cell Systems | Practical overview of fuel cell systems for stationary, residential, and transportation applications based on load and duty cycle requirement of specific applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: Graduate status. Credit is allowed for only ALT 445 or 545 |
| AME | 101 | ASU Media Arts and Sciences Experience | Orientation to the Media Arts and Sciences program with emphasis on resources for academic success. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1 | | Prerequisite(s): Media Arts and Sciences major OR Visiting University Student |
| AME | 111 | Introduction to Digital Culture | Examines the effects of digital technology on the way we live, communicate, learn, and create. Proposes that we are moving towards a hybrid (physical-digital) existence and culture. Traces that evolution, looks at current examples of hybrid cultural processes and outcomes, and discusses possible future trends. Discusses how these changes are influencing the work and career possibilities of people involved in all aspects of human culture. Comprises diverse readings, media products, class interaction, group discussion and hands-on collaborative projects exploring concepts covered in class. Also includes a number of guest lectures from ASU faculty. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | CS | |
| AME | 112 | Computational Thinking for Media Arts | Introduces fundamental concepts relevant for understanding computation. What are algorithms and how can computer code express them? Basics of how real-world signals are captured, encoded, recorded, retrieved and decoded. Designed for students with little or no background in programming. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | |

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| AME | 120 | Digital Culture Studio | Provides advice on career preparation and industry skills through a series of guest lectures. Sample topics include resumes, personal Websites and portfolios, how to pitch a project idea, and topics chosen by guest industry presenters. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1 | | Credit is allowed for only AME 120 or AME 194 (Digital Culture Studio) |
| AME | 130 | Prototyping Dreams | How do you build your dreams? Explores speculative design and inspirational prototyping as a way to imagine and organize worlds. These prototypes do not have to be functional or material, but they must be functional stories, effectively communicating the creator's vision with others. Surveys a number of creative paradigms for imagining alternative worlds that are more ethical and sustainable, and experiments with techniques for physical, digital, literary and artistic prototyping. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only AME 130 or ENG 130 OR Visiting University Student |
| AME | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-4 | | |
| AME | 210 | Media Editing | Introduces the fundamental principles of media editing including form, composition, structure, pattern, sequence and rhythm. Using a combination of open source, commercial and custom-designed tools and platforms, students design, construct, communicate and interpret rich media messages. Through creating and critiquing visual compositions, audiovisual artifacts, spatial narratives or generated graphs, students explore the practice of media editing as a spatial, temporal and dynamic process. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Credit is allowed for only AME 210 or AME 294 (Media Editing) or DSC 294 (Media Editing) |
| AME | 220 | Programming for the Web | Introduces contemporary Web technologies and the front-end technologies needed to code particularly in contemporary interactive Web applications. Deepens knowledge in the emergence and evolution of Web technologies and standards. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | CS | Prerequisite(s): AME 230 or CSE 110 OR Visiting University Student |
| AME | 230 | Programming for the Media Arts | Introductory-level course in practical aspects of programming systems for media arts. Explores techniques in programming in the context of images, sounds, interaction, networking and data visualization. Uses the processing programming language, an accessible yet powerful environment for learning how to program. Students create images, animations and interactive programs, and learn how to use images, movies, sound files, microphones and cameras in their programs. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | CS | Credit is allowed for only AME 230 or AME 294 (Programming for Media Arts) |
| AME | 240 | Introduction to Physical Computing | Students learn the basic skills required to build physical-computing systems through a series of practical tutorials and design challenges. These skills include basic fabrication with hand and CNC tools, electronic design fundamentals, circuit construction techniques, introductory microcontroller programming and the use of simple sensors and actuators. The primary difference between this introductory-level course and the advanced course is that students in this course are not expected to invent original projects. Projects with clear engineering and design challenges are assigned. Within the scope of these projects there are significant opportunities for creativity but the emphasis is on learning basic skills. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | |
| AME | 244 | Introduction to Interactive Environments | Introduces software programming in the context of real-time interactivity. Builds the skills and develops the confidence needed to produce interactive audiovisual environments. Primarily uses the Max 7 (cycling74.com) programming language to write code for manipulating digital images, sounds and video in real time. For these systems to be interactive (respond to human activity), uses the tools and techniques for gathering and processing real-time input from sensors such as microphones, electronics, cameras and interface devices. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Credit is allowed for only AME 244 or ART 244 or AME 294 (Introduction to Interactive Environments) or ART 294 (Introduction to Interactive Environments) |
| AME | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-4 | | |
| AME | 310 | Media Literacies and Composition | When we integrate computational systems into the core of our cultural and social practices, we reinvent how we tell stories. The roles of creators, critics and audiences are blurring at the same time that digital tools allow us to infinitely reproduce and remix narratives, radically changing what we mean by the "work" or "text." These new media platforms empower us to create, share and respond to cultural narratives that defy traditional notions of how stories operate, demanding new literacies. Explores our powers and responsibilities as readers, writers and creators of new cultural languages, including new forms such as games, digital video, electronic literature and social media. Students study relevant media narratives and cultural ecosystems from the 20th and 21st centuries, acquiring a set of literacies that they hone through practices of authorship, critique and collaboration, culminating in the presentation of their own digital media narratives. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): ENG 101, 105, or 107; minimum 45 hours; Credit is allowed for only AME 310 or AME 394 (Media Literacies & Composition) |

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| AME | 320 | Motion Capture for Integrative Systems | Presents the broad principles and techniques for movement study in oneself and others that includes applied, dynamic anatomy. Also presents the functional techniques for motion capture with a special emphasis on the capture of human movement from visual sensors. Students understand the technology behind motion capture; a high-level understanding of movement and anatomical systems; the ability to perform motion capture and customize it to suit the requirements of specific creative applications in animation, sound and live performance as well as applications in movement rehabilitation and education. Looks at the technology behind various modern motion capture systems based on markers, inertial sensors, accelerometers, and depth sensors, so the student appreciates the technical capabilities and limitations of each technique. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AME 320 or AME 394 (Motion Capture for Integrative Systems) |
| AME | 325 | Technical Lives | Traces the myriad intersections of "life" and "technology" in the history of Western thought and practice--from Ancient Greece to contemporary technoscience. Students investigate these convergences in philosophical works (by Plato, Descartes, Heidegger, Foucault, Gilbert Simondon, and others), in art and design practices (film, architecture, bioart, literature), and in modern technoscientific fields such as biotechnology, artificial life and synthetic biology. Gives students a broad framework for examining the many interwoven histories, philosophies and practices that draw "life" and "technology" together to generate profound ontological, political and economic consequences in the history of the Western world. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only AME 325 or AME 394 (Technical Lives) OR Visiting University Student |
| AME | 330 | Digital-Physical Systems | Hands-on course where students explore digital-physical systems by working with the fundamental building blocks of interactive technologies and examining exemplar works of media art. Basics of electronics, circuit design, sensors, actuators, simple mechanical design, the iterative design process and microcontroller programming. Emphasizes media and arts applications such as real-time interactive performance, robotic installations and tangible computer interfaces. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): AME 240; minimum 45 hours; Credit is allowed for only AME 330 or AME 394 (How to Build a Digital-Physical System) OR Visiting University Student |
| AME | 333 | Improvising Cyborgs | This experiential and practice-based course provides a multidisciplinary platform for students to work collaboratively to accomplish set creative challenges. Open to anyone with experience working with technology who wants to explore improvisation and performance, not only as art forms, but also to inform their making process, and translate these skills to other areas. Encourages sound/music, dance and visual practitioners to work together. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AME 333 or AME 394 (Improvising Cyborgs) OR Visiting University Student |
| AME | 340 | Compositional and Computational Principles for Media Arts | In much of today's contemporary art practice there is a tight coupling of compositional form, content and underlying computational mechanisms. This integration holds the potential to yield new modes of expression and wholly new art experiences as is evident in emerging forms of real-time generative art, network-based art, game-based art, and interactive performance. As both practitioners and participants, we must develop a critical understanding of the relevant compositional and computational principles that frame this work. Students study relevant media art works from the 20th and 21st century, develop a working understanding of fundamental compositional and computational principles, and apply their understanding through the realization of exploratory media artworks that are presented at the end of the semester. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): minimum 45 hours |
| AME | 360 | Designing Mixed-Reality Experiences | Augmented reality and virtual reality games, advertisements, installations and other media integrate virtual objects with real-world environments in an emerging computing paradigm called mixed reality. Students learn skills to creatively develop interactive mixed-reality objects and environments. Covers principles behind object-to-object access patterns, virtual physics and interactions, camera-projection coordinate systems, and programming for augmented reality/mixed reality. Although the mixed reality and object-oriented principles transcend programming language and environment, students use C# programming in the Unity Game Engine. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): AME 230 or CSE 110; Credit is allowed for only AME 360 or AME 394 (Designing & Implementing Mixed-Reality Experiences) OR Visiting University Student |

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| AME | 365 | People at Play | What is the social and cultural significance of play, games and toys? How is playfulness embedded into media, design and art--and more importantly, why? This course centers these questions and more by exploring the multiple dimensions of play in its many forms. Topics include: how age and other issues relate to identity shape play, games and toys; the many genres of games, including board games, video games, role-playing games and so on; the design of games and toys and how they reflect various cultural values; the role of play in education, industry and everyday life. Students can expect to read and write about, play with and create games using both analog and digital technologies. No experience in game play or design needed. Curiosity required. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AME 365 or AME 394 (People at Play: The Cultural Sig Play/Games/Toys) OR Visiting University Student |
| AME | 385 | Collaborative Projects and Research I | Project-based class for experience in collaborative design principles, project pitching and research. Includes readings and small projects with teams formed at the outset of the class. Over the course, teams develop their own project along with a schedule for realization. Project themes vary, yet all projects must explore relationships of digital technologies and cultural products or processes. Includes presentations, discussion and analysis of team projects. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): BA in The Arts, Design Studies BA, or Digital Culture major; minimum 45 hours OR Visiting University Student |
| AME | 386 | Collaborative Projects and Research II | Project-based class for experience in collaborative design principles, project pitching and research. Includes readings and small projects with teams formed at the outset of the class. Over the course, teams develop their own project along with a schedule for realization. Project themes vary, yet all projects must explore relationships of digital technologies and cultural products or processes. Includes presentations, discussion and analysis of team projects. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): AME 385 OR Visiting University Student |
| AME | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-4 | | |
| AME | 400 | Minds and Machines | Introduces the broad area of artificial intelligence and its intersections with various domains including cognitive science, symbolic logic and reasoning, philosophy of mind, science fiction literature and data science. Students develop and prototype AI algorithms ranging from computer vision, natural language processing, reinforcement learning/control theory and signal/data processing, as well as learning broader sociocultural issues surrounding AI including its history, theories of machine and human intelligence and ethics. Primarily uses Python as its main programming language for development. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AME 400 or AME 494 (Minds and Machines) or AME 598 (Minds and Machines) OR Visiting University Student |
| AME | 410 | Interactive Materials | Focuses on embedding computation into the physical world and envisioning the future of tangible interactive media. Students make, tinker and experiment with high-tech and low-tech materials ranging from electronics (microcontrollers, sensors and actuators) to softer components including textiles, paper, paints, food and organic/living systems. Grounds hands-on, materially oriented work in theoretical concepts from HCI (Human Computer Interaction), speculative design and design fiction. Students build interactive prototypes as artifacts that exist in fictional worlds to explore emerging dialogues around desirable and undesirable futures. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): AME 330 |
| AME | 411 | Advanced Interactive Sound | Explores the development of interactive music systems. Covers a variety of sound synthesis methods with particular emphasis as to how they can be used in real-time sound creation. Covers techniques for sensing such as computer vision, sound analysis, tangible interfaces and 3D sensing. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AME 411 or AME 511 or MDC 411 or MDC 511 OR Visiting University Student |
| AME | 430 | Mac Development for Media Arts | Explores native application development for OS X (Macintosh) for use in the domain of media arts. Project-based course covers the native Xcode development environment and the C and Objective-C programming languages. Native applications are able to achieve the highest levels of performance; they leverage the unique technologies built for a platform and they are able to participate in the native user experience (look and feel) that all users of a popular platform expect. To understand native apps for OS X, the course examines a number of code frameworks provided for developers by Apple (the core of which are often called Cocoa), including Foundation, AppKit, AV Foundation, Core Animation and SpriteKit. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): AME 230; Credit is allowed for only AME 430 or AME 494 (Mac Development for Media Arts) OR Visiting University Student |

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| AME | 434 | Machine Learning for Media Arts | Provides an interdisciplinary introduction to machine learning techniques from the classical to the contemporary. Discusses methods and implementations of machine learning in creative outcomes including image, video and sound synthesis, with both real-time and non real-time approaches. Also discusses issues of representation, bias and ethics in machine learning that help students frame their projects with critical awareness. Preferred incoming skills include programming, system building or integrative skills using Max/MSP or Python and/or expertise in signal processing or composition and/or technical skills and/or sensor development. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AME 434 or AME 494 (Machine Learning for Media Arts) or AME 534 or AME 598 (Machine Learning for Media Arts) OR Visiting University Student |
| AME | 435 | Mobile Development | Explores native application development for iOS for use in the domain of media arts. Project-based course covers the native Xcode development environment, and the Swift programming language. Native applications are able to achieve the highest levels of performance, they leverage the unique technologies built for a platform, and they are able to participate in the native user experience (look and feel) that all users of a popular platform expect. Examines a variety of frameworks such as UIKit, CoreMotion, CoreLocation, MapKit, AVFoundation AVKit, and SpriteKit to understand native apps for iOS. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): AME 430 or AME 494 (Mac Development for Media Arts); Credit is allowed for only AME 435 or AME 535 or AME 494 (Mobile Development) or AME 598 (Mobile Development) |
| AME | 436 | Animating Virtual Worlds | Investigates creating dynamic virtual environments. How can we create complex, engaging and aesthetic environments that are responsive? Explores creating animation using code. How to create movement using procedural and generative techniques. Subjects include random numbers, Perlin noise, particle systems, autonomous agents, steering behaviors, fractals and L-systems. Requires prior programming experience. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AME 436 or AME 494 (Animating Virtual Worlds) or AME 598 (Animating Virtual Worlds) OR Visiting University Student |
| AME | 444 | Media Installations | Investigates historical and contemporary instances of the media installation, not only as a form of art but as a cultural artifact that appears in a variety of contexts. Students design and build media installations by learning to gather, manipulate and present many different kinds of media using a variety of high- and low-tech tools and techniques. Advanced skills with the tools and techniques for creating and manipulating digital images, sounds, graphics and video. Students learn how to make installations interactive by integrating sensors, input devices and computer vision systems. Design, build and refine media installations, and learn to document these installations at a high level using the latest video editing tools. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): AME 244 or AME 294 (Introduction to Interactive Environments); Credit is allowed for only AME 444 or AME 494 (Media Installations) or AME 544 or AME 598 (Media Installations) |
| AME | 470 | Programming for Social and Interactive Media | Web sites, desktop applications connected to the "cloud" and mobile applications depend on services supplied by server-based software that is the invisible center of users' networked experiences. Applications and data servered over the Web are at the core of popular software from social applications such as Facebook, Twitter or Instagram to networked media like iTunes, Netflix or Hulu. Investigates the development of Web applications and services. Creates modern dynamic Web applications using open source technologies. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): AME 220; minimum 45 hours; Credit is allowed for only AME 470 or AME 570 |
| AME | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-12 | | |
| AME | 485 | Media Arts and Sciences Capstone I | Senior capstone projects are interdisciplinary team projects that offer experience in diverse collaborations for solving complex problems, a proficiency widely demanded by employers. Students integrate, extend and apply information, principles, theories and/or methods learned in previous courses while supervised by the instructor. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): Media Arts and Sciences student; minimum 70 hours |
| AME | 486 | Media Arts and Sciences Capstone II | Senior capstone projects are interdisciplinary team projects that offer experience in diverse collaborations for solving complex problems, a proficiency widely demanded by employers. Students integrate, extend and apply information, principles, theories and/or methods learned in previous courses while supervised by the instructor. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): AME 485 |
| AME | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-6 | | Prerequisite(s): Barrett Honors student |
| AME | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| AME | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-4 | | |
| AME | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |

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| AME | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-3 | | |
| AME | 511 | Advanced Interactive Sound | Explores the development of interactive music systems. Covers a variety of sound synthesis methods with particular emphasis as to how they can be used in real-time sound creation. Covers techniques for sensing such as computer vision, sound analysis, tangible interfaces and 3D sensing. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AME 411 or AME 511 or MDC 411 or MDC 511 |
| AME | 515 | Machine Vision and Pattern Recognition | Covers the field of computer vision, whose broad goal is to create algorithms and systems for processing of visual signals (e.g., images, videos) for low-level, mid-level, and high-level perceptual tasks. Presents the broad principles and techniques for devising computer vision algorithms starting from understanding the imaging process for a pin-hole camera; understanding lenses, image-statistics such as gradients and edges, 3D structure estimation, motion estimation, illumination modeling to perceptual tasks such as shape recognition, texture modeling, face recognition, activity recognition, and scene recognition. The class is a mixture of in-class lectures and discussions, and individual and group projects. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student; Credit allowed for only AME 515 or EEE 515 or EEE 598 (Computational Image Understanding & Pattern Analys) |
| AME | 516 | Physics-Based Computer Vision | Covers topics in physics-based computer vision and graphics. Includes work on visual computing systems including computational cameras, illumination systems, 3D scanners, rendering/animation and displays. Starting with the basics of traditional photography and the imaging pipeline, proceeds to explore new ways to capture visual information by co-designing camera hardware and software algorithms. Topics covered include plenoptic or multi-modal imaging, coded and compressive sensing, light transport and rendering, programmable illumination, and computational displays. Focuses on understanding and evaluating new imaging technology for specific applications including autonomous vehicles, entertainment and graphics, computer vision and visual recognition, and robotics. Course content delivered via lectures along with written and programming assignments as well as a final project. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): Herberger Arts, Media and Engineering grad student or Fulton Engineering grad student; Credit is allowed for only AME 516 or AME 598 (Comp Cam, Ltg & Disp) or EEE 516 or EEE 598 (Comp Cam, Ltg & Disp) or EEE 598 (Phys-based Comp Vision) |
| AME | 520 | Movement and Computing | Focuses on computational and humanistic underpinnings for describing human activities for interactive systems. Obtains a holistic understanding of both the computational models, as well as somatic approaches, and enables their translation into meaningful interactive systems for a variety of applications. Project-driven course encourages students to work individually and collaboratively to generate movement to interface with appropriate sensing, analysis and feedback systems with applications in health and well being, creative practices and games. Transdisciplinary course; therefore, expectations for skills and outcomes are multiple and varied, with students expected to work with students and ideas from other disciplines. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 530 | Philosophy of Media Technology | Focuses on media arts and sciences in the 20th and 21st centuries, discussing issues surrounding the evolution of media art research and creation practices, methods of criticism and analysis, transdisciplinary work and research, collaboration and current trends. Emphasizes the methodology, theory and history behind the experimental study of experience via experiential systems. Directed toward those interested in researching, designing, building or critiquing experiential media systems that are culturally or technoscientifically provocative and socially meaningful. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 531 | Experimental Media Philosophy | Covers advanced topics from current areas of research creation. Equips PhD and masters students with conceptual approaches to experimental, experiential and theoretical research powered by emerging media arts, music, science, engineering and contemporary critical studies. Based on furnished examples as well as their own experience, students may create and/or critique integrated media systems demonstrating technological, aesthetic, conceptual or social concerns. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| AME | 532 | Creating Interactive Media | Focuses on creation of media of all kinds using computation. Using algorithms it is possible to create complex media that is difficult or impossible by traditional methods. Some techniques can capture the unpredictable evolutionary and emergent behavior found in nature. Investigates influential algorithmic methods including stochastic processes and Markov chains, Perlin noise, cellular automata, fractals, L-systems and genetic algorithms. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 533 | Design for Media Arts | Invites students to observe, think and make. Together, students reflect on patterns, systems, objects and narratives that define world, ask how things could be different and design alternative futures. Covers a breadth of design thinking and Human Computer Interaction (HCI) methods including field observation, co-design/participatory design with stakeholders, concept development, rapid prototyping, deployment/study with users, data analysis and synthesis of findings. Students draw on these methods to iterate through a full design cycle of researching, developing and deploying a provocative socio-technical intervention. Consists of seminar discussions and critical reflection grounded in weekly hands-on work with high-tech and low-tech materials as well as observation activities situated in the physical world. Culminates in a final project where students turn their ideas into design interventions that challenge rethinking patterns and envisioning new systems (big and small) that transform our world for the better. Covers research methods and multiple approaches to inquiry through a design lens. | N | LEL | N | OP3 | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AME 533 or AME 598 (Design for Media Arts) |
| AME | 534 | Machine Learning for Media Arts | Provides an interdisciplinary introduction to machine learning techniques from the classical to the contemporary. Discusses methods and implementations of machine learning in creative outcomes including image, video and sound synthesis, with both real-time and non-real time approaches. Also discusses issues of representation, bias and ethics in machine learning that help students frame their projects with critical awareness. Preferred incoming skills include programming, system building or integrative skills using Max/MSP or Python and/or expertise in signal processing or composition and/or technical skills and/or sensor development. | N | LEL | N | OP3 | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AME 434 or AME 494 (Machine Learning for Media Arts) or AME 534 or AME 598 (Machine Learning for Media Arts) |
| AME | 535 | Mobile Development | Explores native application development for iOS for use in the domain of media arts. Project-based course covers the native Xcode development environment, and the Swift programming language. Native applications are able to achieve the highest levels of performance, they leverage the unique technologies built for a platform, and they are able to participate in the native user experience (look and feel) that all users of a popular platform expect. Examines a variety of frameworks such as UIKit, CoreMotion, CoreLocation, MapKit, AVFoundation AVKit, and SpriteKit to understand native apps for iOS. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AME 435 or AME 535 or AME 494 (Mobile Development) or AME 598 (Mobile Development) |
| AME | 544 | Media Installations | Investigates historical and contemporary instances of the media installation, not only as a form of art but as a cultural artifact that appears in a variety of contexts. Students design and build media installations by learning to gather, manipulate and present many different kinds of media using a variety of high- and low-tech tools and techniques. Advanced skills with the tools and techniques for creating and manipulating digital images, sounds, graphics and video. Students learn how to make installations interactive by integrating sensors, input devices and computer vision systems. Design, build and refine media installations, and learn to document these installations at a high level using the latest video editing tools. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AME 444 or AME 544 or AME 598 (Media Installations) |
| AME | 550 | Prototyping Futures | In this project-based course, students work in interdisciplinary teams to explore and envision the future of communities, industries, technologies and other elements of our society. In this process, students develop their understanding of the application of extended reality technologies, practices and methodologies for design, and tools for applying research to constructing prototypical scenarios for the future, in addition to gaining experience in effective collaboration. This course is about critical, methodological and narrative skills--the ability to move fluidly through domains, create low-fidelity prototypes, and devise creative solutions to complex problems by envisioning new realities. The development of deep technical skills in a chosen field follows in each program. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AME 550 or DSC 550 or HSD 550 |

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| AME | 551 | Designing Extended-Reality Experiences | Augmented reality and virtual reality games, advertisements, installations and other media integrate virtual objects with real-world environments in an emerging computing paradigm called extended reality (XR). Students learn skills to creatively develop interactive mixed-reality objects and environments. Expects a basic understanding of Unity. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 570 | Programming for Social and Interactive Media | Web sites, desktop applications connected to the "cloud" and mobile applications depend on services supplied by server-based software that is the invisible center of users' networked experiences. Applications and data servered over the Web are at the core of popular software from social applications such as Facebook, Twitter or Instagram to networked media like iTunes, Netflix or Hulu. Investigates the development of Web applications and services. Creates modern dynamic Web applications using open source technologies. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AME 470 or AME 570 |
| AME | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 590 | Reading And Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | N | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 691 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | YGB | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AME | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Herberger Institute for Design and the Arts | School of Arts, Media and Engineering | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|---------------------------|------------------------------------|-------|-----------------|---|
| AML | 100 | Introduction to Applied Mathematics for the Life and Social Sciences | Introduces quantitative techniques as applied to problems in the life and social sciences. Includes challenges like understanding the complexities of the human genome or the implications of globalization for infectious disease, human health, and economic stability. | N | LEC | N | OPT | College of Global Futures | School of Complex Adaptive Systems | 3 | MA | Prerequisite(s): MAT 117 or higher with C or better or ALEKS score of 61 or higher; Credit is allowed for only AML 100 or SOS 101 OR Visiting University Student |
| AML | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-4 | | |
| AML | 253 | Introduction to Mathematical Tools and Modeling for the Life and Social Sciences | Introduces the evaluation and construction of mathematical models used in the life and social sciences. Includes the basic steps in developing a model, analyzing it, and testing it with actual data. Covers the first steps concerning how to use formal mathematical techniques including developing equation-based relationships, plotting graphs, linear regression, and solving equations using computer software. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): AML 100 or SOS 101 with C or better; MAT 117 with C or better or ALEKS score of 61 or higher; Credit is allowed for only AML 253 or CAS 253 OR Visiting University Student |
| AML | 254 | Introduction to Dynamics and Control in the Biological and Social Sciences | Includes three fundamental topics in dynamics of populations, each topic motivated by a biological example. Covers mathematical tools, both analytic and computational, to solve the problem. Students have a small group project on each topic. | N | LEC | N | OPT | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): AML 253; MAT 210, 251, 265, or 270; MAT 266 or 271; Credit is allowed for only AML 254 or AML 294 (Continuous Models for the Life and Social Sciences) or CAS 254 OR Visiting University Student |
| AML | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-4 | | |
| AML | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-4 | | |
| AML | 406 | Directed Reading and Research in Applied Mathematics for the Life and Social Sciences | Collaborative, practice-oriented course where students produce individual or team-initiated research project reports on pertinent topics in the life and social sciences. Students select topics, design, identify and formulate effective research ideas, and then translate them into clear and effective research plans. | N | SEM | N | OPT | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s):AML 100; MAT 342 (or MAT 343); 86 minimum hours OR Visiting University Student |
| AML | 441 | Mathematical Concepts and Tools in Sustainability | Explores various mathematical analysis and models pertinent to sustainability science drawn from both social and natural sciences and introduced in a problem-based context. Demonstrates basic concepts from game theory such as pure-strategy and mixed-strategy Nash equilibriums in such classic games as prisoner's dilemma, hawk-dove, coordination. Explores the evolutionary dynamics of these games through the replicator equations. Studies important concepts of stability and regime shift for selected problems. Also discusses some basic solution concepts in cooperative game theory (depending on interest and time). | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s) with C or better: AML 253, or SOS 210(or SOS 294 Intro to Math Tools & Modeling). Credit is allowed for only AML 441 or 494 (Math Concepts & Tools in Sustainability) or SOS 441 or 494 (Mathematical Concepts and Tools in Sustainability) |
| AML | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-4 | | |
| AML | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-3 | | |
| AML | 520 | Agent-Based Modeling | Introduces agent-based modeling to simulate social and social-ecological systems. Topics include design, analysis, and empirical grounding of agent-based models to a variety of application domains including collective action, diffusion processes, resource use, health, and complex societies. | N | SEM | N | OPT | College of Global Futures | School of Complex Adaptive Systems | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AML | 540 | Statistical Modeling for Sustainability | Equips students with sufficient knowledge of statistical theory and methods of applied data analysis to begin conducting empirical analyses in their domains of interest; bring students to a high level of competency in using a cutting-edge statistical software package (Stata) for data management and data analysis tasks; expose students to applications of statistical methods in the economics/policy/social science sustainability literatures in order to develop an understanding for how statistical tools are operationalized in the research world; and develop an appreciation for the careful synthesis of social and natural science theory, knowledge of data and its limitations and command of statistical tools that constitute quality empirical research. | N | LEC | N | OPT | College of Global Futures | School of Complex Adaptive Systems | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AML, ESS or SOS 540 |
| AML | 541 | Mathematical Concepts and Tools in Sustainability | Explores various mathematical analysis and models pertinent to sustainability science drawn from both social and natural sciences and introduced in a problem-based context. Demonstrates basic concepts from game theory such as pure-strategy and mixed-strategy Nash equilibriums in such classic games as prisoner's dilemma, hawk-dove, coordination. Explores the evolutionary dynamics of these games through the replicator equations. Studies important concepts of stability and regime shift for selected problems. Also discusses some basic solution concepts in cooperative game theory (depending on interest and time). | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit allowed for only AML 494 (Math Concepts & Tools in Sustainability), AML 541, SOS 494 (Math Concepts & Tools in Sustainability), SOS 541 or SOS 598 (Math Concepts & Tools in Sustainability) |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| AML | 560 | Theory and Archaeology | Applies social theory to archaeological study of societies of the past. Includes practice theory, hierarchy, space and place, material culture. | N | SEM | N | OPT | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AML 560 or ASB 560 |
| AML | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AML | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AML | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AML | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | College of Global Futures | School of Complex Adaptive Systems | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AML | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AML | 610 | Topics in Applied Mathematics for the Life and Social Sciences | Introductory course in applied mathematics for the life and social sciences, combined with the first semester of a two-semester course in mathematical biology. Provides a solid introduction to the modeling of biological and social processes as well as to some of the mathematical approaches involved in their analysis and simulation. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AML | 612 | Applied Mathematics for the Life and Social Sciences Modeling Seminar | Presents and applies mathematical modeling principles and techniques for representing the structure and operation of complex life and social systems and processes. Helps students identify potential problems in the life and social sciences and the corresponding mathematical and statistical methods that can be used for their study. | Y | SEM | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AML | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AML | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AML | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AML | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | College of Global Futures | School of Complex Adaptive Systems | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AML | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Global Futures | School of Complex Adaptive Systems | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AMS | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-3 | | |
| AMS | 201 | Introduction to American Studies | Provides an intellectual foundation for the interdisciplinary study of American culture, history, and society. Introduces students to ideas, methods, tools, and theories in the vibrant field of American studies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | L & C | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| AMS | 276 | U.S. Women's Movements | Historical survey of sources influential in the development of the feminist movement in the United States. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | H & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AMS 276 or WST 276 OR Visiting University Student |
| AMS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| AMS | 326 | Popular Culture | Topics in American popular culture, including theories of popular culture; the history and analysis of mass media, including television, film, and the music industry; and vernacular art and the folk tradition. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| AMS | 330 | American Lives | Examines American society through the study of autobiography and ethnography. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & C | Prerequisite(s): minimum 30 hours OR Visiting University Student |
| AMS | 332 | Studies in Race and Ethnicity | Topics relating to issues of race and ethnicity in American life. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| AMS | 334 | Class in America | Explores social class and inequality in the U.S. including history, culture, work, politics, globalization and intersections of gender, race, ethnicity and place. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only AMS 334 or ETH 333 or WST 334 OR Visiting University Student |
| AMS | 336 | The American Southwest in Literature and Film | Evaluates literary texts and films addressing the diverse literatures and cultures of the American Southwest. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AMS 336 or ENG 334 or ETH 334 OR Visiting University Student |
| AMS | 353 | African American Literature: Beginnings through the Harlem Renaissance | Focuses on the history of African American literature through the Harlem Renaissance, as exemplified in selected slave narratives, poems, and fiction. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AFR 353 (or AFH 353) or AMS 353 or ENG 353 or ETH 353 |
| AMS | 354 | African American Literature: Harlem Renaissance to the Present | Examines the literary productions of African Americans from the Harlem Renaissance (about 1920) to the present focusing on fiction, poetry, drama, and essays. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AFR 354 (or AFH 354) or AMS 354 or ENG 354 or ETH 354 OR Visiting University Student |
| AMS | 380 | Race, Gender, and Class | In-depth examination of how social inequalities are reproduced and perpetuated. Explores the intersections of race, class and gender in culture and society. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): WST 100 or WST 300 or minimum 30 hours; Credit is allowed for only AMS 380 or ETH 380 or WST 380 OR Visiting University Student |
| AMS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| AMS | 412 | Studies in American Politics and Law | Topics in American political and legal systems, including social movements in the United States and women and the law. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | H | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| AMS | 417 | Religious Traditions of the American Southwest | Examines the sacred traditions that have evolved within the North American Southwest context. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| AMS | 420 | Theatre in America | Examines the major movements and pivotal moments in the history of American theatre from the 1700s to its current state, particularly its efforts to establish an identity that reflects the unique and changing citizenry of the United States. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): minimum 40 hours. Credit is allowed for only AMS 420 or IAP 420 or THE 420 |
| AMS | 428 | Peoples and Cultures of the American West, to 1848 | Provides an integrated understanding of change over time within and between the native, Mexican, Anglo, Asian and African American communities of the region by looking into the major formative historical forces affecting these populations individually and collectively. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only AMS 428 or ETH 428 or LAS 428 or MAS 598 (Chicano Cultures in Southwest) OR Visiting University Student |
| AMS | 429 | Interdisciplinary Topics | Senior-level seminar that examines issues relevant to two or more American cultures' fields. Topics may include Southwest/border Hispanic folklore, Southwestern corridors, American art and the city, and the West of the imagination. May be repeated for credit when topics vary. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| AMS | 449 | Hate Speech, Manifestos, and Radical Writings | Examines writings, speeches and texts that provoke radical or even revolutionary social change. At its core, this course asks: What is the radical and what does it do? How do radical writings function as texts, speech acts, inspirational documents, testimonies, accounts of madness, frightening moments, calls to arms, peacekeeping entities or speaking truth to power? Examines injurious speech and provocative writings that span a range of social movements and topics, including radical feminism, radical queer, Black power, indigenous rights, art and performance, anti-technology, animal rights, violence, madness and revolutionary resistance. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): minimum 35 hours; minimum 2.50 GPA; Credit is allowed for only AMS 449 or ETH 449 or WST 449 OR Visiting University Student |
| AMS | 450 | Latina/os, Schooling and Social Inequality | Advanced interdisciplinary understanding of the issues facing Chicano, Mexican American and Latino communities in relation to K-16 schooling in the southwestern United States. Examines various schools of thought that have shaped social discourse and policies, develops a critical perspective on the social and political issues affecting education, and identifies issues--both historical and contemporary--affecting Chicanos in public education. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | C | Prerequisite(s): minimum 45 hours; Credit is allowed for only AMS 450 or ETH 450 or LAS 450 or AMS 429 (Latino/a School & Social Inequity) |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| AMS | 469 | Abject Bodies and the Politics of Trash | Examines the possibilities inherent in "theorizing from the gutter"; looking at the world not from a lofty "Ivory Tower" but from the slime, the muck, the dumpster, the trash heap, the wasteland, the discarded and the downtrodden. Takes its theoretical framework from a radical 1960s manifesto called SCUM Manifesto by Valerie Solanas and from the French feminist philosophies of Julia Kristeva, who theorized the abject as a relationship with the grotesque that reveals the deep-seated fear of death. Uses these theoretical positions to examine trash, both abstractly and literally. Works through a variety of concepts ranging from actual trash, garbage, waste, toxic sludge, pollution and dirt, and tackles more abstract notions of trash such as the knowledge produced on the fringe in circuses, amusement parks, "trailer trash" zones, freak shows and the bodies of those marked as "Other" or different. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only AMS 469 or ETH 469 or JHR/MAS 598 (Abject Bodies and the Politics of Trash) or WST 469 OR Visiting University Student |
| AMS | 490 | Writing Certificate Portfolio | Preparing a portfolio demonstrating advanced writing skills. Limited to and required of students in the Writing certificate program. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1 | | Prerequisite(s): New College Writing certificate student; Credit is allowed for only AMS 490 or ENG 495 OR Visiting University Student |
| AMS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-6 | | Prerequisite(s): Barrett Honors student |
| AMS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| AMS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| AMS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-7 | L | Prerequisite(s): AMS 201 with C or better; ENG 101, 105, or 107 with C or better |
| AMS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-3 | | |
| AMS | 500 | Research Methods | Course on research methods in a specific discipline. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| AMS | 502 | American Studies: Theory and Method | Explores some of the major themes in American studies scholarship by considering American cultural formation and change over the last two centuries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): American Studies MA student |
| AMS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| AMS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| AMS | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AMT | 101 | Introduction to Aeronautical Management Technology | Facilitates entry into aeronautical management technology programs. Emphasizes General Catalog; major and concentration requirements, registration, careers, and Polytechnic campus resources. Introduces various learning styles and strategies that assist students in becoming successful learners. Emphasizes time management techniques and academic integrity. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | |
| AMT | 105 | Flight Operations and Safety I | Introduces private pilot flight operations. Primary activities include flight safety, accident investigations, guest speakers, lectures, quizzes and discussion of the current flight syllabus topics, AMT Student Information Handbook, as well as monthly safety and other informational briefings. Students must maintain enrollment in the appropriate Flight Operations and Safety course while engaging in flight training activities. The flight training is considered to be the laboratory for this academic course. Course completion requirements are based on completion of lessons within the appropriate FAA-approved Part 61 training syllabus and satisfactorily completing all academic requirements. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) major; approved Secondary Flight application; Pre- or corequisite(s): AMT 182 with C or better if completed; AMT 220 with C or better if completed |

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| AMT | 110 | Flight Operations and Safety II | Concludes private pilot flight operations. Primary activities include flight safety, accident investigations, guest speakers, lectures, quizzes and discussion of the current flight syllabus topics, AMT Student Information Handbook, as well as monthly safety and other informational briefings. Students must maintain enrollment in the appropriate Flight Operations and Safety course while engaging in flight training activities. The flight training is considered to be the laboratory for this academic course. Course completion requirements are based on completion of lessons within the appropriate FAA-approved Part 61 training syllabus and satisfactorily completing all academic requirements. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) major; AMT 105 with C or better |
| AMT | 150 | Flight Operations and Safety III | Introduces instrument pilot flight operations. Primary activities include flight safety, accident investigations, guest speakers, lectures, quizzes and discussion of the current flight syllabus topics, AMT Student Information Handbook, as well as monthly safety and other informational briefings. Students must maintain enrollment in the appropriate Flight Operations and Safety course while engaging in flight training activities. The flight training is considered to be the laboratory for this academic course. Course completion requirements are based on completion of lessons within the appropriate FAA-approved Part 141 training syllabus and satisfactorily completing all academic requirements. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) major; AMT 110 with C or better; Credit is allowed for only AMT 150 or AMT 151 |
| AMT | 151 | Flight Operations and Safety III.a | Introduces the tasks of commercial and instrument pilot flight operations. Flight instruction, lecture, quizzes and discussion of the current flight syllabus topics, AMT Student Information Handbook & ATP Student Handbook as well as safety and other informational briefings are primary activities. Students must maintain enrollment in the appropriate Flight Operations and Safety course while engaging in flight training activities. The flight training is considered to be the laboratory for this academic class. Course completion requirements are based on completion of lessons within the appropriate FAA-approved Part 141 training syllabus and satisfactorily completing all academic requirements. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) major; AMT 110 with C or better; Credit is allowed for only AMT 150 or AMT 151 |
| AMT | 170 | Introduction to Unmanned Aircraft Systems | Introduces the history of unmanned aircraft systems and current and future developments in civil and military operations. Specific blocks deal with elements that form an unmanned aircraft system: unmanned vehicles, communication, navigation, launch and recovery, control stations, payloads, and support equipment. Explores other current issues in unmanned aircraft operations: aviation regulatory system and integration, safety and human factors, ethical and legal issues, and the future unmanned aircraft systems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | |
| AMT | 182 | Private Pilot Ground School | Ground school preparation for Private Pilot Certificate. Aerodynamics, navigation, performance, and regulations. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | |
| AMT | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-4 | | |
| AMT | 201 | Air Traffic Control | Ground and air operations; weather services communications and routing; flight plans, IFR operations, departures and arrivals; and airport conditions and emergencies. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology (Air Traffic Management or Air Transportation Management or Professional Flight or Unmanned Aerial Systems) BS or Applied Science (Aviation) BAS major |
| AMT | 205 | Flight Operations and Safety IV | Continues the introduction of instrument pilot flight operations. Primary activities include flight safety, accident investigations, guest speakers, lectures, quizzes and discussion of the current flight syllabus topics, AMT Student Information Handbook, as well as monthly safety and other informational briefings. Students must maintain enrollment in the appropriate Flight Operations and Safety course while engaging in flight training activities. The flight training is considered to be the laboratory for this academic course. Course completion requirements are based on completion of lessons within the appropriate FAA-approved Part 141 training syllabus and satisfactorily completing all academic requirements. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) BS major; AMT 150 with C or better; Credit is allowed for only AMT 205 or AMT 206 |

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| AMT | 206 | Flight Operations and Safety IV.a | Continues the tasks of commercial and instrument pilot flight operations. Flight instruction, lecture, quizzes and discussion of the current flight syllabus topics, AMT Student Information Handbook & ATP Student Handbook as well as safety and other informational briefings are primary activities. Students must maintain enrollment in the appropriate Flight Operations and Safety course while engaging in flight training activities. The flight training is considered to be the laboratory for this academic class. Course completion requirements are based on completion of lessons within the appropriate FAA-approved Part 141 training syllabus and satisfactorily completing all academic requirements. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) major; AMT 151 with C or better; Credit is allowed for only AMT 205 or AMT 206 |
| AMT | 210 | Flight Operations and Safety V | Completes instrument pilot flight operations. Primary activities include flight safety, accident investigations, guest speakers, lectures, quizzes and discussion of the current flight syllabus topics, AMT Student Information Handbook, as well as monthly safety and other informational briefings. Students must maintain enrollment in the appropriate Flight Operations and Safety course while engaging in flight training activities. The flight training is considered to be the laboratory for this academic course. Course completion requirements are based on completion of lessons within the appropriate FAA-approved Part 141 training syllabus and satisfactorily completing all academic requirements. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) BS major; AMT 205 with C or better; Credit is allowed for only AMT 210 or AMT 211 |
| AMT | 211 | Flight Operations and Safety V.a | Continues the tasks of commercial and instrument pilot flight operations. Flight instruction, lecture, quizzes and discussion of the current flight syllabus topics, AMT Student Information Handbook & ATP Student Handbook as well as safety and other informational briefings are primary activities. Students must maintain enrollment in the appropriate Flight Operations and Safety course while engaging in flight training activities. The flight training is considered to be the laboratory for this academic class. Course completion requirements are based on completion of lessons within the appropriate FAA-approved Part 141 training syllabus and satisfactorily completing all academic requirements. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) major; AMT 206 with C or better; Credit is allowed for only AMT 210 or AMT 211 |
| AMT | 214 | Commercial Pilot Ground School | Ground school leading to FAA Instrument Pilot Rating/Commercial Pilot Certificate (part 1 of 2). 10 hours ground trainer included. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology (Air Traffic Management) BS major; AMT 182 with C or better; AMT 220 with C or better OR Pre- or corequisite(s): AMT 205 with C or better if completed |
| AMT | 220 | Aviation Meteorology | Evaluation, analysis, and interpretation of atmospheric phenomena. Low- and high-altitude weather from the pilot's viewpoint. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | |
| AMT | 222 | Instrument Pilot Ground School | Ground school leading to FAA Instrument Pilot Rating/Commercial Pilot Certificate (part 2 of 2). 10 hours ground trainer included. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) BS major; AMT 110 with C or better OR other Aeronautical Management Technology major; AMT 182 with C or better; AMT 220 with C or better |
| AMT | 250 | Flight Operations and Safety VI | Continues the introduction of commercial single and multi-engine pilot flight operations. Primary activities include flight safety, accident investigations, guest speakers, lectures, quizzes and discussion of the current flight syllabus topics, AMT Student Information Handbook, as well as monthly safety and other informational briefings. Students must maintain enrollment in the appropriate Flight Operations and Safety course while engaging in flight training activities. The flight training is considered to be the laboratory for this academic course. Course completion requirements are based on completion of lessons within the appropriate FAA-approved Part 141 training syllabus and satisfactorily completing all academic requirements. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) BS major; AMT 210 with C or better; Credit is allowed for only AMT 250 or AMT 251 |

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| AMT | 251 | Flight Operations and Safety VI.a | Introduces the tasks of commercial multiengine pilot flight operations. Flight instruction, lecture, quizzes and discussion of the current flight syllabus topics, AMT Student Information Handbook & ATP Student Handbook as well as safety and other informational briefings are primary activities. Students must maintain enrollment in the appropriate Flight Operations and Safety course while engaging in flight training activities. The flight training is considered to be the laboratory for this academic class. Course completion requirements are based on completion of lessons within the appropriate FAA-approved Part 141 training syllabus and satisfactorily completing all academic requirements. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) major; AMT 211 with C or better; Credit is allowed for only AMT 250 or AMT 251 |
| AMT | 270 | Unmanned Aircraft | Introduces elements comprising the unmanned aircraft system (UAS). Includes review of UAS, Unmanned Aerial Vehicle (UAV); system development and certification, selection and design, aerodynamics and airframe configurations, characteristics of vehicle types, design standards and regulatory aspects, airframe design, payload types, and control and stability. Students apply concepts acquired in classroom sessions and construct various unmanned aircraft, train to operate using existing simulators, and conduct flight-testing. The final course project is the design, development and construction of a group 1 unmanned aircraft, serving as the core unmanned vehicle used in subsequent UAS courses. Incorporates UAS data collection and analysis throughout the course. Course concepts enable UAS student pilots to become knowledgeable of aerodynamic aspects of UAV to ensure safety of flight and improved maneuverability. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Pre- or corequisite(s): AMT 170 with C or better if completed |
| AMT | 280 | Aerospace Structures, Materials and Systems | Basic aerodynamics, incompressible/compressible airflow, wind tunnel testing, wing theory; analysis of aircraft structures; properties and applications of materials, and aircraft systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 4 | | Prerequisite(s): Aeronautical Management Technology BS major; Pre- or corequisite(s): PHY 111 with C or better if completed; PHY 113 with C or better if completed OR PHY 121 with C or better if completed; PHY 122 with C or better if completed |
| AMT | 285 | Flight Instructor Ground School | Ground school in preparation for the FAA Flight Instructor Certificate. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) BS major; Pre- or corequisite(s): AMT 210 with C or better if completed |
| AMT | 286 | Multiengine Pilot Ground School | Ground school preparation for the FAA Multiengine Rating. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) BS major; Pre- or corequisite(s): AMT 205 with C or better if completed |
| AMT | 287 | Aircraft Powerplants | Theory and performance analysis of gas turbine and reciprocating aircraft engines. Engine accessories, systems, and environmental control. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 4 | | Prerequisite(s): Aeronautical Management Technology BS major; Pre- or corequisite(s): PHY 111 with C or better if completed; PHY 113 with C or better if completed OR PHY 121 with C or better if completed; PHY 122 with C or better if completed |
| AMT | 292 | Flight Instructor Instrument Ground School | Ground school preparation for the FAA Instrument Flight Instructor Rating. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): AMT 210 with C or better; AMT 285 with C or better |
| AMT | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-4 | | |
| AMT | 305 | Flight Operations and Safety VII | Concludes the introduction of commercial single and multi-engine pilot flight operations. Primary activities include flight safety, accident investigations, guest speakers, lectures, quizzes and discussion of the current flight syllabus topics, AMT Student Information Handbook, as well as monthly safety and other informational briefings. Students must maintain enrollment in the appropriate Flight Operations and Safety course while engaging in flight training activities. The flight training is considered to be the laboratory for this academic course. Course completion requirements are based on completion of lessons within the appropriate FAA-approved Part 141 training syllabus and satisfactorily completing all academic requirements. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): AMT 250 with C or better; Credit is allowed for only AMT 305 or AMT 306 |

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| AMT | 306 | Flight Operations and Safety VII.a | Concludes the tasks of commercial single and multi-engine pilot flight operations. Flight instruction, lecture, quizzes and discussion of the current flight syllabus topics, AMT Student Information Handbook & ATP Student Handbook as well as safety and other informational briefings are primary activities. Students must maintain enrollment in the appropriate Flight Operations and Safety course while engaging in flight training activities. The flight training is considered to be the laboratory for this academic class. Course completion requirements are based on completion of lessons within the appropriate FAA-approved Part 141 training syllabus and satisfactorily completing all academic requirements. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): AMT 251 with C or better; Credit is allowed for only AMT 305 or AMT 306 |
| AMT | 308 | Air Transportation | Studies the historical and international development of air transportation and its social, political, and economic impact upon global interrelationships. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | G | Pre-requisite: Minimum 50 hours |
| AMT | 310 | Flight Operations and Safety VIII | Introduces flight instructor operations for single and multi-engine and instrument operations. Primary activities include flight safety, accident investigations, guest speakers, lectures, quizzes and discussion of the current flight syllabus topics, AMT Student Information Handbook, as well as monthly safety and other informational briefings. Students must maintain enrollment in the appropriate Flight Operations and Safety course while engaging in flight training activities. The flight training is considered to be the laboratory for this academic course. Course completion requirements are based on completion of lessons within the appropriate FAA-approved Part 61 training syllabus and satisfactorily completing all academic requirements. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): AMT 305 with C or better; Credit is allowed for only AMT 310 or AMT 311 |
| AMT | 311 | Flight Operations and Safety VIII.a | Flight instructor operations for single and multiengine instrument operations. Flight instruction, lecture, quizzes and discussion of the current flight syllabus topics, AMT Student Information Handbook & ATP Student Handbook as well as safety and other informational briefings are primary activities. Students must maintain enrollment in the appropriate Flight Operations and Safety course while engaging in flight training activities. The flight training is considered to be the laboratory for this academic class. Course completion requirements are based on completion of lessons within the appropriate FAA-approved Part 141 training syllabus and satisfactorily completing all academic requirements. | N | LEL | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): AMT 306 with C or better; Credit is allowed for only AMT 310 or AMT 311 |
| AMT | 350 | Aircraft Design and Logistics Management | Fundamental aircraft design principles, including performance factors associated with mission profiles and the identification of basic logistical support requirements. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 4 | | Prerequisite(s): Applied Sci (Aviation) BAS or Aeronautical Mgmt Tech BS major; Pre- or corequisite(s): PHY 111 w/ C or better if completed; PHY 113 w/ C or better if completed OR PHY 121 w/ C or better if completed; PHY 122 w/ C or better if completed |
| AMT | 360 | Aircraft Dispatch Ground School | Aeronautical knowledge areas required for Aircraft Dispatch certification, as well as preparation for the Aircraft Dispatch knowledge examination. Regulations, aerodynamics, emergencies, flight physiology, weight and balance, navigation, aircraft performance, meteorology, and flight operations. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): AMT 214 with C or better; AMT 220 with C or better; AMT 222 with C or better |
| AMT | 370 | Unmanned Aircraft Systems | Students build upon gained knowledge, skills and experience by exploring unmanned aircraft avionics, autopilot systems, first person video (FPV), on-screen displays (OSD), communication systems, command and control (C2), ground control stations (GCS), flight software, and UAV launch and recovery systems. Students continue flight training and gain proficiency in unmanned aircraft operation using simulators and hands-on flight-testing. Students demonstrate their abilities to upgrade and modify their previously constructed unmanned aircraft in order to operate and conduct actual flight-testing. Incorporates UAS data collection and analysis throughout the course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): AMT 270 with C or better; Pre- or corequisite(s): AMT 170 with C or better if completed |
| AMT | 382 | Air Navigation | Theory and application of modern advanced navigation and flight instrument systems. Introduces crew resource management in multiplace cockpits. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) BS major; AMT 210 with C or better |
| AMT | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-4 | | |
| AMT | 396 | Aviation Professional | Career focus for management and flight students, including internships, writing, interviews, and employment search in aviation industry. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): Applied Science (Aviation) BAS or Aeronautical Management Technology BS major; minimum 50 hours |

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| AMT | 408 | National Aviation Policy | Examines aviation and airspace policies and policy process, including agencies involved in formulation, implementation, and evaluation of aviation policy. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology BS or Applied Science (Aviation) BAS major; minimum 50 hours |
| AMT | 410 | Aviation Safety and Human Factors | Aviation accident prevention, human factors, life support, fire prevention, accident investigation, and crash survivability. Development and analysis of aviation safety programs. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology BS or Applied Science (Aviation) BAS major; minimum 50 hours |
| AMT | 442 | Aviation Law and Regulations | Aviation within context of U.S. Common Law system. Public law, administrative rule making, sovereignty, enforcement, and case law analysis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology BS or Applied Science (Aviation) BAS major; minimum 50 hours |
| AMT | 444 | Airport Management and Planning | Orientation to administration and management of modern public airports, including overview of planning, funding, and development of airport facilities. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology BS or Applied Science (Aviation) BAS major; minimum 50 hours |
| AMT | 456 | Organized Labor in Aviation | Explores topics of labor relations, unions, federations, collective bargaining, grievances and labor legislation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology BS or Applied Science (Aviation) BAS major; minimum 50 hours |
| AMT | 460 | Aircraft Dispatch Capstone | Capstone for aircraft dispatch whereby students are engaged in practical applications of regulations, aerodynamics, emergencies, flight physiology, weight and balance, navigation, aircraft performance, meteorology and flight operations. Uses various scenarios in which students can employ the strategies and procedures necessary for safe flight. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): AMT 360 with C or better |
| AMT | 470 | Unmanned Aircraft Payloads, Sensors, and Control Stations | Builds on previously gained knowledge and experience. Student pilots utilize long-range communication and data links, UAS sensors, geospatial data collection, and still-imaging mosaicking. Students continue flight training using existing simulators and flight-tests during the course. Students apply concepts acquired during classroom sessions and construct a ground control station, modify and upgrade existing unmanned aircraft with payloads/sensors, train to operate sensors using existing simulators, and conduct flight-testing. Incorporates UAS data collection and analysis throughout the course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): AMT 370 with C or better; Pre- or corequisite(s): AMT 170 with C or better if completed |
| AMT | 482 | Airline Instrument Procedures | Advanced instrument flight using airline instrument procedures and airline crew and cockpit resource management. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) BS major; AMT 382 with C or better |
| AMT | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-12 | | Prerequisite(s): minimum junior standing |
| AMT | 486 | Regional Jet Aircraft Systems | Regional jet airline aircraft systems and flight procedures. Includes theoretical education for regional jet commercial passenger aircraft. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) major; AMT 382 with C or better |
| AMT | 488 | Regional Jet Aircraft Systems II | Regional jet systems, with emphasis on air navigation systems, including Flight Management System (FMS), Selective Calling (SELCAL), and flight profiles. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Pre-requisite(s): Aeronautical Management Technology (Professional Flight) student; AMT 382 with C or better |
| AMT | 489 | Airline Administration | Administrative organizations, economics of airline administration, operational structure, and relationship with federal government agencies. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology BS or Applied Science (Aviation) BAS major; minimum 50 hours |
| AMT | 490 | Regional Jet Operations Capstone | Regional jet aircraft operations and flight procedures. Includes theoretical education for RJ aircraft, FTD and full-motion simulator time. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Aeronautical Management Technology (Professional Flight) BS major; AMT 305 with C or better; AMT 482 with C or better; AMT 486 with C or better |
| AMT | 491 | Aviation Management Capstone | Integrated group project with industry partner to address current problems in either air carrier or airport management focus area. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Pre- or corequisite(s): AMT 489 with C or better if completed |
| AMT | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-6 | | Prerequisite(s): Barrett Honors student |
| AMT | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| AMT | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-4 | | Prerequisite(s): minimum 45 hours |

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| AMT | 495 | Unmanned Aircraft Systems Operations | Capstone course applies student pilots' knowledge and skills gained in previous UAS courses to safely deploy a UAS in response to real-world situation or research. Students collaborate with other university departments, state or federal agencies, and other organizations and conduct actual or simulated missions in geospatial data collection, search and rescue, and near-space operations. Course blocks include flight planning and preparation, aircraft preflight and maintenance, launch and recovery operations, payload operations, normal and emergency procedures, and mission planning and execution. Students continue flight training using existing simulators and flight-tests. Students use real-world situations which require deployment of equipment and systems developed during previous course. Places specific emphasis on aircraft and payload selection based upon proposed mission analysis. Incorporates UAS data collection and analysis throughout the course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): AMT 470 with C or better |
| AMT | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-3 | | |
| AMT | 522 | Aviation Law | Examines the U.S. legal system with a focus on the aviation perspective, administrative agencies, FAA enforcement, and case law. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AMT | 523 | Intermodal Transportation Management | Systems theory applied to intermodal transportation networks. Surveys air and ground transportation infrastructure, institutional frameworks, and intermediaries promoting connections between modes. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking) OR Senior in Fulton Schools of Engineering with a University Cum GPA 3.0 or greater |
| AMT | 525 | Airport Planning and Design | Completion of various phases of airport master planning process. Provides guidance for logical and timely development of airports. <u>Project work groups assigned.</u> | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AMT | 526 | Aviation Labor Relations | Investigates labor-management relations in the aviation industry, including laws, unionism, collective bargaining, public sector relationships, grievance procedures, and conflict. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AMT | 527 | Airline Management Strategies | Since deregulation, airlines have undergone profound changes through mergers, consolidation, and acquisition. In-depth look at airline management strategies for the 21st century. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AMT | 533 | Aviation Systems and Psychology | Provides an overview of various aviation learning/training situations and how to develop and evaluate instruction appropriate for the situation and the learner. Focuses on determining the most effective instructional strategy for the situation and how to ensure learner preparedness and mastery of the concepts and skills. Considers topics: information processing, memory, instructional design methodologies, learning strategies, expert/novice differences, individual learner differences including generational differences, evaluation of instruction, transfer of knowledge and skills to unique settings. Discussions focus on research findings in these areas and practical application and implementation to improve learning and performance. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AMT | 534 | Airline Pricing and Yield Management | Focuses on the fundamentals of airline economics and the volatility of industry performance at the operating level. Topics include the structure of the airline industry and the various historical and current operational strategies; demand, traffic, price and yield; operating revenues and operating costs. The airline industry is affected by various economic, environmental, political and regulatory conditions. Reviews the implications of these conditions on airline pricing, capacity, fleet selection and scheduling. Analyzes current and predicted future conditions to develop potential strategies for successful revenue management within the industry. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AMT | 541 | Aviation Physiology | Surveys human physiology and human performance principles related to modern aircraft and aircraft systems operating in multiple environments. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AMT | 546 | Crew Resource Management/Line-Oriented Flight Training | Evaluates in-depth, multicrew coordination issues for commercial aviation pilots. Stresses importance of critical thinking, decision making, integrated resource utilization. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AMT | 565 | Safety in Complex Systems | Evaluates human error in aerospace systems. Discusses different theories of error and taxonomies as well as safety management systems to help identify hazards and risks and then help mitigate and/or eliminate them. Extensively uses case studies to highlight human failures as well as demonstrate organizational changes that resulted in safe and successful operations. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| AMT | 570 | Unmanned Aerial Systems | Examines the system design, operations and employment of unmanned aerial systems (UAS), beginning with an overview of the system and human factors and specific issues involved with UAS design and operations. Communication, remote operations, operator display interface, and situational awareness and teamwork required for successful employment. Evaluates accident data to understand technology and human error concerns. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AMT | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-12 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking) OR Fulton Polytechnic School student |
| AMT | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-12 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking) OR Fulton Polytechnic School student |
| AMT | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-12 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking) OR Fulton Polytechnic School student |
| AMT | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-12 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking) OR Fulton Polytechnic School student |
| AMT | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-12 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking) OR Fulton Polytechnic School student |
| AMT | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-12 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking) OR Fulton Polytechnic School student |
| AMT | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AMT | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking) OR Fulton Polytechnic School student |
| AMT | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-4 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking) OR Fulton Polytechnic School student |
| AMT | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-12 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking) OR Fulton Polytechnic School student |
| ANB | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ANB | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ANB | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ANB | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| ANB | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ANB | 601 | Research Strategies in Animal Behavior | Using hands-on experiences, teaches key concepts underlying the control and function of animal behaviors and contemporary methods for measuring, analyzing, and reporting animal behaviors. Combines introductory classroom lectures on concepts and methods with direct application in observations and experiments on animal behavior in the field and the lab. Topics include communication, mating behavior and systems, parental care, kin selection, cooperation and competition, migration and dispersal, foraging, and anti-predator strategies. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Pre-requisites: Animal Behavior PhD student |
| ANB | 602 | Current Issues In Animal Behavior | Student-led seminar course centers on discussions of contemporary literature in the field of animal behavior. Takes a student-driven approach, with course participants selecting a target theme for the semester, selecting individual papers to discuss each week, and leading discussions about relevant merits and shortcomings of each article. Additional topics may include: conceptual frameworks and results from the dissertation projects of participating students, career options and strategies in the behavioral sciences, responsible research conduct in the field, and tactics in manuscript publication and grantsmanship. | N | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Pre-requisites: Animal Behavior PhD student |
| ANB | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ANB | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ANB | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ANB | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ANP | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| ANP | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| ANP | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APA | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-3 | | Pre-requisite: Freshman status |
| APA | 200 | Introduction to Asian Pacific American Studies | Examines historical and contemporary issues facing Asian Americans and Pacific Islanders in the United States. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | (HU or SB) & C | |
| APA | 210 | Introduction to Ethnic Studies in the U.S. | Covers diversity of experiences and relations among racial and ethnic groups in the United States. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | C | Credit is allowed for only AFR 212 or APA 210 or JUS 210 or TCL 210 OR Visiting University Student |
| APA | 220 | Introduction to Social Transformation | Introduces key concepts in the study of social change, social innovation, and social transformation. Studies examples of social movements, social activism, community organizing, and coalition building and how such efforts have transformed society and culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Credit is allowed for only APA 220 or JUS 220 or SST 220 |
| APA | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| APA | 310 | Asian Pacific American Arts and Cultures | In-depth exploration of Asian Pacific American cultural expression in art, literature, film, theatre, dance, and music. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & C | Prerequisite(s): APA 200 or APA 210 or minimum 24 hours |
| APA | 315 | Asian Pacific American Literature | In-depth exploration of the literary history, critical reception, and major theories in Asian Pacific American poetry, fiction, and prose. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & C | Prerequisite(s): APA 200 or APA 210 or minimum 24 hours |
| APA | 330 | Asian Pacific American Genders and Sexualities | In-depth exploration of gender and sexuality issues as they relate to Asian Pacific American experiences, including interracial relationships, stereotypes, feminism, queer theory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or SB) & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; APA 200 or APA 210 or minimum 24 hours; Credit is allowed for only APA 330 or WST 331 OR Visiting University Student |

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| APA | 340 | Asian Pacific Americans and Media | Advanced study of the social construction of Asian Pacific American media images and resistance to those images in various historical contexts. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & C | Prerequisite(s): APA 200 or APA 210 or minimum 24 hours |
| APA | 345 | Asian Pacific Americans and Film | In-depth examination of the representations of Asian Pacific Americans in narrative, popular, experimental, and documentary film. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & C & H | Prerequisite(s): APA 200, APA 210, FMS 100, or minimum 24 hours; Credit is allowed for only APA 345 or FMS 345 OR Visiting University Student |
| APA | 347 | Immigration, Education and the Family | Cultural processes related to immigration and their impact on the social construction of the immigrant family and the education of other children. Immigration theories, immigration debates and discourses, the immigration landscape of the 21st century, conceptualizations of the family, and the methodological challenges family researchers face. Topics include issues pertaining to education and the family and globalization. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only APA 347 or JUS 347 OR Visiting University Student |
| APA | 350 | Inequality and Diversity in Education | Advanced exploration of various dimensions of diversity in relation to educational systems and outcomes. Through sociological and psychological research, case studies and films, students examine how educational inequality is created and reproduced through individual actions and institutional constraints. Also considers the connection between schooling and human rights and ways in which educational inequality may be addressed. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | L & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; AFR 212, APA 200, APA 210, CDE 232, JUS 210, TCL 210, or minimum 24 hours; Credit is allowed for only AFR 350, APA 350, CDE 350, JUS 365, SOC 350, or TCL 360 OR Visiting University Student |
| APA | 352 | Borders, Prisons and Suburbs | Explores how the relationship between race and space has been important to the development of broad patterns of social inequality in the United States. Through a variety of readings, films and other material, examines how ideas of race and space have been important to the making and maintenance of national boundaries, citizenship, regional histories and spatial typologies such as border, ghetto, suburb and prison. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): minimum 24 hours; Credit is allowed for only AFR 352 (or AFS 352) or APA 352 or JUS 353 or TCL 353 |
| APA | 355 | Asian American Psychology | Reviews the current research and literature about the psychological experiences of Asian Americans, with the appreciation for the historical, sociopolitical and cultural contexts that invariably shape the behavior and well-being of individuals in this diverse population group. Using psychological theory and research as a guiding framework, explores family relationships, identity development, sexuality, model minority stereotypes, racism and discrimination, media images, dating/marriage, race relations, mental health, and other issues affecting Asian American lives. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only APA 355 or APA 360 (Asian Pacific American Psychology) |
| APA | 356 | Race and Child Development | Reviews the current research and literature about the particular role of race in child development. Even though race is not a valid biological construct, it has significant social implications as it shapes how children interact and are treated by others. Through primarily class discussions/activities, presentations and papers, addresses: (1) What are the research and theoretical issues in studying race? (2) What does race and racism mean? (3) How does race influence developmental processes? | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): APA 200, APA 210, or minimum 30 hours; Credit is allowed for only APA 356 or CDE 356 OR Visiting University Student |
| APA | 360 | Asian Pacific American Experience | Advanced study of the historical and contemporary experiences of Asian Pacific American racial/ethnic groups in the United States. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): APA 200 or APA 210 or minimum 24 hours OR Visiting University Student |
| APA | 370 | Indigeneity, Race and Ethnic Relations in Hawaii | Examines Native Hawaiian history, culture and worldviews prior to contact with Europe and the United States. Using colonialism, race and racism as the analytical lens, provides a deeper understanding to how racial ideologies and colonialism impacted the cultural, economic, political, environmental and social well-being of the island's indigenous population; the predominately nonwhite immigrant groups that were recruited to work in Hawaii's agricultural industries; the various institutions (e.g., tourism and the military) that continue to maintain structures of inequality and oppression of Kanaka Maoli (Native Hawaiians) and other racial and ethnic groups on the islands; and the ways Native Hawaiians and locals in Hawaii have resisted these efforts. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | H & C | Prerequisite(s): minimum 45 hours; Credit is allowed for only APA 370 or APA 394 (Race and Ethnic Relations in Hawaii) OR Visiting University Student |
| APA | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | Prerequisite(s): APA 200 or APA 210 or minimum 24 hours OR Visiting University Student |
| APA | 428 | Critical Race Theory | In-depth analysis of the ways in which race has been historically utilized, constructed, and contested in American civil society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only AFR 428, APA 428, JUS 428 or SST 428 OR Visiting University Student |

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| APA | 450 | Asian Pacific American Contemporary Issues | Advanced study of the issues shaping Asian Pacific American communities, including immigration, politics, education, health, family, gender, youth, interracial relations, and other contemporary topics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): APA 200 or APA 210 or minimum 36 hours OR Visiting University Student |
| APA | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| APA | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-6 | | Prerequisite(s): Barrett Honors student |
| APA | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| APA | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | Pre-requisite: APA 200 or APA 210 or minimum 45 hours |
| APA | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| APA | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-3 | | |
| APH | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| APH | 212 | Culture of Place | Explores contemporary conditions in the built environment as they are shaped by cultural phenomena. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU | |
| APH | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| APH | 336 | 20th-Century Architecture I | Architecture in Europe and America from the foundations of the modern movement to the culmination of the international style. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU | Pre-requisites: Minimum Junior standing or Digital Culture: Design major |
| APH | 337 | 20th-Century Architecture II | Developments in architecture since the international style. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU | Pre-requisite: APH 336 |
| APH | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| APH | 421 | First Concepts: What is... The Writing, Philosophy, and Culture of Architecture | Examines the major writings and concepts that surround the history of architecture. Focuses on (but not exclusively) work in the 20th century. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | L or HU | Prerequisite(s): Architectural Studies BSD or Environmental Design BS major; APH 313 with C or better; APH 314 with C or better; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| APH | 441 | Ancient Arch | Architecture of the ancient Mediterranean world with selective emphasis on major historical complexes and monumental sites. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| APH | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | | Prerequisite(s): Barrett Honors student |
| APH | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| APH | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| APH | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-3 | | |
| APH | 505 | Foundation Theory Seminar | Foundation of conceptual architectural inquiry, stressing the reciprocal and interdependent relationship between design and theory. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisite: Master of Architecture student; Co-requisites: ADE 522; ATE 556 |
| APH | 509 | Foundation Seminar | Historical, technical, theoretical, environmental, and professional issues in architecture. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisite: Master of Architecture; Co-requisite: ADE 510 |
| APH | 515 | Current Issues and Topics | Critical examination of current architectural issues, topics, and discourse. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisites: APH 505 with a C or better; Co-requisite: ADE 621 |
| APH | 581 | Contemporary Urban Design | Explores contemporary city and urban design issues related to contemporary cities. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Herberger Institute of Design and the Arts Graduate student |
| APH | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Herberger Institute of Design and the Arts Graduate student |
| APH | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Herberger Institute of Design and the Arts Graduate student |

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| APH | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Herberger Institute of Design and the Arts Graduate student |
| APH | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 518 | Englishes in the Global Context | Examines the implications of the global spread of English, including its diverse forms and functions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only APL 518 or APL 591 (World Englishes) or APL 691 (World Englishes) |
| APL | 555 | Disciplinary Discourses | Professional and disciplinary issues in linguistics and applied linguistics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 557 | Computer-Assisted Language Learning | Explores the field of computer-assisted language learning. Traces the development of computer-assisted language learning (CALL) over the last three decades. Focuses on research that explores how computer technology can help facilitate second language development; relies primarily on empirical data to do so. Examine established as well as new research methods in CALL. Participants participate in one research study and apply theoretical and practical aspects of CALL in these projects. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only APL 557 or ENG 557 or SLC 557 |
| APL | 558 | Computer-Assisted Language Learning Praxis | Offers graduate students an in-depth practical experience in Computer-Assisted Language Learning (CALL) praxis, including tools, approaches to using technology in the language classroom, the techniques and best practices of online instruction, and the development of a teaching portfolio. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only APL 558 or SLC 510 |
| APL | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Pre-requisite: Applied Linguistics Ph.D. student |
| APL | 588 | Spanish Language Acquisition | Examines Spanish language acquisition in children and adults in the context of monolingual and bilingual language acquisition. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate |
| APL | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Pre-requisite: Applied Linguistics Ph.D. student |
| APL | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | Department of English | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| APL | 601 | Introduction to Applied Linguistics | Overview of the field of applied linguistics. Applies linguistic knowledge to the resolution of language-related issues facing multilingual societies (e.g., second language acquisition and ultimate attainment, literacy, language assessment, bilingualism, heritage and indigenous languages, language attitudes, language planning and policy, language and politics, world Englishes). | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 683 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | Department of English | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 783 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | Department of English | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APL | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | Department of English | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 501 | Differential Equations I | Linear and nonlinear ordinary differential equations. Existence and uniqueness of solutions, limit sets, stability, Lyapunov functions, linear systems with constant coefficients. Geometry of behavior in two and three dimensions, including Poincare-Bendixson theorem, Lorenz equations, linearization, sensitive dependence on initial conditions, bifurcations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| APM | 502 | Differential Equations II | Partial differential equations, including classification, method of characteristics, separation of variables, boundary value and initial value problems. Green's functions, maximum principle, distributions, and weak solutions. Students must have already taken or be concurrently enrolled in Differential Equations 1. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 503 | Applied Analysis | Convergence sequences and series of functions; metric space topology, compactness, completeness and the Ascoli-Arzelà Theorem; Contraction Mapping Principle, Implicit Function Theorem; intro to Lebesgue integration leading to L^p -spaces; properties of Hilbert spaces, Fourier transform. Students should have knowledge of linear algebra, multivariable calculus, and analysis at the undergraduate level. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 504 | Applied Probability and Stochastic Processes | Markov chains, Martingales, probability measures, SDE, Brownian motion, Monte Carlo methods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 505 | Applied Linear Algebra | Fundamentals of linear algebra and numerical linear algebra, including decompositions (LU, QR, SVD), Eigen values, spectral theory, least squares problems. Programming with MATLAB. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 506 | Computational Methods | Covers interpolation, solution of nonlinear equations and systems, numerical differentiation, numerical integration, numerical solution of ordinary and partial differential equations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 520 | Advanced Numerical Linear Algebra | Extends topics of APM 505. Introduces essential iterative methods, Gauss-Seidel, conjugate gradients. Methods for SVD, total least squares and root-finding applications in image analysis. Students should have basic knowledge of numerical linear algebra and a programming language. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 522 | Numerical Methods for Partial Differential Equations | Numerical methods for parabolic, elliptic, and hyperbolic partial differential equations, including finite difference/volume, finite element, and spectral methods. Mathematical concepts of stability, consistency, and convergence. Applications to scientific, biomedical, and industrial problems. Students should have a basic knowledge of PDE's and a programming language. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 523 | Optimization | Building on a fundamental undergraduate background in linear algebra and calculus, covers continuous optimization, constrained/unconstrained and linear/nonlinear, as well as selected topics in discrete optimization. Some programming experience is needed for course projects. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 524 | Spectral Methods | Extends approximation theory to global methods, including Fourier and orthogonal polynomial expansions. Applications to imaging and hyperbolic, parabolic, and elliptic partial differential equations. Students should have previous graduate courses in ordinary and partial differential equations, basic programming skills. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 525 | High-Performance Computing | Supercomputer architectures, parallel programming environments, languages, libraries, and algorithms for high-performance numerical simulations. Instructor/Department approval is required for this course. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only APM 525, MAE 494 (High-Performance Computing) or MAE 598 (High-Performance Computing) |
| APM | 526 | Advanced Numerical Methods for Partial Differential Equations | Partial content will vary from semester to semester, but may include hyperbolic conservation laws, finite element methods, multigrid methods, and parallel algorithms for partial differential equations. Applications to scientific, biomedical, and industrial problems. Students should have basic knowledge of PDE's and a programming language. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 530 | Mathematical Cell Physiology. | Mathematical modeling of dynamical aspects of cell physiology. Diffusion, membrane transport, intracellular calcium channel kinetics, calcium oscillations and waves. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 531 | Mathematical Neuroscience I | Mathematical modeling of electrochemical processes in nerve cells. Dendritic modeling, dendritic spines and synaptic plasticity, bifurcation analysis of excitable membrane models, deterministic and stochastic methods for threshold dynamics and bursting, relaxation oscillations. Students should have had a previous graduate-level PDE course. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 533 | Mathematical Population Biology I | Selectively covers population biology models in the forms of systems of difference equations or ordinary differential equations. Focuses on mathematical analysis of population models as well as model formulation and simulation. Students should have a previous graduate-level course in ODE. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| APM | 534 | Mathematical Population Biology II | Selectively covers population biology models in the form of partial differential equations and systems. Focuses on mathematical analysis of population models as well as model formulation and simulation. Students should have a previous basic graduate-level course in ODE and PDE. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 535 | Mathematical Models in Medicine | Mathematical models for the etiology, epidemiology, pathogenesis, morphology and treatment of disease. Covers dynamical models of cancer and viral infections. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 541 | Stochastic Modeling in Biology | Markov processes, random walks, martingales, branching processes, logistic growth model, Wright-Fisher model, Kingman's coalescent, bound and site percolations, contact processes, voter models. Students should have previously taken course work in probability and/or stochastic processes (or have a recommendation from their advisor). Recommendation from advisor is typically for students in biology or physics that have not taken statistics courses but have a good background in mathematics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 560 | Applied Dynamical Systems | Bifurcations, normal forms, pattern formations, mixing, Lagrangian chaos, and applications to fluid dynamics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 570 | Applied Linear Operators | Bounded linear and compact operators on Hilbert spaces. Linear integral equations, Fredholm and Hilbert-Schmidt theory, and approximate methods. Distributions. Completion of a course in Applied Analysis is strongly recommended prior to enrollment in this course. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 575 | Perturbation Methods in Applied Mathematics | Regular and singular perturbation methods for ordinary and partial differential equations, Boundary layer theory, matched asymptotic expansions, multiple-scale, homogenization, and WKB methods. Application to nonlinear oscillations, bifurcation and stability problems. Completion of a course in Differential Equations II or Partial Differential Equations in Engineering is strongly recommended prior to enrollment in this course. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Pre-requisites: APM 502 or MAE 502; Credit is allowed for only APM 575 or MAE 505 |
| APM | 576 | Theory of Partial Differential Equations I | Existence and uniqueness theorems, boundary value and initial value problems, characteristics, Green's functions, maximum principle, distributions, and weak solutions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 577 | Theory of Partial Differential Equations II | Continuation of existence and uniqueness theorems, boundary value and initial value problems, characteristics, Green's functions, maximum principle, distributions, and weak solutions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): APM 576 |
| APM | 581 | Geometry and Control of Dynamical Systems I | Manifolds, tangent and cotangent bundle, Lie theory, integrability and controllability, and feedback control. Students should have previously taken coursework in differential equations, applied analysis, applied probability, and stochastic processes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 582 | Geometry and Control of Dynamical Systems II | Variational principles, Euler-Lagrange equations, Hamiltonian systems, optimal control, connections and curvature. Students should have previously taken coursework in differential equations, applied analysis, applied probability, and stochastic processes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OP4 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| APM | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| APM | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARA | 101 | ASU: The Art Experience | Introduces the culture, challenges and opportunities of the School of Art. Addresses essentials for academic and personal success within the university. | N | REC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 1 | | |
| ARA | 110 | Sculpture Safety | Introduces safety and environmental health in the sculpture studios. Pre- or corequisite for all sculpture classes. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Art | 1 | | |
| ARA | 195 | Art in My World | Basic concepts and fundamental questions that provide insights into art making and that affect one's understanding and appreciation of art. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | |
| ARA | 202 | Understanding Photographs | Slide lecture course in understanding photography as a fine art form. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | |
| ARA | 209 | Photography Now | Brief introductory survey of contemporary photographic practice through video lectures, digital image production and peer-to-peer online engagement. Topics include photographic artists engaging with the medium's history, artists engaging with science and photographic artists working within or responding to the photographic genres. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| ARA | 240 | Encounters with Contemporary Art | Provides an open environment for dialogue and discovery of what it means to be a successful artist, and allows students to explore their own academic and career goals. Exposes students to new ideas and people, and familiarizes them with the School of Art and ASU resources designed specifically for them. Includes an intense focus on professional practices in the fine arts and provides the tools to help students succeed personally and professionally. An acknowledgment of ongoing rigorous studio practice plays a fundamental role in the course, and students expand their abilities to think critically and to communicate articulately about their own work and the work of others through in- and out-of-class projects, discussions and critiques that encourage consideration of their own work in the context of current opportunities and directions in the visual arts. In addition, students have the opportunity to engage with and learn from industry professionals. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | |
| ARA | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ARA | 311 | Art Appreciation and Human Development | Foundations of art for children and young adults. Emphasizes learning, development, and understanding art in historical and cultural contexts. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Prerequisite(s): non-ART student; ENG 101; ENG 102; minimum junior standing |
| ARA | 330 | Issues in Expanded Arts | Critical survey of recent theory and practice in expanded arts. Created specifically to provide a common historical and theoretical framework for students majoring in the expanded arts area, as well as to anyone seeking to broaden his or her understanding of non-traditional media, performance, installation, computer art, video, social practice, Web-art and interactivity and their relationship to contemporary society and discourse. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 216 or minimum 45 hours OR Visiting University Student |
| ARA | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ARA | 396 | Professional Practices for Design and the Arts | Prepares young artists, designers and individuals in other creative fields to successfully enter the professional world of art and culture beyond the support system of the university. Through examining contemporary artists' models of practice and creative entrepreneurship; developing real life materials to promote their practice; engaging with guest artists, designers and other creative professionals; exploring best practices for arts-based businesses; and the array of continuing opportunities, student artists learn how they can shape their lives to sustain their artistic practice once they graduate. Best suited for students who are prepared to seriously contemplate the continuation of their specific practice beyond graduation. Students should enter this course with a collection of work samples that demonstrate their experience in their chosen discipline. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 56 hours; Credit is allowed for only ARA 396 or ARA 394 (Professional Practices for Artist) OR Visiting University Student |
| ARA | 460 | Gallery Exhibitions | Practical experience in all phases of department gallery operations and preparation of gallery publications. | N | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only ARA 460 or 560 |
| ARA | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | |

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| ARA | 489 | Writing Art and Design Criticism | Arts writing workshop designed to help develop critical voice in written form. During the course of the semester, students learn about art and design criticism by reading work in a variety of contexts, looking at examples of art and design in person and discussing them, and writing and revising their own pieces of criticism. | N | SEM | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 2.00 GPA; minimum 45 hours OR Visiting University Student |
| ARA | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ARA | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| ARA | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-3 | | |
| ARA | 522 | Studio Art Pedagogy | Principles of learning and instruction for teaching assistants assigned to foundation-level studio art courses and other grad-level students with an interest in studio art pedagogy. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ARA 522 or ARA 598 (Princpl-Core Art Instructio) |
| ARA | 560 | Gallery Exhibitions | Provides practical experience in all phases of art gallery operations. Students learn professional art gallery practices through hands-on experience in the School of Art Student Galleries including Harry Wood, Step, and Gallery 100. Class members assist BFA and MFA candidate students in many phases of exhibition preparation and execution as well as assist with the curation and design of group exhibitions. | N | LEL | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only ARA 460, 560 or 598 (Gallery Exhibitions) |
| ARA | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARA | 589 | Writing Art and Design Criticism | Arts writing workshop designed to help develop critical voice in written form. During the course of the semester, students learn about art and design criticism by reading work in a variety of contexts, looking at examples of art and design in person, analyzing and discussing them, and writing and revising their own pieces of criticism. | N | SEM | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisite: Graduate student (degree seeking or non-degree seeking). Credit is allowed for only ARA 489 or ARA 589 or ARA 598 (Writing Art & Design Criticism) |
| ARA | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARA | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARA | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARB | 101 | Elementary Arabic I | Introduces the basic skills of speaking, listening, reading and writing of Modern Standard Arabic (MSA) for the purpose of communicative goals. Incorporates Arabic cultural knowledge as it is an important element in real-life communication. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Credit is allowed for only ARB 101 or MSA 101 |
| ARB | 102 | Elementary Arabic II | Reading, writing, speaking, and understanding basic Arabic. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): ARB 101 or MSA 101 with C or better; Credit is allowed for only ARB 102 or MSA 102 OR Visiting University Student |
| ARB | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| ARB | 201 | Intermediate Arabic I | Starts with a review of the basics learned in previous coursework. Expands vocabulary and grammar structures. Addresses all four communication skills: reading, writing, listening and speaking in Modern Standard Arabic. Also introduces aspects of the culture of the Arab world. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): ARB 102 or MSA 102 with C or better; Credit is allowed for only ARB 201 or MSA 201 OR Visiting University Student |
| ARB | 202 | Intermediate Arabic II | Expands vocabulary and grammar structures and continues to develop communicative skills in Modern Standard Arabic. Enables students to attain an advanced level of proficiency in all Arabic language skills: reading, writing, listening and speaking. Also introduces aspects of the culture of the Arab world. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): ARB 201 or MSA 201 with C or better; Credit is allowed for only ARB 202 or MSA 202 OR Visiting University Student |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| ARB | 250 | Middle East Culture in a Global Perspective | Introduces a broader view and examination of Arab culture in a global perspective. Increases students' knowledge of Arab culture, promotes awareness and understanding of Arab customs, values, attitudes and cultural diversity. Using an interdisciplinary thematic approach, students explore and analyze cultural differences, misunderstandings, stereotypes, and be able to explain how they contribute to Islamophobia and other misconceptions about Arabic culture. Thematic areas of emphasis include the Arab family, fine art/music, food, gender identities, religious life, political conflict and war, Islamic tradition and exile and immigration. Taught in English and requires no knowledge of Arabic. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ARB 250 or ARB 294 (Arab Cultures in a Global Perspective) or SLC 250 or SLC 294 (Arab Cultures in a Global Perspective) OR Visiting University Student |
| ARB | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| ARB | 311 | Advanced Arabic Skills I | Focuses on developing all four skills of the Arabic language acquisition: reading, writing, listening, and speaking. Aims to help students acquire an advanced proficiency in Arabic. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ARB 202 with C or better OR Visiting University Student |
| ARB | 315 | Advanced Arabic for Heritage Speakers | Provides an advanced ability to read, understand, write and communicate in Arabic. Covers important topics such as advanced descriptions of one's country, city, university, home and family. Also concentrates on studying advanced questions and answers in the present, past and future tenses. Uses the communicative approach in adopting different pedagogical approaches centered on the communicative method, such as group practice, role play and situational dialogues. Introduces and explains detailed and advanced knowledge of Arabic grammar, structures of Arabic sentences; and the deep connotations of important Arabic vocabulary. Emphasizes building up more vocabulary and grammatical knowledge for communication purposes, introducing cultural, intellectual, business and political contents and terminology in Arabic; and expressing in advanced Arabic one's daily activities, past life and futuristic plans. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Credit is allowed for only ARB 101 or ARB 102 or ARB 201 or ARB 202 or ARB 315 or ARB 394 (Advanced Arabic for Heritage Speakers I) or ARB 394 (Advanced Arabic for Heritage Speakers II) OR Visiting University Student |
| ARB | 321 | Arabic Conversation I | Emphasizes spoken Arabic and conversation skills. Simultaneously develops communicative skills, vocabulary, and cultural awareness. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| ARB | 331 | Arabic/Islamic Culture and Literature | General introduction to the Middle East that synthesizes cultural, social, and literary information. Focuses on the experiences of ordinary Middle Eastern people to convey a grassroots sense of the Middle East. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ARB 331 or SLC 331 OR Visiting University Student |
| ARB | 335 | Arabic Culture and Islam | Develops awareness of Arabic culture and Islam. Covers a variety of cultural topics, including family, status of women, food, music, and Islam. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | |
| ARB | 336 | Introduction to the Qur'an | Introduces the Qur'an and examines the historical, contextual, religious and interpretive dimensions wherein the Qur'an developed. Deals with the structure of the Qur'an, the different sections, suras (Qur'anic chapters), and some of the verses. Also includes an introduction to the idea of revelation, its history, the content and some of the different themes of the Qur'an, and discusses aspects of the Qur'an as a source of law. Taught in English; requires no knowledge of Arabic or Islam. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ARB 336 or ARB 394 (Introduction to the Qur'an) OR Visiting University Student |
| ARB | 337 | Hadith and Prophetic Tradition | Considers the Hadith as a literary text and as the prophetic tradition in Islam. Focuses on the development of the Hadith as a vast subject in Arabic literature, its collection methodology, Hadith science, and its contents. Gives special attention to the relationship of the Hadith as the second source, after the Qur'an, of Islamic knowledge, Islamic theology, Islamic philosophy and Islamic law. Explores the various ways and approaches in which Muslims employ the Hadith along with the Qur'an in their search for meaning, identity and knowledge. All readings are in English; requires no prior knowledge of Arabic language. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ARB 337 or ARB 394 (Arabic Hadith and Prophetic Tradition) OR Visiting University Student |
| ARB | 340 | Arabic Translation | Covers the fundamentals of English-Arabic and Arabic-English translation including basic techniques of translation through exploring the essential theories and concepts adopted in the process of translation. Also addresses the areas of difficulty aroused during the process of translation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ARB 311 or 315 with C or better; ENG 102, 105, or 108 with C or better; Credit is allowed for only ARB 340 or ARB 394 (Introduction to Arabic Translation) OR Visiting University Student |
| ARB | 341 | Quran Text and Women | Addresses Muslim women scholars' argument that it is not the religion but the patriarchal interpretation of the Quran that have kept Muslim women oppressed. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | |
| ARB | 351 | Classical Arabic Literature | Provides a survey in classical Arabic literature. Focuses on the development of classical Arabic poetry and prose since their interceptions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| ARB | 352 | Modern Arabic Literature in Translation | Surveys the major trends, themes and genres of modern Arabic literature in translation. Provides a foundational knowledge of modern literature in the Arabic language. Focuses on continuity and change, cultural diversity and multiplicity in the Middle East, and the social, religious and historical aspects of modern Arab culture. No knowledge of Arabic language is required for this course. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, ENG 105 or ENG 107 with C or better; Credit is allowed for only ARB 352 or ARB 394 (Introduction to Modern Arabic Literature) |
| ARB | 360 | Islamic Philosophical Literature | Covers the most important Muslim philosophers and their contributions to philosophy. Concentrates on presenting and analyzing the main Islamic theories in philosophy, such as the different theories of creation, the role of reason and rationalism versus traditionalism. In addition, provides detailed information about the Islamic philosophical theories of language and meaning, and how these theories influenced the development of many distinct philosophical and literary works in the Arab-Islamic world. Also portrays Arabic language as a philosopher which provides philosophical definitions and analyses of many important concepts. Some of the famous philosophers which this course covers are the following: Al-Farabi, Ibn Sina, Al-Ghazali and Ibn Rushd. Those philosophers and their theories are still highly influential today in the Arab-Islamic culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ARB 360 or ARB 394 (Islamic Philosophy) |
| ARB | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| ARB | 411 | Advanced Arabic Skills II | Focuses on developing all four skills of the Arabic language acquisition: reading, writing, listening, and speaking. Aims to help students acquire an advanced proficiency in Arabic. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): ARB 311 with C or better |
| ARB | 421 | Arabic Conversation II | Focuses on developing all four skills of the Arabic language acquisition: reading, writing, listening, and speaking. Aims to help students acquire an advanced proficiency in Arabic. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| ARB | 422 | Advanced Arabic Media | Advanced language course designed to improve students' reading, writing, listening, speaking and debating skills. Exposes students to Arabic language used in the media. Incorporates news items from print and electronic media sources, including print and online news articles, television news and YouTube videos, among other materials. The purpose of using many sources is to enable the students to have an advanced experience reading diverse media materials. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): ARB 311 or 315 OR Visiting University Student |
| ARB | 427 | Arabic Prose: Reading the Arabian Nights | Surveys Arabic prose treasures such as Maqama, Hikaya, Khabar, Risala and Drama. Pays particular attention to the collection of folklore tales known as The Arabian Nights (The Thousand and One Nights), using them as one of the most fascinating "world" texts, loaded with fairy tales, fables, romances, farces, legends and folk stories. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ARB 202 or 315 with C or better; Credit is allowed for only ARB 427 or ARB 494 (Modern Arabic Prose) |
| ARB | 428 | Arab Women's Writing | Offers a survey of Middle Eastern women's literary work in English translation. Themes focus on a comprehensive view of women's writing through several lenses, including: gender, religion and socio-political systems to introduce women's writing in modern Arabic literature through the prisms of Arabic literary criticism and feminist theory within historical contexts. Explores different genres, including autobiographical, short stories and novels, and cinematic production. Selective literary texts include leading 20th-century female writers whose works in translation represent a wide range of geographical, ideological and cultural influence. Featured writers include Rajaa al Sania, Latifa Zayyat, Radwa Ashur, Hanan al-Shaykh, Nawal Al Sadawi and others. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ARB 428 or ARB 494 (Arab Women Writing Across Generations/ in Eng) or SLC 428 or SLC 494 (Arab Women Writing Across Generations/ in Eng) OR Visiting University Student |
| ARB | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| ARB | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| ARB | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ARB | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| ARB | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|---|--|-------|-------------------|---|
| ARB | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARB | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARC | 101 | Architecture Project I | Project-based studio to introduce beginning concepts of architectural thinking. Students work collaboratively and individually on a semester-long design project. Introduces and guides students through an iterative design process leading to a public exhibition of their work. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| ARC | 102 | Architecture Project II | Project-based studio to enhance beginning concepts of architectural thinking. Students work collaboratively and individually on a semester-long design project. Introduces and guides students through an iterative design process leading to a public exhibition of their work. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| ARC | 111 | Architecture of Architecture I | Introduces the nature of architecture. Students work individually and collectively to document the built environment that surrounds us all, developing new ways of seeing and thinking and documenting their discoveries in a wiki. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| ARC | 112 | Architecture of Architecture II | Introduces the history and discourse of global architecture. Students work individually and collectively to document the built environment that has shaped our collective histories, developing new ways of seeing and thinking and documenting their discoveries in a wiki. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| ARC | 201 | Architecture Project III | Project-based studio to develop models of architectural thinking. Students work collaboratively and individually on a semester-long design project, developing an iterative design process leading to a public exhibition of their work. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| ARC | 202 | Architecture Project IV | Project-based studio to further develop concepts of architectural thinking. Students work collaboratively and individually on a semester-long design project, developing an iterative design process leading to a public exhibition of work. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| ARC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| ARC | 301 | Architecture Project V | Project-based studio to master concepts of architectural thinking. Students work collaboratively and individually on a semester-long design project, mastering an iterative design process leading to a public exhibition of work. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ARC | 302 | Architecture Project VI | Project-based studio to master concepts of architectural thinking. Students work collaboratively and individually on a semester-long design project, mastering an iterative design process leading to a public exhibition of work. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ARC | 330 | World and Western Architecture for Nonmajors | Historical and contemporary built environments of Western civilizations: Mediterranean, Europe, and the Americas as manifestations of cultural history and responses to environmental determinants. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU & H & G | Prerequisite(s): non-Architectural Studies BSD major; Credit is allowed for only ARC 330 (APH 300) or ARC 331 (APH 313) OR Visiting University Student |
| ARC | 331 | World and Western Architecture I | Intensive study of history of architecture from earliest traces to 1300. Examines cultures from around the world. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | (L or HU) & G & H | Prerequisite(s): ARC 111 or 112 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only ARC 330 (APH 300) or ARC 331 (APH 313) OR Visiting University Student |
| ARC | 332 | World and Western Architecture II | The history of architecture is the history of ideas in built form. This is the second part of an illustrated lecture course about the history of world and western major architectural achievements from pre-history to modern times. Architecture as a cultural product is best understood through the societies in which it was produced. Cultural interaction and exchange, transmission of architectural knowledge, architectural patronage, conceptions of space, and the role of physical settings (natural and man-made), technology, materials, and design paradigms will be addressed. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | (L or HU) & G & H | Prerequisite(s): ARC 331 (APH 313) with C or better; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| ARC | 351 | Architecture of Collaboration | Covers models of collaboration. Students learn tactics and strategies to work in teams and to collaborate on projects. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ARC | 352 | Architecture of Leadership | Covers models of leadership. Students learn tactics and strategies to work in teams and to collaborate on projects. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ARC | 353 | Architecture of Presentation | Covers models of oral and written communication. Students learn tactics and strategies to present their work. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ARC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|---|-------------------|-------|-----------------|---|
| ARC | 401 | Architecture Studio I | Project-based studio introducing an iterative design process. Students work individually and collectively on a semester-long design project leading to a public exhibition of work. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 6 | | Prerequisite(s): ARC 301 with C or better; minimum 3.00 GPA OR Visiting University Student |
| ARC | 402 | Architecture Studio II | Project-based studio further enhancing the iterative design process. Students work individually and collectively on a semester-long design project leading to a public exhibition of work. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 6 | | Prerequisite(s): ARC 401 with C or better OR Visiting University Student |
| ARC | 421 | Architecture Technology I | Covers conventions in architectural technology. First principles of structural forces and thermodynamics. Material and methods of construction. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): minimum 45 hours; Pre- or corequisite(s): ARC 401 OR Visiting University Student |
| ARC | 422 | Architecture Technology II | Covers conventions of building systems in architectural technology, including integration of construction, tectonics and energy systems. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): ARC 421 with C or better; Pre- or corequisite(s): ARC 402; ARC 432 OR Visiting University Student |
| ARC | 431 | Contemporary Architecture and Urbanism 1970 to the Present | Addresses issues of global architecture and urbanism in the late 20th and early 21st centuries. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU & H | Prerequisite(s): ARC 111 or 112 with C or better OR minimum 56 hours OR Visiting University Student |
| ARC | 432 | Architecture History | Survey of global history and theory of architecture and design spanning a chronological period from prehistory to the 17th century. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): minimum 56 hours; Pre- or corequisite(s): ARC 402 OR Visiting University Student |
| ARC | 434 | Great Cities | Historical survey of great cities from antiquity to the present. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | (L or HU) & H | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 56 hours; Credit is allowed for only ARC 434 (APH 414) or MUD 598 (Great Cities) OR Visiting University Student |
| ARC | 436 | Charles and Ray Eames | Survey of American designers Charles and Ray Eames, their innovation design thinking and masterworks. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | HU | Prerequisite(s): minimum 56 hours OR Visiting University Student |
| ARC | 441 | Architecture Representation | Covers the history and conventions of architectural drawings, models, diagrams and other forms of representation. Applies contemporary techniques and tools to representation architectural works. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): minimum 45 hours; Pre- or corequisite(s): ARC 401; ARC 421 OR Visiting University Student |
| ARC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): minimum 56 hours; Pre- or corequisite(s): ARC 301 |
| ARC | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | | Prerequisite(s): Barrett Honors student |
| ARC | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | | Prerequisite(s): Barrett Honors student |
| ARC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| ARC | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-7 | | |
| ARC | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARC | 501 | Advanced Architecture Studio I | Project-based studio introducing an integrative design process. Students work individually and collectively on a semester-long design project leading to a public exhibition of work. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 6 | | Prerequisite(s): Architecture MArch student |
| ARC | 502 | Advanced Architecture Studio II | Project-based studio further enhancing the integrative design process. Students work individually and collectively on a semester-long design project, developing their understanding leading to a public exhibition of work. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 6 | | Prerequisite(s): Architecture MArch student; ARC 501 with C or better |
| ARC | 522 | Advanced Architecture Technology I | Covers integration of building systems and regulations in applied architectural technology. Project-based synthesis of building construction, tectonics and energy systems. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Architecture MArch student |
| ARC | 531 | Advanced Architecture History | Survey of global history and theory of architecture and design spanning a chronological period from the 17th century to present. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Architecture MArch student |
| ARC | 532 | Architectural Theory I | Foundation of conceptual architectural inquiry, stressing the reciprocal and interdependent relationship between design and theory. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Architecture MArch student |
| ARC | 541 | Advanced Architecture Representation | Explores and analyzes advancing techniques in architectural drawings, models, animation, virtual and augmented reality. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Architecture MArch student |
| ARC | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARC | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARC | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|---|-------------------|-------|-----------------|---|
| ARC | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARC | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARC | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARC | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARC | 599 | Thesis | Supervised research focused on preparation of a thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARC | 601 | Advanced Architecture Studio III | Design problems emphasizing advancement of the discipline of architecture through topical research in conjunction with faculty. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 6 | | Prerequisite(s): Architecture MArch student; ARC 502 with C or better |
| ARC | 602 | Advanced Architecture Studio IV | Individual, student-initiated project reflecting a culminating synthesis of architectural ideas. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 6 | | Prerequisite(s): Architecture MArch student; ARC 601 with C or better |
| ARC | 622 | Advanced Architecture Technology II | Advancing innovations in architectural technology. Research-based explorations focused on emerging developments in building construction, tectonics and comfort systems. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Architecture MArch student |
| ARC | 631 | Architectural Theory II | Advanced architectural theory course that explores contemporary topics. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Architecture MArch student |
| ARC | 651 | Architecture Research | Critical examination and implementation of architectural research methods--historical, qualitative, simulation and modeling, case study, experimental, correlational, logic and argumentation. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Architecture MArch student |
| ARC | 662 | Architecture Practice | Critical examination of organizational modes and missions of contemporary architectural practice, including the business of architecture, stakeholders, ethics, and legal and professional responsibilities. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Architecture MArch student |
| ARC | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARC | 799 | Dissertation | Supervised research focused on preparation of a dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | The Design School | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARE | 250 | Teaching Inquiry in Art | Issues in teaching and learning through directed, guided, and independent inquiry about artworks and through art making. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): complete two from ART 111, 113, 115, or 116 with C or better OR Visiting University Student |
| ARE | 301 | Learning Through Artistic Practice: Curiosity and Creativity in the Everyday | Explores meaningful intersections between artmaking, teaching and learning. Orients students to the many sites of learning in the arts: the classroom, the museum, the natural world, the home, religious and secular spaces, and the digital realm. Investigates the creative process as an intrinsic part of human development expressed in artifacts, ornamentation and ceremony within everyday life. Hands-on projects accompany research, readings and discussions. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ARE | 370 | Teaching Visual Culture | Explores issues and applications of everyday aesthetics that contain powerful technological, social, and economic factors. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ARE 250 with C or better OR Visiting University Student |
| ARE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ARE | 446 | Multicultural Issues in Art Education | Explores multicultural issues, ethnicity and cultures related to art and education. Discussion course on facts and sometimes controversial interdisciplinary materials draws upon knowledge from various disciplines. Emphasizes art educational issues and teaching. Also explores international and global issues concerning multiculturalism. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ARE 446 or ARE 494 (Multicultural Issues in Art Education) or ARE 546 or ARE 598 (Multicultural Art Education) OR Visiting University Student |
| ARE | 482 | Teaching Art Processes | Art traditions of the 20th century as a basis for studio and art history instruction. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ARE 250 with C or better; minimum 45 hours OR Visiting University Student |
| ARE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | |

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| ARE | 486 | Art Education: Strategies and Applications | Implementation and evaluation of art instruction for K-12 population. Includes teaching of Saturday classes in the Children's Art Workshop. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ARE 482 with C or better OR Visiting University Student |
| ARE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-6 | | Prerequisite(s): Barrett Honors student |
| ARE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ARE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ARE | 496 | Methods and Assessment of Learning in Art | Individual or group research on the assessment of art learning incorporating theory and practice. Meets art postbaccalaureate certification requirement. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ARE 250 with B- or better OR Visiting University Student |
| ARE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-3 | | Prerequisite(s): minimum 90 hours |
| ARE | 510 | Visual Culture Research | Research on instruction of everyday aesthetics and related issues that contain powerful technological, social, and economic factors. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 520 | Issues in Teaching Inquiry in Art | Issues in teaching and learning focused both on inquiry about artworks and on inquiry through art making. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 525 | Research on Art Instruction | Research methods and assessment of learning in art. Pilot studies on the effects of instruction on learning. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 530 | Issues in Teaching Studio Art | Critical examination of issues concerning teaching multicultural art to different populations of students. Historical and philosophical foundations reviewed. Recommended to be taken before ARE 535. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 535 | Research on Teaching Studio Art | Review of empirical and historical research methods, learning theory, and assessment of learning in studio art, including developmental studies and their limitations. Pilot studies on the effects of instruction upon learning. Recommended to be taken after ARE 530. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 540 | Teaching Art in Cultural Contexts | Relationship of multicultural perspectives to teaching/learning art criticism, aesthetics, studio art, and art history. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 546 | Multicultural Issues in Art Education | Explores multicultural issues, ethnicity and cultures related to art and education. Discussion course on facts and sometimes controversial interdisciplinary materials draws upon knowledge from various disciplines. Emphasizes art educational issues and teaching. Also explores and analyzes international and global issues concerning multiculturalism. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Degree- or Nondegree-seeking graduate; Credit is allowed for only ARE 446, 494 (Multicultural Issues in Art Education), 546 or 598 (Multicultural Art Education) |
| ARE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| ARE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | School of Art | 1 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARE | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARE | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | School of Art | 1 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-15 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | School of Art | 1 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Art | 1-15 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARP | 451 | Architecture Field Studies | Organized field study of architecture in specified national and international locations. Credit/no credit. May be repeated for credit with director approval. | N | PRA | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-6 | | |
| ARP | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): ADE 322 with C or better; Corequisite(s): ADE 421 |
| ARP | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Pre-requisites: Master of Architecture student; ADE 522 with a C or better |
| ARP | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OP3 | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Prerequisite(s): Herberger Institute for Design and the Arts graduate student |
| ARS | 100 | Introduction to Art | Provides an introduction to the understanding and enjoyment of art through the study of painting, sculpture, design, photography, and the decorative arts. Students gain an awareness of meaning, functions, and significance of art, while learning an art-related vocabulary and a set of analytical tools for discussing and understanding art from around the world. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Prerequisite(s): Non-Art majors; Credit is allowed for only ARS 100 or ARS 300 OR Visiting University Student |

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| ARS | 101 | Art from Prehistory Through Middle Ages | History of Western art from the Paleolithic period through the Middle Ages. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & H | |
| ARS | 102 | Art from Renaissance to Modernism | Introduces art history through a study of visual art, architecture and material cultures from the 15th century to the present. Develops an understanding of artistic terms and process within the framework of a chronological, and at times thematic, survey. Includes the political, cultural, social, economic and religious changes throughout history that are depicted in art. Provides an opportunity for students to reflect on how art was and is used as a vehicle to communicate, reflect, inspire and provide evidence of cultural shifts, changes and shared human experiences. Art history is comprised of various classes with different focuses on time, place or theme; these courses all work to teach human history through a visual approach. The focus on visual literacy, historical contextualization and an image-based framework directs the instruction toward a student-centered dynamic; students work directly in engaging their own understanding by learning how to interpret art works from lectures and texts. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & H | |
| ARS | 120 | Introduction to Global Museum Studies | Exposes the broad scope of what museums do by exploring their history and the critical issues they face today. Acquaints students with the historical and contemporary function of museums and the concepts they currently engage with, such as authorship, authenticity, identity, education, interpretation, storytelling, technology, ethics, cultural heritage, public engagement and diversity. Enhances reading materials with talks by museum professionals, films and discussion boards. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only ARS 120 (ARS 350) or ARS 394 (Introduction to Museums) |
| ARS | 121 | Introduction to Global Heritage Studies | Heritage is something that can be passed from one generation to the next, something that can be conserved or inherited, and something that has historic or cultural value. For instance, there are 1121 physical sites across the globe that the United Nations has designated as World Heritage, ranging from the Grand Canyon National Park to Stonehenge and the Alhambra, from Auschwitz Birkenau and Machu Pichu to the Great Barrier Reef. Heritage can be a physical site like these places, but it can also be intangible, as in language, culture, popular song, food, literature or dress. Focuses on key concepts, definitions, theories and debates central to understanding what heritage is, and on heritage studies as a field of inquiry. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only ARS 121 or ARS 494 (Intro to Global Heritage Studies) or SGS 494 (Intro to Global Heritage Studies) |
| ARS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ARS | 201 | Art of Asia | History of the art of the Asian cultures, with emphasis on China, Japan, and India. Meets non-Western art history requirement. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & H & G | |
| ARS | 202 | Art of Africa, Oceania, and the Americas | History of art of Africa, Oceania, and the New World. Meets non-Western art history requirement. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & H & G | |
| ARS | 221 | Museum and Heritage Histories, Theories and Debates | Establishes the theoretical foundation for students interested in pursuing future work and studies in museums and/or heritage institutions across the globe. Through readings and discussions, explores a broad range of topics, including the history and philosophy of museums; intangible versus tangible heritage; cultural patrimony and repatriation; the social, economic and political contexts that shape museums; the influence of the digital age on these institutions; and the main functions of museums and historic sites--collection and care of objects, exhibits, interpretation, education and governance. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only ARS 221 or ARS 494 (Museum Histories, Theories, And Debates) |
| ARS | 222 | Museums as Sites of Extraction | Introduces concepts and theories around museums and possible problematic and extractive collection practices. Looks at histories of collections, where and how collections come into being and how to find new ways forward for broadening collections. By problematizing museum collections, analyzes and suggests more ethical and equitable practices for the field. Also looks at labor and funding models, hiring practices and interaction(s) with the communities specific museums reside within. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | |

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| ARS | 223 | Introduction to Museums and Social Justice | A recent spate of scandals and protests have forced some of the world's greatest museums and heritage institutions to face up to some difficult ethical issues. These include reassessments of their board-vetting procedures to avoid reputational controversies, a more thorough review of corporate sponsors vis-a-vis a museum's mission, the development of action plans to address the legacy of colonial theft and Nazi looting. Nonprofit organizations and heritage institutions are also reassessing staffing demographics, salary differentials, and discussing ways to address racial and gender diversity in acquisition policies, permanent collection displays and exhibition schedules. Examines past and current controversies and investigates the ways in which these unprecedented events are fundamentally changing the definition of what constitutes arts and heritage institutions in the twenty-first century. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ARS 120 (ARS 350); Credit is allowed for only ARS 223 or ARS 494 (Museums in Global Contexts) OR Visiting University Student |
| ARS | 250 | History of Photography | History of photography from the 19th century to the present. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | |
| ARS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ARS | 300 | Introduction to Art | Parallels ARS 100 course content but requires a higher level of accomplishment and comprehension. Introduces visual culture, the purpose of art, and the relationship between art and visual culture. Students learn how visual culture pervades our everyday lives and how understanding visual literacy can help us participate more fully in the world around us. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Prerequisite(s): Non-Art majors; minimum 2.00 GPA; minimum 55 hours; Credit is allowed for only ARS 100 or ARS 300 OR Visiting University Student |
| ARS | 310 | The Renaissance in Tuscany | Course taught in Florence, Italy. History of arts in Tuscany with focus on city of Florence from 14th through 16th centuries. Completion of ARS 101 and 102 suggested. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | |
| ARS | 323 | Curatorial Activism | Current art world statistics demonstrate that the fight for gender and race equality in the art world is far from over: only 14% of the work displayed at MoMA in 2016 was by non-white artists; only a third of artists represented by U.S. galleries are female, but over two-thirds of students enrolled in art and art-history programs are young women. However, there are many curators working worldwide to offset these racial and gender disparities. Arranged in thematic sections focusing on feminism, race and sexuality, this course examines and illustrates pioneering examples of exhibitions that have broken down boundaries and demonstrated that new approaches to curating are possible, from Linda Nochlin's "Women Artists" at LACMA in the mid-1970s to the Whitney Biennial of 2019. This course profiles key exhibitions by pioneering curators, including Okwui Enwezor, Nan Goldin, Marcia Tucker, Catherine de Zegher, Fred Wilson, Jonathan Katz, and other curators who understand that institutions must be a driving force in this area and a vital source of inspiration for today's expanding new generation of curators. | N | LEC | N | Z1 | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ARS 323 or ARS 494 (Curatorial Activism) OR Visiting University Student |
| ARS | 330 | The Portrait | Examines the history and production of portraits in contexts of social hierarchies, historical events, gender, politics, class, morality and aesthetics with a focus on the 15th to the 21st centuries in painting, sculpture and photography. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Prerequisite(s): one 100-level course in APH, ARS, ASB, ENG, FMS, HST, MHL, MUS or SLC with B- or better; Credit is allowed for only ARS 330 or ARS 394 (Genre: Portraits) OR Visiting University Student |
| ARS | 331 | 18th- and 19th-Century European Jewelry Design | The 18th century was defined by stylish sociability that included beautiful dress, sumptuous interiors and exquisite, fashionable jewelry. Who were the influencers for jewelry design during this period? How was society defined by these ornaments? What were the rules of engagement? Did these opulent ornaments affect social strategies? How did jewelry materials evolve into more modern and recognizable forms? All of these questions are answered in this course. The cultural history of jewelry design mirrors the historical and collective customs of society from the established aristocracy, to the rising middle classes, to the expansion of cultural awareness among every world citizen when travel became widely available. So much so, that upon the turn of the 19th century, jewelry design shifted from appearing as solely a status of power and wealth to an eloquent symbol of worldly knowledge and cultural awareness. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ARS 331 or FSH 331 or ARS 394 (18th & 19th Century European Jewelry Design) OR Visiting University Student |

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|---------|-------------|---------------------------------------|---|-------------------|-------------------|-----------------|---------------|---|---------------|-------|-----------------|---|
| ARS | 335 | Fashion and Dress in Visual Culture | Explores fashion and dress from the Renaissance to the modern period and considers dress as commenting on society, gender, race and current events. Explores case studies of art works and of selected decades in European history. Looks at dress in paintings for women, men and children in the context of the ways in which dress variously defined gender, race and class identities, social life and economic wealth in different periods of history. Considers issues of style; changes in clothing production (such as brocades, cotton, silk, furs); and the function of accessories in defining identities in art. Examines fashion magazines, historical events and social change and dress as distinct from fashion. Finally, seeks to understand how art serves to heighten the meaning, display and performance of fashion in terms of the portrait subjects and the intended spectators. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ARS 335 or ARS 394 (Fashion and Dress in Art, Ren. to 20th Century) or FSH 335 or FSH 394 (Fashion and Dress in Art, Ren. to 20th Century) OR Visiting University Student |
| ARS | 340 | Art in America | American art from colonial times through the Second World War. Not available to students who have completed ARS 542. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & H | Prerequisite(s): Art BA or BFA major: ARS 101 with C or better; ARS 102 with C or better OR Studio Art minor or BIS Studio Art concentration: ARS 101 with C or better; Credit is allowed for only ARS 340 or ARS 542 |
| ARS | 345 | Art and Television | Critical introduction to the interrelation of technology and visual art using the tools of art history and media/cultural studies. Students read theorists of the relation between visual art and the mass media, and use them to analyze early presentations of visual art and art history on television of the 1960s and 1970s. Examines the contemporaneous and parallel development of video art--an artistic medium appropriated from television technology--through the study of key video artworks. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 2.00 GPA; minimum 45 earned hours |
| ARS | 362 | Survey of Aztec, Maya and Inka Art | Art history of the Aztecs, Maya, Inka and their ancestors before the arrival of Europeans. Covers their prolific artistic production starting with their earthworks in the deserts of Peru and ending with their stone pyramids and painted codices of Guatemala and Mexico. Meets non-Western Art History Requirement. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Prerequisite(s): minimum 45 hours |
| ARS | 369 | Mexican Art | Critically examines how Mexico and its people have represented themselves and been represented by others from ancient times to the 20th century. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Prerequisite(s): minimum 30 hours; Credit is allowed for only ARS 369 (ARS 469) or ARS 394 (Mexican Art) OR Visiting University Student |
| ARS | 370 | The Art of the Comic | Examines popular culture art forms of comics, comic books and graphic novels as they relate to the art of the west as well as their greater global context. Explores the various genres of comics and investigates a variety of themes found in comics, including war, gender construction, and the impact of globalization on western culture and society. Students become familiar with some of the most important comic artists, and the studio processes for the creation of comics. Concludes with an investigation of the impact of comic art on fine art around the world and on live-action films. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ARS 370 or ARS 394 (The Art of the Comic) |
| ARS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ARS | 402 | Art of Ancient Egypt | Aesthetic, philosophical, and cultural basis of Egyptian art from pre-Dynastic period through New Kingdom. Emphasis on sculpture and architectural monuments. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & H | Prerequisite(s): ARS 101 or 102 with C or better; Credit is allowed for only ARS 402 or ARS 502 OR Visiting University Student |
| ARS | 403 | Art of the Aztec Empire | Provides a greater knowledge of the art and architecture of the Nahuatl-speaking Aztecs of Central Mexico from the time of their first appearance in the archaeological record until the Spanish invasion of Central Mexico in 1521. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 30 hours; Credit is allowed for only ARS 403 or ARS 503 or ARS 494 (Art of the Aztec Empire) or ARS 598 (Art of the Aztec Empire) |
| ARS | 404 | Greek Art | History of art, architecture of Aegean civilizations (Cycladic, Minoan, Mycenaean) and of Greece to end of Hellenistic period. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & H | Prerequisite(s): ARS 101 with C or better; Credit is allowed for only ARS 404 or ARS 504 |
| ARS | 406 | Roman Art | Art and architecture of Etruria, the Roman Republic, and the Roman Empire. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & H | Prerequisite(s): Art BA or BFA major: ARS 101 with C or better; ARS 102 with C or better OR Studio Art minor or BIS Studio Art concentration: ARS 101 with C or better |
| ARS | 414 | Monasteries, Madonnas and Manuscripts | Sculpture, painting, architecture and minor arts in western Europe, ca. 1030-1200, considered within religious, economic and social contexts. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only ARS 414 or ARS 514 |

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| ARS | 418 | German Renaissance and Reformation Art | Graphics, painting, sculpture, and architecture, ca. 1450-1550. Reformation themes and Renaissance style considered within religious, political, social, and economic contexts. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Prerequisite(s): ARS 101 or ARS 102 OR any 200-level or higher course in ASB, ENG, FRE, GER, HST, ITA or REL with B- or better; Credit is allowed for only ARS 418 or ARS 598 (German Renaissance and Reformation Art) |
| ARS | 422 | Italian High Renaissance Art and Mannerism | History of Italian art during the 16th century, including the achievements and influence of Leonardo da Vinci, Raphael, and Michelangelo. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Pre-requisites: ARS 101; ARS 102; Credit is allowed for only ARS 422 or 522 |
| ARS | 424 | Italian Baroque Art | Italian painting, sculpture, and architecture of the 17th century. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & H | Pre-requisites: ARS 101; ARS 102 |
| ARS | 434 | Revolution to Impressionism in 19th-Century Art | Between 1770 and 1900, a period called the long 19th century, Europeans experienced rapid and extensive changes in politics, culture, social and economic structures, scientific methods, and technology. The Industrial and French Revolutions reflected rapid developments rooted in the 16th-17th century Scientific Revolution and rising nationhood. Considers how in this period European art reflected and shaped historical events in content, style, representational strategies and new roles for art and artists. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & H | Prerequisite(s): any 200-level course or higher in APH, ARS, ENG, FMS, HST, or MHL with B or better; Credit is allowed for only ARS 434 or ARS 534 |
| ARS | 435 | The Pre-Raphaelites | Visual and literary works by Victorian Pre-Raphaelites as works in themselves and through relations between images and texts. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): any 200-level or higher course in APH, ARS, ENG, FMS, HST, or MHL with B or better; Credit is allowed for only ARS 435 or ARS 533 or ENG 428 |
| ARS | 438 | Art of the 20th Century I | Developments and directions in art between 1900 and World War II. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & H | Prerequisite(s): ARS 102 with B- or better or one course in ARS, ENG or HST at 200 level or higher with B or better OR Visiting University Student |
| ARS | 439 | Art of the 20th Century II | Art since World War II, with consideration of new concepts and experimentation with media and modes of presentation. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & H | Prerequisite(s): ARS 102 or 438 with B- or better; Credit is allowed for only ARS 439 or ARS 539 |
| ARS | 440 | Identity and World Film | Examines how films around the world represent gender, race, ethnicity, and sexual orientation through the lens of genres and their variations and how genres reinforce or critique stereotypes. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | C | Prerequisite(s): any 200-level or higher course in APH, ARS, ENG, FMS, HST, or MHL with B or better; Credit is allowed for only ARS 440 or ENG 465 or FMS 427 OR Visiting University Student |
| ARS | 441 | Public Art | Explores the lively field of contemporary public art, particularly as defined by percent-for-art programs established through city ordinances during the last forty years. Also considers historical precedents, including Civil War monuments and the City Beautiful Movement. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Minimum 50 hours; Minimum 2.00 GPA; Credit is allowed for only ARS 441, 498 (Public Art), 541 or 591 (Public Art) |
| ARS | 442 | Critical Issues in American Painting | Explores issues of national identity and western expansion, Manifest Destiny, through images of race and violence in western American painting from 1800 to the early 20th century. Includes "claiming and settling the wilderness," cultures in conflict, the cowboy, and visions of an enchanted land. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Prerequisite(s): ARS 101; ARS 102 OR Visiting University Student |
| ARS | 443 | Artists in Film: Artists' Biopics | Examines artists' "biopics," biographical films about artists, chronologically from the subgenre's first appearance in 1936 to recent films. Explores relationships between film and history and between film and myths of creativity; major directors' attraction to artists' biopics; stereotypes of artists (e.g., genius, deviant); and how notions of creativity are inflected by gender, race and national identity. Assignments include weekly readings and film viewings and one short paper; optional documentaries and films are also available. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): any 200-level or higher course in APH, ARS, ENG, FMS, HST, or MHL with B or better; Credit is allowed for only ARS 443 or FMS 430 |
| ARS | 444 | Films of India | Examines classic, Bollywood and diasporic films of India from 1950 to the present. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): any 200-level or higher course in APH, ARS, ENG, FMS, HST, or MHL with B or better; Credit is allowed for only ARS 444 or ARS 544 or FMS 426 or ARS 494 (Films of India) or ARS 494 (South Asian Cinema) |

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| ARS | 445 | History of Animation | Covers popular art forms of animated films as they relate to the art of the west as well as their greater global context. Begins with a brief look at the importance of storytelling in human culture before turning to the roots of animation; the invention of moving animated pictures in the early 20th century; the rise of major animation studios like Walt Disney, Fleischer Studios and Warner Bros.; television animation; foreign animation classics; and the recent work of independent animators. Students become familiar with some of the most important animation directors and the studio processors for the creation of animated films. Concludes with an investigation of the impact of animation on fine art and live-action films. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 60 hours; Credit is allowed for only ARS 445 or ARS 494 (History of Animation) OR Visiting University Student |
| ARS | 456 | Introduction to Museums | Broad scope of what museums do by exploring their history and the critical issues they face. Acquaints students with the basic functions of specific museum departments and staff, including the role of director, curator, registrar, preparator, as well as fund raising, marketing, audience development, education, exhibitions, conservation, ethics, cultural/heritage tourism and public art. Guest speakers and field trips enhance classroom material. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ARS 101 or ARS 102 OR any 200-, 300- or 400-level course in ASB, ENG or HST with B- or better |
| ARS | 460 | Art Now | Critical overview of major issues and controversies of the last 10 years within the global, national, and local art scene. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ARS 101 or 102 with B- or better or one course in ARS, ENG, or HST at the 200 level or higher with B or better, OR Digital Culture major |
| ARS | 465 | Native Art of North America | Native American art forms of the United States and Canada from prehistoric times to the present. Meets non-Western art history requirement. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU & C & H | Prerequisite(s): minimum 45 hours; minimum 2.00 GPA; Credit is allowed for only ARS 465 or ARS 565 OR Visiting University Student |
| ARS | 472 | Art of China | Study of major forms in Chinese art: ritual bronze, sculpture, ceramic, calligraphy, painting, and architecture. Meets non-Western art history requirement. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Prerequisite(s): minimum 50 hours; minimum 2.00 GPA OR Visiting University Student |
| ARS | 473 | Art of Japan | Japanese art from the Joman period to the present. Meets non-Western art history requirement. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Prerequisite(s): minimum 55 hours; Credit is allowed for only ARS 473 or ARS 574 OR Visiting University Student |
| ARS | 475 | Chinese Painting | From Ku K'ai-chin to Ch'i Pai-shih. Major artists, styles, and movements in Chinese painting. Meets non-Western art history requirement. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Pre-requisites: Minimum 50 hours; Minimum 2.00 GPA; Credit is allowed for only ARS 475 or 575 |
| ARS | 480 | Research Methods | Methodology and resource material for art historical research. Techniques of scholarly and critical writing and evaluation of bibliographic sources. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | L | Prerequisite(s): Art (Museum Studies) BA or Art (Art History) BA major; ARS 101 with C or better; ARS 102 with C or better; ENG 101, 105, or 107 with C or better; minimum 56 hours OR Visiting University Student |
| ARS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | |
| ARS | 485 | Women in the Visual Arts | Historical study of art by women in various media; related social, political, educational issues; representation of women in art. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | L | Prerequisite(s): ARS 101; ARS 102; ENG 101, 105, or 107 with C or better; Credit is allowed for only ARS 485 or ARS 585 OR Visiting University Student |
| ARS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-6 | | Prerequisite(s): Barrett Honors student |
| ARS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ARS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ARS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| ARS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-3 | | Pre-requisite: Minimum 90 hours |
| ARS | 501 | Methodologies and Art History | History of the discipline and an exploration of various methodologies, critical theory, and bibliographies used by art historians. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARS | 502 | Critical Studies in Egyptian Art | Egyptian art from pre-Dynastic to New Kingdom periods. Focus on aesthetic, philosophical, and cultural contexts. Research paper and readings required. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only ARS 402 or 502 |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|---|---------------|-------|-----------------|---|
| ARS | 503 | Art of the Aztec Empire | Provides a greater knowledge of the art and architecture of the Nahuatl-speaking Aztecs of Central Mexico from the time of their first appearance in the archaeological record until the Spanish invasion of Central Mexico in 1521. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ARS 403 or ARS 503 or ARS 494 (Art of the Aztec Empire) or ARS 598 (Art of the Aztec Empire) |
| ARS | 504 | Critical Approaches to Greek Art | Art and architecture of Aegean civilizations (Cycladic, Minoan, Mycenaean) and of Greece to end of Hellenistic period. Research paper and readings required. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only ARS 404 or 504 |
| ARS | 506 | Critical Studies in Roman Art | Art and architecture of Etruria, the Roman Republic, and the Roman Empire. Research paper and/or supplemental readings required. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARS | 514 | Monasteries, Madonnas and Manuscripts | Sculpture, painting, architecture and minor arts in western Europe, ca. 1030-1200, considered within religious, economic and social contexts. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ARS 414 or ARS 514 |
| ARS | 533 | The Pre-Raphaelites | Explores Pre-Raphaelite culture, both literature and art, and relevant social history, from the Pre-Raphaelite Brotherhood through Aestheticism and early twentieth century, focusing on interactions between images and texts. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only ARS 435 or ARS 533 or ENG 428 |
| ARS | 534 | Revolution to Impressionism in 19th-Century Art | Critical study of visual arts using primary source material from mid-19th century to WWI within philosophical, socioeconomic, and economic contexts. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ARS 434 or 534 |
| ARS | 538 | Art of the 20th Century I | Charts how the avant-garde in the early 20th century developed different strands of modern art as it sometimes grew closer to, and at other times veered away from, radical politics. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only ARS 438, 538 or 598 (Art of 20th Century I) |
| ARS | 539 | Art of the 20th Century II | General introduction to major trends and issues of Euro-American art created between 1955 to around the turn of the 21st century. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): graduate student (degree seeking or nondegree seeking). Credit is allowed for either ARS 439 or ARS 539 or ARS 598, Art of 20th C |
| ARS | 540 | Identity and World Film | Examines how films around the world represent gender, race, ethnicity, and sexual orientation through the lens of genres and their variations and how genres reinforce or critiques stereotypes. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only ARS 540, FMS 527 or (ARS 494, ENG 465, FMS 494 or ARS 598 Identity and World Film) |
| ARS | 541 | Public Art | Explores the lively field of contemporary public art, particularly as defined by percent-for-art programs established through city ordinances during the last forty years. Considers historical precedents including Civil War monuments and the City Beautiful Movement. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only ARS 441, 498 (Public Art), 541 or 591 (Public Art) |
| ARS | 543 | Artists in Film: Artists' Biopics | Examines artists' "biopics," biographical films about artists, chronologically from the subgenre's first appearance in 1936 to recent films. Explores relationships between film and history and between film and myths of creativity; major directors' attraction to artists' biopics; stereotypes of artists (genius, deviant, etc.); and how notions of creativity are inflected by gender, race and national identity. Assignments include weekly readings and film viewings and one short paper; optional documentaries and films are also available. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ARS 443 or ARS 543 or FMS 430 or FMS 543 or ARS 598 (Artists in Film: Biopics) |
| ARS | 544 | Films of India | Examines classic, Bollywood and diasporic films of India from 1950 to the present. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking). Credit is allowed for only ARS 444, ARS 544, ARS 598 (Films of India) or FMS 426 |

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| ARS | 555 | Museums and Social Justice | A recent spate of scandals, protests and a global pandemic have forced museums and heritage institutions to face up to some difficult ethical and financial issues. In the wake of the Black Lives Matter protests, these include reassessments of staffing demographics, salary differentials, and discussions of how best to address racial and gender diversity in acquisition policies, permanent collection displays and exhibition schedules. The #MeToo movement has resulted in difficult conversations about sexual harassment and gender discrimination in museums as well. Other recent public controversies have demanded reevaluations of board vetting procedures to avoid reputational controversies, a more thorough review of corporate sponsors vis-a-vis a museum's mission, and the development of action plans to address the legacy of colonial theft and Nazi looting. Covid-19 has also greatly affected museums--attendance, annual budgets--and has resulted in mass layoffs and organizational restructurings, as museums are left to wonder about their financial viability moving forward. Also discusses whether museums have a moral responsibility to respond to and become engaged with compelling social justice issues like race, immigration, health care, climate change--or whether they should remain neutral. Indeed, the question of museums and social justice has plagued the museum world's preeminent professional organization, the International Council of Museums (ICOM), which, since 2017, has been attempting to redefine the museum as a site for public discourse on urgent topics; amidst debate and turmoil, a possible redefinition of museums of the 21st century as sites for social justice. Examines these current controversies and events. Each module focuses on one issue, with specific case studies in some instances. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARS | 574 | Art of Japan | Critical examination of the nature and history of Japanese art, its rich heritage and its indebtedness to foreign sources. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ARS 473 or ARS 574 |
| ARS | 575 | Approaches to Chinese Painting | Critical history of Chinese painting from Eastern Chou to 1911. Emphasis on masters, regional developments, and conceptual underpinnings. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Minimum 108 hours; Senior or Postbaccalaureate Undergraduate or Graduate; Credit is allowed for only ARS 475 or 575 |
| ARS | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARS | 585 | Women in the Visual Arts | Historical study of art by women in various media; related social, political, educational issues; representation of women in art. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only ARS 485 or 585 |
| ARS | 586 | Theories of Contemporary Art | Upper-level introduction to a variety of issues in contemporary art theory. Over the course of the semester, students travel through a different thematic segment each week. Topics covered include globalization, activism, relational aesthetics, art and ecology, as well as other themes that have found increased relevance as new art forms, media and theory proliferate in the 21st century. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ARS 586 or ARS 591 (Theories of Contemporary Art) |
| ARS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| ARS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | School of Art | 1 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) or Seniors or Post Bacc undergraduates with minimum of 108 earned hours |
| ARS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR senior or postbaccalaureate undergraduate student; minimum 108 hours |
| ARS | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARS | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARS | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARS | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARS | 710 | Current Research in Art History | Review and critical evaluation of contemporary literature and research in art history. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Design, Environment and the Arts PhD student |
| ARS | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARS | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | School of Art | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ARS | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Art | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ART | 107 | Photography as Experience | Introduces photography as both a social phenomenon and a creative expression. Explores personal and cultural relationships to photography and investigates the role that images play in our everyday experiences. Through readings, lectures, shooting assignments, peer critiques and discussions, students practice making images as well as interpreting photographs as a visual language. Introduces photography basics of vision, light, composition, camera controls and digital workflow. Class readings and lectures address contemporary and historical photographers and various philosophical and technical approaches to the medium. Encourages students to use whatever cameras they have access to and likely already use on a regular basis, be it a DSLR or an iPhone. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only ART 107 or ART 194 (Photography as Experience) |
| ART | 108 | Digital Literacy for the Arts | Effective, efficient, practical and innovative computer-aided visual communication has become essential for business in the contemporary art market. Serves as an introduction to computing in art and design fields. Students use computers to create, design, analyze and problem solve through the exploration of visual design software, fundamental elements of computer-aided design, and peer feedback. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | CS | Credit is allowed for only ART 108 or ART 194 (Digital Literacy for the Arts) or FSH 108 or FSH 194 (Digital Literacy for the Arts) |

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| ART | 109 | Making as Seeing and Thinking | Working from supplies that can be found at the local hardware store, explores how manual and material modes of making can open up to creative thinking. Through a series of units that introduce the fundamentals of 3D construction, simultaneously looks at how such skills are being used in contemporary art and how they can become useful. This is achieved through weekly lectures, readings and hands-on studio assignments. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only ART 109 or ART 194 (Making as Thinking) |
| ART | 110 | Drawing as Seeing and Thinking | Immerses students from a broad range of non-art disciplines in the practice of drawing. Considers and reflects on drawing in its most expanded form: as a primary tool of communication and creative problem solving, as movement, as sensory experience and as its own unique method of cognition. Divides class meetings among lectures, exercises, field excursions and opportunities for critical dialogue. Students leave with an appreciation of the unique power of mark-making and an improved understanding of its application in their lives. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Credit is allowed for only ART 110 or 194 (Drawing as Seeing and Thinking) OR Visiting University Student |
| ART | 111 | Foundation Drawing | Fundamental, technical, and perceptual skills using common drawing media and their application to pictorial organization. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art BA major or BFA major OR Visiting University Student |
| ART | 112 | 2-D Design | Fundamentals of pictorial design. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art, Art-Exploratory, Minor in Studio Art, or BIS concentration in Studio Art student OR Visiting University Student |
| ART | 113 | Pictorial Investigations and Color Theory | Fundamentals of pictorial design and color theory through an introduction to various studio methodologies. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | |
| ART | 114 | Expanded Arts Studio | Expanded arts has often mystified diverse publics around the world, as well as within the art world itself. Expanded arts has also been referred to throughout contemporary art history as new genres, intermedia, experimental art, conceptual art, and art in the expanded field. Although there is often a sense of confusion about art forms that do not reflect the classic notions of art, such as painting and sculpture, it is important to note that contemporary art is largely defined by emerging mediums and forms of expression that cannot always be framed as pictures or mounted to a plinth. By taking an "always emerging" approach to art, this seminar and studio course will not attempt to define expanded arts, but will instead provide foundational knowledge for further pushing the boundaries of what art can be and do in the world. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only ART 114 or ART 194 (Expanded Arts Studio) |
| ART | 115 | 3D Design | Fundamentals of 3D form. 6 hours a week. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | |
| ART | 116 | Introduction to Digital Media | Concentrates on the fundamentals of digital media, including imagery, sound, video, animation, and the Web. Assignments are given to engage students in the technical, conceptual, and aesthetic aspects of digital media. Students employ a diverse range of techniques and software as they become familiar with contemporary artistic processes involving the use of the computer and/or other technologies. Consists of hands-on experimentation and production supplemented by slide lectures, videos, visiting artists, and academic research. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only ART 116 or ART 194 (Introduction to Digital Media) OR Visiting University Student |
| ART | 121 | Introduction to Photography I | Students engage in producing, analyzing and critiquing creative output through the photographic medium. They also gain exposure to historical and contemporary photography. As students develop visual literacy, they become sensitive to how mass media instrumentalizes photography to sell, persuade and exploit. Students learn how to operate their DSLRs (Digital Single Lens Reflex). Students learn to edit, enhance and sequence digital images with Adobe software. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | |
| ART | 122 | Introduction to Photography II | Students focus on production and aesthetics that emphasize the relationships between color and concept in photography. Students develop fluency in speaking and writing about images and meaning, building on the Photoshop and Lightroom skills they previously learned. Students study the processes of pre-production, capturing, selection, post-production and outputting images both on screen and substrate. Each student participates in critique as they hone their critical voice. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 121 with C or better OR Visiting University Student |

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| ART | 123 | Introduction to Photography for Nonmajors | An introduction to photography, with emphasis on investigating personal, social, cultural and aesthetic concerns with the camera. Class lectures address contemporary and historical photographers and various philosophical and technical approaches to the medium. Lab sections emphasize the creative process through camera work and darkroom procedures using 35 mm film, as well as digital capturing from cell phone camera to DSLR. Students leave this class with a better understanding of the role of photographs in culture and in their own lives. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | HU | |
| ART | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ART | 202 | Photography I Lab | An introduction to photography, with emphasis on investigating personal, social, cultural and aesthetic concerns with the camera. Class lectures address contemporary and historical photographers and various philosophical and technical approaches to the medium. Lab sections emphasize the creative process through camera work and darkroom procedures using 35 mm film, as well as digital capturing from cell phone camera to DSLR. Students leave this class with a better understanding of the role of photographs in culture and in their own lives. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 0 | | Corequisite(s): ART 201 |
| ART | 203 | Photography: Material Studies I | Students develop black and white photography skills while working with film and silver gelatin printing in the darkroom. Students learn about chemistry, contrast control in developing film and printing. Explores in-depth the ways in which light affects imagery, the ways in which images interact in culture and student's own potential for creative expression through photography. Deepens the questions and creative vision and discusses the reasons why a recent historical monochromatic process might serve ideas. Provides students an opportunity to produce work for their portfolio and/or exhibitions that showcases this traditional approach to the medium. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 121; ART 122 OR Visiting University Student |
| ART | 206 | Digital Photography I | Through readings, lectures, demonstrations and regular shooting assignments and critique, introduces the basic concepts of photography as a form of creative expression. With an emphasis on the student's own creative practice, covers technical, aesthetic and conceptual aspects of photography and explores how meaning is created in a photograph. Introduces basic digital editing, camera controls, selection and sequencing. Assignments cover traditional genres such as landscape, portrait and still life. Places a strong emphasis on interaction with classmates' work and receptivity to critique. Fully manual DSLR is suggested but not required for this course. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only ART 206 or ART 294 (The Still Image in Digital Culture) OR Visiting University Student |
| ART | 207 | Digital Photography II | Through readings, lectures, demonstrations and regular shooting assignments and critique, introduces the basic concepts of digital photography as a form of creative expression. With an emphasis on the student's own creative practice, explores the ways in which the recently increased speed of creation and dissemination have led to the ubiquity of photography and how these aspects have radically altered how photographs function in today's world. Covers technical, aesthetic and conceptual aspects of digital photography and explores how meaning is created in a digital photograph. Students learn digital editing, camera controls, file formats, workflow and explores media theory in relation to digital imaging technology. Assignments cover topics such as appropriation, social media, surveillance, vernacular and ritual photography. Places a strong emphasis on interaction with classmates' work and receptivity to critique. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | |
| ART | 208 | View Camera Photography | View camera and darkroom techniques. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 121 (ART 204) with C or better OR ART 123 (ART 201) with C or better OR Visiting University Student |
| ART | 211 | Drawing | Continued development of technical and perceptual skills. Emphasizes materials and pictorial content. 6 hours a week. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): complete two from ART 111, 113, or 116 with C or better OR ART 110 with C or better OR Visiting University Student |
| ART | 212 | Figure Drawing for Animation | Engages students in understanding the human figure: anatomy, structure, gesture, balances and motion. Working from the live human model, students learn the force and weight of the human figure and understand and draw what force of an action(s) causes a reactive/balancing force. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 111 with C or better OR Visiting University Student |

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| ART | 214 | Figure Drawing | Development of skill and expressiveness in drawing the basic form, construction, and gesture from the human figure. 6 hours a week. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): complete two from ART 111, 113, or 116 with C or better OR ART 110 with C or better OR Visiting University Student |
| ART | 215 | Photography: Digital Compositing | Introduces ideas and concepts in photography using digital montage and image manipulation as an expressive medium. During this lecture/lab course, students work on both assignments and self-defined projects. Discussions include technological theory and the impact of digital imaging on the field of photography in the fine arts and professional arenas. Students review retouching, coloration, enhancement and strategies for digital montaging. Covers the basic principles of pattern design. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 121; ART 122 OR Visiting University Student |
| ART | 216 | Contemporary Art in Practice: Methods, Making, Meaning | Investigates multidisciplinary practices of making art within a contemporary context. Encourages students to explore various methods of artmaking with emphasis on understanding that materials and actions hold meaning. Relying on principles and techniques from foundation-level classes, students learn to choose appropriate media for a particular idea and construct work that is concept driven and incorporates cross-disciplinary approaches. Students develop individual and diverse approaches to fusing traditional art disciplines with experimental, performative, spatial and digital technologies if desired. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art BA, Art BFA, Digital Culture (Art) BA, Fashion BA major, Fashion minor, or Studio Art minor; ART 108, 110, 113, or 115 with C or better; ART 116 OR Visiting University Student |
| ART | 217 | Introduction to Computer Animation | Prepares students for the exciting world of digital animation. Looks back at animation through history and how it has developed into what we understand today. Looks at history, theory, principles, practices and animation techniques. Expands the student's current knowledge of 3D digital animation and how it has changed and affected society through time. Students use learned techniques to create art in animation. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only ART 217 or ART 294 (Introduction to Animation) OR Visiting University Student |
| ART | 218 | 3D Tools | Introduces 3D data capture, 3D modeling and rendering, and 3D prototyping and fabrication through creative/research activities using CNC and rapid prototyping tools. Projects are given to engage students in the technical, conceptual, and aesthetic aspects of digital media. Students employ a diverse range of techniques, software tools, and hardware in the course of making their creative/research projects, becoming familiar with contemporary artistic and engineering processes involving the use of the computer and/or other technologies. Consists of hands-on experimentation and production supplemented by slide lectures, videos, visiting artists, and academic research. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only ART 218 or 294 (3D Tools) |
| ART | 220 | Photography: Introduction to Lighting | Examines the importance of studio lighting as it applies to photography. Lighting is the core concept of the photographic medium; this concept is explored through the lighting studio and digital capture. Helps students gain a heightened sensitivity toward light and the narrative qualities of light. Emphasizes the technical concepts of the studio including equipment, setup, control, diffused and fill lighting. Students gain technical expertise in the use of digital photographic equipment, software and printers to produce digital photographic images. Through discussions and readings, introduces students to different ways of conceptualizing light in the photographic studio. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 121; ART 122; Credit is allowed for only ART 220 or ART 294 (Photographic Lighting I) OR Visiting University Student |
| ART | 223 | Painting | Fundamental concepts and materials of traditional and experimental painting media. Emphasizes preparation of painting supports, composition, and color. Lab. 6 hours a week. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): complete two from ART 111, 113, or 116 with C or better OR ART 110 with C or better OR Visiting University Student |
| ART | 227 | Watercolor | Fundamental concepts, materials, and techniques of watercolor. Emphasizes problem solving, basic skills, composition and color. 6 hours a week. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): complete two from ART 111, 113, or 116 with C or better OR ART 110 with C or better OR Visiting University Student |
| ART | 231 | Sculpture I | Explores sculptural forms through concepts related to basic materials. Students learn how to create original sculptures using mold-making, wood-working and sheet metal construction. Focuses on studio production, safety, aesthetic criticism and history of sculpture. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | |

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| ART | 235 | 3D Tools for Sculptors | Explores the ever-changing role of technology in the production of contemporary sculpture. Concentrates on the fundamentals of 3D modeling. Introduces a diverse range of modeling programs allowing students to create fully rendered sculptures that are viewed in a virtual gallery and imagined as public art at a monumental scale through Google Earth. Discusses options to output the sculptures created beyond the virtual to explore the question: What is next? | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only ART 235 or ART 294 (3D Modeling for Virtual Worlds) or ART 294 (3D Tools for Sculptors) |
| ART | 244 | Introduction to Interactive Environments | Introduces software programming in the context of real-time interactivity. Builds the skills and develops the confidence needed to produce interactive audiovisual environments. Primarily uses the Max 7 (cycling74.com) programming language to write code for manipulating digital images, sounds and video in real time. For these systems to be interactive (respond to human activity), uses the tools and techniques for gathering and processing real-time input from sensors such as microphones, electronics, cameras and interface devices. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only AME 244 or ART 244 or AME 294 (Introduction to Interactive Environments) or ART 294 (Introduction to Interactive Environments) |
| ART | 253 | Introduction to Printmaking | Introduces basic monotype, intaglio, relief, and related techniques. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 113 with C or better OR Visiting University Student |
| ART | 261 | Ceramic Survey | Handforming methods, throwing on the wheel, decorative processes, and glaze application. 6 hours a week. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 115 with C or better OR Visiting University Student |
| ART | 272 | Introduction to Metals and Jewelry | Emphasizes metal fabrication. Basic techniques of cutting, piercing, forging, soldering, and forming of non-ferrous metals. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art BA or Art BFA major; ART 115 with C or better OR Visiting University Student |
| ART | 274 | Wood I | Fundamental woodworking techniques to produce creative functional 3-D objects. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | |
| ART | 276 | Introduction to Textiles | Explores traditional and contemporary materials and basic techniques related to fibers. Embroidery, feltmaking, dyeing, block printing, plaiting, 3D structures. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): complete two from ART 111, 113, 115, or 116 with C or better OR ART 110 with C or better OR Visiting University Student |
| ART | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ART | 301 | Photography: Material Studies II | Explores some of the earliest processes in photographic history. Students explore processes such as Van Dyke brown prints and cyanotypes. These hand-painted emulsions are often applied to contemporary art-making through their application to various substrates at various scales. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 203, 208, 215, or 294 (Photographic Lighting I) with C or better OR Visiting University Student |
| ART | 302 | The Still and Moving Image: Digital Photography and Video | Through screenings, readings, discussion and practical assignments, explores the differences between the still and the moving image coming from the perspective of a still photographer. How does the addition of time, sound and movement affect the way we experience images? How have the histories of photography and cinema overlapped and how are they different? How does the fact that video and film are no longer prohibitively expensive for most people affect the approach that people take to creating videos? How can photographers make engaging video using their photo skills? Looking at practitioners and learning basic video editing tools--as well as various methods for output--students create video and still images with an understanding of the intersections, variations and potential of the similar yet markedly different languages of film, video and still photography. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 206; ART 207; ART 317 OR Visiting University Student |
| ART | 303 | Portraiture Photography | Photographing people. Critical discussions and slide lectures on issues in portraiture. 6 hours a week. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 203 or 215 with C or better OR Visiting University Student |
| ART | 304 | Junior Photographic Projects | Interpretation and manipulation of light as a tool in the performance of expressive photography. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 121 (ART 204) with C or better; ART 122 (ART 205) with C or better; ART 203, 208, 215, or 294 (Photographic Lighting I) OR Visiting University Student |

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| ART | 308 | 2D Digital Animation I | Advanced animation course continues the technical, conceptual and aesthetic world of 2D digital animation. In addition to craft and technique, principles of narrative, visual rhythm, character, sound and image are a primary focus. Through assignments, tutorials, discussions and critiques, students expand their knowledge of the history of animated cinema, live action cinema, visual art, games, mobile media, performance and visual culture. Students who come in with foundational animation experience find this course to be the next level in 2D digital animation. Students produce strong conceptual work that demonstrate their command of the software with attention to the rhythm, proportion, volume, color and light/dark, smartly employing formal mechanisms of story, character and motif to produce well-crafted, expressive animations. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ART 308 or ART 394 (2-D Computer Animation) OR Visiting University Student |
| ART | 309 | 2D Digital Animation II | Focuses on using 2D animation techniques through principles of animation studies, character animation studies and dialog animation studies. Follows a studio format similar to the industry standard of dailies for frequent feedback and to encourage progress. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art (Animation) BFA major; ART 308 with C or better; Credit is allowed for only ART 309 or ART 394 (2D Computer Animation II for Non-Majors) or ART 394 (2D Digital Animation II) OR Visiting University Student |
| ART | 310 | Landscape Photography | Photographing landscapes. Critical discussion and presentations on issues in landscape photography. 6 hours a week. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 203, 208, 215, or 294 (Photographic Lighting I) OR Visiting University Student |
| ART | 311 | Intermediate Drawing | Emphasizes composition and exploration of drawing media. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 211 with C or better OR Visiting University Student |
| ART | 312 | Illustration | For the purposes of this class, to illustrate means to illuminate. The prompts challenge students to engage in storytelling and explore text/imagery relationships while simultaneously honing basic rendering skills. At times we find images to "illuminate," enhance or subvert the meaning of written language and at other times we create language as a result of creating an image. The interplay between text and images is a constant in this class. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 110 or 111; Credit is only allowed for ART 312 or ART 394 (Illustration) OR Visiting University Student |
| ART | 313 | Experimental Film | Facilitates the exploration of 16 mm motion picture film as material and methodological fodder for artists. Students use original, found, and hand-altered footage to create projects of their own design. Covers basic techniques including camera operation, film exposure, and analog editing practices. Explorations also include in-class experiments, readings, discussions and screenings. For upper-division undergraduate and graduate art students attracted to the material and theoretical issues embodied in film and who are curious about how film might inform their own ongoing advanced artistic pursuits. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 203, 208, 215, or 294 (Photographic Lighting I) OR Visiting University Student |
| ART | 314 | Intermediate Figure Drawing | Drawing from the model with greater reference to structural, graphic, and compositional concerns. 6 hours a week. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 214 or 394 (Figure Drawing for Non-Majors) with C or better; minimum 2.00 GPA OR Visiting University Student |
| ART | 317 | Advanced Digital Photography | Builds on the skills and conceptual underpinnings of previous coursework and is the final course in the required photo foundation for the Digital Photography BFA. Students build on their understanding of photography in relation to the technical, aesthetic and conceptual aspects of photography. Requires students to create a short video and create physical objects, including printed photographs and a book. Places a strong emphasis on idea development, interaction with classmates' work and receptivity to critique. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 206; ART 207 OR Visiting University Student |
| ART | 318 | Photography: Material Studies III | Despite the convenience of modern photographic technology, many artists prefer to enrich their methods with the tactile wonders of traditional processes. This course has a finer focus on project-based work. Explores salt print, 3-color gum bichromate, wet plate collodion, albumen printing processes, daguerreotypes, as well as 21st-century alternative processes. Provides new opportunities for digital/analog hybrid processes and alternative ways of presentation, such as videos, photo sculptures and performances. Involves intensive studio work, lecture and critique sessions. Students must have a film or digital camera to produce new images for the projects assigned in this course. Also requires a basic understanding of Adobe Photoshop for digital negative outputting. Expects students to share ideas, techniques and their photographic experimentations. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 203; ART 301 OR Visiting University Student |

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| ART | 319 | Photo Editing: Narrative/Non-Narrative | Explores how structure in images can be created both within the image (by setting up a picture) and by sequencing images that may or may not have had any relation when they were created. By exploring two prevalent ways in which images function in the art world--the directoral mode and sequencing mode--students gain valuable tools in terms of understanding how to construct meaning with their images. Emphasizes creating cohesive and complete sequences both narrative and non-narrative. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 206; ART 207; ART 317 OR Visiting University Student |
| ART | 320 | Science and Art of Botanical Design | Discover the multifaceted practice of botanical design as a science and an art form. Students exercise plant maintenance, study botanical nomenclature and postharvest care, and review theories of biophilic design, botanical wellness, ecopsychology, sociohorticulture, and ecotherapy. To learn the art behind the science, students learn to create botanical arrangements using the design process in each lab session. Explores topics including construction methodology, technique, and innovation as well as reviews the botanical design industry and its historical periods. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 4 | SG | Prerequisite(s): minimum 45 hours; Credit is allowed for only ART 320 or ART 394 (Science and Art of Botanical Design) OR Visiting University Student |
| ART | 323 | Intermediate Painting | Development of competency in skills and expression. Assigned problems involve light, space, color, form, and content. 6 hours a week. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 223 or ART 394 (Painting for Non-Majors) with C or better; minimum 2.00 GPA OR Visiting University Student |
| ART | 325 | Figure Painting | The human figure clothed and nude as the subject for painting in selected media. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 214 or 223 with C or better OR Visiting University Student |
| ART | 327 | Intermediate Watercolor | Explorations of personal expression in watercolor. Continued development of watercolor skills using traditional and experimental materials and techniques. 6 hours a week. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 227 or 394 (Watercolor for Non-Majors) with C or better; minimum 2.00 GPA OR Visiting University Student |
| ART | 331 | Sculpture II | Emphasizes metal fabrication as an expressive sculptural process. Techniques in welding, cutting and bending of metals and their aesthetics. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Studio Art BIS major or Studio Art minor; ART 110 with C or better; ART 115 with C or better OR Pre-corequisite(s): Art BA or BFA major; ART 231 with C or better if completed OR Visiting University Student |
| ART | 332 | Sculpture III | Explores diverse media with a focus on mold-making processes. Development of the sculpture portfolio. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 331 with C or better |
| ART | 333 | Foundry Casting Methods | Fine art and techniques of metal casting: mold making, foundry safety, finishing techniques, application of patinas, and history of casting. 6 hours a week. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art Majors: ART 331 with C or better, or Non-art majors: ART 231 with C or better OR Visiting University Student |
| ART | 345 | Visualization and Prototyping | Studio/seminar introduces concepts of computer visualization, modeling, and rapid prototyping in an interdisciplinary manner. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art (Intermedia) BFA major or Digital Culture student OR Visiting University Student |
| ART | 346 | 3D Computer Imaging and Animation | Focuses on the modeling, texturing, surfacing, lighting and rendering portions of the 3D animation pipeline. Covers poly modeling, sculpting, edge flow, UV texturing, materials and PBR workflows, properties of lighting, and efficient rendering techniques. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | CS | Prerequisite(s): Film and Media Production BFA major or ART 217 with C or better OR Visiting University Student |
| ART | 348 | Animation Motion Studies | Focuses on using the principles of animation in 3D and open source, pre-rigged characters for animation and dialog studies. Course studio format follows similar industry standard of dailies for frequent feedback and to encourage progress. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Film and Media Production BFA major or ART 346 with C or better OR Visiting University Student |
| ART | 351 | Intaglio | Introduces concepts and techniques of intaglio processes, including non-acid and acid techniques such as drypoint, line etch, aquatint, photo etching; introduces multiple plate printing ala poupee wiping, chine colle, and basic color. Idea-generating exercises include visual signifiers of identity, democratic multiple, time and space, the disembodied gaze, and reconsidering beauty. 6 hours a week. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 253 with C or better OR Studio Art minor; ART 110 with C or better; ART 112 or 113 with C or better OR Visiting University Student |
| ART | 352 | Lithography | Monochromatic and color planographic printmaking utilizing stone and aluminum plate processes. 6 hours a week. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 253 with C or better OR Studio Art minor; ART 110 with C or better; ART 112 or 113 with C or better OR Visiting University Student |
| ART | 354 | Screen Printing | Introduces paper, direct, and photographic stencil techniques. 6 hours a week. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; complete two from ART 111, 112, 113 with C or better OR Studio Art minor; ART 110 with C or better; ART 112 or 113 with C or better OR Visiting University Student |

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| ART | 360 | Ceramic Throwing | Design analysis and production of functional pottery. Emphasis on throwing techniques, surface enrichment, and glaze application. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 42 hours OR Visiting University Student |
| ART | 361 | Junior Animation Projects I | Students are grouped together to produce animation projects from concept to screening, gaining valuable collaborative skills necessary in animation production through a given production system (3D, 2D or Stop Motion) widely adopted in the animation industry. Utilizes technical skills from prior classes to push conceptual ideas and gain confidence in their narrative, documentary and/or experimental abilities before senior capstone. Mainly focuses on pre-production and some production. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art (Animation) BFA major; minimum 2.00 GPA OR Visiting University Student |
| ART | 362 | Junior Animation Projects II | Students continue to produce animation projects from concept to screening, gaining valuable collaborative skills necessary in animation production through a given production system (3D, 2D or Stop Motion) widely adopted in the animation industry. Utilizes technical skills from prior classes to push conceptual ideas and gain confidence in their narrative, documentary and/or experimental abilities before senior capstone. Mainly focuses on production and post-production. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art (Animation) BFA major; ART 361 with C or better; minimum 2.00 GPA OR Visiting University Student |
| ART | 364 | Ceramic Handbuilding I | Search for form using handbuilding techniques. Kiln firing and related problems. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 42 hours OR Visiting University Student |
| ART | 365 | Ceramic Handbuilding II | Continuation of previous coursework with an additional focus on large-scale works, surface treatments, and glaze decoration with related kiln firing applications. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 261 with C or better; ART 364 with C or better OR BIS Studio Art emphasis or Studio Art minor; ART 364 with C or better OR Visiting University Student |
| ART | 367 | Ceramic Vessels | Focuses on the exploration and creation of ceramic vessel forms utilizing a variety of technical approaches. Students develop a personal direction through guided assignments focusing on both historical/contemporary vessels, function vs. design, and various forming processes. Students should have previous experience with either wheel-throwing or hand-building techniques. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ART 367 or ART 394 (Ceramic Vessels) |
| ART | 372 | Casting and Jewelry Techniques | Covers lost wax casting for jewelry scale work and alternative casting methods and mold making as well as other techniques such as chain making and marriage of metals. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art student; ART 272 with C or better |
| ART | 373 | Form Emphasis in Metals | Covers forming non-ferrous metals using techniques such as anticlastic and sinclastic forming, raising, fold forming. Projects focus on hollow forms using these various techniques. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art student; ART 272 with C or better |
| ART | 374 | Wood II | Individual and directed problems in wood related to the production of unique functional art objects. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 274 with C or better OR Visiting University Student |
| ART | 376 | Weaving and Dyeing | Focuses on loom-controlled woven structures in conjunction with a variety of dye techniques. In the investigation of these new practices, an emphasis is placed on technical issues, historical trajectories and contemporary contexts. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major: ART 276 with C or better OR Fashion BA major: FSH 201 with C or better OR All other majors: ART 110, 112, 113, 115, or 116 with C or better OR Visiting University Student |
| ART | 377 | Textile Design | Explores a variety of surface design processes such as sewing, embroidery, dyeing and interlacing, as well as the construction of collage, piece work and creatively fabricates sculptural forms with their newly soft design materials. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 276 with C or better or FSH 201 with C or better OR Visiting University Student |
| ART | 378 | Digital Textiles | Starting in the 19th century with advent of the Jacquard loom, which is often noted as the inspiration for the modern day computer, explores the interwoven history and practice of textiles and technology. Taking theoretical and practical approaches, works through textile techniques, such as knitting, printing and wearables, as well as research and readings. Emphasizes applying the information presented to support individual bodies of work. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s) C or better: ART 110 or 111; ART 112, 113, 115, or 116; min 2.00 GPA OR Dig Cult stdnt; AME 111; AME 112 or 130; min 2.00 GPA OR Fashion maj; FSH 201; Credit for only ART 378 or 394 (Digital Textiles) OR Visiting University Student |

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| ART | 387 | Digital Photography Capstone Development | Introduces digital photography majors to the practice of developing a self-directed creative project. Invites students to reflect on their overall work created thus far to develop three ideas for focused, research-based bodies of works. With a final project output, emphasizes researching, generating and experimenting with ideas through reading, writing, peer discussions, critiques and image making. Each student creates a session-long photo sketchbook/journal that contains all research and work in progress and eventually becomes the basis for the final portfolio. Introduces building a photographic portfolio, including creating and editing a series of images, writing project proposals and artist statements, and constructing a final form such as a photobook, mock gallery installation, or web-based experience. Prepares majors for the culminating capstone course where they complete a single self-directed project. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 317; minimum 87 hours; Credit is allowed for only ART 387 or ART 394 (Photography Capstone Development) |
| ART | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ART | 400 | The Photobook | Photographers have long seen the photobook as an excellent way to showcase their work. From the mid 1960s art photographers have used self-publishing through methods as simple as a photocopier to disseminate their work. Recent advances in the accessibility of high-quality reproduction capacities have resulted in an explosion of flexible and creative ways for photographers to execute their ideas and contribute to a wide range of conversations. Practical and theoretical course on the photobook. Students learn about the history of the photobook and the multitude of contemporary applications from the major photography publishers such as Aperture, through to the small press and self-publishing and the exciting world of art book fairs. Students also create a handmade photobook and create and order a print-to-order book of their own work. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 206; ART 207; ART 317 OR Visiting University Student |
| ART | 401 | Traditional Genres in Digital Photography: Land and Place | Through practical shooting assignments, readings, lectures and critiques, students learn about expressing ideas about land and place through photography. This course both celebrates, challenges and subverts the tradition of landscape photography. Pays particular attention to the ways in which photography reinforces notions of land and can be a way to address issues of pollution, sustainability and climate change, ownership, borders and the relationship between the social, the political and the physical landscape. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 206; ART 207; ART 317; Credit is allowed for only ART 401 or ART 494 (Traditional Genres: Photographing Place and Space) OR Visiting University Student |
| ART | 402 | Traditional Genres in Digital Photography: Photographing People | Through practical assignments, lectures, readings, discussion and critique, investigates the traditional photographic genre of portraiture. Students create works and conduct research which questions and contextualizes these images in historical and contemporary art. Addresses such questions as what defines a portrait and the social, political and cultural impacts these have had on photography and art, as well as how photographs of people have been transformed with the advent of digital technology and how this affects images in a broader cultural and social history. Emphasizes the students' work and a final portfolio of portraits. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 206; ART 207; ART 317 OR Visiting University Student |
| ART | 403 | Senior Photographic Projects | Technical and philosophical refinement of personal aesthetic with various photographic media. 6 hours a week. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 301, 303 (ART 404), 304, 310 (ART 410), 313 (ART 408), 318 (ART 418), 394 (Digital Printing), or 394 (Street Photography) OR Visiting University Student |
| ART | 405 | Traditional Genres in Digital Photography: The Constructed Image | Through practical shooting assignments, readings, lectures and critiques, students learn about expressing ideas through photographs that are constructed for the camera. Students create works that question and are contextualized in historical and contemporary art. Ranging from the traditional genre of still life, early composited photographs, posed portraits, glitch art, to straight photography, emphasizing composing and manipulating subject matter to create an image rather than photographing the subject as is. Introduces Photoshop for basic edits and digital compositing. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 206; ART 207; ART 317; Credit is allowed for only ART 394 (Photography as the Constructed Image) or ART 405 OR Visiting University Student |

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| ART | 406 | New Genres in Digital Photography | Explores the ways in which contemporary technology and the key changes--ubiquity, speed and reproducibility--have spawned new genres in photo-based art. Explores these emerging and changeable genres and examines the potential they present for creative expression and in-depth conversation about new ideas. Defines these new genres: selfie sticks, Instagram, screenshots from Google Streetview or remote cameras that we control from our home computer. Students are given weekly assignments and at the end of the course create a project within one of the new genres. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 206; ART 207; ART 317 OR Visiting University Student |
| ART | 407 | Digital Photography Capstone | Culminating class of the online Digital Photography degree. It is organized around a single, major self-directed project. Students will submit work once a week for critiques and will participate in their classmates' critiques as well. Classmates and instructor will guide each student towards the best execution of their vision. Students will complete course with a portfolio of images that may be realized in a variety of forms including but not limited to: an online gallery, a website, or a printed portfolio or a photobook. Students will also write an artist statement to accompany the work and conduct research where there is an audience for their work. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 206; ART 207; ART 317 |
| ART | 409 | Photographic Exhibition | Care of photographic prints, print presentation, and exhibition. Practical experience in gallery operations. 6 hours a week. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 301, 303 (ART 404), 304, 310 (ART 410), 313 (ART 408), 318 (ART 418), 394 (Digital Printing), or 394 (Street Photography) OR Visiting University Student |
| ART | 411 | Advanced Drawing | Visual and intellectual concepts through problem solving and independent study. Emphasizes the individual creative statement. 6 hours a week. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 211 with C or better; ART 311 with C or better OR Visiting University Student |
| ART | 412 | Advanced Techniques in Digital Photography | Highly technical course consists mainly of technical applications, readings, quizzes and discussion. Focuses on learning advanced image-editing software such as Photoshop, and photo management and manipulation software. Covers montage and color management systems including profiling for color printing and monitors. Students also learn about using digital backs on medium format and view cameras. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 206; ART 207; ART 317 OR Visiting University Student |
| ART | 414 | Advanced Figure Drawing | Various media and techniques on an advanced level. The human figure as an expressive vehicle in various contexts. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 314; Credit is allowed for only ART 414 or ART 514 OR Visiting University Student |
| ART | 417 | Storyboarding and Narrative Sequencing | Focuses on the representation and manipulation of time, cause and effect, and viewpoints in narrative sequences. Designed for students interested in live action film, animation, video gaming and comic book formats. Although storyboarding is typically considered a preparatory stage, students are to treat each project as a finished piece, thereby requiring an amplified level of attention and understanding with a special emphasis on consistency and coherence. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 110 or 111; Credit is allowed for only ART 417 or ART 494 (Storyboarding and Narrative Sequencing) OR Visiting University Student |
| ART | 423 | Advanced Painting | Further exploration of techniques and concepts of painting. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 323 with C or better; minimum 2.00 GPA OR non-Art major; ART 110 with C or better; ART 112, 113, 115, or 116 with C or better; minimum 2.00 GPA; Credit is allowed for only ART 423 or ART 523 OR Visiting University Student |
| ART | 424 | Stop Motion Animation | Hands-on studio focuses on creating original stop motion animations. Covers the theory of timing for animation, how to plan and collaborate on animations and about the history of the art form. In-class activities include demonstrations, project work, and viewing of and discussion of stop motion animated films. Homework includes hands-on animation as well as reading, writing and viewing of films. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ART 424 or ART 494 (Stop Motion Animation) OR Visiting University Student |
| ART | 425 | Intermediate Figure Painting | The human figure clothed and nude as the subject for painting in selected media. 6 hours a week. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 325 with C or better; Credit is allowed for only ART 425 or ART 525 OR Visiting University Student |
| ART | 427 | Art on Paper | Advanced techniques, concepts, and processes with water media and mixed painting and drawing media on paper. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 110 with C or better OR complete two from ART 111, 112, 113, 115, 116 with C or better; Credit is allowed for only ART 427 or ART 527 OR Visiting University Student |

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| ART | 428 | Video and Sound as Sculptural Materials | Students learn to incorporate video and sound into sculptures and installations. Covers basic video and sound capturing and editing, but emphasizes new techniques for controlling and presenting video and sound: Max/MSP programming language, Arduino microcontrollers and Raspberry Pi. The latest developments in video and sound for sculpture and sculpture for video and sound. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art BA or BFA major; ART 231 with C or better; Credit is allowed for only ART 428 or ART 494 (New Systems-Sculpture) or ART 528 |
| ART | 429 | Painting and Drawing Research Studio | Advanced-level students produce a series of drawings, paintings and/or mixed media works based around their chosen theme. Students apply their technical and conceptual abilities developed in previous courses into innovative statements of individual expression. Expects students to have a high level of motivation, a consistent work ethic, and a desire to advance their creative practice. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Painting and Drawing BFA major; ART 311, 314, 323, or 425 with C or better; minimum 2.00 GPA; Credit is allowed for only ART 429 or ART 494 (Painting and Drawing Studio Capstone) |
| ART | 430 | Advanced Sculpture: Materials and Techniques | Encourages individual investigation in sculpture with an emphasis on the development of a personal approach to materials and techniques. Students have acquired a strong background in the basic techniques and materials in sculpture in previous classes and now are working toward the development of a portfolio or body of work. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 331 OR Visiting University Student |
| ART | 431 | Special Problems in Sculpture | Development of a personal approach to sculpture. Emphasis on form, individual problems, and related color technology. Professional practices and presentation. 6 hours a week. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art student; ART 231, ART 331 and 332 with C or better |
| ART | 432 | Neon Sculpture | Techniques for creating neon in an art context. Glass tube bending and fabrication. Construction of artworks utilizing light-generating gasses. 6 hours a week. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art student; ART 231 with C or better or BIS Studio Art emphasis or Studio Art minor; ART 110 and 115 with C or better |
| ART | 433 | Foundry Casting Methods | Thorough and directed course for the professional preparation of sculptors. Requires participation in all aspects of the foundry process, including serving on both a casting and foundry process maintenance team. Provides a history of the use of cast metal in the visual arts and an understanding of how casting processes can be applied to contemporary sculptural concepts. Requires participation in special projects such as exhibitions, iron casting, and field trips to local foundries as the semester course schedule dictates. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 331 with C or better OR Non-art majors; ART 231 with C or better OR Visiting University Student |
| ART | 434 | Advanced Sculpture: Context and Content | Studio-based class offers an opportunity for guided individual study with an emphasis on content, context and professional practices. Students work on developing a series of related works on a theme of their choosing. Assignments help students gain a greater understanding of the themes and ideas that are important in their art and expand their awareness of historical and contemporary artist working along similar lines. Requires students to develop a packet for self-promotion including a resume, portfolio and artist statement and to submit these materials to a competitive exhibition, commission, residency, scholarship or similar opportunity. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 331 |
| ART | 435 | Foundry Research Methods | Research in foundry techniques. | N | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ART | 436 | Architectural Sculpture | Sculptural concepts as related to architecture and other man-made environments. Scale drawing, models and relief sculpture. Students learn to produce proposals for large-scale and public commissions. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art Majors: ART 331 with C or better, or Non-art majors: ART 231 with C or better |
| ART | 438 | Art with Arduino | Explores the use of Arduino microcontrollers to control light, sound, interactivity and movement in sculptures and installations. Covers basics of electronic circuits, mechanics and audio electronics. Also covers historical and contemporary artists who incorporate technology into their work. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art (Sculpture) BFA major; ART 231 with C or better OR Art BFA major; ART 115 with C or better; Credit is allowed for only ART 438 or ART 538 OR Visiting University Student |
| ART | 439 | Studio Inquiry: Practice and Cultural Context | Investigates how intermedia practice can expand discourse within contemporary art, life and society. Encourages investigation of visual art, conceptual art, digital art, emergent media, installation, performance, art/life practices, social art practice, and with emphasis on research, production and theory. Students expand their ability to assess interdisciplinary strategies. Through reinforcing artistic rigor, students deepen their ability to employ intermedia methods as artistic communication, to express a personalized point of view. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major or Digital Culture (Art) BA major; ART 111, 112, or 113 with C or better OR Studio Art minor or BIS Studio Art emphasis; ART 110; ART 116; Credit is allowed for only ART 439 or ART 539 OR Visiting University Student |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|---|---------------|-------|-----------------|--|
| ART | 440 | Experimental Video Art | Explores creative possibilities through the production of experimental video art works referencing new approaches to concept, theory and art practice. Curriculum emphasizes the use of metaphor and simulation to depict reality and linear story telling. Students study relational aesthetics, content, stylistic formats and presentation issues as they reference time-based media. The technical component concentrates on the use and operation of equipment for video recording, audio mixing, lighting, video editing and computer graphics. Students create stand-alone video works, video installations, multimedia time-based performances, through individual and group projects. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 116 with C or better OR Studio Art minor or non-Art major; minimum 45 hours; Credit is allowed for only ART 440 or ART 529 OR Visiting University Student |
| ART | 441 | Video Art | Utilizing video and audio equipment essential to the production of broadcast quality video art. 2 hours a week. May be repeated for credit. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1 | | Prerequisite(s): Art portfolio completed; corequisite ART 440 |
| ART | 442 | Art and Community | Explores public and socially engaged art practice that is often collaborative, participatory and involves developing relationships with people and communities as a fundamental material of the work. Many social practice artists aim to initiate real-world change through artistic experimentation, activism, social intervention or interpretation of community stories, tragedies and celebrations. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ART 442 or ART 542 OR Visiting University Student |
| ART | 443 | Performance Art: Actions, Gestures, Journeys | Performance art is the act of doing. It is not about representing, recounting, re-enacting or acting. It is an art form of direct action. Students work with the elements of time, space and the body as material to speak to cultural histories and collective contemporary experience while learning critical thinking skills and gaining knowledge about historical and contemporary performance artists. Students create performances and context-specific projects by making connections between art, life and public space. Since performance art and live art cannot be separated from the body who makes it, this course continually investigates the meaning and significance of performance art. For instance, what distinguishes an action as art? Is it different from an everyday action like brushing your teeth? What makes it different? When is a job or labor a performance? How does a person (artist or audience) know when the art begins or when it ends? All performances are documented and presented in video or still photography examples online. Select works are posted on the Live Art Platform website at the end of the semester. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Studio Art minor or BIS Studio Art emphasis; ART 110 with C or better; ART 116 with C or better OR Art major OR Performance and Movement BA major; Credit is allowed for only ART 443 or ART 543 OR Visiting University Student |
| ART | 444 | Short Subject: Documentary Video | Students investigate documentary video as an art form with close attention to the aesthetic as well as the informational content. Emphasizes the intersection between standard documentary modes and experimental video art. Researches and discusses contemporary and historical materials in both documentary and video art. Emphasizes concept and content development, in preparation for the production and post-production of a documentary video art work by each student. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ART 444 or ART 494 (Documentary Video Art) or ART 544 or ART 598 (Documentary Video Art) OR Visiting University Student |
| ART | 445 | Digital Processes for Printmaking | Introduces digital applications and processes as they relate to all areas of photo-mechanical printmaking processes. Comprised of three smaller sections to give a broad overview of possibilities and how they relate to analog printmaking techniques, including image capture, film generation and analog processes, and digital and inkjet printing. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 50 hours; Credit is allowed for only ART 445 or ART 545 OR Visiting University Student |
| ART | 446 | On Walking | Artists have often made use of walking as a source of inspiration, or a starting point for the creation of art works. The act of walking is located in histories of landscape art, conceptual art, cultural ritual and political protest. From Paul Klee to Marina Abramovic, this course covers a range of artists engaging walking in their art practice. From the philosophical to the contemplative, discusses artist writings, literature and histories of walking related to studio practice, sustainability, indigenous culture and contemporary art. Encourages students to consider walking as a creative medium and to think of the pedestrian as an active creator of public space. Physically engages the body in space by walking in urban and rural places and implements ways in which this experience can be documented to be re-presented in another context (i.e., gallery, museum, film festival, etc.). | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ART 446 or ART 494 (On Walking) or ART 546 or ART 598 (On Walking) OR Visiting University Student |

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| ART | 449 | Computer Animation and Video | Integrates 3D fine arts animation with video and compositing. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Film (Film and Media Production) BA, Film (Filmmaking Practices) BA, or Film and Media Production BFA major or ART 217 with C or better OR Visiting University Student |
| ART | 451 | Advanced Intaglio | Gives students the opportunity to further develop their skills with intaglio printmaking techniques. Primary areas of research include image development, multiple plate and color printing. Additional techniques include lift grounds, spit bite aquatint, white ground, and viscosity printing. Develops sharper critical responses, both aesthetically and conceptually, to their own work, as well as the work of other artists. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 351 with C or better; Credit is allowed for only ART 451 or ART 551 OR Visiting University Student |
| ART | 452 | Advanced Lithography | Covers advanced techniques in lithography. Students work in monochromatic and color planographic printmaking. Utilizes stone and aluminum plate processes. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 253 with C or better; ART 352 with C or better OR Visiting University Student |
| ART | 453 | Experimental Printmaking: Expanding the Matrix | Alternative methods of working with print techniques, including installations, actions or performances, and other nontraditional formats. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): at least one of the following: ART 351, 352, 354, 355, 456, 459, 477, 478, 494 (Relief), or 394 (Photolithography) with C or better; Credit is allowed for only ART 453 or ART 553 |
| ART | 454 | Advanced Screen Printing | Continuation of paper, direct, and photographic stencil techniques. 6 hours a week. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 354 with C or better OR Visiting University Student |
| ART | 455 | Artists' Books | Concepts, materials, techniques and structures related to book arts. Explores a variety of traditional and nontraditional binding structures, basic editioning and low-tech printing techniques while simultaneously working on studio assignments that challenge them on a conceptual level. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ART 455 or ART 494 (Artists' Books) or ART 555 OR Visiting University Student |
| ART | 456 | Letterpress Studio | Equipment, techniques and applications of letterpress printing. Students hand set type and create photopolymer plates and are encouraged to integrate the tactile quality of letterpressed type and image with other media. Discusses conceptual and material aspects of letterpress. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 253 with C or better; minimum 2.50 GPA; Credit is allowed for only ART 456 or ART 556 OR Visiting University Student |
| ART | 457 | Fine Printing and Bookmaking II | Continuation of ART 456. Bookbinding, book design and printing, advanced typography, theory, and presswork. May be repeated for credit. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art student; ART 253 with C or better; ART 456 with C or better; Credit is allowed for only ART 457, ART 557 or ART 598 (Fine Printing and Bookmaking II) |
| ART | 458 | Papermaking Studio | The equipment, techniques and applications of papermaking, exploring both traditional sheet forming, paper pulp painting as well as sculptural paper. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 113 with C or better; minimum 2.50 GPA OR non-Art major; minimum 56 hours; minimum 2.50 GPA; Credit is allowed for only ART 458 or ART 558 OR Visiting University Student |
| ART | 459 | Monoprinting | Nonmultiple printed image using a variety of technical approaches. 6 hours a week. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 113 with C or better; minimum 45 hours OR Visiting University Student |
| ART | 460 | Ceramic Clay | Research into various clay body formulations, local natural materials, slip glazes, and engobes. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 261 with C or better; Pre- or corequisite(s): ART 360 with C or better if completed; ART 364 with C or better if completed OR Visiting University Student |
| ART | 461 | Animation Capstone I | In this studio course, advanced-level students envision and develop plans for a substantial animation project of their own. This project could be a very short film individually produced in any animation medium, or a more substantial film produced in collaboration with other students. Students generate an idea, pitch it and create storyboards and layouts for their animation. Leads directly into and is required before subsequent course where students produce and screen their films. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art (Animation) BFA major; ART 308 with C or better; ART 346 with C or better; ART 417 with C or better; minimum 2.00 GPA |
| ART | 462 | Animation Capstone II | In this studio course, advanced-level students continue developing their substantial animation projects that they have previously developed. Provides an industry model of start-to-finish guide with which students can develop their pre-production contents into polished final animation within a pre-set production timeline. Includes frequent updates, critique and one-on-one personal meetings during studio sessions. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art (Animation) BFA major; ART 461 with C or better; minimum 2.00 GPA |
| ART | 463 | Ceramic Glaze Research | Glaze calculation and formulation using various glaze colors and surfaces. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 261 with C or better; Credit is allowed for only ART 463 or ART 563 OR Visiting University Student |

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| ART | 466 | Special Problems in Ceramics | Emphasis on personal expression within structure of seminars, critiques, and studio work. Professional methods of presentation/documentation of work. 6 hours a week. May be repeated for credit. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major; ART 261 with C or better; ART 364 with C or better OR Visiting University Student |
| ART | 467 | Art and Ecology | Designed for students with advanced independent studio art practices or sustainability studies students who have an interest in the way that their lives and practices engage environments. Through readings, slide presentations, discussions, guest visits, hands-on activities and screenings, explores the work of many contemporary ecological artists engaging with environments and environmental issues from a multitude of angles. Artists engage land remediation, agriculture, socio-ecological justice, sustainable materials, landscape design and much more. As cultural workers must be informed, the course content addresses some basic literacy with regard to environmental concerns and shares examples of realized accessible sustainable solutions. In addition to learning about ecologies and artists, students complete three art or research projects, inspired by assignments. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ART 467 or ART 494 (Art and Ecology) or ART 567 or ART 598 (Art and Ecology) or SOS 467 or SOS 494 (Art and Ecology) or SOS 567 or SOS 598 (Art and Ecology) |
| ART | 472 | Advanced Jewelry and Surface Techniques | Covers jewelry forms and techniques including surface embellishment such as granulation, keum-boo and filigree to be used as tools for aesthetic expression and expand student awareness of historical and contemporary jewelry/metalwork. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art student; ART 272 and ART 372 with C or better |
| ART | 473 | Advanced Metals and Mechanisms | Covers new techniques and develops existing skills in non-ferrous metal forming and mechanism fabrication while further refining fitting and finishing techniques, incorporating concept with craft and emphasizing professional practices/portfolio development. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art student; ART 272 with C or better; ART 373 with C or better; Credit is allowed for only ART 473 or 598 (Adv. Metals & Mechanisms) |
| ART | 474 | Advanced Wood | Extended experience and advanced techniques in the use of wood to create functional works of art. 6 hours a week. May be repeated for credit. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art student; ART 274 with C or better; ART 374 with C or better OR Visiting University Student |
| ART | 476 | Advanced Textile Construction | Expanding on technical knowledge of knit and woven structures, this course emphasizes the creation of a body of work. The materialization ranges from the functional to the formal to the conceptual depending on one's research trajectory within his or her program of study. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art student; ART 276 with C or better; ART 376 with C or better |
| ART | 477 | Printed Textiles | Techniques for screen printing on fabric exploring pattern as a compositional element. Various stencil methods including photographic processes. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major: ART 276 with C or better; ART 377 with C or better OR Fashion BA major: FSH 201 |
| ART | 478 | Advanced Surface to Form | Broadening knowledge of surface design and the construction of 3D structures, presents advanced explorations in embroidery, dyeing and quilting. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 276, ART 377 and ART 477 with C or better; Credit is only allowed for ART 478 or ART 578 |
| ART | 479 | 3-D Fibers: Construction and Content | Explores hand-constructed fiber techniques through the context of the history and communities from which they came, as well as contemporary applications. Emphasizes research and the development of one's work through studio and social practice. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art major or Studio Art minor; ART 276 with C or better; Credit is allowed for only ART 479 or ART 579 or ART 598 (3-D Fibers) |
| ART | 482 | Senior Exhibitions/Portfolio | Capstone course required of all BFA studio art majors. Students participate in a group exhibition and focus on professional practices, including exhibition display and advertisement, career planning, and development of a professional packet with artist statement, CV, and digital portfolio. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): Art BFA major; minimum 100 hours |
| ART | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): Art student |
| ART | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | STO | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-6 | | Prerequisite(s): Barrett Honors student |
| ART | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | STO | N | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ART | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ART | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| ART | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-3 | | Prerequisite(s): Art student |

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| ART | 501 | Cross-Practice Critique | Engages graduate students in deep, sustained critical discussion about artwork made by students in the class. Students investigate together the process(es) of critiquing artwork and consider and discuss the underlying assumptions and values they bring to this method of communication and pedagogy. Helps students develop and improve their critical voice at whatever level they are at, including the ability to receive and accept critical feedback of their work. Encourages students to hone their sense of personal agency in the context of "the crit." | N | LEL | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate |
| ART | 508 | Experimental Film | Facilitates the exploration of 16 mm motion picture film as material and methodological fodder for artists. Students use original, found, and hand-altered footage to create projects of their own design. Covers basic techniques including camera operation, film exposure, and analog editing practices. Explorations also include in-class experiments, readings, discussions and screenings. For upper-division undergraduate and graduate art students attracted to the material and theoretical issues embodied in film and who are curious about how film might inform their own ongoing advanced artistic pursuits. Graduate level focuses on the development of a personal approach. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ART | 514 | Graduate Figure Drawing | Advanced study of the human figure as an expressive vehicle in various contexts. Graduate level focused on the development of personal approach. Timed poses of short and long duration with emphasis on using the figure to enhance the student's individual research. Includes art historical component to enable students to fit themselves into the context of the use of the figure as it relates to the study of the history of art. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR senior or postbaccalaureate undergraduate with minimum 108 hours; Credit is allowed for only ART 414 or ART 514 |
| ART | 518 | Advanced Alternative Processes | Despite the convenience of modern photographic technology, many artists prefer to enrich their methods with the tactile wonders of the traditional processes that this course introduces. Part two of Alternative Processes with a finer focus on project-based work. Explores salt print, 3-color gum bichromate, wet plate collodion, albumen printing processes, daguerreotypes, as well as 21st-century alternative processes. Provides new opportunities for digital/analog hybrid processes and alternative ways of presentation, such as videos, photo sculptures and performances. Involves intensive studio work, lecture and critique sessions. Students must have a film or digital camera to produce new images for the projects assigned in this course. Also requires a basic understanding of Adobe Photoshop for digital negative outputting. Students are expected to share ideas, techniques and their photographic experimentations. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ART | 523 | Graduate Painting | Concentrates on formal and conceptual skills and explores a variety of topics, including historical and contemporary painting issues, visual literacy, critical thinking, and professional practices. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR Senior or Postbaccalaureate undergraduate with minimum 108 hours; credit is allowed for only ART 423 or 523 |
| ART | 525 | Advanced Figure Painting | Advanced study of the human figure clothed and nude as the subject for painting in selected media. Graduate-level study focuses on the development of personal expression. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 425 or ART 525 |
| ART | 527 | Art on Paper | Exploration focused on conceptual and technical approaches combining mixed media painting and drawing on paper and related surfaces. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 427 or ART 527 |
| ART | 528 | Video and Sound as Sculptural Materials | Students learn to incorporate video and sound into sculptures and installations. Covers basic video and sound capturing and editing, but emphasizes new techniques for controlling and presenting video and sound: Max/MSP programming language, Arduino microcontrollers and Raspberry Pi. The latest developments in video and sound for sculpture and sculpture for video and sound. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 428 or ART 528 or ART 598 (New Systems Sculpture) |

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| ART | 529 | Experimental Video Art | Explores creative possibilities through the production of experimental video art works referencing new approaches to concept, theory and art practice. The experimental video art curriculum emphasizes the use of metaphor and simulation to depict reality and linear story telling. Students study relational aesthetics, content, stylistic formats and presentation issues as they reference time-based media. The technical component concentrates on the use and operation of equipment for video recording, audio mixing, lighting, video editing and computer graphics. Students create stand-alone video works, video installations, multimedia time-based performances, through individual and group projects. Graduate students create a collaborative video anthology. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 440 or ART 529 |
| ART | 530 | Digital Compositing | Fine arts digital compositing of computer animation, video, and video editing of composites with audio. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR senior OR postbaccalaureate undergraduate with minimum of 108 earned hours |
| ART | 532 | Neon Sculpture | Emphasizes techniques for creating neon in an art context, including glass bending and fabrication. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ART | 533 | Foundry Casting Methods | Thorough and directed course for the professional preparation of sculptors. Students are expected and required to participate in all aspects of the foundry process, including serving on both a casting and foundry process maintenance team. Students deepen their knowledge of the history of the use of cast metal in the visual arts and understanding of how casting processes can be applied to contemporary sculptural concepts, participating in special projects such as exhibitions, iron casting, and field trips to local foundries as the semester course schedule dictates. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ART | 538 | Art with Arduino | Explores the use of Arduino microcontrollers to control light, sound, interactivity and movement in sculptures and installations. Covers basics of electronic circuits, mechanics and audio electronics. Also covers historical and contemporary artists who incorporate technology into their work. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 438 or ART 538 |
| ART | 539 | Studio Inquiry: Practice and Cultural Context | Investigates how intermedia practice can expand discourse within contemporary art, life and society. Encourages investigation of visual art, conceptual art, digital art, emergent media, installation, performance, art/life practices, social art practice, and with emphasis on research, production and theory. Students expand their ability to assess interdisciplinary strategies. Through reinforcing artistic rigor, students deepen their ability to employ intermedia methods as artistic communication, to express a personalized point of view. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 439 or ART 539 |
| ART | 540 | Visualization and Prototyping | Explores advanced concepts of computer visualization, modeling and prototyping in an interdisciplinary manner. Looks at "visualization" quite broadly--from 2D visualizations such as graphs and maps, to tangible 3D models, to dynamic and immersive 4D systems. Engages a variety of approaches to 3D data capture and modeling. Prototypes original designs--objects, assemblies, and systems--using 3D computer modeling techniques, desktop and enterprise level 3D printing, and novel systems for experiencing time and space, including stop motion film and AR/VR. Theoretical and historical lecture/discussion are supplemented with visiting artists, engineers, scholars and field trips. Students must be familiar with computer graphics applications and should have experience with 3D modeling applications. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 540 or ART 494 (Visual Prototyping) or ART 598 (Visual Prototyping) |
| ART | 542 | Art and Community | Through studio practice, research and presentations, explores intermedia social art practice, public practice, art/life practice, relational aesthetics, community-based projects, and other critical theories and conventions that engage art and community. Graduate students, in conjunction with the instructor, create their own workplan for the course. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 442 or ART 542 |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|---|---------------|-------|-----------------|--|
| ART | 543 | Performance Art: Actions, Gestures, Journeys | Performance art is the act of doing. It is not about representing, recounting, re-enacting or acting, or but simply doing. It is an art form of direct action. Students work with the elements of time, space, and the body as material to speak to cultural histories and collective contemporary experience while learning critical thinking skills and gaining knowledge about historical and contemporary performance artists. Students create performances and context-specific projects by making connections between art, life and public space. Since performance art/live art cannot be separated from the body who makes it, this course continually investigates the meaning and significance of performance art. For instance, what distinguishes an action as art? Is it different from an every day action like brushing your teeth? What makes it different? When is a job or labor a performance? How does a person (artist or audience) know when the art begins or when it ends? All performances are documented and presented in video or still photography examples online. Select works are posted on the Live Art Platform website at the end of the semester. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 443 or ART 543 |
| ART | 544 | Short Subject: Documentary Video | Students investigate documentary video as an art form with close attention to the aesthetic as well as the informational content. Emphasizes the intersection between standard documentary modes and experimental video art. Researches and discusses contemporary and historical materials in both documentary and video art. Emphasizes concept and content development in preparation for the production and post-production of an 8-10 minute documentary video art work by each student. Each student's documentary video art work is archived on the "ASU Documentary Video Art" Vimeo account that is viewable by the public. Each student produces a 4-minute excerpt of the longer 8-10 minute documentary for purposes of screening it at the Scottsdale Museum of Contemporary Art. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 444 or ART 494 (Documentary Video Art) or ART 544 or ART 598 (Documentary Video Art) |
| ART | 545 | Digital Processes for Printmaking | Introduces digital applications and processes as they relate to all areas of photo-mechanical printmaking processes. Course is comprised of three smaller sections to give a broad overview of possibilities and how they relate to analog printmaking techniques: image capture, film generation and analog processes, and digital and inkjet printing. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 445 or ART 545 |
| ART | 546 | On Walking | Artists have often made use of walking as a source of inspiration, or a starting point for the creation of art works. The act of walking is located in histories of landscape art, conceptual art, cultural ritual and political protest. From Paul Klee to Marina Abramovic, covers a range of artists engaging walking in their art practice. From the philosophical to the contemplative, discusses artist writings, literature and histories of walking related to studio practice, sustainability, indigenous culture and contemporary art. Encourages students to consider walking as a creative medium and to think of the pedestrian as an active creator of public space. Physically engages the body in space by walking in urban and rural places and implements ways in which this experience can be documented to be re-presented in another context, i.e., gallery, museum, film festival, etc. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 446 or ART 494 (On Walking) or ART 546 or ART 598 (On Walking) |
| ART | 550 | Photolithography | Covers various photolithography processes including black and white, multiple color, and CMYK photo reproduction techniques, looking at the transformation of the photo image into print and the nature of printed photographic images. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 550 or ART 598 (Photolithography Prints) |
| ART | 551 | Advanced Intaglio | Gives students the opportunity to further develop their skills with intaglio printmaking techniques. Primary areas of research include image development, multiple plate and color printing. Additional techniques include lift grounds, spit bite aquatint, white ground, and viscosity printing. Develops sharper critical responses, both aesthetically and conceptually, to their own work, as well as the work of other artists. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or senior or post-baccalaureate undergraduate with minimum of 108 earned hours; credit is allowed for only ART 451 or 551 |
| ART | 553 | Experimental Printmaking: Beyond the Matrix | Focuses on the development of concepts in printmaking beyond the traditional two-dimensional image on paper that is contained in a portfolio or frame. Explores alternative techniques and materials, methods of extending the print beyond 2 dimensions, and expanding the concept of what is a print. Students are encouraged to understand printmaking within the wider context of contemporary art, especially those directly related to the student's main artistic emphasis (if not printmaking). | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or senior or postbaccalaureate undergraduate with minimum 108 hours; Credit is allowed for only ART 453 or ART 553 |

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| ART | 554 | Graduate Screenprinting | Focuses on the development of screenprinting techniques and the ability to utilize these techniques as an expressive visual method of exploring and developing individual research concepts. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ART | 555 | Artists' Books | Graduate-level introduction to concepts, materials, techniques and structures related to book arts. Explores a variety of traditional and nontraditional binding structures, basic editioning and low-tech printing techniques while simultaneously working on studio assignments that challenge on a conceptual level. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 555 or ART 598 (Artists' Books) or ART 455 |
| ART | 556 | Letterpress Studio | The equipment, techniques and applications of letterpress printing. Students hand-set type and create photopolymer plates and are encouraged to integrate the tactile quality of letterpressed type and image with other media. Discusses conceptual and material aspects of letterpress. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 456 or ART 556 |
| ART | 557 | Fine Printing and Bookmaking | Continuing study of letterpress in fine art--the book arts--with emphasis on the book. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 457 or ART 557 or ART 598 (Fine Printing and Bookmaking II) |
| ART | 558 | Papermaking Studio | The equipment, techniques and applications of papermaking, exploring both traditional sheet forming, paper pulp painting as well as sculptural paper. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 458 or ART 558 |
| ART | 559 | Monoprinting | Investigates monoprint/monotype printmaking and its aesthetic possibilities. Students acquire basic and advanced skills in the medium through demonstrations, problem solving exercises, and experimentation. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR senior or postbaccalaureate undergraduate student; minimum 108 hours |
| ART | 563 | Ceramic Glaze Research | Focuses on an investigation into the science and art of clay and glazes and a process of exploration of materials and surfaces, which continues to evolve with the students' evolving creative expression. The first assignments help students choose a direction to investigate for their own artwork. Each student selects a particular glaze to focus on during the term. Investigates ways of altering and improving recipes, focusing on one particular glaze quality at a time. By the end of the term students understand their glaze focus extensively and know how to go about altering all glaze types for special effects and required changes. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 463 or ART 563 |
| ART | 567 | Art and Ecology | Designed for students with advanced independent studio art practices or sustainability studies students who have an interest in the way that their lives and practices engage environments. Through readings, slide presentations, discussions, guest visits, hands-on activities and screenings, explores the work of many contemporary ecological artists engaging with environments and environmental issues from a multitude of angles. Artists engage land remediation, agriculture, socio-ecological justice, sustainable materials, landscape design and much more. As cultural workers must be informed, the course content addresses some basic literacy with regard to environmental concerns and shares examples of realized accessible sustainable solutions. In addition to learning about ecologies and artists, students complete three art or research projects, inspired by assignments. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 467 or ART 494 (Art and Ecology) or ART 567 or ART 598 (Art and Ecology) or SOS 467 or SOS 494 (Art and Ecology) or SOS 567 or SOS 598 (Art and Ecology) |
| ART | 576 | Advanced Textile Construction | Expanding on technical knowledge of knit and woven structures, this course emphasizes the creation of a body of work. The materialization ranges from the functional to the formal to the conceptual depending on one's research trajectory within his or her program of study. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 476 or ART 576 or ART 598 (Woven Structures) |
| ART | 578 | Advanced Surface to Form | Broadening knowledge of surface design and the construction of 3D structures, this class presents advanced explorations in embroidery, dyeing and quilting. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 478 or ART 578 or ART 598 (Advanced Surface Design) |
| ART | 579 | 3-D Fibers: Construction and Content | Explores hand-constructed fiber techniques through the context of the history and communities from which they came, as well as contemporary applications. Emphasizes research and the development of one's work through studio and social practice. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Pre-requisite: Degree- or Nondegree-seeking graduate; Credit is allowed for only ART 479, 579 or 598 (3D Fibers) |

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| ART | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or senior or postbaccalaureate undergraduate with minimum of 108 earned hours |
| ART | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or senior or postbaccalaureate undergraduate with minimum of 108 earned hours |
| ART | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ART | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | School of Art | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student or senior or postbaccalaureate undergraduate with minimum of 108 earned hours |
| ART | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student or senior or postbaccalaureate undergraduate with minimum of 108 earned hours |
| ART | 621 | In Practice | Advanced study. 3 hours a week each section. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ART | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | Z2 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ART | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-12 | | |
| ASB | 100 | Introduction to Global Health | Current global health crises, challenges; tools for describing health and disease; ecological, cultural, social, historical, political-economic factors; comparative health systems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G | Credit is allowed for only ASB 100 or SSH 100 |
| ASB | 101 | Anthropology: Understanding Human Diversity | Provides an integrated understanding of biological, historical, and cultural evolutionary processes that account for human variation. Specifically examines how humans evolved and how they obtained the characteristics that make us a unique species. Considers cultural and biological models of cooperation, resource acquisition and distribution, sex and marriage, parenting, conflict and warfare, political structures, power and status, sex roles, ritual, religion, and language. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G | |
| ASB | 102 | Introduction to Cultural Anthropology | Introduces concepts and methods of sociocultural anthropology, with illustrative materials from a variety of communities in a globalizing world. Explores the concept of culture and examines a variety of social, political and economic dimensions of how humans organize their lives. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G | |
| ASB | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-3 | | Pre-requisites: Freshman standing, Maximum 25 hours |
| ASB | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | |
| ASB | 202 | Immigration and Ethnic Relations in the U.S. | The ethnic and social consequences of international migration with a focus on the United States. Examines the impact of immigration on both American society and immigrant ethnic minorities over time. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & C | Credit is allowed for only AFR 202 (or AFS 202) or ASB 202 |
| ASB | 210 | Human Sexuality: Anthropological Perspectives | Examines the sexual nature and behavior of humans from both a biological and an anthropological point of view across various cultures around the globe. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G | |
| ASB | 211 | Women in Other Cultures | Cross-cultural analysis of the economic, social, political, and religious factors that affect women's status in traditional and modern societies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (HU or SB) & G | |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|---------------------|--|
| ASB | 220 | The Expressive Culture of Latin America and the Caribbean: A Transborder Perspective | Interdisciplinary social science introduction to various forms of cultural expressions found throughout Latin America and the Caribbean region and in Latina/o communities within the United States. Uses a transborder perspective to examine how migration, race, ethnicity, gender, power, history and identity shape and influence different aspects of Latina/o culture and identity. Focuses on the study of a wide array of expressive practices including music, dance, verbal arts, myths and folktales, festivals, sports and food in Mexico, the Spanish Caribbean and their counterpart Latina/o communities in the United States. Class lectures and readings introduce basic concepts such as ethnography, ethno-musicology, culture, representation and globalization. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (L or HU or SB) & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ASB 220 or TCL 230 OR Visiting University Student |
| ASB | 222 | Buried Cities and Lost Tribes | Archaeology through its most important discoveries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (HU or SB) & G & H | |
| ASB | 223 | Aztecs, Incas and Mayas | Archaeological and historical study of the three best-known ancient cultures of Mesoamerica and South America. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (HU or SB) & G & H | |
| ASB | 230 | Beginning Social Research | Introduces basics of social research design; fosters independent thinking and critical analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB | |
| ASB | 250 | Introduction to Evolution and Medicine | Introduces applications of evolutionary biology to medicine. Discusses topics ranging from the evolution of antibiotic resistance to aging, obesity, Alzheimer's disease and cancer using an evolutionary framework to better understand how these diseases/issues came to be, and what can be done to prevent/treat/mitigate these conditions. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G | Credit is allowed for only ASB 250 or ASB 294 (Introduction to Evolutionary Medicine) or ASM 294 (Evolution and Medicine) or BIO 250 or BIO 294 (Introduction to Evolutionary Medicine) OR Visiting University Student |
| ASB | 252 | Sports and Culture | Cross-cultural examination of symbolic and social dimensions of sports past and present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G | |
| ASB | 272 | Economic Justice | Surveys key environmental justice issues and movements. Uses interdisciplinary social science perspectives to review and analyze U.S. and international case studies. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB | Credit is allowed for only ASB 272 or SOS 272 |
| ASB | 275 | Culture, Language and Learning | Examines the dynamic and complex interplay of language, culture and learning within and across individuals, groups, institutions and cultures in diverse multicultural, multilingual and transborder contexts. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & C | Credit is allowed for only ASB 275 or TCL 275 |
| ASB | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | |
| ASB | 300 | Food and Culture | Uses the case of food to explore how culture shapes human well-being, including the impact of political-economic systems on what we have and chose to eat. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (L or SB) & C | Prerequisite(s): ENG 101, 105, 107, or 111 with C or better; Credit is allowed for only ASB 300 or SSH 300 OR Visiting University Student |
| ASB | 301 | Global History of Health | Examines disease and health transitions in broadest context of human history, from primate ancestors to hunter-gatherers, to transcontinental contact, colonialism, industrialization, urbanization. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 301 or HST 301 or SSH 301 OR Visiting University Student |
| ASB | 302 | Ethnographic Field Study | Fieldwork study of cultural adaptation through ethnographic research methods and local culture. Taught in Latin America or other international locations. | N | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (L or SB) & G | Prerequisite(s): ASB 102, ASB 222, ASB 223, or ASM 104; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| ASB | 305 | Poverty and Global Health | From perspectives of anthropology and allied fields, explores critical, social justice, and ethical issues in health care, research, and disparities. Focuses on vulnerable and special populations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (L or SB) & G | Prerequisite(s): ENG 101, 105, 107, or 111 with C or better; Credit is allowed for only ASB 305 or SSH 305 OR Visiting University Student |
| ASB | 310 | Precolonial Africa | In-depth course study of contemporary Africa, providing thorough examination of the continent's pre-colonial history, particularly before 1900. The course will study the continent and its people, the way the history of the continent has been interpreted by non-Africans, how the continent's anatomy has affected historical development, and the methodology and interdisciplinary scholarship in the study of Africa | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G & H | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours; Credit is allowed for only AFR 300 (or AFH 300) or ASB 310 |
| ASB | 311 | Principles of Social Anthropology | Comparative analysis of domestic groups and economic and political organizations in primitive and peasant societies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G & H | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ASB | 316 | Money and Culture | Using the fundamentals of economic anthropology, investigates how culture shapes our relationship to money and decision making. Provides a foundation for thinking about how production, exchange and consumption can be explained by looking at human behavior, thought and culture, and encourages students to apply anthropological knowledge to real-world situations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better |

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| ASB | 319 | The North American Indian | Archaeology, ethnology, and linguistic relationship of the Indians of North America. Does not include Middle America. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Pre-requisites: ASB 102, ASB 222, or ASB 223 |
| ASB | 322 | Peoples of Latin America | Indigenous, mestizo, and national cultures, rural and urban peoples in the region that today we call Latin America. Covers historic and contemporary events and cultures. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (L or SB) & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; ASB 102 with C or better or minimum 45 hours OR Visiting University Student |
| ASB | 325 | Peoples of Southeast Asia | Cultural-ecological perspective on the peoples of mainland and insular Southeast Asia. Subsistence modes, social organization, and the impact of modernization. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | G | |
| ASB | 326 | Human Impacts on Ancient Environments | World survey of successful and unsuccessful ancient societies and their impacts on the environment, as well as modern society's impact in the "anthropocene." Through lecture and discussions, addresses the nature of humans' impact on the environment through antiquity (both beneficial and deleterious effects), debates about human-made versus natural causes of environmental impacts, and alternative ways to minimize potentially harmful consequences of human activities including social and environmental policy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & H | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ASB | 327 | Disaster! | Examines the causes of disasters, such as famines and pandemics, throughout human history. Explores cases in which social responses to disaster have helped people survive or led to their demise. Through hands-on activities, students gain experience with popular tools to understand human responses to disasters. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (L or SB) & C | Prerequisite(s): ASB 102 with C or better or minimum 45 hours; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| ASB | 330 | Understanding Archaeology | In-depth study and critique of theories and methods for reconstructing the lives of prehistoric peoples. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G & H | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ASB | 333 | Frauds, Myths and Mysteries | Depictions of archaeology in popular culture are full of dubious tales of ancient extraterrestrials, giants and widespread scientific conspiracy. Explores such fantastic claims and learn how archaeologists separate plausible arguments from pseudoscience. Critically examines how and why such pseudoscientific claims develop and take hold of the public imagination. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (HU or SB) & G | Prerequisite(s): minimum 42 hours OR Visiting University Student |
| ASB | 335 | Ancient Ruins of the Southwest | Archaeological exploration of the major cultural developments in the prehispanic Southwest, including Mesa Verde, Chaco Canyon, Mimbres, Hohokam and Rio Grande. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & H & C | Prerequisite(s): ASB 102, ASB 222, ASB 223, or minimum 45 hours OR Visiting University Student |
| ASB | 336 | African Art | Anthropological perspective of ancient visual art traditions of Africa. In-depth studies focus on several important themes and case studies that are pivotal to the understanding of the rich and diverse artistic heritage of the African continent. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | HU & G | Prerequisite(s): AFR 200 (or AFS 200) or ASB 102 or minimum 45 hours; Credit is allowed for only AFR 336 (or AFH 336) or ASB 336 |
| ASB | 337 | Pyramids and Hieroglyphs: Life in Ancient Mesoamerica | Preconquest cultures and civilizations of Mexico. The Aztecs, Mayas, and their predecessors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (HU or SB) & G & H | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ASB | 338 | Archaeology of North America | In-depth study of the origin, spread, and development of the prehistoric Indians of North America up to historic tribes. Does not include the Southwest. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB | Pre-requisites: ASB 102 or ASB 222 or ASB 223 |
| ASB | 339 | Grassroots Social Movements | Explores how groups mobilize collectively to produce social, political, economic and cultural change, with an emphasis on the United States. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ASB 339 or POS 339 or SBS 339 or SOC 339 OR Visiting University Student |
| ASB | 340 | Migration and Culture | Examines migration and culture embedded in a transnational field of social, economic and political processes. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 340 or SOC 328 OR Visiting University Student |
| ASB | 342 | Mexico-U.S. Borderlands | Contemporary examination of socioeconomic and political dimensions of border communities, and formation of Mexican-origin communities within and outside the Southwest. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & C | Credit is allowed for only ASB, SBS or SOC 342 |
| ASB | 343 | Latinas/os and the Environment | Examines the nexus among race/ethnicity, migration, class and the built and natural environment. Explores the proposition that Latina/o and other ethnic minorities and socioeconomically disadvantaged populations bear a disproportionate burden of environmental challenges and its consequences for equality, health and quality of life. Key topics include environmental racism, vulnerability and resilience, climate change, community organizing, and mobilization. Pays considerable attention to community-based efforts to deal with environmental problems affecting the Latina/o population in the U.S. Southwest. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): ENG 101 or 105 or 107 with C or better OR minimum 24 hours; Credit is allowed for only ASB 343 or PUP 343 or SOS 343 or TCL 343 or ASB/PUP/SOS/TCL 394 (Latinos and the Environment) |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|--|
| ASB | 344 | Technology and Society | Development of technology in relation to society, work, science, the environment, public health, and cultural values related to social change. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ASB 344 or SOC 334 OR Visiting University Student |
| ASB | 345 | Culture and Society Transformation | Uses video documentaries and movies to explore the way in which cultural values, economic background and human interaction impact and transform societies. Societal changes in Central and Eastern Europe make a good case study for contrasting and comparing with other societies and understanding global trends and issues in today's world. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G | Prereq(s): ENG 101, 105, or 107 with C or better; Credit for only ASB 345 or ASB 394 (Cult & Soc Transform) or JUS 343 or JUS 394(Cult & Soc Transform) or ROM 343 or SLC 343 or SLC 394 (Cult & Soc Transform) or SOS 344 or SOS 394 (Cult & Soc Transform) |
| ASB | 346 | Marriage and Family Diversity | Social, economic, and cultural factors that shape family diversity in relation to generational and gender dynamics within the family. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & C | |
| ASB | 348 | The Borders of Language | In-depth focus on language use, multilingualism and social life in borderlands contexts, in and out of school. Explores the historical and contemporary dimensions of language use in the borderlands, including Indigenous languages, English and Spanish, and hybrid forms. Also introduces theories and methods in the field of linguistic anthropology. Students conduct research on everyday linguistic practice and connect it to broader sociopolitical realities. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | L | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only ASB 348 or ASB 394 (The Borders of Language) or ENG 348 or ENG 394 (The Borders of Language) or TCL 348 or TCL 394 (The Borders of Language) |
| ASB | 350 | Anthropology and Art | Art forms of people in relationship to their social and cultural setting. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | HU | |
| ASB | 353 | Death and Dying in Cross-Cultural Perspective | Scientific and humanistic approaches to the study of death and dying from the perspective of anthropology and allied disciplines. Uses a global, comparative approach across space and time from the earliest human burials to contemporary funeral events. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3-4 | (HU or SB) & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 353 or SOC 353 OR Visiting University Student |
| ASB | 355 | Traditional Medicine and Healing | In-depth study of world views, practices, and roles of shamans and traditional and contemporary healers. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | HU or SB | Prerequisite(s): ASB 102, ASB 222, ASB 223 or ASM 104 or SSH 100 or ASB 100 with C or better |
| ASB | 356 | Central American Studies | Part of the summer ASU study abroad Costa Rica Program, which is a language and social sciences immersion program in the capital city, San Jose. A summer offering permits students to enroll in the program without conflicting with full course loads during the fall or spring semester. However, the course is proposed as a stand-alone course that can be offered in a regular semester as well. | N | REC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | Credit is allowed for only ASB 356 or GCU 356 or POS 354 or SBS 356 or SOC 356 |
| ASB | 357 | Society, Drugs and Health | Analyzes how humans use exogenous chemicals to change psychology, biology and behavior, and what positive and negative consequences this has for human health. Explores how such chemical technologies arise through cultural evolution, how societies decide what are appropriate and inappropriate uses of such technologies, how these technologies change what is considered normal biological functioning and behavior, and how these technologies shape human health. Through this substantive topic, introduces basic concepts and tools in two related fields--medical anthropology and epidemiology. A consistent focus in the course is developing tools that can be applied to improve the provision of care and health care policy. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ASB | 358 | The Yoruba and the Atlantic World | The Yoruba in the African diaspora is how Africans, separated from their home country and scattered in a new land, managed to retain their traditions and reform their identities. The slave trade led to the spreading of African culture, religion, dance, art and music from one hemisphere to another and contributed to the cultural diversity of the New World. Allows students to trace the experiences of one African cultural group throughout the cycle of the slave experience in the Americas. Utilizes different sources or approaches (e.g., anthropology, archaeology, written document, oral tradition) to provide an understanding of how the Yoruba were integrated into the Atlantic world, the transformations of Yoruba identities and culture, and the strategies for resistance employed by the Yoruba in the New World. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): minimum 30 hours; Credit is allowed for only AFR 358 or ASB 358 or AFS 394/ASB 394/HST 394/SGS 394 (Yoruba in the African Diaspora World) OR Visiting University Student |
| ASB | 361 | Human Cultural Beginnings | Biosocial evolution in the Plio-Pleistocene, emphasizing technological achievements and the relationship between technology and environment in Eurasia and Africa. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | H | Prerequisite(s): minimum 45 hours OR Visiting University Student |

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| ASB | 362 | People and Plants | Offers a global survey of ethnobotany, the study of the uses of plants by people. Integrating botany, anthropology and archaeology, students learn about the roles plants have played as foods, tools, medicines and foci of religious devotion and ritual experience across human history. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ASB | 363 | From Cells to Society: Understanding Complexity | Equips students with concepts and empirical examples they need to understand the role of complexity in the world around them. Complexity science is based on the fundamental principle that entities and phenomena in the world around us are systems composed of many parts that interact to produce their global characteristics. For example, cells interact to produce organs and tissues, which in turn interact to produce physiological processes (i.e., the capacity to metabolize food to produce new compounds and energy) and physical infrastructure (skeletal and muscular structure) which produce organisms. Organisms, (e.g., humans) interact to form groups, villages, cities, nations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AML/ASB/BIO/SOS 394 (From Cells to Societies) or ASB 363 or BIO 363 or CAS 363 or SOS 363 OR Visiting University Student |
| ASB | 366 | African Archaeology: Precolonial Urban Culture | In-depth analysis of African civilization from the last 10,000 years up to 1850 via archaeological, documentary, and oral data. Places special study on the evidence relating to dynamics of civilizations in ancient Africa, their foundation, growth, and failure, which spans a period of two million years. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & H | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours; Credit is allowed for only AFR 366 (or AFS 366) or ASB 366 |
| ASB | 368 | Hunter-Gatherers | Studies of known hunting and gathering societies with the goal of developing approaches to understanding past and/or present hunting and gathering societies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB | Prerequisite(s): minimum 45 hours |
| ASB | 370 | Ethics of Eating | This multidisciplinary course examines the elements of modern food systems and current ethical issues regarding food production, distribution and consumption. Also provides a foundation for investigating the effects of social inequality in food systems and global and local responses to address those challenges. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | L or SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ASB 370 or ASB 394 (Production, People, and Environments) or ASB 394 (Ethics of Eating) or SOC 370 or SOS 370 or SSH 370 OR Visiting University Student |
| ASB | 371 | Language Hegemony and Culture | Historical and cultural analysis of language and the ideological constructs imposed upon resident populations in the Southwest North American region since 1540. Analyzes the suppositions, ideologies, premises and mechanisms by which Spanish and English became imposed among Native peoples and later national populations of Mexicans during the 19th century and continuing with their descendants and migrating populations crossing the bifurcated border. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 371 or HST 371 or SLC 371 or SPA 371 or TCL 371 or ASB/HST/SLC/SPA/TCL 394 (Language Hegemony & Culture in SW North America) |
| ASB | 373 | Applying Anthropology | Takes key findings from the most recent research across the fields of anthropology (archeology, biological anthropology, cultural anthropology and linguistic anthropology) and identifies how it is helpful in addressing the daily personal and professional challenges we all face. Topics include health and disease, death and dying, and communication through language. Suitable for nonmajors and assumes no prior background in anthropology. Emphasizes practical skills development. Engages students in both written and oral forms of communication and interpretation and evaluation of evidence, with a view to building practical skills for everyday professional and personal life. Requires and expects writing as part of this class. Writing assignments are relevant and interesting by applying them to issues and challenges encountered across students' lives. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ASB 373 or ASB 394 (Applying Anthropology) OR Visiting University Student |
| ASB | 374 | Cultures and Politics of the Internet | Explores the culture and politics of the Internet in global perspective, including virtual communities, free software, copyleft, blogs, and hacktivism. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | Credit for only ASB 374, POS 374, SBS 374 or SOC 374 |
| ASB | 375 | Humans and the Environment: What's the Connection? | How do diverse human groups across global ecosystems (desert, tropics, arctic, alpine, urban) interact with and adapt to their environments and how are these relationships changing in response to globalization, climate change and other social, historical and political-economic drivers? Cultures situated in landscapes are the basis for an incredible global diversity of worldviews and behaviors that in turn affect how humans experience and "use" their environments. This course will provide an introduction to current and benchmark literature and methods in environmental and ecological anthropology that address people-environment interactions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (L or SB) & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ASB 375 or SOS 375 OR Visiting University Student |
| ASB | 376 | Global Health Policy | Examines the relationship among global policy, population dynamics and human health. Learn about what quantitative indicators (i.e., measures) can tell us about the scope, distribution and determinants of population health problems. The population focus organizes the course according to the broad domains of fertility, morbidity and mortality. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): minimum 42 hours; Credit is allowed for only ASB 376 or ASB 494 (Global Health Policy) OR Visiting University Student |

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| ASB | 378 | Globalization: Migration, Mass Media, McDonald's | Explores the impact of globalization on local societies and cultures by focusing on the international migration of peoples, the global expansion of capitalism and global mass media and popular culture. Examines both the socioeconomic causes and consequences of globalization, as well as how local peoples around the world have been affected by, participated in and resisted the forces of globalization. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (L or SB) & C | Prerequisite(s): ENG 101, 105, 107, or 111 with C or better; Credit is allowed for only ASB 378 or TCL 378 OR Visiting University Student |
| ASB | 380 | Language, Culture and Gender | Focuses on how language, thought and culture are intertwined in everyday practice. Students learn the central role of language in shaping and reflecting social norms and social actions cross-culturally. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB | Prerequisite(s): minimum 42 hours OR Visiting University Student |
| ASB | 383 | Religion and Sports | Religion and sport in America are both long-held and passionately maintained cultural components. The first part provides a framework for understanding scholarly analyses and approaches regarding the intersections of religion and sport primarily in the 20th and 21st centuries. Indeed, religious sentiments and doctrines have played and continue to play an important role in creating today's American sporting culture. The second part seeks to understand particular arguments framing sports as a space of religious expression or more boldly as a religion in the United States. To gain various perspectives, students engage with various materials including scholarly works, recorded lectures and podcasts, popular culture videos, and conduct qualitative interviews with student athletes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only ASB 383 or REL 383 or REL 394 (Religion and Sports) |
| ASB | 389 | Ethnographic Field Lab | Hands-on, guided ethnographic qualitative research and interpretative analysis. | N | LAB | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-6 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 389 or SBS 389 or SOC 389 OR Visiting University Student |
| ASB | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ASB | 395 | Topics in Comparative Culture | In-depth study of specific topic(s) cross-culturally. Students engage with the subject matter through critical evaluation of literature, hands-on analysis and interpretation of data, and scientific writing. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G | Prerequisite(s): minimum 42 hours |
| ASB | 408 | Advanced Evolutionary Medicine | Explores the application of the principles of evolution to the fields of medicine and public health and places disease in the context of changing environments, both exposures and the encompassing ecology of life in which an individual is imbedded. Focuses on the biological aspects of evolutionary theory through the use of molecular genetics; population genetics; and the use of evolutionary thinking and analysis with translational, clinical and public health intersections. A foundation in evolutionary medicine is useful for students with interests including but not limited to: premed, population genomics, maternal and child health, mental health, cancer, microbiome, aging, anthropology, biology, public health, global health and medicine. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): minimum 30 hours; Credit is allowed for only ASB 408 or ASB 494 (Evolutionary Med) or ASB 507 or ASB 591 (Evolutionary Med) or BIO 408 or BIO 494 (Evolutionary Med) or BIO 507 or BIO 591 (Evolutionary Med) OR Visiting University Student |
| ASB | 412 | History of Anthropology | Historical treatment of the development of the culture concept and its expression in the chief theoretical trends in anthropology between 1860 and 1950. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| ASB | 417 | Politics and Culture | Comparative examination of the forms and processes of political organization and activity in primitive, peasant, and complex societies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| ASB | 421 | Education and Society | Uses contemporary sociological perspectives to examine effects of schools and schooling on individuals and society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 421 or SOC 421 OR Visiting University Student |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| ASB | 442 | Global Cities | This close look at megacities in the global south decisively challenges the outdated impression that the rest of the world's cities still lag way behind the U.S. and Europe. The social sciences' debate over "global cities" anchors our examination of the reorganization of metropolitan social space under impact of neoliberal globalization since the 1970s. Explores urban inequalities of slums and dreamworlds; compares vernacular and transnational styles of urbanism (in architecture, design, markets, consumerism, jobs, ads, ways of living); and asks how transnational flows of people, capital and culture have reconfigured ethnic relations and national identities rooted in global cities. Students become virtual transnational flâneurs, tacking between the slums and skyscrapers of global cities, and conduct guided research on a global megacity to investigate how the production of the global city changes the lived space and urban culture of local residents, and how they respond. We ask, whose city is it? | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | Prerequisite(s): minimum junior standing; Credit is allowed for only ASB 442 or SBS 460 |
| ASB | 443 | Cross-Cultural Studies in Global Health | Direct investigations of society, ecology, and health in international settings. | N | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3-6 | (L or SB) & G | Prerequisite(s): ASB 100; ENG 101, 105, or 107 with C or better; Credit is allowed for only ASB 443 or SSH 403 OR Visiting University Student |
| ASB | 447 | Citizenship, Nationalism and Identity | Critical examination of citizenship, national belonging and identities by examining contemporary social issues and discourses from global and comparative perspectives. Aims to understand complexities of national belonging that go beyond legal, formal citizenship, such as how cultural, racial/ethnic, class and gender differences challenge the limits of national citizenship. Explores case studies that show how members of different societies demonstrate their positions as legitimate national citizens in different and often conflicting ways, especially in order to defend social justice and human diversity. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & C & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 447 or POS 447 or SBS 447 OR Visiting University Student |
| ASB | 448 | Maternal and Child Health | Explores how genetics, nutrition, disease ecology, clinical access, legal systems, cultural practices and historical context contribute to maternal and child health. Draws from diverse fields including epidemiology, anthropology, biology, medicine, global health, public policy and sustainability to integrate a complex understanding of the myriad influences that shape maternal and child health and thereby affect our broader society. Evaluates the translation of basic science into clinical practice and public policy as well as the roles and partnerships among local, national and international organizations for improving human health worldwide. Provides up-to-date information about basic science, public policy and global health of maternal and child health to develop skills translatable in the workforce. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prereq(s): minimum 45 hours; Credit is allowed for only ASB 448 or ASB 494 (Matrnl &Chld Hlth) or ASB 548 or ASB 598 (Matrnl &Chld Hlth) or BIO 448 or BIO 494 (Matrnl &Chld Hlth) or BIO 548 or BIO 598 (Matrnl &Chld Hlth) OR Visiting University Student |
| ASB | 452 | Community Partnerships for Global Health | Supervised community-based activities relevant to a global perspective on contemporary U.S. health. Addresses community-identified issues using appropriate methodologies. | N | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3-9 | SB | Prerequisite(s): ASB 100; minimum 45 hours; Credit is allowed for only ASB 452 or SSH 402 OR Visiting University Student |
| ASB | 455 | Practicum for Social Sciences | Students integrate theoretical, methodological, ethical and experiential learning related to social science research questions. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3-9 | SB | Prerequisite(s): minimum 42 hours |
| ASB | 457 | Global Mental Health | Brief overview of the field of global mental health, an emerging field and one of vital importance for both research and evidence-based interventions. Mental health has been identified as one of the leading causes of death and disability and thus deserves a critical look at why this is occurring globally. Introduces the concept of the field of global mental health, cross-cultural problems and possible solutions. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (L or SB) & G | Prerequisite(s): ASB 100; ENG 101, 105, or 107 with C or better; Credit is allowed for only ASB 457 or ASB 498 (Global Mental Health) OR Visiting University Student |
| ASB | 462 | Medical Anthropology: Culture and Health | Role of culture in health, illness, and curing; health status, provider relations, and indigenous healing practices in United States ethnic groups. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & C | Credit is allowed for only ASB 462 or SSH 404 OR Visiting University Student |
| ASB | 463 | Political Ecology of the Border | Examines the political ecology of the human-environment relationship in Mexico and on the U.S.-Mexican border. Through case studies, students learn about the most pressing environmental issues facing human populations and their communities on both sides of the U.S.-Mexican border and the various ways in which these issues are dealt with. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 463 or SOS 463 or TCL 443 |

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| ASB | 464 | The Ethnography of Mexico and the Borderlands | Students learn basic principles of ethnographic research and obtain a better understanding of the social, ecological, cultural, political and economic processes affecting people in Mexico and in the U.S.-Mexico borderlands. Through case studies, students become aware of the variety of issues shaping the lives of those living in these regions. Focuses on contemporary issues such as migration, economy, gender, labor, health and the environment. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 464 or TCL 444 or TCL 598 (The Ethnography of Mexico and the Borderlands) OR Visiting University Student |
| ASB | 466 | Peoples and Cultures of Africa | Surveys African peoples and their cultures, external contact, and changes. Meets non-Western requirement. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G | Prerequisite(s): AFR 200 or minimum 45 hours; Credit is allowed for only AFR 466 or ASB 466 OR Visiting University Student |
| ASB | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | |
| ASB | 490 | Earliest Cities | Archaeological research on the origins and development of the earliest urban centers around the world. Applies urban theory and comparative analysis. Compares ancient and modern cities. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & H | Prerequisite(s): ASB 222 or 223 with C or better; minimum 45 hours; Credit is allowed for only ASB 490 or PUP 490 |
| ASB | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-6 | | Prerequisite(s): Barrett Honors student |
| ASB | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ASB | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | |
| ASB | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-6 | | Prerequisite(s): Barrett Honors student |
| ASB | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-7 | | |
| ASB | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-3 | | |
| ASB | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 501 | Professionalism | Presents students both information about the tools, opportunities and skills needed to navigate graduate training and future career success, as well as the opportunity to consider all this for themselves. Presents traditional, timeless tools for success, while also taking into account recent and profound changes to the academy that have changed how academic work is done and communicated. Also touches upon considering and preparing for a range of possible career paths for PhDs. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASB 501 or ASB 591 (Professionalism) |
| ASB | 503 | Medical Anthropology | Theory in medical anthropology and cross-cultural studies that illustrate particular theories. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 504 | Global Health Policy | Examines the relationship among global institutions and policies, population dynamics and human health. Uses extant data to conduct comparative analyses of population data and health-related policies and practices. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 507 | Advanced Evolutionary Medicine | Explores the application of the principles of evolution to the fields of medicine and public health and places disease in the context of changing environments, both exposures and the encompassing ecology of life in which an individual is imbedded. Focuses on the biological aspects of evolutionary theory through the use of molecular genetics; population genetics; and the use of evolutionary thinking and analysis with translational, clinical and public health intersections. A foundation in evolutionary medicine is useful for students with interests including but not limited to: premed, population genomics, maternal and child health, mental health, cancer, microbiome, aging, anthropology, biology, public health, global health and medicine. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking grad stdnt; Credit is allowed for only ASB 408 or ASB 494 (Evol Medicine) or ASB 507 or ASB 591(Evol Medicine) or BIO 408 or BIO 494 (Evol Medicine) or BIO 507 or BIO 591 (Evol Medicine) |
| ASB | 510 | Health: Social and Biocultural Theories | Comparative and critical approaches to complexities of health, drawn from anthropology and related fields Focuses on theories that address how social and cultural factors shape human health. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| ASB | 517 | Uncertainty and Decision Making | Knowledge is always incomplete, yet decisions must be made. Explores uncertainty and its relation to decision making, with a particular focus on the ways that science and science-derived information is applied with the intent of improving decisions. Explores the many meanings and origins of uncertainty, using theoretical and case-based approaches. A central theme is the relation among uncertainty, scientific prediction, and decision making, especially in politically charged issues, for example as related to management of the environment. Ultimately understands how effective decisions can be made in the face of inevitable uncertainties and contested knowledge. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only ASB 517 or BIO 517 or BIO 591 (Uncertainty & Decision Making) or HSD 517 or POS 527 or SOS 518 |
| ASB | 525 | Introduction to Material Culture | Considers how objects embody social relationships and therefore cultural meanings. Seminar explores theories that give insight into social processes such as exchange, consumption, and identity. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 526 | Survey Topics in Global Nutrition | Nutrition is at the nexus of human health, food systems, water, sanitation and hygiene (WASH) and gender, among others important intersecting human and environmental systems. Explores the current landscape of nutrition and its intersection with these topics by synthesizing research, programmatic, and policy documents and public communications and through hands-on exploration and analysis of publicly available datasets. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 530 | Changing Human-Nature Relationships | Explores key concepts in Western and non-Western thinking now intersecting in the Anthropocene to influence human interactions with and descriptions of Nature. Humans may protect Nature, but simultaneously use/overuse resources and drive change in social-ecological systems. Examines evolving assumptions about Nature, values/world views, progress, change, uncertainty, rationality, knowledge, tradeoffs and control/management, using a range of theoretical lenses (e.g., environmental/ecological/historical anthropology, culture, geography, ecology, economics, institutions, economic development, complex systems and sustainability science). Also studies a set of iconic Human-Environmental challenges and examines how theories and assumptions explain behaviors and human, ecological and policy outcomes. In turn, focuses on lessons that emerge for interdisciplinary scholarship. Encourages students to apply methods, concepts and theories to their evolving research questions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASB 530 or SOS 553 |
| ASB | 537 | Topics in Mesoamerican Archaeology | Explores changing organization of pre-Columbian civilizations in Mesoamerica through interpretive issues, such as regional analysis, chiefdoms, urbanism, and exchange. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 541 | Theory in Sociocultural Anthropology | Basic issues and concepts in sociocultural anthropology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 548 | Maternal and Child Health | Explores how genetics, nutrition, disease ecology, clinical access, legal systems, cultural practices and historical context contribute to maternal and child health. Draws from diverse fields including epidemiology, anthropology, biology, medicine, global health, public policy and sustainability to integrate a complex understanding of the myriad influences that shape maternal and child health and thereby affect our broader society. Evaluates the translation of basic science into clinical practice and public policy as well as the roles and partnerships among local, national and international organizations for improving human health worldwide. Provides up-to-date information about basic science, public policy and global health of maternal and child health to develop skills translatable in the workforce. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prereq(s): degree or non-degree seeking graduate student; Credit is allowed for only ASB 448 or ASB 494 (Matrnl & Child Hlth) or ASB 548 or ASB 598 (Matrnl & Child Hlth) or BIO 448 or BIO 494 (Matrnl & Child Hlth) or BIO 548 or BIO 598 (Matrnl & Child Hlth) |
| ASB | 560 | Theory and Archaeology | Applies social theory to archaeological study of societies of the past. Includes practice theory, hierarchy, space and place, material culture. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AML 560 or ASB 560 |
| ASB | 567 | Southwestern Archaeology | Broad coverage of Southwestern cultural developments focusing on current debates and rigorous use of archaeological data in making cultural inferences. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 568 | Intrasite Research Strategies | Research issues within a single site context. Topics include quantitative spatial analysis, site definition, sampling, distributional analysis, and substantive interpretation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 572 | Museum Collection Management | Principles and practices of acquisition, documentation, care, and use of museum collections; registration, cataloging, and preservation methods; legal and ethical issues. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| ASB | 573 | Museum Administration | Formal organization and management of museums, governance, personnel matters, fund raising and grantsmanship, legal and ethical issues. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASB 573 or HST 573 |
| ASB | 574 | Exhibit Design and Development | Exhibition philosophies and development; processes of planning, designing, staging, installing, evaluating, and disassembling temporary and long-term exhibits. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 579 | Critical Issues in Museum Studies | Current debates of museum practice from an anthropological perspective. Addresses issues of collection, presentation, authenticity, and authority. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | REC | Y | Z1 | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | REC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASB | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| ASC | 310 | Elements of Scientific Computing | Basic knowledge of programming in Python, multiple numerical methods illustrated in Python and examples of these methods in physical and biological sciences. More importantly, provides the opportunity to practice critical thinking skills and learn how real problems can be solved with computational methods. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ABS 394 (Introduction to Scientific Computing) or ASC 310 or MAT 394 (Introduction to Scientific Computing) OR Visiting University Student |
| ASC | 315 | Numeracy in Technology | Contextual uses of mathematics in applied sciences. Emphasizes using mathematical methodologies to solve technology-related problems. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | MA | Prerequisite(s): BAS major OR Visiting University Student |
| ASC | 325 | Physical Sciences in Technology | Physical systems and their interrelationships on technology systems. Real-world applications of physical systems. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 4 | SQ | Prerequisite(s): BAS major |
| ASC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| ASC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| ASC | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-3 | | Pre-requisites: Polytechnic BAS student |
| ASL | 101 | American Sign Language I | Basic receptive/expressive conversational skills; basic grammar and syntax rules. Orientation to deafness and deaf culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | |
| ASL | 102 | American Sign Language II | Further development of receptive/expressive conversation skills in ASL; finger spelling. Continued exploration of deaf culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | Prerequisite(s): ASL 101 or SHS 101 with C or better and taken within the past two years OR Visiting University Student |
| ASL | 201 | American Sign Language III | Continued development of fluency in ASL with emphasis on more abstract concepts and the ability to narrate events. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | Prerequisite(s): ASL 102 or SHS 102 with C or better and taken within the past two years OR Visiting University Student |
| ASL | 202 | American Sign Language IV | Further development of fluency in ASL with emphasis on literature, folklore, and signing narratives with multiple characters. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | Prerequisite(s): ASL 201 or SHS 201 with C or better and taken within the past two years OR Visiting University Student |
| ASL | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| ASL | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| ASL | 410 | Deaf Culture | Provides students with an overview of issues related to deaf, hard of hearing and comprehensive vision hearing loss (CVHL). Topics include historical, cultural, educational and political issues, technology, arts and literature as it relates to the deaf community. Taught primarily in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | C | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ASL 410 or ASL 494 (Deaf Culture) or SHS 410 or SHS 494 (Deaf Culture) or SLC 410 or SLC 494 (Deaf Culture) OR Visiting University Student |
| ASL | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| ASL | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| ASL | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-7 | | |
| ASL | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| ASL | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASL | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASL | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASL | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASL | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASL | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASM | 104 | Bones, Stones, and Human Evolution | Physical anthropology and archaeology. Evidence and processes of human evolution and of culture change. Primates. Fossil hominids and their tools. Race, variation, and heredity. Environment and human biology. Prehistoric culture and society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 4 | SB or SG | |

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| ASM | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | |
| ASM | 201 | Epidemics and Outbreaks | Covers epidemiologic methods for the control of conditions such as infectious and chronic diseases, mental disorders, community and environmental health hazards, and unintentional injuries. Other topics include quantitative aspects of epidemiology, including data sources, measures of morbidity and mortality, evaluation of association and causality, and study design. A background in basic biology and a basic understanding of the principles of human diseases helpful in succeeding in this course. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Credit is allowed for only ASM 201 or SSH 201 OR Visiting University Student |
| ASM | 246 | Human Origins | History of discoveries and changing interpretations of human evolution. Earliest ancestors to emergence of modern humans. Humanity's place in nature. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB | |
| ASM | 275 | Forensic Anthropology | Discusses the role of the forensic anthropologist in medico-legal investigations involving skeletonized human remains. Includes forensic recovery techniques, identification of decedents through skeletal and dental analysis, and reconstructing the crime scene through analysis of trauma patterns. Covers the legal aspects of forensic practice and considers historical case studies and the contributions forensic anthropologists make to mass disaster investigations and human rights abuses. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 4 | SB or SG | |
| ASM | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | |
| ASM | 300 | Anthropological Sciences Seminar | Focuses on the ways in which research findings are produced by diverse theories and methods in the anthropological sciences, usually in combination with other life and physical sciences, with a strong focus on combination anthropological conceptual frameworks with quantitative methodologies. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): Anthropology BS major; Two of the following: ASB 102, 222 or 223, AML 100 or ASM 104 with a C or better OR Visiting University Student |
| ASM | 301 | Peopling of the World | Reviews all evidence for human dispersal during the last 100,000 years, origins of language, cultures, races, and beginnings of modern humans. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB | Prerequisite(s): ASM 104 OR Visiting University Student |
| ASM | 310 | War and Peace: The Evolution of Conflict and Cooperation | Examines the evolutionary foundations of conflict and cooperation using theories and evidence spanning humans and other animals. Covers mechanisms of nonviolent conflict in nature, strategies for violent conflict and mechanisms to reduce the cost of conflict. Additionally, examines how cooperation evolved in humans and other animals. Topics include nepotism, reciprocity, cultural group selection and the evolution of moral sentiments. Also examines the interaction between cooperation and warfare. Topics include the relation between violence and morality, and how warfare shapes cultural evolution. The course ends examining combat-induced Post Traumatic Stress Disorder and Moral Injury, and how it relates to the evolution of cooperation and warfare. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASM 310 or ASM 394 (War & Peace: Origins of Conflict & Cooperation) or PAX 310 OR Visiting University Student |
| ASM | 313 | Great Adaptations | Tiny hummingbirds and huge whales commute thousands of miles every year, male bower birds construct elaborately decorated structures to impress females, and some parasites program suicidal behavior into their hosts. These amazing (and sometimes bizarre) behaviors are all adaptations--traits that have been favored by selection because they enhance the ability of individuals to survive and reproduce successfully. The study of adaptation helps us to understand how evolution generates complexity and to understand the processes that underlie the rich diversity of life. Covers the principles of natural selection and a diverse and remarkable range of adaptations in nature. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASM 313 or ASM 394 (Great Adaptations) OR Visiting University Student |
| ASM | 332 | Life and Death in Ancient Egypt | Reveals ancient Egyptian life through recent research in archaeology and physical anthropology on cemeteries, tombs, and the dead themselves. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): ENG 101, 105, 107, or 111 with C or better; Credit is allowed for only AFR 332 (or AFS 332) or ASM 332 |
| ASM | 338 | Anthropological Field Session | Anthropological field techniques, analysis of data, and preparation of field reports. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | |
| ASM | 341 | Human Osteology | Osteology, human paleontology, and osteometry. Description and analysis of archaeological and contemporary human populations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 4 | | Prerequisite(s): ASM 104 with C or better; 25 minimum hours |

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| ASM | 342 | Evolution of Human Behavior | Examines how evolutionary theory informs our understanding of human behavior, psychology and culture. Explores evolutionary explanations of human behavioral variation and cultural diversity and the influence of natural selection on shaping human cognition. Topics include nepotism, economic decisions, behavioral strategies throughout the life course, mate choice and sexual behavior, perception and judgment, motivation and emotions, social learning and culture, cooperation and prosociality, interpersonal violence and warfare, and norms and moral sentiments. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s) with C or better: ASM 104 (or BIO 181 or 282). Credit is allowed for only ASM 342 or BIO 327 |
| ASM | 344 | Fossil Hominids | The fossil evidence for human evolution, emphasizing the concepts and methods for reconstructing the past. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 4 | | Pre-requisite: ASM 104 |
| ASM | 345 | Disease and Human Evolution | Interaction of people and pathogens from prehistoric times to the present, with emphasis on disease as an agent of genetic selection. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): ASM 104 or BIO 100 or BIO 181 or BIO 182 or BIO 281 or BIO 282 OR Visiting University Student |
| ASM | 350 | Geoarchaeology | Geologic context relevant to archaeological research. Topics include sediments, deposition environments, soils, anthropogenic and biogenic deposits, and quaternary chronology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): ASB 222 or 223, GLG 101 or 103, or GPH 111 with C or better OR Visiting University Student |
| ASM | 365 | Doing Archaeology | Using hands-on analysis of artifacts and a mock site, this advanced introduction to archaeology acquaints the student with the field and laboratory methods applied by archaeologists, the information archaeologists use, and how they construct knowledge of the past. | N | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3-4 | | Prerequisite(s): ASB 222 (or ASB 223 or 335 or 337) |
| ASM | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | |
| ASM | 401 | Health and Human Biology | Health and biology in contexts of human evolutionary history, biological and cultural variation, lab-based health status assessments, core concepts of human variation. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3-4 | | Prerequisite(s): ASB 100 or ASM 104 OR Visiting University Student |
| ASM | 403 | Evolutionary Medicine and Global Health | Fundamentally, the practice of medicine is applied biology to improve human health and well-being and is embedded within population and global scales. Integrates the life and social sciences to tackle the current and emerging global health challenges of the 21st century with an evolutionary biology lens with current medical knowledge enhancing our understanding of health. Uses topics such as human-pathogen coevolution; development and aging; human migration; diseases (infectious, metabolic and autoimmune); and physiological and behavioral mechanisms of immunity to explore the broad arena of human health within a deep time and global context. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prereq(s): min 45 hrs; Credit is allowed for only ASM 403 or ASM 494(Evol Med & Gbl Hlth) or ASM 503 or ASM 598(Evol Med & Gbl Hlth) or BIO 403 or BIO 494(Evol Med & Gbl Hlth) or BIO 510 or BIO 598(Evol Med & Gbl Hlth) OR Visiting University Student |
| ASM | 414 | Urban, Environmental and Health Challenges | Design and practical application of collaborative social science research on rotating, current topics related to contemporary urban, environmental and/or health challenges. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ASM | 443 | Primatology | Evolution and adaptations of nonhuman primates, emphasizing social behavior. Includes material from fossil evidence and field and lab studies in behavior and biology which must be critically integrated with relevant competing theories concerning the evolution of primate behavior and biology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): ASM 104 with C or better; minimum 56 hours; Credit is allowed for only ASM 443 or ASM 543 OR Visiting University Student |
| ASM | 446 | Principles of Human Genetics | Molecular and cellular analysis of the human genome. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | L | Prerequisite(s): ASM 301, BIO 340, LSC 347, or MBB 347 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only ASM 446 or ASM 546 or BIO 446 or BIO 546 OR Visiting University Student |
| ASM | 450 | Bioarchaeology | Surveys archaeological and physical anthropological methods and theories for evaluating skeletal and burial remains to reconstruct biocultural adaptation and lifeways. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G | Prerequisite(s): ASM 104 OR Visiting University Student |
| ASM | 452 | Dental Anthropology | Human and primate dental morphology, growth, evolution, and genetics. Within- and between-group variation. Dental pathology and behavioral-cultural-dietary factors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 4 | SG | Pre-requisites: ASM 104. Credit is allowed for only ASM 552 or ASM 452 |
| ASM | 456 | Infectious Disease and Human Evolution | Study of infectious disease and humanity, using evidence from anthropology, history, medicine, and ancient skeletons. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Pre-requisite: ASM 345 |
| ASM | 459 | Forensic Anthropology | Applies anthropology, primarily human osteology, to legal questions, including individual identification, crime scenes, forensic reports, police work, and court testimony. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): ASM 275; ASM 341 OR Visiting University Student |
| ASM | 460 | Human Growth and Development: An Evolutionary Perspective | How growth and development influences human variation; stages of human life; evolution through the fossil record; genetic, environmental, and biocultural factors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): ASM 104 with C or better; ASM 341, 342, 344, 345, or 348 |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|--|
| ASM | 463 | A Practical Guide to Bayesian Data Analysis | Teaches how to do Bayesian data analysis using MCMC methods. Includes practical application with specific problems; also covers a range of historical and theoretical topics including probability theory, the history of Bayesian data analysis and frequentist alternatives, Markov chains and causality. Introduces students to executing Bayesian analysis via MCMC methods and also helps them see how these methods work and why they had to wait until the late 20th century to become widespread. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | CS | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASM 463 or ASM 494 (Bayesian Statistics in Theory and Practice) or ASM 563 or ASM 594 (Bayesian Statistics in Theory and Practice) OR Visiting University Student |
| ASM | 465 | Quantification and Analysis for Anthropologists | Statistical and quantitative strategies for envisioning and exploring archaeological, physical anthropological, bioarchaeological, and socialcultural data. Univariate and bivariate methods. A basic understanding of algebra is necessary to be successful in this course. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | CS | |
| ASM | 466 | The Evolution of Preindustrial Technology | Over the last few hundred thousand years we have spread to every continent except Antarctica, thriving in habitats that range from tropical forests to arctic tundra. Technology is one of the keys to this success. Human populations living in different habitats rely on different, specialized tool kits--weapons and snares for hunting, boats, nets and tackle for fishing, housing for shelter, baskets and pottery for transportation and storage. The scholarly study of these tool sets is crucial for understanding human evolution. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASM 466 or ASM 494 (Evolution of Technology) or ASM 591 (Evolution of Technology) OR Visiting University Student |
| ASM | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | |
| ASM | 503 | Evolutionary Medicine and Global Health | Fundamentally, the practice of medicine is applied biology to improve human health and well-being and is embedded within population and global scales. Integrates the life and social sciences to tackle the current and emerging global health challenges of the 21st century with an evolutionary biology lens with current medical knowledge enhancing our understanding of health. Uses topics such as human-pathogen coevolution; development and aging; human migration; diseases (infectious, metabolic and autoimmune); and physiological and behavioral mechanisms of immunity to explore the broad arena of human health within a deep time and global context. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit for only ASM 403 or ASM 494(Evol Med & Gbl Hlth) or ASM 503 or ASM 598(Evol Med & Gbl Hlth) or BIO 403 or BIO 494(Evol Med & Gbl Hlth) or BIO 510 or BIO 598(Evol Med & Gbl Hlth) |
| ASM | 506 | Clinical Gross Anatomy | Dissection of the human body with an emphasis on the application of anatomical knowledge to clinical applications. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 6 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASM 506 or BIO 506 |
| ASM | 525 | Primate Paleobiology | Seminar-based survey of primate evolution, focusing on comparative biology of the extant primates and the fossil record through the Miocene. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASM | 530 | Paleoanthropology | Seminar-based in-depth study of the fossil record of human evolution and its geological, environmental, and phylogenetic contexts. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASM | 543 | Primatology | Advanced study of nonhuman primate behavioral adaptations, emphasizing comparative sociality, incorporating data on behavior and biology from field and captivity. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit allowed for ASM 443 or 543 |
| ASM | 546 | Principles of Human Genetics | Examines human molecular genetics from an evolutionary perspective, particularly analysis, current debates, the Human Genome Project, disease, ethics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking); credit is allowed for only BIO 446, ASM 446, BIO 546 or ASM 546 |
| ASM | 548 | Geoarchaeology | Geologic context relevant to archaeological research. Topics include sediments, deposition environments, soils, anthropogenic and biogenic deposits, and quaternary chronology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASM | 552 | Dental Anthropology | Evolutionary anthropology of non-human primate and human dentition and research from extant and extinct species of non-human primates and hominins. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 4 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only ASM 452 or ASM 552 |
| ASM | 555 | Advanced Human Osteology | Intensive lab course covers identification of human skeletal remains and bone fragments from archaeological contexts. Emphasizes skeletal biology, variation, anatomical landmarks, determinants of age, sex, and stature. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 4 | | Prerequisite(s): Anthropology graduate student OR ASM 341 |
| ASM | 560 | Human Growth and Development: An Evolutionary Perspective | How growth and development influences human variation; stages of human life; evolution through the fossil record; genetic, environmental, and biocultural factors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| ASM | 563 | A Practical Guide to Bayesian Data Analysis | Teaches how to do Bayesian data analysis using MCMC methods. Includes practical application with specific problems; also covers a range of historical and theoretical topics including probability theory, Markov chains and causality. Introduces students to executing Bayesian analysis via MCMC methods and also helps them see how these methods work and why they had to wait until the late 20th century to become widespread. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASM 463 or ASM 494 (Bayesian Statistics in Theory and Practice) or ASM 563 or ASM 594 (Bayesian Statistics in Theory and Practice) |
| ASM | 564 | Models of Social Evolution | Over the last four decades biologists have developed a rich mathematical theory explaining how natural selection shapes animal social behavior. To read and understand the literature in primary journals one must understand this body of theory. This course presents the theory in such a way that advanced students in evolutionary biology and anthropology can use the theory and read primary literature. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASM 494 (Models in Social Evolution) or ASM 564 or ASM 591 (Models in Social Evolution) |
| ASM | 565 | Quantitative Archaeology | Formal methods of structuring, codifying, and analyzing data for archaeological problems. Designing research to yield data amenable to productive analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASM | 568 | GIS and Spatial Technologies in Anthropological Research | In-depth survey of spatial technologies in anthropological research, including GIS, spatial modeling, remote sensing, and image analysis and classification. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASM | 570 | Fundamentals of CAS Science | Many phenomena of critical relevance to human society are dynamic systems that change over individual and evolutionary time scales, and are highly interactive, both within and between systems. That is, they are complex adaptive systems (CAS), and thus share isomorphic properties like near-decomposability, hierarchical organization, scale-free networks, self-organized criticality, and emergence. Fundamentals of CAS science explores the diverse, interdisciplinary applications of a complex adaptive systems across the social, behavioral, and life sciences. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASM 570 or BIO 570 or CAS 570 or SOS 570 |
| ASM | 573 | Lithic Analysis | Analysis and interpretation of chipped stone artifacts. Focus on both techniques and underlying concepts and their application to real collections. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASM | 579 | Proposal Writing | Proposal writing and reviewing with a focus on the NSF dissertation improvement grant format. Discusses professional development. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASM 579 or SOS 579 |
| ASM | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASM | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASM | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASM | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASM | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASM | 611 | Paleopathology | Explores patterns of disease manifested in the human skeleton and differential diagnosis of infectious, metabolic, neoplastic, congenital, and other conditions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking); ASM 555 |
| ASM | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASM | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 111 | Introduction to Solar Systems Astronomy | Properties and origins of the solar system, exoplanets, astrobiology. History, properties of light, instruments, study of solar system and nearby stars. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 4 | SQ | |
| AST | 112 | Introduction to Stars, Galaxies, and Cosmology | Structure and evolution of stars, star clusters, galaxies, cosmology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 4 | SQ | |
| AST | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | |

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| AST | 301 | Physics of Astrophysics | Develops critical physical and mathematical concepts for contemporary astrophysics. Assumes prior knowledge of algebra and calculus. Through the textbook, introduces students to a variety of physical forces in the context of astrophysical processes, including electromagnetic interactions and light, gravity and motion, interactions between light and matter in astrophysical systems, and the strong (nuclear) force responsible for the fusion processes fueling stars. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): MAT 210 or higher with C or better; (PHY 111 and 113 with C or better) or (PHY 121 and 122 with C or better); (PHY 112 and 114 with C or better) or (PHY 131 and 132 with C or better) OR Visiting University Student |
| AST | 321 | Introduction to Planetary and Stellar Astrophysics | Physical laws; celestial mechanics; properties of planets, the sun, and other stars; formation and evolution of stars and planetary systems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): AST 301 with C or better OR MAT 266 or 271 with C or better; PHY 121 and 122 (or PHY 150) with C or better OR Visiting University Student |
| AST | 322 | Introduction to Galactic and Extragalactic Astrophysics | Evolved stars, introduction to relativity, galaxies and interstellar matter, structure and dynamics of galaxies, cosmology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): AST 301 with C or better OR MAT 266 or 271 with C or better; PHY 121/122 with C or better or PHY 150 with C or better |
| AST | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | |
| AST | 421 | Astrophysics I | Selected astrophysical topics, including stellar evolution, star formation, interstellar medium, galactic structure, extragalactic astronomy, high-energy astrophysics, and cosmology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): AST 321 or 322 with C or better; PHY 252 with C or better |
| AST | 422 | Astrophysics II | Same range of astrophysical topics as for AST 421 but emphasizes different specific topics in a given year. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): AST 321 or 322 with C or better; PHY 252 with C or better OR Visiting University Student |
| AST | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-6 | | Prerequisite(s): Barrett Honors student |
| AST | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| AST | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | |
| AST | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-7 | | |
| AST | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-3 | | |
| AST | 521 | Stars and Interstellar Medium I | Radiative transfer, atomic and molecular properties, stellar atmospheres, line profiles, nonlocal thermodynamic equilibrium, interstellar gas and dust, star formation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 522 | Stars and Interstellar Medium II | Stellar structure, radiative transport, boundary conditions, equations of state, nuclear reactions, opacity, nucleosynthesis, chemical evolution of the galaxy, stellar evolution. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 523 | Stars and Interstellar Medium III | Structure of the interstellar medium, gaseous nebulae, recombination theory, ionization fronts and shock waves, galactic magnetic fields, magnetohydrodynamics, molecular clouds. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 531 | Galaxies and Cosmology I | Structure and evolution of the Milky Way, stellar properties, populations and associations/clusters, interstellar medium, dark matter. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 532 | Galaxies and Cosmology II | Structure of galaxies and the nearby universe, Hubble sequence, kappa-space, stellar populations, active galaxies, galaxy environments. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 533 | Galaxies and Cosmology III | Issues in modern cosmology, the distance scale, cosmological parameters, cosmological tests, cosmic background radiation, early universe, galaxy formation and evolution. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 540 | Astronomical Instrumentation and Data Analysis | Studies a range of optical astronomical hardware including telescopes, digital detectors and instrument design and theory. Focuses on the use of CCDs in terms of operation, calibration, use, measurement, limitations, noise and signal, statistics, and preliminary understanding prior to data reduction. Discusses practical optical astronomical observing: the choice of filters and their design, planning your observing run, bringing your data home and the types of data you will need. Final class project requires the reduction and measurement of data using computers. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AST 540 or AST 598 (Optical Astro Tech & Data) or AST 598 (Observing Instrumentation and Data Analysis) |
| AST | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| AST | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| AST | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ASU | 9 | ASU-Uber Online Orientation | Students that are a part of the ASU & Uber Education Partnership will learn about ASU's mission as the New American University, discover the value of a university degree from a research institution, discuss academic integrity, explore the tools used in online courses, become familiar with the partnership and identify key components of a work/life/school balance plan. | N | LEC | N | NOG | Office of the Provost | Online and Extended Campus | 0 | | |
| ASU | 10 | Connect: ASU Orientation | Students enrolled in the Starbucks College Achievement Plan will learn about ASU's mission as the New American University, discover the value of a university degree from a research institution, discuss academic integrity, explore the tools used in online courses, and identify key components of a work/life/school balance plan. | N | LEC | N | NOG | Office of the Provost | Online and Extended Campus | 0 | | |
| ASU | 11 | ASU Online Orientation | Students enrolled in ASU Online Orientation will learn about ASU and its mission as the New American University, discover the value of a university degree from a research institution, discuss academic integrity, explore the tools used in online courses, and identify key components of a work/life/school balance plan. | N | LEC | N | NOG | Office of the Provost | Online and Extended Campus | 0 | | |
| ASU | 12 | SDAP Online Orientation | Students enrolled in the Starbucks Degree Achievement Plan Orientation will learn about ASU's mission as the New American University, discover the value of a university degree from a research institution, discuss academic integrity, explore the tools used in online courses, and identify key components of a work/life/studies balance plan. | N | LEC | N | NOG | Office of the Provost | Online and Extended Campus | 0 | | |
| ASU | 42 | Online Military Orientation | Active duty and veteran students enrolled in ASU 42 will explore ASU academic, veteran, and career resources, discover the value of a university degree from a research institution, discuss academic integrity, explore the tools used in online courses, and craft a plan balancing work, school, and life. | N | LEC | N | NOG | Office of the Provost | Online and Extended Campus | 0 | | |
| ASU | 101-AEE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1 | | Prerequisite(s): Aerospace Engineering undergraduate student OR Visiting University Student |

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| ASU | 101-AMT | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 1 | | Prerequisite(s): undergraduate Aviation programs major |
| ASU | 101-BME | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1 | | Prerequisite(s): Biomedical Engineering student OR Visiting University Student |
| ASU | 101-CAI | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1 | | Prerequisite(s): School of Computing and Augmented Intelligence major OR Visiting University Student |
| ASU | 101-CEE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1 | | Prerequisite(s): Fulton Schools of Engineering student OR Visiting University Student |
| ASU | 101-CHE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1 | | Prerequisite(s): Chemical Engineering major OR Visiting University Student |
| ASU | 101-CHS | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): College of Health Solutions student OR Visiting University Student |
| ASU | 101-CLS | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1 | | Prerequisite(s): College of Integrative Sciences and Arts undergraduate student OR Logistics (Maritime) AS student OR Visiting University Student |
| ASU | 101-CNE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1 | | |

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| ASU | 101-CON | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1 | | Prerequisite(s): Fulton Schools of Engineering student OR Visiting University Student |
| ASU | 101-CPP | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1 | | Prerequisite(s): Watts College of Public Service and Community Solutions OR Visiting University Student |
| ASU | 101-CS | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Prerequisite(s): Cronkite School of Journalism and Mass Communication student OR Visiting University Student |
| ASU | 101-CSE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1 | | Prerequisite(s): School of Computing and Augmented Intelligence major OR Visiting University Student |
| ASU | 101-EEE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1 | | Prerequisite(s): Electrical Engineering undergraduate student OR Visiting University Student |
| ASU | 101-EGR | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1 | | Prerequisite(s): Engineering undergraduate student OR Visiting University Student |
| ASU | 101-ERM | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1 | | Prerequisite(s): Environmental and Resource Management student or Visiting University Student |
| ASU | 101-EVE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1 | | Prerequisite(s): Fulton Schools of Engineering student OR Visiting University Student |

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| ASU | 101-FSE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1 | | Prerequisite(s): Fulton Schools of Engineering student OR Visiting University Student |
| ASU | 101-GIT | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1 | | Prerequisite(s): Graphic Information Technology BS major OR Visiting University Student |
| ASU | 101-HDA | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1 | | Prerequisite(s): Herberger Institute for Design and the Arts student OR Visiting University Student |
| ASU | 101-HNR | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Barrett, The Honors College | Barrett, The Honors College | 1 | | Prerequisite(s): Barrett Honors student |
| ASU | 101-HSE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1 | | Prerequisite(s): Human Systems Engineering student OR Visiting University Student |
| ASU | 101-IEE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1 | | Prerequisite(s): School of Computing and Augmented Intelligence major OR Visiting University Student |
| ASU | 101-IFT | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 1 | | Prerequisite(s): Information Technology student OR Visiting University Student |
| ASU | 101-LA | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 1 | | Prerequisite(s): The College of Liberal Arts & Sciences student OR Visiting University Student |

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| ASU | 101-MAE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1 | | Prerequisite(s): Mechanical Engineering undergraduate student or Aerospace Engineering undergraduate student OR Visiting University Student |
| ASU | 101-MEE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1 | | Prerequisite(s): Mechanical Engineering undergraduate student OR Visiting University Student |
| ASU | 101-MSE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1 | | Prerequisite(s): Materials Science and Engineering BSE major OR Visiting University Student |
| ASU | 101-MSN | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1 | | Prerequisite(s): School of Manufacturing Systems and Networks major OR Visiting University Student |
| ASU | 101-NCIAS | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1 | | Prerequisite(s): New College of Interdisciplinary Arts and Sciences undergraduate student OR Visiting University Student |
| ASU | 101-NU | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Prerequisite(s): Edson College of Nursing and Health Innovation or Nutrition student OR Visiting University Student |
| ASU | 101-ONL | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1 | | Prerequisite(s): ASU Online students OR Visiting University Student |
| ASU | 101-SOS | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): School of Sustainability student OR Visiting University Student |

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| ASU | 101-TE | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): Mary Lou Fulton Teachers College student OR Visiting University Student |
| ASU | 101-TEM | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1 | | Prerequisite(s): Technological and Entrepreneurship Management BS major OR Visiting University Student |
| ASU | 101-TPS | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Polytechnic School | 1 | | Prerequisite(s): Ira A. Fulton Schools of Engineering - The Polytechnic School student OR Visiting University Student |
| ASU | 101-UC | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | University College | Dean, University College | 1 | | Prerequisite(s): University College students OR Visiting University Student |
| ASU | 101-WPC | The ASU Experience | Students will learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students will examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | LEC | N | OPT | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 1 | | Prerequisite(s): W.P. Carey student OR Visiting University Student |
| ASU | 120 | Emerging Leaders I | Students develop in academic areas while also gaining essential career skills in creativity, problem solving, and teamwork. Students learn how to think critically and manage a project from inception to completion. Through course discussions and assignments, students examine connections between their work in other courses and ASU 120. This is the first part of a two-part curriculum which continues into the spring semester. Separate grades will be issued for each semester. | N | LEC | N | GNA | University College | Dean, University College | 3 | | Credit is allowed for only ASU 120 (or ASU 150) or UNI 120 OR Visiting University Student |
| ASU | 121 | Emerging Leaders II | Students continue to develop in academic areas while gaining essential career skills in creativity, problem solving and teamwork. Students learn how to think critically and manage a project from inception to completion. Through course discussions and assignments, students examine connections between their work in other courses and this course. Second part of a two-part curriculum, which continues from the fall semester. Separate grades are issued for each semester. | N | LEC | N | GNA | University College | Dean, University College | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| ASU | 140-CHS | ProMod | Project-based learning. | Y | PRO | Y | GNA | College of Health Solutions | College of Health Solutions | 0-18 | | |
| ASU | 140-CLS | ProMod | Project-based learning. | Y | PRO | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 0-18 | | |
| ASU | 140-CPSCS | ProMod | Project-based learning. | Y | PRO | Y | GNA | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 0-18 | | |
| ASU | 140-CS | ProMod | Project-based learning. | Y | PRO | Y | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 0-18 | | |
| ASU | 140-FSE | ProMod | Project-based learning. | Y | PRO | Y | GNA | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 0-18 | | |

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| ASU | 140-HDA | ProMod | Project-based learning. | Y | PRO | Y | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 0-18 | | |
| ASU | 140-HNR | ProMod | Project-based learning. | Y | PRO | Y | GNA | Barrett, The Honors College | Barrett, The Honors College | 0-18 | | Prerequisite(s): Barrett Honors student |
| ASU | 140-LA | ProMod | Project-based learning. | Y | PRO | Y | GNA | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 0-18 | | |
| ASU | 140-NCIAS | ProMod | Project-based learning. | Y | PRO | Y | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 0-18 | | |
| ASU | 140-NU | ProMod | Project-based learning. | Y | PRO | Y | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 0-18 | | |
| ASU | 140-SOS | ProMod | Project-based learning. | Y | PRO | Y | GNA | College of Global Futures | School of Sustainability | 0-18 | | |
| ASU | 140-TB | ProMod | Project-based learning. | Y | PRO | Y | GNA | Thunderbird School of Global Management | Dean, Thunderbird School of Global Management | 0-18 | | |
| ASU | 140-TE | ProMod | Project-based learning. | Y | PRO | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 0-18 | | |
| ASU | 140-WPC | ProMod | Project-based learning. | Y | PRO | Y | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 0-18 | | |
| ASU | 194-CLS | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| ASU | 194-LA | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-4 | | |
| ASU | 194-NCIAS | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| ASU | 194-UC | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | University College | Dean, University College | 1-4 | | |
| ASU | 230 | Life by Design | Living a meaningful life that is true to you is one of life's greatest endeavors. And, it's a process that can seem overwhelming and difficult to figure out. College offers the opportunity to explore interests and find career paths that align to your genuine interests and personal goals. But where do you start on this journey of self-discovery? Start with this course; it introduces the design thinking process--a strategy used by the world's top designers to launch products and services--and applies that process to your individualized career and life plans. You'll learn how aspects of your life that may feel disconnected (e.g., skills, ambition, interests, relationships, family needs, lifestyle) can and should work together in helping you discover careers that fit you. You'll explore how the college experience--through majors, classes, experiential learning, networking and other student services--can support your journey. And you'll develop a growth mindset that helps you. | N | LEC | N | GNA | University College | Dean, University College | 3 | | Credit is allowed for only ASU 230 or ASU 294 (Life by Design) |
| ASU | 240-CHS | ProMod | Project-based learning. | Y | LEC | Y | GNA | College of Health Solutions | College of Health Solutions | 0-18 | | |
| ASU | 240-CLS | ProMod | Project-based learning. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 0-18 | | |
| ASU | 240-CPSCS | ProMod | Project-based learning. | Y | LEC | Y | GNA | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 0-18 | | |
| ASU | 240-CS | ProMod | Project-based learning. | Y | LEC | Y | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 0-18 | | |
| ASU | 240-FSE | ProMod | Project-based learning. | Y | LEC | Y | GNA | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 0-18 | | |
| ASU | 240-HDA | ProMod | Project-based learning. | Y | LEC | Y | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 0-18 | | |
| ASU | 240-HNR | ProMod | Project-based learning. | Y | LEC | Y | GNA | Barrett, The Honors College | Barrett, The Honors College | 0-18 | | Prerequisite(s): Barrett Honors student |
| ASU | 240-LA | ProMod | Project-based learning. | Y | LEC | Y | GNA | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 0-18 | | |
| ASU | 240-NCIAS | ProMod | Project-based learning. | Y | LEC | Y | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 0-18 | | |
| ASU | 240-NU | ProMod | Project-based learning. | Y | LEC | Y | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 0-18 | | |
| ASU | 240-SOS | ProMod | Project-based learning. | Y | LEC | Y | GNA | College of Global Futures | School of Sustainability | 0-18 | | |
| ASU | 240-TB | ProMod | Project-based learning. | Y | LEC | Y | GNA | Thunderbird School of Global Management | Dean, Thunderbird School of Global Management | 0-18 | | |
| ASU | 240-TE | ProMod | Project-based learning. | Y | LEC | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 0-18 | | |
| ASU | 240-WPC | ProMod | Project-based learning. | Y | LEC | Y | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 0-18 | | |

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| ASU | 294-UC | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | University College | Dean, University College | 1-4 | | |
| ASU | 340-CHS | ProMod | Project-based learning. | Y | PRO | Y | GNA | College of Health Solutions | College of Health Solutions | 0-18 | | |
| ASU | 340-CLS | ProMod | Project-based learning. | Y | PRO | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 0-18 | | |
| ASU | 340-CPSCS | ProMod | Project-based learning. | Y | PRO | Y | GNA | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 0-18 | | |
| ASU | 340-CS | ProMod | Project-based learning. | Y | PRO | Y | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 0-18 | | |
| ASU | 340-FSE | ProMod | Project-based learning. | Y | PRO | Y | GNA | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 0-18 | | |
| ASU | 340-HDA | ProMod | Project-based learning. | Y | PRO | Y | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 0-18 | | |
| ASU | 340-HNR | ProMod | Project-based learning. | Y | PRO | Y | GNA | Barrett, The Honors College | Barrett, The Honors College | 0-18 | | Prerequisite(s): Barrett Honors student |
| ASU | 340-LA | ProMod | Project-based learning. | Y | PRO | Y | GNA | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 0-18 | | |
| ASU | 340-NCIAS | ProMod | Project-based learning. | Y | PRO | Y | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 0-18 | | |
| ASU | 340-NU | ProMod | Project-based learning. | Y | PRO | Y | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 0-18 | | |
| ASU | 340-SOS | ProMod | Project-based learning. | Y | PRO | Y | GNA | College of Global Futures | School of Sustainability | 0-18 | | |
| ASU | 340-TB | ProMod | Project-based learning. | Y | PRO | Y | GNA | Thunderbird School of Global Management | Dean, Thunderbird School of Global Management | 0-18 | | |
| ASU | 340-TE | ProMod | Project-based learning. | Y | PRO | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 0-18 | | |
| ASU | 340-WPC | ProMod | Project-based learning. | Y | PRO | Y | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 0-18 | | |
| ASU | 394-CLS | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 0.5-4 | | |
| ASU | 394-UC | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | University College | Dean, University College | 0.5-4 | | |
| ASU | 440-CHS | ProMod | Project-based learning. | Y | LEC | Y | GNA | College of Health Solutions | College of Health Solutions | 0-18 | | |
| ASU | 440-CLS | ProMod | Project-based learning. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 0-18 | | |
| ASU | 440-CPSCS | ProMod | Project-based learning. | Y | LEC | Y | GNA | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 0-18 | | |
| ASU | 440-CS | ProMod | Project-based learning. | Y | LEC | Y | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 0-18 | | |
| ASU | 440-FSE | ProMod | Project-based learning. | Y | LEC | Y | GNA | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 0-18 | | |
| ASU | 440-HDA | ProMod | Project-based learning. | Y | LEC | Y | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 0-18 | | |
| ASU | 440-HNR | ProMod | Project-based learning. | Y | LEC | Y | GNA | Barrett, The Honors College | Barrett, The Honors College | 0-18 | | Prerequisite(s): Barrett Honors student |
| ASU | 440-LA | ProMod | Project-based learning. | Y | LEC | Y | GNA | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 0-18 | | |
| ASU | 440-NCIAS | ProMod | Project-based learning. | Y | LEC | Y | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 0-18 | | |
| ASU | 440-NU | ProMod | Project-based learning. | Y | LEC | Y | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 0-18 | | |
| ASU | 440-SOS | ProMod | Project-based learning. | Y | LEC | Y | GNA | College of Global Futures | School of Sustainability | 0-18 | | |
| ASU | 440-TB | ProMod | Project-based learning. | Y | LEC | Y | GNA | Thunderbird School of Global Management | Dean, Thunderbird School of Global Management | 0-18 | | |
| ASU | 440-TE | ProMod | Project-based learning. | Y | LEC | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 0-18 | | |
| ASU | 440-WPC | ProMod | Project-based learning. | Y | LEC | Y | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 0-18 | | |
| ATC | 230 | Fundamentals of Air Traffic Management | Introduces the manuals, procedures, maps, charts, and regulations used by air traffic controllers in the National Airspace System (NAS). | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): AMT 201 with C or better |
| ATC | 331 | Tower Operations | Provides knowledge of air traffic control procedures, phraseology, equipment, and aircraft separation requirements used in ATC towers. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): ATC 230 with C or better |
| ATC | 332 | TRACON Operations | Provides knowledge of air traffic control procedures, phraseology, equipment, and aircraft separation requirements used in FAA TRACONS. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): ATC 230 with C or better |

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| ATC | 333 | En Route Operations | Provides knowledge of air traffic control procedures, phraseology, equipment, and aircraft separation requirements used in FAA ATC En Route Centers. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): ATC 230 with C or better |
| ATC | 431 | Tower Operations and Procedures | Opportunity to operate in tower simulator environment to run scenarios for local and ground control and flight data/clearance delivery. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): ATC 331 with C or better |
| ATC | 432 | TRACON Operations and Procedures | Opportunity to operate in tower simulator environment to run scenarios for local and ground control and flight data/clearance delivery. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): ATC 332 with C or better |
| ATC | 433 | En Route Operations and Procedures | Opportunity to operate in tower simulator environment to run scenarios for local and ground control and flight data/clearance delivery. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Prerequisite(s): ATC 333 with C or better |
| ATC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-12 | | Prerequisite(s): minimum junior standing |
| ATC | 491 | Air Traffic Management Capstone | Overview of problem solution tools, quality metrics, and current technology initiatives related to air traffic management and related industry problems in a project environment. Student projects focus on airport and airspace requirements. Student teams work with partners from industry, government, and academia to define project objectives and work toward a formal recommendation to help solve the specified problem. Class discussions focus on project management, organizational structures, strategic initiatives, strategy implementation and execution. Uses review and analysis of current industry problems and resolutions to provide examples of practical solutions. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Aviation Programs | 3 | | Pre- or corequisite(s); ATC 431 with C or better if completed; ATC 432 with C or better if completed; ATC 433 with C or better if completed |
| ATC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | Ira A. Fulton Schools of Engineering | Aviation Programs | 1-4 | | |
| ATE | 242 | Introduction to Architectural Technology | Materials and methods of construction. Aesthetic, code and construction costs. Exposure to building information management (BIM). | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Architectural Studies major. Corequisite(s): ALA 226 |
| ATE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| ATE | 361 | Architectural Technology I | Introduces load distribution on structures. Static analysis of determinant beams, trusses, arches, and rigid frames. Computer applications. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Corequisite(s): ADE 321 OR Visiting University Student |
| ATE | 362 | Architectural Technology II | Strength of materials. Stresses in beams and columns. Thermal effects on structures. Analysis, design, and detailing of wood structural systems. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): ATE 361 with C or better |
| ATE | 451 | Building Systems I | Principles of solar radiation, heat and moisture transfer, and environmental control systems as form influences. Energy-conscious design. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Co-requisites: ADE 421 |
| ATE | 452 | Architectural Technology III | Architectural design implications of heating, ventilation, and air conditioning systems. Principles of lighting, daylighting, and acoustics, and their applications. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): ATE 362 with C or better; Corequisite(s): ADE 422 |
| ATE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-3 | | |
| ATE | 521 | Building Environmental Science | Scientific principles relating to comfort and environmental control. Heat and moisture transfer. Solar/natural energies for heating, cooling, and lighting. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisites: Bldg Design MS, Master of Architecture, Master of Urban Design, or Master of Landscape Architecture student |
| ATE | 550 | Passive Heating and Cooling | Theory, analysis, and application of passive and low-energy systems in order to maximize comfort and minimize energy consumption in buildings. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisites: Bldg Design MS, Master of Architecture, Master of Urban Design, or Master of Landscape Architecture student |
| ATE | 553 | Architectural Technology IV | Design and integration of building systems, including mechanical, electrical, plumbing, security, communications, fire protection, and transportation. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Master of Architecture student; Corequisite(s): ADE 521; ATE 563 |
| ATE | 556 | Architectural Technology V | Comprehensive design development through the understanding and integration of building materials and systems. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Corequisite(s): ADE 522; APH 505 |
| ATE | 560 | Building Energy Analysis | Computer simulation of building thermal behavior. Software review. Detailed study of selected simulation models using case study projects. | N | LAB | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisites: Bldg Design MS, Master of Architecture, Master of Urban Design, or Master of Landscape Architecture student |
| ATE | 562 | Experimental Evaluation | Instrumentation, measurement and computational techniques for analysis of building components, and assessment of thermal and luminous performance. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisites: Bldg Design MS, Master of Architecture, Master of Urban Design, or Master of Landscape Architecture student |
| ATE | 563 | Architectural Technology VI | Analysis, design, and detailing of steel buildings and frames. Lateral analysis of small rigid and braced frame systems. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Master of Architecture student |

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| ATE | 582 | Environmental Control Systems | Heating, ventilation, and air-conditioning systems. Loads, psychrometrics, refrigeration cycle, air/water distribution, controls, energy performance standards, and utility rates. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisites: Bldg Design MS, Master of Architecture, Master of Urban Design, or Master of Landscape Architecture student |
| ATE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ATE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Pre-requisites: Herberger Institute of Design and the Arts Graduate student |
| ATE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Pre-requisites: Herberger Institute of Design and the Arts Graduate student |
| ATE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Pre-requisites: Herberger Institute of Design and the Arts Graduate student |
| ATE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | The Design School | 1 | | Pre-requisites: Herberger Institute of Design and the Arts Graduate student |
| ATE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ATE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Herberger Institute of Design and the Arts Graduate student |
| ATP | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ATP | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ATP | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | |
| ATP | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| ATP | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-7 | | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| BCH | 341 | Physical Chemistry with a Biological Focus | Thermodynamics, equilibrium, states of matter, solutions and chemical kinetics with a focus on biological systems. For students in biochemical, premedical, biomedical and educational curricula. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): CHM 114 or 116 or 118 with C or better; CHM 231 or 233 or 333 with C or better; MAT 251 or 265 or 270 with C or better; PHY 101 or 112 or 131 with C or better; Credit is allowed for only BCH 341 or CHM 341 OR Visiting University Student |
| BCH | 361 | Advanced Principles of Biochemistry | Advanced consideration of the structures, properties, and functions of proteins, enzymes, nucleic acids, carbohydrates, and lipids; principles and theory of the utilization and synthesis of these materials by living systems, and the relationship of these processes to energy production and utilization. The course is recommended for pre-health students. No credit for Biochemistry majors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): CHM 231 with C or better OR Pre- or corequisite(s): CHM 234 or CHM 334 with C or better if completed OR Visiting University Student |
| BCH | 367 | Elementary Biochemistry Laboratory | Qualitative/quantitative analyses of constituents of biological systems, enzyme activity measurements and metabolic studies. | N | REC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | | Pre- or corequisite(s): BCH 361 or LSC 366 with C or better if completed OR Visiting University Student |
| BCH | 371 | Modern Concepts in Biochemistry | Detailed examination of the chemical structure, conformation and function of proteins, carbohydrates, lipids and nucleotides; analysis of the energetics, enzymes and control of the metabolic pathways by which these molecules are degraded or synthesized. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): BIO 182 with C or better; CHM 234 with C or better; CHM 238 with C or better, Forensic Science BS, or Pharmacology and Toxicology BS major OR Visiting University Student |
| BCH | 372 | Modern Concepts in Biochemistry Laboratory | Analyzes protein structure, purification and function using spectroscopic, chromatographic, electrophoretic and other methods. | N | LAB | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Pre- or corequisite(s): BCH 371 OR Visiting University Student |
| BCH | 392 | Introduction to Research Techniques | Instrumental methods and philosophy of research by actual participation in chemical research projects. May be repeated for total of 6 semester hours. | N | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-3 | | |
| BCH | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-4 | | |

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| BCH | 461 | General Biochemistry | Structure, chemistry, and metabolism of biomolecules and their role in the biochemical processes of living organisms. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): CHM 234 or 334 with C or better; Corequisite(s): BCH 341 or CHM 341 or CHM 346 with C or better if completed OR Visiting University Student |
| BCH | 462 | General Biochemistry | Continuation of BCH 461. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): BCH 461 with C or better OR Visiting University Student |
| BCH | 463 | Biophysical Chemistry | Principles of physical chemistry as applied to biological systems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): BCH 341 or CHM 341 or CHM 346 with C or better OR Visiting University Student |
| BCH | 467 | Analytical Biochemistry Laboratory | Quantitative analysis, separation and purification of biological molecules. Applies chemical and physical methods to the characterization of biological macromolecules. | N | REC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | L | Prerequisite(s): BCH 461 with C or better; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| BCH | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | |
| BCH | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| BCH | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| BCH | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-4 | | |
| BCH | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-3 | | |
| BCH | 501 | Current Topics in Biochemistry | Varies by topic. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BCH | 520 | Chemical Biology | Chemical biology, broadly defined, is the application of chemical tools toward the study biological problems. The purpose of this class is to provide the foundation for translational research involving cross-disciplinary approaches to tackling significant problems in the biosciences. This one-semester class will cover topics ranging from traditional molecular biology and biochemistry to state-of-the-art techniques in genomics and proteomics. Particular emphasis will be placed on modern concepts in enzymology. The class will be taught using a combination of current literature and text-based materials. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Pre-requisite: Graduate students (degree and nondegree); Credit is allowed for only BCH or CHM 520 |
| BCH | 561 | Advanced Topics in Biochemistry | Topics selected from emerging areas of biochemistry based primarily on current literature. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BCH | 564 | Bionanotechnology | The use of biomolecules, bioelectronics, and biomedicine for applications in nanotechnology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BCH 564 or NAN 564 |
| BCH | 568 | Molecular Mechanisms of Photosynthesis | Structure and function of photosynthetic complexes; mechanism of energy conversion in plants, bacteria, and model systems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BCH 568 or PLB 558 |
| BCH | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BCH | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BCH | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BCH | 597 | Capstone | Provides a culminating experience in biochemistry. Students bring together knowledge learned in prior courses in a way that is meaningful and relevant to their professional goals. Each student must prepare and defend a report summarizing current knowledge on a topic important to the field of biochemistry. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BCH | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BCH | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| BCH | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BCH | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BCS | 101 | Elementary Serbo-Croatian | Structural grammar, basic vocabulary; introduction and reinforcement of aural/oral, reading, and writing skills. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | |
| BCS | 102 | Elementary Serbo-Croatian | See BCS 101. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | |
| BCS | 201 | Intermediate Serbo-Croatian | Systematic review of grammar. Development of vocabulary through reading and writing. Drill in aural/oral skills. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | |
| BCS | 202 | Intermediate Serbo-Croatian | See BCS 201. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | |
| BCS | 311 | Bosnian/Croatian/Serbian Composition and Conversation I | Develops writing ability and oral expression. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): BCS 202 with C or better OR Visiting University Student |
| BCS | 312 | Bosnian/Croatian/Serbian Composition and Conversation II | Develops writing ability and oral expression. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): BCS 311 with C or better OR Visiting University Student |
| BCS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| BCS | 495 | Serbo-Croatian for Heritage Speakers | Generates professional proficiency by developing communicative and written competency in standard literary Serbo-Croatian. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | |
| BDE | 502 | Research Methods in Biological Design | Introduction to research, the scientific method, literature survey, experiments and research documentation, time management, technical writing and peer review, technical presentations, ethics and safety, academic and industrial research, funding and proposals, industrial research and intellectual property. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 3 | | Prerequisite(s): Biological Design MS or Biological Design PhD student |
| BDE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BDE | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BDE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BDE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BDE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BDE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BDE | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1-12 | | |
| BDE | 702 | Fundamentals of Biological Design II | Emphasizes the integrative areas of computational bioinformatics, systems biology, and synthetic biology, and their application in biomedical research. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BDE | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BDE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|--------|-----------------|---|
| BDE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BDE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 100 | The Living World | Principles of biology. Cannot be used for major credit in the biological sciences. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | SQ | |
| BIO | 100M | The Living World | Principles of biology. Cannot be used for major credit in the biological sciences. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 0.25-4 | SQ | |
| BIO | 108 | Concepts in Plant Biology | Introduces concepts of plant biology that are of human relevance using commercially important, edible, and medicinal plants as examples. Not for majors in the biological sciences. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | SQ | |
| BIO | 109 | Field Natural History of Arizona | Studies the common plants and animals of Arizona including their distribution, adaptations, behavior and ecology. Introduces basic field techniques used in the study of natural history. Off-campus field trips. Cannot be used for major credit in the biological sciences. | N | LEL | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | SG | |
| BIO | 112 | Discovery: Why Sex? | "Why?" is a question that animates the youngest of children to the most seasoned of scientists. The acts of asking and answering "Why?" highlight the integrated nature of scientific knowledge and discovery. Demonstrates scientific disciplines are not walled cities in which knowledge is neatly segregated from lines of inquiry and knowledge in other disciplines. Instead, scientific concepts weave throughout and between disciplines and scientists increasingly rely on colleagues from different scientific fields to find answers to scientific questions. So our journey to find responses to the question "Why Sex?" takes us not just to biology, but also to earth science and to physics. Along the way, scientists are linked together not only through concepts that crosscut the disciplines, but also in their reliance upon key scientific skills such as the ability to observe, think critically, measure, gather data and communicate their findings. | N | LEL | N | GNA | College of Liberal Arts and Sciences | School of Life Sciences | 4 | SG | Credit is allowed for only BIO 112 or BIO 194 (Discovery: Why Sex?) OR Visiting University Student |
| BIO | 113 | Dinosaurs | Principles of evolution, ecology, behavior, anatomy and physiology using dinosaurs and other extinct life as case studies. Geological processes and the fossil record. Cannot be used for major credit in the biological sciences. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | SG | |
| BIO | 130 | Introduction to Environmental Science | Introduces the interconnected nature of Earth's hydrosphere, lithosphere (soils and rocks), atmosphere, and biosphere. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | SQ | Credit is allowed for only ABS 130 or BIO 130 or ENV 130 OR Visiting University Student |
| BIO | 130M | Introduction to Environmental Science | Introduces the interconnected nature of Earth's hydrosphere, lithosphere (soils and rocks), atmosphere, and biosphere. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 0.25-4 | SQ | |
| BIO | 140 | Greek and Latin Roots in Bioscientific Terminology | Introduces students to the ancient Greek and Latin root words most commonly used in biological, medical, and other scientific terminology, and gives practice identifying them in context. The knowledge of these root words enables students to memorize with greater ease and increased retention the bioscientific terminology they encounter in other coursework as well as in their medical or scientific profession. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Credit is allowed for only BIO 140 or GRK 140 or LAT 140 or SLC 140 OR Visiting University Student |
| BIO | 145 | Introduction to Marine Biology | Introduces non-majors to the basic concepts of marine biology, the study of the ocean and the diverse life forms that reside in the diverse habitats found there. Includes an extensive discussion on ocean conservation, including threats facing marine life and policy solutions to those threats. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | SG | Prerequisite(s): minimum 25 hours; Credit is allowed for only BIO 145 or LSC 145 or LSC 294 (Introduction to Marine Biology) OR Visiting University Student |
| BIO | 151 | Biological Thinking | The science behind the science of life. Masters the core concepts of modern biology, understands the scientific discoveries that lie behind those concepts, and develops scientific reasoning skills so that students can contribute discoveries of their own. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | SQ | Prerequisite(s): Life Sciences student; ALEKS score below 61; Credit is allowed for only BIO 100 or BIO 151 OR Visiting University Student |
| BIO | 160 | Introduction to Anatomy and Physiology | Terminology and essential concepts in human anatomy and physiology, as well as the structure and function of the human body. Designed for students in the health-related professions. Acquaints the student with human anatomy, structure and function, and basic disease concepts. Organizes and presents course concepts by organ systems, and the laboratory component of the course emphasizes human structure and function. The course has 3 contact hours for lecture and 2 contact hours for lab per week. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 4 | SQ | |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--|---|--------|-----------------|--|
| BIO | 181 | General Biology I | Biological concepts emphasizing principles and the interplay of structure and function at the molecular, cellular, and organismal levels. Intended for life sciences, biology, and health-related science majors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | SQ | Credit is allowed for only BIO 181 or BIO 281 or BIO 282 |
| BIO | 182 | General Biology II | Biological concepts emphasizing principles and the interplay of structure and function at the organismal, population, and community levels. Intended for life sciences, biology, and health-related science majors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | SG | Prerequisite(s): BIO 181 with C or better; Credit is allowed for only BIO 182 or BIO 281 or BIO 282 OR Visiting University Student |
| BIO | 189 | School of Life Sciences Undergraduate Research Apprentice | Students gain exposure to contemporary issues in research excellence, mentoring skills and professional development. Enriches individual lab research experiences for students by bringing them together in a peer-community environment. Introduces the resources students have at their disposal (e.g., on campus, online) to facilitate research productivity and career planning. Rigorously evaluates their research processes and products in light of their eventual professional plans. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): minimum 2.75 GPA; Credit is allowed for only BIO 189 or BIO 194 (SOLS Undergraduate Research Apprentice) OR Visiting University Student |
| BIO | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| BIO | 201 | Human Anatomy and Physiology I | Studies the structure and function of the human body. Topics include cells, tissues, integumentary system, skeletal system, muscular system, and nervous system. Cannot be used for major credit in the life sciences. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | SG | |
| BIO | 201M | Human Anatomy and Physiology I | Studies the structure and function of the human body. Topics include cells, tissues, integumentary system, skeletal system, muscular system, and nervous system. Cannot be used for major credit in the life sciences. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 0.25-4 | SG | |
| BIO | 202 | Human Anatomy and Physiology II | Studies the structure and function of the human body. Topics include cardiovascular, respiratory, lymphatic/immune, endocrine, renal, digestive, and reproductive systems. Cannot be used for major credit in the life sciences. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | SG | Prerequisite(s): BIO 201 with C or better OR Visiting University Student |
| BIO | 230 | How Nature Works | Teaches biology through the lens of function, thereby providing a core understanding in biology for all students, no matter their background. Explores the process of scientific discovery and how biological knowledge can inform other disciplines. Each week investigates a new topic regarding how ecosystems and organisms function--e.g., How do ecosystems cycle nutrients? How do animals move through air, water and on land? How do organisms defend themselves against disease? Covers core concepts in biology as well as how these concepts apply to other disciplines. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Credit is allowed for only BIO 230 or BMY 230 |
| BIO | 250 | Introduction to Evolution and Medicine | Introduces applications of evolutionary biology to medicine. Discusses topics ranging from the evolution of antibiotic resistance to aging, obesity, Alzheimer's disease and cancer using an evolutionary framework to better understand how these diseases/issues came to be, and what can be done to prevent/treat/mitigate these conditions. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Life Sciences | 3 | SB & G | Credit is allowed for only ASB 250 or ASB 294 (Introduction to Evolutionary Medicine) or ASM 294 (Evolution and Medicine) or BIO 250 or BIO 294 (Introduction to Evolutionary Medicine) OR Visiting University Student |
| BIO | 282 | Conceptual Approaches to Biology for Majors II | Builds upon established conceptual foundations, covers the themes and concepts underlying organismal biology, with an emphasis on physiology and ecology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): School of Life Sciences student; BIO 281 with C or better; Credit is allowed for only BIO 181 or BIO 182 or BIO 282 OR Visiting University Student |
| BIO | 289 | School of Life Sciences Undergraduate Researcher | Students gain exposure to contemporary issues in research excellence, mentoring skills, and professional development in this seminar. Enriches individual lab research experiences students by bringing them together in a peer-community environment. Introduces students to the resources they have at their disposal (e.g. on campus, online) to facilitate research productivity and career planning. Rigorously evaluates their research processes and products, in light of their eventual professional plans. | N | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): minimum 3.00 GPA OR Corequisite(s): BIO 310, or BIO 494 (Advanced Study Practicum), or BIO/HPS/MBB/MIC 484/492/493/495/496/499 OR Visiting University Student |
| BIO | 293 | The Health Sciences Workplace | Provides exposure to the health science workplace and helps students explore the full range of careers that are open to those who major at the undergraduate level in the health sciences including managerial and administrative aspects. Includes short presentations by professionals in a variety of fields, including biotechnology and bioenterprise, business and the health sciences. Ample opportunities for questions and personal interactions. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | |
| BIO | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| BIO | 301 | Field Natural History | Organisms and their natural environment. Cannot be used for major credit in the biological sciences. Both BIO 300 and BIO 301 must be taken to secure SQ General Studies credit | N | PRA | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | SG | Pre- or corequisite(s): BIO 300 or LSC 310 with C or better if completed |

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| BIO | 302 | Cancer--Mother of All Diseases | History of cancer; disease statistics; pathogenesis; diagnosis, treatment and prevention; case studies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | L | Prerequisite(s): BIO 181, BIO 182, BIO 201, BIO 281, BIO 282, MIC 205, or MIC 220 with C or better; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| BIO | 303 | Plant Diversity and Evolution | An examination of the major groups of land plants, emphasizing evolutionary history, comparative data, and phylogenetic methods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | L or SG | Prerequisite(s) with C or better: BIO 181; BIO 182; ENG 101, 105, or 107 OR BIO 281; BIO 282; ENG 101, 105, or 107; Credit allowed for only BIO 303 or ENV 300 or PLB 300 OR Visiting University Student |
| BIO | 304 | Plants and Civilization | Plants and plant products used by people throughout the world. Cultivation, processing, and uses in modern life (beverages, fibers, foods, medicinals, and perfumes). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | L | Prerequisite(s) with C or better: BIO 181; BIO 182; ENG 101, 105, or 107 OR BIO 281; BIO 282; ENG 101, 105, or 107; Credit is allowed for only BIO 304 or ENV 302 or PLB 302 OR Visiting University Student |
| BIO | 305 | Biology Behind the Crime Scene | Explores biological technology behind forensic techniques like fingerprinting, Polymerase Chain Reaction (PCR), and paternity testing. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | SG | Pre-requisites: Minimum Sophomore standing |
| BIO | 306 | Modes of Biological Thought | Involves students in the process of biological discovery to examine how we identify truth in biological science. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | L | Prerequisite(s): ENG 101 or 105 with C or better; BIO 181 (or BIO 188) and BIO 182 (or BIO 187) with C or better OR Visiting University Student |
| BIO | 307 | Research Colloquium: Identifying a Research Question | Develops critical thinking abilities, introduces students to what it means to do scholarly research, and familiarizes students with other tools needed to develop a research proposal in biology and society. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): Biological Sciences (Biology and Society) BS major; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| BIO | 308 | Plant Physiology | Concepts of plant function: carbon metabolism, energy acquisition, regulation of growth and development, stress responses, and water and nutrient uptake. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better; CHM 116 with C or better; Credit is allowed for only BIO 308 or PLB 308 OR Visiting University Student |
| BIO | 309 | Plant Anatomy | Development and mature structure of tissues of vascular plants; patterns and modifications of the leaf, stem, root, and flower. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): BIO 181 with C or better; BIO 182 or PLB 200 with C or better OR BIO 281 with C or better; BIO 282 with C or better |
| BIO | 310 | Special Problems and Techniques | Qualified undergraduates may investigate a specific biological problem under the direction of a faculty member. | N | IND | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-3 | | |
| BIO | 311 | Biology and Society | Explores interactions between biological sciences and society, e.g., biomedical, environmental, ethical, historical, legal, philosophical, political, and social issues. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better OR BIO 281 with C or better; BIO 282 with C or better; Credit is allowed for only BIO 311 or HPS 340 OR Visiting University Student |
| BIO | 312 | Bioethics | Critical examination of moral questions arising in biomedical contexts, particularly due to new technologies and scientific discoveries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | HU | Prerequisite(s): minimum 45 hours; Credit is allowed for only BIO 312 or IAS 340 or PHI 320 OR Visiting University Student |
| BIO | 313 | The Flora of Arizona | Overview of Arizona's flora and plant communities; emphasizes identification, classification, and natural history of the state's native vascular species. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s) with C or better: BIO 181 (or BIO 188) and BIO 182 (or BIO 187 or both PLB 200 and 201) OR BIO 281 and 282; Credit is allowed for only BIO 313 or PLB 310 |
| BIO | 314 | Research Colloquium in Biology and Society I | Develops critical thinking abilities, research methods and writing skills for research in the interactions between biological sciences and society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): Biological Sciences (Biology and Society) BS major; ENG 101, 105, or 107 with C or better; Pre- or corequisite(s): BIO 307 with C or better if completed OR Visiting University Student |
| BIO | 315 | Science, Values, and the Public | Examines science, communication, and a range of public opinion to understand science as a discourse of profound social power. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Minimum 35 hours; Credit is allowed for only ENG 370 or BIO 315 |
| BIO | 316 | History of Biology: Conflicts and Controversies | Focuses on 19th and 20th centuries, considering biology as a discipline. Evolution, problems of heredity, development, and cell theory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | H | Credit is allowed for only BIO 316 or HPS 330 OR Visiting University Student |
| BIO | 317 | History of Science II | Development and application of scientific thinking from the 18th century to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | HU & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only BIO 317 or HPS 323 OR Visiting University Student |
| BIO | 318 | History of Medicine | Scientific study of the human body, changing theories of disease, evolution of practical opinions on treatment, and the emerging institutionalization of medical practice. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | HU & H | Credit is allowed for only BIO 318 or HPS 331 OR Visiting University Student |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|-------------------------|-------|-----------------|--|
| BIO | 320 | Fundamentals of Ecology | Organization, functioning, and development of ecological systems; energy flow; biogeochemical cycling; environmental relations; population dynamics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better; CHM 116 or 118 with C or better OR CHM 116 or 118 with C or better; SES 220 with C or better OR Visiting University Student |
| BIO | 321 | Introductory Ecology Laboratory | Lab and field observations and experiments to test current concepts and theories in ecology. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 2 | | Pre- or corequisite(s): BIO 320 with C or better if completed OR Visiting University Student |
| BIO | 322 | Conservation of Biodiversity | Species-level approaches to the protection, management, and restoration of biological resources from scientific and policy perspectives. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 181 with C or better; BIO 182 (or PLB 200) with C or better OR BIO 281 with C or better; BIO 282 with C or better OR Visiting University Student |
| BIO | 323 | Ecosystem Restoration and Management | Ecosystem-level approaches to the protection, management, and restoration of biota and ecosystem processes from local to global scales. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 181 with C or better; BIO 182 (or PLB 200) with C or better OR BIO 281 with C or better; BIO 282 with C or better |
| BIO | 324 | Environmental Ethics | Examines a full range of philosophical positions pertaining to our moral relationship to the natural world; anthropocentrism, individualism, biocentrism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | HU | Credit is allowed for only BIO 324 or PHI 310 OR Visiting University Student |
| BIO | 325 | Oceanography | Introduces marine geology, chemistry, and physical and biological oceanography. Methods of oceanic exploration, environmental and social aspects of oceans. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s) w/ C or better: BIO 100, BIO 182, BIO 282, SES 220, SES 225, or both GLG 101 & 103, or both SES 121 & 123; CHM 101, 113, 114, 117, or both CHM 107 & 108; Credit allowed for only BIO 325 or CHM 385 or GLG 325 OR Visiting University Student |
| BIO | 327 | Evolution of Human Behavior | Examines how evolutionary theory informs our understanding of human behavior, psychology and culture. Explores evolutionary explanations of human behavioral variation and cultural diversity and the influence of natural selection on shaping human cognition. Topics include nepotism, economic decisions, behavioral strategies throughout the life course, mate choice and sexual behavior, perception and judgment, motivation and emotions, social learning and culture, cooperation and prosociality, interpersonal violence and warfare, and norms and moral sentiments. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): ASM 104, BIO 181 or 282 with C or better; Credit is allowed for only ASM 342 or BIO 327 |
| BIO | 328 | History of Science I | Development and application of scientific thinking from ancient times through the 17th century. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | HU & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only BIO 328 or HPS 322 OR Visiting University Student |
| BIO | 331 | Animal Behavior | Theories of evolutionary, genetic, physiological, and ecological bases of animal behavior. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s) with C or better: BIO 181; BIO 182 OR BIO 281; BIO 282; Credit is allowed for only BIO 331 or LSC 331 OR Visiting University Student |
| BIO | 340 | General Genetics | Surveys fundamental principles of genetics--the study of biological inheritance. Specific topics include Mendelian principles, molecular and functional genetics, gene regulation, cytogenetics, gene mapping, genetics of development, complex traits and population genetics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better; Credit is allowed for only BIO 340 or MBB 347 OR Visiting University Student |
| BIO | 342 | General Genetics Laboratory | Explores general principles of inheritance with special reference to Mendelian, molecular, and computational genetics via lab experiments. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 2 | | Prerequisite(s): BIO 340 with C or better; Credit is allowed for only BIO 342 or MBB 347 OR Visiting University Student |
| BIO | 343 | Genetic Engineering and Society | Introduces genetic engineering, with emphasis on applications (transgenic plants and animals, cloning, vaccines, therapeutics, and diagnostics). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | L | Prerequisite(s): BIO 340 or MBB 347 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only BIO 343 or MBB 343 OR Visiting University Student |
| BIO | 345 | Evolution | Processes of adaptive change and speciation in sexual populations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 340, LSC 347, or MBB 347 with C or better OR Visiting University Student |
| BIO | 351 | Developmental Biology | Principles of developmental biology, including the development of major organ systems and their underlying molecular and cellular mechanisms. Illustrated mainly using vertebrate examples. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 340 or LSC 347 or MBB 347 with C or better OR Visiting University Student |
| BIO | 352 | Laboratory in Vertebrate Developmental Anatomy | Morphology of representative embryonic and adult vertebrates. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 2 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better OR BIO 281 with C or better; BIO 282 with C or better; Pre- or corequisite(s): BIO 351 with C or better OR Visiting University Student |

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| BIO | 353 | Cell Biology | Surveys major topics in cell biology, including structural, biochemical, and molecular aspects of cell function. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s) with C or better: BIO 181; BIO 182; CHM 116 or 118 OR BIO 281; BIO 282; CHM 116 or 118 OR Biomedical Engineering BSE major; BIO 181; CHM 114 or 116 OR Visiting University Student |
| BIO | 354 | Cell Biology Laboratory | Investigational lab using modern molecular and cellular techniques to analyze molecular, biochemical, and anatomical traits of cells. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Pre- or corequisite(s): BIO 353 with C or better if completed OR Visiting University Student |
| BIO | 355 | Introduction to Computational Molecular Biology | Introduces the mathematical skills used in molecular biology, genomics, and bioinformatics. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | CS | Prerequisite(s): MAT 119, 210, 243, 251, 265, or 270 or STP 220, 226, or 231 with C or better; Credit is allowed for only BIO 355 or CPI 480 or MAT 355 or MBB 355 OR Visiting University Student |
| BIO | 357 | Cell and Molecular Biology Laboratory | Laboratory concepts and techniques central to cell biology and molecular biology emphasize principles and the interplay of these two sub disciplines. Intended for life sciences, biology, and health-related science majors. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 2 | | Prerequisite(s): BIO 353 with C or better; Credit is allowed for only BIO 357 or BIO 394 (Cell and Molecular Biology Laboratory) OR Visiting University Student |
| BIO | 360 | Animal Physiology | Principles and mechanisms of physiological regulation in animals, with a focus on humans. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better OR BIO 281 with C or better; BIO 282 with C or better; CHM 116 or 118 with C or better OR Visiting University Student |
| BIO | 361 | Animal Physiology Laboratory | Experimental lab studies of physiological mechanisms in animals and model systems. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 2 | | Pre- or corequisite(s): BIO 360 with C or better if completed OR Visiting University Student |
| BIO | 363 | From Cells to Society: Understanding Complexity | Equips students with concepts and empirical examples they need to understand the role of complexity in the world around them. Complexity science is based on the fundamental principle that entities and phenomena in the world around us are systems composed of many parts that interact to produce their global characteristics. For example, cells interact to produce organs and tissues, which in turn interact to produce physiological processes (i.e., the capacity to metabolize food to produce new compounds and energy) and physical infrastructure (skeletal and muscular structure) which produce organisms. Organisms, (e.g., humans) interact to form groups, villages, cities, nations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AML/ASB/BIO/SOS 394 (From Cells to Societies) or ASB 363 or BIO 363 or CAS 363 or SOS 363 OR Visiting University Student |
| BIO | 370 | Vertebrate Zoology | Characteristics, classification, evolution, and natural history of the major groups of vertebrate animals. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better OR BIO 281 with C or better; BIO 282 with C or better OR Visiting University Student |
| BIO | 382 | Spanish for Biomedical Sciences | Focuses on developing the communicative skills necessary to engage students with the human aspect of health in Spanish. Students develop cultural and linguistically appropriate skills which address the communication needs across the healthcare continuum, to provide culturally competent services. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): SPA 202, 204, or 210 with C or better or Spanish placement test score of 521+; Credit is allowed for only BIO 382 or BIO 394 (Spanish Biomedical Sciences) or SPA 382 or SPA 394 (Spanish Biomedical Sciences) OR Visiting University Student |
| BIO | 385 | Comparative Invertebrate Zoology | Characteristics, life cycles, adaptations, and evolution of invertebrate animals. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better OR BIO 281 with C or better; BIO 282 with C or better |
| BIO | 386 | General Entomology | Specialized focus on form, activities, and classification of insects. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better OR BIO 281 with C or better; BIO 282 with C or better OR Visiting University Student |
| BIO | 389 | School of Life Sciences Undergraduate Research Scholar | While performing undergraduate research at ASU, students gain exposure to contemporary issues in research excellence, mentoring skills, and professional development. Goals include: enriching individual lab research experiences of each student by bringing them together in a peer-community environment; introducing students to the resources they have at their disposal (e.g., on campus, online) to facilitate research productivity and career planning; rigorously evaluating their research processes and products, in light of their eventual professional plans. | N | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): School of Life Sciences major; minimum 3.00 GPA OR Visiting University Student |
| BIO | 390 | Medical/Dental Field Placement | Field placement for students exploring a career in a health profession. Requires classroom sessions and fieldwork. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | |

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| BIO | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| BIO | 400 | Topics in Neuroscience | Covers in-depth important and emerging developments in neuroscience, emphasizing lectures that include readings of recent reviews and contemporary publications in peer-reviewed journals. Includes a significant writing component; students learn skills for writing scientific publications and grant applications. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 360 with C or better; Credit is allowed for only BIO 400 or KIN 400 or PSY 400 or SHS 400 |
| BIO | 403 | Evolutionary Medicine and Global Health | Fundamentally, the practice of medicine is applied biology to improve human health and well-being and is embedded within population and global scales. Integrates the life and social sciences to tackle the current and emerging global health challenges of the 21st century with an evolutionary biology lens with current medical knowledge enhancing our understanding of health. Uses topics such as human-pathogen coevolution; development and aging; human migration; diseases (infectious, metabolic and autoimmune); and physiological and behavioral mechanisms of immunity to explore the broad arena of human health within a deep time and global context. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prereq(s): min 45 hrs; Credit is allowed for only ASM 403 or ASM 494(Evol Med & Gbl Hlth) or ASM 503 or ASM 598(Evol Med & Gbl Hlth) or BIO 403 or BIO 494(Evol Med & Gbl Hlth) or BIO 510 or BIO 598(Evol Med & Gbl Hlth) OR Visiting University Student |
| BIO | 405 | Sonoran Desert Field Botany | Plants are the most important organisms on the planet and a fundamental knowledge of them is critical for any biological career--especially the fields of conservation, ecology, sustainability and systematics. Arizona is a diverse state and therefore, an ideal place to explore a wide variety of landscapes and their constituent plants. Introduces the important species of the Sonoran Desert within about a 50-mile radius of Tempe. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): minimum 45 hours; Credit is only allowed for BIO 405 or BIO 498 (Sonoran Desert Field Botany) |
| BIO | 407 | Novel Ecosystems | This primarily field course challenges preconceptions and received wisdom. Visit and discuss a variety of sites within about one hour's drive of ASU Tempe. These sites range from apparently relict desert mountain parks to effluent-dominated wetlands, active agricultural fields, newer and older commercial and residential areas, recreational ponds and (presently) abandoned vacant lots. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 320; BIO 322 or 323 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only BIO 407 or BIO 494 (Novel Ecosystems) OR Visiting University Student |
| BIO | 408 | Advanced Evolutionary Medicine | Explores the application of the principles of evolution to the fields of medicine and public health and places disease in the context of changing environments, both exposures and the encompassing ecology of life in which an individual is imbedded. Focuses on the biological aspects of evolutionary theory through the use of molecular genetics; population genetics; and the use of evolutionary thinking and analysis with translational, clinical and public health intersections. A foundation in evolutionary medicine is useful for students with interests including but not limited to: premed, population genomics, maternal and child health, mental health, cancer, microbiome, aging, anthropology, biology, public health, global health and medicine. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): minimum 30 hours; Credit is allowed for only ASB 408 or ASB 494 (Evolutionary Med) or ASB 507 or ASB 591 (Evolutionary Med) or BIO 408 or BIO 494 (Evolutionary Med) or BIO 507 or BIO 591 (Evolutionary Med) OR Visiting University Student |
| BIO | 410 | Techniques in Conservation Biology and Ecology | Lecture, field and laboratory experience in techniques used in conservation biology and ecology. Course is modular, with each module instructed by a discipline-specific expert (e.g., plant ecologist, mammal conservationist, soil ecologist). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | L | Prerequisite(s): BIO 320 with C or better; BIO 322 or 323 with C or better; ENG 101, 105, or 107 with C or better; STP 226 or higher with C or better OR Visiting University Student |
| BIO | 411 | Quantitative Methods in Conservation and Ecology | Quantitative methods in conservation ecology: develop mathematical models of ecological and natural resource systems and use the models to better understand and inform management of ecosystems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): BIO 320 or 322 with C or better; BIO 415 or STP 226 or STP 231 with C or better; MAT 210, 251, 265, or 270 with C or better OR Visiting University Student |
| BIO | 412 | Conservation in Practice | Global biodiversity patterns, processes, and conservation; global environmental change; sustainable use of natural resources; emphasizing international approaches to conservation biology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only BIO 412 or SOS 412 |
| BIO | 414 | Research Colloquium in Biology and Society II | Further develops critical thinking abilities, research methods and writing skills for research in the interactions between biological sciences and society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): BIO 307 with C or better; BIO 314 with C or better; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| BIO | 415 | Statistical Models for Biology | Statistical methods applied to biological problems, design of experiments, estimation, significance, analysis of variance, regression, correlation, chi square, and bioassay; the use of computers. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | CS | Prerequisite(s): MAT 210, MAT 251, MAT 265, MAT 270, STP 226, or STP 231 with C or better; Credit is allowed for only BIO 415 or BIO 514 OR Visiting University Student |
| BIO | 416 | Biomedical Research Ethics | Considers issues related to values in science such as collaboration, finances, legal issues, media, mentoring, ownership of ideas, scientific integrity. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only BIO 416 or HPS 410 OR Visiting University Student |

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| BIO | 417 | Experimental Design | Fixed, random, mixed models; crossed and nested factorial designs; balanced and unbalanced data; completely randomized, blocked, repeated measure designs; ANCOVA. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 415 with C or better |
| BIO | 418 | Soil Ecology | Soils viewed in an ecosystem context, soil-plant relationships, nutrient budgets, and abiotic factors that influence soil processes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Pre-requisite: ABS 370 or BIO 320. Credit is allowed for only ABS 434 or BIO 418 |
| BIO | 419 | Physiological Plant Ecology | Physiological and morphological responses and adaptations of plants to their environment, emphasizing mechanisms that influence carbon and water balance, growth, and population distributions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 320 or PLB 308 with C or better; Credit is allowed for only BIO 419 or PLB 419 or BIO 519 or PLB 519 |
| BIO | 420 | Immunology: Molecular and Cellular Foundations | Antibody/antigen interactions, cellular response, cytokines, immunogenetics, immunoregulation, autoimmunity, psychoneuroimmunology research/medical perspectives. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 353, BIO 360, or MIC 220 with C or better; Credit is allowed for only BIO 420 or MIC 420 OR Visiting University Student |
| BIO | 421 | Landscape Ecology | Discusses how landscape heterogeneity interacts with ecological processes, and implications for biodiversity conservation, resource management, and landscape and urban planning. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 320 with C or better; Credit is allowed for only BIO 421 or BIO 521 or SOS 421 or SOS 521 OR Visiting University Student |
| BIO | 422 | Ecosystem Ecology | Explores the structure, development and dynamics of ecosystems, with a focus on the exchange of energy and materials between the atmosphere, soils, water, biosphere, and anthro-sphere. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 320 with C or better; Credit is allowed for only BIO 422 or BIO 494 (Ecosystem Ecology) |
| BIO | 423 | Population and Community Ecology | Organization and dynamics of population and communities. Theoretical and empirical approaches. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 320 with C or better |
| BIO | 425 | Marine Conservation Ecology | Marine conservation biology is increasingly important for society, as evidenced by frequent media coverage and the recent report by the U.S. Commission on Ocean Policy. Expect exposure to multiple perspectives on important conservation issues in the marine environment and gain valuable experience in critical thinking, communication skills, and the use of science in effective debate. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better OR BIO 281 with C or better OR Visiting University Student |
| BIO | 426 | Limnology | Structure and function of aquatic ecosystems, with emphasis on freshwater lakes and streams. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3-4 | L | Prerequisite(s): BIO 320 with C or better; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| BIO | 427 | Fire | A survey of fire on Earth--history, ecology, behavior, and management. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | H | Prerequisite(s): BIO 181 with C or better; BIO 182 (or PLB 200) with C or better OR BIO 281 with C or better; BIO 282 with C or better |
| BIO | 429 | Human Impacts on Ecosystem Functioning | Explores our current understanding of how humans are impacting the functioning of ecosystems and how changes in ecosystems would affect provisioning of ecosystem services and ultimately human well-being. The two primary drivers of ecosystem change are growth of the human population and increased consumption per capita. These drivers affect the Earth's cycles of carbon, nitrogen and water, as well as regional and global-scale changes in biodiversity and climate. Includes an in-depth discussion of scenarios for the next 50 and 100 years, which articulate costs and benefits of alternative development pathways in terms of climate change, food production, clean water and biodiversity. Scenarios of change in biodiversity lead to the topic of the consequences of biodiversity change for the functioning of ecosystems from the point of view of their productivity and stability. Human activities have disrupted several biogeochemical cycles including nitrogen and carbon cycles. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 320 (or SOS 326); Credit is allowed for only BIO 429, BIO 528, SOS 429, SOS 528, or SOS 494/598 (Human Impacts on Ecosystem Functioning), or BIO 494/598 (Human Impacts on Ecosystem Functioning) |
| BIO | 430 | Plant Geography | Plant communities of the world and their interpretation, emphasizing North American plant associations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 181 or GPH 111 or PLB 200 with C or better; Credit is allowed for only BIO 430 or GPH 422 or PLB 422 |
| BIO | 431 | Genes, Development, and Evolution | Contribution of genes, developmental processes, and evolution to pattern of phenotypic variation, including disease. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | L | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better; ENG 101, 105, or 107 with C or better OR BIO 281 with C or better; BIO 282 with C or better; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| BIO | 432 | Why People Steal, Cheat and Lie | Explores the ecological and evolutionary causes of selfishness and cooperation in human societies. Students apply biological models to predict patterns of behavior in human populations and evaluate these models with empirical data. Develops new scientific and philosophical perspectives on human behavior by integrating ideas from complementary disciplines, including biology, psychology, anthropology, criminology, sociology and philosophy. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Life Sciences | 3 | SB | Prerequisite(s): BIO 182 or 282; Credit is allowed for only BIO 432 or BIO 494 (Why People Steal, Cheat, and Lie) OR Visiting University Student |

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| BIO | 434 | People and Nature: Ecosystem Services | Explores the drivers of biodiversity change and the consequences they have for human wellbeing, taking both an ecological and an economic perspective. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Pre-requisites: MAT 117 or higher or SOS 101; junior standing. Credit is allowed for only BIO 434, SOS 434, or BIO 494 (Ecosys Servcs:People&Nature) |
| BIO | 435 | Research Techniques in Animal Behavior | Experimental and field studies of animal behavior; description and quantification of animal behavior and interpretation of behavior within an evolutionary framework. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 331 with C or better |
| BIO | 436 | Sociobiology and Behavioral Ecology | Surveys animal and human social behavior examined from ecological and evolutionary perspectives using theoretical and empirical constructs. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 331 with C or better OR Visiting University Student |
| BIO | 438 | Marine Biology | Covers the marine habitat, the organisms that live in it and their ecology, in the open water as well as on the sea floor, from coasts to open sea. Includes aspects of oceanography, ecology and biology of marine organisms, ranging from the smallest plankton to whales, as well as issues related to the changing marine environment and conservation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): with C or better: BIO 181; BIO 182; BIO 320 or 325 OR BIO 281; BIO 282; BIO 320 or 325; Credit is allowed for only BIO 438 or BIO 494 (Marine Biology) or LSC 434 OR Visiting University Student |
| BIO | 439 | Computing for Research | Works mainly with command-line programs for data analysis, with a major focus on sequence-based analysis. An interactive flipped course, with required hands-on aspects both in class trouble-shooting and for out-of-class assignments where students work on problem-solving and implementation. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s) with C or better: BIO 181; BIO 182 OR BIO 281; BIO 282; Credit is allowed for only BIO 439 or BIO 498 (Computing for Rsrch) or BIO 539 or BIO 598/EVO 598/MBB 598 (Computing for Rsrch) or EVO 539 or MCB 539 OR Visiting University Student |
| BIO | 440 | Functional Genomics | Covers emerging fields of genomics and proteomics. Discusses key technologies and their applications to the study of genomes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 340 or LSC 347 or MBB 347 with C or better; Credit is allowed for only BIO 440 or MBB 440 or MCB 540 |
| BIO | 443 | Applied Molecular Genetics and Genomics | Nature and function of the gene; emphasizes the molecular genetic disease states; molecular biology; regulation of gene expression; genomics. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): LSC 347 with C or better; CHM 233 with C or better; CHM 237 with C or better |
| BIO | 446 | Principles of Human Genetics | Molecular and cellular analysis of the human genome. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | L | Prerequisite(s): ASM 301, BIO 340, LSC 347, or MBB 347 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only ASM 446 or ASM 546 or BIO 446 or BIO 546 OR Visiting University Student |
| BIO | 448 | Maternal and Child Health | Explores how genetics, nutrition, disease ecology, clinical access, legal systems, cultural practices and historical context contribute to maternal and child health. Draws from diverse fields including epidemiology, anthropology, biology, medicine, global health, public policy and sustainability to integrate a complex understanding of the myriad influences that shape maternal and child health and thereby affect our broader society. Evaluates the translation of basic science into clinical practice and public policy as well as the roles and partnerships among local, national and international organizations for improving human health worldwide. Provides up-to-date information about basic science, public policy and global health of maternal and child health to develop skills translatable in the workforce. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prereq(s): minimum 45 hours; Credit is allowed for only ASB 448 or ASB 494 (Matrnl &Chld Hlth) or ASB 548 or ASB 598 (Matrnl &Chld Hlth) or BIO 448 or BIO 494 (Matrnl &Chld Hlth) or BIO 548 or BIO 598 (Matrnl &Chld Hlth) OR Visiting University Student |
| BIO | 450 | Advanced Developmental Biology | Current concepts and experimental methods involving differentiation and biosynthetic activities of cells and organisms, with examples from microorganisms, plants, and animals. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 351 with C or better |
| BIO | 451 | Cell Biotechnology: Cell Culture, Immunocytochemistry and Bioimaging | Fundamentals of creating and maintaining cell culture for the purpose of experimental design and analysis. Cell culture technique, cell behavior, cell signaling and regulation, histology, transgenic fluorescent protein expression, immunocytochemistry and various bioimaging techniques including live cell, epi-fluorescent and confocal microscopy. Working with established cancer-derived cell lines and primary neural disassociated cultures, students perform various experimental techniques for cell imaging preparation and acquisition. Focuses on image analysis and presentation using ImageJ. During the second half of the semester, students propose and develop an experimental project in which they will collect data, do analysis and prepare the results for a final project presentation. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): BIO 343, BIO 353, MBB 343 or MBB 347 with C or better; Credit is allowed for only BIO 451 or BIO 551 OR Visiting University Student |

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| BIO | 452 | Philosophy of Biology and Medicine | Examines fundamental topics in the philosophy of biology and their implications for medicine. Examples include biological mechanisms and evidence-based medicine, species concepts and race, reductionism and the nature of individuality, and theories of function and health. Uses these topics throughout the semester to address two overarching questions about whether biology is fundamentally different from physics and whether medicine can be reduced to applications of biology. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): minimum 25 hours; Credit is allowed for only BIO 452 or HPS 452 or PHI 452 or BIO/HPS/PHI 394 (Philosophy of Biology and Medicine Introduction) or BIO/HPS/PHI 494 (Philosophy of Biology and Medicine) OR Visiting University Student |
| BIO | 453 | Animal Histology | Microscopic study of animal tissues. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s) with C or better: BIO 201, 353, or 360 or MIC 220 |
| BIO | 461 | Comparative Animal Physiology | A comparative approach to understanding the function of animal physiological systems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 360 with C or better OR Visiting University Student |
| BIO | 462 | Endocrine Physiology | Mechanisms of action of hormones; endocrine control of homeostasis, growth, stress responses, and reproduction. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 360 with C or better OR Visiting University Student |
| BIO | 465 | Neurophysiology | Detailed treatment of cellular and organismal neurophysiology and nervous system function. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 360 with C or better |
| BIO | 467 | Neurobiology | Introduces major areas of neurobiology, from fundamental cellular and molecular processes through systems neuroscience and neural bases of behavior. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 360 with C or better; Credit is allowed for only BIO 467 or BIO 476 or BIO 477 OR Visiting University Student |
| BIO | 471 | Ornithology | Biology of birds. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better OR BIO 281 with C or better; BIO 282 with C or better OR Visiting University Student |
| BIO | 472 | Mammalogy | Classification, structure, habits, ecology, and distribution of mammals, emphasizing North American forms. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better OR BIO 281 with C or better; BIO 282 with C or better |
| BIO | 474 | Herpetology | Classification, structure, habits, ecology and distribution of reptiles and amphibians, emphasizing North American forms. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better OR BIO 281 with C or better; BIO 282 with C or better OR Visiting University Student |
| BIO | 475 | Advanced Human Anatomy | Continues study of the human body. Specifically, explores and differentiates anatomic concepts at an advanced level. Additional didactic assignments designed to facilitate critical evaluation of pathophysiological principles and common misconceptions of human physiology, as well as a capstone presentation project. Grades are determined by class exercises, presentations and a series of critical thinking exercises. | N | LEL | Y | GNA | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 201 with C or better; BIO 202 with C or better OR BIO 360 with C or better; Credit is allowed for only BIO 475 or BIO 494 (Advanced Study Practicum: Anatomy & Physiology) OR Visiting University Student |
| BIO | 476 | Cellular and Molecular Neuroscience | Explores the cellular and molecular neurobiology of the central nervous system across many levels (genetic, molecular, cellular and network) by examining the principles underlying the function of individual neurons and how these principles give rise to integrated neuronal networks. Emphasizes critical thinking and problem solving in all evaluation exercises, including daily class participation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 360 with C or better; Credit is allowed for only BIO 467 or BIO 476 OR Visiting University Student |
| BIO | 477 | Systems and Behavioral Neuroscience | Explores the functions of the nervous system across many levels (genetic, molecular, cellular and network) in regard to how neural systems produce behavior, and how problems (e.g., injury, disease) of the CNS arise and can be overcome. Examines principles underlying the function of individual neurons and how these principles give rise to integrated neuronal networks. Emphasizes critical thinking and problem solving in all evaluation exercises, including daily class participation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 476 with C or better; Credit is allowed for only BIO 467 or BIO 477 OR Visiting University Student |
| BIO | 480 | Methods of Teaching Biology | Methods of instruction, experimentation, organization, and presentation of appropriate content in biology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 181 with C or better; BIO 182 (or PLB 200) with C or better OR BIO 281 with C or better; BIO 282 with C or better |
| BIO | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | |
| BIO | 486 | Peer Mentoring in STEM | Advanced students learn and apply mentoring skills in science classes or teaching labs. | Y | SEM | Y | YGB | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ACO 486 or BIO 486 or LSC 486 or MAT 486 or PTX 486 or STP 486 OR Visiting University Student |

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| BIO | 489 | School of Life Sciences Undergraduate Research Fellow | While performing undergraduate research at ASU, students gain exposure to contemporary issues in research excellence, mentoring skills, and professional development. Goals include: enriching individual lab research experiences of each student by bringing them together in a peer-community environment; introducing students to the resources they have at their disposal (e.g., on campus, online) to facilitate research productivity and career planning; rigorously evaluating their research processes and products, in light of their eventual professional plans. | N | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): School of Life Sciences major; minimum 3.50 GPA OR Visiting University Student |
| BIO | 490 | Surgical Field Placement | Advanced field placement for students exploring a career in a health profession. Requires classroom sessions and fieldwork. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 390 with C or better OR Visiting University Student |
| BIO | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| BIO | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| BIO | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| BIO | 495 | Undergraduate Research | Supervised research in biology/microbiology/molecular biosciences and biotechnology/or plant biology. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-3 | | Prerequisite(s): junior or senior standing OR Visiting University Student |
| BIO | 496 | Undergraduate Thesis | Guided research culminating in the preparation of an undergraduate thesis based on supervised research done in this and previous semesters. | N | RSC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): junior or senior standing; Credit is allowed for only BIO 496 or HPS 496 or MBB 496 or MIC 496 OR Visiting University Student |
| BIO | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-7 | | |
| BIO | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-3 | | |
| BIO | 500 | Research Methods | Course on research methods in a specific discipline. | Y | RSC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 502 | Transmission Electron Microscopy | Theory, use, and methods of preparing biological materials for transmission electron microscopy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Pre/Co-requisites: BIO 504 |
| BIO | 503 | Bioimaging Lab | Provides a fundamental understanding of light-based microscopy through the training and use of instruments contained within the Biodesign Imaging Facility (part of the Advanced Light Microscopy Facility, ASU Biosciences Core). Examines the use and research applications of bright field, contrast, epi-fluorescent, total internal reflective fluorescence (TIRF), confocal and super-resolution microscopy modalities. Gives additional focus to image ethics, analysis and presentation using programs such as Elements and FIJI. During the second half of the semester, students propose and develop an experimental project based on their graduate research in which they collect data, do analysis and prepare results for a final project presentation. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 2 | | Pre- or corequisite(s): BIO 504 |
| BIO | 504 | Bioimaging | Lecture survey of modern techniques for imaging tissues, cells, and macromolecules, including light microscopy (e.g. video, fluorescence, confocal, multiphoton, single molecule), electron microscopy (e.g. transmission, scanning, cryogenic, tomographic) and ancillary techniques. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 506 | Clinical Gross Anatomy | Dissection of the human body with an emphasis on the application of anatomical knowledge to clinical applications. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 6 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASM 506 or BIO 506 |

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| BIO | 507 | Advanced Evolutionary Medicine | Explores the application of the principles of evolution to the fields of medicine and public health and places disease in the context of changing environments, both exposures and the encompassing ecology of life in which an individual is imbedded. Focuses on the biological aspects of evolutionary theory through the use of molecular genetics; population genetics; and the use of evolutionary thinking and analysis with translational, clinical and public health intersections. A foundation in evolutionary medicine is useful for students with interests including but not limited to: premed, population genomics, maternal and child health, mental health, cancer, microbiome, aging, anthropology, biology, public health, global health and medicine. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking grad stdnt; Credit is allowed for only ASB 408 or ASB 494 (Evol Medicine) or ASB 507 or ASB 591(Evol Medicine) or BIO 408 or BIO 494 (Evol Medicine) or BIO 507 or BIO 591 (Evol Medicine) |
| BIO | 510 | Evolutionary Medicine and Global Health | Fundamentally, the practice of medicine is applied biology to improve human health and well-being and is embedded within population and global scales. Integrates the life and social sciences to tackle the current and emerging global health challenges of the 21st century with an evolutionary biology lens with current medical knowledge enhancing our understanding of health. Uses topics such as human-pathogen coevolution; development and aging; human migration; diseases (infectious, metabolic and autoimmune); and physiological and behavioral mechanisms of immunity to explore the broad arena of human health within a deep time and global context. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit for only ASM 403 or ASM 494(Evol Med & Gbl Hlth) or ASM 503 or ASM 598(Evol Med & Gbl Hlth) or BIO 403 or BIO 494(Evol Med & Gbl Hlth) or BIO 510 or BIO 598(Evol Med & Gbl Hlth) |
| BIO | 514 | Statistical Models for Biology | Fundamental concepts of statistics and how to apply a range of standard statistical tools to the analysis of biological data. Uses the software applications SPSS and R to carry out these tests, and how to identify the particular situations in which each test is appropriate. Topics include: basic probability, descriptive statistics, estimation, hypothesis testing, t-tests, analysis of variance, regression, correlation, chi-square analysis, randomization tests, and nonparametric statistics. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 415 or BIO 514 |
| BIO | 515 | Science, Technology and Public Affairs | Explores the political, economic, cultural, and moral foundations of science and technology policy and governance in democratic society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only BIO 515 or GLG 547 or HSD 515 or PAF 547 or SOS 516 |
| BIO | 516 | Foundations of Bioethics | Advanced introduction to the theoretical and normative foundations of the field of bioethics. | N | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 517 | Uncertainty and Decision Making | Knowledge is always incomplete, yet decisions must be made. Explores uncertainty and its relation to decision making, with a particular focus on the ways that science and science-derived information is applied with the intent of improving decisions. Explores the many meanings and origins of uncertainty, using theoretical and case-based approaches. A central theme is the relation among uncertainty, scientific prediction, and decision making, especially in politically charged issues, for example as related to management of the environment. Ultimately understands how effective decisions can be made in the face of inevitable uncertainties and contested knowledge. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only ASB 517 or BIO 517 or BIO 591 (Uncertainty & Decision Making) or HSD 517 or POS 527 or SOS 518 |
| BIO | 518 | History of Biology | Covers themes such as the voyages of discovery, systematics, and classification; morphology and embryology; Darwin and evolutionary biology; the rise of genetics; molecular and organismal approaches of post-WWII biology; recent history of biology. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 518 or HPS 516 |
| BIO | 519 | Physiological Plant Ecology | Physiological and morphological responses and adaptations of plants to their environment, emphasizing mechanisms that influence carbon and water balance, growth, and population distributions | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only BIO 519, PLB 419 or PLB 519 |
| BIO | 521 | Landscape Ecology | Discusses how landscape heterogeneity interacts with ecological processes, and implications for biodiversity conservation, resource management, and landscape and urban planning. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only BIO 421 or BIO 521 or SOS 421 or SOS 521 |
| BIO | 522 | Populations: Evolutionary Ecology | Principles of population biology and community ecology within an evolutionary framework. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 522 or EVO 601 |

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| BIO | 526 | Sustainability Science: Interactions Between Human and Environmental Systems | Addresses core ideas in sustainability science--an emerging field of research dealing with the interactions between human and environmental systems. The problem that motivates the course is the challenge of sustainability: improving the well-being of present and future generations in ways that conserve the planet's life support systems over the long term. Students critically discuss a set of presentations and papers covering the field in a systematic way, drawing on and integrating contemporary research from earth systems science, resource economics, institutional analysis, ecology, geography, development studies, health sciences, engineering, and other disciplines. Covers from the theory of sustainability to its multiple applications in the field and explores the impacts of different value systems on both theory and applications. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 526 or GCU 526 or SOS 526 or BIO 591 (Sust Sci: Int Btwn Hum &Env Sys) or GCU 591 (Sust Sci: Int Btwn Hum &Env Sys) or SOS 591 (Sust Sci: Int Btwn Hum &EnvSys) |
| BIO | 527 | Environmental Ethics and Policy Goals | Advanced seminar in applied environmental ethics, focusing on the most influential and policy-relevant approaches in the field of environmental ethics. Core topics include the historical and philosophical foundations of alternative understandings of environmental responsibility; the debate over utility and preservation in environmental policy argument; and the interplay of ethical principles, scientific knowledge and societal priorities in environmental decision making. Consideration of the ethical and value dimensions of biodiversity conservation, wilderness protection, environmental valuation, environmental activism, climate change and sustainability, among other challenges. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 527 or SOS 527 or BIO 591 (Environ Ethics & Policy Goals) |
| BIO | 528 | Human Impacts on Ecosystem Functioning | Explores our current understanding of how humans are impacting the functioning of ecosystems and how changes in ecosystems would affect provisioning of ecosystem services and ultimately human well-being. The two primary drivers of ecosystem change are growth of the human population and increased consumption per capita. These drivers affect the Earth's cycles of carbon, nitrogen and water, as well as regional and global-scale changes in biodiversity and climate. Includes an in-depth discussion of scenarios for the next 50 and 100 years, which articulate costs and benefits of alternative development pathways in terms of climate change, food production, clean water and biodiversity. Scenarios of change in biodiversity lead to the topic of the consequences of biodiversity change for the functioning of ecosystems from the point of view of their productivity and stability. Human activities have disrupted several biogeochemical cycles including nitrogen and carbon cycles. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): Degree- or Nondegree-seeking graduate; Credit is allowed for only BIO 429, BIO 528, SOS 429, SOS 528, or SOS 494/598 (Human Impacts on Ecosystem Functioning), or BIO 494/598 (Human Impacts on Ecosystem Functioning) |
| BIO | 530 | Scientific Teaching | Guides graduate students to better understand issues related to undergraduate learning in science courses, and prepares students to become more effective teachers. Topics focus on emerging research that supports active and student-centered learning activities as well as methods that include the 5Es, concept-mapping, and "backward" design. Students reflect on their own teaching philosophy, and begin building an ePortfolio documenting and validating their ability to teach effectively. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only BIO 530 or 591 (Scientific Teaching) |
| BIO | 531 | Advanced Scientific Teaching | Further develops the teaching abilities of graduate students by applying knowledge into the more advanced teaching activities including large class sizes, diverse student populations, online delivery, and technology-integrated teaching. Students have more in-depth practice fully developing lesson plans, assessments and other teaching activities based on the concepts of evidence-based teaching. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only BIO 531 or BIO 594 (Advanced Scientific Teaching) |
| BIO | 532 | Recent Papers in Discipline-Based Education Research | Discipline-based education research is a newly emerging scholarly field that combines the knowledge of teaching and learning with the deep knowledge of discipline-specific science content. Currently, discipline-based education research is being used to transform the way we teach undergraduate science courses. Readings in recent papers in the field of discipline-based education research, spanning the disciplines of physics, chemistry, geosciences and biology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 533 | K-12 STEM Education and Outreach | Trains students to create, evaluate and implement K-12 science lessons for science clubs, classrooms and other outreach activities, such as those organized by the ASU Graduate Partners in Science Education. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 494 (K-12 Stem Education) or BIO 533 or BIO 598 (K-12 Stem Education) |

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| BIO | 539 | Computing for Research | Works mainly with command-line programs, focusing on sequence-based analysis. An interactive flipped course, with required hands-on aspects both in class debugging and troubleshooting and for out-of-class assignments where students work on problem solving and implementation. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 439 or BIO 498 (Computing for Rsrch) or BIO 539 or BIO 598/EVO 598/MCB 598 (Computing for Rsrch) or EVO 539 or MCB 539 |
| BIO | 541 | SOLS Seminar Series | Explores cutting-edge research in the life sciences as presented by distinguished experts at Arizona State University and beyond, representing a diversity of concepts and perspectives. | N | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 542 | SOLS Current Topics in the Life Sciences | Explores current topics in the life sciences by discussing scientific experiments and results with peer scientists. Practices interpreting results and determining the significance of experimental findings, and gains experience with the culture of scientific discourse by giving short presentations, asking and answering questions. | N | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 543 | Molecular Genetics and Genomics | Advanced study of genetics, focusing on the molecular basis of inheritance and gene expression in eukaryotes and prokaryotes, and study of genomics, or the high-throughput analysis of the entire organism's genes and their function. Knowledge of general genetics recommended before registering for this course. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 544 | Discovering Biodiversity | Collecting natural history specimens is not only an expression of our human curiosity for the natural world. This activity forms the evidential basis of much that we understand about biodiversity, its evolutionary history, and what changes take place across ecological space and time. How do biodiversity scientists build up this knowledge? More precisely, how do we create specimen-based information that drives our understanding of past, present and future trends in biodiversity? This research-active course gives critical skills in documenting biodiversity "from the specimen up." Students learn about current methods in biodiversity documentation in the field and research collection, including concepts and practices needed to collect, process, digitize, publish and analyze high-quality biodiversity data through open, standard-compliant information environments. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 494 (Discovering Biodiversity) or BIO 544 or EVO 598 (Discovering Biodiversity) |
| BIO | 545 | Populations: Evolutionary Genetics | Mathematical models in the description and analysis of the genetics of populations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 546 | Principles of Human Genetics | Examines human molecular genetics from an evolutionary perspective, particularly analysis, current debates, the Human Genome Project, disease, ethics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only ASM 446, 546, BIO 446 or 546 |
| BIO | 548 | Maternal and Child Health | Explores how genetics, nutrition, disease ecology, clinical access, legal systems, cultural practices and historical context contribute to maternal and child health. Draws from diverse fields including epidemiology, anthropology, biology, medicine, global health, public policy and sustainability to integrate a complex understanding of the myriad influences that shape maternal and child health and thereby affect our broader society. Evaluates the translation of basic science into clinical practice and public policy as well as the roles and partnerships among local, national and international organizations for improving human health worldwide. Provides up-to-date information about basic science, public policy and global health of maternal and child health to develop skills translatable in the workforce. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prereq(s): degree or non-degree seeking graduate student; Credit is allowed for only ASB 448 or ASB 494 (Matrnl & Child Hlth) or ASB 548 or ASB 598 (Matrnl & Child Hlth) or BIO 448 or BIO 494 (Matrnl & Child Hlth) or BIO 548 or BIO 598 (Matrnl & Child Hlth) |
| BIO | 549 | Phylogenetic Biology and Analysis | Basic theory and general concepts of phylogenetic inference as well as practical, hands-on experience with many of the commonly used methods for inferring and interpreting phylogenetic trees. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| BIO | 551 | Cell Biotechnology | Fundamentals of creating and maintaining cell culture for the purpose of experimental design and analysis. Cell culture technique, cell behavior, cell signaling and regulation, histology, transgenic fluorescent protein expression, immunocytochemistry and various bioimaging techniques including live cell, epi-fluorescent and confocal microscopy. Working with established cancer-derived cell lines and primary neural disassociated cultures, students perform various experimental techniques for cell imaging preparation and acquisition. Focuses on image analysis and presentation using ImageJ. During the second half of the semester, students propose and develop an experimental project in which they collect data, do analysis and prepare the results for a final project presentation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 451 or BIO 551 or BIO 598 (Cell Biotechnology Laboratory) |
| BIO | 552 | Developmental Genetics | Genetic approaches to the analysis of development during the life cycle of eukaryotic organisms, and the role of genes in the unfolding of the differentiated phenotype. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 557 | Practical Applications in Computational Life Sciences | Working group to troubleshoot challenges in computational life sciences. | N | LEC | Y | OP2 | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 498 (Pract Apps in Comp. Life Sci) or BIO 557 or BIO 598 (Pract Apps in Comp. Life Sci) or EVO 598 (Pract Apps in Comp. Life Sci) |
| BIO | 564 | Cellular Physiology and Signaling | Emphasizes the molecular basis for cell structure, function and intercellular signaling. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 568 | Stress and the Brain | Covers the fundamentals of stress and brain interactions. Presents a foundation from a historical perspective, then the basics of an organism's stress response, including the activation of the sympathetic nervous system and the hypothalamic-pituitary-adrenal axis. The stress response is highly conserved and allows organisms to respond and adapt to their environment. A highly effective and robust stress response facilitates adaptation and behavioral flexibility. However, a maladaptive stress response can produce detrimental outcomes. The ultimate goal is to understand the dynamic and reciprocal processes by which the stress response and brain interact to produce behavioral flexibility and resilience or detrimental outcomes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s) degree- or nondegree-seeking graduate student; Credit is allowed for either BIO 568 or PSY 568 |
| BIO | 570 | Fundamentals of CAS Science | Many phenomena of critical relevance to human society are dynamic systems that change over individual and evolutionary time scales, and are highly interactive, both within and between systems. That is, they are complex adaptive systems (CAS), and thus share isomorphic properties like near-decomposability, hierarchical organization, scale-free networks, self-organized criticality, and emergence. Fundamentals of CAS science explores the diverse, interdisciplinary applications of a complex adaptive systems across the social, behavioral, and life sciences. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASM 570 or BIO 570 or CAS 570 or SOS 570 |
| BIO | 571 | Evolutionary Medicine Capstone | Provides a culminating experience in which students bring together the knowledge learned in prior courses in the program in a way that is meaningful and relevant to their professional goals. Focuses on projects that students carry out to demonstrate their ability to integrate the core concepts of evolutionary thinking and analysis; and places disease in the context of changing environments, exposures and the encompassing ecology of life in which an individual is embedded. Demonstrations weave perspectives from biology, anthropology, public health and medicine. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): Evolutionary Medicine graduate certificate student |
| BIO | 578 | Environmental Leadership and Communication | America remains inactive about the ramifications of critical societal challenges such as climate change, environmental hazards and living sustainably, and less than 2% of Congress has any professional background in science. Environmental issues are no longer local and solutions cannot remain provincial. Scientists must become envoys of knowledge that is global; science is now part of an unavoidable and contentious public discussion on these issues, and we need it to catalyze solutions. Increasingly, scientists who are communicators are moving into positions of leadership, engaging with society and changing their academic institutions from within. This seminar provides leadership training and important skills for early career scientists to communicate science. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 578 or BIO 591 (Environmental Leadership and Communication) |

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| BIO | 579 | Data Analysis and Visualization in R | Develop hands-on skills with the R statistical environment for data wrangling, analysis and visualization. Covers complete data analysis and visualization in the R statistical environment as well as how to effectively communicate, interpret and present data. | N | LEC | N | OP3 | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 514 with C or better; Credit is allowed for only BIO 494 (Data Analysis and Visualization in R) or BIO 579 or BIO 591 (Data Analysis and Visualization in R) |
| BIO | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 597 | Capstone | Provides a culminating experience for the MS Biology degree. Students bring together knowledge learned in prior courses in a way that is meaningful and relevant to their professional goals. Each student must summarize current knowledge on an important topic in the biological sciences, and demonstrate his or her ability to integrate core concepts of biological thinking. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 610 | Introduction to Responsible Conduct of Research (RCR) in Life Sciences | Introduces ethical and regulatory issues in the nine core areas of responsible conduct of research. Discusses real and hypothetical cases that tie broad ethical considerations to current concern of scientists. | N | REC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 611 | Current Topics in Responsible Conduct of Research (RCR) in Life Sciences | Explores a single topic in the responsible conduct of research in depth. Topic changes depending on current issues in responsible conduct of research as well as the interests of the instructor and students. Possible topics include: responsible authorship; conflicts of interest; human subjects research; and misconduct, data management, and academic integrity. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 615 | Biology and Society Lab | This course brings together graduate students, postdocs, and faculty members in biology and society. Sessions include panel discussions of biology and society topics from multiple perspectives, student-led discussions of important literature, practice presentations of papers for national meetings, discussion of dissertation and thesis ideas, and other activities that help to forge an active intellectual lab group. | N | LAB | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 615 or HPS 615 |
| BIO | 620 | Research Prospectus Writing | Workshop-style course where students develop and peer review graduate-level project prospectuses, such as those for NSF grant proposals, journal articles, theses, and dissertations. Appropriate for graduate students in Biology and Society, History and Philosophy of Science, the life sciences, and related programs. | N | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only BIO or HPS 620 |
| BIO | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| BIO | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIO | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BIS | 343 | Social Processes in Organizations | Examines social processes and human interactions within different organizational contexts and engages in experiential learning through team-based projects. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum junior standing or minimum 56 hours; Credit is allowed for only BIS 343 or OGL 343 OR Visiting University Student |
| BIS | 345 | Organizational Ethics | Explores and considers normative and applied ethics within a variety of organizations. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | HU | Prerequisite(s): Organizational Leadership AA student or minimum 45 hours; Credit is allowed for only BIS 345 or OGL 345 OR Visiting University Student |
| BIS | 350 | Diversity and Organizations | Students engage in a critical analysis of individual, cultural and organizational diversity. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 56 hours. Credit is allowed for only BIS 350 or OGL 350 OR Visiting University Student |
| BIS | 353 | Interdisciplinary Leadership | Offers interdisciplinary perspectives on the theory and practice of leadership in a range of organizational environments | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum junior standing |
| BIS | 357 | Assessment in Organizations | Considers the role and function of assessment in effective organizations. Provides the knowledge and tools required to identify, collect and analyze information to assess organizations. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum junior standing or minimum 56 hours; Credit is allowed for only BIS 357 or OGL 357 OR Visiting University Student |
| BLE | 220 | Foundations of Structured English Immersion | Examines current educational practices and historical legal issues. Prepares teacher candidates with a provisional Structured English Immersion endorsement. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | L | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; ENG 101, 105, or 107 with C or better; Credit is allowed for only BLE 220 or BLE 408 or ELL 515 |
| BLE | 221 | Theories for Acquiring and Learning Languages | Languages are tools people use and learn to use for a variety of purposes. While nearly all people naturally acquire at least one language in their lifetime, the construct of bilingualism or multilingualism can occur as either an elective or a forced process. The context or the decision that leads to second or multiple language learning can have profound effects on the way and the extent to which those languages are learned. Examines the variables affecting both language acquisition and language learning as well as some methods to better facilitate these processes. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): non-Teacher Preparation student |
| BLE | 322 | Reading Methods in BLE/ESL Settings | Instructional/assessment strategies, including systematic, research-based phonics, vocabulary, comprehension, spelling, writing, phonemic writing in Spanish/English. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| BLE | 324 | Social Studies for Diverse Language Classrooms | Social studies education standards, curriculum, and instructional strategies for English language learners. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |
| BLE | 335 | Language Diversity in Classrooms | Issues in sociolinguistics and language variation in schools with a focus on classroom interaction, instruction, curriculum, assessment, and language policy. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | SB | Prerequisite(s): admission to the Professional Program |

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| BLE | 336 | Culturally Sustaining and Transformative Pedagogies | Prospective educators examine culturally sustaining and transformative pedagogies (CSTP). Use of CSTP frames their reflection on educator positionality, attunement to cultural and community knowledge resources in field experiences, and development of their own teacher praxis plans oriented toward CSTP. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |
| BLE | 338 | Foundations of Second Language Acquisition and Development | Introduces educators to theoretical and critical perspectives related to the nature of language, language variation and language acquisition among second language learners and bi/multilinguals, with considerations for bilingualism and biliteracy development, instruction and assessment in various K-12 education settings. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | L | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; ENG 101, 105, or 107 with C or better; minimum 30 hours |
| BLE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| BLE | 396 | Clinical Experience I | Applies course content in BLE/ESL elementary education classrooms grades 1-8; emphasizes observation, pupil management, planning and delivery of instruction, and assessment. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-2 | | Prerequisite(s): admission to the Professional Program |
| BLE | 397 | Clinical Experience II | Applies course content in BLE/ESL elementary education classrooms grades 1-8; emphasizes observation, pupil management, planning and delivery of instruction, and assessment. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-2 | | Prerequisite(s): admission to the Professional Program |
| BLE | 400 | Principles of Language Minority Education | Overview of philosophical and theoretical foundations of bilingual education and ESL models of instruction. Other topics include significant legislative and judicial measures. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |
| BLE | 404 | Instructional Design for Culturally and Linguistically Diverse Students | Provides a foundation in instructional design to meet the academic and linguistic needs of culturally and linguistically diverse students, with a focus on English language learners. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours; Credit is allowed for only BLE 404 or ELL 504 or SPE 404 |
| BLE | 407 | SEI for Secondary Students | Examines foundations, assessment, English language learner proficiency standards, and strategies (including SEI) for the 7-12 classroom. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | L | Prerequisite(s): admission to the Professional Program; ENG 101, 105, or 107 with C or better |
| BLE | 408 | Structured English Immersion (SEI) Methods | Examines current educational practices and historical legal issues. Prepares teacher candidates with a provisional Structured English Immersion endorsement. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | L | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; ENG 101, 105, or 107 with C or better; minimum 39 hours; Credit is allowed for only BLE 220 or BLE 408 or ELL 515 |
| BLE | 411 | Science Curriculum, Instruction and Assessment in BLE/ESL Settings | Methods, management strategies, and assessment procedures for teaching science to BLE/ESL students in elementary schools. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| BLE | 412 | Mathematics Curriculum, Instruction and Assessment in BLE/ESL Settings | Teaching, management, and assessment of mathematics in K-8 BLE/ESL settings. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| BLE | 413 | Language Arts in BLE/ESL Settings | Literacy and language arts instruction; assessment of reading and writing; transition literacy skills, particularly critical reading of content. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |
| BLE | 436 | Equitable Practices in Diverse Classrooms | Provides theoretical lenses to analyze the culture of schools and classrooms and equips future educators to recognize the hidden curriculum in classroom organization, student regulation and disciplinary actions, discourse, relationships, pedagogical choices, and other environmental and curricular factors that perpetuate inequities. Explores tools and approaches to transform the educational context and to advocate for just and equitable learning experiences for historically marginalized youth. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum junior standing OR Visiting University Student |
| BLE | 478 | Student Teaching: BLE/ESL Elementary Schools 1-8 | Student teaching in BLE/ESL elementary education classrooms grades 1-8: synthesized experience in curriculum, instruction, assessment and classroom management. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3-15 | | Prerequisite(s): admission to the Professional Program |
| BLE | 481 | Reading Practicum | Applies concepts from BLE 414. Supervised school-based experiences in teaching reading to BLE/ESL students. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |
| BLE | 511 | Introduction to Language Minority Education | Historical, philosophical, theoretical, and pedagogical foundations of language minority education in the United States. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| BLE | 520 | ESL for Children | Examines approaches to second-language development for children congruent with recent research in second-language acquisition in children. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |

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| BLE | 522 | Bi/Multilingual Acquisition and Development | Introduces educators to theory and research related to the acquisition and development of languages among second language learners, and bi/multilinguals, with considerations to language and bi/literacy development and instruction in formal schooling contexts and other learning environments. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or post-baccalaureate undergraduate student |
| BLE | 529 | Language Assessment and Evaluation of ESL/BLE Students | Assessment and evaluation of linguistic minorities; test theory, score interpretation; culturally responsive assessment; assessment of language and school achievement. | N | SEM | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BLE | 531 | Linguistically and Culturally Sustaining Pedagogy | Examines asset-based approaches to educating multilingual learners that acknowledge and sustain home culture and identity (including approaches to assessment, instruction, theories of learning and development and advocacy). | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Education (Educ Multiling Learners) MA or Educ Multiling Learners Certificate stdnt; BLE 534; BLE 536; BLE 537 OR non-Edu (Educ Multiling Learners) MA and non-Educ Multiling Learners Cert degree- or nondegree-seeking grad stdnt |
| BLE | 534 | Language, Policy and Power: Past and Present | Examines theories, concepts and findings in language policy and planning for educating multilingual learners locally, nationally and globally. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BLE | 535 | Sociolinguistic Issues in Bilingual Education | Surveys major theoretical issues (e.g., language situations, communicative competence, language attitudes) interrelating language, social processes, and bilingual education. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| BLE | 536 | Education for Social Transformation | Theoretical and practical issues concerning education for social transformation. Recognizes features, reflections, affordances and challenges to transforming education through interactions and exchanges. Also considers assessment frameworks to assist educating multilingual learners. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BLE | 537 | Linguistics for Educators | Main theories and approaches within linguistics and their application to language learners in educational contexts. Areas include phonetics, phonology, morphology, syntax and translanguaging. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BLE 537 or LIN 510 |
| BLE | 538 | Methods for Educating Multilingual Learners | Applied methods and pedagogies for educating multilingual learners. Includes pedagogies supported by second language acquisition (including multilingual perspectives); multiliteracies; and bilingualism including heteroglossic bilingual instructional practices, translanguaging practices, critical multilingual awareness and complex language/literacy use. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BLE | 561 | Parent Involvement in Language Minority Education Programs | Examines issues, approaches, and strategies for improving parental and community involvement in the schooling of language minority children and youth. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| BLE | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate student; minimum 9 hours in English as a Second Language MA program |
| BLE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| BLE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| BLE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| BLE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| BLE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| BLE | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |

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| BLE | 597 | Capstone | Reflective, experience-based integration of theory and practice; professional development for individuals working with English language learners. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): MA English as a Second Language major |
| BLE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate student |
| BMD | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMD | 501 | Introduction to Biomedical Informatics | Overview of the field of biomedical informatics for use of computers and information in healthcare and the biomedical sciences. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Degree- or Nondegree-seeking graduate. Credit is allowed for only BMD 501 or BMI 501 |
| BMD | 502 | Foundations of Biomedical Informatics Methods I | Surveys methods and theories underlying the field of biomedical informatics. Explores techniques in mathematics, logic, decision science, computer science, engineering, cognitive science, management science and epidemiology, and demonstrates the application to health care and biomedicine. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BMD 502 or BMI 502 |
| BMD | 507 | Introduction to Digital Image Processing and Analysis | Core course with four sections for students seeking to concentrate in biomedical imaging informatics. The first section analyzes the concepts and terms of image processing and analysis. The second section evaluates key algorithms in image processing (e.g., image filtering, Fourier transform, image restoration). The third section examines advanced image analysis methods (e.g., image segmentation, mathematical morphology, image topology, shapes and boundaries, color processing, image coding and compression, wavelet, and special effects). The fourth section develops the practical applications of image processing and analysis in medicine and biology. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BMD 507 or BME 507 or BMI 507 or CEN 507 or CSE 507 |
| BMD | 510 | Current Perspectives in Biomedical Diagnostics | Seminar course using external speakers who review the current state of the biomedical diagnostics industry in terms of technology, regulation or legal issues. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Biomedical Diagnostics MS student; BMD 502 or BMI 502; BMD 511; BMD 513; BMD 514; BMD 667; minimum 3.00 GPA |
| BMD | 511 | Health Economics, Policy, and Payment Models | Economics provides a framework to understand and predict human decision making under scarcity, uncertainty and imperfect information. Examines concepts central to health care economics and their application to important decisions made by patients, families, practitioners, administrators and policy makers. Uses an individual family's scenario through a progressive case study to evaluate how incentives and information affect the health and health care of each family member. Each meeting integrates basic economic principles, existing facts and knowledge from economic research, and individual perspectives and experience regarding how these concepts apply to health care policy. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Degree- or Nondegree-seeking graduate; Credit is allowed for only BMD 511 or HCD 511 |
| BMD | 513 | Principles of Diagnostic Technology: Immunoassays | Provides a detailed understanding of the theory and applications of advanced diagnostic assay systems and devices. Students gain knowledge in immunoassay design and validation with particular attention to the manipulation of the immune system for disease recognition. This module assumes no former knowledge of immunoassays, but some knowledge would be advantageous. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BMD 513 or BMD 598 (Principles of Diagnostic Technology 2: Immunology) |
| BMD | 514 | Principles of Diagnostic Technology: Molecular Diagnostics | Survey course covering topics such as multiple types of analytes including DNA, RNA and protein; a multitude of disease application areas; major molecular diagnostic platforms; development of molecular diagnostics tests; sample preparation; and future prospects for molecular diagnostics. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree or nondegree-seeking graduate student; Credit is allowed for only BMD 514 or BMD 598 (Molecular Diagnostics) |
| BMD | 550 | Translational Bioinformatics | Provides an introduction to bioinformatics methods and applications used in the field of translational medical research. Topics include bioinformatics data acquisition and management, analysis methodologies, and applications. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BMD 550 or BMI 550 |
| BMD | 562 | Bioethical Issues in Applied Biomedicine | Examines bioethical challenges in real-world health care settings, including emerging health advancements, technological innovations, an ever-changing social and cultural landscape, and increased attention to deeply challenging and personal decisions. Analyzes contextual history of bioethics and applies theory to modern-day ethical dilemmas. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMD | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMD | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| BMD | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMD | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMD | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): BMD 502 or BMI 502; BMD 511; BMD 513; BMD 514; BMD 667; minimum 3.00 GPA |
| BMD | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): Biomedical Diagnostics MS student; BMD 502 or BMI 502; BMD 511; BMD 513; BMD 514; BMD 667; minimum 3.00 GPA |
| BMD | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMD | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMD | 617 | Genetics and the Law | Provides background on genetics and recent genetic advances; addresses the legal consequences and issues associated with such advances. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2-3 | | Prerequisite(s): College of Law student or College of Health Solutions graduate student; Credit is allowed for only BMD 617 or LAW 617 |
| BMD | 667 | Regulation of Medical Diagnostics | Examines the regulation of drugs, medical devices, and biologics (e.g. vaccines) by the Food and Drug Administration. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate |
| BMD | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 100 | Introduction to Biomedical Engineering | Introduces engineering design methods, experimental practices, data gathering, presentation and statistical analysis. Lecture/labs focus on device design and application, including hands-on experience. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): Biomedical Engineering BSE major OR Visiting University Student |
| BME | 111 | Engineering Perspectives on Biological Systems | Biological concepts for the emerging engineer. Introduces biological and earth systems engineering, materials, structures, fluid mechanics, bioelectricity, and the dynamic, nonlinear nature of nature. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): Engineering undergraduate student OR Visiting University Student |
| BME | 121 | Programming in Biomedical Engineering | Introduces computer programming in the context of scientific and engineering problem solving. Topics include loops, functions, pointers, data structures, and algorithms in the context of a biomedical problem. Culminates in an introduction to object-oriented programming, with a look at modern wireless (iPad and iPhone) devices for biomedical applications. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1 | | Prerequisite(s): Biomedical Engineering BSE major; Pre- or corequisite(s): MAT 265 or 270 OR Visiting University Student |
| BME | 122 | Statistics for Biomedical Engineers | Introduces statistics tests in the context of common biomedical experiments. Students perform basic linear regression and correlation analyses, experiment using power analysis, generate descriptive statistics, and perform statistical tests using statistical software. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 2 | | Prerequisite(s): Biomedical Engineering BSE major; Pre- or corequisite(s): MAT 265 or 270 with C or better if completed OR Visiting University Student |
| BME | 182 | Biomedical Engineering Product Design and Development I | Continuation of hands-on training and implementation of medical device product design and development skills; FDA-regulated U.S. and global medical device healthcare markets and opportunities, business development in regulated environments, medical product and project management planning, exempt and Class I medical devices, medical product component and device levels, identification and selection of customer needs, translation of customer needs, product specification development, virtual and physical prototypes, prototype product specification verification, product design and development process documentation, FDA regulatory best-industry practices. | N | LAB | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1 | | Prerequisite(s): Biomedical Engineering BSE major; Pre- or corequisite(s): ENG 101, 105, or 107 with C or better if completed OR Visiting University Student |
| BME | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-4 | | |

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| BME | 200 | Conservation Principles in Biomedical Engineering | Applies bioengineering analysis and problem solving of mass, energy and charge balances to medical and biological systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s) with C or better: Biomedical Engr BSE major; BIO 181; CHM 114 or 116; PHY 121; Pre- or corequisite(s) with C or better if completed: BME 210, CSE 194 (CS & Programming:Non Majors), or MAE 215; MAT 274 or 275 OR Visiting University Student |
| BME | 210 | Programming for Biomedical Engineers: Introduction to Computers, Programming and Data | Computers are ubiquitous tools in all engineering disciplines. Biomedical engineering pushes the limits of computational power in all applications--from small computers embedded in medical devices to large computer clusters used in research projects. Understanding the fundamental operation of computers, and how to efficiently and effectively program them, are critical knowledge and skills for biomedical engineers. Covers the fundamentals of computer architecture and operation, and how to program them. Utilizes the MATLAB and Python programming languages and prepares students for applying these languages for problem solving in upper-level biomedical engineering classes. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | CS | Prerequisite(s): MAT 265 or 270 with C or better; Pre- or corequisite(s): MAT 266 or 271 with C or better if completed OR Visiting University Student |
| BME | 211 | MATLAB & Mathcad in Biomedical Engineering | Introduces the basics of MATLAB and Mathcad programming in the context of biomedical engineering conservation of mass problem solving. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1 | | Prerequisite(s): Biomedical Engineering BSE major; CHM 114, 116 or 118 w/ C or better; BIO 181 w/ C or better; Pre- or corequisite(s): PHY 131 or 151 w/ C or better if completed; MAT 274 or 275 w/ C or better if completed OR Visiting University Student |
| BME | 213 | Biomedical and Bioengineering Ethics | Explores ethical issues in biomedical and medical sciences and engineering practices and includes professional ethics, medical ethics, engineering ethics and the Biomedical Engineering Society (BMES) Code of Ethics, the ethics of human and animal tissue and subjects use in biomedical science and engineering research, responsible conduct for research, ethical issues in the design and manufacture of medical devices for developing and developed countries, and the impact of biomedical engineering solutions on society and the environment. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1 | | Prerequisite(s): Biomedical Engineering BSE major OR Visiting University Student |
| BME | 214 | FDA Regulatory Processes and Technical Communications | Develops writing skills to factually and effectively communicate all facets of biomedical product design and development activities that are required to successfully conceive, develop, and launch a medical device into the market place using the FDA quality systems best practices that are utilized by the health care technology industry. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1 | | Prerequisite(s): Biomedical Engineering BSE major; Pre- or corequisite(s): ENG 102, 105, or 108 with C or better if completed OR Visiting University Student |
| BME | 235 | Physiology for Engineers | Physiology of the nervous, muscular, cardiovascular, endocrine, renal and respiratory systems. Emphasizes use of quantitative methods in understanding physiological systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 4 | | Prerequisite(s) with C or better: Biomedical Engineering BSE major; BIO 181; CHM 114 or 116; Pre- or corequisite(s) with C or better if completed: BME 210, CSE 110, or CSE 194 (CS & Programming:Non Majors); PHY 121; PHY 122 OR Visiting University Student |
| BME | 282 | Biomedical Engineering Product Design and Development II | Hands-on training and implementation of product design skills that combine virtual analytical model prototype development with component and sub-assembly integration to develop both virtual and physical prototypes of a medical device product at the product architecture level and verify selected product architecture specifications from design input and earlier design process verification steps. | N | LAB | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1 | | Prerequisite(s): Biomedical Engineering BSE major OR Visiting University Student |
| BME | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-4 | | |
| BME | 300 | Bioengineering Product Design | The fundamentals of financial and organizational structure of business and how it influences bioengineering analysis, design, and decision making; biomedical ethics and device and drug regulation; and fundamentals of business and technical management. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): Biomedical Engineering BSE major; BME 100 or FSE 100 with C or better; ENG 102, 105, or 108 with C or better; minimum junior standing; Pre- or corequisite(s): BME 213 with C or better if completed OR Visiting University Student |
| BME | 301 | Numerical Methods in Biomedical Engineering | Applications of numerical methods to biomedical engineering problems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 2 | | Prerequisite(s): Biomedical Engineering BSE major; MAT 274 or 275 with C or better OR Visiting University Student |

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| BME | 316 | Biomechanics for Biomedical Engineers | Biomechanics provides conceptual and mathematical tools that are necessary for understanding how living things move. Focuses on human biomechanics with an emphasis on the musculoskeletal system. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): Biomedical Engineering BSE major; PHY 121 with C or better; PHY 122 with C or better; Pre- or corequisite(s): BME 235 or BIO 202 with C or better if completed OR Visiting University Student |
| BME | 318 | Biomaterials | Material properties of natural and artificial biomaterials. Tissue and blood biocompatibility. Uses of materials to replace body parts. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 4 | | Prerequisite(s): Biomedical Engineering BSE major; BIO 181 with C or better; BIO 202 or BME 235 with C or better; CHM 114 or 116 with C or better; MAT 274 or 275 with C or better OR Visiting University Student |
| BME | 322 | Statistics for Biomedical Engineering | Introduces parametric and nonparametric statistics tests in the context of common biomedical experiments. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1 | | Prerequisite(s): Biomedical Engineering BSE major; MAT 274 or 275 with C or better OR Visiting University Student |
| BME | 331 | Transport Phenomena for Biomedical Engineering | Transport phenomena with emphasis on momentum, energy, and mass transport in living systems, medical devices, and other therapeutic/diagnostic applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): Biomedical Engineering BSE major; BME 200 with C or better; MAT 274 or 275 with C or better; PHY 121 with C or better OR Visiting University Student |
| BME | 340 | Thermodynamics for Biomedical Engineers | Thermodynamics is a branch of science dealing with processes (chemical or mechanical) and the subsequent energy and mass transfers. Studies whether a process is favorable (possible) or unfavorable (impossible) while assessing energy and mass transfer within each specific stage of the process. The operation of living systems is heavily based on the use of chemical reactions and or mechanical processes such as beating of the heart, biochemical reactions of a drug in liver, phase equilibria. Covers the fundamental principles and laws of thermodynamics. Helps students think thoroughly about the applications of thermodynamics in biological sciences and bioengineering with the main emphasis on basic concepts and problem-solving skills. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): Biomedical Engineering BSE major; BME 200 with C or better; Pre- or corequisite(s): MAT 267 or 272 with C or better if completed OR Visiting University Student |
| BME | 350 | Signals and Systems for Bioengineers | Applies principles of calculus and ordinary differential equations to analysis and computer processing of biosignals and linear modeling of biosystems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): Biomedical Engineering BSE major; MAT 274 or 275 with C or better; Pre- or corequisite(s): EEE 202 with C or better if completed OR Visiting University Student |
| BME | 360 | Control in Biological Systems | Illustrates the basic principles of control through examples from evolved and synthetic biological systems. Surveying topics including feedback and feedforward control mechanisms, insulation of circuits via modularity, and discovering optimal intervention strategies. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): Biomedical Engineering BSE major; EEE 202 with C or better; MAT 275 with C or better; Pre- or corequisite(s): BIO 353 with C or better if completed; BME 362 with C or better if completed OR Visiting University Student |
| BME | 362 | Methods in Molecular and Cellular Biology | Gives junior-level undergraduate students hands-on experience on the methods used in molecular and cellular biology lab, especially methods to engineer or analyze DNA and protein. | N | LAB | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1 | | Prerequisite(s): Biomedical Engineering BSE major; Pre- or corequisite(s): BIO 353 with C or better if completed OR Visiting University Student |
| BME | 370 | Microcomputer Applications in Biomedical Engineering | Uses microcomputers for real-time data collection, analysis, and control of experiments involving actual and simulated physiological systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): Biomedical Engineering major; EEE 202 with C or better; BME 350 with C or better |
| BME | 382 | Biomedical Engineering Product Design and Development III | Continuation of hands-on training and implementation of medical device product design and development skills; experimental practices, data gathering, presentation, and statistical analysis in regards to demonstration of validation and verification tools and testing, identification and selection of customer needs, translation of customer needs, product specification development, virtual and physical prototypes, prototype product specification verification, product design and development process documentation, FDA regulatory best industry practices. | N | LAB | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1 | | Prerequisite(s): Biomedical Engineering BSE major; BME 182 with C or better; BME 282 with C or better OR Visiting University Student |
| BME | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-4 | | |
| BME | 413 | Biomedical Instrumentation | Principles of medical instrumentation. Studies of medical diagnostic instruments and techniques for the measurement of physiologic variables in living systems. Both BME 413 and BME 423 need to be taken together to secure L General Studies credit. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | L | Prerequisite(s): Biomedical Engineering BSE major; BIO 202 or BME 235 with C or better; BME 350 with C or better; ENG 101, 105, or 107 with C or better; Corequisite(s): BME 423 OR Visiting University Student |

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| BME | 416 | Advanced Biomechanics | Mechanical properties of bone, muscle, and soft tissue. Static and dynamic analysis of human movement tasks such as locomotion. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): Biomedical Engineering major; BME 316 with C or better |
| BME | 417 | Biomedical Engineering Capstone Design I | Technical, regulatory, economic, legal, social, and ethical aspects of medical device systems engineering design. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 4 | L | Prerequisite(s) with C or better: Biomedical Engineering BSE major; BME 122, STP 226 or STP 231; BME 300; BME 301; BME 316; BME 318; BME 331; 2 courses from the following: BIO 353, BME 350, BME 360 or BME 370; ENG 101, 105 or 107 |
| BME | 423 | Biomedical Instrumentation Laboratory | Lab experience with problems, concepts, and techniques of biomedical instrumentation in static and dynamic environments. Both BME 413 and BME 423 need to be taken together to secure L General Studies credit. | N | LAB | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1 | L | Prerequisite(s): Biomedical Engineering BSE major; ENG 101, 105, or 107 with C or better; Corequisite(s): BME 413 OR Visiting University Student |
| BME | 434 | Applications of Bioengineering Transport Phenomena | Develops mathematical models of transport phenomena in physiological systems, medical devices, and pharmacokinetic analysis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; BME 331 with C or better |
| BME | 465 | Magnetic Resonance Imaging | Provides a foundation in the fundamental concepts of magnetic resonance imaging and some applications to measure physiological processes and changes with respect to disease. Incorporates real-time demos using a bench-top MRI system. Several local MR experts present guest lectures on specialized topics. Requires a working knowledge of the fundamentals of signal analysis and Fourier transform theory and linear algebra to be successful in this course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): BME 350 or EEE 304; Credit is allowed for only BME 465 or BME 565 OR Visiting University Student |
| BME | 467 | Tissue Engineering and Regenerative Medicine | Covers the fundamentals of engineering and developmental biology concepts relevant to tissue engineering and regenerative medicine (TERM). Topics covered range from basic cell biology principles to nutrient exchange parameters to cell material interactions that inform engineering design of regenerative strategies. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s) with C or better: Biomedical Engineering BSE major; BIO 353; BME 318; BME 331; MAT 275; Credit is allowed for only BME 467 or BME 567 OR Visiting University Student |
| BME | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-12 | | |
| BME | 490 | Biomedical Engineering Capstone Design II | Individual projects in medical systems or medical device design and development. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 4 | L | Prerequisite(s): Biomedical Engineering BSE major; BME 417 with C or better; ENG 101, 105, or 107 with C or better |
| BME | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-6 | | Prerequisite(s): Barrett Honors student |
| BME | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| BME | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-4 | | |
| BME | 507 | Introduction to Digital Image Processing and Analysis | Core course with four sections for students seeking to concentrate in biomedical imaging informatics. The first section analyzes the concepts and terms of image processing and analysis. The second section evaluates key algorithms in image processing (e.g., image filtering, Fourier transform, image restoration). The third section examines advanced image analysis methods (e.g., image segmentation, mathematical morphology, image topology, shapes and boundaries, color processing, image coding and compression, wavelet, and special effects). The fourth section develops the practical applications of image processing and analysis in medicine and biology. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BMD 507 or BME 507 or BMI 507 or CEN 507 or CSE 507 |
| BME | 521 | Advanced Motor Neuroscience for Engineers | Overview of sensorimotor brain structures. Application of nonlinear, adaptive, optimal, and supervisory control theory to eye-head-hand coordination and locomotion. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 522 | Reengineering the U.S. Health Care Delivery System | Provides an understanding of the current state of U.S. health care, the challenges it presents to our nation, as well as outlines the path toward a health care system characterized by better effectiveness and efficiency, with a specific focus on the "knowledge" domain. Following a high-level overview of the current state, utilizes the COVID-19 pandemic as a case study to focus on issues around new technology development, the transition from bench to bedside, and the associated regulatory and reimbursement issues. Uses the notion of a flipped classroom and thus students must complete their reading assignments prior to each in-person session, allowing a deeper discussions of each topic in the classroom. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BME 494 (Re-engineering the US Healthcare Delivery System) or BME 522 or BME 598 (Re-engineering the US Healthcare Delivery System) |

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| BME | 524 | Systems Biology of Disease | Applies mathematical, statistical and machine learning methods to real-world patient datasets to make biologically or clinically meaningful decisions. Specifically, students learn to cluster single-cell data to define cell types, develop a classifier of disease status, learn how to assess the statistical significance of overlaps between genes or other biological entities, use multi-omic data to construct meaningful networks, and finally, how to project dynamics onto scRNA-seq networks using RNA velocity. Uses primary literature to discuss exemplary applications of these systems biology methodologies for medical applications. A final project requires students to apply at least one of the tools and/or concepts discussed in class on a real-world dataset of their choosing. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BME 494 (Systems Biology of Disease) or BME 524 or BME 598 (Systems Biology of Disease) |
| BME | 525 | Surgical Techniques | Principles of surgical techniques, standard operative procedures, federal regulations, guidelines, and state-of-the-art methods. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 2 | | Pre-requisites: Graduate Engineering students only |
| BME | 526 | Introduction to Neural Engineering | Introduces the field of neural engineering. Neural engineering, as with all engineering fields, can be thought of as applied scientific understanding, in this case, applied neuroscience. Covers aspects of neurophysiology, neuroanatomy, neurosurgery, biophysics, electronics and signal processing; integrates these knowledge areas into neural engineering applications. Covers an entire process for conducting research in neural engineering: surgical implantation of electrodes, data acquisition, processing neural signals, decoding neural data, and controlling prosthetic devices. Provides foundation for working with neural engineering applications and conducting research in neural engineering. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only BME 526 or BME 598 (Intro to Neural Engineering) |
| BME | 527 | Biomedical Device Design | Basic phenomena behind various types of biomedical devices which measure indicators using optical, thermal and other modalities. Provides an introductory coverage of the theory and history of these devices and includes some hands-on activities to use, reverse engineer and analyze data gathered from in-class activities with currently existing devices. Uses Matlab to perform most of the analysis. Preliminarily exposes students to principles of device design and testing with consideration to FDA regulations and requirements. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): graduate Biomedical Engineering student; Credit is allowed for only BME 527 or BME 598 (Biomedical Device Design) |
| BME | 556 | Human Systems Neuroscience | Systems-level neuroscience course focusing on human diseases. Classes involve lectures and/or other activities such as observations of clinical procedures and tours of clinical facilities (e.g., the neurosurgical suite, imaging facilities). | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 4 | | Prerequisite(s): BME PhD student or Neuroscience PhD student; Credit is allowed for only BIO 598 (Human Sys Neuroscience) or BME 556 or NEU 556 |
| BME | 561 | Clinical Neuroscience | Fundamental mechanisms that underlie diseases and disorders of the central and peripheral nervous systems. Introduces assessment and pharmacological, surgical and rehabilitative management of nervous systems disorders. Prior knowledge of neural systems is helpful. Identifies the mechanisms by which key disease and trauma states impact neural systems and how clinicians identify the locus and type of damage based on clinical and imaging criteria. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 564 | Cyber Biomedical Systems | Engineering principles involved in the modeling, design and analysis of hybrid systems that involve computers controlling and interacting with biomedical systems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BME 564 or BME 598 (Cyber Biomedical Systems) |
| BME | 565 | Magnetic Resonance Imaging | Provides a foundation in the fundamental concepts of magnetic resonance imaging and some applications to measure physiological processes and changes with respect to disease. Incorporates real-time demos using a bench-top MRI system. Several local MR experts present guest lectures on specialized topics. Requires a working knowledge of the fundamentals of signal analysis and Fourier transform theory and linear algebra to be successful in this course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): Engineering graduate student, Chemistry MS or PhD student, or Physics MS or PhD student; Credit is allowed for only BME 465 or BME 565 |
| BME | 566 | Medical Imaging Instrumentation | Design and analysis of imaging systems and nuclear devices for medical diagnosis, therapy and research. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 567 | Tissue Engineering and Regenerative Medicine | Covers the fundamentals of engineering and developmental biology concepts relevant to tissue engineering and regenerative medicine (TERM). Topics covered range from basic cell biology principles to nutrient exchange parameters to cell material interactions that inform engineering design of regenerative strategies. Prior knowledge of high-level engineering mathematics (up to differential equations), engineering transport concepts (particularly mass transfer), and biology is expected. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): Biomedical Engineering graduate student; Credit is allowed for only BME 467 or BME 567 |

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| BME | 568 | Human Factors and System Design in Assistive Technologies | The field of human factors engineering as it relates to the design, development and use of assistive technology for individuals with sensory, motor and cognitive disabilities. Includes lectures, guest lectures, hands-on demonstrations and class discussions of relevant and current topics related to human-centered design of assistive technology. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 3 | | Prerequisite(s): BME graduate student; Credit is allowed for only BME 568 or BME 598 (IGERT: Human Factors) |
| BME | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-4 | | Prerequisite(s): Bioengineering graduate student |
| BME | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-12 | | Prerequisite(s): Biomedical Engineering PhD student |
| BME | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BME | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Harrington Bioengineering Program | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 101 | Introduction to Bioinformatics | Introduces existing and future applications of biomedical informatics. Overview of history and present state of the field. Introduces topics in translational bioinformatics, such as sequence alignment, the Human Genome Project, gene expression analysis, genome-wide association studies, next-generation sequencing. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |

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| BMI | 102 | Introduction to Population Health Informatics | Applies information and computer science and technology to public health practice, research, policy and decision support. This new scientific area focuses on the capture, management and use of electronic public health data. Introduces the field of population health informatics and the current systems that are used for population health decision making. This is not a programming course or a mathematics course. While these backgrounds are prominent in the field, this course provides the history and context of the field and enables students to develop their own population health informatics system using techniques of their choice. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |
| BMI | 110 | Introduction to Python | First in a series of courses on using the Python programming language to solve biomedical problems. Introduces Python as a language for object-oriented programming and for scripting tasks. Basic concepts and techniques of computation, data structure and software development. Examples focus on healthcare-related applications. Includes a broad knowledge of computation, Python programming, standard libraries, and commonly used techniques in data manipulation. Students develop a Python program to address a biomedical challenge in a term project. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only BMI 110 or BMI 294 (Introduction to Python) |
| BMI | 201 | Introduction to Clinical Informatics | Introduces existing and future applications of biomedical informatics. Overview of history and present state of the field. Provides an introduction to biomedical informatics techniques and applications used in clinical environments. Includes searching and organizing free text information, decision analysis techniques and clinical decision support systems, and clinical applications including physician order entry used in electronic medical records. Also covers challenges in clinical informatics, including sociotechnical and cognitive issues in implementation and use. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | |
| BMI | 210 | Data Structures and Algorithms in Python | Introduces concepts of data structures and algorithms (such as recursion, sorting, arrays, trees and dictionaries) and designing and implementation of Python code to efficiently resolve problems in biomedical research, healthcare and population health. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BMI 110 OR Visiting University Student |
| BMI | 211 | Modeling Biomedical Decisions | First semester of a three-semester course sequence surveying the methods and theories underlying the field of biomedical informatics. Explores models of medical decision making, including classical decision theory, Bayesian, and cognitive models. Also includes a component discussing evaluation methods in biomedical informatics. | N | PRA | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |
| BMI | 221 | Knowledge Representation for Biomedical Informatics | Introduces topics in knowledge representation and modeling, including frame-based systems, logic-based systems, rule-based systems, inference, and reasoning. Overview of history and present state of the field. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |
| BMI | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| BMI | 310 | App Development for Clinical and Population Health | Covers core object-oriented language concepts. Enables learners to successfully apply object-oriented programming language features to develop multiplatform (work in iOS, Android and Windows phones) mobile apps. Final project allows learners to apply the knowledge and skills learned to develop a health solution. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only BMI 310 or CSE 335 OR Visiting University Student |
| BMI | 311 | Modeling Biomedical Knowledge | Introduces concepts of artificial intelligence and knowledge modeling using medical informatics examples. Historical foundations and motivations of AI in medical applications; problem solving, reasoning, knowledge management, and planning as applied to medical informatics problems. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |
| BMI | 312 | Modeling Biomedical Data | Third semester of a three-semester course surveying the methods and theories underlying the field of biomedical informatics. Explores methods of use in the design and maintenance of biomedical databases, machine learning techniques, information retrieval in biomedicine and other methods specific to bioinformatics. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |
| BMI | 330 | Topics in Translational Bioinformatics | Provides an introduction to bioinformatics methods and applications used in the field of translational medicine research. Topics include bioinformatics data acquisition and management, including microarrays, database modeling and integration; analysis methodologies, including statistics and data mining; and applications. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BMI 311 with C or better OR Visiting University Student |

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| BMI | 332 | Team Dynamics for Healthcare IT Projects | Teaches the fundamentals of leadership, management, and team dynamics in a project-focused software engineering environment, and with a focus on informatics and healthcare applications. Teaches students about team and group dynamics, recognizing dysfunctional teams, and helping to fostering productive group and leadership skills. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |
| BMI | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| BMI | 404 | Clinical Environments | Designed for medical informatics students who have no significant clinical experience in the U.S. Introduces medical terminology and exposes students to the clinical environments in which health care providers create, manage, and use clinical information. Students attend lectures and spend a significant portion of time examining and reporting on different clinical settings throughout the semester. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |
| BMI | 410 | Database Management in Health Care | Database fundamentals and the use of databases in health care. Fundamental concepts in relational database design spanning both operational and analytical use cases. Students learn and practice SQL syntax. Discusses modern implementations of databases in health care; exposes students to the most common forms of modern health care data: EHR data, claims (pharmacy and medical), and health care data models (includes health care data warehouses). When possible, exposes students to real (deidentified) data and database schemas, but synthetic data may also be used that closely matches the format it is intended to represent. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only BMI 410 or BMI 394 (Database Management in Healthcare) |
| BMI | 440 | Software Engineering for Biomedical Informatics | Provides a survey of software engineering with application to biomedical informatics. Teaches general theories, models, and specific techniques such as requirement analyses, architecture design, system modeling, software evaluation and project management. Uses specific examples from biomedical research, patient care, clinical education and public health for illustration of the concepts. Exposes students to interdisciplinary, team-oriented approach to developing software systems for biomedical and health applications. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BMI 310 or CSE 335 OR Visiting University Student |
| BMI | 461 | Advanced Topics in Biomedical Informatics I | Covers current trends and cutting-edge research areas of clinical, public health, and consumer health informatics. Particular emphasis on research that is of relevance to patients, and the healthy public, covering such topics as outbreak detection and the personal health record. Also covers research on the use of technology in medical education, and the ways in which clinical decision support systems are applied in contemporary medical practice. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |
| BMI | 462 | Advanced Topics In Biomedical Informatics II | Covers current trends and cutting-edge research areas of bioinformatics, imaging informatics, and translational science. Emphasizes informatics approaches to the novel data sources that are supplied by the next generation of methods for affordable gene sequencing, and initiatives underway to accelerate the integration of novel research findings into everyday clinical practice. Includes a series on modeling and simulation, current approaches to computer-aided diagnosis of medical images, ways in which technology can support the discovery of new knowledge, and the application of telemedicine to remotely facilitate clinical care. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |
| BMI | 465 | Introduction to Comparative Genomics | Explores genomic sequences and hypotheses for their structure, evolutionary history, and underlying mechanisms. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only BMI 465 or BIO 455 |
| BMI | 482 | Capstone I | First course in capstone sequence for biomedical informatics majors emphasizing the development of technical skills and effective team work within the context of a research project in biomedical informatics. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| BMI | 483 | Capstone II | Second course in capstone sequence for biomedical informatics majors emphasizing the development of technical skills and effective team work within the context of an applied project in biomedical informatics. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): BMI 482 with C or better; ENG 101, 105, or 107 with C or better |
| BMI | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | |
| BMI | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): Barrett Honors student |
| BMI | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| BMI | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |

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| BMI | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-3 | | |
| BMI | 501 | Introduction to Biomedical Informatics | Overview of the field of biomedical informatics for use of computers and information in healthcare and the biomedical sciences. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Degree- or Nondegree-seeking graduate. Credit is allowed for only BMD 501 or BMI 501 |
| BMI | 502 | Foundations of Biomedical Informatics Methods I | Surveys methods and theories underlying the field of biomedical informatics. Explores techniques in mathematics, logic, decision science, computer science, engineering, cognitive science, management science and epidemiology, and demonstrates the application to health care and biomedicine. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BMD 502 or BMI 502 |
| BMI | 504 | Introduction to Clinical Environments | Course is divided into three sections. The first section covers medical and health care concepts and terms, and discuss observational techniques. In the second portion, students investigate a variety of different clinical environments and report back to the class on their findings. The final portion summarizes the key points of information technology in these clinical environments. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): graduate BME or BMI major; Credit is allowed for only BMI 404 or BMI 504 |
| BMI | 505 | Foundations of Biomedical Informatics Methods II | Surveys advanced methods and theories underlying the field of biomedical informatics. Provides an introduction to machine learning and natural language processing and an overview of database systems. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; BMI 502 with C or better |
| BMI | 506 | Clinical Decision Support | The course will provide an in-depth analysis of computer-based approaches to supporting clinical decision making for providers and patients (as well as healthy individuals, for disease prevention/health maintenance). The history of the field of clinical decision support (CDS) and the spectrum of methodologies will be reviewed. Practical issues involved in successful implementations of CDS will be discussed. The roles of standards and infrastructure will be examined. Current research topics and foci will be explored. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 507 | Introduction to Digital Image Processing and Analysis | Core course with four sections for students seeking to concentrate in biomedical imaging informatics. The first section analyzes the concepts and terms of image processing and analysis. The second section evaluates key algorithms in image processing (e.g., image filtering, Fourier transform, image restoration). The third section examines advanced image analysis methods (e.g., image segmentation, mathematical morphology, image topology, shapes and boundaries, color processing, image coding and compression, wavelet, and special effects). The fourth section develops the practical applications of image processing and analysis in medicine and biology. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BMD 507 or BME 507 or BMI 507 or CEN 507 or CSE 507 |
| BMI | 515 | Applied Biostatistics in Medicine and Informatics | Comprehensive treatment of the statistical methods used most often to analyze quantitative data collected in medical and biomedical informatics studies, including clinical trials, epidemiologic studies, studies of the accuracy and performance of screening and diagnostic tests, and studies to develop predictive models. Students learn to use SAS statistical software to analyze biomedical data. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 516 | Advanced Biomedical Data Analysis | Acquisition, conversion and organization of biological data into relevant diagnostic, therapeutic, and research information using information extraction and data mining. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; BMI 501 with C or better |
| BMI | 517 | Advanced Biostatistics for Biomedical Research and Health Care | Covers the use of computation as a tool for biostatistical data analysis and methods development, especially for research on multivariable regression analysis of biostatistics and health science. Major topics include understanding of hypothesis testing; regression model development; multivariable regression analyses on continuous, binary and censored outcomes; how to handle statistics issues related to regression modeling such as collinearity, overfitting and missing data. Students use the SAS and R statistical programming language to display and analyze data, and to evaluate statistical procedures and algorithms. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BMI 515; Credit is allowed for only BMI 517 or BMI 598 (Biostatistics with Computational Applications) |
| BMI | 520 | Modeling Gene Regulatory Networks | Computational and mathematical modeling used to approximate gene regulatory networks as well as signaling pathways and inference of model parameters. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; BMI 505 with C or better; BMI 516 with C or better |
| BMI | 540 | Problem Solving in Biomedical Informatics | Theory and practice of software engineering principles as they apply to large- and medium-scale clinical systems from bench to bedside. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BMI 601 with C or better |

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|---------|-------------|--------------------------------------|---|-------------------|-------------------|-----------------|---------------|-----------------------------|-----------------------------|-------|-----------------|--|
| BMI | 550 | Translational Bioinformatics | Provides an introduction to bioinformatics methods and applications used in the field of translational medical research. Topics include bioinformatics data acquisition and management, analysis methodologies, and applications. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BMD 550 or BMI 550 |
| BMI | 555 | Statistical Learning for Data Mining | Surveys data analysis methods for massive data sets and provides experience in analysis with computer software. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; BMI 515, IEE 572, or IEE 578; Credit is allowed for only BMI 555 or CSE 572 or IEE 520 |
| BMI | 560 | Teaching in Biomedical Informatics | Student serves as a teaching assistant with a faculty member who is teaching either a required or elective course in the Biomedical Informatics curriculum. Such courses will generally be BMI courses but with the approval of the student's faculty program advisor may include a course that is an approved elective in the BMI program but is offered in another department within the university. The experience provides a significant teaching role, either lecturing or moderating small group sessions or laboratories. Grading class homework assignments and designing/grading examinations will also typically be part of the experience. Assisting other students outside of class and being available during office hours will also generally be part of the student teacher's role. A student may also receive 1 hour of credit for participating substantively in the design of a new course, working closely with a faculty member. Generally in such circumstances the student should then serve as course teaching assistant when it is offered for the first time (separate enrollment in this course). | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): Biomedical Informatics PhD student |
| BMI | 570 | BMI Symposium | Students attend the BMI Symposium Speaker Series twice a month and the student journal club discussion on alternate weeks. During the journal club weeks, each student leads a discussion on a current topic pertinent to the field of biomedical informatics. | N | SEM | Y | YGB | College of Health Solutions | College of Health Solutions | 1 | | Pre-requisite: BMI Graduate student |
| BMI | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Pre-requisite: Biomedical Informatics Masters student |
| BMI | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | N | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): Biomedical Informatics MS student |
| BMI | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): Health Informatics MAS, Biomedical Informatics MIP, or Biomedical Informatics MS student |
| BMI | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): graduate Biomedical Informatics student |
| BMI | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Health Solutions | College of Health Solutions | 1-12 | | Pre-requisite: Biomedical Informatics Masters student |
| BMI | 600 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 601 | Fundamentals of Health Informatics | Offers an overview of the field of health informatics with emphasis on clinical informatics. Combines perspectives from medicine and computer science to use computers and information in health care and the health sciences. Covers applications and general methodology in health informatics using current topics in the field. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| BMI | 602 | Programming in a Health Care Domain | Intensive introduction to object-oriented programming concepts focused on the unique challenges such as those related to data volume, complexity, and uncertainty inherent to applications in a health care domain. Also covers the fundamentals of algorithm analysis and data structure design. Stresses a software engineering approach to abstraction for problem decomposition and solution formulation, with object-oriented and reusability concepts introduced early. Emphasizes the use of generic data structures and abstractions from template libraries for reusability, as well as modular design. In addition, also covers basic concepts of algorithms and data structures. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 603 | Health Informatics Database Modeling and Applications | Thorough coverage of the foundations of database systems and their specific use and modeling in healthcare and biomedical environments. Students learn through hands-on experience with the modeling and implementation of health-related databases using the relational approach. Topics include an overview of database models and architecture, database design, SQL, XML, and data warehousing as they are applied in clinical domains. Students are encouraged to explore database-related topics of their own, choosing ones that are relevant to a bioinformatics or clinical domain. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 604 | Health Information Communication | Students learn to locate, retrieve, and store information with an emphasis on electronic search, retrieval, and storage. They also learn to assess the validity and quality of information, improve the quality of information, and how to improve the quality of, protect, and effectively communicate health information. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Health Informatics MAS student |
| BMI | 605 | Health Information Systems and Applications | Explores the use of information systems in different health care settings, analyzing operational and strategic objectives for their deployment. Emphasizes the analysis of the different factors that influence decision making during the process of design and deployment of systems, including human factors, hardware, software, policy, communications, and the successful management of such systems. Also covers guidelines for the design and successful deployment of systems to meet those objectives and includes discussion of architectures, components, and models. Analyzes specific case studies of successfully and unsuccessfully deployed systems. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 608 | Project Management for Interdisciplinary Teams | Introduces students to the health care team and explores tools and techniques for establishing effective interdisciplinary teams in a health care setting, emphasizing collaborative clinical decision-making and patient management. By working in small teams, the course puts into practice these techniques, allowing students to collaborate with other health professionals to solve specific problems, provide services, or develop new understandings. Also covers the concepts, skills, tools, and techniques involved in the management of information system projects, providing an introduction to the established discipline of project management, with a specific focus on how they apply to managing information systems for a biomedical setting. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 610 | Clinical Culture and the Health Care Environment | Designed for medical informatics students who have no significant clinical experience in the U.S. Introduces medical terminology and reviews clinical environments in which health care providers create, manage and use clinical information. Students perform observations in a variety of clinical environments. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Health Informatics MAS student |
| BMI | 612 | Applied Data Mining | Comprehensive introduction to data mining methods and algorithms used most often to analyze data collected in biomedical informatics studies, including genomics and proteomic disease association studies, clinical trials, clinical image analysis and studies of the accuracy and performance of screening and diagnostic tests. Emphasizes assessing data quality, understanding how to select an overall approach to analysis, and presenting and interpreting the results of data mining analysis. Students learn to use Excel to effectively display data collected in biomedical research studies and Weka software to analyze data using approaches that are used commonly in biomedical studies. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| BMI | 613 | Workflow Analysis and Redesign in Health Systems Engineering | Provides an overview of workflow analysis and process redesign and their use in quality improvement activities, including specification. Uses case examples to highlight key concepts and measurement concepts and covers techniques. Includes the links of systems engineering to fundamentals of decision theory, statistics and optimization. Includes discussion of current successful techniques for systems engineering. System engineering seeks to enable the successful design, implementation, deployment and maintenance of successful systems. Emphasizes gathering and analysis of customer needs for the specification and documentation of required functionality early in the system's lifecycle. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 614 | Current Perspectives in Health Informatics | Seminar course using external speakers to discuss and review the current state of the health informatics field. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BMI 601 |
| BMI | 615 | Human Factors Engineering for Biomedical Applications | Fundamental principles of human-computer interaction and human factors and how to apply them to real-world problems through class projects, homework, and real-world design. Focuses on learning why user-friendly interfaces can greatly improve work productivity and enhance the quality of healthcare without radically changing the underlying technology. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 616 | Clinical Decision Support and Evidence-Based Medicine | Focuses on the major problems of human decision making in health care including causes of errors, decreased quality and increased costs. Explores the role of information technology, primarily through computer-based clinical decision support (CDS), to address these problems. Explores key methods used to provide CDS, the capabilities and limitations of current approaches, and the challenges for managing and updating the knowledge needed to deliver CDS in an enterprise setting. Origins of evidence-based decision making and policy formulation; how to use the tools and approaches that have been developed to support evidence-based decision making and policy formulation; and the history and evolution of systematic review and meta-analysis as a tool to inform decisions and policies based on evidence. Students gain hands-on experience by conducting a systematic review and a meta-analysis and using the results to draw conclusions and formulate health policy. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 617 | Principles of Evidence-based Medicine | The origins of evidence-based decision making and policy formulation; how to use the tools and approaches that have been developed to support evidence-based decision making and policy formulation. The history and evolution of systematic review and meta-analysis as a tool to inform decisions and policies based on evidence. Hands-on experience by conducting a systematic review and a meta-analysis and using the results to draw conclusions and formulate policy. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): Health Informatics MAS student |
| BMI | 618 | Leadership and Change in Clinical Environments | Introduces tools and techniques for leading interdisciplinary teams in health care settings. Provides an opportunity for collaboration with health care professionals to solve specific problems, provide services or develop new understandings. Covers the concepts, skills, tools and techniques involved in the management of projects with a specific focus on how they apply to managing information systems projects in biomedical settings. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMI | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): Biomedical Informatics PhD student |
| BMI | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-15 | | Prerequisite(s): Biomedical Informatics PhD student |
| BMI | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Health Solutions | College of Health Solutions | 1-15 | | Prerequisite(s): Biomedical Informatics PhD student |

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|---------|-------------|----------------------------|--|-------------------|-------------------|-----------------|---------------|---------------------------|------------------------------------|-------|-----------------|--|
| BMY | 230 | How Nature Works | Teaches biology through the lens of function, thereby providing a core understanding in biology for all students, no matter their background. Explores the process of scientific discovery and how biological knowledge can inform other disciplines. Each week investigates a new topic regarding how ecosystems and organisms function--e.g., How do ecosystems cycle nutrients? How do animals move through air, water and on land? How do organisms defend themselves against disease? Covers core concepts in biology as well as how these concepts apply to other disciplines. | N | LEC | N | OPT | College of Global Futures | School of Complex Adaptive Systems | 3 | | Credit is allowed for only BIO 230 or BMY 230 |
| BMY | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-4 | | |
| BMY | 302 | Principles of Life | Explores nature's universal design guidelines based on 3.8 billion years of successful strategies across all life. Develops participants' understanding of the deep patterns found in nature, and acts as an introduction into the methodology of biomimicry--including the review and study of life's operating conditions on Earth; the six primary principles; and their related sub-principles. Gives the knowledge necessary to bring these design guidelines into practice and provides opportunity to integrate them into one's discipline. | N | LEC | N | OPT | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): SOS 110 with B or better |
| BMY | 304 | The Practice of Biomimicry | Explores the process of nature-based design from a methodology-based approach. Deep dives into the biomimicry process and reviews how biology and biomimicry can be incorporated into the four major phases of any design process: scoping, discovering, creating and evaluation. Introduces the art of translating biological concepts into strategies for application and building a taxonomy of design principles. Includes a practicing tools component and a final multi-week group project. Offers the structure for which biomimicry can be put to practice. | N | LEC | N | OPT | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): SOS 110 with B or better OR Visiting University Student |
| BMY | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-4 | | |
| BMY | 430 | Biomimicry Practicum | Allows participants to dive deep into the biomimicry tools and resources presented during the program and to apply them selectively to a specific and unique opportunity of the student's choosing. Projects should have meaningful outcomes achievable within the semester, and allow the investigation of biomimicry life's principles as well as engage students in the scoping, discovering, creating and evaluating phases of biomimicry thinking. Deliverables are milestone based with the final deliverable having an application in a real-world setting. | N | PRA | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): BMY 230; BMY 302; BMY 304 |
| BMY | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | |
| BMY | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-4 | | |
| BMY | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-7 | | |
| BMY | 501 | Essentials of Biomimicry | Offered as a sampler of the various topics (discipline, emulate, ethos, (re)connect and iSites, human-nature connection, biomimicry thinking, and life's principles) within the discipline of biomimicry. Each week is devoted to a specific topic and is led by a different instructor. Provided a basic overview of each aspect of the discipline with ample opportunity for conversation and dialogue around the specific components, with an understanding that greater depth into each topic can be learned by taking the advanced BMY courses. | N | LEC | N | OP2 | College of Global Futures | School of Complex Adaptive Systems | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMY | 502 | Life's Principles | Life's principles are nature's universal design guidelines based on 3.8 billion years of successful strategies across all life. With instruction by Dr. Dayna Baumeister, this 16-week online course takes participants on a deep dive of life's principles, including the review and study of life's operating conditions, the six primary principles and their related sub-principles. Gives participants the experience necessary to bring these design guidelines into practice. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 4 | | Pre- or corequisite(s): Biomimicry MS or Biomimicry certificate student; BMY 501 |

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| BMJ | 503 | Biology Taught Functionally | Biomimicry teaches biology through the lens of function, thereby providing a core understanding in biology for all students, no matter their background. Explores how biologists gather and research information and how that knowledge can inform other disciplines. Also introduces the art of translating biological concepts into strategies for application, which is then carried throughout all the courses. Students learn how to work with biologists on a biomimicry team and how to weave biology and biomimicry together. The biologists in the cohort not only learn to look at nature through the function lens, but also act as subject matter experts for their interdisciplinary teams and teaching assistants. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 4 | | Pre- or corequisite(s): Biomimicry MS or Biomimicry certificate student; BMJ 501 |
| BMJ | 504 | Biomimicry Thinking | Biomimicry thinking is the practice of biomimicry from a methodology-based approach. It is a 15-week intensive in the methodology of biomimicry that reviews how biology and biomimicry can be incorporated into the four major phases of any design process: scoping, discovering, creating and evaluating. Covers the art of translating biological concepts into strategies for application and building a taxonomy of design principles. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 4 | | Prerequisite(s): Biomimicry MS student or Biomimicry certificate student; Pre- or corequisite(s): BMJ 501 |
| BMJ | 511 | Biomimicry and Design | Prepares participants to facilitate the design of sustainable innovations using the biomimicry philosophy and methodology. Participants engage in a series of lectures and assignments to demystify the design thinking process, understand how to harness the potential of approaching challenges with a design mind, distill a design challenge, understand user needs, build a bridge between biology and design, use a methodology for discovering models from nature, abstract design principles from biological strategies, and translate those principles into sustainable innovations. Participants with or without a design background equally experience a deep immersion into the world of biomimetic design. | N | LEC | N | OPT | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): BMJ 504 |
| BMJ | 512 | Biomimicry and Engineering | Prepares participants to understand the field of engineering; identify the types of engineers and what each one does; what constrains engineers work under, materials selected by engineers, how to present biological ideas to engineers and how to integrate ideas from their discipline into sustainable engineering designs using biomimicry principles. Most examples used are of large engineered structures. These structures play critical functions in human systems, have a significant impact on the environment and last for over 100 years, so it is important to imbed as much sustainability into their design as possible. Requires a final team project designed to put these ideas into practice. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): BMJ 502; BMJ 504 |
| BMJ | 516 | Biomimicry and Business | Addresses business topics from the biomimicry point of view; explains mechanisms and tools for comparing and contrasting business and nature. Challenges participants to question conventional ways of conducting business and come up with new approaches based on a different point of view. Recommend BMJ 502 and BMJ 504 to be successful in this course. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Pre- or corequisite(s): Biomimicry MS student; BMJ 501 |
| BMJ | 517 | Human-Nature Connection | Grounds the emerging discipline of biomimicry as a continuation of our ancestral connection with nature. Human-Nature Connection (HNC) engages participants in an exploration of the meaning and value of connecting with nature. Topics include defining humans, nature, and our connection with nature; establishing the evolutionary, personal, and socio-cultural influences on the different expressions of this connection; and illustrating the relevance of biomimicry to the human-nature connection. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 2 | | Pre- or corequisite(s): Biomimicry MS student; BMJ 501 |
| BMJ | 530 | Virtual Design Lab Practicum | Practicum designed to allow participants to dive deep into the biomimicry tools and resources presented during the program and to apply them selectively to a specific and unique opportunity of the student's choosing. Projects should have a meaningful outcome achievable within the semester, and should engage the scoping, discovering, creating and evaluating phases of biomimicry thinking. Deliverables are milestone based, and the final deliverable should have application in a real-world setting. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 2 | | Prerequisite(s): BMJ 501; BMJ 502; BMJ 503; BMJ 504; Biomimicry MS student with minimum 20 hours or Biomimicry Certificate student with minimum 13 hours; Pre- or corequisite(s): Biomimicry MS or Biomimicry Certificate student |
| BMJ | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | N | LEC | Y | GNA | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): Biomimicry MS student; BMJ 501; BMJ 502; BMJ 503; BMJ 504 |
| BMJ | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|---------------------------------------|---|-------------------|-------------------|-----------------|---------------|--|--------------------------------------|-------|-----------------|---|
| BMY | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | REC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMY | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMY | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Global Futures | School of Complex Adaptive Systems | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| BMY | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | GNA | College of Global Futures | School of Complex Adaptive Systems | 1-4 | | Pre- or corequisite(s): Biomimicry MS student; BMY 501 |
| BUA | 380 | Small Business Leadership | Develops leadership skills needed to form, lead, and operate a small business. Emphasizes creating a vision, research, and problem solving. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Pre-requisites: Non-business student with a minimum ASU cumulative GPA of 2.00 and a minimum of 56 earned hours, OR Non-degree student with a minimum ASU Cum GPA of 2.00, OR Graduate student. |
| BUA | 381 | Small Business Accounting and Finance | Accounting and finance skills needed by small business owners to acquire, allocate, and track monetary resources and evaluate performance. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Pre-requisites: Non-business student with a minimum ASU cumulative GPA of 2.00 and a minimum of 56 earned hours, OR Non-degree student with a minimum ASU Cum GPA of 2.00, OR Graduate student. Must not have earned credit in ACC 382. |
| BUA | 383 | Small Business Working Relationships | Addresses communication and the people in a business--clients, employees, suppliers, competitors, governments, family, and self development. | N | LEC | N | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 3 | | Pre-requisites: Non-business student with a minimum ASU cumulative GPA of 2.00 and a minimum of 56 earned hours, OR Non-degree student with a minimum ASU Cum GPA of 2.00, OR Graduate student. |
| BUA | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Morrison School of Agribusiness | 1-4 | | |
| BUS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Prebusiness Office | 1-4 | | |
| BUS | 384 | Business Operations and Planning | Planning and executing plans--the what, when, where, how, and who from product/service/project idea to pay back or completion. | N | LEC | N | OPT | W. P. Carey School of Business | Prebusiness Office | 3 | | Prerequisite(s): SCM 300 or 303 OR Visiting University Student |
| BUS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Prebusiness Office | 1-4 | | Prerequisite(s): minimum 45 hours |
| BUS | 424 | Sales and Negotiations | Principles and techniques of selling, merchandising and negotiations applicable for all businesses and organizations. | N | LEC | N | OPT | W. P. Carey School of Business | Prebusiness Office | 3 | | Prerequisite(s): MKT 300 |
| BUS | 434 | Business Risk Management | Strategies to manage business risk: derivatives, insurance, self-insurance and public policy. | N | LEC | N | OPT | W. P. Carey School of Business | Prebusiness Office | 3 | | Prerequisite(s): FIN 300, 302 or 303 OR Visiting University Student |
| BUS | 436 | Frontiers in Risk Management | Highlights practices and challenges faced by firms in terms of identifying, measuring and communicating a variety of business and financial risks, as well as designing and implementing risk management strategies as a critical component of the overall strategic management process. Emphasizes a variety of financial and nonfinancial risks in a holistic framework. Develops an understanding of the risk management practices and challenges faced by firms in a variety of business settings and industries. | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 3 | | Prerequisite(s): FIN 300, 302 or 303 OR Visiting University Student |
| BUS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Prebusiness Office | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAP | 120 | Introduction to Counseling | Provides an introduction to and broad overview of the field of counseling. Covers several counseling topics related to ethics, prevention, intervention and treatment, as well as multicultural counseling. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | SB | |

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| CAP | 121 | Introduction to Sport, Exercise and Performance Psychology | Introduces the psychological factors that are associated with participation and performance in sport, exercise and other types of physical activity. This field is primarily interested in two main areas: (1) understanding how participation in sport, exercise and physical activity affects a person's psychosocial development, overall health and mental well-being throughout the lifespan; and (2) helping athletes use psychological science to achieve optimal mental health and to enhance their performance. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | SB | Credit is allowed for only CAP 121 or KIN 348 or KIN 452 |
| CAP | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-4 | | |
| CAP | 220 | Self in a Multicultural Society | Covers current theories and research on culture, race and ethnicity, gender and other specific aspects of cultural diversity in a multicultural society. Explores themes, theories, topics and research related to power, privilege and oppression in the United States. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | C | |
| CAP | 222 | Mental Performance | Introduces concepts used by elite athletes and elite warriors to unlock their peak performance. Rooted in the traditions of mindfulness-based stress reduction and mindfulness-based cognitive therapy, Kaufman, Glass and Pineau present "mindful sport performance enhancement" (MSPE), an empirically supported, six-session program that can be adapted for athletes or even performers in other high-pressure domains. Combined with resources from the military community, explores how these two worlds overlap and develop mental toughness and the warrior mindset. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): CAP 120 OR Visiting University Student |
| CAP | 240 | Counseling Skills | Provides an introduction to counseling skills and intervention techniques used in treatment. Focuses on active listening, self-awareness and other related skills. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): CAP 120 OR Visiting University Student |
| CAP | 260 | Survey of Careers in Counseling and Applied Psychology | Provides a broad overview of the various career opportunities in counseling and applied psychology fields. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1 | | Prerequisite(s): CAP 120 or PSY 101 OR Visiting University Student |
| CAP | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-4 | | |
| CAP | 310 | Addictions I: Foundations and Basic Principles | Covers the history, overview and principles of addiction as well as symptoms of co-occurring mental health issues prevalent in individuals with addictions and substance abuse disorders. Students also learn basic screening and assessment tools used to detect, evaluate and manage risks associated with individuals who have co-occurring disorders | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): CAP 120 OR Visiting University Student |
| CAP | 315 | Trauma and Crisis Intervention | The role of counselors in traumatic events, crises and situations. Also introduces students to counseling skills and techniques particularly specialized for crises such as child abuse, partner violence, war, natural disasters and many others. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): CAP 120 OR Visiting University Student |
| CAP | 320 | Theories of Counseling and Psychotherapy | Provides the theoretical foundations and knowledge related to the principles of counseling. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): CAP 120 or PSY 101; ENG 102, 105, or 108 with C or better OR Visiting University Student |
| CAP | 323 | Psychology of Coaching | Covers a broad range of factors related to the psychology of coaching and work with athletes. Discusses the physiological, psychological and sociocultural aspects of motivation and performance as well as considering the ways coaches can support athletes who suffer from emotional and psychological stress. Chapter readings, discussion responses and a group research presentation introduce students to theories and research surrounding topics in the psychology of coaching. Guest lectures from actual coaches and students' attendance and observations at sporting events bring class concepts, theories and research to life. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| CAP | 325 | Professional Practice and Ethics in Counseling | Discusses ethical issues (confidentiality, informed consent, integrity, respect) and professional codes of conduct in the counseling field. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): CAP 120; CAP 240 OR Visiting University Student |
| CAP | 330 | Group Counseling | Provides an overview of theories, techniques and approaches to group counseling and therapy. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): CAP 120; CAP 240 OR Visiting University Student |
| CAP | 335 | Addiction Group Counseling | Offers an overview of the role and efficacy of group therapy in substance abuse treatment. Students learn about the different types of substance abuse treatment groups; screening and criteria for groups; group development and stages of treatment; and group leadership skills and techniques (e.g., motivational interviewing). Through weekly discussions, journal reflections and experiential activities, students learn the various techniques used in group substance abuse treatments. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): CAP 120; CAP 240 OR Visiting University Student |
| CAP | 340 | Multicultural Counseling Theory and Practice | Provides an overview of multicultural theory, research and practice. Topics include acculturation, identities, prejudice and other related topics. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): CAP 120; CAP 220 OR Visiting University Student |

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| CAP | 342 | Community Outreach, Prevention and Intervention | Provides an understanding of the methodologies in community outreach and prevention treatment. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): CAP 120; CAP 220 OR Visiting University Student |
| CAP | 345 | Social Issues in Counseling and Psychology | Covers a broad range of factors in applied social psychology as it relates to the counseling field. Discusses broad theoretical perspectives within social psychology and their relevance to issues within counseling and work with clients. Chapter readings and reflection papers introduce students to theories and research surrounding topics covered within the course. Video presentations and students' engagement in discussion responses throughout the course enable them to apply theory and research to real-world case examples in the counseling field. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| CAP | 351 | Issues in Assessment, Diagnosis and Treatment | Builds upon previous coursework. Provides students with an understanding of the major screening, assessment and diagnostic approaches for substance abuse and addictions. Students obtain knowledge of (1) models, (2) instruments and (3) diagnostic criteria, and the ability to link this knowledge to treatment planning and interventions for addictions. The goal of this course is not to diagnose or treat individuals with disorders. Rather, it is designed to give students a basic understanding of diagnostics and evidence-based treatments to inform work in the mental health field. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): CAP 310 with C or better OR Visiting University Student |
| CAP | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| CAP | 400 | Advanced Counseling Research Methods | Builds upon introductory research methods and provides students with a strong foundation of research knowledge in counseling. Covers critical reading and analysis of peer-reviewed journal articles, types of research methodologies and proposal development. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): CAP 120; PSY 290 OR Visiting University Student |
| CAP | 420 | School Counseling | Provides an overview of counseling in school settings. Covers the role of school counselors in supporting youth and adolescents in many areas such as developmental disabilities/mental illness, as well as ethical and legal issues. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): CAP 120; CAP 240 OR Visiting University Student |
| CAP | 440 | Addictions II: Treatment, Recovery and Relapse Prevention | Builds upon previous course work. Covers philosophies and models of treatment, recovery, relapse prevention and continuing care in substance abuse counseling. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): CAP 120; CAP 310 OR Visiting University Student |
| CAP | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | PRA | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): minimum 45 hours |
| CAP | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-6 | | Prerequisite(s): Barrett Honors student |
| CAP | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | RSC | Y | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-6 | | Prerequisite(s): Barrett Honors student |
| CAP | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| CAP | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-7 | | Prerequisite(s): minimum 45 hours |
| CAP | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-3 | | Prerequisite(s): minimum 45 hours |
| CAS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-4 | | |
| CAS | 253 | Introduction to Mathematical Tools and Modeling for the Life and Social Sciences | Introduces the evaluation and construction of mathematical models used in the life and social sciences. Includes the basic steps in developing a model, analyzing it, and testing it with actual data. Covers the first steps concerning how to use formal mathematical techniques including developing equation-based relationships, plotting graphs, linear regression, and solving equations using computer software. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): AML 100 or SOS 101 with C or better; MAT 117 with C or better or ALEKS score of 61 or higher; Credit is allowed for only AML 253 or CAS 253 OR Visiting University Student |
| CAS | 254 | Introduction to Dynamics and Control in the Biological and Social Sciences | Includes three fundamental topics in dynamics of populations, each topic motivated by a biological example. Covers mathematical tools, both analytic and computational, to solve the problem. Students have a small group project on each topic. | N | LEC | N | OPT | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): AML 253; MAT 210, 251, 265, or 270; MAT 266 or 271; Credit is allowed for only AML 254 or AML 294 (Continuous Models for the Life and Social Sciences) or CAS 254 OR Visiting University Student |
| CAS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-4 | | |
| CAS | 298 | Honors Directed Study | Independent study or practicum under the supervision of a faculty member. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-6 | | Prerequisite(s): Barrett Honors student |

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| CAS | 363 | From Cells to Society: Understanding Complexity | Equips students with concepts and empirical examples they need to understand the role of complexity in the world around them. Complexity science is based on the fundamental principle that entities and phenomena in the world around us are systems composed of many parts that interact to produce their global characteristics. For example, cells interact to produce organs and tissues, which in turn interact to produce physiological processes (i.e., the capacity to metabolize food to produce new compounds and energy) and physical infrastructure (skeletal and muscular structure) which produce organisms. Organisms, (e.g., humans) interact to form groups, villages, cities, nations. | N | LEC | N | OPT | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AML/ASB/BIO/SOS 394 (From Cells to Societies) or ASB 363 or BIO 363 or CAS 363 or SOS 363 OR Visiting University Student |
| CAS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-4 | | |
| CAS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-6 | | Prerequisite(s): Barrett Honors student |
| CAS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-6 | | Prerequisite(s): Barrett Honors student |
| CAS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-4 | | |
| CAS | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-6 | | Prerequisite(s): Barrett Honors student |
| CAS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-7 | | |
| CAS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 501 | Fundamentals of Complex Systems Science: Evolution | The enormous diversity of biological, social and technological systems is the product of evolution. As Darwin put it poetically: "There is grandeur in this view of life, with its several powers, having been originally breathed by the Creator into a few forms or into one; and that, whilst this planet has gone cycling on according to the fixed law of gravity, from so simple a beginning endless forms most beautiful and most wonderful have been and are being evolved." In short, complexity is the product of evolutionary processes. This, in turn, implies that understanding complexity requires us to understand its evolutionary origins. This course is a comprehensive introduction to the evolutionary history of complex systems and the principles and mechanisms that guide this dynamic. Covers the consequences of evolutionary history of complex systems, such as vulnerability to failure or limits of the potential of these systems to change and adapt. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 502 | Fundamentals of Complex Systems Science: Computation | Most systems are complex. Complex systems share a number of critical features across all domains, including the fact that all complex systems process information and perform computations in the broadest sense. Explores the informational and computational dimensions of complex systems with an emphasis on how complex systems acquire, process, store and transmit information in a systematic way across the social, behavioral and life sciences and engineering. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 503 | Fundamentals of Complex Systems Science: Collectives | From neurons in a brain to fish in a school to people in an economy, collectives are all around us. These are complex systems in which we understand in some detail how the individual components behave and interact, but the behavior we are interested in is at the larger scale of the aggregate. The behavior of systems like these is challenging to predict and understand largely due to the sheer number of interacting components, as well as the unintuitive way that contributions from individuals scale up to have large collective effects. Complex systems science has developed an array of conceptual tools to help understand collective behavior. Explores these foundational concepts, including emergence, scaling laws, dynamical modes and coarse-graining. Uses these tools to de-mystify powerful aggregate-scale effects, from impressive feats of swarm intelligence to potentially harmful instabilities and hysteresis. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| CAS | 520 | Agent-Based Modeling | Agent-based modeling is a method to study the macro-level consequences of micro-level interactions of agents representing individuals, households, firms or other type of actors. Agent-based modeling is used to study the dynamics of complex adaptive systems across different domain areas. Covers the basics of agent-based modeling including programming computer simulations and how this method is used to study complex adaptive systems in different application areas. Examines the method for scientific research, especially the various ways of doing model analysis. Students perform individual assignments. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 521 | Methods for Complex Systems Science: Network Analysis | Network science within the framework of complex adaptive systems. Begins with general introductions to different kinds of networks and their basic network properties. Then progresses to the mathematics and algorithms of network analysis while learning about computational feasibility and the importance of random graph comparisons. Each week students are responsible for readings and a write-up of that week's topics. These write-ups help build toward the final assignment incorporating all topics covered in this class. Upon completion, students should feel confident incorporating networks and their associated complexity into their research and worldview. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 522 | Methods for Complex Systems Science: Dynamical Systems | Focuses on the mechanisms through which complexity emerges in evolving and dynamical network architectures. Some of the best-known examples include gene expression networks, adaptive ecological networks, and neural networks for cognitive information processing. Complex systems theory deals with dynamical systems with a large number of interacting variables. Therefore, after an introduction to graph and network theory, the course covers the basic concepts of dynamical systems theory: continuous and discrete systems, attractor dynamics, bifurcation, and chaos. After introducing information theory, devoted to the fundamentals, the second part focuses on applications, especially to network dynamics. Students acquire familiarity through the analysis of concrete examples of both deterministic and random dynamics in the form of Boolean networks and random walks. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 523 | Methods for Complex Systems Science: Statistics and Dimensionality Reduction | Because complex systems involve a large number of interacting components, observational studies of these systems typically generate data sets of high dimension. Examples include the hundreds or thousands of distinct neurons in a brain, genes in a cell, people in a society, firms in an economy, or texts in a corpus. To make sense of such data, a diverse set of data analytic tools has been developed to summarize key properties at the population level (statistics) and characterize predictable lower-dimensional patterns (dimensionality reduction). Provides a guided tour of such tools most relevant to complex adaptive systems. With a solid foundation in inferential statistics, students encounter PCA-type linear projections, nonlinear manifold techniques, topic modeling, clustering methods, network statistics, as well as more abstract foundations for how these methods work and when they fail. Students hone their data skills by applying state-of-the-art open-source software to real-world datasets. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 540 | Socioecological Complex Systems | We live in a world that is neither wholly human nor wholly natural. Human decisions and actions combine with biological processes and physical forces transform cities, rural landscapes, ecosystems and biogeography, river systems, coastlines and the atmosphere. By emphasizing the importance of networks and feedbacks, complexity science is especially helpful in providing insight into the complex interactions between the human and natural components of the socioecological systems that are so critical to our lives and wellbeing. Examines key concepts for understanding socioecological system dynamics from a complex systems perspective. Explores how methods drawn from complexity science can trace the complex web of feedbacks between social, biological and geophysical processes and help to better understand and plan for change and stability in socioecological systems. Also looks at how complexity science can help contribute to relevant policy and governance for SES. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| CAS | 541 | Complex Urban Systems | Despite occupying only a tiny fraction of the world's area, cities house over half of earth's human population, consume over two thirds of global energy, and emit over 70% of global CO2 emissions. It is estimated that the combined ecological footprint of earth's urban areas already exceeds the entire area of our planet, and still globally 3 million more people migrate to cities every week. Cities are also the global engines of innovation, wealth creation, and production efficiencies. Thus, cities are both drivers of unsustainable behavior and our best hope for innovating sustainable solutions. Examines key concepts for understanding the complexity of urban systems, and explores how methods drawn from complexity science can be applied to urban structures and dynamics to better understand both past and future outcomes. Shows how complexity science might contribute to relevant policy and governance of cities and whether such a contribution is advisable. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 2-3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 542 | Sustainability as a Problem Complexity | Sustainability challenges are complex challenges. Sustainability as a problem of complexity explores in a systematic way the interconnected nature of sustainability challenges and presents a complex systems science-based framework for developing sustainability solutions. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 543 | Complexity Economics | Complexity economics is the study of economic systems as evolving, complex systems. These systems consist of interacting individuals who perceive their environments, and take actions based on multiple criteria, which in turn affect their environments and the decisions available to other individuals. Complexity economics is not an extension of conventional, neo-classical economic theory and practice, which is based on the concepts of equilibrium, optimization and aggregation. Complexity economic attempts to understand economic phenomena through concepts of evolution, emergence, path dependency and the interdependent relationships between heterogenous individuals whose actions shape their environments. This offers a new basis for theory and practice that better reflects not only real problems and scenarios, but also how individuals make decisions and how those decisions have consequences for both the environment and society. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 544 | Innovation in Complex System | Innovation is a central property of complex systems. Without innovation there would be no evolution of complex systems. Explores the dynamics of innovation in complex systems across a number of different domains, including biological, social, cultural and technological innovations. Focuses on the common principles and differences guiding innovation dynamics. Also focuses on unintended consequences of innovation, such as cascading effects and innovation traps and investigates why certain systems fail to innovate. Identifies common features of innovation across complex systems. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 545 | Disease as a Complex System | Disease and failure are properties of complex systems. All organisms, groups, societies, technologies, ecosystems and the planetary system are complex systems. Disease can be seen as a failure in complex system function and has, at its root cause, the breakdown of complex regulatory structures that maintain function and facilitate adaptation. Comprehensive introduction into the origins, mechanisms and consequences of disease in a number of complex systems ranging from organisms to the planet and the technosphere. Explores disease, failure and health of these systems and investigates the underlying complex systems properties that are responsible for these different states. Identifies common features of failure across complex systems. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 546 | Bio-Inspired AI and Optimization | Provides a survey of a variety of algorithms for optimization and multiagent control that are inspired by natural systems. Algorithms inspired by biological or physical systems can often be viewed as idealized models of those antecedent systems. Consequently, also explores potential problems (and solutions) in these algorithms that are analogous to fundamental but less well-known issues in the biological and physical systems that inspire them. | N | LEC | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| CAS | 570 | Fundamentals of CAS Science | Many phenomena of critical relevance to human society are dynamic systems that change over individual and evolutionary time scales, and are highly interactive, both within and between systems. That is, they are complex adaptive systems (CAS), and thus share isomorphic properties like near-decomposability, hierarchical organization, scale-free networks, self-organized criticality, and emergence. Fundamentals of CAS science explores the diverse, interdisciplinary applications of a complex adaptive systems across the social, behavioral, and life sciences. | N | SEM | N | GNA | College of Global Futures | School of Complex Adaptive Systems | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASM 570 or BIO 570 or CAS 570 or SOS 570 |
| CAS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | College of Global Futures | School of Complex Adaptive Systems | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | N | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 599 | Thesis | Supervised research focused on preparation of a thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 600 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 691 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | College of Global Futures | School of Complex Adaptive Systems | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 791 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| CAS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Global Futures | School of Complex Adaptive Systems | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | OPT | College of Global Futures | School of Complex Adaptive Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | RSC | Y | Z3 | College of Global Futures | School of Complex Adaptive Systems | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CAS | 799 | Dissertation | Supervised research focused on preparation of a dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Global Futures | School of Complex Adaptive Systems | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 232 | Human Development | Lifespan development from conception through adulthood, with emphasis on family influences. Recognition of individuality within the universal pattern of development. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | |
| CDE | 244 | Children Facing Health Care Challenges | Provides a comprehensive introduction to family-centered care, psychosocial assessment of the hospitalized and chronically ill child, and techniques to support their coping. Utilizes the principles/theories of child development, and introduces the role of a child-life specialist in the promotion of effective coping through play, preparation and education among children, youth and families facing challenges related to health care and hospitalization. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Credit is allowed for only CDE 244 or CDE 294 (Children Facing Health Care Challenges) OR Visiting University Student |
| CDE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | |
| CDE | 312 | Adolescence | In-depth examination of the developmental and social processes that help explain modern adolescence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): CDE 232, PSY 101, SOC 101, or TEL 215 with C or better; minimum 24 hours; Credit is allowed for only CDE 312 or SOC 312 OR Visiting University Student |
| CDE | 337 | Early Childhood Intervention | Explores how child development theory affects practice with children and families, emphasizing development of young children and early intervention. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | |
| CDE | 338 | Child Development Practicum | Supervised practicum in the Child Development Lab preparing students for work in child care centers and agencies serving young children and families. | N | PRA | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 2-4 | | Prerequisite(s): minimum 45 hours |
| CDE | 350 | Inequality and Diversity in Education | Advanced exploration of various dimensions of diversity in relation to educational systems and outcomes. Through sociological and psychological research, case studies and films, students examine how educational inequality is created and reproduced through individual actions and institutional constraints. Also considers the connection between schooling and human rights and ways in which educational inequality may be addressed. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | L & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; AFR 212, APA 200, APA 210, CDE 232, JUS 210, TCL 210, or minimum 24 hours; Credit is allowed for only AFR 350, APA 350, CDE 350, JUS 365, SOC 350, or TCL 360 OR Visiting University Student |
| CDE | 356 | Race and Child Development | Reviews the current research and literature about the particular role of race in child development. Even though race is not a valid biological construct, it has significant social implications as it shapes how children interact and are treated by others. Through primarily class discussions/activities, presentations and papers, addresses: (1) What are the research and theoretical issues in studying race? (2) What does race and racism mean? (3) How does race influence developmental processes? | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & C | Prerequisite(s): APA 200, APA 210, or minimum 30 hours; Credit is allowed for only APA 356 or CDE 356 OR Visiting University Student |
| CDE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | |
| CDE | 414 | The School-Aged Child: Development in the Elementary Years | Examines children's physical, social-emotional and neurological development across the elementary school years, as well as the socialization influences of primary people and contexts engaged with children during this developmental period. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): CDE 232 with C or better OR Visiting University Student |
| CDE | 418 | Aging and the Life Course | Examines aging as a process of change and adaptation over the lifespan, patterned by social, cultural, and historical forces. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & H | Prerequisite(s): FAS 101, PSY 101, or SOC 101 with C or better; minimum 30 hours; Credit is allowed for only CDE 418 or SOC 418 OR Visiting University Student |
| CDE | 430 | Infant and Toddler Development in the Family | Discover the world of babies and toddlers. Learn about important changes in biological/physical, cognitive, emotional and social domains of development from conception to age three. Consider the influences of parents, family and environment. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): minimum 30 hours OR Visiting University Student |

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| CDE | 450 | Childhood Disorders and Family Functioning | Examines the presentation, development and treatment of a wide range of neurodevelopmental, psychological, emotional and behavioral disorders of childhood. Applies family theories to understand the implications of these disorders for children and families. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | L | Prerequisite(s): CDE 232 or PSY 101 with C or better; ENG 101, 102, 105, 107, or 108 with C or better; FAS 331; minimum 45 hours OR Visiting University Student |
| CDE | 469 | Multivariate Statistics for Social Sciences | Provides instruction and hands-on experience with statistical methods for examining the effects of multiple variables. Focuses on multivariate techniques and how statistical techniques can lead to a better understanding of substantive issues. As this is an applied course, lectures and coursework focus more on the application and interpretation of multivariate techniques than on the mathematics behind the statistical techniques. Topics typically include data visualization, correlation, simple regression, multiple regression, logistic regression, multinomial regression, ordinal regression, and principal component analysis. Also teaches how to conduct these statistical techniques and undertake basic programming in the R computer program. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): DAT 300, ECN 221, GIS 270, PSY 230, SOC 390, or STP 226 with C or better; Credit is allowed for only CDE 469 or GIS 469 or SOC 469 or CDE 498/GIS 494 (Multivariate Statistics for Social Sciences) OR Visiting University Student |
| CDE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | |
| CDE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| CDE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | |
| CDE | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-6 | | Prerequisite(s): Barrett Honors student |
| CDE | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-7 | | |
| CDE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-3 | | |
| CDE | 501 | Social Statistics | Understands and uses statistics for applications in the social sciences. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): Degree- or Nondegree-seeking graduate; Credit is allowed for only CDE 501, SOC 501 or SOC 598 (Statistics for Social Sciences) |
| CDE | 531 | Theoretical Issues in Child Development | Major developmental theories, related research, and their application to family interaction. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 533 | Research Issues in Child Development | In-depth exploration and critique of research focusing on child development in a family setting. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 534 | Risk and Resilience in Children and Adolescents | Integrates child development, family theory, and research to understand risk and resilience in children and adolescents. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisites: CDE 531; FAS 500 |
| CDE | 570 | Child Development for Infant Family Practice | Examines development during infancy and early childhood with an emphasis on social and emotional development, mental health, and early parent-child relationships. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-IFP student |
| CDE | 571 | Infant Mental Health for Infant Family Practice | Surveys the biological and environmental risk factors that jeopardize the mental health of infants and young childre; overview of prevention and intervention strategies. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-IFP student |
| CDE | 572 | Assessment of Infants, Toddlers, and Families for Infant Family Practice | Developmentally appropriate assessment of mental disorders and developmental disabilities in infants, toddlers, and preschool children and parent-child relationships. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-IFP student |
| CDE | 573 | Cultural Competence for Infant Family Practice | Examines cultural issues impacting parent-child relationships and child rearing and the effectiveness of infant mental health and early intervention services on families of various ethnic and cultural backgrounds. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-IFP student |
| CDE | 574 | Observation and Reflection for Infant-Family Practice | Strategies for observing infant behavior and parent-child relationships and skills for reflective, relationship-based intervention. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-IFP student |
| CDE | 575 | Advanced Observation and Reflection for Infant-Family Practice | Advanced strategies for observing infant behavior and parent-child relationships and skills for reflective relationship-based intervention. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-IFP student |
| CDE | 576 | Applied Research Methods for Infant Family Practice | Survey and critical examination of child development, parent-child relationships, family relationships, and early intervention research and the application to IFP. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-IFP student |
| CDE | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|----------------------------------|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| CDE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 610 | Gender Development | Examines current theories and research concerning the various aspects of gender and developmental change. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 612 | Children's Peer Relationships | Studies scientific theory, research, and evidence on peer relationships and social competence from early childhood through adolescence. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite(s): CDE 531 with C or better |
| CDE | 634 | Prevention and Child Development | Advanced training in research and theory-based approaches to developing and evaluating prevention programs for children at risk. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite: CDE 534 |
| CDE | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 783 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDH | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| CDH | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| CDH | 501 | Digital Humanities: Critical Theory and Methods | Digital technologies are now intricately woven into our lives--whether it's in terms of authoring a paper in a text editor, sending texts and emails, or doing data analysis. Popular narratives of the "big" and the "new" celebrate and sometimes bemoan the ways that these tools shape our communication, access to information, habits and even our physical bodies. Focuses on the histories of these technologies, their operations, popular conceptions about such tools, and their affordances and limits for humanities scholarship. Students learn how to leverage digital technologies, but also how to critically read them. Broad ranging; in addition to surveying the "big tent," students are encouraged to utilize their final projects to engage with specific disciplinary digital tools and methods relevant to their scholarly work. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CDH 501 or HST 504 or REL 504 |
| CDH | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDH | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDH | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CDH | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CED | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-4 | | |
| CED | 250 | Career Development | Covers models of the individual, the world of work, and decision making with emphasis on individual application. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| CED | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | |
| CED | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-4 | | |
| CED | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-3 | | |
| CED | 501 | Intro to Research and Evaluation in Counseling | Introduction to the basic models of research and evaluation in the field of counseling. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CED 501 or CED 591 (Counseling Research & Evaluation) |
| CED | 502 | Counseling Research Data Analysis | Descriptive statistics, visual approaches, estimation, and inferential methods for univariate and bivariate counseling research problems using statistical software. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CED 502 or CED 591 (Counseling Research Data Analysis) |
| CED | 510 | Introduction to School Counseling | Provides a basic introduction to school counseling at the elementary, middle and high school levels. Gives students an overview of current trends in school counseling on local, state and national levels. Topics include: (a) historical basis for school counseling; (b) the reformation from a mental health model; (c) the assessment of school guidance needs; (d) planning, implementing and evaluating a guidance program based on the National Model of the American School Counseling Association (ASCA); (e) professional organizations; and (f) overview of the ASCA Model Components, with emphasis on "define" and "manage." | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): Counseling (School Counseling) MC student |
| CED | 511 | Career Development and Advanced Educational Planning | Provides counseling students with an understanding of how career development occurs from various theoretical standpoints, while also taking into consideration the unique contribution of other life aspects to career development. In addition, exposes students to various career instruments that are often used in career counseling. Teaches students how to articulate their developing theory of how career development occurs; knowledge of career program development procedures and of the professional, legal and ethical considerations associated with career counseling. Also familiarizes students with the development, organization and administration of the school guidance program, K-12. Included are the principles upon which the program is built, appropriate procedures for successful program implementation, professional counselor strategies and behaviors and strategies for utilizing data-driven practices in school counseling. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): Counseling (School Counseling) MC student |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|--------------------------------------|-------|-----------------|--|
| CED | 522 | Theories of Counseling and Psychotherapy | Presents major theories of psychological intervention as well as underlying personality theory upon which they are based. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): Counseling MC or Counseling Psychology PhD student |
| CED | 523 | Psychological Tests | Standardized tests in the study of the individual, with emphasis on test score interpretation in counseling. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CED | 527 | Prevention and Consultation | Community focus with emphasis on outreach, prevention, psychoeducation, consulting, and advocacy from a systematic multicultural perspective. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): Counseling MC or Counseling Psychology PhD student; Credit is allowed for only CED 527 or CPY 660 |
| CED | 529 | Lifespan Human Development | Issues and models of human development as it occurs across the lifespan. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CED | 534 | Occupations and Careers | The world of work, career development, education, and training for occupational entry and mobility. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CED | 545 | Assessment and Diagnosis | Theory and methods commonly used to assess mental health diagnoses utilizing the most current version of the Diagnostic and Statistical Manual of Mental Disorders. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): Counseling MC or Counseling Psychology PhD student |
| CED | 567 | Group Dynamics and Counseling | Group process factors, theory, and diversity issues determining effective interaction in small groups. Emphasis placed on lecturettes, self awareness, and experiential components. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): Counseling MC or Counseling Psychology PhD student |
| CED | 577 | Counseling Prepracticum | Focus on racial, social, and cultural factors in the development of helping relationships through integration of cognitive and affective self-awareness with counseling skills. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): Counseling MC or Counseling Psychology PhD student |
| CED | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CED | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CED | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CED | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CED | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CED | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CED | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CED | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CED | 645 | Professional Issues and Ethics | Ethical, legal, and professional issues of concern to practitioners and researchers functioning in a variety of settings. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or postbaccalaureate student; Credit is allowed for only CED 645 or CPY 645 |
| CED | 671 | Multicultural Counseling | Provides awareness of the influence of sociocultural variables on human development and explores implications for counseling minority populations. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate student; Credit is allowed for only CED 671 or CPY 671 |
| CED | 672 | Couple and Family Counseling | Couple and family counseling theories. Emphasizes a systems-communication model utilizing cocounseling. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CED | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): Counseling graduate student |

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| CED | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): Counseling graduate student |
| CED | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CED | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CED | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CED | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CED | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CEE | 181 | Technological, Social, and Sustainable Systems | Introduces the importance and role of technological, social, and sustainable systems in the modern world. Provides a framework for the theory and practice of sustainable engineering. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | HU | Credit is allowed for only CEE 181 or FSE 181 or SOS 181 |
| CEE | 210 | Engineering Mechanics I: Statics | Force systems, resultants, equilibrium, distributed forces, area moments, fluid statics, internal forces, friction, and stability. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): FSE 100 with C or better; MAT 266 or 271 with C or better; PHY 121 with C or better; PHY 122 with C or better; Corequisite(s): MAT 242; Credit is allowed for only CEE 210 or CNE 210 OR Visiting University Student |
| CEE | 212 | Engineering Mechanics II: Dynamics | Kinematics and kinetics of particles, translating and rotating coordinate systems, rigid body kinematics, dynamics of systems of particles and rigid bodies, and energy and momentum principles. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): CEE 210 or CNE 210 with C or better; MAT 242 with C or better; MAT 274 or 275 with C or better; Credit is allowed for only CEE 212 or CNE 212 OR Visiting University Student |
| CEE | 213 | Introduction to Deformable Solids | Strain-displacement and stress-strain-temperature relations. Stresses and deformations due to axial, shear, torsional and bending moments. Buckling, stability. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): CEE 210, CNE 210, or EVE 214 with C or better; MAT 274 or 275 with C or better; Credit is allowed for only CEE 213 or CNE 213 OR Visiting University Student |
| CEE | 281 | Surveying | Theory and fieldwork in construction and land surveys. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): MAT 170 or higher with C or better; Credit is allowed for only CEE 281 or CNE 241 or CON 241 OR Visiting University Student |
| CEE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-4 | | |
| CEE | 300 | Engineering Business Practice | Engineering economic principles, cost/benefit analysis, project financing and delivery, management of engineering design, business practices, ethical and professional responsibilities. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | L | Prerequisite(s): Engineering BSE major; ENG 101, 105, or 107 with C or better; MAT 267 with C or better; minimum junior standing OR Visiting University Student |
| CEE | 321 | Structural Analysis and Design | Statically determinate and indeterminate structures (trusses, beams, and frames) by classical and matrix methods. Introduces structural design. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 4 | | Prerequisite(s): Civil Engineering BSE or Construction Engineering BSE major; CEE 212 or CNE 212; CEE 213 or CNE 213 with C or better; Credit is allowed for only CEE 321 or CNE 321 OR Visiting University Student |
| CEE | 341 | Fluid Mechanics for Civil Engineers | Fundamental principles and methods of fluid mechanics forming the analytical basis for water resources engineering. Conduit and open channel flow. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 4 | | Prerequisite(s): Civil Engr BSE major; CEE 212 with C or better; CEE 213 with C or better OR Environmental Engr BSE major; EVE 214 with C or better; Pre- or corequisite(s): CEE 384 or MAE 384 with C or better if completed OR Visiting University Student |

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| CEE | 351 | Geotechnical Engineering | Index properties and engineering characteristics of soils. Compaction, permeability and seepage, compressibility and settlement, and shear strength. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 4 | | Prerequisite(s): Civil Engrng BSE, Construction Engrng BSE, or Environmental Engrng BSE major; CEE 212 or CNE 212 with C or better; CEE 213 or CNE 213 with C or better; Credit is allowed for only CEE 351 or CNE 351 OR Visiting University Student |
| CEE | 353 | Civil Engineering Materials | Structure and behavior of civil engineering materials, including steel, aggregate, concrete, masonry, asphalt, wood, composites. Atomic structure and engineering applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 4 | | Prerequisite(s): Civil Engr BSE, Construction Engr BSE, or Environmental Engr BSE major; CEE 213 or CNE 213 w/C or better; Credit is allowed for only CEE 353 or CNE 353 or EVE 354 or EVE 394 (Materials in the Environment) OR Visiting University Student |
| CEE | 361 | Introduction to Environmental Engineering | Concepts of air and water pollution; environmental regulation, risk assessment, chemistry, water quality modeling, water and wastewater treatment systems designs. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 4 | | Prerequisite(s): Fulton Engineering undergraduate student; CEE 213 with C or better; CHM 114 or 116; Pre- or corequisite(s): IEE 380 OR Visiting University Student |
| CEE | 372 | Transportation Engineering | Fundamental background of highway and traffic engineering in the areas of planning, design, and operations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE major; CEE 212 with C or better; CEE 213 with C or better; Pre- or corequisite(s): IEE 380 OR Visiting University Student |
| CEE | 384 | Numerical Methods for Engineers | Numerical methods and computational tools for selected problems in engineering. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | CS | Prerequisite(s): Fulton Engineering major; MAT 274 or 275 with C or better; MAT 242 or 343 (or 342 for non-MAE major) with C or better; Pre- or corequisite(s): MAT 267 or 272 with C or better if completed OR Visiting University Student |
| CEE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-4 | | |
| CEE | 400 | Earth Systems Engineering and Management | Introduces earth systems engineering and management, and the technological, economic and cultural systems underlying the terraformed Earth. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | (L or HU) & H | Prerequisite(s): Civil Engr BSE major; CEE 300 with C or better; ENG 101, 105, or 107 with C or better OR non-CEE junior or senior; ENG 101, 105, or 107 with C or better; Credit is allowed for only CEE 400 or CNE 400 OR Visiting University Student |
| CEE | 412 | Pavement Analysis and Design | Design of flexible and rigid pavements for highways and airports. Surface, base, and subgrade courses. Cost analysis and pavement selection. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE major; CEE 351 with C or better; CEE 353 with C or better; Credit is allowed for only CEE 412 or 511 OR Visiting University Student |
| CEE | 420 | Steel Structures | Behavior of structural components and systems. Design of steel members and connections. Load and resistance factor design methods. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE or Construction Engineering BSE major; CEE 321 or CNE 321 with C or better; CEE 353 or CNE 353 with C or better; Credit is allowed for only CEE 420 or CNE 420 OR Visiting University Student |
| CEE | 421 | Concrete Structures | Behavior of concrete structures and the design of reinforced and prestressed concrete members, including footings. Partial design of concrete building system. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE or Construction Engineering BSE major; CEE 321 or CNE 321 with C or better; CEE 353 or CNE 353 with C or better; Credit is allowed for only CEE 421 or CNE 421 OR Visiting University Student |
| CEE | 423 | Structural Design | Analysis and design of reinforced concrete steel, masonry, and timber structures. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE major; CEE 421 with C or better; Pre- or corequisite(s): CEE 420 with C or better if completed |
| CEE | 432 | Developing Software for Engineering Applications | Matrix and computer applications to structural engineering and structural mechanics. Stiffness and flexibility methods, finite elements, and differences. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE major; CEE 321 with C or better; Credit is allowed for only CEE 432 or CEE 532 |

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| CEE | 440 | Hydrology | Descriptive and quantitative hydrology; hydrologic cycle, models, and systems. Rain-runoff models. Hydrologic design. Concepts, properties, and basic equations of groundwater flow. Emphasizes quantitative methods. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): CEE 341 or MEE 340 or GLG 362 with C or better; Credit is allowed for only CEE 440 or CEE 545 or CEE 598 (Hydrology) or GLG 471 or GLG 490 (Hydrology) OR Visiting University Student |
| CEE | 441 | Water Resources Engineering | Applies the principles of hydraulics and hydrology to the engineering of water resources projects; design and operation of water resources systems; water quality. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE or Environmental Engineering BSE major; CEE 341 with C or better; Credit is allowed for only CEE 441 or CEE 544 or CEE 598 (Water Resources Eng) OR Visiting University Student |
| CEE | 452 | Foundations | Applies soil mechanics to foundation and retaining wall systems, including bearing capacity, settlement, and lateral earth pressure. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE major or Construction Engineering major; CEE 351 or CNE 351 with C or better; Credit is allowed for only CEE 452 or CNE 452 OR Visiting University Student |
| CEE | 453 | Earth Structures Engineering | Principles and design considerations of earth structures. Slope stability, compaction, earth retaining structures embankments, and earthen dams. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE or Construction Engineering BSE major; CEE 351 or CNE 351; Credit is allowed for only CEE 453 or CEE 494 (Earth Structures) or CEE 598 (Earth Structures) OR Visiting University Student |
| CEE | 462 | Unit Operations in Environmental Engineering | Design and operation of unit processes for water and wastewater treatment. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prereq(s):Civ Engr BSE maj; CEE 361 w/C or better OR Enviro Engr BSE maj; EVE 302 w/C or better; Credit is allowed for only CEE 462 or EVE 461 or EVE 465 or EVE 494 (Unit Ops Drinking Water) or EVE 494 (Unit Ops Wastewater) OR Visiting University Student |
| CEE | 466 | Urban Water System Design | Capacity; planning and design of water supply; domestic and storm drainage; and solid waste systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE major; CEE 341 with C or better; CEE 361 with C or better OR Environmental Engineering BSE major; CEE 341 with C or better; EVE 261 with C or better OR Visiting University Student |
| CEE | 467 | Environmental Microbiology | Overview of the microbiology of natural and human-impacted environment, microbial detection methodologies, waterborne disease outbreaks, risk assessment, and regulations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE major; CEE 361 or MIC 220 with C or better OR Environmental Engineering BSE major; EVE 303 with C or better; Credit is allowed for only CEE 467 or CEE 567 OR Visiting University Student |
| CEE | 470 | Sustainable Environmental Biotechnologies | Introduces principles of green chemistry and green engineering and their integration in the design of sustainable bioengineering and biotechnology applications that protect environmental quality and human health. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): CEE 361; Credit is allowed for only CEE 470 or CEE 494 (Sustainable Environmental Biotechnologies) or CEE 570 or CEE 598 (Sustainable Environmental Biotechnologies) OR Visiting University Student |
| CEE | 474 | Transportation Systems Planning | Transportation systems modeling procedures, travel characteristics analysis, traffic predictions, transportation systems management, and transit planning methods. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE major; CEE 372 with C or better; CEE 384 with C or better; Credit is allowed for only CEE 474 or CEE 574 or CEE 598 (Transportation Systems Planning) OR Visiting University Student |
| CEE | 475 | Highway Geometric Design | Design of visible elements of roadway, design controls, at-grade intersections, freeways, and interchanges. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE major; CEE 372 with C or better; Credit is allowed for only CEE 475 or CEE 576 |
| CEE | 481 | Civil Engineering Project Management | Civil engineering project management and administration, planning and scheduling, cost estimating and bidding strategies, financial management, quality control and safety, and computer applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE major; CEE 321 with C or better; CEE 351 with C or better; CEE 372 with C or better; Credit is allowed for only CEE 481 or CEE 585 |

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| CEE | 483 | Highway Materials, Construction, and Quality | Properties of highway materials, including aggregates, asphalt concrete, and portland cement concrete; construction practice; material delivery, placement, and compaction; quality control. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE major; CEE 351 with C or better; CEE 353 with C or better; CEE 372 with C or better; Credit is allowed for only CEE 483 or CEE 583 OR Visiting University Student |
| CEE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-12 | | |
| CEE | 485 | Sustainable Civil and Environmental Systems Engineering | Provides working knowledge of operations research methodologies, both the traditional and more modern metaheuristic techniques, to evaluate sustainable civil engineering systems and quantitatively evaluate project alternatives involving single or multiple goals. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering BSE major; CEE 300; MAT 242 with C or better |
| CEE | 486 | Integrated Civil Engineering Design | Requires completion of a civil engineering design in a simulated practicing engineering environment. Limited to undergraduates in their final semester. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 4 | L | Prereq(s): ENG 101, 105, or 107 with C or better; Civil Engr; CEE 321; CEE 341; CEE 351; CEE 353; CEE 361; CEE 372 OR Constr Engr; CEE 321, CNE 321; CEE 351, CNE 351 OR Envir Engr; CEE 341; EVE 302; EVE 303; Credit is allowed for only CEE 486 or CNE 486 |
| CEE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-6 | | Prerequisite(s): Barrett Honors student |
| CEE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-6 | L | Prerequisite(s): Barrett Honors Engineering student; ENG 101, 105, or 107 with C or better |
| CEE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-4 | | |
| CEE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-3 | | |
| CEE | 501 | Machine Learning Techniques in Civil Engineering | General field of machine learning and deep learning, covering key principles, methods and tools. A mix of hands on coding and applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil, Environmental, and Sustainable Engineering graduate student or Data Science, Analytics and Engineering MS student or Environmental Engineering MS student |
| CEE | 502 | Front-End Planning | Principles and applications for effective early planning of capital facilities, including: finance, economics decision making, risk management, team alignment and front-end planning processes and tools. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): graduate Civil Engineering or Construction or Construction Engineering student; Credit is allowed for only CEE 502 or CON 502 or CON 598 (Front End Planning) or CEE 598 (Front End Planning) |
| CEE | 506 | Life Cycle Assessment for Civil Systems | Covers fundamental and advanced concepts of the life cycle assessment framework exploring products, services, activities and infrastructure systems. Examines key concepts for system boundary selection, functional unit selection, inventorying, impact assessment and interpretation stages with a focus on energy and environmental assessment. Advanced concepts include allocation of effects, problem formulation for assessing footprints versus decisions or policies, and assessment of infrastructure interdependencies and supply chains. Exposes tools and data sources and presents approaches for evaluation of sensitivity and uncertainty of results. Encourages students with broad sustainability interests to enroll and explore how life cycle assessment can aid their work by shifting their views from direct to cradle-to-grave effects. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only CEE 506 or CEE 598 (Lifecycle Assessment) or SOS 546 or SOS 598 (Lifecycle Assessment) |

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| CEE | 507 | Urban Infrastructure Anatomy and Sustainable Development | Understanding how built environment infrastructure systems interact with ecosystem services is critical for policies and decisions directing urban sustainability. Brings together students from several disciplines to develop a semester-long research project focused on a particular urban sustainability problem in Phoenix. During the semester, students are given background on how infrastructure systems work and are interdependent, and explore tools and methods for urban sustainability assessment with peers from several disciplines. As a class, students evaluate a particular urban sustainability problem for Phoenix, interact with local policy and decision makers in developing solutions, and present their findings at the end of the semester to the ASU community. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): degree-or nondegree-seeking graduate. Credit for only CEE 507 or 598(Urban Infrastruct Anatomy/Sustainable Dev) or PUP553 or 598(Urban Infrastruct Anatomy/Sustainable Dev) or SOS547 or SOS598 (Urban Infrastr Anatomy & Sustain Dev) |
| CEE | 511 | Pavement Analysis and Design | Design of flexible and rigid pavements for highways and airports. Surface, base, and subgrade courses. Cost analysis and pavement selection. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering or Construction Engineering graduate student; Credit is allowed for only CEE 412 or CEE 511 |
| CEE | 512 | Pavement Performance and Management | Pavement management systems, including data collection, evaluation, optimization, economic analysis, and computer applications for highway and airport design. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil Engineering or Construction Engineering graduate student |
| CEE | 513 | Pavement Evaluation, Maintenance, and Rehabilitation | Provides the necessary information for pavement engineers to evaluate, identify, and select reliable and cost-effective rehabilitation alternatives for existing Hot Mix Asphalt (HMA) and Portland Cement Concrete (PCC) pavements. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Civil, Environmental, and Sustainable Engineering Graduate student |
| CEE | 514 | Bituminous Materials and Mixture | Types of bituminous materials used in pavement mixtures. Chemical composition, physical properties, desirable aggregate characteristics, optimum asphalt contents, superpave asphalt binder, mixture design. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Graduate Civil Engineering student |
| CEE | 515 | Properties of Concrete | Materials science of concrete. Cement chemistry, mechanisms of hydration, interrelationships among micro- and macro-properties of cement-based materials. Mechanical properties, failure theories, fracture mechanics of concrete materials. Cement-based composite materials and the durability aspects. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Engineering CEE or Construction Engineering graduate student |
| CEE | 516 | Sustainable Energy and Material Use | Sustainable engineering; overall energy needs and impacts; thermodynamics, heat transfer, and fluid mechanisms; atmospheric energy systems; field investigation; current and future urban energy systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil, Environmental, and Sustainable Engineering graduate student; Credit is allowed for only CEE 516 or SOS 534 |
| CEE | 520 | VLSI Design for Reliability | Modeling and design solutions for very large-scale integration (VLSI) reliability. Statistical design under static and dynamic variability. Aging effects and resilient design techniques. Radiation effects in VLSI. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student; Credit is allowed for only CEE 520 or EEE 520 or EEE 598 (VLSI Design for Reliability) |
| CEE | 521 | Stress Analysis | Introduces tensors: kinematics, stress analysis, and constitutive assumptions leading to elastic and plastic behavior. Strain energy and energy methods; applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only CEE 521 or MAE 520 |
| CEE | 523 | Structural Damage | Fundamental mechanisms of damage in infrastructural materials from both imposed mechanical and environmental loading. Covers assessment of damage through noninvasive tools involving stress-wave, electrical, electro-chemical, radiographic and optical techniques. Methods for strengthening of structural elements and selected methods of design of strengthening systems for concrete and steel structures. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): graduate Civil or Construction Engineering student; Credit is allowed for only CEE 523 or CEE 598 (Structural Damage Evaluation and Strengthening) |
| CEE | 524 | Advanced Steel Structures | Strength properties of steel and their effects on structural behavior. Elastic design of steel structures. Plastic analysis and design of beams, frames, and bents. Plastic deflections. Plastic design requirements. Multistory buildings. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Engineering CEE Graduate student |
| CEE | 525 | Composites for Infrastructure | Composites could be continuous laminates and FRP as well as cement-based composites, including random and heterogeneous such as fiber-reinforced concrete and asphalt, or new technologies in terms of ultra-high performance concrete and textile fiber reinforced concrete as well as other CEE-based FRP composites. Uses effective media theories to predict the mechanical properties of composite laminate theory as the basis. Failure theories for these random and oriented composite materials, the influence of phase fractions and their distribution including the porosity, stochastic treatment of random heterogeneous composites, and fracture mechanics of the composites. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CEE 525 or CEE 598 (Design of Composites for Infrastructure) |

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| CEE | 526 | Finite Elements for Engineers | Direct stiffness, method of weighted residuals, weak formulation, and variational techniques in the solution of engineering problems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): graduate Engineering student; APM 505 or MAE 501 with C or better; Credit is allowed for only CEE 526 or MAE 527 |
| CEE | 527 | Advanced Concrete Structures | Ultimate strength design. Combined shear and torsion. Serviceability. Plastic analysis. Special systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Engineering CEE or Construction Engineering graduate student |
| CEE | 528 | Advanced Mechanics of Materials | Covers topics in advanced mechanics of materials, including theories of stress and strain, plane elasticity problems, failure criteria, beam bending and torsion, energy methods, plasticity in steel and concrete, linear and nonlinear viscoelastic behavior. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CEE 528 or CEE 598 (Advanced Mechanics of Materials) |
| CEE | 530 | Prestressed Concrete | Materials and methods of prestressing. Analysis and design for flexure, shear, and torsion. Prestress losses due to friction, creep, shrinkage, and anchorage set. Statically indeterminate structures. Design of flat slabs, bridges, and composite beams. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Engineering CEE or Construction Engineering graduate student |
| CEE | 532 | Developing Software for Engineering Applications | Fundamentals of engineering software development and object-oriented programming. Programming in C++. Development of matrix toolbox. Introduces finite element method. Computer graphics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Engineering CEE or Construction Engineering graduate student; Credit is allowed for only CEE 432 or CEE 532 |
| CEE | 533 | Structural Optimization | Linear and nonlinear programming. Problem formulation. Design sensitivity analysis. FEM-based optimal design of structural and mechanical systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; MAE 501 with C or better; Credit is allowed for only CEE 533 or EEE 589 or MAE 521 |
| CEE | 536 | Structural Dynamics for Civil Engineering | Free vibration and forced response of discrete and continuous systems, exact and approximate methods of solution, response spectra, computational techniques, special topics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Construction Engineering or Engineering CEE graduate student |
| CEE | 540 | Groundwater Hydrology | Physical properties of aquifers, well pumping, subsurface flow modeling, unsaturated flow, numerical methods, land subsidence, and groundwater pollution. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Engineering CEE Graduate student |
| CEE | 541 | Surface Water Hydrology | Hydrologic cycle and mechanisms, including precipitation, evaporation, and transpiration; hydrograph analysis; flood routing; statistical methods in hydrology and hydrologic design. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Engineering CEE Graduate student |
| CEE | 543 | Water Resources Systems | Theory and application of quantitative planning methodologies for the design and operation of water resources systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Engineering CEE Graduate student |
| CEE | 544 | Water Resources Engineering | Applies fundamental conservation laws of fluid mechanics to open channel flow. Uses the governing physical equations of open channel flow to solve a range of engineering problems, including design of canals, computation of water surface profile, design of spillways, stilling basins and energy dissipators. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CEE 441 or CEE 544 or CEE 598 (Water Resources Eng) |
| CEE | 545 | Hydrology | Descriptive and quantitative hydrology; hydrologic cycle, models and systems. Rain-runoff models. Hydrologic design. Concepts, properties and basic equations of groundwater flow. Emphasizes quantitative methods. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil, Environmental and Sustainable Engineering MS, MSE or PhD major; Credit is allowed for only CEE 440 or CEE 545 or CEE 598 (Hydrology) or GLG 471 or GLG 490 (Hydrology) |
| CEE | 546 | Advanced Watershed Hydrology | Watershed processes leading to runoff generation and the transformation of meteorological forcing through a hydrologic system. Emphasizes physical mechanisms and their treatment in numerical models. Quantification of uncertainty in hydrological modeling through probabilistic methods. Provides hands-on experience with data analysis and hydrologic models. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CEE 546 or GLG 546 or GLG 598 (Advanced Watershed Hydrology) |
| CEE | 548 | Advanced Environmental Analysis | Statistical methods used to describe, analyze, test and model environmental data. Specifically focuses on exploratory data analysis, the main probability distributions used to describe environmental data, hypothesis testing, time series analysis and multivariate data analysis. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEE | 549 | Ecohydrology of Semiarid Landscapes | Interactions between terrestrial plants and limiting resources in arid and semiarid environments. Temporal and spatial aspects of plant-water relations. Process-oriented discussion and examples using simple and complex numerical models. Provides experience with data analysis and instrumentation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CEE 549 or CEE 598 (Ecohydrology of Semiarid Landscapes) or GLG 549 or GLG 598 (Ecohydrology of Semiarid Landscapes) |
| CEE | 550 | Soil Behavior | Physicochemical aspects of soil behavior, stabilization of soils, and engineering properties of soils. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Engineering CEE or Construction Engineering graduate student |
| CEE | 551 | Advanced Geotechnical Testing | Odometer, triaxial (static and cyclic) back pressure saturated and unsaturated samples, pore pressure measurements, closed-loop computer-controlled testing, in-situ testing, and sampling. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Engineering CEE or Construction Engineering graduate student |

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| CEE | 552 | Soil Improvement | Physical, chemical and biological methods for improving (modifying) the properties of the ground for engineering purposes; the applicability of these techniques to different ground conditions (e.g., sand, silt, clay) and design objectives (e.g., erosion control, stability, liquefaction mitigation); design of ground improvement programs for common ground modification techniques used in practice. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): graduate Civil Engineering student; Credit is allowed for only CEE 552 or CEE 598 (Soil Improvement) |
| CEE | 553 | Advanced Soil Mechanics | Applies theories of elasticity and plasticity to soils, theories of consolidation, failure theories, and response to static and dynamic loading. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Engineering CEE or Construction Engineering graduate student |
| CEE | 554 | Shear Strength and Slope Stability | Shear strength of saturated and unsaturated soils strength-deformation relationships, time-dependent strength parameters, effects of sampling, and advanced slope stability. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Engineering CEE or Construction Engineering graduate student |
| CEE | 555 | Advanced Foundations | Deep foundations, braced excavations, anchored bulkheads, reinforced earth, and underpinning. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Engineering CEE Graduate student |
| CEE | 557 | Geoenvironmental Engineering | Environmental site assessment, solid waste management, waste containment system design, soil and groundwater remediation, soil erosion control, brownfields development. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Engineering CEE or Construction Engineering graduate student |
| CEE | 558 | Unsaturated Soil Mechanics | Advanced unsaturated soil mechanics theory, including introduction of stress-state variables and constitutive relationships for unsaturated flow and stress-strain applications. Knowledge of CEE 351 or equivalent material is required to be successful in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Civil, Environmental, and Sustainable Engineering Graduate student |
| CEE | 559 | Geotechnical Earthquake Engineering | Characteristics of earthquake motions, selection of design earthquakes, site response analyses, seismic slope stability, and liquefaction. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Engineering CEE or Construction Engineering graduate student |
| CEE | 560 | Soil and Groundwater Remediation | Presents techniques for remediation of contaminated soils and groundwaters with basic engineering principles. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Engineering CEE Graduate student |
| CEE | 561 | Physical-Chemical Treatment of Water and Waste | Theory and design of physical and chemical processes for the treatment of water and wastewaters. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3-4 | | Pre-requisite: Engineering CEE Graduate student |
| CEE | 562 | Environmental Biochemistry and Waste Treatment | Theory and design of biological waste treatment systems. Pollution and environmental assimilation of wastes. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3-4 | | Pre-requisite: Engineering CEE Graduate student |
| CEE | 563 | Environmental Engineering Chemistry | Analyzes water, domestic and industrial wastes, lab procedures for pollution evaluation, and the control of water and waste treatment processes. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Engineering CEE Graduate student |
| CEE | 564 | Contaminant Fate and Transport | Fate and transport processes with emphasis on governing equations and parameters relevant to the migration of chemicals in the environment. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Engineering CEE Graduate student |
| CEE | 565 | Advanced Environmental Biotechnology | Emerging topics in environmental biotechnology and related problem-solving techniques. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; CEE 562; CEE 567 |
| CEE | 566 | Water Reuse and Reclamation | Reuse and reclamation of water, tertiary treatment technologies of water for reuse applications, cloth filtration and UV disinfection, agricultural reuse and engineering, landscape irrigation, industrial reuse, environmental restoration, groundwater recharge, direct and indirect potable reuse, water reuse planning and dual distribution systems, storage requirements. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CEE 566 or CEE 598 (Water Reuse & Reclaim) |
| CEE | 567 | Environmental Microbiology | Overview of the microbiology of natural and human-impacted environment, microbial detection methodologies, waterborne disease outbreaks, risk assessment, and regulations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisites: Engineering CEE Graduate student; Credit is allowed for only CEE 467 or 567 |
| CEE | 569 | Air Quality Engineering | Chemical and physical processes by which air pollutants are generated and controlled with an emphasis on urban air quality. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only CEE 569 or CHE 469 or CHE 569 |
| CEE | 570 | Sustainable Environmental Biotechnologies | Introduces principles of green chemistry and green engineering and their integration in the design of sustainable bioengineering and biotechnology applications that protect environmental quality and human health. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisites: Civil, Environmental and Sustainable Engineering MS, MSE or PhD student; Credit is allowed for only CEE 470, 494 (Sustainable Environmental Biotechnologies), 570 or 598 (Sustainable Environmental Biotechnologies) |
| CEE | 573 | Transportation Operations | Driver, vehicle, and roadway characteristics; traffic control devices; traffic engineering studies; and transportation system management measures. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Engineering CEE Graduate student |

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| CEE | 574 | Transportation Systems Planning | Planning; energy and environment; sustainability and climate change; past, present and future technologies; demand analysis; economic theory; network analysis and system optimization. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil, Environmental, and Sustainable Engineering or Construction Engineering graduate student; Credit is allowed for only CEE 474 or CEE 574 or CEE 598 (Transportation Systems Planning) |
| CEE | 576 | Highway Geometric Design | Design of visible elements of roadway, design controls, at-grade intersections, freeways, and interchanges. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Engineering CEE Graduate student; Credit is allowed for only CEE 475 or 576 |
| CEE | 578 | Activity-Travel Behavior Modeling | Regression and discrete choice models of activity-travel behavior for transportation demand forecasting; computational travel forecasting methods and statistical modeling tools based on the principles of microsimulation; interpretation and use of econometric model outputs for transportation planning and policy analyses. | N | LEC | N | OP3 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only CEE 578 or CEE 598 (Activity Travel Behavior Model) |
| CEE | 579 | Transportation Data Collection and Analysis Methods | Types of transportation data; travel survey data collection and analysis methods to support transportation planning and modeling; sampling methods, experimental design, survey methodology and classic exploratory statistical analysis of travel survey data. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only CEE 579 or CEE 598 (Transportation Data Collection and Analysis) |
| CEE | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | N | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-12 | | Pre-requisite: Engineering CEE Graduate student |
| CEE | 581 | Advanced Earth Systems Engineering and Management | Advanced introduction to earth systems engineering and management, and the technological, economic and cultural systems underlying the terraformed Earth. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Pre-requisite: Civil, Environmental, and Sustainable Engineering Graduate student; Credit is allowed for only CEE 581 or SOS 552 |
| CEE | 582 | Industrial Ecology and Design for Sustainability | The conceptual, ethical, and practical challenges in the design, manufacture, and life cycle performance of products; environmental evaluation via materials flow analysis and life cycle assessment; global economic, environmental, cultural, and social aspects of competitive and functional product development and manufacture. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): Civil, Environmental, and Sustainable Engineering graduate student; Credit is allowed for only CEE 582 or SOS 515 |
| CEE | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-12 | | Prerequisite(s): Civil, Environmental, and Sustainable Engineering or Construction Engineering graduate student; Credit is allowed for only CEE 483 or CEE 583 |
| CEE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-12 | | Pre-requisite: Civil, Environmental, and Sustainable Engineering Graduate student |
| CEE | 585 | Civil Engineering Project Management | Civil engineering project management and administration, planning and scheduling, cost estimating and bidding strategies, financial management, quality control and safety, and computer applications. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): MS, MSE or PhD Civil, Environmental and Sustainable Engineering major. Credit is allowed for only CEE 481 or CEE 585 |
| CEE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | N | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-12 | | Pre-requisite: Civil Engineering MS or MSE student |
| CEE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-12 | | Pre-requisite: Engineering CEE Graduate student |
| CEE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-12 | | Pre-requisite: Civil Engineering MS or MSE student |
| CEE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-12 | | Pre-requisite: Civil, Environmental, and Sustainable Engineering Graduate student |
| CEE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1 | | Pre-requisite: Civil Engineering MS or MSE student |

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| CEE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-4 | | Prerequisite(s): Civil, Environmental, & Sustainable Engr MS, Civil, Environmental, & Sustainable Engr MSE, Civil, Environmental, & Sustainable Engr PhD, Construction Engr MSE, Environmental Engr MS, or Sustainable Engr MSE graduate student |
| CEE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | N | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-12 | | Pre-requisite: Civil Engineering MS or MSE student |
| CEE | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | N | IND | Y | OPT | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-12 | | Pre-requisite: Civil Engineering PhD student |
| CEE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | N | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-15 | | Pre-requisite: Civil Engineering PhD student |
| CEE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | IND | Y | Z3 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1 | | Pre-requisite: Civil Engineering PhD student |
| CEE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 1-15 | | Prerequisite(s): Civil Engineering PhD student |
| CEL | 100 | Great Ideas of Politics and Ethics | Introduces fundamental debates and ideas of politics in both the West and beyond. Surveys ancient, medieval and modern thinkers in the Greek, Jewish, Christian and Muslim traditions, tracing their influences on contemporary debates with focus on the great questions of human nature, social and political life, and the relationship between religion and politics. Studies both the ideas and historical statesmanship of such figures as Plato, Cicero, Tertullian, Aquinas, Saadyah Gaon, Maimonides, Al-Farabi, Ibn Rushd (Averroes) and Al-Ghazali, as well as various leaders and writers from modernity in America and abroad. Includes separate discussion to encourage active learning; expects students to write analytical papers and make a class presentation. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | HU | Credit is allowed for only CEL 100 or CEL 194 (Great Ideas of Politics and Ethics) |
| CEL | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-3 | | |
| CEL | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-4 | | |
| CEL | 200 | Great Debates in American Politics | Introduces fundamental ideas and debates about liberty and equality in American thought from the colonial era to the present, focusing on major political figures and issues--ideas that continue to shape political debates in 21st-century America, thus providing crucial foundations for future leadership roles in either public affairs or the private sector. A major theme is the tension between liberty and equality and between constitutionalism and democracy, in three centuries as a democratic, commercial republic. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | HU | |
| CEL | 235 | Debating American Constitutionalism | Examines the arguments and questions raised during the debates over the 1787 Constitution, which provide resources to understand and contribute to contemporary political debates. Reviews fundamental issues such as political power, federalism, republicanism, representation, separation of powers, protection of rights, slavery and the character of the people and their leaders. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | HU | Credit is allowed for only CEL 235 or CEL 294 (Federalists, Anti-Federalists & Enduring Debate) |
| CEL | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-4 | | |

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| CEL | 300 | Debating Capitalism | Explores and debates the politics, economics and morality of "capitalism"--the system of society that allows space for markets, profit-seeking and money-making. Readings cover the period from antiquity to modern commercial society. Authors studied include Aristotle, the Apostles, Aquinas, Locke, Franklin, Smith, Marx and Weber. Also serves as a broad introduction to the study of political economy. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only CEL 300 or CEL 394 (Capitalism and Great Economic Debates) OR Visiting University Student |
| CEL | 304 | Classical to Modern Economic Thought | Provides an introduction to the schools of thought concerned with explaining and influencing economic activity. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s): ECN 211 or 213 with C or better; MAT 211 or 271 with C or better; Credit is allowed for only CEL 304 or ECN 304 or CEL/ECN 394 (Classical to Modern Economic Thought) OR Visiting University Student |
| CEL | 305 | Classical Political Statecraft | Examines political leadership, ambition and the common good in the texts of thinkers from the Ancient world. From thinkers as diverse as Sun Tzu, Thucydides and Tacitus, to Plato, Cicero and Dante, asks questions about the essence of the common good, justice and war as they were lived and discussed by the contemporaries of the age. Proceeds through discussion and student-led presentations of the enduring questions these texts raise. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| CEL | 320 | Modern Political Thought: Origins and Debates about Modern Liberty | Addresses key thinkers, texts and concepts that have played an influential role in the development of modern political thought. Students examine what modern thinkers have to say about various political and philosophical topics such as liberty, equality, the state of nature, natural rights, laws of nature, the social contract, democracy, republicanism, popular sovereignty, the purpose and limits of government, the relationship between politics and religion, and the relationship between reason and tradition. Students consider the extent to which these thinkers and their political thought have shaped--and should or should not inform--contemporary political life. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| CEL | 345 | Modern Economic Classics | Explores the ideas and writings of the leading economic thinkers of the last 100 years. Emphasizes those thinkers who have had a major impact on public policy. Thinkers covered include Keynes, Hayek, Schumpeter, Polanyi, Galbraith, Friedman and Piketty. Also attends to the way economics and, more generally, social science have increasingly shaped public policy over the course of the last century. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only CEL 345 or CEL 394 (Clsscs of Mod Ecnmic Thght:Smith to Hayek & Beyond) |
| CEL | 350 | Philosophy, Politics and Economics | Prepares the foundation for students to become active participants, as citizens and leaders, in a liberal democratic society that faces an uncertain future. Provides familiarity with core conceptual tools provided by philosophy, politics and economics, and an appreciation for the foundation they provide together to address social and political uncertainties we face today as well as in the future. Reliance on any one disciplinary set of tools and skills is useful, of course, but the real challenges of any liberal democracy are met by neither technocratic nor bureaucratic solutions. They require an awareness of the relevance of ethics, politics and economics, as well as an appreciation for the limitations of each and the necessity of thinking through their interactions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only CEL 350 or CEL 394 (Philosophy, Politics and Economics) OR Visiting University Student |
| CEL | 375 | Politics and Leadership in the Age of Revolutions, 1776-1826 | Examines political thought and political leadership in the era of the American, French, Haitian and Latin American Revolutions. Begins with a look at Enlightenment political thought, focusing on natural rights, constitutionalism and political economy. Then considers leading political ideas connected with each of the great upheavals that began with the American Revolution and ended, 50 years later, with the independence of Latin America. Examines the record of political leadership during the same episodes, via biographies of figures such as Washington and Jefferson, Sièyes and Robespierre, Toussaint and Napoleon, Bolivar and San Martin. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only CEL 375 or CEL 394 (Politics & Leadership in the Age of Revolution) |

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| CEL | 390 | Leading a Life of Meaning: Liberal Learning and You | Allows ASU students from a variety of disciplines to encounter liberal education, classic texts and Socratic seminars, in an intensive, supportive and beautiful environment. Explores a fundamental question: How do I live a life of meaning? Students read thinkers ranging from Aristotle, Plutarch and Cicero to Viktor Frankl, Toni Morrison and Marge Piercy--and brings to bear their own life experiences--to understand concepts of love, friendship, work, community, citizenship and identity in relation to living an examined life. Expands these studies through practical experiences of service work, meditation and film to create a vital cohort and intellectual community. A central assessment for the course, the Organic Reflective Assessment (ORA), is a series of prompts and responses designed to allow students to think about and receive feedback from professors regarding the practice and methods of liberal learning: how to read texts and annotate them, how to ask questions of authors, how to think about one's own life in relation to and using language from classic texts--on the idea that to use existing, perhaps even widely known, language and relate it to our lives is a way to make our ideas known to ourselves and others. Students have need to keep up with these responses during the retreat. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s): minimum 42 hours; Credit is allowed for only CEL 390 or CEL 394 (Leading a Life of Meaning) or CEL 394 (Living a Life of Meaning: Liberal Learning & You) OR Visiting University Student |
| CEL | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-4 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| CEL | 395 | Leadership and Service Global Intensive Experience: India | This Global Intensive Experience (GIE) is a practicum in global leadership and citizenship. Students return to ASU with new cultural and political knowledge, with skills in developing and implementing a bottom-up service project, with traveling and working as a team in new and challenging conditions, and with their character tested by experiences in urban Delhi and rural Rajasthan. | N | PRA | N | OPT | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s): minimum 42 hours; Credit is allowed for only CEL 194 (Gibl Intsve Exp India for New Class of Leader) or CEL 194/CEL 394 (GIE India Politics & Leadership) or CEL 394 (Leadership & Serv GIE India) or CEL 395 OR Visiting University Student |
| CEL | 429 | Studies in European Literature and Culture | Literary, cultural, and historical issues. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s) with C or better: ENG 101, 105, 107; ENG 200; one ENG 200- or 300-level literature course OR ENG 101, 105, 107; min 45 hours; Credit is allowed for only CEL 429 or ENG 429 or REL 429 or SLC 429 or THE 429 OR Visiting University Student |
| CEL | 475 | Statesmanship and American Grand Strategy | Discusses great ideas and figures in political leadership and statesmanship, from ancient Greece and early modern Europe to America's founding and the present global uncertainty, especially the major arguments about war, peace and international affairs--ideas that shape foreign policy and grand strategy debates in the 21st century, thus providing crucial foundations for future leadership roles. Major thinkers and episodes include Thucydides, Plutarch, Montesquieu, George Washington, Lincoln, Truman and the Cold War, and Reagan, as well as contemporary debates about America's post-Cold War strategies for its leadership role in global affairs. Incorporates a Marshall brief (a policy presentation) and a group simulation exercise. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only CEL 475 or CEL 494 (Statesmanship and American Grand Strategy) |
| CEL | 481 | Debating Globalism and Nationalism, Past and Present | Students deepen their understanding of the different and alternate political forms or bodies that communities have taken, including but not limited to national states and global empires, and what advocates and critics alike have said about the advantages and shortcomings of each. Students also examine the varieties of citizenship from the ancient and modern world, including different perspectives on what citizenship entails and how it is defined or delineated; what rights and/or responsibilities may be involved; and what such concepts as "global citizen" may or may not mean. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only CEL 194 (Globalism & Nationalism) or CEL 481 or CEL 494 (Globalism, Natl & Citznshp) or CEL 598 (Globalism, Natl & Citznshp) OR Visiting University Student |
| CEL | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-12 | | |
| CEL | 485 | Capstone Seminar in Civic and Economic Thought and Leadership | Integrates theory and practice by studying selected topics of the intellectual foundations for leadership with exemplars of leadership and statesmanship, culminating in a research presentation and paper. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 60 hours |
| CEL | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-6 | | |

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| CEL | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-6 | | |
| CEL | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-4 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| CEL | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-7 | | |
| CEL | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-3 | | |
| CEL | 501 | Literary Leaders | Examines literary leaders, both in respect to depictions of leadership in works of classical and compelling literature, as well as literary authors who led the way and set the standards in their respective genres. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEL | 503 | Classic Texts in Political Philosophy and Justice | Provides an overview of the four major periods of political thought--ancient, medieval, modern and post-modern--and engages students in close readings of classic texts from each of these periods. The concept of justice serves as an organizing theme, complemented by analyses of other political concepts such as virtue, the common good, natural law, rights, liberty and equality. Texts include: Plato's Republic, Aristotle, Politics, St. Thomas Aquinas' Summa Theologica, Machiavelli's The Prince, Thomas Hobbes' Leviathan, John Locke's Second Treatise of Government, Hamilton, Madison, Jay's The Federalist and John Rawls' A Theory of Justice. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEL | 510 | Classic Texts in Natural Science and Philosophy | Studies the development of natural philosophy and theories of scientific knowledge from Plato and Aristotle to Newton and Darwin. Gives particular attention to the period known as the Scientific Revolution, inspired most famously by Francis Bacon. Explores the relationships among natural philosophy, epistemology, moral philosophy and political philosophy. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEL | 513 | Classic Texts in Leadership and Statesmanship | Encounters classic texts featuring analyses and discussions of important historical leaders and their actions. These texts both situate examples of leadership and statesmanship in their historical context, and highlight timeless principles of wise and effective leadership. Texts include Thucydides' History of the Peloponnesian War, Plutarch's Lives, Cicero's On Duties, Shakespeare's histories, and the writings and speeches of Abraham Lincoln. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CEL 513 or ENG 513 |
| CEL | 520 | Classic Texts in the Foundations of Logic | Provides an introduction to the principles of logical thought through close readings of Euclid's Elements and Aristotle's Organon. Students learn and demonstrate Euclidean geometric proofs in class, and reflect in discussion upon the relationship between Euclidean geometry and the logical principles analyzed in Aristotle's works. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEL | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEL | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEL | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRO | Y | GNA | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEL | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEL | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand). | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-4 | | |
| CEL | 599 | Thesis | Supervised research focused on preparation of a thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Civic and Economic Thought and Leadership | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| CEN | 503 | Algorithms for Computer-Aided Design of Digital Systems | Provides the algorithmic underpinnings of CAD (Computer-Aided Design) tools for digital systems--from high-level algorithmic specifications down to an optimized network of logic cells. Covers the underlying theory and algorithms that have been incorporated into many commercial tools over the past two decades. Covers behavioral to RTL (Register-Transfer Level) synthesis, and from RTL to logic, including combinational and sequential network optimization, gate and interconnect timing models, retiming of sequential networks, clock tree design and optimization. To be successful in this course, students need an undergraduate background in combinational and sequential logic design, discrete mathematics, and a strong background (preferably at the graduate level) in fundamentals of data structures and algorithms; strong experience in programming (C or C++) and coding and documentation standards. (All code developed in class is in Python). | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Comp Scie or Comp Engrn or Elect Engrn graduate student; Credit is allowed for only CEN 503 or CEN 591 (Digital Logic Synthesis&Verifi) or CEN 598 (Algo Synth & Opt Digital Sys) or CSE 591 (Digital Logic Synthesis&Verifi) |
| CEN | 507 | Introduction to Digital Image Processing and Analysis | Core course with four sections for students seeking to concentrate in biomedical imaging informatics. The first section analyzes the concepts and terms of image processing and analysis. The second section evaluates key algorithms in image processing (e.g., image filtering, Fourier transform, image restoration). The third section examines advanced image analysis methods (e.g., image segmentation, mathematical morphology, image topology, shapes and boundaries, color processing, image coding and compression, wavelet, and special effects). The fourth section develops the practical applications of image processing and analysis in medicine and biology. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BMD 507 or BME 507 or BMI 507 or CEN 507 or CSE 507 |
| CEN | 571 | Hardware Acceleration and FPGA Computing | Graduate students collaboratively work on challenging class projects that focus on designing and optimizing hardware accelerators for computationally intensive algorithms to advance real-life applications. Topics include energy-delay models, timing, circuit optimization, architecture techniques, architecture flexibility, DSP arithmetic, data flow control, and field-programmable gate (FPGA) essentials. In order to be successful in this course, students should have prior knowledge of at least one of the following topics: (1) digital integrated circuits and VLSI systems; or (2) a domain of computational algorithms, e.g., digital signal processing, machine learning. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science, Computer Engineering, or Electrical Engineering graduate student; Credit is allowed for only CEN 571 or CEN 598 (Hardware Acceleration and FPGA Computing) |
| CEN | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | |
| CEN | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | |
| CEN | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEN | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEN | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEN | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | |
| CEN | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEN | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| CEN | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEN | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEN | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEN | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEN | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEN | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CEN | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CGF | 110 | Resilient American Futures: An Academic Road Trip | America's 2,400-mile Interstate 10 highway most acutely represents the frontline of our shared future. Connecting the fastest growing, most demographically diverse and most disaster-vulnerable U.S. cities from Los Angeles to Jacksonville, the I-10 provides a living observatory for understanding the present and envisioning more sustainable and inclusive futures. Pressing resilience problems impacting I-10 communities are well-documented in contemporary media and provide a rich resource for students to investigate how lives, communities and ecosystems are being impacted by climate change, social inequity and other forces. By studying these narratives and the academic content that helps contextualize them, students understand modern resource systems related to water, food, energy, commerce and other areas that support daily life, including the historical and cultural backstories behind them. In the process, exposes students to over 60 academic fields addressing real challenges and opportunities, giving them a comprehensive overview of the schools, degree tracks and career paths available at ASU that are actively working together to improve the resilience and future of American society. | N | LEC | N | GNA | College of Global Futures | College of Global Futures | 3 | SB & C | Credit is allowed for only CGF 110 or CGF 194 (Resilient American Futures: An Academic Road Trip) |
| CGF | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | College of Global Futures | 1-4 | | |
| CGF | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | College of Global Futures | 1-4 | | |
| CGF | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | College of Global Futures | 1-4 | | |
| CGF | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Global Futures | College of Global Futures | 1-12 | | |
| CGF | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | LEC | Y | Z1 | College of Global Futures | College of Global Futures | 1-6 | | Prerequisite(s): Barrett Honors student |
| CGF | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | LEC | Y | Z1 | College of Global Futures | College of Global Futures | 1-6 | | Prerequisite(s): Barrett Honors student |
| CGF | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | College of Global Futures | 1-4 | | |
| CGF | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | Y | LEC | Y | OPT | College of Global Futures | College of Global Futures | 1-6 | | Prerequisite(s): Barrett Honors student |
| CGF | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Global Futures | College of Global Futures | 1-7 | | |
| CGF | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Global Futures | College of Global Futures | 1-3 | | |

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| CGF | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Global Futures | College of Global Futures | 1-12 | | |
| CGF | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Global Futures | College of Global Futures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CGF | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Global Futures | College of Global Futures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CGF | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Global Futures | College of Global Futures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CGF | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Global Futures | College of Global Futures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHE | 211 | Introduction to Chemical Processing | Applies chemical engineering analysis and problem solving to chemical processes material and energy balance methods and skills. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): CHM 116 with C or better; MAT 266 or 271 with C or better OR Visiting University Student |
| CHE | 231 | Introduction to Transport Phenomena I: Fluids | Transport phenomena, with emphasis on fluid systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): CHE 211 with C or better; MAT 267 or 272 with C or better; PHY 121 with C or better; Pre- or corequisite(s): MAT 274 or 275 with C or better if completed |
| CHE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-4 | | |
| CHE | 334 | Introduction to Transport Phenomena II: Heat and Mass Transfer | Applies heat and mass transport principles. Design of heat exchangers and continuous contactors. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Chemical Engineering BSE major; CHE 231 with C or better; MAT 275 with C or better; Pre- or corequisite(s): CHE 384 with C or better if completed OR Visiting University Student |
| CHE | 342 | Introduction to Applied Chemical Thermodynamics | Applies conservation and accounting principles with nonideal property estimation techniques. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Chemical Engineering BSE major; CHE 231 with C or better; Pre- or corequisite(s): MAT 267 or 272 with C or better if completed OR Visiting University Student |
| CHE | 352 | Chemical Engineering Lab I | Engineering lab equipment, data collection and analysis; strengthens ability to generate written reports and oral presentations; reinforces teamwork skills; strengthens and extends the understanding of earlier technical contents in the curriculum; strengthens abilities in recognizing and understanding key issues associated with lab and process safety. | N | LAB | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | L | Prerequisite(s): Chemical Engineering BSE major; CHE 334 with C or better; CHE 342 with C or better; ENG 101, 105, or 107 with C or better; PHY 131 with C or better OR Visiting University Student |
| CHE | 384 | Numerical Methods for Chemical Engineers | Study and application of numerical methods in solving problems commonly encountered in chemical engineering. Emphasizes chemical engineering applications using MATLAB and Excel. Roots, linear algebraic equations, matrices, curve fitting, differentiation, integration, ordinary and partial differential equations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | CS | Prerequisite(s) w/C or better: Chm Engr BSE major; MAT 242, 342, 343; MAT 274, 275; Pre- or coreq(s): MAT 267, 272 w/C or better if completed; Credit allowed for CEE 384, CHE 384, CHE 394 (Num Mths for Chm Eng), or MAE 384 OR Visiting University Student |
| CHE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-4 | | |
| CHE | 432 | Principles of Chemical Engineering Design | Chemical process hierarchical synthesis, modeling, design and optimization, process flow simulation, separation system design, energy integration, project-scale engineering economics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Chemical Engineering BSE major; CHE 433 with C or better; CHE 442 with C or better OR Visiting University Student |
| CHE | 433 | Modern Separations | Design of modern separation equipment in chemical engineering other than fractionation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; CHE 334 with C or better; CHE 342 with C or better |
| CHE | 442 | Introduction to Chemical Reactor Design | Applies kinetics to chemical reactor design. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; CHE 334 with C or better; CHE 342 with C or better; Credit is allowed for only CHE 442 or CHE 505 |
| CHE | 451 | Chemical Engineering Laboratory II | Operation, control and design of experimental and industrial process equipment; strengthens abilities in recognizing and understanding key issues associated with lab and process safety; group research projects. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Chemical Engineering BSE major; CHE 352 with C or better; CHE 384 with C or better; CHE 433 with C or better; CHE 442 with C or better OR Visiting University Student |

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| CHE | 461 | Process Dynamic Control | Process dynamics, instrumentation, and feedback applied to automatic process control. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | CS | Prerequisite(s): Chemical Engineering BSE major; CHE 384 with C or better; CHE 433 with C or better; CHE 442 with C or better OR Visiting University Student |
| CHE | 462 | Process Design | Applies economic principles to optimize equipment selection and design; process safety; development and design of process systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | L | Prerequisite(s): Chemical Engineering BSE major; CHE 432 with C or better; CHE 433 with C or better; CHE 442 with C or better; ENG 101, 105, or 107 with C or better |
| CHE | 468 | Polymer Principles and Processing | Covers relevant polymer synthesis techniques, molecular and structural characterization methods, elastic deformation and viscoelasticity models related to processing, and block polymer morphology. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prereq(s): Chem Eng BSE mjr; CHE 231 w/ C or better; CHM 233 w/ C or better; Credit for only CHE 468 or CHE 568 or CHE 494(PolyPrin & Proc) or CHE 598(PolyPrin & Proc) or CHM 494(PolyPrin & Proc) or CHM 598(PolyPrin & Proc) OR Visiting University Student |
| CHE | 469 | Air Quality Engineering | Chemical and physical processes by which air pollutants are generated and controlled with an emphasis on urban air quality. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Chem Engr BSE major; CHE 342 OR Civil Engr BSE major; CEE 361 OR Environmental Engr BSE major; EVE 302 OR Materials Scie & Engr BSE major; MSE 330; Credit is allowed for only CEE 569 or CHE 469 or CHE 569 OR Visiting University Student |
| CHE | 473 | Fuel Cells and Biofuel Cells | Provides a comprehensive analysis of fuel cell technologies. Begins by discussing the different types of fuel cells and the thermodynamic and kinetic fundamentals that control their performance. Discusses the materials and techniques used to characterize fuel cells. Finishes with a specific analysis of biofuel cells and their applications. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Chemical Engineering BSE major; CHE 231 with C or better; Credit is allowed for only CHE 473 or CHE 494 (Fuel Cells & Biofuel Cells) or CHE 573 or CHE 598 (Fuel Cells & Biofuel Cells) OR Visiting University Student |
| CHE | 475 | Biochemical Engineering | Applies chemical engineering methods, mass transfer, thermodynamics, and transport phenomena to industrial biotechnology. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Pre-requisites: CHE 334 and 442 |
| CHE | 477 | Inorganic Membranes and Thin Films | Synthesis and properties of various types of inorganic membranes and thin films, with focus on the sol-gel process and its use for synthesis of porous materials and thin films. Inorganic membranes and thin films represent a new research area of great importance for chemical engineers, materials scientists and chemists. They are finding increasing applications in separation processes, chemical reactor systems, fuel cells and batteries of impact on energy and environment. Requires prior knowledge of inorganic chemistry, physical chemistry, calculus, thermodynamics, mass transport, basic materials science, and separation processes to be successful in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): CHE 433 or MSE 420; Credit is allowed for only CHE 477 or CHE 577 or CHE 494 (Inorganic Membrane and Films) or CHE 598 (Inorganic Membrane and Films) |
| CHE | 478 | Biomass Energy Conversion Technology | Fundamentals and applications of biomass conversion process technologies. Gives a brief review on fundamentals of engineering thermodynamics, the chemistry of plant materials and reaction kinetics. Focuses on surveying the state-of-the-art technologies for cost-effective biomass conversion to biofuels including liquid fuels (bioethanol and biodiesel) and gaseous fuels (methane, hydrogen and synthesis gas). Considers both biological and thermochemical processes for the conversion of biomass to biofuels and chemicals. Also covers applications of biofuels in transportation, energy production in power plants and fuel cells, and economics, environmental impact, and policy issues relevant to biofuels. The course is of value to engineering students who are interested in the technologies of the developing field of biofuels, as well as engineers, managers and policymakers. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Chem Engr BSE major; CHM 116 w/ C or better; CHE 231 w/ C or better; Credit is allowed for only CHE 478 or CHE 578 or CHE 494 (Biomass Energy Conversion Tech) or CHE 598 (Biomass Energy Conversion Tech) OR Visiting University Student |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|------------------------------|-------|-----------------|--|
| CHE | 479 | Microbial Bioprocess Engineering | Investigates the application of basic chemical engineering principles to the design and understanding of biochemical and biological processes. Discusses enzyme kinetics and enzymatic processes; specifically emphasizes the development and application of whole cell bioprocesses for the production of chemicals, food, biofuels and pharmaceuticals, as well as applications in bioremediation. In addition to traditional topics such as the stoichiometry and kinetics of microbial growth, bioreactor design/operation, and downstream processing, also introduces contemporary topics of metabolic engineering and synthetic biology. Complements theoretical concepts presented in lectures with the presentation of relevant research topics and/or industrial applications. Introduces fundamental biochemical engineering concepts, primarily to chemical engineers. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Chemical Engineering BSE major; CHE 342 with C or better; CHE 442 with C or better; Credit is allowed for only CHE 479 or CHE 494 (Microbial Bioprocess Engineering) or CHE 598 (Microbial Bioprocess Engineering) |
| CHE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-12 | | |
| CHE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-6 | | Prerequisite(s): Barrett Honors student |
| CHE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| CHE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-4 | | Prerequisite(s): Fulton Engineering undergraduate student OR Visiting University Student |
| CHE | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-7 | | Prerequisite(s): Fulton Engineering undergraduate student |
| CHE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-3 | | |
| CHE | 518 | Fundamentals of Semiconductor Packaging | Multidisciplinary foundation course in addressing electrical, thermal, materials, chemical, manufacturing and reliability problems in semiconductor packaging. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only CHE 518 or EEE 518 or MAE 518 or MSE 548 |
| CHE | 533 | Transport Processes I | Unified treatment of momentum, heat, and mass transfer from molecular theory, and continuum points of view. Continuum equations of microscopic and macroscopic systems and multicomponent and multiphase systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): graduate Engineering major. Credit is allowed for only BME 533 or CHE 533 or MAE 533 |
| CHE | 543 | Thermodynamics of Chemical Systems | Classical and statistical thermodynamics of nonideal physicochemical systems and processes; prediction of optimum operating conditions. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student |
| CHE | 544 | Chemical Reactor Engineering | Reaction rates, thermodynamics, and transport principles applied to the design and operation of chemical reactors. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student |
| CHE | 561 | Advanced Process Control | Dynamic process representation, linear optimal control, optimal state reconstruction, and parameter and state estimation techniques for continuous and discrete time systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student |
| CHE | 568 | Polymer Principles and Processing | Covers relevant polymer synthesis techniques, molecular and structural characterization methods, elastic deformation and viscoelasticity models related to processing, and block polymer morphology. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only CHE 468 or CHE 568 or CHE 494 (Polymer Principles & Proc) or CHE 598 (Polymer Principles & Proc) or CHM 494 (Polymer Principles & Proc) or CHM 598 (Polymer Principles & Proc) |
| CHE | 569 | Air Quality Engineering | Chemical and physical processes by which air pollutants are generated and controlled with an emphasis on urban air quality. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only CEE 569 or CHE 469 or CHE 569 |
| CHE | 573 | Fuel Cells and Biofuel Cells | Provides a comprehensive analysis of fuel cell technologies. Begins by discussing the different types of fuel cells and the thermodynamic and kinetic fundamentals that control their performance. Discusses the materials and techniques used to characterize fuel cells. Finishes with a specific analysis of biofuel cells and their applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only CHE 473 or CHE 494 (Fuel Cells & Biofuel Cells) or CHE 573 or CHE 598 (Fuel Cells & Biofuel Cells) |

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| CHE | 577 | Inorganic Membranes and Thin Films | Synthesis and properties of various types of inorganic membranes and thin films, with focus on the sol-gel process and its use for synthesis of porous materials and thin films. Inorganic membranes and thin films represent a new research area of great importance for chemical engineers, materials scientists and chemists. They are finding increasing applications in separation processes, chemical reactor systems, fuel cells and batteries of impact on energy and environment. Requires prior knowledge of inorganic chemistry, physical chemistry, calculus, thermodynamics, mass transport, basic materials science, and separation processes to be successful in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only CHE 477 or CHE 577 or CHE 494 (Inorganic Membrane and Film) or CHE 598 (Inorganic Membrane and Film) |
| CHE | 578 | Biomass Energy Conversion Technology | Fundamentals and applications of biomass conversion process technologies. Gives a brief review on fundamentals of engineering thermodynamics, the chemistry of plant materials and reaction kinetics. Focuses on surveying the state-of-the-art technologies for cost-effective biomass conversion to biofuels including liquid fuels (bioethanol and biodiesel) and gaseous fuels (methane, hydrogen and synthesis gas). Considers both biological and thermochemical processes for the conversion of biomass to biofuels and chemicals. Also covers applications of biofuels in transportation, energy production in power plants and fuel cells, and economics, environmental impact, and policy issues relevant to biofuels. The course is of value to engineering students who are interested in the technologies of the developing field of biofuels, as well as engineers, managers and policymakers. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only CHE 478 or CHE 578 or CHE 494 (Biomass Energy Conversion Technology) or CHE 598 (Biomass Energy Conversion Technology) |
| CHE | 579 | Microbial Bioprocess Engineering | Investigates the application of basic chemical engineering principles to the design and understanding of biochemical and biological processes. Discusses enzyme kinetics and enzymatic processes; specifically emphasizes the development and application of whole cell bioprocesses for the production of chemicals, food, biofuels and pharmaceuticals, as well as applications in bioremediation. In addition to traditional topics such as the stoichiometry and kinetics of microbial growth, bioreactor design/operation, and downstream processing, also introduces contemporary topics of metabolic engineering and synthetic biology. Complements theoretical concepts presented in lectures with the presentation of relevant research topics and/or industrial applications. Introduces fundamental biochemical engineering concepts, primarily to chemical engineers. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only CHE 579 or CHE 598 (Microbial Bioprocess Engineering) |
| CHE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-12 | | Prerequisite(s): Fulton Engineering graduate student |
| CHE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-12 | | Prerequisite(s): Fulton Engineering graduate student |
| CHE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-12 | | Pre-requisites: Chemical Engineering Master's degree student |
| CHE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-12 | | Prerequisite(s): graduate CHE major |
| CHE | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | SEM | Y | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-12 | | Prerequisite(s): Fulton Engineering graduate student |
| CHE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1 | | Prerequisite(s): Fulton Engineering graduate student |
| CHE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-4 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| CHE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-12 | | Pre-requisites: Chemical Engineering Master's degree student |

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|---------|-------------|---------------------------------|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| CHE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-15 | | Pre-requisites: Chemical Engineering Doctoral student |
| CHE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1 | | Prerequisite(s): Fulton Engineering graduate student |
| CHE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Chemical Engineering Program | 1-15 | | Pre-requisites: Chemical Engineering Doctoral student |
| CHI | 101 | Elementary Chinese I | Develops students' basic communication skills in Standard Mandarin Chinese. Focuses on providing a solid foundation in pronunciation, basic grammatical structures and vocabulary which equip students with the skills to carry out basic everyday communication tasks. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Credit is allowed for only CHI 101 or CHI 110 or MND 101 |
| CHI | 102 | Elementary Chinese II | Continuing introduction to Modern Standard Mandarin Chinese for non-native speakers of Chinese. Adopts different pedagogical approaches to help students further develop basic skills in listening, speaking, reading and writing in Modern Standard Mandarin Chinese. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): CHI 101 with C or better; Credit is allowed for only CHI 102 or CHI 110 or MND 102 OR Visiting University Student |
| CHI | 110 | Intensive Chinese I | Adopts different pedagogical approaches to help students acquire basic skills in listening, speaking, reading and writing in Modern Standard Chinese. While linguistic elements are the focus of this course, appropriate cultural information related to language use is also an important component of instruction. Trains students to be able to function successfully in Chinese culture. Students don't simply learn to "speak Chinese" or read and write characters as some form of party trick. Teaches a practical skill set that allows students to communicate and behave appropriately in Chinese culture. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 8 | | Credit is allowed for only CHI 101 or CHI 102 or CHI 110 or MND 101 or MND 102 |
| CHI | 120 | Introduction to Chinese Culture | Introduces geographical, historical, literary, and intellectual premises of Chinese culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only CHI 120 or SLC 120 OR Visiting University Student |
| CHI | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| CHI | 201 | Intermediate Chinese I | Develops intermediate-low proficiency in Standard Mandarin Chinese by building upon the vocabulary, grammatical structures and communicative strategies that have been taught during previous coursework. Also introduces additional grammar and vocabulary, which enables the students to carry out more everyday familiar tasks. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): CHI 102 or 110 with C or better; Credit is allowed for only CHI 201 or CHI 210 or MND 201 OR Visiting University Student |
| CHI | 202 | Intermediate Chinese II | Develops intermediate-mid proficiency in Standard Mandarin Chinese. Reviews previously learned grammatical knowledge and reinforces new presented ones. In addition to everyday familiar topics, also introduces more sophisticated topics pertaining to Chinese society and culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): CHI 201 with C or better; Credit is allowed for only CHI 202 or CHI 210 or MND 202 OR Visiting University Student |
| CHI | 205 | Chinese Calligraphy | Introduces styles and techniques of Chinese writing. Requires no knowledge of Chinese or Japanese. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | |
| CHI | 210 | Intensive Chinese II | Intensive 2nd-year college-level Modern Standard Chinese designed for students who are highly motivated and have successfully completed at least 1st-year college-level Modern Standard Chinese language course or equivalent. Reviews and reinforces 1st-year Chinese grammatical patterns and introduces new ones in order to further develop students' communicative competence in listening, speaking, reading and writing in modern Chinese. Introduces over 500 new characters and presents and expands an equal number of spoken vocabulary items. Students increase their vocabulary, consolidate their grammar, describe objects and express ideas more accurately and fluently. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 6-8 | | Prerequisite(s): CHI 102 with B or better or CHI 110 with C or better; Credit is allowed for only CHI 201 or CHI 202 or CHI 210 or MND 201 or MND 202 |
| CHI | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| CHI | 301 | Third-Year Chinese I | Expansion of proficiency in listening comprehension, speaking, reading and writing. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): CHI 202 or 210 with C or better OR Visiting University Student |
| CHI | 302 | Third-Year Chinese II | Continuation of CHI 301. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): CHI 301 with C or better OR Visiting University Student |

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| CHI | 307 | Introduction to Literary Chinese I | First part of a two-course sequence in Literary Chinese (Classical Chinese). Literary Chinese is a language that was used throughout Chinese history for all formal writing until the first half of the 20th century. Introduces basic grammar and vocabulary through reading texts from the Spring and Autumn period and Warring States period (ca. 770-256 BCE). Conducted in English. Texts are in Chinese. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): CHI 202, CHI 210, JPN 202, JPN 210, or KOR 202 with C or better OR Visiting University Student |
| CHI | 308 | Introduction to Literary Chinese II | Second part of a two-course sequence in Literary Chinese (Classical Chinese). Literary Chinese was used throughout Chinese history for all formal writing until the first half of the 20th century. Introduces basic grammar and vocabulary through reading texts from the Spring and Autumn period and Warring States period (ca. 770-256 BCE). Conducted in English. Texts are in Chinese. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): CHI 202, CHI 210, JPN 202, JPN 210, or KOR 202 with C or better OR Visiting University Student |
| CHI | 321 | Power and Poetry: Classical Chinese Literature in Translation | Masterworks of the tradition from the 7th century BCE through the 13th century. Readings, lectures and examinations are in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| CHI | 322 | Self, Society and the Drive for Modernity: Classical Chinese Literature in Translation | Masterpieces from the later tradition and its transition to modern times. Readings, lectures and examinations are in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| CHI | 333 | China | Political, economic, social, and cultural history of the Chinese people from early times to the 17th century. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 30 hours; Credit is allowed for only CHI 333, HST 383 or SLC 333 |
| CHI | 336 | Interpreting China's Classics | Study of selected Confucian and/or Taoist classics and ways they have been read in both Asian and Western scholarship. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 30 hours; Credit is allowed for only CHI 336, HST 386 or SLC 336 |
| CHI | 338 | Daode Jing: Way to the West | At 5,000 words, the Daode Jing [Tao-te ching, "the Scripture of the Way and its Powers," attributed to the Sage Laozi] is perhaps the shortest religious book in the world. It is also the most widely misinterpreted. In China, Daoists, Buddhists and Confucians have each taken its short, pithy statements as warrant for their very different belief systems. In the West, missionaries, new-age pundits, hippies, rock-stars, mystics and LSD advocates each claim to understand the "true meaning" of Laozi's mystical words. But "the farther one travels, the less one knows..." Students read representative samples of these explanations to understand why this brief book of wisdom has endured for over 2000 years. Requires no knowledge of Chinese. Presents all Chinese texts in the translations of the instructor. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only CHI 338 or REL 338 OR Visiting University Student |
| CHI | 343 | Daoism | Introduces the history, doctrines, and practices of Taoism from the mid-second century CE up to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 24 hours; Credit is allowed for only CHI 343 or REL 343 OR Visiting University Student |
| CHI | 345 | Chinese Film and Civilization | Screening and discussion of recent films from China, Taiwan, and Hong Kong in the context of modern Chinese civilization. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| CHI | 346 | Chinese Religions | Examines the history and practices of Chinese religions with particular attention to culture, society, and history. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only CHI 346 or REL 346 OR Visiting University Student |
| CHI | 348 | Pathways into Chinese Culture | Introduces some important aspects of China's cultural history and traditions. Provides an overview of Chinese history and culture and reviews major developments in science and technology. Incorporates current social and cultural topics and reviews through the lens of historical context. Classroom activities enable students to gain a better understanding of traditional Chinese culture with respect to both elite and popular culture. Conducted in Mandarin and is designed for the students who are currently enrolled in CHI 301 and CHI 401 or whose Chinese proficiency level in all four skills (speaking, listening, reading and writing) are at the intermediate mid to intermediate high level according to ACTFL guidelines. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): CHI 202 or 210 with C or better OR Visiting University Student |
| CHI | 380 | The Chinese Language | Introduces the Chinese languages from linguistic perspectives. Topics include the linguistic structure and characteristics (phonetics, phonology, morphology and syntax) of the Chinese language; linguistic history and dialects of Chinese; and its relationship with culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| CHI | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |

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| CHI | 401 | Fourth-Year Chinese I | Focuses on solidifying and improving students' knowledge of modern Mandarin. Emphasizes learning strategies to increase reading and listening comprehension, as well as further strengthening oral fluency and written skills. Surveys a wide variety of original text and media materials, in both full-form and simplified characters. Conducted in Chinese. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): CHI 302 with C or better OR Visiting University Student |
| CHI | 402 | Fourth-Year Chinese II | Continuation of CHI 401. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): CHI 401 with C or better OR Visiting University Student |
| CHI | 407 | Chinese for Academic and Professional Purposes I | Part of the Chinese Flagship program; course has a three-fold objective: (1) to improve language proficiency in all four language skills; (2) to support other Flagship courses by introducing specific vocabulary, literary genres, key reference materials; and (3) to develop the use of explicit language learning strategies that support professional-level literacy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): CHI 402 with C or better OR Visiting University Student |
| CHI | 408 | Chinese for Academic and Professional Purposes II | Part of the Chinese Flagship Program. Improves language proficiency in all four language skills; supports other Flagship courses by introducing specific vocabulary, literary genres, key reference materials; develops the use of explicit language learning strategies that supports professional level literacy. All course work in Mandarin Chinese. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): CHI 407 with C or better |
| CHI | 451 | Chinese Cultural History I | China's classics in translation studied both for their intrinsic ideas and for the origins of Chinese thought. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (HU or SB) & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 55 hours; Credit is allowed for only CHI 451, HST 451 or SLC 451 |
| CHI | 452 | Chinese Cultural History II | Evolution of Confucian thought, its synthesis with Taoism and Buddhism, and modern reactions against, and uses of, Confucian traditions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & G & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 55 hours; Credit is allowed for only CHI 452 or HST 452 or SLC 452 |
| CHI | 470 | Modern Chinese Literature and Culture | Readings in modern Chinese literary texts, including prose, fiction, and poetry. Course content changes with instructor. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): CHI 302 with C or better |
| CHI | 482 | History of the Chinese Language | Introduces the history of the Chinese language. Graduate/advanced undergraduate-level introductory course on the historical changes of the sounds, writing system, grammar, and other aspects of the Chinese language. Topics include the historical phonology of Chinese, development of graphs (Hanzi), some topics of syntactic changes in texts, morphology, lexicography, cultural implication of language. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): CHI 302; CHI 308 OR Visiting University Student |
| CHI | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| CHI | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| CHI | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| CHI | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| CHI | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 501 | Proseminar: East Asian Humanities | Provides MA and PhD students with a solid understanding of both the history of their academic discipline, as well as the various methodological approaches employed in the professional study of East Asian literature, history, language and culture. Centers on the close reading and discussion of a wide range of secondary sources, dealing with key issues in the development of East Asian humanities. Topics include premodern and modern discourses of language and literature; the trajectories of academic disciplines and approaches such as philology, sinology/Japanology, area studies and comparative literature; academic theories of space and temporality; translation studies; and book history. In addition to pursuing independent research, participants are expected to make regular presentations summarizing the main points in each week's readings. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CHI 501 or JPN 501 |
| CHI | 502 | Academic Writing | Trains graduate students in research methodology and conventions in academic writing. Centers on fine tuning students' command of the various components in English expository essays within the academic field of East Asian studies. Also addresses various contexts in academic writing, such conferences and proposals targeting audiences beyond the disciplinary boundaries of East Asian studies. | N | SEM | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CHI 502 or JPN 502 |
| CHI | 514 | Advanced Classical Chinese | Close readings in selected premodern texts, with focus on special grammatical features, and increased vocabulary. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| CHI | 561 | Readings in Traditional Xiaoshuo | Introduces major issues, texts, and resource materials for the study of narrative forms, including short stories and longer works of fiction. Focuses on the period from 1400 to 1900. One year of university-level classical Chinese or equivalent proficiency; three years of university-level modern Chinese recommended. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 596 | Second Language Methodologies | Provides a solid overview of current methodologies in foreign/second language teaching and learning, including the World-readiness standards for learning languages and the Proficiency Guidelines of the American Council on the Teaching of Foreign Languages (ACTFL). Focuses on current pedagogical trends and theories in several areas of second language acquisition, including grammar and vocabulary, reading, writing, listening and speaking, and intercultural competence. Also provides opportunities to obtain practice in creating and adapting instructional materials, preparing and implementing individual lesson plans, written and oral assignments, and exams. Focuses on discussing student diversity in today's classrooms and differences between heritage and second language learners. Students have the opportunity to research a topic of their interest. Course consists of lectures, discussion, hands-on experience to encourage meaningful and collaborative learning. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking grad stdnt; Credit only allowed for CHI 591 (Lang Teach Mthd & Prin) or CHI 596 or SLC 591 (Lang Teach Mthd & Prin) or SLC 596 or SPA 591 (Teach Mthd) or SPA 591 (Lang Teach Mthd & Prin) or SPA 596 |
| CHI | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| CHI | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-15 | | |
| CHI | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHI | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 101 | Introductory Chemistry | Elements of general chemistry. Adapted to the needs of students in nursing and kinesiology and those preparing for general chemistry. Recommended for General Studies credit. Cannot be used for major credit in chemical or biochemical sciences. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 4 | SQ | |
| CHM | 107 | Chemistry and Society | General chemical principles and concepts presented in context of social and technological issues, e.g., energy, pollution, global warming, and others. This lecture course may be combined with the laboratory CHM 108 for those interested in lab course credit. Cannot be used for major credit in chemical or biochemical sciences. Both CHM 107 and CHM 108 must be taken to secure SQ credit. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | SQ | |
| CHM | 108 | Chemistry and Society Laboratory | Experiments in chemical principles presented in chemistry and society lectures (CHM 107). Students must complete both CHM 107 and CHM 108 to receive an SQ (General Studies). | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | SQ | Pre- or Corequisite(s): CHM 107 OR Visiting University Student |
| CHM | 111 | General Chemistry Laboratory for Majors I | Laboratory course in general chemistry for chemistry and biochemistry majors intended to complement CHM 117 lecture course. Covers a diverse range of laboratory experiments appropriate to chemistry and biochemistry majors designed to reinforce chemical principles and to develop a broad range of chemical synthesis skills. Uses modern analytic and characterization techniques to study the physical and chemical properties of substances. Suitable for students who have completed introductory chemistry at the high school level. Both CHM 117 and CHM 111 must be taken to secure SQ General Studies credit. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | SQ | Pre- or corequisite(s): Biochemistry, Biophysics, or Chemistry major; CHM 117 with C or better if completed OR Visiting University Student |
| CHM | 112 | General Chemistry Laboratory for Majors II | Continuation of CHM 111 laboratory course in general chemistry for chemistry and biochemistry majors intended to complement CHM 118 lecture course. Covers a diverse range of laboratory experiments appropriate to chemistry and biochemistry majors designed to reinforce chemical principles and to develop a broad range of chemical synthesis skills. Uses modern analytic and characterization techniques to study the physical and chemical properties of substances. Both CHM 118 and CHM 112 must be taken to secure SQ General Studies credit. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | SQ | Prerequisite(s): Biochemistry, Biophysics, or Chemistry major; CHM 111 with C or better; Pre- or corequisite(s): CHM 118 with C or better if completed OR Visiting University Student |
| CHM | 113 | General Chemistry I | Principles of chemistry. Adapted to the needs of students in the physical, biological, and earth sciences. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 4 | SQ | Prerequisite(s): CHM 101 with C or better or ALEKS score of 61 or higher OR Pre- or corequisite(s): MAT 170, 171, 210, 251, 265 or 270 with C or better if completed OR Visiting University Student |
| CHM | 114 | General Chemistry for Engineers | Chemical principles with emphasis toward engineering. Students without high school chemistry or are chemical engineering majors must enroll in the CHM 113, 116 sequence instead of CHM 114. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 4 | SQ | Prerequisite(s): CHM 101 with C or better or ALEKS score of 61 or higher OR Pre- or corequisite(s): MAT 170, 171, 210, 251, 265, or 270 with C or better if completed OR Visiting University Student |
| CHM | 116 | General Chemistry II | Continuation of CHM 113. Equilibrium theory, thermodynamics, kinetics, electrochemistry, nuclear chemistry, descriptive chemistry. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 4 | SQ | Prerequisite(s): CHM 113, 114, or 117 with C or better OR Visiting University Student |
| CHM | 117 | General Chemistry for Majors I | Lecture course in general chemistry for chemistry and biochemistry majors and is complemented by the CHM 111 laboratory course. Covers electronic structure of atoms and molecules, intermolecular forces, bonding models, molecular geometry, physical states of matter, gas laws, and chemistry of condensed matter and modern materials. Highlights chemical reactivity, periodic trends and descriptive chemistry. Both CHM 111 and CHM 117 must be taken to secure SQ General Studies credit. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | SQ | Prerequisite(s): Biochemistry, Biophysics, or Chemistry major; CHM 101 with C or better, or ALEKS score of 61 or higher, or Pre- or corequisite(s): MAT 170, 171, 210, 251, 265, or 270 with C or better if completed OR Visiting University Student |

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| CHM | 118 | General Chemistry for Majors II | Continuation of CHM 117 lecture course in general chemistry for chemistry and biochemistry majors and is complemented by the major's CHM 112 laboratory course. Topics include thermodynamics, properties of solutions, chemical equilibrium, aqueous chemistry, acids and bases, electrochemistry, chemical kinetics, nuclear chemistry, coordination chemistry. Both CHM 118 and CHM 112 must be taken to secure SQ General Studies credit. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | SQ | Prerequisite(s): Biochemistry, Biophysics, or Chemistry major; CHM 117 with C or better OR Visiting University Student |
| CHM | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-3 | | Pre-requisites: Biochemistry or Chemistry major; Maximum 45 hours |
| CHM | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-4 | | |
| CHM | 231 | Elementary Organic Chemistry | Surveys organic chemistry, with emphasis on the reactivity of basic functional groups. Both CHM 231 and 235 must be taken to secure SQ General Studies credit. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | SQ | Prerequisite(s): CHM 101, 114, 116, or 118 with C or better OR Visiting University Student |
| CHM | 233 | General Organic Chemistry I | Chemistry of organic compounds. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): CHM 116 or 118 with C or better OR Visiting University Student |
| CHM | 234 | General Organic Chemistry II | Continuation of CHM 233. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): CHM 233 or 333 with a C or better; Credit is allowed for only CHM 234 or CHM 334 OR Visiting University Student |
| CHM | 235 | Elementary Organic Chemistry Laboratory | Organic chemistry experiments in synthesis, purification, analysis, and identification. Both CHM 231 and 235 must be taken to secure SQ General Studies credit. | N | REC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | SQ | Pre- or corequisite(s): CHM 231 with C or better if completed OR Visiting University Student |
| CHM | 237 | General Organic Chemistry Laboratory I | Microscale organic chemical experiments in separation techniques, synthesis, analysis and identification, and relative reactivity. | N | REC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | | Pre- or corequisite(s): CHM 233 with C or better if completed; Credit is allowed for only CHM 237 or CHM 337 OR Visiting University Student |
| CHM | 238 | General Organic Chemistry Laboratory II | Continuation of CHM 237. | N | REC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | | Prerequisite(s): CHM 237 or 337 with C or better; Pre- or corequisite(s): CHM 234 with C or better if completed; Credit is allowed for only CHM 238 or 338 OR Visiting University Student |
| CHM | 240 | Mathematical Methods in Chemistry | Introduces mathematical/computational methods in chemical kinetics, thermodynamics, quantum chemistry. Mathematical-based computer lab. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | CS | Prerequisite(s): CHM 116 or 118 with C or better; Pre- or corequisite(s): MAT 267 or 272 with C or better if completed OR Visiting University Student |
| CHM | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-4 | | |
| CHM | 302 | Environmental Chemistry | Explores major environmental issues, problems, and solutions from analytical and chemistry perspectives. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): CHM 114, 116, or 118 with C or better; CHM 231, 233, or 333 with C or better; Credit is allowed for only CHM 302 or ERM 406 or ERM 526 or ERM 598 (Environmental Chemistry) OR Visiting University Student |
| CHM | 303 | Environmental Chemistry Laboratory | Lab in environmental chemistry to complement CHM 302. First-hand experience with sampling methods, analytical techniques, and environmental lab methods. Both CHM 303 and CHM 348 must be taken to secure L General Studies credit. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 2 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; Pre- or corequisite(s): CHM 302 with C or better if completed OR Visiting University Student |
| CHM | 325 | Analytical Chemistry | Advanced principles and theory of quantitative analysis, including stoichiometry, equilibria, photometric methods, electrochemistry, separation processes, statistical data analysis, and applications to advanced topics in analytical chemistry. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): CHM 116 or 118 with C or better OR Visiting University Student |
| CHM | 326 | Advanced Analytical Chemistry Laboratory | Practical methods of quantitative analysis for chemistry majors, including titrimetric, gravimetric, and photometric analysis, and analytical separation processes, statistical data analysis, and applications to advanced topics in chemical analysis. | N | REC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | | Pre- or corequisite(s): CHM 325 with C or better if completed OR Visiting University Student |
| CHM | 327 | Instrumental Analysis | Principles of instrumental methods in chemical analysis. Electroanalytical and optical techniques. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): CHM 325 with C or better; CHM 326 with C or better; Pre- or corequisite(s): CHM 346 with C or better if completed OR Visiting University Student |
| CHM | 328 | Instrumental Analysis Laboratory | Experiments in chemical analysis by electroanalytical and optical techniques. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 2 | | Pre- or corequisite(s): CHM 327 with C or better if completed |

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| CHM | 341 | Elementary Physical Chemistry | Thermodynamics, equilibrium, states of matter, solutions, and chemical kinetics. For students in premedical, biological, and educational curricula. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): CHM 114, 116, or 118 with C or better; CHM 231, 233, or 333 with C or better; MAT 251, 265, or 270 with C or better; PHY 101, 112, or 131 with C or better; Credit is allowed for only BCH 341 or CHM 341 OR Visiting University Student |
| CHM | 343 | Elementary Physical Chemistry Laboratory | Physical chemistry experiments. | N | REC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | | Pre- or corequisite(s): BCH 341 or CHM 341 with C or better if completed; Credit is allowed for only CHM 343 or CHM 348 and CHM 349 OR Visiting University Student |
| CHM | 345 | Physical Chemistry I | Introduces quantum chemistry with application to electronic structure and dynamics of atoms and molecules. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): CHM 116 or 118 with C or better; CHM 240 OR PHY 201 OR both MAT 274 or 275; MAT 242, 342 or 343 with C or better; MAT 267 or 272 with C or better; PHY 131 or 151 with C or better OR Visiting University Student |
| CHM | 346 | Physical Chemistry II | Introduces equilibrium and statistical thermodynamics. Laws of thermodynamics, equations of state, multicomponent chemical and phase equilibria, and electrochemistry. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): CHM 345 with C or better |
| CHM | 348 | Physical Chemistry Laboratory I | Lab experiments in spectroscopy and computational chemistry. To secure L General Studies credit the following must be taken: CHM 303 & CHM 348 or CHM 348 & CHM 349 & CHM 452. | N | REC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; Pre- or corequisite(s): CHM 345 with a C or better if completed OR Visiting University Student |
| CHM | 349 | Physical Chemistry Laboratory II | Lab experiments in thermodynamics, electrochemistry, and computational chemistry. CHM 348, CHM 349 and CHM 452 must be taken to secure L General Studies credit. | N | REC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; Pre- or corequisite(s): CHM 346 with C or better if completed OR Visiting University Student |
| CHM | 385 | Oceanography | Introduces marine geology, chemistry, and physical and biological oceanography. Methods of oceanic exploration, environmental and social aspects of oceans. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s) w/ C or better: BIO 100, BIO 182, BIO 282, SES 220, SES 225, or both GLG 101 & 103, or both SES 121 & 123; CHM 101, 113, 114, 117, or both CHM 107 & 108; Credit allowed for only BIO 325 or CHM 385 or GLG 325 OR Visiting University Student |
| CHM | 392 | Introduction to Research Techniques | Instrumental methods and philosophy of research by actual participation in chemical research projects. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-3 | | |
| CHM | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-4 | | |
| CHM | 433 | Advanced Organic Chemistry I | Reaction mechanisms, reaction kinetics, linear free energy relationships, transition state theory, and Woodward-Hoffmann rules. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): BCH 341, CHM 341 or 346 with C or better; CHM 234 or 334 with C or better; Credit is allowed for only CHM 433 or CHM 531 OR Visiting University Student |
| CHM | 435 | Medicinal Chemistry | Principles of medicinal and pharmaceutical chemistry. Drug design, synthesis, and mechanism of action. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): BCH 361, BCH 371, BCH 461, or CHM 460; CHM 234; Credit is allowed for only CHM 435 or CHM 535 OR Visiting University Student |
| CHM | 442 | Practical NMR Spectroscopy | Covers the practical operation of NMR spectrometers, common ¹ H/ ¹³ C/X nuclei NMR spectroscopy, safety around NMR spectrometers and basic NMR data processing, handling and analysis. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | | Prerequisite(s): CHM 101, 114, 116, or 118 with C or better; Credit is allowed for only CHM 442 or CHM 494 (Practical Nuclear Magnetic Resonance Spectroscopy) or CHM 542 |
| CHM | 452 | Inorganic Chemistry Laboratory | Preparation and characterization of typical inorganic substances, emphasizing methods and techniques. CHM 348, CHM 349 and CHM 452 must be taken to secure L General Studies credit. | N | REC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; Pre- or corequisite(s): CHM 453 with C or better if completed OR Visiting University Student |
| CHM | 453 | Inorganic Chemistry | Principles and applications of inorganic chemistry. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): BCH 341, CHM 341 or 346 with C or better OR Visiting University Student |
| CHM | 460 | Biological Chemistry | Structure and function of macromolecules and their involvement in the processing of energy and information by living cells. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): CHM 234 or 334 with C or better; CHM 346 with C or better |

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| CHM | 471 | Solid-State Chemistry | Covers crystal structure (symmetry), bonding, properties and applications of natural and synthetic materials, including semiconductors for modern optoelectronic technologies (emitters, detectors and solar cells). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): CHM 114, 116, or 118 with C or better; CHM 341 or 345 with C or better; Credit is allowed for only CHM 471 or 571 OR Visiting University Student |
| CHM | 480 | Methods of Teaching Chemistry | Organization and presentation of appropriate content of chemistry; preparation of reagents, experiments, and demonstrations; organization of stock rooms and laboratories; experience in problem solving. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | |
| CHM | 481 | Geochemistry | Origin and distribution of the chemical elements. Geochemical cycles operating in the Earth's atmosphere, hydrosphere, and lithosphere. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): BCH 341, CHM 341, CHM 346, or GLG 321 with C or better; Credit is allowed for only CHM 481 or GLG 481 OR Visiting University Student |
| CHM | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | |
| CHM | 489 | Field Geochemistry | Explores basic field measurements and sampling techniques for environmental systems, with a focus on carbon cycling in the Colorado River. Surveys a variety of geochemical principles, including: equilibrium aqueous speciation, acid-base chemistry, solution-mineral equilibrium systems, oxidation-reduction reactions, organic and environmental geochemistry and biogeochemical cycles. Applies chemical principles and analytical techniques to answer questions about environmental systems and processes. | N | LEL | N | GNA | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | L | Prerequisite(s): CHM 302, GLG 321, or GLG 481 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only CHM 489 or GLG 489 OR Visiting University Student |
| CHM | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| CHM | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| CHM | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-4 | | |
| CHM | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-3 | | |
| CHM | 501 | Current Topics in Chemistry | Varies by topic. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 520 | Chemical Biology | Chemical biology, broadly defined, is the application of chemical tools toward the study biological problems. The purpose of this class is to provide the foundation for translational research involving cross-disciplinary approaches to tackling significant problems in the biosciences. This one-semester class will cover topics ranging from traditional molecular biology and biochemistry to state-of-the-art techniques in genomics and proteomics. Particular emphasis will be placed on modern concepts in enzymology. The class will be taught using a combination of current literature and text-based materials. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Pre-requisites: Graduate students (degree and non-degree); Credit is allowed for only BCH 520 or CHM 520 |
| CHM | 524 | Separation Science | Addresses principles and applications for all areas of chemical separations. Emphasizes separations principles in microfluidics and its interface with nanotechnology and traditional electronic materials. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 531 | Advanced Organic Chemistry I | Reaction mechanisms, reaction kinetics, linear free energy relationships, transition state theory, molecular orbital theory, and Woodward-Hoffmann rules. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Pre-requisite: degree- or nondegree-seeking graduate. Credit is allowed for only CHM 433 or CHM 531 |
| CHM | 535 | Medicinal Chemistry | Principles of medicinal and pharmaceutical chemistry. Drug design, synthesis, and mechanism of action. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Pre-requisites: Graduate degree or non-degree seeking students; Credit is allowed for only CHM 435 or 535 |
| CHM | 540 | Integrated Physics and Chemistry | Collaborative inquiry methods for teaching and coordinating physics and chemistry. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only CHM 540 or PHS 540 |
| CHM | 541 | Advanced Thermodynamics | Equilibrium thermodynamics. Chemical reactions, phase equilibria, and stability in multicomponent systems. Aqueous solutions and electrochemistry. Introduces statistical thermodynamics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only CHM 541 or MSE 524 |
| CHM | 542 | Practical NMR Spectroscopy | Covers the practical operation of NMR spectrometers, common ¹ H/ ¹³ C/X nuclei NMR spectroscopy, safety around NMR spectrometers and basic NMR data processing, handling and analysis. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CHM 442 or CHM 542 or CHM 598 (Practical Nuclear Magnetic Resonance Spectroscopy) |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|------------------------------|-------|-----------------|--|
| CHM | 543 | Computational Chemistry | Provides basic concepts and practical experience in computational chemistry as applied to molecules and solids. Systematically covers theoretical background and applied aspects of electronic structure methods/simulation, and related visualization techniques. Provides weekly laboratory session will provide hands-on experience with state-of-the-art molecular and solid-state simulation/visualization packages, with an emphasis on their reliability, predictive capability and practical limitations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 546 | Molecular Spectroscopy and Group Theory | Applies quantum mechanics to the general problem of the interaction of light with molecular systems. Angular momentum and group theory. Symmetry classifications. Overview of the formalism and experimental techniques in different resonant-based spectroscopies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 547 | Data Modeling for the Natural Sciences: Applications, Basics and Computation | This self-contained course covers data modeling tailored for students in the sciences. Starts from basic probabilistic concepts, models of dynamical systems, stochastic processes, likelihoods, frequentist and Bayesian inference, as well as Monte Carlo samplers and filtering. Develops modeling paradigms, including mixture models, regression models, Gaussian processes, hidden Markov models, state-space models and Kalman filtering. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prereq(s): degree- or nondegree-seeking grad stdnt; Credit for only CHM 494/CHM 598/PHY 598 (Data-Driv Inf&StochProc) or CHM 494/CHM 598 (StatMechII: Stoch proc&inf) or CHM 494/CHM 598/PHY 598 (Unravel the noise:data-driv model&ana) or CHM 547 or PHY 547 |
| CHM | 553 | Advanced Inorganic Chemistry | Principles of modern inorganic chemistry applied over the entire periodic system. Bonding theory, chemical reactivity, spectroscopic and magnetic properties. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 560 | Matter and Light | Interactions of light with matter. Lasers and spectroscopy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CHM 560 or PHS 560 |
| CHM | 571 | Structure, Bonding, and Symmetry in Materials | Principles of structural and materials chemistry, emphasizing crystal chemistry. Symmetry of periodic structures (space groups), factors determining bond lengths and coordination geometries, and the role of structure in determining physical properties. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only CHM 471 or 571 |
| CHM | 581 | Structure of Matter and its Properties | Models of matter and its properties. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CHM 581 or PHS 581 |
| CHM | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 597 | Capstone | Provides a culminating experience in chemistry. Students bring together knowledge learned in prior courses in a way that is meaningful and relevant to their professional goals. Each student must prepare and defend a report summarizing current knowledge on a topic important to the field of chemistry. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Molecular Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|------------------------------|-------|-----------------|---|
| CHM | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHM | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Molecular Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHS | 100 | Optimizing Your Health and Performance | Explores concepts, attitudes, research and practices associated with the optimization of health and performance. Students gain practical and foundational knowledge regarding evidence-based practice, nutrition, physical activity, executive function, strategies and cognition. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | SB | |
| CHS | 101 | The ASU Experience for Health Solutions Students | Required, one-hour course designed to introduce all new first-time ASU students to the unique elements, culture, challenges and opportunities of their university. Covers several core topics. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): College of Health Solutions student |
| CHS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| CHS | 201 | International Indigenous Health | This course aims to develop student's understanding of core concepts in the health and well-being of Indigenous peoples worldwide, with particular focus on the Aboriginal and Torres Strait Islander peoples in Australia and Indigenous peoples in United States (or the Americas more broadly). The course highlights the differences in distribution of disease and health disparities between Indigenous and non-Indigenous peoples and develops an understanding of underlying interrelated physical, psycho-social, cultural and other determinants of Indigenous peoples' health. Students will be provided with examples of evidence-based research and health practice to learn about the ways in which Indigenous health and well-being can be supported. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): Bachelor of International Public Health major |
| CHS | 260 | Health Professions Terminology | Prepares students for a field in the health care field and covers medical terms related to all the major body systems including: muscular system, skeletal system, respiratory system, circulatory system, digestive system, reproductive system and urinary system. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only CHS 260 or KIN 294 (Health Professions Terminology) |
| CHS | 280 | Experiential Community Health and Research | Provides experiential learning in community health and/or research. Gives students the opportunity to develop professionally; enhance their health education; take ideas and concepts beyond the classroom; and gain experiences and real-world perspectives in research, clinical or community-based settings. Students interact with faculty, researchers and/or professionals in the field across a range of observations and activities. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): College of Health Solutions student or Edson College of Nursing and Health Innovation student OR Visiting University Student |
| CHS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| CHS | 300 | An Exploration of Well-Being | An engaging, multidisciplinary, scientific and practical exploration into factors influencing the well-being of individuals and society. Students experiment with mindsets, habits, strategies and skills to develop greater awareness and curiosity about lifelong well-being and success. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | SB | Prerequisite(s): minimum 30 hours OR Visiting University Student |
| CHS | 301 | Epidemiology for International Public Health | Epidemiology and its use in public health research and practice. This course introduces students to epidemiological principles and methods. It aims to enable students to apply an epidemiological approach to the study of disease and illness, to interpret and assess the quality of evidence of a range of study designs and report on epidemiological research. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): Bachelor of International Public Health major |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|-----------------------------|-----------------------------|-------|-----------------|---|
| CHS | 303 | Health Promotion | Health Promotion is a fundamental component of any approach to public health and population health, whether it be research, policy or practice. The World Health Organization defines health promotion as the process of enabling people to increase control over, and to improve, their health. It moves beyond a focus on individual behavior towards a wide range of social and environmental interventions. (http://www.who.int/topics/health_promotion/en/). This course provides an overview of health promotion including examination of the social determinants of health, health literacy and foundations in health promotion. During the course students will explore the role of health promotion in addressing a range of current global health issues and their relevance to the field of public health. Students will examine contemporary perspectives on health and health promotion contributions to public health and population health responses. The course enables students to gain an understanding of how health can be defined from different perspectives, and develop core knowledge of health promotion including its foundation theories, principles and concepts. The course will equip students with the capacity to engage in public health and population health through the essential health promotion skills and understandings. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): Bachelor of International Public Health major |
| CHS | 304 | Communicable Disease | This course will introduce students to the burden of infectious or communicable disease worldwide. Students will learn about the theory of transmission modes, surveillance, outbreak investigation, current disease prevention, control and management strategies, and emerging and re-emerging infections. Key case studies covering different types of communicable diseases will be used to illustrate these important concepts. Current and future challenges in communicable disease control will be highlighted. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): Bachelor of International Public Health major |
| CHS | 305 | Principles of Prevention & Public Health Surveillance | Disease surveillance and population health monitoring represents one of the most important tools for public health, for early disease detection and prevention, and the monitoring and evaluation. Early detection of and rapid response to a public health threat has huge potential to save lives and costs from preventing hospitalizations and deaths. This course provides an overview of different types of surveillance systems and the sources of data that are used in such systems. Students learn to assess challenges and limitations associated with different types of public health surveillance systems and develop the skills to examine the tools and approaches that can be used to improve the effectiveness of public health surveillance systems. The course looks at principles of disease prevention more broadly. Public health prevention measures are discussed including immunization and screening, using case studies for both communicable and non-communicable diseases. The role of epidemiological and social factors is also considered. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): Bachelor of International Public Health major; Pre- or corequisite(s): CHS 301; CHS 304; HCD 300 |
| CHS | 306 | Public Health Policy & Programs | The overall aim of this course is to enable students to develop their understanding of both public health policy and programs as a part of public health practice. Students will learn about the concept and role of policy and the key concepts, models and approaches to designing and evaluating public health programs. Case studies from multiple countries and contexts will be used as teaching material. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): Bachelor of International Public Health major |
| CHS | 307 | Health Leadership | The course aims to develop students understanding of different approaches to leading and managing at different levels in health services in local and international contexts to improve individual, community and population level outcomes. Students will be introduced to the common and overlapping skills and features of effective health leadership within public health agency settings requiring coordinated system-wide action through to health care management in more clinically focused patient delivery settings. Topics include management and leadership theories and models; systems perspectives and strategic thinking; influence, power and leading change; managing interprofessional teams and motivating staff; conflict management and improving health worker performance. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): Bachelor of International Public Health major |

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| CHS | 308 | Comparative Health Systems | Principles and practice of health system analysis, the sources and utilization of information relating to health services, and frameworks for assessing health systems performance. Examines the constitutional, legal, economic, social and political environments within which health care systems operate. Compares different models of health system funding and operation. Reviews different health services organization and management, health service financing arrangements and the health workforce. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| CHS | 309 | Evaluating Chronic Disease Programs | This course aims to enhance students' understanding of the major non-communicable diseases-specifically so-called "lifestyle diseases" including cardiovascular disease, cancer, type II diabetes, chronic lung disease- and the interaction between their associated lifestyle behaviors such as unhealthy diet, physical inactivity, tobacco use and alcohol use. Students will examine the concept of the epidemiological transition to provide insights into trends in the burden of lifestyle diseases and injuries globally and in developing countries. This course will help students to evaluate prevention and control approaches to lifestyle diseases, and to critique the modern social environment and lifestyle behaviors with respect to global health. Topics include: the global burden of disease, the epidemiological transition, injury prevention, health systems, global tobacco control, obesity, and global action plan on non-communicable diseases. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): Bachelor of International Public Health major |
| CHS | 340 | Health Theory | Health theories help to frame health and health outcomes in our society. Applies health theories to medical problems in order to explore the different levels of influence on behavior: individual, social network, community, health system and policies. Helps students take a deeper look at the intersections between people and their environment as well as understand how influence on our health is constructed all around us. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 30 hours; Credit is allowed for only CHS 340 (EXW 340) or EXW 342 or HSC 340 OR Visiting University Student |
| CHS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | College of Health Solutions | College of Health Solutions | 1-4 | | |
| CHS | 400 | Adaptive Exercise Program Practical Experience | One-on-one adaptive exercise programming for individuals with developmental, neuromuscular, physical, or chronic conditions. | N | LEC | Y | GNA | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CHS 400 or CHS 494 (Adaptive Exercise Program Practical Experience) OR Visiting University Student |
| CHS | 401 | Ethics in Public Health | This course provides an overview of ethical considerations and issues pertinent to public health and health care. Students will examine ethical theories and principles, and key legal concepts, and their application to health care and public health contexts. The course enables students to identify and analyse the ethical challenges of balancing the interests of individuals and communities within a health care context which is costly, complex and increasingly globalized. While the focus is on public health ethics which includes health policy and promotion, clinical and research ethics will also be examined as integral components of contemporary, cutting-edge health care service and delivery. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): Bachelor of International Public Health major |
| CHS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): minimum 45 hours; minimum 2.00 GPA |
| CHS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): Barrett Honors student |
| CHS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| CHS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| CHS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-7 | | Prerequisite(s): minimum 45 hours |
| CHS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): minimum 45 hours |
| CHS | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHS | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------|-----------------------------------|-------|-----------------|---|
| CHS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHS | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CHS | 791 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CIS | 105 | Computer Applications and Information Technology | Introduces business information systems from a business intelligence perspective and the uses of application software with emphasis on database and spreadsheet packages for efficient and effective problem solving. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Information Systems | 3 | CS | |
| CIS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Information Systems | 1-4 | | |
| CIS | 235 | Introduction to Information Systems | Survey course introducing the competitive and strategic uses of information systems, how information systems are transforming organizations and their management, and the issues, difficulties, and opportunities facing the technology professional and business manager today. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s) with C or better: CIS 105; MAT 210, 211, 270, or 271 OR Applied Business & Tech Solutions BA major; CIS 105; ECN 221 or 231 OR Data Science BS major; CSE 205; Credit is allowed for only CIS 235 or CIS 236 OR Visiting University Student |
| CIS | 236 | Honors Introduction to Information Systems | Introduces strategic leveraging of IS solutions and surveys different facets of IS in order to gain an understanding of how business problems are addressed and opportunities realized. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Information Systems | 3 | CS | Prerequisite(s): Barrett Honors student |
| CIS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Information Systems | 1-4 | | Prerequisite(s): Business Data Analytics BS or Computer Information Systems BS major |
| CIS | 300 | Web Design and Development | Focuses on Web site development, including target audience, image presentation, page/content topic organization, site navigational functionality, implementation needs, and future needs. Web site design and development practice using business software products. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): minimum 2.00 GPA; minimum 56 hours, OR post-baccalaureate undergraduate student, OR non-degree student; minimum 2.00 GPA, OR graduate student OR Visiting University Student |
| CIS | 308 | Advanced Excel in Business | Covers advanced Excel skills using an applied focus on different types of decisions one may analyze using spreadsheet capabilities; graphs and charts to communicate complex analytics; pivot tables to slice and dice data for reporting. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): CIS 105 or 236 with C or better OR Visiting University Student |
| CIS | 309 | Business Process Management | Flow charting, swimlane diagramming, process simulation using modern tool suites. Teaches the types of process evaluation decision analytics most commonly used and covers applied process analysis in a variety of contexts. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): CIS 105 or 236 with C or better OR Visiting University Student |
| CIS | 310 | Business Data Visualization | The design of insightful business data visualizations and dashboards to improve business decision making. Applies advanced data visualization techniques to make sense of temporal, geospatial, topical and network business data while also making it easier to digest and utilize for business users. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): CIS 105 or 236 with C or better OR Visiting University Student |
| CIS | 311 | Business Agile Project Management | Overview of project management emphasizing the fundamentals, analytics and value that support project decision making. Covers how and why projects are selected within organizations, the purpose of projects, and the way that they should be properly managed using industry best practices and frameworks. Includes classical (Waterfall), modern (Agile), and hybrid project management techniques. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): CIS 105 or 236 with C or better OR Visiting University Student |
| CIS | 312 | Business Mobile Commerce and Monetization | Teaches students the entire mobile commerce process starting with recognizing what it is, what it does, how to build it and the business value of it. Familiarizes students with software development platforms and ecosystems, strategies for development and deployment, and monetization strategies. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): CIS 105 or 236 with C or better; Credit is allowed for only CIS 312 or CIS 294 (Business Mobile App Development and Monetization) OR Visiting University Student |

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| CIS | 313 | Location Analytics in Business | Understands location intelligence via visualization and analyses of geo-spatial data to enhance business insights and decision making. Teaches how location analytics can offer better insights and decision-making support for business by analyzing geo-referenced data with GIS application software such as ArcGIS Online. Explores and geo-enriches the location component of business data to perform market analysis, visualize demographic, customer, and competition data and share analysis insights using engaging maps. Covers how spatial analysis helps organizations decrease cost, increase revenue and reduce risks. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): CIS 105 or 236 with C or better; Credit is allowed for only CIS 313 or CIS 394 (Location Analytics for Business) OR Visiting University Student |
| CIS | 315 | Introduction to Business Data Analytics | Overview of analytics in the business context; concepts of strategic and operational analytics; overview of concepts like dimensional modeling, the Model Lifecycle, data mining, big data, KPIs and metrics, ERP and analytics, in-database/memory analytics; real-time analytics and data stream analysis. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): Business Data Analytics BS major; CIS 235 or 236 with C or better; ECN 221 or 231 with C or better; MAT 211, 266, or 271 with C or better OR Visiting University Student |
| CIS | 325 | Fundamental Techniques for Business Data Analytics | Manipulating, processing, cleaning and crunching data with a focus on utilizing scripting and programming tools toward business applications. Also a practical, modern introduction to extraction, transformation and loading of enterprise data for business applications. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): Business Data Analytics BS, Computer Information Systems BS, or Business (Information Security) BA major; CIS 235 or 236 with C or better; ECN 221 or 231 with C or better OR Visiting University Student |
| CIS | 340 | Business Information System Development I | Systems Development Life Cycle (SDLC) tools, techniques, and methodologies used to plan and analyze the needs of modern business information system development. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W. P. Carey Computer Information Systems BS major; ACC 241, 242 or 271 with C or better; CIS 235 or 236 with C or better; ECN 221 with C or better; MAT 211, 266 or 271 with C or better OR Visiting University Student |
| CIS | 345 | Business Information System Development II | Provides a clear understanding of the Systems Development Life Cycle (SDLC) tools, techniques, and methodologies used to design, implement, and support modern business information systems development. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): Computer Information Systems BS major; CIS 340 with C or better OR Visiting University Student |
| CIS | 360 | Business Database Concepts | Database theory, design, and application, including the entity-relationship model; the relational, hierarchical, and network database models; and query languages. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W. P. Carey Accountancy BS or Business (Information Security) BA major; ACC 231, 232 or 261 with C or better; ACC 241, 242 or 271 with C or better; CIS 105 or 236 with C or better OR Visiting University Student |
| CIS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Information Systems | 1-4 | | Prerequisite(s): minimum 2.00 GPA; minimum 56 hours OR nondegree-seeking student; minimum 2.00 GPA OR degree- or nondegree-seeking graduate student OR Visiting University Student |
| CIS | 401 | Managing Cyber Risks in Enterprise Business Processes | Covers the activities, decisions, risks and controls associated with enterprise business processes. Specific focus on the activities in the sales-to-cash (revenue cycle) and purchase-to-pay (expenditure cycle) processes. Students understand how IT enables performing those processes more efficiently and effectively. In addition to identifying internal controls necessary for accurate, complete performance of processes, also covers the fundamentals of cybersecurity. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): ACO 320 or CIS 235 or CIS 236 or CSE 310 or IEE 305 with C or better; Credit is allowed for only ACO 401 or CIS 401 OR Visiting University Student |
| CIS | 402 | Privacy, Ethics and Compliance Issues | Covers the activities, mechanisms and challenges associated with implementing the principles of privacy into corporate structures. Also provides an overview of the privacy regulatory landscapes as well as emerging challenges with privacy. Specific focus areas include the Generally Accepted Privacy Principles framework and the implementation of privacy controls via the use of process and technology. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): ACO 401, CIS 401, or CSE 465 with C or better; Credit is allowed for only ACO 402 or CIS 402 OR Visiting University Student |

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| CIS | 405 | Business Intelligence | Business intelligence (BI) is a term describing a broad category of applications, technologies, architectures and processes for gathering, storing, accessing and analyzing data to provide business users with timely information to enable better insights into project and process management and evidence-based decision making. BI is based on techniques for data decision capture, cleansing, validation, warehousing and analytics to help decision makers improve decision outcomes. Provides a capstone understanding of the concepts of managing data resources and the development of business intelligence capabilities using data visualization, data warehousing, data mining, online analytical processing decision support systems and other advanced BI topics. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s) CIS 105 or 236 with C or better OR Visiting University Student |
| CIS | 407 | Business Database Systems Development | Focuses on business database and data warehousing systems, development and management. Topics include capturing business requirements using data modeling, SQL, data security, operational and analytical data stores and data integrity. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): Business Data Analytics BS, Computer Information Systems BS, or Data Science BS major; CIS 235 or 236 with C or better OR Visiting University Student |
| CIS | 409 | Business Data Warehouses and Dimensional Modeling | SQL, stored procedures and data warehouse architectures; data warehouse requirements definition, design and analysis; overview of the steps in building information-enabled business models; role of data warehousing in data mining and analytics. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): Business Data Analytics BS or Data Science BS major; CIS 407 (CIS 365) with C or better OR Visiting University Student |
| CIS | 412 | Business Machine Learning | Building predictive analytics (e.g., SEMMA, KDD); exposure to logistic regression, machine learning and decision tree methods; Understanding lift factors, ROC curves; hands-on use of mining software; business case studies. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): Business Data Analytics BS major; CIS 315 with C or better; WPC 300 with C or better OR Data Science BS major; CIS 235 with C or better; DAT 300 with C or better OR Visiting University Student |
| CIS | 415 | Big Data Analytics in Business | Applications of machine learning, data and text mining for big data, Hadoop, cloud-based solutions, fundamentals of big data programming, social media and big data, NoSQL, GIS, business case studies. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): Business Data Analytics BS major; CIS 315 with C or better; CIS 325 with C or better OR Data Science BS major; CIS 235 with C or better; DAT 301 with C or better OR Visiting University Student |
| CIS | 425 | Web Technologies for the Enterprise | Modern Web application technologies for the enterprise. Covers development of Web applications for handling business transactions and strategies including the use of cloud-based applications. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W. P. Carey Computer Information Systems BS major; CIS 340 with C or better; CIS 360 or CIS 407 (CIS 365) with C or better OR Visiting University Student |
| CIS | 430 | Mobile Platforms for Business | Mobile application development for the enterprise to address mobile transactions and consumer engagement. Covers business frameworks, app development; and management of devices, applications and services in today's multi-platform environment. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W.P. Carey Computer Information Systems BS major; CIS 345 with C or better; CIS 425 with C or better OR Visiting University Student |
| CIS | 440 | Capstone in Information Systems | Offers a capstone experience integrating concepts from the business as well as the technology curricula. Students analyze, propose and develop a full technology solution for a business enterprise. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | L | Prerequisite(s): W.P. Carey Computer Information Systems BS major; CIS 401 with C or better; CIS 425 with C or better; ENG 101, 105, or 107 with C or better |
| CIS | 450 | Enterprise Analytics | Model lifecycle analysis, analytics governance, aligning governance, aligning firm and analytics strategy, big data security issues, enterprise search, applied projects. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): Business Data Analytics BS major; CIS 409 (CIS 355) with C or better; CIS 412 (CIS 375) with C or better; CIS 415 with C or better OR Visiting University Student |
| CIS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | W. P. Carey School of Business | Department of Information Systems | 1-12 | | Pre-requisite: W.P. Carey CIS BS student |
| CIS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | W. P. Carey School of Business | Department of Information Systems | 1-6 | | Prerequisite(s): Barrett Honors student |
| CIS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | W. P. Carey School of Business | Department of Information Systems | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| CIS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | W. P. Carey School of Business | Department of Information Systems | 1-4 | | Prerequisite(s): Business Data Analytics BS or Computer Information Systems BS major |
| CIS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Information Systems | 1-3 | | Prerequisite(s): Business Data Analytics BS or Computer Information Systems BS major |
| CIS | 502 | Information Systems: Digital Innovations and Transformation | Organizational, strategic, and technical issues of the management of information. Evaluation, design, and use information systems as competitive advantage. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 1-4 | | Prerequisite(s): W.P. Carey MBA degree program student |

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| CIS | 503 | Decision Making with Data Analytics | Presents frameworks and approaches to equip students to recognize patterns in data and models, recommend actions and implement organizational changes. Students learn multiple concepts to improve decision making in organizations including the curation of data repositories for cross-functional analytics, recognition of decision biases, recommendation and communication of business process changes, and the establishment of iterative processes for decision analytics. Readings address decision-making dilemmas and challenges facing managers in analytics-rich business environments. Students get an immersive experience in analyzing the individual biases inherent in decision making, the informational requirements and the data analytics governance requirements to ensure effective deployment and continuous renewal of analytics culture at the enterprise level. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 2.5-3 | | Prerequisite(s): W. P. Carey MBA student; WPC 501 with C or better |
| CIS | 505 | Enterprise Data Analytics | Ensuring the foundational understanding of contextualized analytics within the business enterprise continuum by covering how data flows and is managed across the landscape of enterprise business processes. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W. P. Carey graduate student |
| CIS | 506 | Information Management | Addresses central issues in managing information to achieve competitive advantage and support innovation. Specific topics covered include data quality, data modeling using both entity relationship models and star schemas, data governance, document management, document search, enterprise performance management and visualization techniques. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 1-4 | | Prerequisite(s): graduate W. P. Carey major |
| CIS | 508 | Machine Learning in Business | Charting a roadmap for data-driven decision making and getting a practical understanding of how IT tools and techniques can allow managers to extract predictive analytics and patterns from primarily numeric data. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W. P. Carey graduate student |
| CIS | 509 | Analytics for Unstructured Data | Uses tools and techniques to analyze unstructured data that are applied to business problems to support informed decision making and the extraction of predictive analytics and patterns from primarily nonnumeric data. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W. P. Carey graduate student; CIS 508 |
| CIS | 510 | Enterprise Processes and Systems | Introduces essential business processes and the enterprise systems that support them. Provides an introduction to various techniques and tools of process analysis, including an understanding of organizational issues in rolling out change initiatives. Surveys major classes of enterprise systems including Enterprise Resource Planning (ERP) and Customer Relationship Management (CRM) and focuses on best practices for successful enterprise-class implementations and upgrades. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W.P. Carey graduate student |
| CIS | 512 | Business Intelligence | Understanding how organizations make use of Business Intelligence (BI) to gain a sustainable competitive advantage. Builds the foundations for evidence-based managerial decision making. Covers technologies for data warehousing and data mining from a managerial perspective. Covers contemporary topics such as real-time BI, business analytics, and business performance management with the help of case studies, audio-video content, guest speakers, online forums to generate creative thinking and discussion. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 1-4 | | Prerequisite(s): W.P. Carey graduate major |
| CIS | 515 | AI and Data Analytics Strategy | Deep learning applications have become an integral part of our lives over the last decade. Applications based on deep learning models cover a wide spectrum of industries including retail, automotive, manufacturing, health care, banking, insurance, agriculture, security and surveillance. Hands-on look at the latest models, trends, challenges and strategy of deep learning applications in business. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W. P. Carey graduate student; CIS 509 |
| CIS | 518 | Big Data Analytics | Combines hands-on experience with relevant readings to explore the business strategies behind big data, AI, analytics and data science that drive enterprise decision making and how such strategies can lead to long-term competitive advantage. | N | LEL | N | GNA | W. P. Carey School of Business | Department of Information Systems | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CIS 518 or CIS 591 (Big Data Analytics) or CIS 591 (Information Enabled Business Modeling) |

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| CIS | 525 | Strategic Value of Information Technology | Explores the strategic value of information technology (IT). Identifies competitive advantages derived from IT solutions along with IT's impacts on strategy formulation and business operations. Discusses economic issues, benefits and risks associated with IT. Instills in students a balanced and disciplined view of IT and business with their interplay. Explicates the importance of aligning IT and business strategies to enable strategic positioning and achieve operational effectiveness. Assigns cases and assignments involving the symbiotic relationship of IT and business to provide real-world exposure for critical thinking and engaging discussion. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W. P. Carey graduate student |
| CIS | 531 | Cloud Architecture and Strategy | For students who seek an overall understanding of the architecture and platforms of cloud computing from a business perspective. Provides a detailed overview of cloud concepts, core services, security, architecture and support to improve the outcomes of the enterprise. | N | LEL | N | GNA | W. P. Carey School of Business | Department of Information Systems | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CIS 531 or CIS 591 (Cloud Architecture and Platforms) |
| CIS | 533 | Cloud Deployment and Management | Develops business expertise and skill in deploying and managing cloud technologies such as public cloud, private cloud, hybrid cloud and others. Emphasizes the best practices and design patterns of cloud operations to provide a foundation to deploy, maintain, migrate, problem solve and troubleshoot for cloud-based business solutions. | N | LEL | N | GNA | W. P. Carey School of Business | Department of Information Systems | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CIS 533 or CIS 591 (Cloud Deployment and Management) |
| CIS | 540 | Enterprise Cybersecurity | Provides a broad survey of information security and controls, utilizing industry-based frameworks to illustrate how information security programs are developed, delivered and operationalized in organizations today. Develops an understanding of the issues associated with information security with particular emphasis on how management contributes to the effectiveness of an organization's information security program. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W. P. Carey graduate student |
| CIS | 541 | Business Data Visualization | The design of insightful business data visualizations and dashboards to improve business decision making. Key focus on data visualization design principles incorporating graphical integrity. Applies advanced data visualization techniques to make sense of large data sets such as temporal, geospatial, topical and business data while also making it easier to digest, present and utilize for business needs and users. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W. P. Carey graduate student |
| CIS | 545 | Managing Enterprise Systems | Investigates major categories of enterprise systems, factors driving software adoption and keys for successful implementation. Pays special attention to evaluating the potential impact of emerging technologies on business environments. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W.P. Carey graduate major; Credit is allowed for only CIS 545 or CIS 591 (Enterprise Systems) |
| CIS | 560 | IT Services and Project Management | Provides an overview of the project management process groups and knowledge areas (defined by the PMBOK) and focuses on the application of key concepts, tools and techniques for delivering on-time, on-budget IT project and services that meet end-user needs. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W.P. Carey graduate major; Credit is allowed for only CIS 560 or CIS 591 (IT Services and Project Management) |
| CIS | 565 | Artificial Intelligence and Business | Explores modern artificial intelligence (AI) technology, applications, techniques and their implications for business. People, process and technology factors related to the innovation and adoption of AI in the commercial enterprise and how it shapes the competition and society in the future. Also covers implications for information systems professionals as it pertains to managing the AI infrastructure (robots, algorithms, platforms). | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W. P. Carey graduate student |
| CIS | 575 | Emerging Technologies | Explores decision models and frameworks applied to assess, evaluate and implement emerging technologies. Explains the principles of sustaining and disruptive technological innovation on the adoption and diffusion of emerging technologies. Discusses the technical, industrial and legal parameters that enable convergence and commoditization of technologies. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Information Systems | 3 | | Prerequisite(s): W.P. Carey graduate major; Credit is allowed for only CIS 575 or CIS 591 (Emerging Technologies in IT) |
| CIS | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Information Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CIS | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Information Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CIS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Information Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| CIS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Information Systems | 1-12 | | Prerequisite(s): Business Analytics MS, Information Systems Management MS, W. P. Carey MBA or W. P. Carey PhD student |
| CIS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Information Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CIS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Information Systems | 1-12 | | Pre-requisite: Specific W.P. Carey Graduate student |
| CIS | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Information Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CIS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | W. P. Carey School of Business | Department of Information Systems | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CIS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Information Systems | 1-4 | | Pre-requisite: Specific W.P. Carey Graduate student |
| CIS | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | W. P. Carey School of Business | Department of Information Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CIS | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Information Systems | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CIS | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Information Systems | 1-12 | | Prerequisite(s): W.P. Carey PhD student |
| CIS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Information Systems | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CIS | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | W. P. Carey School of Business | Department of Information Systems | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CIS | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | W. P. Carey School of Business | Department of Information Systems | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CMN | 502 | Theory and Practice in Communication and Persuasion | Theoretical exploration of communicative and persuasive practices as applied in various contexts. Surveys classical, modern, and contemporary theories of persuasion. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Communication Studies MA student |
| CMN | 505 | Methods in Applied Communication Research | Examines the intellectual, practical, and ethical dimensions of engaging in applied research. Emphasizes empirical and quantitative methods. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Communication Studies MA student |
| CMN | 506 | Humanistic Inquiry and Field Research in Communication | Examines interpretive, critical, and rhetorical approaches to communication and advocacy, including hermeneutics, ethnography, and cultural studies. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Pre-requisite: Communication Studies Master of Arts student |
| CMN | 515 | Ethical Issues in Communication Advocacy | Examines the ethical issues or concerns related to communication advocacy. Variable topics; examines research, theory, and/or practice. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Communication Studies MA student |
| CMN | 516 | Mediation and Dispute Resolution | Examines advocacy's role in fair negotiation and effective and successful dispute resolution. Examines research, theory, and/or practice. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Communication Studies MA student |
| CMN | 520 | Communication Campaigns | Explores public communication strategies aimed at advocating for general or specific audiences and/or for particular issues and causes. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Communication Studies MA student; CMN 502 or 522 with C or better |
| CMN | 522 | Argumentation and Advocacy | Introduces various models of argumentation and their applications to various spheres of advocacy. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Communication Studies MA student |
| CMN | 531 | Communication and Social Change | Examines human communication and technologies of communication as agents of social change within groups, communities, organizations, and/or cultures. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Communication Studies MA student |

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| CMN | 532 | Advocacy in Interpersonal Settings | Examines particular relational contexts in which advocacy plays a pronounced role (e.g., personal, family, and service provider relationships). | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Communication Studies MA student |
| CMN | 550 | Advocacy in Organizational Settings | Examines issues of upward influence, the expression of dissent, and grievance systems within organizational contexts. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Communication Studies MA student |
| CMN | 551 | Democracy and Power in Organizations | Examines structural, historical, relational, and symbolic dimensions of organizational communication and discourses that foster or impede communication advocacy. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Communication Studies MA student |
| CMN | 557 | Communication and Technology | Assesses technology's role in the social dynamics of human interaction. Emphasizes the impact of technology with regard to communication advocacy. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Communication Studies MA student |
| CMN | 565 | Globalization and Advocacy | Explores the forces leading to increased intergroup contact and their impact on social, economic, and political dynamics. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Communication Studies MA student |
| CMN | 570 | Communication and Advocacy in Social Context | Variable topics course exploring the intersection of communication and advocacy in specific contexts not addressed in other elective courses. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Communication Studies MA student |
| CMN | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): Communication Studies MA student |
| CMN | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): Communication Studies MA student |
| CMN | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): Communication Studies MA student |
| CMN | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): Communication Studies MA student |
| CMN | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): Communication Studies MA student |
| CMN | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): Communication Studies MA student |
| CMN | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | RSC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): Communication Studies MA student |
| CMN | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1 | | Prerequisite(s): Communication Studies MA student |
| CMN | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CMN | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): Communication Studies MA student |
| CNE | 210 | Engineering Mechanics I: Statics | Force systems, resultants, equilibrium, distributed forces, area moments, fluid statics, internal forces, friction, and stability. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | | Prerequisite(s): FSE 100 with C or better; MAT 266 or 271 with C or better; PHY 121 with C or better; PHY 122 with C or better; Corequisite(s): MAT 242; Credit is allowed for only CEE 210 or CNE 210 OR Visiting University Student |
| CNE | 212 | Engineering Mechanics II: Dynamics | Kinematics and kinetics of particles, translating and rotating coordinate systems, rigid body kinematics, dynamics of systems of particles and rigid bodies, and energy and momentum principles. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | | Prerequisite(s): CEE 210 or CNE 210 with C or better; MAT 242 with C or better; MAT 274 or 275 with C or better; Credit is allowed for only CEE 212 or CNE 212 OR Visiting University Student |

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| CNE | 213 | Introduction to Deformable Solids | Strain-displacement and stress-strain-temperature relations. Stresses and deformations due to axial, shear, torsional and bending moments. Buckling, stability. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | | Prerequisite(s): CEE 210, CNE 210, or EVE 214 with C or better; MAT 274 or 275 with C or better; Credit is allowed for only CEE 213 or CNE 213 OR Visiting University Student |
| CNE | 241 | Surveying | Theory and fieldwork in construction and land surveys. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | | Prerequisite(s): MAT 170 or higher with C or better; Credit is allowed for only CEE 281 or CNE 241 or CON 241 OR Visiting University Student |
| CNE | 243 | Heavy Construction Equipment, Methods and Materials | Emphasizes Horizontal construction. Fleet operations, maintenance programs, methods, and procedures to construct tunnels, roads, dams, and the excavation of buildings. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | | Credit is allowed for only CON 243 or CNE 243 |
| CNE | 271 | Construction Safety | Safety procedures and equipment. OSHA requirements for construction. Biological aspects of construction safety. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | | Prerequisite(s): Construction Management BS or Construction Engineering BSE major; Credit is allowed for only CNE 271 or CON 271 OR Visiting University Student |
| CNE | 296 | Summer Field Internship | Participation as interns on construction projects to observe and experience the daily activities. | N | PRA | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 1 | | Prerequisite(s): Construction Management BS or Construction Engineering BSE major; CON 271 or CNE 271; Credit is allowed for only CON 296 or CNE 296 |
| CNE | 321 | Structural Analysis and Design | Statically determinate and indeterminate structures (trusses, beams, and frames) by classical and matrix methods. Introduces structural design. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 4 | | Prerequisite(s): Civil Engineering BSE or Construction Engineering BSE major; CEE 212 or CNE 212; CEE 213 or CNE 213 with C or better; Credit is allowed for only CEE 321 or CNE 321 OR Visiting University Student |
| CNE | 351 | Geotechnical Engineering | Index properties and engineering characteristics of soils. Compaction, permeability and seepage, compressibility and settlement, and shear strength. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 4 | | Prerequisite(s): Civil Engr BSE, Construction Engr BSE, or Environmental Engr BSE major; CEE 212 or CNE 212 with C or better; CEE 213 or CNE 213 with C or better; Credit is allowed for only CEE 351 or CNE 351 OR Visiting University Student |
| CNE | 353 | Civil Engineering Materials | Structure and behavior of civil engineering materials, including steel, aggregate, concrete, masonry, asphalt, wood, composites. Atomic structure and engineering applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 4 | | Prerequisite(s): Civil Engr BSE, Construction Engr BSE, or Environmental Engr BSE major; CEE 213 or CNE 213 w/C or better; Credit is allowed for only CEE 353 or CNE 353 or EVE 354 or EVE 394 (Materials in the Environment) OR Visiting University Student |
| CNE | 383 | Construction Estimating | Analyzes construction drawings and specifications. Utilizes advanced technical and ethical practices in estimating process. Quantity surveying techniques for CSI divisions. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | | Prerequisite(s): Construction Engr BSE maj; CNE 243 or CON 243 OR Construction Mgmt&Tech BS maj; CON 252 OR Interdisc Studies BA maj or Construction Mgmt minor; CON 243 or 252; Credit is allowed for only CNE 383 or CON 383 OR Visiting University Student |
| CNE | 400 | Earth Systems Engineering and Management | Introduces earth systems engineering and management, and the technological, economic and cultural systems underlying the terraformed Earth. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | (L or HU) & H | Prerequisite(s): Civil Engr BSE major; CEE 300 with C or better; ENG 101, 105, or 107 with C or better OR non-CEE junior or senior; ENG 101, 105, or 107 with C or better; Credit is allowed for only CEE 400 or CNE 400 OR Visiting University Student |
| CNE | 421 | Concrete Structures | Behavior of concrete structures and the design of reinforced and prestressed concrete members, including footings. Partial design of concrete building system. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | | Prerequisite(s): Civil Engineering BSE or Construction Engineering BSE major; CEE 321 or CNE 321 with C or better; CEE 353 or CNE 353 with C or better; Credit is allowed for only CEE 421 or CNE 421 OR Visiting University Student |
| CNE | 450 | Geotechnical Applications for Construction | Soil formation, engineering properties and use as building materials. Soil's influence on construction of built environment, including specifications and biological aspects. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | | Prerequisite(s): Construction Management BS major; CON 223 with C or better; CON 310; Credit is allowed for only CNE 450 or CON 450 OR Visiting University Student |

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| CNE | 452 | Foundations | Applies soil mechanics to foundation and retaining wall systems, including bearing capacity, settlement, and lateral earth pressure. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | | Prerequisite(s): Civil Engineering BSE or Construction Engineering major; CEE 351 or CNE 351 with C or better; Credit is allowed for only CEE 452 or CNE 452 OR Visiting University Student |
| CNE | 453 | Construction Technology | Building information modeling, including current computer programs and technology planning strategies for advanced project deliveries. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | | Prerequisite(s): Construction Mgt & Tech BS, Interdisc Studies (Construction Mgt concentration) BA, or Construction Mgt minor; CON 251 OR Construction Engr BSE; senior standing; Credit is allowed for only CNE 453 or CON 453 OR Visiting University Student |
| CNE | 455 | Construction Project Management | Advanced topics in administrative procedures, planning processes, and coordination required to successfully complete construction projects on time and budget. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | | Prerequisite(s): Construction Engineering BSE or Construction Management and Technology BS major; Pre- or corequisite(s): CNE 495 or CON 495; Credit is allowed for only CNE 455 or CON 455 or CON 545 OR Visiting University Student |
| CNE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Construction Engineering | 1-12 | | Prerequisite(s): Construction Management BS major with CON 296 or CNE 296 OR Construction Engineering BSE major with CON 271 or CNE 271; Credit is allowed for only CON 484 or CNE 484 |
| CNE | 486 | Integrated Civil Engineering Design | Requires completion of a civil engineering design in a simulated practicing engineering environment. Limited to undergraduates in their final semester. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 4 | L | Prereq(s): ENG 101, 105, or 107 with C or better; Civil Engr; CEE 321; CEE 341; CEE 351; CEE 353; CEE 361; CEE 372 OR Constr Engr; CEE 321, CNE 321; CEE 351, CNE 351 OR Envir Engr; CEE 341; EVE 302; EVE 303; Credit is allowed for only CEE 486 or CNE 486 |
| CNE | 495 | Construction Planning and Scheduling | Various network methods of project scheduling, such as AOA, AON Pert, bar-charting, line-of-balance, and VPM techniques. Microcomputers used for scheduling, resource allocation, and time/cost analysis. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | CS | Prerequisite(s): Construction Mngmt BS major, Construction Engineering BSE major, BIS major with Construction Mngmt emphasis, or Construction Mngmt minor; CNE 383 or CON 383; Credit is allowed for only CNE 495 or CON 495 OR Visiting University Students |
| CNE | 496 | Construction Contract Administration | Surveys administrative procedures of general and subcontractors. Studies documentation, claims, arbitration, litigation, bonding, insurance, and indemnification. Discusses ethical practices. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Construction Engineering | 3 | L | Prerequisite(s): Construct Engr BSE, Construct Mgt & Technology BS, BIS Construct Mgt emphasis, or Construct Mgt minor; ENG 101, 105, or 107 with C or better; senior standing; Credit is allowed for only CNE 496 or CON 496 OR Visiting University Student |
| COE | 501 | Introduction to Research and Evaluation in Education | Overview of educational inquiry from controlled, quantitative to qualitative, naturalistic. Emphasizes locating and critically interpreting published research. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only COE 501 or ECD 503 or PPE 501 or SPE 501 or TEL 501 |
| COE | 502 | Introduction to Data Analysis | Descriptive statistics, visual approaches, estimation, and inferential methods for univariate and bivariate educational research problems. Experience using statistical software. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate; Credit is allowed for only COE 502 or EDP 502 |
| COE | 503 | Introduction to Qualitative Research | Terminology, historical development, approaches (including ethnography, ethnomethodology, critical theory, grounded theory, and hermeneutics), and qualitative versus quantitative social sciences; methods of inquiry. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| COE | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post-Baccalaureate Undergraduate |
| COM | 100 | Introduction to Human Communication | Topics-oriented introduction to basic theories, dimensions, and concepts of human communicative interaction and behavior. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB | |
| COM | 110 | Elements of Interpersonal Communication | Introduces fundamental concepts and skills related to interpersonal communication. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |

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| COM | 124 | Media and Culture | Introduces contemporary intercultural issues as expressed through various media in American society. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | C | |
| COM | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-3 | | Pre-requisite: Maximum 24 earned hours |
| COM | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-4 | | |
| COM | 207 | Introduction to Communication Inquiry | Bases of inquiry into human communication, including introduction to notions of theory, philosophy, problems, and approaches to the study of communication. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): COM 100 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 222 | Argumentation | Philosophical and theoretical foundations of argumentation, including a comparison of models of advocacy and evidence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | L | Prerequisite(s): ENG 101, 105 or 107 with C or better OR Visiting University Student |
| COM | 225 | Public Speaking | Verbal and nonverbal communication in platform speaking. Discussion and practice in vocal and physical delivery and in purposeful organization and development of public communication. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| COM | 230 | Small Group Communication | Principles and processes of small group communication, attitudes, and skills for effective participation and leadership in small groups, small group problem solving, and decision making. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB | |
| COM | 235 | Disability, Justice and Advocacy | Overarching history of the disability rights movement and how it is similar to and different from other civil and rights movements. Examines how policies and activism are interconnected within this movement, in addition to looking at other human categories related to disabilities such as gender, sexuality, race and socioeconomic status. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | C | Credit is allowed for only COM 235 or JUS 235 or SST 235 or WST 235 |
| COM | 241 | Introduction to Oral Interpretation | Communication of literary materials through the mode of performance. Verbal and nonverbal behavior, interface of interpreter with literature and audience, and rhetorical and dramatic analysis of literary modes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 250 | Communication and the Workplace | Introduces the study of communication in the workplace, including topics such as successful organizational communication strategies, supervisor and peer relationships, workplace conflict, new media and technology, professionalism, organizational morale, work-life well-being and employee socialization. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| COM | 259 | Communication in Business and the Professions | Interpersonal, group, and public communication in business and professional organizations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): non-Communication student; minimum 25 hours OR Visiting University Student |
| COM | 263 | Elements of Intercultural Communication | Basic concepts, principles, and skills for improving communication among persons from different minority, racial, ethnic, and cultural backgrounds. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB & C & G | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| COM | 277 | Sport Communication | Explores, synthesizes and evaluates the connection between communication and sport by examining the role and place of sport in community building, identity formation and media representations. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Credit is allowed for COM 277 or COM 294 (Examination of communication in the sport context) or COM 294 (Sport Communication) |
| COM | 281 | Communication Activities | Participation in forensics or interpretation cocurricular activities. | N | PRA | Y | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-3 | | |
| COM | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-4 | | |
| COM | 298 | Honors Directed Study | Independent study or practicum under the supervision of a faculty member. | N | PRA | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-6 | | Prerequisite(s): Barrett Honors student |
| COM | 300 | Communication in Interdisciplinary Studies | Examines and analyzes communication in the context of other academic disciplines. Open to BIS majors only. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): BIS student; ; minimum sophomore standing; minimum 2.00 GPA; COM 100 with C or better; COM 225 with C or better OR COM 259 with C or better OR Visiting University Student |
| COM | 302 | Representations and Self-Representations of Veterans in the Media and the Arts | Surveys the cultural history of veteran representations by examining various motives societies have for promoting specific kinds of representations of veterans; interrogating how media, politicians and the public construct and mythologize the image of the veteran; the ideological work these representations perform; and how veterans experience, resist or embrace and influence these images. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | H & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only COM 302 or MVS 302 or VTS 302 OR Visiting University Student |
| COM | 308 | Advanced Research Methods in Communication | Advanced communication research methods, including quantitative, qualitative, and critical approaches. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | L | Prerequisite(s): COM 207 with C or better; ENG 101, 105, or 107 with C or better; MAT 117 or an MA general studies course with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 309 | Rhetorical, Interpretive, and Critical Methods in Communication | Examines humanistic and qualitative approaches to communication. Introduces textual, interactional and ethnographic methods. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): COM 207 with C or better; minimum 2.0 GPA OR Visiting University Student |

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| COM | 310 | Communication in Interpersonal Relationships | Takes an interdisciplinary approach to understanding communication in developing and established relationships, such as those between romantic partners, friends and family members. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB | Prerequisite(s): COM 100 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 312 | Communication, Conflict, and Negotiation | Theories and strategies of communication relevant to the management of conflicts and the conduct of negotiations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): COM 100 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 314 | Inner-City Families: The Cycle of Poverty | Examines issues and concerns that confront inner-city families. Blends theory and application. From a theoretical perspective, examines issues that affect families who live in the inner city (e.g., race and poverty), as well as specific skills and programmatic elements that are needed to work with families in an urban setting. In terms of application, provides an intensive service-learning-based experience. Engages students in specific service to an embedded inner-city organization for a minimum of 3 hours per week. Students work with the professor to determine appropriate service placements. | N | PRA | Y | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| COM | 316 | Gender and Communication | Introduces gender-related communication. Examines verbal, nonverbal, and paralinguistic differences and similarities within social, psychological, and historic perspectives. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB & C | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| COM | 317 | Nonverbal Communication | Study of communication using space, time, movement, facial expression, touch, appearance, smell, environment, objects, voice, and gender/cultural variables. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB | Prerequisite(s): minimum 2.00 GPA; minimum 45 hours OR Visiting University Student |
| COM | 319 | Persuasion and Social Influence | Variables that influence and modify attitudes and behaviors of message senders and receivers, including analysis of theories, research, and current problems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB | Prerequisite(s): COM 100 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 320 | Communication and Consumerism | Critical evaluation of messages designed for public consumption. Perceiving, evaluating, and responding to political, social, and commercial communication. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| COM | 321 | Rhetorical Theory and Research | Historical development of rhetorical theory and research in communication, from classical antiquity to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | (L or HU) & H | Prerequisite(s): COM 100 with C or better; ENG 101, 105, 107, or 111 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 323 | Communication Approaches to Popular Culture | Critical analysis of popular culture within social and political contexts; emphasizes multicultural influences and representations in everyday life. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | C | Prerequisite(s): COM 100 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 324 | Rhetoric and Media Criticism | Critical examination of media arts, including cinema, television, and video. Applies rhetorical, textual, and interpretive methods of criticism. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Pre-requisite: Minimum 2.0 GPA |
| COM | 325 | Advanced Public Speaking and Presentations | Social and pragmatic aspects of public speaking as a communicative system; strategies of rhetorical theory and the presentation of forms of public communication. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | L | Prerequisite(s): COM 225 with C or better; ENG 101, 105, or 107 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 326 | Court Room Oratory | Increases knowledge and appreciation of the role of communication in the development of legal and public policies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | |
| COM | 327 | Civil Communication | Offers a theoretical understanding of civil communication and methods for applying civil communication practices in a variety of contexts. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): minimum junior standing; minimum 2.00 GPA OR Visiting University Student |
| COM | 328 | Communicating Science | Applies the fundamentals of public speaking and communication theory to technical and scientific presentations. Prepares students to communicate science and technology subject matter through presentations to the general public. Students adapt complex messages for a variety of audiences through traditional and multimodal presentations. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only COM 328 or COM 394 (Communicating Science) or LSC 394 (Communicating Science) OR Visiting University Student |
| COM | 335 | Acting for the Camera | Designed for students who are interested in pursuing a career in front of the camera, and students who are more generally interested in the arts and desire a better understanding of the commercial and film acting industry. It is a practical study of essential television and theatrical film presentation, teaching the student actor essential performance techniques in front of the camera, developing creativity in this performance environment and enhancing performance levels. | N | LEL | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only COM 335 or IAP 335 OR Visiting University Student |
| COM | 339 | Creating Dramatic Works: Page to Stage to Screen | Practical study of writing, directing, acting and performance techniques essential for the creation of theatrical works for stage, television and theatrical film presentation. | N | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prereq(s): ENG 102, 105, or 108 w/C or better; Credit allowed for only COM 339 or COM 394(Crt Dm Wrk:Pg to Stg&Scrn) or ENG 339 or ENG 394(Crt Dm Wrk:Pg to Stg&Scrn) or IAP 339 or IAP 394(Crt Dm Wrk:Pg to Stg&Scrn) OR Visiting University Student |
| COM | 341 | Social Contexts for Performance | Adaptation and performance of literature for the community outside the university. Research into the practical uses of performed literature. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): minimum 2.00 GPA |

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| COM | 342 | Oral History and Storytelling | Examines the formation of culture and history through research, presentations, the collection of oral history, and the telling of stories. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): ENG 101 or 102 with C or better OR Visiting University Student |
| COM | 353 | Professional Communication | Introduces both verbal and written professional communication styles and technologies in preparation for communication-related internships and careers. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| COM | 362 | Urban Communication: Reinventing the Latinx City | Explores and reflects on the impact of mediated representations of Latinx ethnic enclaves in the configuration of notions of community, citizenship and sense of belonging. Also looks at the role of media in identity formation as a way of engaging and challenging cultural, social and political ideologies and struggles in urban contexts. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only COM 362 or COM 394 (Urban Communication: Reinventing the Latinx City) or TCL 362 or TCL 394 (Urban Communication: Reinventing the Latinx City) OR Visiting University Student |
| COM | 363 | Latinxs and the Media | The rapid growth of Latinx-media within the U.S., and transnational/regional media in the Americas, is unprecedented. Local and global organizations serving Latinx communities are increasingly acknowledging the importance of preparing professionals and academics with an understanding not only of Latino communities, but also of media industries and communication issues that impact those communities. Examines the production, distribution, and consumption of Latinx Media and images in the United States (U.S.). Focuses on a wide range of mediated cultural production with an emphasis on visual media such as television, film, advertising and digital/social media. Pays special attention to the influence of the so-called Latinx market, the configuration of national, racial and ethnic identities, politics, cultural production and the ways it challenges and/or reproduces competing cultural ideologies. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | C | Prerequisite(s): minimum 45 hours; Credit is allowed for only COM 363 or COM 394 (Latinos and Media) or TCL 394 (Latinos and Media) OR Visiting University Student |
| COM | 364 | Cultural Communicology | Basic introduction to cultural communicology, focusing on its relationship to general systems theory and semiotics (the study of signs and sign systems). Focuses on lived-experience as a semiotic interrelation between culture and communication. General systems theory and semiotic theory are used to study culture as a living condition of communicative relations among humans and within their environment. Emphasizes practical applications to real-world problems. Examines communication as a confluence of intrapersonal, interpersonal, group and transcultural networks of codes and messages. Uses comparative cultural contexts as a basis for applied analysis. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): COM 100; Credit is allowed for only COM 364 or COM 394 (Cultural Communicology) OR Visiting University Student |
| COM | 371 | Language, Culture, and Communication | Cultural influences of language on communication, including social functions of language, bilingualism, biculturalism, and bidialectism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB & C & G | Prerequisite(s): COM 263 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 377 | Communication, Terrorism, and National Security | Surveys strategic communication and its relationship to terrorism challenges facing the United States and the rest of the world. Begins with a look at language and definitions, how strategic communication functions are traditionally conceptualized, and the scope and extent of the terrorism problem. Focuses on the contemporary problems of terrorism, including its extent, tactics, and strategies and strategies that aim to combat it. Concludes with a look at new frontiers in the terrorism struggle, including new media and communication approaches. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): minimum junior standing; minimum 2.00 GPA |
| COM | 382 | Classroom Apprenticeship | Nongraded credit for students extending their experience with a content area by assisting with classroom supervision in other COM courses. | N | PRA | N | YGB | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-6 | | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| COM | 383 | Communication and Mentoring | Explores the role of communication in face-to-face and online mentoring relationships with an emphasis on message shaping, nonverbal communication, professionalism and audience analysis. Applies practice and theory from a variety of lower-division communication courses (public speaking, professional and business, small group, intercultural and interpersonal) to prepare students for mentoring roles in CommLabASU on ASU's West campus. During the semester, students (individually and as a member of a group) engage in creating and delivering both online and in-person public speaking tutorials. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): COM 225 with B or better OR Visiting University Student |
| COM | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-4 | | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |

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| COM | 400 | Communication in Professions | Specialized study of communication processes in professional and organizational settings. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): Appl Bus & Tech Sol BA, Business (Comm) BA, Commcnatn BA, Commcnatn BS, or Intdis Studies BA major; COM 259 with C or better, or both COM 100 and 225 with C or better; min 2.00 GPA; min sophomore standing OR Visiting University Student |
| COM | 404 | Research Apprenticeship | Direct research experience on faculty projects. Student/faculty match based on interests. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): COM 308 with C or better; minimum 2.00 GPA |
| COM | 407 | Advanced Critical Methods in Communication | Examines critical approaches relevant to communication, including textuality, social theory, cultural studies, and ethnography. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): COM 308 with C or better; minimum 2.00 GPA; Credit is allowed for only COM 407 or COM 507 OR Visiting University Student |
| COM | 408 | Quantitative Research Methods in Communication | Advanced designs, measurement techniques, and methods of data analysis of communication research. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): COM 308 with C or better; minimum 2.00 GPA; Credit is allowed for only COM 408 or COM 508 OR Visiting University Student |
| COM | 410 | Advanced Interpersonal Communication | Advanced course focused on gaining a deeper understanding of interpersonal communication concepts and theories, and how they apply to various contexts. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB | Prerequisite(s): COM 110 or 310 with C or better; COM 308 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 411 | Communication in the Family | Broad overview of communication issues found in marriage and family life, focusing on current topics concerning communication in the family. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB | Prerequisite(s): COM 100 or 110 with C or better; minimum 2.00 GPA; Credit is allowed for only CMN 598 (Communication in the Family) or COM 411 OR Visiting University Student |
| COM | 413 | Resilient Relationships and Communities | Explores resilience in individuals, relationships and communities, placing specific emphasis on the psychological, social and cultural factors that determine how people cope, recover and even thrive after experiencing major adversity or disruption and how resilience is defined, enacted and sustained through communication. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): min junior standing; min 2.00 GPA; Credit is allowed for COM 413 or COM 494 (Resilient Comm & Relationships) or CMN 598 (Resilient Comm & Relationships) or PSY 598 (Resilient Comm & Relationships) OR Visiting University Student |
| COM | 414 | Crisis Communication | Role of communication in crisis development and intervention. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| COM | 415 | Risk Communication | Understanding how risk is constructed and assessed across social spheres, developing familiarity with dominant approaches to framing risk and the principles and professional practices of risk communication. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 2.50 GPA; minimum junior standing; Credit is allowed for only COM 415 or COM 494 (Risk Communication) OR Visiting University Student |
| COM | 416 | Gender and Race in the Media | Explores how the mass media constructs gender and race and perpetuates views of minorities and varied nationalities. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 2.00 GPA |
| COM | 417 | Communication and Aging | Critical study of changes in human communicative patterns through the later adult years, with attention on intergenerational relationships and self-concept functions. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 2.00 GPA |
| COM | 420 | Rhetoric and Community Advocacy | Critical rhetorical study of local communities and advocacy, including fieldwork guided by rhetorical theory; the intersection of media, rhetoric and advocacy; and reflexivity in rhetorical fieldwork. Examines rhetoric in the context of community advocacy and through participant observation within social controversies. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): COM 308 with C or better; ENG 101, 105, or 107 with C or better; Pre- or corequisite(s): junior or senior standing; Credit is allowed for only COM 420 or COM 494 (Rhetoric and Community Advocacy) |
| COM | 421 | Rhetoric of Social Issues | Critical rhetorical study of significant speakers and speeches on social issues of the past and present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | HU | Prerequisite(s): COM 308 or 309 with C or better; COM 321 or 323 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 422 | Advanced Argumentation | Advanced study of argumentation theories and research as applied to public forums including: political, business, and legal contexts. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | L | Prerequisite(s): ENG 101, 105, 107, or 111 with C or better; minimum junior standing; minimum 2.00 GPA OR Visiting University Student |
| COM | 423 | Facilitating Collaboration and Dialogue | Explores processes of collaboration, dialogue, deliberation and participative decision making. Examination of both philosophical and scientific perspectives on to these processes as they relate to communication in various settings (community relations, dispute resolution, social work, policing and politics) and in personal relationships and family life. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 2.00 GPA; Credit is allowed for only CMN 598 (Facilitating Collaboration and Dialogue) or COM 423 or COM 494 (Facilitating Collaboration and Dialogue) OR Visiting University Student |
| COM | 424 | Television Studies and Criticism | Surveys critical and historical approaches to television as a medium; to television research; and to television's effects. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): COM 207 with C or better OR minimum junior standing; minimum 3.00 GPA |

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| COM | 426 | Political Communication | Theories and criticism of political communication; including campaigns, mass persuasion, propaganda, and speeches. Emphasizes rhetorical approaches. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| COM | 427 | Crime and Media | Examines the relationships among crime and discourse, media representations of crime and criminals, and the structural deficiencies in society that perpetuate relations of domination and oppression based on class, race, gender and sexuality. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum junior standing; minimum 2.00 GPA; Credit is allowed for only COM 427 or CRJ 427 or COM 494 (Crime, Communication and Media) or CMN 598 (Crime, Communication and Media) OR Visiting University Student |
| COM | 428 | Graphic Novels and Popular Culture | Rhetorical analysis, with a focus on the graphic novel as both persuasive product and practice. Explores the communicative, persuasive and cultural effects of this medium and specifically offers vocabulary and tools for critically viewing its influence on popular culture. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| COM | 429 | Semiotics and Visual Communication | Semiotic analysis of mediated forms of communication, including film, television, and photography. Includes the political and aesthetic dimensions of images. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): COM 207 with C or better OR minimum junior standing; minimum 3.0 GPA OR Visiting University Student |
| COM | 430 | Leadership in Group Communication | Theory and process of leadership in group communication, emphasizing philosophical foundations, contemporary research, and applications to group situations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| COM | 432 | Forgiveness and Reconciliation | Examines various communication processes related to forgiveness and reconciliation with a focus on constructive, prosocial responses to interpersonal relationship hurt and disappointment. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 2.00 GPA; Credit is allowed for only COM 432 or COM 494 (Forgiveness and Reconciliation) or COM 494 (Forgiveness, Mindfulness, and the Healthy Self) or CMN 598 (Forgiveness and Reconciliation) OR Visiting University Student |
| COM | 441 | Performance Studies | Theory, practice, and criticism of texts in performance. Emphasizes the interaction among performer, text, audience, and context. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | HU | Prerequisite(s): COM 241 with C or better; COM 308 with C or better; minimum 2.00 GPA |
| COM | 442 | Identity, Performance, and Human Communication | Explores communication dimensions of self and others as performance. Examines topics that include gender, race, sexuality, age, and ethnicity through performance. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): COM 225 with C or better; COM 241 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 445 | Narrative Performance | Theory and practice of performing narrative texts (e.g., prose fiction, oral histories, diaries, essays, letters). Includes scripting, directing, and the rhetorical analysis of storytelling. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | HU | Prerequisite(s): COM 241 with C or better; minimum 2.00 GPA |
| COM | 446 | Performance of Literature Written by Women | Explores, through performance and critical writing, literature written by women. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | (L or HU) & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 450 | Organizational Communication | Offers advanced exploration of organizational communication principles through analyses of scholarship and contemporary case studies. Topics include workplace culture, networking, leadership, management, nonprofits, virtual organizing, work-life balance, organizational change, power, control and ethics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB | Prerequisite(s): COM 250 with C or better; COM 308 or 309 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 451 | Communication and Work Relationships | Communication principles and practices associated with supervisory, peer, and client relationships. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): COM 100; minimum 2.50 GPA; minimum 45 hours OR Visiting University Student |
| COM | 452 | Communication and the Art of Happiness | Examines how communication behaviors relate to constructing happiness and wellbeing. Topics include gratitude, forgiveness, social support, appreciation, social networks and communicative contagion of mood intersecting with issues of dyadic, group and organizational communication. Auxiliary readings come from a variety of disciplines, including psychology, management, sociology, positive organizational scholarship and appreciative inquiry. Course activities include reading, field exercises, journal writing, exams, project presentation(s) and paper(s). | N | LEC | N | GNA | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): minimum 2.00 GPA; minimum junior standing OR Visiting University Student |
| COM | 453 | Communication Training and Development | Examines the procedures and types of communication training and development in business, industry, and government. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| COM | 454 | Rhetorical and Critical Approaches to Public Relations | An historical and contemporary account of how public relations messages build corporate identities and persuade audiences by shaping public values. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): COM 207 with C or better OR minimum junior standing; minimum 3.0 GPA; Credit is allowed for only COM 454 or CMN 598 (Rhetorical&Critical Approaches to Public Relations) |
| COM | 455 | Surveillance and Popular Culture | Surveys representations of surveillance in popular culture. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CMN 598 (Surveillance, Film and Culture) or COM 455 or COM 494 (Surveillance, Film and Culture) or STC 598 (Surveillance, Film, and Culture) |

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| COM | 456 | Political Communication Campaigns | Theory and research related to political campaign communication. The persuasive process of political campaigning, the role of the media, the candidate and image creation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): minimum 2.00 GPA |
| COM | 457 | New Media | Explores how new communication and information technologies affect communication and culture. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): COM 207 with C or better OR minimum junior standing; minimum 3.0 GPA OR Visiting University Student |
| COM | 458 | Media and Everyday Life | Considers media in the routine, habitual and somewhat unconscious aspects of our lives, particularly mobile media transported in and out of public and private spaces. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum junior standing; minimum 2.00 GPA; Credit is allowed for only COM 458 or COM 494 (Media and Everyday Life) Visiting University Student |
| COM | 459 | Theory and Methods of Social Media Networks | A network-based perspective plays an increasingly important role in our understanding of contemporary communication process of which much has shifted from a hierarchical, densely bounded group basis to a personalized, lateral network. Especially, along with the popularity of social media, social networking has become a key term that characterizes our everyday life. Discusses the role of new media technologies in evolving networked society, and how online networks are intertwined with our offline life. Covers theories and computerized methods that help understand online network structure. Includes lectures and discussions on theoretical issues with hands-on exercises of analytic methods. | N | LEL | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum junior standing; minimum 2.50 GPA; MAT 142 or higher with C or better; Credit is allowed for only COM 459 or COM 494 (Social Networks) |
| COM | 463 | Intercultural Communication in a Global Context | Survey and analysis of major theories and research dealing with communication between people of different cultural backgrounds, primarily in international settings. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | SB & G | Prerequisite(s): COM 263 with C or better; COM 308 with C or better; minimum 2.00 GPA OR Visiting University Student |
| COM | 464 | Communicative Sexualities | Grounded in the discipline of communicology, provides an introduction to the qualitative research practice of semiotic phenomenology. Examines sexuality as a personal, social, historical, and cultural phenomenon, wherein communication is studied as the mediating force through which meanings are ascribed to sexuality and sexual experience. Sexuality is studied as it manifests among a wide variety of people, practices, and contexts. U.S. American culture provides the primary cultural context. Addresses basic questions including: How do we understand sexuality? How have we come to know what we know about sexuality? How do we understand the relationship between sexuality as personal desire, and sexuality as social norm in specific cultural contexts. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; Pre- or corequisite(s): minimum junior standing; minimum 2.50 GPA OR Visiting University Student |
| COM | 465 | Intercultural Communication Workshop | Experientially based study of communication between members of different cultures designed to help students improve their intercultural communication skills. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-3 | | Prerequisite(s): minimum 2.00 GPA |
| COM | 467 | Digital Rhetoric | Critical rhetorical study of intersection of public advocacy, deliberation, argumentation and digital media. Examines a variety of digital media as they intersect with theories of rhetoric. Explores digital technology through a blending of criticism upon and creation of digital artifacts. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): COM 207 with C or better; ENG 101, 105, or 107 with C or better; Pre- or corequisite(s): junior or senior standing; Credit is allowed for only COM 467 or COM 494 (Digital Rhetoric) |
| COM | 471 | Global Media and Cultural Identity | Explores theory and practices of global media production, dissemination and consumption. Surveys the ways in which local, regional and global sociocultural and political forces interplay to shape cultural identities and media consumption. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | G | Prerequisite(s): minimum 2.50 GPA; junior standing OR Visiting University Student |
| COM | 477 | Sport, Culture, and Discourses | Introduces sport as a global economic and cultural force, and as a foundational discourse experienced largely through media. Facilitates the understanding of sport as a major cultural and socializing institution and, thus, as a key site for the construction of knowledge, understandings, ideologies, and identities. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 2.50 GPA |
| COM | 482 | Communication, Instruction and Training | Explores instructional communication practices applied to professional training settings. Considers verbal, nonverbal and technological aspects of instructional communication with an emphasis on training professional and community audiences. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 2.50 GPA OR Visiting University Student |

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| COM | 483 | Advanced Communication and Mentoring | Students serve as peer mentors in CommLabASU on ASU's West campus with instructional emphasis on speaker apprehension, listening, the dynamics of group communication and leadership. Through experiential learning, mentors employ ethical peer tutoring practices by coaching undergraduates in managing public speaking apprehension, speech development and organization. Further, mentors provide on-the-spot feedback to undergraduates relating to delivery techniques, style, nonverbal communication, persuasive strategies and the use of presentational material. | N | LEL | Y | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): COM 383 with B or better OR Visiting University Student |
| COM | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | GNA | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-12 | | Prerequisite(s): COM 225 with C or better; COM 308 with C or better; minimum 56 hours; minimum 2.00 GPA or New College communication student with minimum 2.80 GPA |
| COM | 485 | Communication Portfolio | Intensive small-group, topically focused, variable-content course that integrates research and study for advanced students within the major. | N | SEM | Y | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-3 | | Prerequisite(s): minimum 45 hours; COM 498 (Family Communication Portfolio) OR Visiting University Student |
| COM | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | PRA | Y | Z1 | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-6 | | Prerequisite(s): Barrett Honors student |
| COM | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | PRA | N | Z1 | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| COM | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-4 | | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| COM | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-6 | | Prerequisite(s): Barrett Honors student |
| COM | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-7 | | |
| COM | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-3 | | Prerequisite(s): minimum 2.00 GPA |
| COM | 501 | Research Methods in Communication | Critical analysis of systems of inquiry in communication, focusing on the identification of variables and approaches to conducting research in communication. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): Communication graduate student |
| COM | 504 | Theories and Models in Communication | Theory construction, metatheoretical concerns, models, construct definition, and comparative analysis of current theories in communication. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): Communication graduate student |
| COM | 507 | Qualitative Research Methods in Communication | Qualitative research methods, including interviewing, field methods, and other nonquantitative techniques for analyzing communication. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): Communications Graduate student; Credit is allowed for only COM 407 or 507 |
| COM | 508 | Quantitative Research Methods in Communication | Empirical research designs, measurements, and statistical strategies and techniques in analyzing and evaluating experimental and descriptive research in communication. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Pre-requisites: Communications Graduate student. Credit is allowed for only COM 408 or COM 508 |
| COM | 510 | Transmedia Narratives | Explores the history, production, distribution and consumption of transmedia narratives as an emergent multiple-platform dynamic of storytelling. Focuses on digital storytelling, the dynamics of nonlinear narrative and immersive audience experience. | N | SEM | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| COM | 514 | Communication and Gender | Investigate the role that gender and identity plays in communication and the life of the organization. Provides a theoretical overview of the topics as well as opportunities for personal reflection and discussion. Students acquire the background and practical skills necessary to recognize the barriers to effective communication, and a variety of tools and strategies with which to manage interactions within organizations. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only COM 514 or COM 598 (Communication and Gender) |
| COM | 515 | Communication in the Workplace | Provides an in-depth review of the core concepts and areas of organizational communication to advance students' understanding of the role of communication in workplace interactions and professional achievement. Throughout the coursework, students learn and discuss key scholarly perspectives, which enable them to (a) better articulate the changing nature of modern work, (b) analyze their own work experiences, and (c) improve their adaptability at work by applying their knowledge of communicative interactions. In addition to theoretical discussions, students investigate contemporary issues and case studies with respect to the nature of the modern workplace. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only COM 515 or COM 598 (Communication in the Workplace) |

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| COM | 517 | Communication and Conflict Transformation | Focuses on the principles and perspectives of conflict, including discussions on the practices that push toward conflict transformation. Engages in application activities that allow students to apply such practices to theory, online simulated activities, and personal experiences. Course readings, which include both academic and research-based applied texts, address perspectives of conflict and the impact of power, relationship and context on conflict episodes, among other topics. Requires students to engage in online simulated activities and reflect on their experiences and the relevance of theory to those experiences. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only COM 517 or COM 598 (Communication and Conflict Transformation) |
| COM | 518 | Communication in Global Contexts | Globalization is a profound influence on contemporary societies, including facilitating greater opportunities for communication across regional and international borders. As mediated content and networks grow at unparalleled rates, new flows of information and knowledge connect families, communities and nations. Yet, at the same time, sociocultural differences and digital divides exist to widen gaps in our relationships and development processes. Develops a critical understanding of the relationships between culture and communication technologies in the changing infrastructures, networks and boundaries of our increasingly globalized world. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only COM 518 or COM 598 (Communication in Global Contexts) |
| COM | 519 | Social Influence and Persuasion | Studies social influence and persuasion in the discipline of communication from a social scientific perspective. Examines significant processes and factors whereby human communication can effectively impact the perspectives, attitudes and behaviors of others. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only COM 519 or COM 598 (Social Influence and Persuasion) |
| COM | 520 | Crisis Management and Communication | Explores the crucial role of strategic communication principles and practices throughout the stages of crises that impact organizations and their stakeholders. By mastering these principles and practices, equips students to constructively evaluate and engage in the consequential communication that accompanies each organizational crisis stage. Explains how communication can prevent, cause, exacerbate and remedy organizational crises. Summarizes the elements that constitute a crisis for organizations and organized communities. Differentiates the various stages that comprise the two primary organizational crisis models. Evaluates an organization's preparation for, response to, and recovery from an actual crisis event. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only COM 520 or COM 598 (Crisis Management and Communication) |
| COM | 521 | Negotiation Theory and Practice | Focuses on the theory and practice of negotiating as well as how theory and practice influence one another. Course readings, including both academic and research-based applied texts, address principles of effective negotiating and the impact of emotion, sex and culture on practice, among other topics. Students engage in a variety of applied negotiation activities and reflect on their experiences and the relevance of theory to their experiences (and vice versa) in written assignments and class discussion boards. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only COM 521 or COM 598 (Negotiation Theory and Practice) |
| COM | 530 | Training and Development | Provides an in-depth review of the core concepts relevant to training and development informed by adult learning theories and situated within contexts relevant to the human communication discipline. Purposefully designed to advance students' understanding of the role of communication and human interaction in training and development especially in workplace contexts. Throughout the coursework, students learn and discuss key scholarly perspectives, which enable them to (a) more deeply appreciate and understand the training and development cycle components, (b) reflect on and analyze their own experiences as participants in training and development sessions, and (c) create and implement learner-centered training and development plans grounded by theoretical frameworks. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): Communication MA student; COM 501 with B or better; COM 504 with B or better; Credit is allowed for only COM 530 or COM 598 (Training and Development) |
| COM | 540 | Conducting Communication Research | Develops the skills necessary to conduct communication research in the workplace. Students develop a research proposal for a project that they could conduct at their current jobs or a job they would like to have. They may choose to develop a proposal for their capstone project or a project that they would like to conduct in the future. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): COM 530 with B or better; minimum 9 hours of 500-level COM courses; minimum 3.00 GPA |

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| COM | 550 | Capstone | Culminating experience of the Master of Arts in Communication. The capstone course allows each student to develop a project that answers a question or solves a problem tailored to his or her interests, needs and goals. Develops final products individually based on consultation with faculty. Each student has a two-faculty member committee to support the capstone project. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): COM 540; minimum 3.00 GPA |
| COM | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| COM | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| COM | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| COM | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| COM | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| COM | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-12 | | Pre-requisite: Communications Graduate student |
| COM | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| COM | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| COM | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | PRA | Y | Z2 | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| COM | 604 | Theory Construction in Communication | Review and analysis of philosophical problems inherent in communicative research and of metatheories designed to deal with these problems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): Communication PhD student |
| COM | 607 | Contemporary Rhetorical Methods | Analysis of issues in the practice of rhetorical communication research, including criticism and scholarship. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): Communication PhD student |
| COM | 608 | Multivariate Statistical Analysis of Data in Communication | Statistical analysis of communication research data. Multivariate procedures used in communication research and methods of causal analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): Communication PhD student |
| COM | 609 | Advanced Qualitative Research Methods in Communication | Analysis of issues in the practice of qualitative communication research, including data gathering, fieldwork issues, analysis strategies, and reporting results. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 3 | | Prerequisite(s): Communication PhD student |
| COM | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| COM | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-12 | | Prerequisite(s): Communication PhD student |
| COM | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| COM | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| COM | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| COM | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | PRA | Y | Z2 | College of Liberal Arts and Sciences | Hugh Downs School of Human Communication | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CON | 100 | Introduction to Construction | Introduces construction industry sectors and professionals. Additional content includes developing personal competencies required of construction professionals. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 2 | | |
| CON | 101 | Construction and Culture: a Built Environment | Analyzes the cultural context of construction, emphasizing its centrality in the evolution and expansion of built environments as expressions of ethical and historical value systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | HU & H | |
| CON | 106 | Introduction to Concrete Materials for the Built Environment | Effects of concrete-making materials (aggregates, cements, admixtures, etc.) on the properties of fresh and hardened concrete. Discusses concrete mixture proportioning along with the calculations and statistical analysis of strength testing. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 4 | SQ | |
| CON | 221 | Applied Statics | Vectors, forces and moments, force systems, equilibrium, analysis of basic structures and structural components, friction, centroids, and moments of inertia. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): MAT 170 or higher with C or better; PHY 111 with C or better; PHY 113 with C or better OR Visiting University Student |
| CON | 223 | Strength of Materials | Analyzes strength and rigidity of structural members in resisting applied forces. Stress, strain, shear, moment, deflections, combined stresses, and connections. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): CON 221 with C or better; CON 252 with C or better OR Visiting University Student |
| CON | 241 | Surveying | Theory and fieldwork in construction and land surveys. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): MAT 170 or higher with C or better; Credit is allowed for only CEE 281 or CNE 241 or CON 241 OR Visiting University Student |
| CON | 243 | Heavy Construction Equipment, Methods and Materials | Emphasizes Horizontal construction. Fleet operations, maintenance programs, methods, and procedures to construct tunnels, roads, dams, and the excavation of buildings. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Credit is allowed for only CNE 243 or CON 243 |
| CON | 244 | Working Drawing Analysis | Provides the ability to read and understand architectural plans; to understand drawing symbols, dimensions, abbreviations, and terms. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | |
| CON | 251 | Microcomputer Applications for Construction | Applies the microcomputer as a problem-solving tool for the constructor. Uses spreadsheets, information management, and multimedia software. | N | LAB | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): MAT 170 or higher with C or better OR Visiting University Student |
| CON | 252 | Building Construction Methods, Materials, and Equipment | Emphasizes Vertical construction. Methods, materials, codes, and equipment used in building construction corresponding to the division of the CSI Master Format. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | |
| CON | 271 | Construction Safety | Safety procedures and equipment. OSHA requirements for construction. Biological aspects of construction safety. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction Management BS or Construction Engineering BSE major; Credit is allowed for only CNE 271 or CON 271 OR Visiting University Student |
| CON | 273 | Electrical Construction Fundamentals and Project Management | Electrical construction, design, estimating, scheduling and project management. Electrical safety, blueprints and symbols, theory, sequence of installation. National Electrical Code (NEC). | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | |
| CON | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-4 | | |
| CON | 296 | Summer Field Internship | Participation as interns on construction projects to observe and experience the daily activities. | N | PRA | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1 | | Prerequisite(s): Construction Management BS or Construction Engineering BSE major; CON 271 or CNE 271; Credit is allowed for only CON 296 or CNE 296 |
| CON | 310 | Testing of Materials for Construction | Structural and behavioral characteristics, engineering properties, measurements, and application of construction materials. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 2 | | Prerequisite(s): Construction Management and Technology BS major; CON 221 with C or better; Pre- or corequisite(s): CON 223 with C or better if completed OR Visiting University Student |
| CON | 343 | Advanced Heavy Equipment Operations | Reviews the principles of horizontal construction. Emphasizes fleet operations, maintenance programs, methods and procedures to construct tunnels, roads, dams and the excavation of buildings. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): CON 252; minimum junior standing; Credit is allowed for only CON 343 or CON 394 (Advanced Heavy Equipment Operations) OR Visiting University Student |

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| CON | 345 | Mechanical Systems | Design parameters and equipment related to heating and cooling systems for mechanical construction. Biorelated aspects of mechanical systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction Management BS major; CON 221 with C or better; CON 252 with C or better; PHY 111 or 121 with C or better; PHY 113 or 122 with C or better OR Visiting University Student |
| CON | 383 | Construction Estimating | Analyzes construction drawings and specifications. Utilizes advanced technical and ethical practices in estimating process. Quantity surveying techniques for CSI divisions. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction Engr BSE maj; CNE 243 or CON 243 OR Construction Mgmt&Tech BS maj; CON 252 OR Interdisc Studies BA maj or Construction Mgmt minor; CON 243 or 252; Credit is allowed for only CNE 383 or CON 383 OR Visiting University Student |
| CON | 384 | Environmental Aspects of Heavy Construction | Methods, measures and analysis related to control of erosion, dust generation and storm water discharge during projects. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): BS Construction Management major. Pre- or corequisite(s): CON 243. Credit is allowed for only CON 384 or CON 394 (Environmental Aspects of Heavy Construction) |
| CON | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-4 | | Pre-requisite: Engineering BS or BSE student |
| CON | 424 | Structural Design | Economic use of concrete, steel, and wood in building and engineered structures. Design of beams, columns, concrete formwork, and connections. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction Management BS major; CON 223 with C or better; Pre- or corequisite(s): CON 310 OR Visiting University Student |
| CON | 441 | Public Works Capital Construction | Practices and policies employed in delivering capital construction projects by government agencies at various levels. The full lifecycle of the typical public works capital construction project from planning, through design and construction, to operations and maintenance. Additional lecture topics include sustainability, strategic planning, risk management and safety. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prereq(s): Con Engr BS or Con Mngmt BSE major; min junior standing; Credit is for only CON 441 or CON 541 or CEE 494(Pub Wrks Cap Con) or CON 494(Pub Wrks Cap Con) or CEE 598(Pub Wrks Cap Con) or CON 598(Pub Wrks Cap Con) OR Visiting University Student |
| CON | 446 | Marketing for Construction | Provides key marketing practices to include strategic planning, marketing collateral, networking, business development, and interview preparation for project pursuits. Covers all aspects of service-based marketing topics and practices. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): COM 225; CON 221 with C or better OR Visiting University Student |
| CON | 448 | Sustainable Construction | Studies the principles associated with sustainable construction: problem definition, definition of sustainability, measures of sustainability, examination of current industry practices, financial and resource impacts of sustainable construction, independent student investigation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Civil Engineering (Sustainable Engineering) BSE or Construction Management & Technology BS major; minimum junior standing; Credit is allowed for only CON 448 or CON 548 or CON 598 (Sustainable Construction) OR Visiting University Student |
| CON | 450 | Geotechnical Applications for Construction | Soil formation, engineering properties and use as building materials. Soil's influence on construction of built environment, including specifications and biological aspects. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction Management BS major; CON 223 with C or better; CON 310; Credit is allowed for only CNE 450 or CON 450 OR Visiting University Student |
| CON | 451 | Innovative Project Delivery | Studies design and construction interaction; the RFP (request for proposal) and RFQ (request for quote) process; risk allocation issues; developing successful project proposals, procurement and selection. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction Management, Construction Engineering, Civil Engineering, or Architectural Studies major; senior standing; Credit is allowed for only CON 451 or CON 494 (Alt Project Delivery Mthds) or CON 551 |
| CON | 453 | Construction Technology | Building information modeling, including current computer programs and technology planning strategies for advanced project deliveries. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction Mgt & Tech BS, Interdisc Studies (Construction Mgt concentration) BA, or Construction Mgt minor; CON 251 OR Construction Engr BSE; senior standing; Credit is allowed for only CNE 453 or CON 453 OR Visiting University Student |
| CON | 454 | Trenchless Construction Methods | Theory and practice of trenchless construction methods. Types of equipment, roles of site personnel, engineering design, contractual issues and safety. Lecture, class projects, and site visits. Knowledge of heavy construction equipment, methods and materials required to be successful in this course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction Management BS or Construction Engineering BSE major; Pre- or corequisite(s): CNE 243 or CON 243; Credit is allowed for only CON 454 or CON 554 OR Visiting University Student |

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| CON | 455 | Construction Project Management | Advanced topics in administrative procedures, planning processes, and coordination required to successfully complete construction projects on time and budget. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction Engineering BSE or Construction Management and Technology BS major; Pre- or corequisite(s): CNE 495 or CON 495; Credit is allowed for only CNE 455 or CON 455 or CON 545 OR Visiting University Student |
| CON | 457 | Principles of Leadership for Project Managers | Individual, organizational and process/structure leadership in project setting. Four-step leadership transformational model for project leaders. Project leadership tools and applications to motivation, conflict management, team building and delegation of risk. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction Management BS or Construction Engineering BSE major; Pre- or corequisite(s): CON 243; Credit is allowed for only CON 457 or CON 557 OR Visiting University Student |
| CON | 465 | Deductive Logic, Leadership and Industry Structure | Simple, logical explanations of construction and other industries. State-of-the-art supply chain, profit maximizing and efficient practices. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): junior or senior standing; Credit is allowed for only CON 465 or CON 565 |
| CON | 467 | Advanced Procurement Systems | Development of multicriteria decision procurement model for selecting the performing contractor. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): junior or senior standing; Credit is allowed for only CON 467 or CON 567 or CON 494 (Advanced Procurement Systems) |
| CON | 483 | Advanced Building Estimating | Concepts of pricing and markup, development of historic costs, life cycle costing, change order and conceptual estimating. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction BS major; CON 383 with C or better OR Visiting University Student |
| CON | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-12 | | Prerequisite(s): Construction Management BS major with CON 296 or CNE 296 OR Construction Engineering BSE major with CON 271 or CNE 271; Credit is allowed for only CON 484 or CNE 484 |
| CON | 486 | Heavy Construction Estimating | Methods analysis and cost estimation for construction of highways, bridges, tunnels, dams, and other engineering works. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prereq(s): Constr Engr BSE maj; CNE 243 or CON 243 OR Constr Mgmt & Tech BS maj; CON 252 OR Interdisc Studies BA maj or Constr Mgmt minor; CON 243 or 252; Credit allowed for only CON 486 or CON 598 (Heavy Constr Estimating) OR Visiting University Student |
| CON | 487 | Project Controls | Project staff roles and responsibilities, project documentation process and control, project control processes to manage quality, schedule and budget, quantity tracking and earned value management, and financial management of a construction project. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Pre- or corequisite(s): CON 495 OR Visiting University Student |
| CON | 488 | Heavy Construction Earthworks | Geotechnical issues with respect to foundation grading, forming and location for various types of infrastructure and transportation projects. Also includes streets, highway and embankment developments, retaining wall system, mechanically stabilized earth walls, and required quality control methods for these activities. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction Management BS or Construction Engineering BSE major; Pre- or corequisite(s): CON 243; Credit is allowed for only CON 488 or CON 494 (Heavy Construction Earthworks) |
| CON | 491 | Construction Project Capstone | Develops understanding and knowledge of topics and concepts required to be a construction manager. A construction project is the basis for applying cost estimating, scheduling, safety, communications and other construction management skills. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): CON 383; CON 495; Pre- or corequisite(s): CON 455; Credit is allowed for only CON 491 or CON 494 (Construction Project Capstone) |
| CON | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-6 | | Prerequisite(s): Barrett Honors student |
| CON | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| CON | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-4 | | |
| CON | 495 | Construction Planning and Scheduling | Various network methods of project scheduling, such as AOA, AON Pert, bar-charting, line-of-balance, and VPM techniques. Microcomputers used for scheduling, resource allocation, and time/cost analysis. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | CS | Prerequisite(s): Construction Mngmt BS major, Construction Engineering BSE major, BIS major with Construction Mngmt emphasis, or Construction Mngmt minor; CNE 383 or CON 383; Credit is allowed for only CNE 495 or CON 495 OR Visiting University Students |

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| CON | 496 | Construction Contract Administration | Surveys administrative procedures of general and subcontractors. Studies documentation, claims, arbitration, litigation, bonding, insurance, and indemnification. Discusses ethical practices. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | L | Prerequisite(s): Construct Engr BSE, Construct Mgt & Technology BS, BIS Construct Mgt emphasis, or Construct Mgt minor; ENG 101, 105, or 107 with C or better; senior standing; Credit is allowed for only CNE 496 or CON 496 OR Visiting University Student |
| CON | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-3 | | |
| CON | 501 | Construction Research Methods | Data collection methodologies, applied parametric and nonparametric statistics, data analysis techniques, technical writing, and data presentation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Pre-requisite: Construction Graduate student |
| CON | 502 | Front-End Planning | Principles and applications for effective early planning of capital facilities, including: finance, economics decision making, risk management, team alignment and front-end planning processes and tools. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): graduate Civil Engineering or Construction or Construction Engineering student; Credit is allowed for only CEE 502 or CON 502 or CON 598 (Front End Planning) or CEE 598 (Front End Planning) |
| CON | 507 | Safety Management for Construction Managers | Executives and managers make better decisions while managing the safety needs for a company in the construction industry using different safety management approaches. | N | LEC | N | OP3 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction Engineering or Construction Management graduate student; Credit is allowed for only CON 507 or CON 598 (Introduction to Safety Management) |
| CON | 508 | Engineering and Construction Failures | Engineering, construction and ethics failures. Focuses on failures in the built environment. Students tailor the assignments and projects to their specific engineering or construction discipline. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prereq(s): degree- or nondegree-seeking graduate student; Credit allowed for only CON 508 or FSE 508 or CEE 598 (Engineering and Construction Failures) or CON 494 (Engineering and Construction Failures) or CON 598 (Engineering and Construction Failures) |
| CON | 509 | Advanced Concrete Materials | Properties of Portland cement concrete materials at an advanced level by examining the influence of constituent materials (cements, aggregates and admixtures) on the properties and behavior of fresh and hardened concrete under various types of loading and environmental conditions. | N | LEC | N | OP3 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CON 509 or CON 494 (Advanced Concrete Materials) or CON 598 (Advanced Concrete Materials) |
| CON | 510 | Sustainable Bio-Based Construction | State of the art on sustainable bio-based construction for buildings and infrastructure. Helps students gain knowledge on the following topics related to construction: various types of emerging bio-materials, novel technologies and processes in bio-material development, emerging technologies for characterization and diagnosis. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Civil, Enviro or Sustainable Engr MS, MSE, or PhD student or Construction Engineering MSE, Construction Mgmt PhD, or Construction Mgmt & Tech MS student; Credit is allowed for only CON 510 or CON 598 (Sustain Bio-based Construction) |
| CON | 511 | Hazard Mitigation Planning | Examines policies, methodologies and guidance for state and local hazard mitigation planning. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CON 511 or PAF 553 (CPP 511) |
| CON | 520 | Construction Industry Best Practices | Current issues in the construction industry, including best practices developed by the Construction Industry Institute (CII) and contemporary shortcomings faced by the construction industry. Subject matter experts (SMEs) present the topics in this course. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction Engineering MSE, Construction Management and Technology MS, or Construction Management PhD student; Credit is allowed for only CEE 598 (Construction Industry Best Practices) or CON 520 or CON 598 (Constr Ind Best Practices) |
| CON | 530 | Facilities Operations and Maintenance | Operations, maintenance and energy management requirements of various types of facilities and built environments. Ethical practices | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking); Credit is allowed for only CON 430, 494 (Facilities Management/Operations & Maintenance), 530 or 598 (Facilities Management/Operations & Maintenance) |

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| CON | 531 | Facility Management: Building Energy Management | Understand and learn energy management techniques in facilities management. Identifying and performing efficiency evaluations on various types of heating, ventilation and air conditioning systems in typical buildings. Concepts and methods of managing, adjusting and balancing equipment and systems for maximum facility performance. Facilities organizations best practices to maximize energy savings and performance, such as insulation usage, lighting optimization, energy management systems and commissioning procedures. Identification of ancillary benefits to energy-efficient building systems such as indoor air quality, sustainability and energy audits. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only CON 531 or CON 598 (Facility Management Building) |
| CON | 532 | Facilities Project Management | Understand and learn project management techniques in facilities management. Stakeholder analysis, including roles, responsibilities and risk considerations. Asset owner and manager considerations within project components and deliverables. Development of project scope, requirements, schedules, budgets and communication plans from a facility manager's perspective. Best practices of facilities organizations for managing contract types, contract governance and performance management. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; Credit is allowed for only CON 532 or CON 598 (Facility Project Management) |
| CON | 534 | Retrofit Construction | Focuses on energy efficiency retrofits in existing commercial buildings. Defines retrofit and why we retrofit. Examines current industry practices, impacts of retrofit construction on finances and the environment, and independent student investigation. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Ira A. Fulton graduate student; Credit is allowed only for CON 534 or CON 598 (Retrofit Construction) |
| CON | 540 | Construction Productivity | Productivity concepts. Data collection. Analysis of productivity data and factors affecting productivity. Means for improving production and study of productivity improvement programs. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction MS or Construction Engineering MSE major |
| CON | 541 | Public Works Capital Construction | Practices and policies employed in delivering capital construction projects by government agencies at various levels. The full lifecycle of the typical public works capital construction project from planning, through design and construction, to operations and maintenance. Additional lecture topics include sustainability, strategic planning, risk management and safety. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): graduate Construction Engineering or Construction Management student; Credit is allowed for only CON 441 or CON 541 or CEE 494/CON 494 (Public Works Capital Construction) or CEE 598/CON 598 (Public Works Capital Construction) |
| CON | 545 | Construction Project Management | Theory and practice of construction project management. Roles of designer, owner, general contractor, and construction manager. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction or Construction Engineering graduate student; Credit is allowed for only CNE 455 or CON 455 or CON 545 |
| CON | 548 | Sustainable Construction | Studies the principles associated with sustainable construction: problem definition, definition of sustainability, measures of sustainability, examination of current industry practices, financial and resource impacts of sustainable construction, independent student investigation. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Civil, Environmental & Sustainable Engineering or Construction Engineering or Construction Management graduate student; Credit is allowed for only CON 448 or CON 548 or CON 598 (Sustainable Construction) or CON 598 (Sustain in Constrn) |
| CON | 551 | Alternative Project Delivery Methods | Design/construction interaction; conceptual estimation and scheduling; the RFQ/RFP process; legal, insurance, risk allocation issues; procurement and selection. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CON 451 or CON 494 (Alt Project Delivery Mthds) or CON 551 |
| CON | 554 | Trenchless Construction Methods | Theory and practice of trenchless construction methods. Types of equipment, roles of site personnel, engineering design, contractual issues, and safety. Lecture, class projects, and site visits. Knowledge of heavy construction equipment, methods, and materials required to be successful in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Construction Engineering OR Construction Management graduate student |
| CON | 557 | Principles of Leadership for Project Managers | Individual, organizational and process/structure leadership in project setting. Four-step leadership transformational model for project leaders. Project leadership tools and applications to motivation, conflict management, team building and delegation of risk. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CON 457 or CON 494 (Prin Lead & Management) or CON 557 or CON 598 (Prin Lead and Mgmt) |
| CON | 565 | Deductive Logic, Leadership and Industry Structure | Simple, logical explanations of construction and other industries. State-of-the-art supply chain, profit maximizing, and efficient practices. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): graduate student (degree seeking or nondegree seeking). Credit is allowed for only CON 465 or CON 565 |
| CON | 567 | Advanced Procurement Systems | Development of multicriteria decision procurement model for selecting the performing contractor. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only CON 467, 567 or 494 (Advanced Procurement Systems) |

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| CON | 570 | Introduction to Advanced Technology Facilities | Introduces advanced technology facilities such as cleanrooms, data centers, research labs, and hospitals. The constructor's viewpoint, including: planning, structures, mechanical, and tool installation. Site visits. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CON | 571 | Construction of Advanced Technology Facilities | Construction issues for advanced technology facilities such as cleanrooms, data centers, research labs, and hospitals. Issues include scheduling, cost estimating, project management, mechanical, safety, commissioning and tool hookup. Site visits. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): CON 570 with C or better |
| CON | 575 | Information Technology in Construction | Uses virtual construction methodologies to improve the construction enterprise using communications, facility modeling, and decision making. Site visits. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CON | 576 | Computer Vision For Builders | Computer vision is the subfield of artificial intelligence that trains computers to interpret visual data. In the context of construction, it is used to automatically monitor safety and security, evaluate efficiency, track progress, detect defects, guide robotic systems, and support remote presence of scarce expert resources. Students learn about the sensors used to collect visual data, the tools used to fuse data into unified digital representations and the algorithms available to automatically analyze these representations to extract useful insights for improving construction operations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only CON 494 (Computer Vision for Builders) or CON 576 or CON 598 (Computer Vision for Builders) |
| CON | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CON | 589 | Construction Company Financial Control | Financial accounting and cost control at the company level in construction companies. Accounting systems. Construction project profit calculations. Financial analysis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 3 | | Pre-requisite: Engineering MS, MSE or PHD student |
| CON | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CON | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CON | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-12 | | Pre-requisite: Construction Masters student |
| CON | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CON | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | IND | Y | Z3 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CON | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-4 | | Prerequisite(s): Construction Engineering OR Construction Management graduate student |
| CON | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-12 | | Pre-requisite: Construction Masters student |
| CON | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | N | PRA | Y | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CON | 700 | Research Methods | Course on research methods in a specific discipline. | N | RSC | Y | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CON | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | N | IND | Y | GNA | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CON | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-15 | | Pre-requisite: Construction Doctoral student |

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| CON | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CON | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Del E. Webb Construction | 1-15 | | Pre-requisite: Construction Doctoral student |
| CPI | 101 | Introduction to Informatics | Concepts, tools, techniques, and applications of informatics. Includes overview of programming, data management, visualization, modeling, and social implications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | CS | |
| CPI | 111 | Game Development I | Introduces video game design, art theory, and concepts as they apply to video game development. Basic art principles used in game development. Covers the fundamental video game art principles of 2-D and 3-D composition, color theory, modeling, and lighting techniques. Demonstrates practical application of these art fundamentals in establishing style guides, concept art, storyboards, and in-game assets. Also includes game design, game production, asset production, and game programming. Hands-on experience by creating 2-D game prototypes belonging to different video game genres and evaluating the techniques. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | CS | |
| CPI | 200 | Mathematical Foundations of Informatics | Practical introduction to the mathematics necessary for studies in informatics. Topics include discrete math, analytic geometry, calculus and linear algebra. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | MA | Prerequisite(s): MAT 242, 342, or 343 with C or better; MAT 243 or 300 with C or better OR Visiting University Student |
| CPI | 211 | Game Development II | Introduces the basics of 3D game development by using a game engine. Focuses on the pipeline of 3D game development including environment and contents creation, scripting to control components, and graphics user interfaces development. Develops several 3D games for multi platforms. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | | Prerequisite(s): CPI 111 with C or better OR Visiting University Student |
| CPI | 220 | Applied Data Structures and Algorithms | Thorough grounding in applied knowledge and skills related to algorithms and data structures used in the development of software designed to solve complex problems. Overview of computational and critical thinking skills that can be called upon to analyze and solve complex problems in multiple domains. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | | Prerequisite(s): CSE 205 with C or better OR Visiting University Student |
| CPI | 221 | Advanced Object-Oriented Principles Using Java | Advanced object-oriented programming using the Java language. Design concepts and problem solving. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | | Prerequisite(s): CPI 220, CSE 310 or TGM 410 with C or better OR Visiting University Student |
| CPI | 310 | Web-Based Information Management Systems | Relational database design, entity-relationship modeling, relational algebra, SQL, database access through Web, Web data management, introduction to XML, fundamentals of Web application development, Web server architectures, lecture, in-class lab activities. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | | Prerequisite(s): CSE 205 with C or better OR Visiting University Student |
| CPI | 311 | Game Engine Development | State-of-the-art techniques for computer game design and programming with an emphasis on 3-D graphics and interaction. Focuses on a practical, example-driven approach to learning the unique art of 3-D game development. Topics include graphics game engines, textures, shader programming, artificial intelligence, physics, modeling, sound effects, and techniques for user interfaces. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | | Prerequisite(s): CPI 211 with C or better; CSE 205 with C or better OR Visiting University Student |
| CPI | 321 | Fundamentals of Game Art | Introduces art theory and concepts as they apply to video game development. Covers 2-D and 3-D composition, color theory, modeling, and lighting techniques. Demonstrates practical application of these art fundamentals in establishing style guides, concept art, storyboards, and in-game assets. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | | Prerequisite(s): CPI 211 with C or better |
| CPI | 350 | Evaluation of Informatics Systems | Methods for evaluation of informatics systems, including design of computational and human experiments, ethnography, and analytic techniques. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | | Prerequisite(s): GIS 270, GIS 470, IEE 380, STP 226, STP 231, or STP 420 with C or better OR Visiting University Student |
| CPI | 360 | Decision Making and Problem Solving | Practical use of database systems, computer graphics, and modeling to inform decision making. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | | Prerequisite(s): CSE 205 with C or better OR Visiting University Student |
| CPI | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 1-4 | | |
| CPI | 411 | Graphics for Games | Examines real-time rendering of high-quality interactive graphics. Studies advances in graphics hardware and algorithms that make this possible. Examples of techniques and topics include nonphotorealistic rendering, occlusion culling, level of detail, terrain rendering, shadow generation, image-based rendering, and physical simulation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | | Prerequisite(s): CPI 211 with C or better |

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| CPI | 421 | 3-D Modeling and Texturing | Provides working knowledge of 3-D modeling, texture mapping, and paint concepts for the creation of 3-D video games art assets. Students work on concepts such as 3-D lighting, high polygon mesh rendering, and various third-party software and how to integrate them into the asset production pipeline. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | | Prerequisite(s): CPI 211 with C or better OR Visiting University Student |
| CPI | 441 | Gaming Capstone | Industry-oriented course emphasizing the video game development process, technical skills, teamwork and communication among the students enrolled in the gaming certificate. Students partner with local industry involved in game development, visual art, and educational gaming and solve real-world problems by working in a team comprised of students from the three tracks available within the certificate. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | | Prerequisite(s): BS Informatics or BIS (Computer Gaming) or Computer Gaming certificate; senior standing |
| CPI | 460 | Intelligent Interactive Instructional Systems | Intelligent interactive instructional systems serve as tutors, as learning companions or both. Covers their design, the technology that powers them, the learning theories that motivate them and results from experimental evaluations. Emphasizes intelligent tutoring systems, as they are a more mature technology. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | | Prerequisite(s): CSE 205 with C or better; Credit is allowed for only CPI 460 or CSE 494 (Intelligent Instr Sys) |
| CPI | 462 | Design for Learning in Virtual Worlds | Focuses on issues of design for learning in virtual worlds by exploring: the history and evolution of virtual worlds, the theories behind the use of virtual worlds for learning, the design of curricula in virtual worlds, design guidelines for elements experienced in virtual worlds to support learning, design guidelines for learning quests and activities in virtual worlds. Also introduces virtual world building using Unity 3D. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | | Prerequisite(s): CPI 221, CSE 220, or CSE 240 with C or better; Credit is allowed for only CPI 494 (Design for Learning in Virtual Worlds) or CSE 494 (Design for Learning in Virtual Worlds) or CPI 462 |
| CPI | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 1-12 | | Prerequisite(s): Informatics BS major or Informatics certificate student; CPI 221 with C or better; CPI 310 with C or better; Pre- or corequisite(s): CPI 360 with C or better if completed |
| CPI | 485 | Informatics Capstone I | Team-based design of an informatics system; working with clients; development of requirements, use cases, class/object diagrams, and plans for quality assurance and other evaluations; technical communication; teamwork. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 3 | L | Prerequisite(s): Informatics BS major; CPI 350 with C or better; CSE 463 with C or better; ENG 101, 105, or 107 with C or better |
| CPI | 486 | Informatics Capstone II | Implementation of the informatics system designed during CPI 485; work processes; keeping designs consistent with implementations; conducting QA and other evaluations; technical communication; teamwork. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 4 | L | Prerequisite(s): Informatics BS major; CPI 485 with C or better; ENG 101, 105, or 107 with C or better |
| CPI | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 1-6 | | Prerequisite(s): Barrett Honors student |
| CPI | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| CPI | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 1-4 | | |
| CPI | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 1-3 | | |
| CPI | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computing and Informatics Program | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPP | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1-4 | | |
| CPP | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1-4 | | |
| CPP | 350 | Community Works | In the first part of the course, students apply the five concepts of interpersonal empathy while completing a 30-hour service project. After completing the service project, students apply the two concepts of social empathy to a social issue in their community. At the conclusion of the course, students know how interpersonal and social empathy can be developed as a skill to help their community within their public service career. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CPP 350 or CPP 494 (Community Works) OR Visiting University Student |
| CPP | 353 | Community Impact Lab | Offers hands-on, service learning opportunities for upper-division students from the College of Public Service and Community Solutions. Using a problem-solving method called design thinking, student teams have the opportunity to work closely with a nonprofit organization, small business, government office or community organization to develop a solution to a critical issue within their organization. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CPP 353 or CPP 494 (Community Impact Lab) |

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| CPP | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1-4 | | |
| CPP | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | LEC | N | Z1 | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1-12 | | |
| CPP | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1-4 | | |
| CPP | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| CPP | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | N | LEC | N | Z1 | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1-3 | | |
| CPP | 521 | Public Finance and Project Management for Emergency Management and Homeland Security | Focuses on the related topics of how state and local governments utilize use budgeting and financing techniques in the emergency services domain as well as how emergency/disaster services projects are managed. Specifically, the first part of the course covers budgeting and finance mechanisms and processes in the public sector generally and how those mechanisms and processes relate to emergency response, general hazards management and disaster recovery. The second part of the course covers core principles of project management and then applies those principles to process related to grant application and grant award management in the areas of preparedness, hazard mitigation and disaster recovery. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPP | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | N | LEC | N | Z1 | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPP | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1-12 | | |
| CPP | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | N | LEC | N | Z1 | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1-12 | | |
| CPP | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPY | 568 | Group Intervention | Provides advanced MC or PhD students with supervisory experience serving as Group Leaders or Co-Leaders to students currently enrolled in the prerequisite course. Time dedicated to group leadership or supervision accumulates as "Direct Contact" or "Group Supervision" hours and fulfills the "maladaptive/intervention" requirements or may be applied as an elective for MC students and PhD students. Students are selected for enrollment in this course with required instructor or departmental approval. | N | SEM | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): Counseling MC or Counseling Psychology PhD student; CED 567; Credit is allowed for only CPY 568 or CPY 691 (Group Intervention) |
| CPY | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPY | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPY | 622 | Child Counseling and Play Therapy | The use of play and expressive arts in counseling. Major areas of focus include: theoretical orientations to play therapy and child counseling, foundations of counseling, practice of play therapy and child counseling skills, and assessment/treatment planning. Integrates play media such as guided imagery, puppets and dolls, art, creative dramatics, music and movement, games, and sand play. Demonstrations and experiential activities are a primary method of teaching and learning the theory and practice of play counseling. Includes both directive and nondirective play counseling experiences. | N | SEM | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): Counseling MC or Counseling Psychology PhD student; Credit is allowed for only CPY 622 or CPY 691 (Child Counseling and Play Therapy) |
| CPY | 623 | Counseling At-Risk Youth | Examines the behaviors that place adolescents at risk for not achieving career goals and interventions to address these behaviors. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPY | 635 | Professional Development | A series of presentations designed to expose beginning doctoral students to the multidimensional facets and competencies for being a counseling psychologist. | N | SEM | Y | YGB | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1 | | Prerequisite(s): Counseling Psychology PhD student; Credit is allowed for only CPY 635 or CPY 691 (Professional Development) |

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| CPY | 644 | Psychology of Careers | Advanced career counseling, including theory, research, and practice. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate OR undergraduate postbaccalaureate student |
| CPY | 645 | Professional Issues and Ethics | Ethical, legal, and professional issues of concern to practitioners and researchers functioning in a variety of settings. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or postbaccalaureate student; Credit is allowed for only CED 645 or CPY 645 |
| CPY | 650 | Counseling Latinos | Survey course addressing mental health concerns and perspectives for individuals and families of Latino, Spanish-speaking origin. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPY | 651 | Personality Assessment | Training in the use of major objective personality instruments to assess psychological symptoms; emphasizes MMPI-2 and MCMI-III. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): CED 523 |
| CPY | 652 | Individual Intellect Assessment | Examines the nature of human intellectual/cognitive abilities, their standardized measurement, and related issues in interpretation and practice. Provides preliminary training and experience in the administration and interpretation of two of the most widely used tests in this area: the Wechsler Adult Intelligence Scale, 4th ed. & the Wechsler Intelligence Scale for Children, 5th ed. Introduces other instruments at a topical level. Emphasizes theoretical foundations, practice skills, cultural considerations and ethical issues in intellectual/cognitive assessment. Operates under the broad principles of a cooperative learning approach. By researching and presenting on key course concepts, students practice incorporating a scholarly and empirical basis into their clinical work to develop specialized expertise in clinical assessment. Class format includes instructor- and student-led didactics, discussion and practice labs. | N | SEM | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): Master of Counseling or Counseling Psychology PhD student; Credit is allowed for only CPY 652 or CPY 691 (Individual Intellect Assessment) |
| CPY | 653 | Neuropsychology | Assumes students have knowledge of basic topics in physiological psychology and/or in brain and behavior-type courses. Concentrates on human neuropsychology; the main topics are related to functional brain organization and hemispheric specialization, with a particular emphasis on functional assessment. Includes several other topics related to late-breaking empirical developments in the field. Read and discuss articles and studies, employing a large variety of methodologies, ranging from the 1950s to the latest publications, with both normal and pathological subject populations. Much of the course is spent discussing brain assessment techniques to study cognitive function and dysfunction. Emphasizes commonly used approaches in the assessment and measurement of human behavior and how the human brain is responsible for cognition, language, memory, spatial processing, emotion and personality. | N | SEM | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): Master of Counseling or Counseling Psychology PhD student; Credit is allowed for only CPY 653 or CPY 691 (Neuropsychology) |
| CPY | 654 | Biobases of Behavior | Fulfills the APA requirement for a three-semester-hour course devoted to the broad and general biological bases that underlie behavior, and surveys a variety of fundamental physiological principles. Designed for students enrolled in an APA-accredited professional psychology training program; it does not focus on application of physiological principles to psychological practice. Capitalizes on most students' prior familiarity with psychopathology to help enable acquisition of general information about important brain structures and functions. Includes information about basic nervous system-related biochemistry, cellular structure and physiology, and anatomy and physiology. Students participate in classroom problem solving activities during which an array of principles is covered based on reading assignments. Challenges students to consider the role of biological, evolutionary and genetic factors in the expression of an array of typical and atypical behavior. | N | SEM | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): Master of Counseling or Counseling Psychology PhD student; Credit is allowed for only CPY 654 or CPY 691 (Biobases of Behavior) |
| CPY | 660 | Prevention and Consultation | Community focus with emphasis on outreach, prevention, psychoeducation, consulting, and advocacy from a systematic multicultural perspective. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): Counseling MC or Counseling Psychology PhD student; Credit is allowed for only CED 527 or CPY 660 |
| CPY | 668 | Grant Writing and Grant Makers: The Washington Context | Develops successful proposals for educational research projects. Students gain experience writing for federal agencies, reviewing, and being evaluated on grant proposals. | N | LEC | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPY | 670 | Individual Differences | Focuses on definitions and assessment of ways humans vary on psychological constructs. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| CPY | 671 | Multicultural Counseling | Provides awareness of the influence of sociocultural variables on human development and explores implications for counseling minority populations. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate student; Credit is allowed for only CED 671 or CPY 671 |
| CPY | 673 | Trauma in Counseling | Addresses the impact of crisis, disasters, sexual assault and other trauma-causing events on individuals and communities, as well as the treatment of trauma-related disorders. Examines trauma through the impact on the brain regions, impact on memory, variations of emotional regulation and somatic responses. Also addresses operations of emergency management systems within clinical mental health agencies and in the community. Also gives attention to vicarious trauma and caring for the caregiver. Demonstrations and experiential activities are a primary method of teaching and learning the theory and practice of working with trauma. Includes both directive and nondirective experiences. | N | SEM | N | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CPY 673 or CPY 691 (Working with Trauma in Counseling) |
| CPY | 674 | Counseling Women | Explores women's development and its implications for counseling. Sexism in mental health, sex differences in diagnosis and psychopathology, and women's particular treatment needs. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CPY | 675 | Health and Wellness Counseling | Theory, research, and practice in health and wellness counseling. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPY | 676 | Social Bases of Behavior | In-depth examination of contemporary research and theory in selected areas of social psychology. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPY | 677 | Advanced Counseling | Advanced topics in counseling theory, research, and practice. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CPY | 678 | Supervision Theory | Models of therapist development and clinical supervision. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPY | 679 | History and Systems of Psychology | Examines the development and differentiation of the discipline of psychology from its origins in philosophy to the present. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CPY | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CPY | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CPY | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CPY | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CPY | 694 | Substance Use, Disorders, Addiction and Therapy | Develops knowledge and skills for conducting psychotherapeutic and educational interventions to address substance use disorders and associated concerns. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPY | 701 | Science and Practice of Counseling Psychology | Directed experiences involving the integration of theory, research, and practice in counseling psychology. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CPY | 702 | Research Methods in Counseling Psychology | Applies experimental and/or quasi-experimental methods to theory construction and treatment evaluation in counseling psychology. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CPY | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CPY | 783 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CPY | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CPY | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |

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| CPY | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | GNA | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CPY | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CPY | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CPY | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| CRD | 100 | Introduction to Community Development | Focuses on communities and draws on an interdisciplinary lens to orient students to the foundations of community development. Presents a holistic approach to communities as complex systems with the goal of addressing ecological, economic, social, cultural and political dimensions that play a vital role in decision making. Provides effective tools with which to engage various stakeholders (e.g., government, private, nonprofit, community). Framed within the theoretical context of social justice and community well-being. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | |
| CRD | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-3 | | Prerequisite(s): maximum 25 hours; Credit is allowed for only CRD 191, PRM 191 or TDM 191 |
| CRD | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |
| CRD | 200 | Foundations of Community Development | Focuses on development within the context of communities and draws on a holistic approach that encompasses social, economic and ecological dimensions of development. Orients students to municipal, state, national and international examples of development. Critical analyses of the application of development-related practices and policies implemented locally and internationally equip students with key assessment tools for complex systems. Presentations from key stakeholders grant students with first-hand information regarding issues, challenges and solutions that have been applied to various community development contexts. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 100 |
| CRD | 210 | Community Services and Professions | Allows students to develop an educational and career plan to use throughout their programs culminating in an ePortfolio. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Pre- or corequisite(s): CRD 200, NLM 160, or PRM 120 with C or better if completed OR Visiting University Student |
| CRD | 235 | Leadership and Ethics | Examines ethical questions faced by emerging leaders. Focuses on helping students develop emotional intelligence, current professional issues, and the refinement of a professional philosophy and comprehensive set of competences that enable transition from student to professional. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Credit is allowed for only CRD 235 or NLM 235 |
| CRD | 300 | Research Methods and Applied Skills | Orients students to the main methodological approaches utilized within the practice and study of community development. Discussion on research design and data collection complements the concepts employed in quantitative and qualitative approaches to development. Presents computer software applications. The goal is not mastery of research methods, but ability to critically consume research outputs as well as to design research-related documents. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 100; CRD 200 |
| CRD | 301 | Sustainable Communities | Analyzes community as concept and as an organizing system for promoting sustainability. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Pre- or corequisite(s): CRD 210, NLM 160, or PRM 120 with C or better if completed OR Visiting University Student |
| CRD | 302 | Inclusive Community Development | Examines the characteristics of diverse populations across the lifespan to effectively develop inclusive community programs and services. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | SB & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Pre- or corequisite(s): CRD 210 or PRM 210 with C or better if completed OR Visiting University Student |

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| CRD | 350 | Tourism, Recreation and Sports Marketing | Critical examination of marketing principles in leisure and related industries in diverse settings, including local, national, and international. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 210, CSM 201 or TDM 205; ENG 102, 105 or 108 with C or better; MAT 142 or higher with C or better; minimum 45 hours; Credit is allowed for only CRD 350 or CSM 350 or PRM 350 or TDM 350 OR Visiting University Student |
| CRD | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |
| CRD | 400 | Capstone: Leadership, Applied Skills and Community Development | Integrates and synthesizes knowledge disseminated throughout the entire community development degree program. Students purposefully revisit applications and principles of community development as well as community engagement skills and research tools necessary in collaborating with various groups of stakeholders. Introduces and applies concepts of conduct and ethics to discussions of careers in community development. Students apply acquired knowledge through culminating groups projects and group presentations. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 100; CRD 200; CRD 300 |
| CRD | 401 | Managing Tourism and Leisure Enterprises | Basic principles of administration and their application in successful administrative situations. Analyzes administrative function, structure, and policies. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 210 or PRM 210 with C or better; CSM 203, NLM 203, PRM 203, or TDM 372 with C or better; minimum 2.50 GPA; Credit is allowed for only CRD 401 or CSM 401 or PRM 401 or TDM 401 OR Visiting University Student |
| CRD | 402 | Assessment and Evaluation of Community Services | Introduces applied leisure research with emphasis on program evaluation, research design, data collection techniques, and data analysis. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 210 or PRM 210; Credit is allowed for only CRD 402 or CSM 402 or NLM 402 or PRM 402 or TDM 402 OR Visiting University Student |
| CRD | 403 | Leadership and Professional Development | Examines leadership theory and strategies, current professional issues, and refinement of professional philosophy and competencies that enable transition from student to professional. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 210 with C or better; minimum 2.50 GPA OR Visiting University Student |
| CRD | 435 | Service Learning for Community Development | Applies community development and service-based learning applications. Students develop a professional relationship with an agency/organization management-level representative. Through this professional relationship, a service-learning plan is developed in a partnership with an agency/organization related to the student's degree program. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CRD 435 or NLM 435 OR Visiting University Student |
| CRD | 463 | Senior Internship | Supervised guided experience in selected agencies. | N | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3-12 | | Prerequisite(s): CRD 403 or RTH 413 (PRM 413) with C or better; Credit is allowed for only CRD 463 or CSM 463 or NLM 463 or PRM 463 or RTH 463 or TDM 463 |
| CRD | 471 | Interprofessional Education and Community Health | Community-engaged service learning exposes students to community health and interprofessional education through the delivery of team-based services with vulnerable populations. Students build on their professional practice skills as they develop interprofessional competencies. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prereq(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only CRD 471 or HCR 471 or CRD/HCR/PRM 494 (Interprofessional Education & Community Health) or CRD 598 (Interprofessional Education & Community Health) OR Visiting University Student |
| CRD | 472 | Interprofessional Education and Complex Health | Complex health community-based experiential learning with immersive "real-world" learning opportunities. Students dedicate hours at pre-approved placement sites serving a community; apply new (and advance prior) complex health knowledge and skills; benefit from an expanded scope of supervised practice experience while providing targeted complex health interventions that address health and health care disparity needs, improve care quality, and reduce care costs for individuals, families, communities, and/or populations with complex health needs. Students practice values and ethics, communication, roles and responsibilities, teams and teamwork, and leadership competencies essential for interprofessional collaborative practice and team-based care. Online and in-person collaborative learning includes: seminars, course readings, discussions, and reflection assignments to facilitate critical thinking and a deeper understanding of the delivery of complex health interprofessional team-based care in the community. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prereqs with C or better: CRD 471, HCR 471, or CRD/HCR 494 (Interprof Ed & Comm Hlth) OR Hlth Care Coord major; HCR 210; HCR 220; HCR 230; Credit for only CRD 472 or HCR 472 or CRD/HCR 494/598 (Interprof Ed & Complex Hlth) OR Visiting University Student |

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| CRD | 473 | Interprofessional Education and Comprehensive Systems Health | Community-engaged experiential learning integrates students into comprehensive systems health and interprofessional education through the creation of team-based community impact projects with vulnerable populations. Students refine their professional practice and leadership skills as they integrate interprofessional competencies. | N | LEC | Y | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-3 | | Prereqs w/min C: CRD 471, CRD 472, HCR 471, HCR 472 or CRD/HCR494 (Interprf Ed&Comm Hlth or Interprf Ed&Cmplx Hlth) OR Hlth Care Coord, Comm Hlth or Integrative Hlth BS; HCR210; HCR220; HCR230; Credit for CRD 473 or HCR 473 OR Visiting University Student |
| CRD | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | Prerequisite(s): minimum 45 hours |
| CRD | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-6 | | Prerequisite(s): Barrett Honors student |
| CRD | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-6 | | Prerequisite(s): Barrett Honors student |
| CRD | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |
| CRD | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-3 | | |
| CRD | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | |
| CRD | 502 | Statistical and Data Analysis | Introduces descriptive and inferential methods used in community development, with an emphasis on nonprofit, tourism, and recreation sciences. Students gain experience using statistical software. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | |
| CRD | 530 | Community Services Management | Examines and applies administrative/management analysis of public and nonprofit sector applications. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRD | 552 | Critical Issues | Examines critical research issues in the leisure, recreation and tourism fields. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRD | 555 | Theoretical Perspectives in Community Development | Reviews theoretical and empirical literature in community development with an emphasis on nonprofit, tourism, and recreation sciences. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | |
| CRD | 563 | Advocacy in Therapeutic Recreation | Explores trends and issues facing therapeutic recreation professionals and advocacy practices integral to therapeutic recreation service delivery. Investigates a variety of topics; community-engaged experiences facilitate the development of competencies needed to effectively lead therapeutic recreation programs. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CRD 563 or RTH 440 (PRM 440) |
| CRD | 569 | Advanced Tourism and Recreation Studies | Advanced study of tourism with an emphasis on relevant practices, theories, and concepts. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRD | 570 | Foundations of Community Development | Compare and contrast leading theories of community development in the historical context of the United States. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRD | 571 | The Community Development Process | Develops an understanding of the overall process of pursuing intentional community change and builds education, mobilization, and facilitation skills for engaging in the community development process. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRD | 572 | Community and Social Innovations | Considers community innovation and development from the perspective of achieving balance among economic, environmental, social, physical and political realms as a framework of sustainability. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CRD 572 or NLM 572 |
| CRD | 573 | Local and Regional Development | Builds core knowledge and analytical skills for the methods and sustainable outcomes of local and regional environmental and economic development. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 570; CRD 571 |
| CRD | 574 | Applied Research Skills | Develops skills in common qualitative and quantitative data collection and analysis methods used by community development practitioners. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRD | 577 | Community Building Practice | Builds core knowledge and analytical skills for the ethics and practice of building equitable communities, focusing on the development of self-efficacy, agency and solidarity. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 570; CRD 571 |
| CRD | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | |

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| CRD | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | |
| CRD | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | |
| CRD | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | IND | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | |
| CRD | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | IND | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | |
| CRD | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1 | | |
| CRD | 596 | Community Development Capstone Project | Capstone application of core values, knowledge and skills in an applied project. The final product is a deliverable to a community partner, and serves as a culminating experience for the Master of Professional Studies in Community Development Practice. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 570; CRD 571; CRD 572; CRD 573; CRD 574 |
| CRD | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |
| CRD | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | IND | Y | Z2 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | |
| CRD | 610 | Sustainable Communities | Systems thinking for promoting sustainability. Considers issues at different scales ranging from urban to rural, local to global, historical to contemporary. Critically examines the role of public, private and nonprofit institutions in promoting quality of life. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRD | 620 | Community Research Methods | Introduces community research methods, with emphasis on methodological questions and techniques relevant to contemporary community-based research. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRD | 640 | Research Seminar in Community Resources and Development I | A seminar designed to explore issues related to advancing a career as a researcher in the fields associated with community resources and development (i.e., non-profit, recreation and parks, tourism). Critical to this study is an understanding of the conduct of high quality research, an understanding of issues that arise in professional settings (e.g., expediency vs. effectiveness), and ethical principles and processes that undergird research. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Pre-requisite: Doctoral student in Community Resources and Development |
| CRD | 650 | Research Seminar II | Helps prepare doctoral students to become productive and successful social scientists in community resources and development. Covers a wide range of topics under the broader conceptual umbrella of research, teaching, and service. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Pre-requisite: Doctoral student in Community Resources and Development |
| CRD | 683 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRD | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRD | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| CRD | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | LEC | Y | Z3 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRD | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | IND | Y | Z2 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRJ | 100 | Introduction to Criminal Justice | History and current practice of the criminal justice system. Roles of law enforcement agencies, courts and correctional agencies. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | SB | |
| CRJ | 201 | Criminal Justice Crime Control Policies and Practices | Dimensions and causes of crime. Criminal justice system responses. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | |
| CRJ | 203 | Courts and Sentencing | Structure and operation of criminal court system. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | |
| CRJ | 204 | Juvenile Justice | History and development of the juvenile court and the juvenile justice system. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | |
| CRJ | 210 | Introduction to Criminal Investigations | Studies the basic principles of criminal investigation including the analysis of investigative techniques, criminal patterns and modus operandi, interviewing and interrogation strategies, collection and management of evidence, surveillance, and crime scene investigation. Covers theories, philosophies and concepts related to suppression of crime. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 100 with C or better OR Visiting University Student |
| CRJ | 211 | Documenting the Crime Scene | Practical approach to evidence identification; documentation of the location of evidence; crime scene sketching; and the collection and handling of evidence from the crime scene, to the crime laboratory, and to presentation in court. Includes lab exercises designed to reinforce important investigative skills. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 100 with C or better OR Visiting University Student |
| CRJ | 230 | Introduction to Policing | History of police. Contemporary police work. Problems in policing. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | |
| CRJ | 240 | Introduction to Corrections | Structure and operation of corrections system. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | |
| CRJ | 260 | Criminal Law I: Introduction to Substantive Criminal Law | In-depth study of the historical development, foundational principles and public policy implications of criminal law, focusing on theories of criminal liability and the elements of select crimes against the person. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | |
| CRJ | 270 | Community Justice | Collaborative and evidence-based approach to reducing crime, incorporating offenders, victims, the community and criminal justice agencies. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | SB | |
| CRJ | 284 | Professional Growth in Criminal Justice | Targeted field practice with criminal justice agencies. Prerequisite for internship. | N | LEC | N | YGB | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 100 with C or better |
| CRJ | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-4 | | |
| CRJ | 300 | Oral and Written Communication for Criminology and Criminal Justice | Develops critical oral and written communication skills with emphasis on locating, analyzing, properly citing, and persuasively using primary and secondary sources in criminology and criminal justice. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| CRJ | 302 | Research Methods | Validity and reliability of research designs and data collection. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | L | Prerequisite(s): CRJ 100 with C or better; CRJ 201 with C or better; ENG 101, 105, or 107 with C or better; MAT 117, 119, 142, 170, 210, or 270 with C or better OR Visiting University Student |
| CRJ | 303 | Statistical Analysis | Fundamentals and application of descriptive and inferential statistics. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | CS | Prerequisite(s): CRJ 100 with C or better; CRJ 201 with C or better; MAT 117, 119, 142, 170, 210, or 270 with C or better OR Visiting University Student |
| CRJ | 304 | Inequality, Crime and Criminal Justice | Explores variability in the perpetration, apprehension, prosecution and punishment of crime, as well as criminal victimization by race, ethnicity, class and socio-economic status, religion, gender and gender identity, sexual orientation, and disability status. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 100 with C or better; CRJ 201 with C or better; junior or senior standing OR Visiting University Student |

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| CRJ | 305 | Gender, Crime, and Criminal Justice | Women as offenders, victims and professionals in the criminal justice system. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | C | Prerequisite(s): CRJ 100 with C or better; CRJ 201 with C or better; junior or senior standing OR Visiting University Student |
| CRJ | 306 | Race, Ethnicity, Crime, and Criminal Justice | Minority issues in the criminal justice system. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | C | Prerequisite(s): CRJ 100 with C or better; CRJ 201 with C or better; junior or senior standing OR Visiting University Student |
| CRJ | 309 | Criminology | Theoretical explanations for criminal behavior. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | SB | Prereq(s) w/ C or better: Crim & Crim Just or Pub Serv & Pub Policy (Crim) major; CRJ 100; CRJ 201; min 56 hrs OR Psych (Forensic Psych) BA or BS major; Credit allowed for only CRJ 309 (or CRJ 225) or CRJ 414 (or CRJ 308) OR Visiting University Student |
| CRJ | 315 | Police Organization and Management | Structure, processes and behavior of police organizations. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 100, JUS 105, or JUS 305 with C or better; CRJ 230 with C or better |
| CRJ | 317 | Inside-Out Prison Exchange Program | Pairs university students and correctional students inside a prison to examine the criminal justice system through a combination of theoretical knowledge and practical experience, paying special attention to race, gender, socioeconomic status, age, and ethnicity. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CRJ 317 or CRJ 494 (Inside-Out Prison Exchange) |
| CRJ | 321 | Evidence: Imperatives of Proof | Problems and means of establishing identity and fact in relation to arrest, detention, adjudication, sentencing, and correctional case management. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 100 with C or better; CRJ 201 with C or better; junior or senior standing OR General Studies BA major OR Interdisciplinary Studies BIS major OR Visiting University Student |
| CRJ | 350 | Law and Social Control | Resolution of social issues through the application of law as an agent of social control. Nature, sanctions, and limits of law. Categories of law and schools of jurisprudence. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | SB | Prerequisite(s): CRJ 100 with C or better; CRJ 201 with C or better; junior or senior standing OR General Studies BA major OR Interdisciplinary Studies BIS major OR Visiting University Student |
| CRJ | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-4 | | |
| CRJ | 403 | Victims and the Criminal Justice System | Victimization theories. Nature and extent of victimization. Interactions among victims, the criminal justice system and society. Victim rights and services. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prereq(s) w/ C or better: Crimnlgly & Crim Just mjr; CRJ 302; CRJ 303 OR Law & Hmn Behav cert; CRJ 302; CRJ 303 or PSY 230; PSY 290 OR Pub Serv & Pub Pol (Crimnlgly or Emer Mgt & Hmlnd Sec or Law & Pol) mjr; PAF 301; PAF 302 OR Visiting University Student |
| CRJ | 404 | Juvenile Delinquency | Causes, correlations and strategies to reduce juvenile delinquency. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 302 with C or better; CRJ 303 with C or better OR Public Service & Public Policy (Criminology, Emer Mgt & Homeland Security, or Law & Policy) BS major; PAF 301 with C or better; PAF 302 with C or better OR Visiting University Student |
| CRJ | 405 | Neighborhoods and Crime | Variation in crime across neighborhoods from ecology of crime and urban sociology perspectives. Influence of social institutions on community crime patterns. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 302 with C or better; CRJ 303 with C or better OR Public Service and Public Policy (Criminology, Emergency Management and Homeland Security, or Law and Policy) BS major; PAF 301 with C or better; PAF 302 with C or better |
| CRJ | 406 | Sex Crimes | Prevalence, nature and etiology of sex crimes. Response of criminal justice system to victims and perpetrators of sex crimes. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prereq(s) w/C or btr: Crim&Crim Just BS: CRJ 302; CRJ 303 OR Lw&Hmn Bhv crt: CRJ 302; CRJ 303 or PSY 230; PSY 290 OR Psy(ForPsy)BA/BS: PSY 230; PSY 290 OR PubSer&PubPol(Crim, Emer Mgt&Hm Sec, or Lw&Pol)BS: PAF 301; PAF 302 OR Visiting University Student |

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| CRJ | 407 | Police Use of Force | Explores the use of force options available to police officers. After analyzing the legal foundations of use of force, examines the community context. Also studies future technology and examines current research on the topic. Uses case studies to demonstrate the historical and current issues in police use of force. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prereq(s): w/ C or better: Crim & Crim Just mjr; CRJ 302; CRJ 303 OR Pub Serv & Pub Pol (Crimnlgy, Emerg Mgmt & Hmlnd Sec, or Law & Pol) mjr; PAF 301; PAF 302; Credit for only CRJ 407 or CRJ 494 (Police Use of Force or Force in Law Enfrmnt) |
| CRJ | 408 | Drugs and Crime | Patterns of illegal drug use. Problems, practices and policies associated with drugs, crime and drug policy. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 302 with C or better; CRJ 303 with C or better OR Public Service & Public Policy (Criminology, Emer Mgt & Homeland Security, or Law & Policy) BS major; PAF 301 with C or better; PAF 302 with C or better OR Visiting University Student |
| CRJ | 409 | Police Accountability | Command and control systems. Managing police culture. Community policing and accountability to the community. Police training. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 302 with C or better; CRJ 303 with C or better OR Public Service & Public Policy (Criminology, Emer Mgt & Homeland Security, or Law & Policy) BS major; PAF 301 with C or better; PAF 302 with C or better OR Visiting University Student |
| CRJ | 410 | Criminal Procedure I: The Law of Investigations | In-depth exploration of U.S. Constitutional law governing criminal investigative procedures. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 100, 203, or 230 with C or better; minimum junior standing OR Visiting University Student |
| CRJ | 411 | Legal Issues in Corrections | Explores the constitutional and statutory law concerning prisoners in the United States. Places special emphasis on the First, Fourth, Fifth, Sixth, Eighth and Fourteenth Amendment rights of persons under the jurisdiction of correctional agencies, as well as their rights under relevant statutes and case law, including those affecting habeas corpus right. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prereq(s) with C or better: Criminology & Criminal Justice major; CRJ 302; CRJ 303 OR Correctional Studies cert; CRJ 100 OR Public Service & Public Policy (Criminology, Emergency Management & Homeland Security, or Law & Policy) major; PAF 301; PAF 302 |
| CRJ | 412 | International Terrorism | Structural, organizational, political and legal characteristics of international terrorism. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prereqs w/min C: Crimnlgy & Crim Just BS; CRJ 302; CRJ 303 OR Emer Mgt & Hmlnd Sec BS OR Pub Serv & Pub Pol (Crimnlgy, Emer Mgt & Hmlnd Sec, or Law&Pol) BS; PAF 301; PAF 302; Credit for only CRJ 412 or 494 (Intl Terrorism) OR Visiting University Student |
| CRJ | 414 | Advanced Criminological Theory | Critical assessment of criminological thought using original readings. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminology & Crim Jus major: CRJ 302 w/ C or better; CRJ 303 with a C or better OR Law & Humn Behavr Cert Students: CRJ 100 with a C or better; min junior standing; Credit is allowed for only CRJ 309 (or CRJ 225) or CRJ 414 (or CRJ 308) |
| CRJ | 416 | Criminal Procedure II: Adjudication | In-depth study of the constitutional rights attendant to the processing and adjudication of criminal cases in court, from initial court appearances through appeals and collateral attacks. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 203; CRJ 410 OR Visiting University Student |
| CRJ | 417 | Cyber Terrorism | Terrorism perpetuated online. Terrorism and technology. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s) with C or better: Criminology & Criminal Justice major; CRJ 302; CRJ 303 OR Public Service & Public Policy (Criminology or Emergency Management & Homeland Security or Law & Policy) BS major; PAF 301; PAF 302 OR Visiting University Student |
| CRJ | 419 | Domestic Terrorism | Evolution of domestic terrorism in the United States. History and future of domestic security. Public policy responses. Internal and external political implications. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s) with C or better: Criminology & Crim Justice BS major; CRJ 302; CRJ 303 OR App Sci (Emer Mgt) BAS or Publ Service & Publ Policy (Criminology, Emer Mgt & Homeland Sec, Law & Policy) BS major; PAF 301; PAF 302 OR Visiting University Student |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|---|--|-------|-----------------|---|
| CRJ | 422 | Violence in America | Theories, patterns, prevention and policy responses to violence in the United States. Varieties of violence including domestic, gang-related, hate crimes, school violence and sex crimes. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s) with C or better: Criminology & Criminal Justice major; CRJ 302; CRJ 303 OR Public Service & Public Policy (Criminology, Emergency Management & Homeland Security, or Law & Policy) BS major; PAF 301; PAF 302 OR Visiting University Student |
| CRJ | 423 | Sacred Crimes: Religion and Violence | Religion is capable of doing great good in the lives of humans, leading them to personal betterment and positive social contributions. Yet, throughout human history religion has also led some individuals to engage in acts of violence and other dangerous behaviors. This course explores the history of several religious traditions and texts and their complicated connections to violence and criminality. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | G & H | Prerequisite(s): ENG 102, 105, or 108 w/ C or better; Credit is allowed for only CRJ 423 or FOR 413 or REL 413 or FOR 494 (Sacred Crimes: Religion, Violence & Crim) or REL 494 (Sacred Crimes: Religion, Violence & Crim) OR Visiting University Student |
| CRJ | 425 | Life-Course Criminology | Theories, methods and controversies of the life-course perspective as it applies to crime. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prereq(s) w/ C or btr: Crim&Crim Just BS mjr; min jr standing; CRJ 302; CRJ 303 OR Juvenile Just or Law & Human Behavior cert stud; min jr standing; CRJ 100; Credit is allowed for only CRJ 425 or CRJ 494 (Life-Course Crim) OR Visiting University Student |
| CRJ | 427 | Crime and Media | Examines the relationships among crime and discourse, media representations of crime and criminals, and the structural deficiencies in society that perpetuate relations of domination and oppression based on class, race, gender and sexuality. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): minimum junior standing; minimum 2.00 GPA; Credit is allowed for only COM 427 or CRJ 427 or COM 494 (Crime, Communication and Media) or CMN 598 (Crime, Communication and Media) OR Visiting University Student |
| CRJ | 433 | Death Investigations: Principles of Forensic Medicine | Medico-legal investigation of death via postmortem examinations. Identification, thanatology, thanato-etiology of unexpected natural deaths, accidental deaths, suicides and homicides. Forensic examination of living people following sexual assault, traffic offenses, child abuse and drug crimes. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s) with C or better: Criminology and Criminal Justice BS major; CRJ 302; CRJ 303 OR Public Service and Public Policy (Criminology, Emergency Management and Homeland Security, or Law and Policy) BS major; PAF 301; PAF 302 |
| CRJ | 434 | Drugs of Abuse | Pharmacological and toxicological characteristics of commonly abused drugs such as alcohol, barbiturates, amphetamines, narcotics, stimulants and hallucinogens. Forensic toxicology. Acute and long-term effects of drug abuse. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prereq(s): w/ min C: Crimnlg & Crim Just mjr: CRJ 302; CRJ 303 OR Lw & Hman Bhvior crt: CRJ 302; CRJ 303 or PSY 230; PSY 290 OR Pblc Serv & Pblc Pol (Crimnlg or Emerg Mgt & Hmld Sec or Lw & Pol) mjr: PAF 301; PAF 302 OR Visiting University Student |
| CRJ | 435 | Crime and Forensic Mental Health | Clinical assessment of people under court jurisdiction. Topics include psychological paradigms, nomenclature of mental disorders, forensic clinical assessment, mental disorders and crime, legal standards governing mentally disordered criminal offenders. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | SB | Prereq(s) w/C or better: Crimnlg&Crim Just BS: CRJ 302; CRJ 303 OR Law&Hmn Behv cert: CRJ 302; CRJ 303 or PSY 230; PSY 290 OR Psych (Forens Psych) BA/BS: PSY 230; PSY 290 OR Pub Serv&Pub Pol (Crimnlg, Emer Mgt&Hmld Sec, or Law&Pol) BS: PAF 301; PAF 302 |
| CRJ | 443 | Community Corrections | Probation and parole. Types of community corrections programs. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s) w/ C or better: Criminology & Criminal Justice major; CRJ 302; CRJ 303 OR Public Service & Public Policy (Criminology or Emergency Management & Homeland Security or Law and Policy) major; PAF 301; PAF 302 OR Visiting University Student |
| CRJ | 444 | Institutional Corrections | Provides an overview of secure correctional facilities in the U.S. with a focus on prisons and jails. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s) with C or better: Criminology and Criminal Justice BS major; CRJ 302; CRJ 303 OR Public Service and Public Policy (Criminology or Emergency Management and Homeland Security or Law and Policy) BS major; PAF 301; PAF 302 |

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| CRJ | 445 | Tools for Engaging Correctional Populations | Provides an overview to risk and needs assessment with correctional populations, with a particular focus on introducing tools to engage with and rehabilitate individuals. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prereq(s) w/ C or better: Criminology & Criminal Justice BS major; CRJ 302; CRJ 303 OR Public Service & Public Policy (Criminology or Emergency Management & Homeland Security, or Law & Policy) BS major; PAF 301; PAF 302 OR Visiting University Student |
| CRJ | 450 | Crime Analysis | Tactical, strategic and administrative aspects of crime analysis and crime mapping as practiced in everyday policing. Environmental criminology. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prereq(s) w /C or better: Criminology & Criminal Justice BS major; CRJ 302; CRJ 303 OR Public Service & Public Policy (Criminology or Emergency Management & Homeland Security or Law & Policy) BS major; PAF 301; PAF 302 OR Visiting University Student |
| CRJ | 455 | Police and International Terrorism | Suicide bomber interdiction, jihadism, and anti-terrorism intelligence gathering. History of prior attacks and policy responses. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 201 with C or better; minimum junior standing; Credit is allowed for only CRJ 455 or CRJ 555 or CRJ 494 (Police and Int'l Terrorism-Israel) |
| CRJ | 456 | Etiology of Martyrdom | Development of a jihadist mindset. Social support for beliefs that lionize martyrdom. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 201 with C or better; minimum junior standing; Credit is allowed for only CRJ 456 or CRJ 556 or CRJ 494 (Etiology of Martyrdom) |
| CRJ | 460 | Criminal Law II: Advanced Substantive Criminal Law | In-depth study of the historical development, foundational principles, and public policy implications of criminal law focusing on parties to crime, inchoate liability, select crimes against the person; crimes against property, public order and the state; and defenses to crime. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 260 OR Visiting University Student |
| CRJ | 461 | Intimate-Partner Violence | Examines the prevalence, causes and consequences surrounding physical, psychological, sexual and financial abuse of family and intimate partners. Pays special attention to underserved populations (e.g., people of color, Indigenous persons, and LGBTQ+ people) who are particularly impacted by systemic racism and hetero-normative worldviews that play important roles in intimate-partner violence. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s) with C or better: Criminology & Criminal Justice major; CRJ 302; CRJ 303 OR Public Service & Public Policy (Criminology, Emergency Management & Homeland Security, or Law & Policy) BS major; PAF 301; PAF 302 OR Visiting University Student |
| CRJ | 462 | Gangs | History and development of gangs. Criminal justice system responses. Nature of gangs and gang members. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s) with C or better: Criminology & Criminal Justice major; CRJ 302; CRJ 303 OR Public Service & Public Policy (Criminology, Emergency Management & Homeland Security, or Law & Policy) major; PAF 301; PAF 302 OR Visiting University Student |
| CRJ | 463 | White Collar Crime | Business, professional and official lawbreaking including consumer fraud, securities violations, unethical behavior and political corruption. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s) w/ C or better: Criminology & Criminal Justice BS major; CRJ 302; CRJ 303 OR Public Service & Public Policy (Criminology, Emergency Management & Homeland Security, or Law & Policy) BS major; PAF 301; PAF 302 OR Visiting University Student |
| CRJ | 464 | Organized Crime | Nature and history of organized crime. Theories of containment. Criminal justice agency responses. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s) w/ C or better: Criminology & Criminal Justice BS major; CRJ 302; CRJ 303 OR Public Service & Public Policy (Criminology, Emergency Management & Homeland Security, or Law & Policy) BS major; PAF 301; PAF 302 OR Visiting University Student |
| CRJ | 470 | Discretionary Justice | Use and abuse of discretion in the criminal justice system. Theoretical and empirical links between discretion and discrimination based on race, ethnicity and gender. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | L or SB | Prerequisite(s) w/ C or better: Criminology & Crim Just major; CRJ 302; CRJ 303; ENG 101, 105, 107 OR Public Serv & Pub Policy (Criminology, Emerg Mgmt & Homeland Sec or Law & Pol) major; ENG 101, 105, 107; PAF 301; PAF 302 OR Visiting University Student |

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| CRJ | 474 | Correctional Psychology | Covers the basic principles of correctional psychology, including psychologists' roles in prisons and jails, the unique challenges of working in these settings, establishing successful relationships with correctional staff and inmates, and the various career opportunities in correctional psychology. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): PSY 366; Credit is allowed for only CRJ 474 or PSY 474 OR Visiting University Student |
| CRJ | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-12 | | Prerequisite(s): minimum 56 hours; minimum 2.75 GPA; complete three from CRJ 100, 302, 303, 304, 305, 306, or 309 with C or better |
| CRJ | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-6 | | Prerequisite(s) with C or better: Barrett Honors stdnt; Criminology & Criminal Justice BS major; CRJ 302; CRJ 303 OR Barrett Honors stdnt; Public Serv & Public Policy (Criminology, Emrgncy Mgt & Homeland Sec, or Law & Policy) BS major; PAF 301; PAF 302 |
| CRJ | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-6 | L | Prereq(s) w/ C or btr: Barrett Hons stdnt; Crimlgy&Crim Just BS mjr; ENG 101, 105, or 107; CRJ 302; CRJ 303 OR Barrett Hons stdnt; Pub Serv&Pub Policy (Criminlgy, Emrgncy Mgt&Homeland Sec, or Law & Policy) BS mjr; ENG 101, 105, or 107; PAF 301; PAF 302 |
| CRJ | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-4 | | Prerqs w/ C or better: Crim & Crim Just BS mjr; CRJ 302; CRJ 303 OR Law & Hmn Behav cert; CRJ 302; CRJ 303 or PSY 230; PSY 290 OR Pub Srv & Pub Pol (Crimlgy, Emrgncy Mgt & Homelnd Sec, or Law & Pol) BS mjr; PAF 301; PAF 302 OR Visiting University Student |
| CRJ | 496 | Directed Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to contribute to a specific project such as a report or publication. Tasks may include data collection and coding, data analysis, literature reviews and producing research reports. Neither a substitute for a catalog course nor a means of taking a catalog course on an individual basis. Requires application well in advance of regular registration with the student's advisor, the advisor's signature, and approval by both the faculty member with whom the student will work and the director of the school offering the course. | N | RSC | Y | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-3 | | Prerequisite(s) with C or better: Criminology & Criminal Justice BS major; CRJ 302; minimum junior standing OR Public Service & Public Policy (Criminology, Emergency Mgmt & Homeland Security, or Law & Policy) BS major; PAF 302; minimum junior standing |
| CRJ | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-3 | | Prerequisite(s): minimum 45 hours |
| CRJ | 501 | Seminar in Criminal Justice | Overview of the American criminal justice system, with emphasis on policy issues in police, courts, sentencing, corrections. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Forensic Psychology MS student OR Law and Psychology PhD student |
| CRJ | 502 | Seminar in Criminology | Theory and research on the nature, causes, and prediction of criminal careers and events. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA major OR Criminology and Criminal Justice MS or PhD major OR Forensic Psychology MS OR Law and Psychology PhD major |
| CRJ | 503 | Research Methods | Introduces data analysis; overview of research methods used in social science research, including experimental design, survey research, field research, and evaluation research. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 504 | Statistical Tools for Criminology and Criminal Justice | Focuses on essential statistical analysis that can be used in criminal justice and related agencies. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 505 | Theory and Practice in Criminal Justice | Capstone course for School of Criminology and Criminal Justice master's students. Students complete a project that requires the application of knowledge from program coursework. | N | RSC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student; CRJ 501; CRJ 502; CRJ 510; CRJ 511 |

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| CRJ | 506 | Seminar in Crime Analysis | Examines theory and practice of crime analysis in the field of criminal justice. Focuses on data collection, management and dissemination methods; related technology and software; and analytical techniques to examine crime trends, the spatial distribution of crime, and temporal trends in crime for the purpose of understanding and responding to crime. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Crime Analysis graduate certificate, Crime Analysis MS, Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, Forensic Psychology MS, or Law and Psychology PhD student |
| CRJ | 507 | Social Network Analysis | Examines the theory and practice of social network analysis in the field of criminal justice. Focuses on the major theoretical assumptions of social network analysis, how to collect social network data, how to use social network analysis software, and how to analyze and interpret social network data for the purpose of understanding and responding to crime. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Crime Analysis graduate certificate, Crime Analysis MS, Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, Forensic Psychology MS, or Law and Psychology PhD student |
| CRJ | 508 | Advanced Seminar in Crime Analysis | Examines advanced topics in the practice of crime analysis in the field of criminal justice. Students learn the terminology, principles and techniques crime analysts use in everyday practice. Provides an exploration of the various approaches to analyzing and reducing crime as well as the theories that inform those approaches. Examines situational analysis and its approach to managing the occurrence of crime; also explores crime prevention through community-based approaches to crime prevention. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): CRJ 506 |
| CRJ | 509 | Data Management | Core concepts and practices used for the organization and management of data. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Crime Analysis graduate certificate, Crime Analysis MS, Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, Forensic Psychology MS, or Law and Psychology PhD student; CRJ 511 |
| CRJ | 510 | Criminal Justice Planning and Program Evaluation | Examines the application of alternative models of strategic planning to the criminal justice system. Covers methods of evaluating criminal justice policies and practices. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Crime Analysis MS, Crime Analysis graduate certificate, Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, or Law and Psychology PhD student |
| CRJ | 511 | Applied Data Analysis in Criminal Justice | Examines a variety of tools used in the analysis of criminal justice data, including GIS mapping. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prereq(s): Crime Analysis MS, Crime Analysis grad certificate, Criminal Justice MA, Criminology & Criminal Justice MS, Criminology & Criminal Justice PhD, Emergency Management & Homeland Security MA (all concentrations), or Law & Psychology PhD student |
| CRJ | 512 | Seminar in Policing | Graduate-level review of policing and police organizations. Seminar examines research on police strategies and practices designed to address crime. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Crime Analysis MS, Crime Analysis graduate certificate, Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, Forensic Psychology MS, or Law and Psychology PhD student |
| CRJ | 513 | Seminar in Courts and Sentencing | Overview of the nature, proposed principles, and theoretical doctrine of the courts and sentencing policies in criminal justice. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Forensic Psychology MS student OR Law and Psychology PhD student |
| CRJ | 514 | Seminar in Corrections | Theory, research, and policy issues regarding community-based and institutional correction programs. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Forensic Psychology MS student OR Law and Psychology PhD student |
| CRJ | 515 | Seminar in Women and Crime | Introduces students to issues regarding women and the criminal justice system, focusing on their roles as offenders, victims and professionals. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 516 | Seminar in Criminal Justice Organization and Management | How external and internal variables shape criminal justice systems' organizational behaviors. Emphasizes strategic hiring, professional socialization, effective leadership, progressive discipline, interagency collaboration and organizational change. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 517 | Seminar on Juvenile Delinquency and Juvenile Justice | Examines patterns and correlates of delinquency within the context of theories of delinquency. Reviews the response of the juvenile justice system. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, Forensic Psychology MS, or Law and Psychology PhD student |

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| CRJ | 518 | Seminar on Race/Ethnicity, Crime, and Justice | Theoretical perspectives and research on the overrepresentation of racial minorities as victims, offenders, and defendants in the criminal justice system. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 519 | Seminar on Victimization | Examines theory and research concerning victimization and consequences for victims, society, and the justice system. Also examines effective responses to victims' post-crime needs. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, Forensic Psychology MS, or Law and Psychology PhD student |
| CRJ | 520 | Seminar on Violent Crime | Examines patterns and correlates of violent crime, as well as prevention strategies and policy implications. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, Forensic Psychology MS, or Law and Psychology PhD student |
| CRJ | 521 | Topics in Psychological Criminology | Topical courses relating to the intersection of various specializations in psychology with criminology and criminal justice. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, Forensic Psychology MS, or Law and Psychology PhD student |
| CRJ | 522 | Seminar on Gangs and Crime | Theoretical perspectives and research on gangs and crime, and on the role of the community and the criminal justice system in causes and control. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, Forensic Psychology MS, or Law and Psychology PhD student |
| CRJ | 523 | Seminar in Network Criminology | Explores the theoretical foundations for applying the concepts and methods of network science to problems in criminology and criminal justice. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA, Criminology and Criminal Justice MS or PhD, Forensic Psychology MS or Law and Psychology PhD student |
| CRJ | 524 | Theories of Punishment | Examines the fundamental philosophical principles of justice and punishment. Includes a comparative and historical perspective. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 525 | Seminar on Life-Course Criminology | Provides an intensive examination of life-course explanations of crime, the life-course perspective and a theoretical orientation, and research methods used in life-course research. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 527 | Police Accountability | Examines the great authority of police, the various and most common ways that police abuse that authority, the consequences of those abuses, and accountability mechanisms that can prevent those abuses from occurring. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 529 | Community Corrections | Provides a review of theory, research and policy focusing primarily on correctional strategies and programs that take place within the community setting, as well as the function of community corrections within the larger correctional system. Gives particular attention to the purpose and goals of community-based corrections; the historical development of probation and parole practices; and contemporary community corrections programs and strategies such as evidence-based practices, risk assessment, offender reentry, sex offender management, diversion, restitution, community service programs and other emerging alternatives to traditional incarceration. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, Forensic Psychology MS, or Law and Psychology PhD student |
| CRJ | 530 | Seminar in Forensics | Explores recent and sometimes controversial developments in forensic science. Includes topics such as quality assurance, the CSI effect and the National Academy of Sciences' report entitled "Strengthening Forensic Science in the United States: A Path Forward." | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 531 | Crime Mapping | Examines the applied research methodology and conceptual framework used to conduct spatial analysis within the crime analysis profession. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Crime Analysis MS, Crime Analysis graduate certificate, Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, or Law and Psychology PhD student |
| CRJ | 532 | Sex Crimes | Not only discusses the distinctions among types of offenders, but also applies theory, analyzes public policy, examines the effect of sex offenses on victims, and discusses how we've legislated sexual behavior over human history. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, Forensic Psychology MS, or Law and Psychology PhD student |
| CRJ | 533 | Seminar in White Collar Crime | Provides a general overview of white collar crimes including forms, contexts and response by the criminal justice system toward offenders and victims. Also addresses theoretical perspectives. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student; Credit is allowed for only CRJ 533 or CRJ 598 (Seminar in White-Collar Crime) |

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| CRJ | 535 | Seminar in Crime and Forensic Mental Health | This interdisciplinary course, which draws from the fields of criminology, psychology, sociology and law, focuses on the clinical assessment of people under the jurisdiction of a court of law. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, Forensic Psychology MS, or Law and Psychology PhD student; Credit is allowed for only CRJ 535 or CRJ 598 (Crime and Forensic Mental Health) |
| CRJ | 537 | Criminal Procedure of Investigations for Social and Forensic Scientists | Explores the criminal procedures mandated by the U.S. Constitution as applied to criminal investigations with emphases on pretrial rights under the Fourth, Fifth and Sixth Amendments. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Forensic Science PSM student OR Law and Psychology PhD student |
| CRJ | 538 | Criminal Law and Social Control | Examines practical, legal and constitutional limitations of criminal laws and procedures as means of securing social order. Focuses on the formal social control of justice system actors and the limits placed on government when seeking to control crime. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Forensic Psychology MS student OR Law and Psychology PhD student |
| CRJ | 539 | Topics in Law, Crime and Justice | Topical courses relating to the intersection of law with criminology, criminal justice, public policy and the social sciences. | N | LEC | Y | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminology and Criminal Justice MS or PhD, Forensic Psychology MS, or Law and Psychology PhD student |
| CRJ | 540 | Qualitative Methods | Provides students with an examination of the design, execution, and write-up of qualitative research. Discusses methods of data collection, including participant-observation, ethnography, and interviewing. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 553 | Terrorism and Weapons of Mass Destruction | Historical evolution of terrorism and weapons of mass destruction. Analyzes current theories and mitigation, preparedness, and response tactics. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Emergency Management and Homeland Security MA student (all concentrations) OR Law and Psychology PhD student |
| CRJ | 554 | Homeland Security | Presents skills necessary to develop policies, strategies, programs, and organizational structure of an all hazards/all risk homeland security program. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology & Criminal Justice MS or PhD student OR Emergency Management & Homeland Security MA student (all concentrations) OR Law & Psychology PhD student; Credit is allowed for only CRJ 554 or PAF 461 |
| CRJ | 555 | Police and International Terrorism | Suicide bomber interdiction, jihadism and anti-terrorism intelligence gathering. History of prior attacks and policy responses. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA or Criminology and Criminal Justice MS or Criminology and Criminal Justice PhD student; Credit is allowed for only CRJ 445 or CRJ 555 or CRJ 598 (Police and Int'l Terrorism-Israel) |
| CRJ | 556 | Etiology of Martyrdom | Development of a jihadist mindset. Social support for beliefs that lionize martyrdom. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology & Criminal Justice MS or PhD student OR Emergency Management & Homeland Security MA student OR Law & Psychology PhD student |
| CRJ | 557 | Seminar in Domestic Terrorism | Develops a foundation of theoretical approaches to understanding domestic terrorism in the United States of America. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology & Criminal Justice MS or PhD student OR Emergency Management & Homeland Security MA student OR Law & Psychology PhD student; Credit is allowed for only CRJ 557 or CRJ 598 (Seminar in Domestic Terrorism) |
| CRJ | 558 | Seminar in International Terrorism | Reviews the various definitions of terrorism and how to apply these to terrorism issues and instances globally. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA student OR Criminology & Criminal Justice MS or PhD student OR Emergency Management & Homeland Security MA student OR Law and Psychology PhD student; Credit is allowed for only CRJ 558 or CRJ 598 (International Terrorism) |

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| CRJ | 559 | Seminar in Cyber Terrorism | Explores the rapidly changing face of cyber warfare and cyber terrorism. Identifies and characterizes the fundamental aspects of cyber terrorism and the role of computers and the Internet in terrorist acts on information systems and critical infrastructure components. Analyzes cyber warfare techniques such as Denial of Service (DoS) attacks on critical infrastructure, man-in-the-middle attacks, sabotage and espionage. Evaluates the various cybercrimes that finance terrorism and cyber-criminal activities that associate with terrorism. Offers intensive study in specific areas of homeland security and cybersecurity with regard to nation-state cyberwarfare and terrorism. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA, Criminology & Crim Justice MS, Criminology & Crim Justice PhD, Emergency Mgmt & Homeland Security MA, or Homeland Security grad cert student; Credit is allowed for only CRJ 559 or CRJ 598 (Seminar in Cyber Terrorism) |
| CRJ | 560 | Topics in Research Methods | In-depth exploration of either a specific social scientific research method or a narrow range of related methods relevant to criminological and criminal justice research. | Y | LEC | Y | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA, Criminology and Criminal Justice MS or PhD, Forensic Psychology MS, Forensic Science PSM, or Law and Psychology PhD student |
| CRJ | 570 | Leadership and Innovation in Public Fire Services | Provides current and future fire service leaders with an understanding and the skills necessary to manage creativity and foster a culture of innovation in public fire and emergency services. The approach is to treat the fire officer as an entrepreneur who identifies ideas and opportunities, then builds a business case for innovation. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRJ | 571 | Foundations of Emergency Medical Services | Examines the operational structure of emergency medical services in the United States, including the current organization, delivery and financing of these systems. Discusses strengths, weaknesses and future challenges of EMS with consideration for creating systems better integrated with the overall health care delivery system. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRJ | 572 | Community Paramedicine: Mobile Integrated Health Care | Explores mobile integrated health care and community paramedic programs and how health care professionals and community partners can work together to identify community health needs, foster partnerships and overcome hurdles in MIH/CP program development. Discusses examples of successful MIH/CP programs. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRJ | 573 | Emergency Services: Operations Analysis and Planning | Applies common data analysis tools and techniques appropriate to risk assessment, deployment analysis and performance measurement to evaluate an organization's abilities to respond to community risk. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRJ | 574 | Executive Leadership Principles in Public Safety | Covers models of leadership. Students learn strategies to increase leadership skills for executive-level career fields in public safety/service. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, or Public Safety Leadership and Administration MPSLA student |
| CRJ | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRJ | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-12 | | Prerequisite(s): Criminal Justice MA, Criminology and Criminal Justice MS, or Criminology and Criminal Justice PhD student; CRJ 501 |
| CRJ | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-12 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-12 | | Prerequisite(s): Crime Analysis MS, Criminal Justice MA, Criminology and Criminal Justice MS, Criminology and Criminal Justice PhD, or Law and Psychology PhD student |
| CRJ | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | SEM | Y | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-4 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |

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| CRJ | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | N | RSC | Y | Z2 | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-12 | | Prerequisite(s): Criminal Justice MA student OR Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 601 | Seminar on Criminological Theory | Examines historical and contemporary criminological theories. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 602 | Seminar on Criminal Justice Policies and Practices | Analyzes responses to crime and the operation of criminal justice system, with emphasis on theory and research on effectiveness of policies and practices of the system. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 604 | Regression Models | Use and application of advanced statistical techniques and multivariate analysis of data. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminology and Criminal Justice MS or PhD student or Law and Society PhD student |
| CRJ | 605 | Topics in Quantitative Methods | Explores advanced techniques of statistical analysis within the field of criminal justice. | N | SEM | Y | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 606 | Advanced Topics in Theoretical Criminology | Focuses on criminological theory construction, historical and contemporary theoretical debates within criminology, theory testing, empirical support for theories, and theoretical integration. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 3 | | Prerequisite(s): Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 614 | Professional Development Workshop I: Professionalization | A structured series of four workshop sessions to help doctoral students adjust to graduate school and begin to chart a path toward success as a scholar and colleague. | N | LEC | N | YGB | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 0 | | Prerequisite(s): Criminology and Criminal Justice MS or PhD, Forensic Psychology MS, or Law and Psychology PhD student |
| CRJ | 615 | Professional Development Workshop II: Preparing to Teach Effectively | A structured series of four workshop sessions to help doctoral students develop teaching skills. | N | LEC | N | YGB | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 0 | | Prerequisite(s): Criminology and Criminal Justice MS or PhD, Forensic Psychology MS, or Law and Psychology PhD student |
| CRJ | 616 | Professional Development Workshop III: Navigating the Academic Job Market in CCJ | A structured series of four workshop sessions to help doctoral students navigate the academic job market. | N | LEC | N | YGB | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 0 | | Prerequisite(s): Criminology and Criminal Justice MS or PhD, Forensic Psychology MS, or Law and Psychology PhD student |
| CRJ | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CRJ | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-15 | | Prerequisite(s): Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1 | | Prerequisite(s): Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CRJ | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Watts College of Public Service and Community Solutions | School of Criminology and Criminal Justice | 1-15 | | Prerequisite(s): Criminology and Criminal Justice MS or PhD student OR Law and Psychology PhD student |
| CSE | 100 | Principles of Programming with C++ | Principles of problem solving using C++, algorithm design, structured programming, fundamental algorithms and techniques, and computer systems concepts. Social and ethical responsibility. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | CS | |
| CSE | 110 | Principles of Programming | Concepts of problem solving using an object-oriented programming language, algorithm design, structured programming, fundamental algorithms and techniques. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | CS | |
| CSE | 120 | Digital Design Fundamentals | Number systems, conversion methods, binary and complement arithmetic, Boolean algebra, circuit minimization, ROMs, PLAs, flipflops, synchronous sequential circuits. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): degree-seeking student; minimum 12 hours; Credit is allowed for only CSE 120 or EEE 120 OR Visiting University Student |
| CSE | 180 | Computer Literacy | Students gain fluency in integrating technology to efficiently and effectively solve problems using computational thinking. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | CS | |
| CSE | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-4 | | |
| CSE | 205 | Object-Oriented Programming and Data Structures | Problem solving by programming with an object-oriented programming language. Introduces data structures. Overview of computer science topics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | CS | Prerequisite(s): CSE 100 or 110 with C or better OR Data Science, Analytics and Engineering PhD, Industrial Engineering MS, or Industrial Engineering PhD student; Credit is allowed for only ACO 102 or CSE 205 OR Visiting University Student |
| CSE | 220 | Programming for Computer Engineering | Introduction to C/C++, systems programming, and concurrency. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): CSE 205 with C or better OR Visiting University Student |

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| CSE | 230 | Computer Organization and Assembly Language Programming | Register-level computer organization. Instruction set architecture. Assembly language. Processor organization and design. Memory organization. IO programming. Exception/interrupt handling. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prereq(s): degree-seeking stdnt w/minC: CSE 100/110; CSE/EEE 120 or SER 232 OR Engr Mgt or Sftwr Engr maj w/minC; CSE110; SER232 OR Elec Engr maj; CSE 100/110; CSE/EEE 120 OR Cmp Sci&Engr grad; Credit for CSE 230 or EEE 230 OR Visiting University Student |
| CSE | 240 | Introduction to Programming Languages | Introduces the procedural, object-oriented, functional and declarative languages. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): ACO 102 with C or better OR CSE 205 with C or better OR GIS major with GIS 222 with C or better OR Software Engineering graduate student; Credit is allowed for only ACO 240 or CSE 240 OR Visiting University Student |
| CSE | 259 | Logic in Computer Science | Logic has been called the calculus of computer science. The argument is that logic plays a fundamental role in computer science, similar to that played by calculus in physical sciences and other engineering disciplines. Indeed, logic plays an important role in computer architecture (Boolean logic, digital gates, hardware verification); software engineering (specification, verification); programming languages (semantics, type theory, logic programming); databases (relational algebra, database query language); artificial intelligence (automated theorem proving, knowledge representation); algorithms and theory of computation (complexity, computability, expressiveness). This course is a mathematically solid introduction to propositional logic, first order logic, logic programming, and their applications in computer science. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): CSE 205 with C or better OR Visiting University Student |
| CSE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-4 | | |
| CSE | 301 | Computing Ethics | Ethics for computing majors: history of computing, intellectual property, privacy, ethical frameworks, professional ethical responsibilities and risks of computer-based systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1 | | Prerequisite(s): Computer Science BS or Computer Systems Engineering BSE major; CSE 205 with C or better; FSE 100 with C or better OR Informatics BS major; CPI 101 with C or better; CSE 205 with C or better OR Visiting University Student |
| CSE | 310 | Data Structures and Algorithms | Advanced data structures and algorithms, including stacks, queues, trees (B, B+, AVL), and graphs. Searching for graphs, hashing, external sorting. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prereqs w/min C: Comp Math Sci, Comp Sci, Comp Sys Egr, Data Sci, Egr Mgt, Geo Info Sci, Informatic or Media Art&Sci(Med Proc) maj; CSE 220 or 240; MAT 243 or 300 OR BMI/CEN/CS/Gbl Mgt Data Sci grad; Credit for CSE 310 or TGM 410 OR Visiting University Student |
| CSE | 320 | Design and Synthesis of Digital Hardware | Design and synthesis of digital hardware with hardware description language, computer-aided design tools, and programmable devices. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science BS or Computer Systems Engineering BSE major; CSE 220 or 240 with C or better; CSE 230 or EEE 230 with C or better OR Visiting University Student |
| CSE | 325 | Embedded Microprocessor Systems | System-level programming and analysis of embedded microprocessors systems. Fundamental concepts of digital system design for embedded system applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science BS or Computer Systems Engineering BSE major; CSE 220 or CSE 240 with C or better; CSE 230 or EEE 230 with C or better OR Visiting University Student |
| CSE | 330 | Operating Systems | Operating system structure and services, processor scheduling, concurrent processes, synchronization techniques, memory management, virtual memory, input/output, storage management, and file systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science BS or Computer Systems Engineering BSE major; CSE 230 or EEE 230 with C or better; CSE 310 with C or better OR CSE graduate student; Credit is allowed for only ACO 350 or CSE 330 OR Visiting University Student |
| CSE | 335 | Principles of Mobile Application Development | Covers topics pertaining to fundamental concepts of mobile application development principles including design patterns; data persistence; interfacing with services and devices; location and incorporation of existing frameworks; user interface and experience; context awareness; utilization of built-in tools for software profiling, testing, and version control; and security/privacy issues. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science BS or Informatics BS or Computer Systems Engineering BSE major; CSE 220 or 240 with C or better; Credit is allowed for only BMI 310 or CSE 335 OR Visiting University Student |

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| CSE | 340 | Principles of Programming Languages | Formal syntactic and semantic descriptions, compilation and implementation issues, and theoretical foundations for several programming paradigms. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Systems Engineer BSE or Computer Science BS major; CSE 310 with C or better; CSE 230 or EEE 230 with C or better OR CSE graduate student OR Visiting University Student |
| CSE | 355 | Introduction to Theoretical Computer Science | Introduces formal language theory and automata, Turing machines, decidability/undecidability, recursive function theory, and complexity theory. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Systems Engineering BSE or Computer Science BS major; CSE 310 with C or better OR CSE graduate student OR Visiting University Student |
| CSE | 360 | Introduction to Software Engineering | Software life cycle models; project management, team development environments and methodologies; software architectures; quality assurance and standards; legal, ethical issues. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Biomed Informat BS or Comp Sci BS or Dig Cult (Media Process) BA/BS or Geog Informat Sci BS or Comp Systems BSE or Engr Mgmt BSE major; CSE 220 or 240 w/ C or better OR Comp Sci or Software Engr grad stdnt OR Visiting University Student |
| CSE | 365 | Information Assurance | Concepts of information assurance (IA); basic IA techniques, policies, risk management, administration, legal and ethics issues. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): ACO 240, CIS 235, CIS 236, CSE 220, or CSE 240 with C or better; Pre- or corequisite(s): ACO 201, CSE 310, SER 222, or TGM 410 with C or better if completed OR Visiting University Student |
| CSE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-4 | | |
| CSE | 408 | Multimedia Information Systems | Design, use, and applications of multimedia systems. Introduces acquisition, compression, storage, retrieval, and presentation of data from different media such as images, text, voice, and alphanumeric. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science BS or Computer Systems Engineering BSE major; CSE 310 with C or better OR Software Engineering BS major; SER 222 with a C or better OR Computer Science and Engineering or Software Engineering graduate student |
| CSE | 412 | Database Management | Introduces DBMS concepts. Data models and languages. Relational database theory. Database security/integrity and concurrency. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prereq(s): Biomed Informs BS, Comp Sci BS, or Comp Syst Engr BSE mjr; CSE 310 w/ C or better OR Comp Sci & Engr or Software Engr grad stdnt; Credit is for only ACO 220 or ACO 320 or CSE 412 or IFT 300(or IFT 433) or SER 322 OR Visiting University Student |
| CSE | 414 | Advanced Database Concepts | Object-oriented data modeling, advanced relational features, JDBC and Web access to databases, XML and databases, object-oriented databases, and object-relational databases. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Comp Sci BS or Comp Sys Engineer BSE major; CSE 412 w/C or better OR Comp Engr, Comp Sci, or Sftwre Engr graduate student; Credit is allowed for only ACO 321 or CSE 414 or IFT 458 or IFT 554 or IFT 598 (Mdlwre Prgmrng & Dtabse Sec) |
| CSE | 420 | Computer Architecture I | Computer architecture. Performance versus cost tradeoffs. Instruction set design. Basic processor implementation and pipelining. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science BS or Computer Systems Engineering BSE major; CSE 230 or EEE 230 with C or better; CSE 310 with C or better; Credit is allowed for only CSE 420 or CSE 520 OR Visiting University Student |
| CSE | 423 | Systems Capstone Project I | Development process: specification, design, implementation, evaluation and testing with economic, social and safety considerations. Technical communication and team skills enrichment. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | L | Prerequisite(s) with C or better: Computer Systems Engineering BSE major; CSE 301; CSE 320; CSE 325; CSE 330; CSE 360; ENG 101, 105, or 107; Credit is allowed for only CSE 423 or CSE 485 |
| CSE | 424 | Systems Capstone Project II | Continuation of capstone project started in CSE 423. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | L | Prerequisite(s): Computer Systems Engineering BSE major; CSE 423 with C or better; ENG 101, 105, or 107 with C or better; senior standing or postbaccalaureate student; Credit is allowed for only CSE 424 or CSE 486 |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| CSE | 434 | Computer Networks | Network architecture and protocols, principles of network applications, socket programming, flow and congestion control, switching and routing, link-layer technologies, traffic capture and analysis, security. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Comp Sci BS or Comp Syst Engr BSE major; CSE 230 or EEE 230 w/ C or better; CSE 310 w/ C or better OR Computer Science & Engr or Software Engr graduate student; Credit is allowed for only ACO 330 or CSE 434 OR Visiting University Student |
| CSE | 438 | Embedded Systems Programming | Development of embedded system software, I/O handlers, and multiple threaded programs. Scheduling algorithms. Embedded software structures. Real-time operating system. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | L | Prerequisite(s): Computer Science BS or Computer Systems Engineering BSE major; ENG 101, 105, or 107 with C or better; CSE 325 with C or better OR Computer Science and Engineering or Software Engineering graduate student |
| CSE | 440 | Compiler Construction I | Introduces programming language implementation. Implementation strategies such as compilation, interpretation, and translation. Major compilation phases such as lexical analysis, semantic analysis, optimization, and code generation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Systems Engineering BSE or Computer Science BS major; CSE 310 with C or better OR Computer Science and Engineering or Software Engineering graduate student |
| CSE | 445 | Distributed Software Development | Distributed system architectures and design, service-oriented computing, and frameworks for development of distributed applications and software components. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science BS or Computer Systems Engineering BSE major; CSE 360 with C or better OR Computer Science and Engineering or Software Engineering graduate student OR Visiting University Student |
| CSE | 446 | Software Integration and Engineering | Software development using architecture design, composition, workflow, services, data resources, data representations, data management, and development tools. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Pre- or corequisite(s): Computer Science BS or Computer Systems Engr BSE major; CSE 445 with C or better if completed OR Computer Science and Engr or Software Engr grad student; Credit allowed for only CSE 446 or 598 (Software Integration & Engineering) |
| CSE | 450 | Design and Analysis of Algorithms | Design and analysis of computer algorithms using analytical and empirical methods; complexity measures, design methodologies and survey of important algorithms. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science BS, Computer Systems Engineering BSE, or Data Science BS major; CSE 310 with C or better OR Computer Engineering graduate student; Credit is allowed for only CSE 450 or CSE 551 OR Visiting University Student |
| CSE | 460 | Software Analysis and Design | Object-oriented and structured analysis and design; software architecture and design patterns; component-based development; software safety and reliability. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prereqs w/min C: Comp Sci, Comp Sys Engr or Geo Info Sci major; CSE 360 OR Sftwr Eng major; CSE 310, SER 222 or TGM 410; SER 315 or 316 OR Comp Sci & Eng or online CS nondegree grad stdnt; Credit allowed for CSE 460/SER 460 OR Visiting University Student |
| CSE | 463 | Introduction to Human Computer Interaction | Design, evaluate, and implement interactive software intended for human use. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prereqs w/minC: Cmp Sci BS or Cmp Sys Eng BSE or GIS BS; CSE310 OR Dig Cltr (Mda Prcs) BA/BS or Inf BS; CPI310 OR Sftwr Eng BS; SER315 or 316; CSE310 or SER222 OR Cmp Sci & Eng or Sftwr Eng grd st; Crdt only CSE463 or SER463 OR Visiting University Student |
| CSE | 464 | Software Quality Assurance and Testing | Software quality assurance (SQA), software quality metrics, software configuration management, software verification and validation, reviews, inspections, understanding software testing process, functional testing, structural testing, model-based testing, integration, system, and regression testing techniques, software life cycle models and software testing, testing distributed software, bug management, and use of testing tools. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prereqs w/min C: ComSci, ComSysEng, GeoInfoSci maj; CSE 360 OR SftwrEng maj; CSE 310, SER 222, or TGM 410; SER 315 or 316 OR CompSci&Eng or Online CS nondegree grad; Credit for CSE 464 or CSE 598 (SftQualAssrTst) or SER 464 OR Visiting University Student |
| CSE | 466 | Computer Systems Security | Countermeasures to attacks to computer systems from miscreants (or hackers) and basic topics of cryptography and network security. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s)w/ C or better: Computer Sci BS or Computer Sys Engr BSE major; CSE 310; CSE 365 with C or better OR Software Engr BS major; CSE 365; SER 222 OR Computer Sci & Engr or Software Engr graduate student OR Visiting University Student |

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| CSE | 467 | Data and Information Security | Basic concepts of security and privacy, data and database security, access controls, trust models, watermarking, and private information retrieval. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s) with C or better: Computer Science BS, Computer Systems Engr BSE, Data Science BS, or Software Engr BS major; CSE 310, SER 222, or TGM 410; CSE 365 OR Comp Sci & Engr or Software Engr graduate student OR Visiting University Student |
| CSE | 468 | Computer Network Security | Practical network security exposure and hands-on experience about basic security concepts, case studies and useful tools. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s) with C or better: Computer Science BS, Computer Systems Engineering BSE, or Software Engineering BS major; CSE 365 OR Computer Science, Computer Engineering, or Software Engineering graduate student OR Visiting University Student |
| CSE | 469 | Computer and Network Forensics | Identification, extraction, documentation, interpretation, and preservation of computer media for evidentiary purposes, file system forensics, and network forensics. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Sci BS or Computer Systems Engr BSE major; CSE 310 with C or better; CSE 365 with C or better OR Software Engr BS major; CSE 365 with C or better; SER 222 with C or better OR Computer Sci & Engr or Software Engr graduate student |
| CSE | 470 | Computer Graphics | Introduces basic concepts of interactive computer graphics, realistic rendering, and 3-D viewing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Digital Culture (Media Processing) BA/BS, Comp Sci BS, Geog Info Science BS, Comp Sys Engr BSE, or Software Engr BS major; CSE 310 or SER 222 with C or better; MAT 342 or 343 OR Comp Sci and Engr or Software Engr graduate student |
| CSE | 471 | Introduction to Artificial Intelligence | State space search, heuristic search, games, knowledge representation techniques, expert systems and automated reasoning. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prereq(s): Computer Sci BS, Computer Systems Engr BSE, Data Sci BS, or Geographic Info Sci BS major; CSE 310 with C or better OR Computer Sci & Engr or Software Engr graduate; Credit allowed for only CSE 471 or CSE 571 OR Visiting University Student |
| CSE | 472 | Social Media Mining | Network measures, social network analysis, network models, random graphs, small-world model, power laws, data mining, influence and homophily, information diffusion, epidemics, behavioral analysis, recommendation in social media, community detection. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s) with a C or better: Comp Scie BS or Comp Syst Engr BSE major; CSE 310; IEE 380; MAT 343 OR Comp Scie & Engr or Software Engr grad student; Credit is allowed for only CSE 472 or CSE 494 (Social Media Mining) OR Visiting University Student |
| CSE | 474 | Mobile Robotics | Aims to make accessible to undergraduate students a principled and mathematically sound approach to the design of algorithms for robots. Students acquire the mathematical foundations that are required for the implementation and analysis of algorithms for robotic applications through homework problems and a final project. Among course goals is the development of the vocabulary and mathematical background so that the students can follow the current research and development trends in the robotics industry. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Sci BS or Computer Systm Engineering BSE major; CSE 310 with C or better; IEE 380 with C or better; MAT 343 with C or better; Credit is allowed for only CSE 474 or CSE 494 (Intro to Robotics) OR Visiting University Student |
| CSE | 475 | Foundations of Machine Learning | Machine learning techniques: supervised learning, unsupervised learning, and neural networks and deep learning. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s) with C or better: Comp Sci BS, Comp Sys Engr BSE, Data Sci BS, or Informatics BS major; CSE 310, CSE 450, or SER 222; DAT 300, EGR 280, or IEE 380; MAT 342 or 343 OR Comp Sci or Software Engr grad student OR Visiting University Student |
| CSE | 476 | Introduction to Natural Language Processing | Principles of computational linguistics, formal syntax, and semantics, as applied to the design of software with natural (human) language I/O. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science BS or Computer Systems Engineering BSE or Data Science BS major; CSE 310 with C or better OR Computer Science and Engineering or Software Engineering graduate student OR Visiting University Student |

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| CSE | 477 | Introduction to Computer-Aided Geometric Design | Introduces basic concepts of 3-D computer geometry, including curves, surfaces, meshes. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science BS or Computer Systems Engineering BSE major; MAT 342 or 343 with C or better OR Computer Science and Engineering or Software Engineering graduate student OR Visiting University Student |
| CSE | 478 | Foundations of Data Visualization | Techniques and algorithms for creating effective visualizations based on principles from graphic design, visual art, perceptual psychology and cognitive science to enhance the understanding of complex data. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prereqs w/C or better: Comp Sci BS, Comp Sys Engr BSE, or Data Sci BS maj; CSE 310; CSE 360 OR Appl Comp or Appl Comp (Cybersec) BS maj; ACO 240; ACO 320; Credit allowed for ACO 421 or CSE 478 or CSE 494 (Fndtn Data Visual) OR Visiting University Student |
| CSE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | PRA | Y | YGB | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): Computer Science BS or Computer Systems Engineering BSE major; CSE 310 with C or better; Pre- or corequisite(s): CSE 360 with C or better if completed |
| CSE | 485 | Computer Science Capstone Project I | First course in capstone sequence for computer science and informatics majors emphasizing development process, technical skills, teamwork and communication. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | L | Prerequisite(s) with C or better: Computer Science BS major; CSE 301; CSE 330; CSE 340; CSE 355; CSE 360; ENG 101, 105, or 107 OR Informatics BS major; CPI 350; CSE 463; ENG 101, 105, or 107; Credit is allowed for only CSE 423 or CSE 485 |
| CSE | 486 | Computer Science Capstone Project II | Second course in capstone sequence for computer science and informatics majors continuing the development process, technical skills, teamwork and communication. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | L | Prerequisite(s): Computer Science BS or Informatics BS major; CPI 485 or CSE 485 with C or better; ENG 101, 105, or 107 with C or better; senior standing or postbaccalaureate student; Credit is allowed for only CSE 424 or CSE 486 |
| CSE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-6 | | Prerequisite(s): Barrett Honors student |
| CSE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| CSE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-4 | | Prerequisite(s): CSE 310 with C or better OR Visiting University Student |
| CSE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-3 | | |
| CSE | 507 | Introduction to Digital Image Processing and Analysis | Core course with four sections for students seeking to concentrate in biomedical imaging informatics. The first section analyzes the concepts and terms of image processing and analysis. The second section evaluates key algorithms in image processing (e.g., image filtering, Fourier transform, image restoration). The third section examines advanced image analysis methods (e.g., image segmentation, mathematical morphology, image topology, shapes and boundaries, color processing, image coding and compression, wavelet, and special effects). The fourth section develops the practical applications of image processing and analysis in medicine and biology. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BMD 507 or BME 507 or BMI 507 or CEN 507 or CSE 507 |
| CSE | 509 | Digital Video Processing | Concepts of digital video compression, video analysis, video indexing, browsing and retrieval, video transmission over networks, video processors, and relevant industry standards. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science or Computer Engineering graduate student OR Online Computer Science nondegree-seeking graduate student |
| CSE | 510 | Database Management System Implementation | Implementation of database systems. Data storage, indexing, querying, and retrieval. Query optimization and execution, concurrency control, and transaction management. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science graduate student or Data Science, Analytics and Engineering PhD or Global Management (Data Science) MGM student |

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| CSE | 511 | Data Processing at Scale | Delves into new frameworks for generating, processing and managing large-scale data-sets. More specifically, covers the following topics: core database concepts, distributed and parallel data systems, deploying and operating data systems in the cloud, NoSQL database systems, and big data tools. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engr or Computer Sci or Data Sci, Analytics & Engr or Global Mgmt (Data Sci) or Robo & Auto Sys (AI) or Software Engr grad stdt OR Online Computer Sci nondegree-seeking grad student; Credit is allowed for only CSE 511 or CSE 512 |
| CSE | 512 | Distributed Database Systems | Distributed database design, query processing, and transaction processing. Distributed database architectures and interoperability. Emerging technology. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science or Data Science, Analytics & Engineering or Global Management (Data Science) or Robotics & Autonomous Systems (AI) or Software Engineering grad student; Credit allowed for only CSE 511 or CSE 512 |
| CSE | 515 | Multimedia and Web Databases | Data models for multimedia and Web data; query processing and optimization for inexact retrieval; advanced indexing, clustering, and search techniques. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science graduate student or Data Science, Analytics and Engineering PhD or Global Management (Data Science) MGM student |
| CSE | 520 | Computer Architecture II | Computer architecture description languages, computer arithmetic, memory-hierarchy design, parallel, vector, multiprocessors, and input/output. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering, Computer Science, Electrical Engineering, or Robotics and Autonomous Systems (Artificial Intelligence) graduate student; Credit is allowed for only CSE 420 or CSE 520 |
| CSE | 522 | Real-Time Embedded Systems | Development of real-time embedded systems, scheduling algorithms, embedded software structures, real-time operating system. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science, Computer Engineering, Master of Engineering, Engineering Science (Software Engineering) or Robotics and Autonomous Systems (Artificial Intelligence) graduate student |
| CSE | 530 | Embedded Operating System Internals | Investigating Linux source including: memory management, kernel synchronization and driver design topics. Designing, coding, testing, and evaluating embedded operating system software in a Linux environment. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science or Computer Engineering graduate student OR Online Computer Science nondegree-seeking graduate student |
| CSE | 531 | Distributed and Multiprocessor Operating Systems | Distributed systems architecture, remote file access, message-based systems, object-based systems, client/server paradigms, distributed algorithms, replication and consistency, and multiprocessor operating systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science or Computer Engineering graduate student OR Online Computer Science nondegree-seeking graduate student |
| CSE | 534 | Advanced Computer Networks | Advanced network protocols and infrastructure, applications of high-performance networks to distributed systems, high-performance computing and multimedia domains, special features of networks. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science or Computer Engineering graduate student OR Online Computer Science nondegree-seeking graduate student |
| CSE | 535 | Mobile Computing | Mobile networking, mobile information access, adaptive applications, energy-aware systems, location-aware computing, mobile security and privacy. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering, Computer Science, Robotics and Autonomous Systems (Artificial Intelligence), or Software Engineering graduate student OR online Computer Science nondegree-seeking graduate student |
| CSE | 536 | Advanced Operating Systems | Protection and file systems. Communication, processes, synchronization, naming, fault tolerance, security, data replication, and coherence in distributed systems. Real-time systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science or Robotics & Autonomous Systems (Artificial Intelligence) graduate student OR Online Computer Science nondegree-seeking graduate student |
| CSE | 539 | Applied Cryptography | Uses cryptography for secure protocols over networked systems, including signatures, certificates, timestamps, electrons, digital cash, and other multiparty coordination. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science graduate student OR Software Engineering MS student OR Online Computer Science nondegree-seeking graduate student |

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| CSE | 543 | Information Assurance and Security | Comprehensive understanding of information assurance and security problems with the solutions as well as hands-on experiences about applying these solutions. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science or Data Science, Analytics & Engineering or Robotics & Autonomous Systems (Artificial Intelligence) or Software Engineering grad student OR Online Computer Science nondegree-seeking grad student |
| CSE | 545 | Software Security | Theories and tools for software security, including secure design, threat analysis and modeling, security testing and coding. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science or Data Science, Analytics & Engineering or Robotics & Autonomous Systems (Artificial Intelligence) or Software Engineering grad student OR Online Computer Science nondegree-seeking grad student |
| CSE | 546 | Cloud Computing | Virtualization, cloud computing, programmable networking, performance evaluation, information assurance, distributed and parallel computing, and cloud computing-based applications. Students must have a solid background in computer architecture, operating system and computer networking to be successful in this course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science or Data Science, Analytics & Engineering or Global Management (Data Science) or Robotics & Autonomous Systems (Artificial Intelligence) or Software Engineering graduate student |
| CSE | 548 | Advanced Computer Network Security | Comprehensive understanding of network security and corresponding solutions, including cryptography, access control, secure Web transactions, e-mail security, and viruses. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science or Data Science, Analytics & Engineering or Robotics & Autonomous Systems (Artificial Intelligence) or Software Engineering grad student OR Online Computer Science nondegree-seeking grad student |
| CSE | 550 | Combinatorial Algorithms and Intractability | Combinatorial algorithms, nondeterministic algorithms, classes P and NP, NP-hard and NP-complete problems, and intractability. Design techniques for fast combinatorial algorithms. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science graduate student or Data Science, Analytics and Engineering PhD student; CSE 551 with C or better |
| CSE | 551 | Foundations of Algorithms | Advanced topics in formal algorithm design and analysis, including advanced shortest-paths algorithms, amortized analysis, network flows, NP-completeness and selected topics in computational geometry, distributed/parallel, randomized, and approximation algorithms. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engr, Computer Sci, or Industrial Engr grad student or Data Sci, Analytics & Engr PhD or Robotics & Autonomous Systems (AI) MS OR Online Computer Sci nondegree-seeking grad student; Credit is allowed for only CSE 450 or CSE 551 |
| CSE | 552 | Randomized and Approximation Algorithms | Introduces two important areas of algorithm design for graduate students. A randomized algorithm is allowed to rely on the outcome of a random experiment in deciding on its next step. In many applications, randomized algorithms are simpler than any deterministic algorithms known, but in several cases, they are in fact more powerful or more efficient than any deterministic algorithms. Covers basic paradigms for randomized algorithm design and analysis, as well as for derandomization. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science graduate student or Data Science, Analytics and Engineering PhD student; CSE 550 or 551 or 555 with B or better |
| CSE | 555 | Theory of Computation | Rigorous treatment of regular languages, context-free languages, Turing machines and decidability, reducibility, and other advanced topics in computability theory. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science graduate student or Data Science, Analytics and Engineering PhD student |
| CSE | 556 | Game Theory with Applications to Networks | Strategic conflict as matrix games, notions of equilibrium, definition and existence of Nash equilibrium, zero-sum games, extensive-form games, Bayes Nash equilibrium, potential games, routing games, algorithmic game theory, computation of Nash equilibrium, incentives and pricing in communication networks, application of game theory in wireless networks. Knowledge of calculus, discrete mathematics, probability theory and algorithms is necessary to be successful in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science graduate student or Data Science, Analytics and Engineering PhD student |

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| CSE | 559 | Algorithms in Computational Biology | Explores a variety of fundamental topics in computational biology with more focus on computational and statistical problems in high throughput genomics. The computational methods used to solve the biological problems covered come from traditional optimization algorithms to modern machine learning techniques. Delves into computational ideas used in biology as well as applies existing resources that are used in practice every day by computational biologists. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engr, Computer Science, or Industrial Engr graduate student or Data Science, Analytics & Engr PhD; Credit is allowed for only CSE 494 (Algorithms in Computational Bio) or CSE 559 or CSE 598 (Algorithms in Computational Bio) |
| CSE | 561 | Modeling and Simulation Theory and Application | Modeling theories, simulation protocols, object-oriented modeling, model design, simulation analysis, network-based systems, discrete-event modeling, continuous modeling, hybrid modeling. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science or Data Science, Analytics & Engineering or Robotics & Autonomous Systems (Artificial Intelligence) graduate student OR Online Computer Science nondegree-seeking graduate student |
| CSE | 563 | Software Requirements and Specification | Examines the definitional stage of software development; analysis of specification representations, formal methods, and techniques emphasizing important application issues. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): graduate Computer Engineering or Computer Science or Software Engineering student |
| CSE | 564 | Software Design | Examines software design issues and techniques. Includes a survey of design representations and a comparison of design methods. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): graduate Computer Engineering or Computer Science or Software Engineering student |
| CSE | 565 | Software Verification, Validation, and Testing | Test planning, requirements-based and code-based testing techniques, tools, reliability models, and statistical testing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science or Software Engineering graduate student or Online CS nondegree-seeking graduate student |
| CSE | 566 | Software Project, Process, and Quality Management | Project management, risk management, configuration management, quality management, and simulated project management experiences. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science or Robotics & Autonomous Systems (Artificial Intelligence) or Software Engineering graduate student OR Online Computer Science nondegree-seeking graduate student |
| CSE | 568 | Biocomputing | Covers bio-inspired computing, discussing computational methods derived from biological processes and models. Covers computational algorithms, models and applications inspired by three primary areas of biology: evolution, immunology and social insects. Discusses other recent applications of biology in computing, including metabolic scaling theory, molecular computation, epidemiology and collective computation. Expects no prior knowledge of biology. Expects basic knowledge of computer science and programming competence. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CSE 568 or CSE 598 (Bio-Inspired Computing) |
| CSE | 569 | Fundamentals of Statistical Learning and Pattern Recognition | Concepts of statistical pattern recognition, Bayesian decision theory, parameter estimation, discriminant analysis, basics of artificial neural networks, basics of data clustering. Knowledge of college-level calculus, linear algebra, basic probability theory and proficiency in computer programming is necessary to be successful in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science or Data Science, Analytics & Engineering or Industrial Engineering or Robotics & Autonomous Systems (Artificial Intelligence) graduate student |
| CSE | 570 | Advanced Computer Graphics I | 3D shape analysis techniques: half-edge data structure, polygon mesh processing, fast marching method, iterative closest point algorithms, heat kernel and spectral analysis, isometric embedding. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science or Computer Engineering graduate student OR Online Computer Science nondegree-seeking graduate student |
| CSE | 571 | Artificial Intelligence | Definitions of intelligence, computer problem solving, game playing, pattern recognition, theorem proving, and semantic information processing; evolutionary systems; heuristic programming. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prereq(s): Computer Engr or Computer Sci or Data Sci, Analytics & Engr or Robotics & Autonomous Sys (Artificial Intelligence) or Software Engr grad OR Online Computer Science nondegree-seeking grad student; Credit is allowed for only CSE 471 or CSE 571 |
| CSE | 572 | Data Mining | Advanced data mining techniques: classification, clustering, association, preprocessing; performance evaluation; information assurance, Web mining, security and privacy issues, and other applications. Students must have a solid background in database management systems, search, learning, and statistics to be successful in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prereq(s): Comp Engr or Comp Sci or Data Sci, Analytics&Engr or Global Mgmt (DataSci) or Industrial Engr or Robo&AutoSys (AI) or Software Engr grad stdt OR Online Comp Sci nondegree-seeking grad stdt; Credit allowed for only BMI 555 or CSE 572 or IEE 520 |

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| CSE | 573 | Semantic Web Mining | Data mining techniques for structuring and organizing unstructured sources such as text and Web data into meaningful machine-processable information; computational aspects of information extraction and data linkage; discovery and prediction tasks where text serves as data such as detecting events, measuring public opinion and making recommendations. A background in databases, algorithms and theory of computation is necessary to be successful in this course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science graduate student or Data Science, Analytics and Engineering PhD or Global Management (Data Science) MGM student |
| CSE | 574 | Planning and Learning Methods in AI | Reasoning about time and action, plan synthesis and execution, sequential decision support and reinforcement learning. It is highly recommended that students complete a 400-level artificial intelligence course in order to be successful. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science or Data Science, Analytics & Engineering or Robotics & Autonomous Systems (Artificial Intelligence) graduate student |
| CSE | 575 | Statistical Machine Learning | Spectral clustering, regression, classification, semi-supervised learning, feature reduction, manifold learning, ranking, kernel learning and multitask learning. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science or Data Science, Analytics & Engineering or Robotics & Autonomous Systems (Artificial Intelligence) or Software Engineering grad student OR Online Computer Science nondegree-seeking grad student |
| CSE | 576 | Topics in Natural Language Processing | Comparative parsing strategies, scoping and reference problems, nonfirst-order logical semantic representations, and discourse structure. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science or Data Science, Analytics & Engineering or Robotics & Autonomous Systems (Artificial Intelligence) or Software Engineering graduate student |
| CSE | 577 | Advanced Geometric Modeling I | Advanced concepts of geometric modeling: rectangular and triangular surfaces, triangle meshes, Voronoi diagrams, discrete and continuous shape measures, volumes and volume visualization. Students must have a solid background in linear algebra, calculus, and basic 3D graphics to be successful in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Science or Computer Engineering graduate student OR Online Computer Science nondegree-seeking graduate student |
| CSE | 578 | Data Visualization | Amidst the information flood in which we are currently immersed, visualizations can be a well-placed treetop. The rise of big data has the potential to inform decisions, and visual representations can play a crucial intermediate role in our daily information consumption. Covers techniques and algorithms for creating effective visualizations based on principles from graphic design, visual art, perceptual psychology and cognitive science to enhance the understanding of complex data. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engr or Computer Science or Data Sci, Analytics & Engr or Global Mgmt (Data Sci) or Industrial Engr or Robotics & Autonomous Systems (AI) or Software Engr grad student OR Online Computer Science nondegree-seeking grad student |
| CSE | 579 | Knowledge Representation and Reasoning | Covers knowledge representation and reasoning algorithms in artificial intelligence, shows how they can be used in practice, and provides an overview of current research trends. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prerequisite(s): Computer Engineering or Computer Science or Data Science, Analytics & Engineering or Robotics & Autonomous Systems (Artificial Intelligence) or Software Engineering grad student OR Online Computer Science nondegree-seeking grad student |
| CSE | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CSE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CSE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | GNA | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CSE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): Computer Engineering or Computer Science or Data Science, Analytics & Engineering or Robotics & Autonomous Systems (Artificial Intelligence) or Software Engineering grad student OR Online Computer Science nondegree-seeking grad student |

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| CSE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): Computer Science or Computer Engineering graduate student OR Online Computer Science nondegree-seeking graduate student |
| CSE | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CSE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CSE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-4 | | Prerequisite(s): Computer Engineering or Computer Science graduate student or Data Science, Analytics & Engineering PhD or Robotics & Autonomous Systems (AI) MS OR Online CS nondegree-seeking graduate student |
| CSE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CSE | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): Computer Engineering (Comp Systems) PhD, Computer Engineering (Electrical Engr) PhD, Computer Sci PhD, Computer Sci (AME) PhD, Computer Sci (Cybersecurity) PhD, Data Sci, Analytics & Engineering PhD, or Industrial Engineering PhD student |
| CSE | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CSE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CSE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CSE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| CSM | 201 | Introduction to Parks, Recreation and Sport Management | Examines the role of parks, recreation and community sports at the local, national and international levels. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Credit is allowed for only CSM 201 or PRM 201 OR Visiting University Student |
| CSM | 203 | Program Planning | Overview of the conceptual foundations and professional competencies necessary to effectively assess, plan, implement and evaluate programs. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Credit is allowed for only CSM 203 or NLM 203 or PRM 203 OR Visiting University Student |
| CSM | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |
| CSM | 305 | Sports Facility Operations and Management | Overview of the management and operations of sports facilities. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): MAT 142 or higher; minimum 2.50 GPA; minimum 45 hours OR Visiting University Student |
| CSM | 306 | Advanced Programming and Facilitation | Provides an experiential learning experience where students implement and reflect upon all aspects of an ongoing recreation program including program facilitation, budgeting, marketing, risk management, experience engineering and evaluation. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CSM 203 or PRM 203; Credit is allowed for only CSM 306 or PRM 306 OR Visiting University Student |

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| CSM | 335 | Sports and Recreation for Youth Development | Provides an overview of definitions, statistics, theories and models, and types of programs surrounding youth development in relation to sports, recreation and leisure services. Addresses current trends related to youth development and collaborative partnerships in sports, recreation and leisure services at various levels within local, state, national and/or international systems. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Pre-requisite: minimum 45 hours. Credit is allowed for only CSM 335 or PRM 335 |
| CSM | 350 | Tourism, Recreation and Sports Marketing | Critical examination of marketing principles in leisure and related industries in diverse settings, including local, national, and international. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 210, CSM 201 or TDM 205; ENG 102, 105 or 108 with C or better; MAT 142 or higher with C or better; minimum 45 hours; Credit is allowed for only CRD 350 or CSM 350 or PRM 350 or TDM 350 OR Visiting University Student |
| CSM | 401 | Managing Tourism and Leisure Enterprises | Basic principles of administration and their application in successful administrative situations. Analyzes administrative function, structure, and policies. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 210 or PRM 210 with C or better; CSM 203, NLM 203, PRM 203, or TDM 372 with C or better; minimum 2.50 GPA; Credit is allowed for only CRD 401 or CSM 401 or PRM 401 or TDM 401 OR Visiting University Student |
| CSM | 402 | Assessment and Evaluation of Community Services | Introduces applied leisure research with emphasis on program evaluation, research design, data collection techniques, and data analysis. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 210 or PRM 210; Credit is allowed for only CRD 402 or CSM 402 or NLM 402 or PRM 402 or TDM 402 OR Visiting University Student |
| CSM | 407 | Ethics and Legal Issues in Sports | Comprehensive look at ethical decision making from many perspectives in the sports environment. Presents legal issues as they relate to history, present society and future trends. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CSM 201 OR Visiting University Student |
| CSM | 453 | Inclusive Community Sport | Examines historical and contemporary perspectives shaping the organization and delivery of competitive and cooperative sport and recreation at the local, regional, national and international levels. Emphasizes exploration of barriers to sport and recreation among diverse sociocultural groups (age, disability, gender, race, etc.) and strategies to facilitate access and participation through a continuum of program delivery options including adapted sport and therapeutic recreation. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CSM 453 or PRM 453 or RTH 453 OR Visiting University Student |
| CSM | 463 | Senior Internship | Supervised guided experience in selected agencies. | N | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3-12 | | Prerequisite(s): CRD 403 or RTH 413 (PRM 413) with C or better; Credit is allowed for only CRD 463 or CSM 463 or NLM 463 or PRM 463 or RTH 463 or TDM 463 |
| CSM | 483 | Sports Tourism | Examines the relationship between sports and tourism, and the role of recreation and amateur sports as an economic and community development strategy. Also considers the motives, behaviors and experiences of sport tourists; the impacts of sport tourism; and trends in sports tourism. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CSM 483 or PRM 483 or TDM 483 OR Visiting University Student |
| CSM | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | |
| CSM | 485 | Sports Events | Expands the basic concepts of recreation, leisure or tourism program planning and leadership as they are specifically related to sport events management. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CSM 485 or PRM 485 |
| CSM | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |
| CTE | 110 | Introduction to Culture, Technology and Environment | Investigates the dominant critical perspectives about three of the most fundamental constituents of human civilization: culture, environment and technology. The attention to the interaction and interdependence between environment and technologies (old and new) has been recently rising. Brings in culture--from the biological to the mammal--as another node to the approach, helping students realize the co-existence of these aspects in our life, to see how these topics interact, and the profound influence they have on contemporary issues. After introducing various notions of culture, environment and technology, draws on concrete, hands-on and interactive case studies that epitomize how culture, environment and technology have been connected throughout human history and, indeed, have shaped the modern, technologized and globalized world in which humans and their nonhuman planet mates live today. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | |
| CTE | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 0.25-4 | | |

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| CTE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 0.25-4 | | |
| CTE | 310 | Elements of Culture, Technology and Environment | Brings historical, humanistic and transdisciplinary understanding to the intersections of culture, technology and environment by focusing on the four ancient elements of earth, air, fire and water: how they have been understood, how they interact with human societies, how they are manipulated by technology, and how they embody the multiple environmental crises of our time. Examines each element in terms of both past representations and present preoccupations, in accordance with the humanities ideal of learning from the past in order to understand the present and create a better future. Deploys many different media throughout the course. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): CTE 110; ENG 102, 105, or 108 with C or better OR Visiting University Student |
| CTE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 0.25-4 | | |
| CTE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | |
| CTE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-6 | | Prerequisite(s): Barrett Honors student |
| CTE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-6 | | Prerequisite(s): Barrett Honors student |
| CTE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 0.25-4 | | |
| CTE | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-7 | | |
| CTE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-3 | | |
| DAT | 250 | Data Science and Society | Examines quantitative literacy from a data and evidence driven perspective. Looks at the literature behind vaccines, climate, and other contentious topics where there is a wealth of scientific literature and yet these areas are still hotly debated. Investigates ways in which data science is abused; how to mislead with statistics, and how these problems have created a lack of trust in science. Through class discussions, case studies and exercises, students learn the basics of ethical thinking in science, understand the history of ethical dilemmas in scientific work, and study the distinct challenges associated with ethics in modern data science. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 117, 119, 142, 170, 171, 265, or 270 with C or better OR Visiting University Student |
| DAT | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| DAT | 300 | Mathematical Tools for Data Science | Covers the core mathematical topics that underpin data science as well as the key algorithms used for modern data analysis and how to implement them in Python. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s) with C or better: MAT 266 or 271; MAT 343; Credit is allowed for only ACO 598 (Math Methods in Data Sci) or DAT 300 or MAT 422 or MAT 494 (Math Methods in Data Sci) or STP 494 (Math Tools for Data Sci) OR Visiting University Student |
| DAT | 301 | Exploring Data in R and Python | Focuses on the exploration of the types of data typically encountered in modern data science, such as text data, spatial data, and time series data. Uses various statistical techniques to gain insight into the structure of the data, including graphical visualization, linear regression, trees and clustering. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 4 | | Prerequisite(s): MAT 266 or 271 with C or better; Credit is allowed for only ACT 370 or DAT 301 or STP 494 (Exploring Data in R and Python) OR Visiting University Student |
| DAT | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| DAT | 401 | Statistical Modeling and Inference for Data Science | Covers the basic statistical concepts underlying data science as well as some of the major methods. Includes fundamental ideas such as the key idea in predictive modeling is the bias-variance tradeoff, and cross validation is the basic approach for dealing with the bias-variance tradeoff. Statistical inference underlies much of data science methodology. Includes Bayesian and frequentist approaches to inference and how they are used in some of key ideas and methods in data science such as causal inference with observational data. Covers some key methods such as K nearest neighbors, naive Bayes classification, A/B testing, linear models, Gaussian processes and data reduction. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): DAT 301 with C or better; Credit is allowed for DAT 401 or STP 494 (Statistical Modeling and Inference for Data Sci) OR Visiting University Student |

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| DAT | 402 | Machine Learning for Data Science | Concerns the key modern approaches for uncovering high-dimensional complex structure in data. Topics include regularized regression, ensemble methods with trees, deep neural nets, clustering and dimension reduction and state space modeling. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): DAT 401 with C or better OR ACT 415 or STP 421 with C or better; STP 420 with C or better; Credit is allowed for only DAT 402 or STP 494/598 (Machine Learning / Statistical Learning) OR Visiting University Student |
| DAT | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | |
| DAT | 490 | Data Science Capstone | Capstone allows students to build a culminating experience that reflects the breadth and depth of their data science experience and allows each student to explore a research area, interest, theme or question within the realm of data science. Develops final written projects in small groups based on consultation either directly within data science or within their concentration. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 2-4 | L | Prerequisite(s): CSE 475 or DAT 402 with C or better; DAT 401 with C or better; ENG 101, 105, or 107 with C or better |
| DAT | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| DAT | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| DAT | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| DAT | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-3 | | |
| DBA | 701 | Macroeconomic Policies in a Global Environment | Provides the framework for policy makers when facing macroeconomic situations, the tools in analyzing the costs and benefits of alternative policy options, and the knowledge necessary for making recommendations to policy makers and business leaders. Students learn knowledge and skills about global economy and risks that help facilitate dissertation research. | N | LEC | N | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 2 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 702 | Global Financial Systems: Markets and Institutions | Examines the overall architecture of the global financial system, its major components, and their functions in the macro economy. | N | LEC | N | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 703 | Global Financial Systems-Institutional Investing | A large fraction of investors around the world invest in securities markets indirectly, viz. through mutual funds or separate accounts established with investment managers, whether they be endowments, foundations, pension plans or sovereign funds. Exposes students to the global marketplace for such portfolios. | N | LEC | N | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 704 | Design of Knowledge Base Organizations for Performance and Innovation | Covers various issues on executive compensation and management pay structure with a particular emphasis on aligning business strategy, organization design to the choice of performance standards and pay structure for managers. | N | LEC | N | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 705 | Global Corporate Strategy | Demonstrates that decisions affecting the international expansion of a firm are neither obvious nor totally determined by the technological or economic forces generally associated with globalization. Addresses the most transcendental decisions that multinational firms face in the course of conducting business across borders. | N | LEC | N | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 706 | Strategic Visioning, Leadership and Change Management | Addresses the interrelationship among organizational culture, leadership, and the management of change in order to promote continuous improvement of the organization's market position. Addresses the role of strategy, how strategy explicates vision, and how effective strategies are created. | N | LEC | N | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 707 | Risk Management : An Enterprise Perspective | Provides an understanding of the broad set of risks an enterprise faces; their origin, characteristics and potential impact on business; and how they can be efficiently managed at the enterprise level. | N | LEC | N | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 708 | Challenges of Corporate Finance and Governance | Helps students understand the link between finance and corporate strategies, as well as examine ways to establish and reform the practices of corporate governance in China. | N | LEC | N | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 709 | Finance and Law | Helps students learn about the philosophy of law, various legal systems, the relationships among law and economics and finance, the practice of law in a global context. | N | LEC | N | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 2 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 710 | Financial Decision Making | Provides a framework of conceptual knowledge and enables students to understand what the literature on financial theory is trying to do and how it all fits together. Also provides an in-depth experience with the subject of finance and equips students for their future development as a practicing executive. | N | LEC | N | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |

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| DBA | 711 | Financial Innovations | Focuses on how financial innovations influence the evolution of finance. Discusses many of the major financial innovations in recent history, the forces driving these innovations, their impact on the financial system and the real economy and the risks they bring. | N | LEC | N | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 712 | Advanced Topics in Global Economy and Finance: Domestic Module | Addresses many critical topics facing China today on its quest of globalization, the need for transforming its economic structure, capital markets and corporate control, and its monetary policies. | N | LEC | N | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 713 | Advanced Topics in Strategy and Management: Domestic | Reexamines many popular best practices through panel discussion and speaker series on why some of those practices failed to work in China, and how firms have creatively modified their strategic undertakings to fit its environment. | N | LEL | N | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 714 | Current Trends in Global Economy, Finance and Management: US Module | Provides first-hand experiences on the world class practices by the multinationals and interactions with the leading experts on the emerging topics of interest on globalization, financial regulations, and managerial innovations. | N | LEL | N | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 4 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 715 | Current Trends in Global Economy, Finance and Management: Europe Module | Provides direct exposure to European markets, firms, and institutions, their history, current status, and future directions. | N | LEL | N | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 4 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 721 | Research Seminar I- Research in Action | Provides needed skills for research and thesis work. 1. Focuses mainly on research design and fundamental statistical/survey and field study methods. The key objective is to provide students with the needed required skills and concepts of the scientific method, the philosophy of science, and research design with an emphasis to solve specific problems. This course is spread out during the first year of the program. | N | SEM | Y | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 722 | Research Seminar II-Research in Action II | Focuses on the process of research "in actions" through faculty presentation and research workshops. Faculty with diverse research interest and methodologies present up-to-date research works. Through interaction, students gain first-hand experience on learning the process of how faculty, with diverse research interests, are able to identify specific research topic, choosing the right research methodology to address their research questions. The presentation and research workshop are scheduled at the beginning of the second year and throughout the entire year, allowing the program to leverage faculty availability during their course delivery while enabling students to seek out their faculty mentors for future dissertation engagement. | N | SEM | Y | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 723 | Research Seminar III- Research in Action III | Provides students with opportunities to present their own research proposal/ thesis ideas while allowing the participating faculty and fellow students to offer constructive comments. | N | SEM | Y | GNA | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 3 | | Prerequisite(s): W. P. Carey DBA degree-seeking graduate student |
| DBA | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DBA | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | W. P. Carey School of Business | Dean, W.P. Carey School of Business | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 100 | Introduction to Dance | Introduces 21st-century dance through a lens of creativity that acknowledges dance as a vital art where leadership, context, humanity and reflection provide centers of dynamic engagement for bodily movement where new meanings for dance are possible. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | |
| DCE | 110 | Argentine Tango I | Introduces basic movement elements, explores various contexts shaping Argentine Tango, and emphasizes social tango with exposure to vals and milonga timing. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 111 | Belly Dance I | Familiarizes students with the art and practice of belly dance. Covers posture, styling, basic body isolations, rhythm patterns, footwork, as well as the social significance and history of the dance. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 112 | Capoeira I | Introduces the Afro-Brazilian martial art and movement form capoeira. Molds elements of self-defense, dance, music, song, language, culture and philosophy into the course. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 113 | Dances of Africa I | Introduces basic elements of West and Central African dance styles, including the traditional rhythms and cultural context. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 114 | Dances of India I | Introduces Indian folk dances with an emphasis on the history and various movement elements of an ancient South Indian classical dance form, known as Bharata Natyam. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 115 | Yoga I | Introduces a basic physical and philosophical understanding of yoga. Designed by a certified Yoga instructor. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 116 | T'ai Chi Chuan I | Introduces an ancient Chinese internal martial art form. The structure includes the beginner level of Tai Chi Chuan theory and movement practice. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |

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| DCE | 117 | Feldenkrais I | The Feldenkrais method is an approach to enhance awareness of the body, improve functional actions, and expand one's repertoire of movements. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 118 | Yoga/Pilates | Provides a basic physical and philosophical understanding of yoga and Pilates mat practices. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 120 | Nonmajors Contemporary Modern I | Beginning level of contemporary modern dance for nonmajor students. Emphasizes a range of movement styles, fusing contemporary and traditional forms. Places a special focus on somatic principles, body placement, strength and range of movement. Provides opportunities to explore the history of contemporary modern dance, as well as engage in creative activities. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 121 | Ballet I | Introduces basic concepts of ballet technique, including dynamic alignment, musicality and classical movement vocabulary. Instructors use a somatic approach to this traditional art form. Students also learn about the history and context of ballet. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 122 | Jazz I | Explores the basics of jazz dance techniques and various styles. Focuses on alignment, technique, jazz rhythms and performance skills. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 123 | Nonmajors Hip Hop I | Introduces various styles of dance within the hip hop genre. Covers the fundamentals of dance through embodied learning of hip hop styles based on instructor's area of expertise. No previous dance experience necessary. Expects students to engage in both weekly movement classes as well as at least one cultural event beyond the studio to better understand their dance practice within the cultural context of which they exist. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 124 | Latin/Swing/Ballroom I | Introduces major Latin and ballroom dances and focuses on a system of elements that are found in all partnership dances, including movement components, rhythmic patterns, dance positions, and unique characteristics used to better define each dance. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 125 | Afro-Latin Salsa I | Beginner-level Afro-Latin social dances. Designed and structured for students with no previous dance history with movement, historical context, culture and rhythms that are associated with Latin social dance. Students learn fundamental technique and partnering frameworks, while engaging in the structures of community and participatory engaged practices in social dance. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 126 | Country-Western | Initiates the student into the rhythm two-step, progressive two-step, night club two-step, country cha-cha, country waltz, triple swing and a multitude of line dances. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 130 | First-Year Movement Practices I | Introduces diverse somatic movement principles and practices through exploration of movement, context, theory, and personal reflection. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance major OR Visiting University Student |
| DCE | 131 | First-Year Movement Practices II | Modular structure enables a series of short intensive studies including movement, context, theory, and personal reflection. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance student; DCE 130 with C or better |
| DCE | 132 | First-Year Dance Techniques | In-depth study of the foundations of multiple techniques. By dancing, conditioning, diving deep, living in the forms and in experimentation, students engage in consistent applied practice. By exploring the breadth and depth of selected technical concepts through the lens of different techniques, helps dancers amplify and understand themselves as a versatile mover. Students learn to approach physical and performative movement and recognize techniques as an integrated study. Emphasizes physical practice, expects students to engage creatively, reflect on their learning and demonstrate critical thinking in all class sessions. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance BFA, Dance (Dance Education) BFA, or Performance and Movement BA major OR Visiting University Student |
| DCE | 133 | Hip Hop I | Focusing on a strong foundation, encourages students to engage in studio classes and community cultural events throughout the semester. Exposes students to several hip hop foundational dance forms under and related to breaking, popping and locking. Develops and connects culturally relevant content to inform students' movement in these styles and, more importantly, find their own identity within these forms. | N | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance BFA, Dance (Dance Education) BFA, or Performance and Movement BA major or Dance minor OR Visiting University Student |
| DCE | 134 | Contemporary Modern I | Studies contemporary modern dance rooted in postmodern traditions. Includes diverse movement styles that build foundational knowledge and integrate somatic principles with physically challenging material. Enhances the student's artistry as a performer and creator. Also introduces the history and theory of the postmodern contemporary dance form. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance BFA, Dance (Dance Education) BFA, Performance and Movement BA major, or Dance minor OR Visiting University Student |

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| DCE | 135 | Contemporary Ballet I | Begins the study of ballet from a contemporary lens. Content includes classical ballet vocabulary, dynamic alignment, whole body integration and experiential anatomy. Enhances a student's foundational knowledge of the ballet vernacular; also considers the social and historical contexts of ballet artists and techniques. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance BFA, Dance (Dance Education) BFA, Performance and Movement BA major, or Dance minor OR Visiting University Student |
| DCE | 136 | Introduction to Somatic Movement | Survey course offers a practical and theoretical introduction to some of the major somatic practices evolving during the 20th century in the West; also offers exposure to some traditional Eastern disciplines and philosophies influencing those developments. Focuses upon self care, resilience, well-being of spirit, body and mind; explores movement and the integration of the whole person through a variety of somatic lenses. | N | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 137 | African and Diaspora Movement Practices I | The African Diaspora refers to the many communities of people of African descent dispersed throughout the world as a result of historic movements. This course explores various dances from the Diaspora. Students learn to execute polyrhythmic patterns and practice multiple types of call and response cues performed both verbally and physically. Different exercises focus on body isolation, the use of weight, and traveling in space. | N | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 139 | Afro-Latin I | Beginning-level course in Afro-Latin dance practices introduces the culture, movement rhythms and historical dialogue associated with various forms of Afro-Latin social dance practices, specifically salsa and mambo. Progressively teaches basic fundamentals in footwork and partner work, along with understanding timing and connection with Afro-Latin social music throughout the semester in class and in social events. By learning the movement fundamentals and applying them through social dancing, students not only succeed in the course, but also evolve in becoming a knowledgeable and participative social dancer within the ASU salsa community. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance BFA, Dance (Dance Education) BFA, or Performance and Movement BA major or Dance minor; Credit is allowed for only DCE 139 or DCE 194 (Salsa I) OR Visiting University Student |
| DCE | 160 | Creative Practices I | Focuses on cultivating one's creative process by investigating methods, strategies and dance-making approaches. Involves movement investigation and development, moving-making and designing, group discussions, readings, journal writing, instructor and peer-feedback, choreographic analysis, and reflective writing. Explores creative strategies that begin from a place of self and embodied history, one's archive, and ongoing repertoire. Expands toward processes that explore our interconnectivity with the body, multiple bodies, partners and constructing new methodologies of performing movement for any audience or daily life. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance BFA, Dance (Dance Education) BFA, Performance and Movement BA major, or Dance minor OR Visiting University Student |
| DCE | 161 | Creative Practices II | Explores creativity and creative processes with reference to some key historical practices and influential artists. Encourage and develops students' awareness of their own imagination and creative process through individual and group projects involving problem solving, creative tasks, and reflection. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance BFA, Dance (Dance Education) BFA, Performance and Movement BA major, or Dance minor OR Visiting University Student |
| DCE | 170 | First-Year Seminar I | Orientation to studying dance in college, the university learning environment, and the professional practice of dance | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance BFA or Performance and Movement BA major OR Visiting University Student |
| DCE | 171 | First-Year Seminar II | Continuation of First-Year Seminar I. Focuses on orientation to the larger field of contemporary dance practice with an emphasis on developing tools and processes for reflection, synthesis, and critical thinking. Requires participation in School of Dance "Dance Matters." | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance BFA or Performance and Movement BA major |
| DCE | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| DCE | 201 | Dance, Culture, and Global Contexts | Introduces the study of dance as culture in diverse global contexts. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | |
| DCE | 202 | Dance in U.S. Popular Culture | Investigates vital cultural heritages that have shaped dance in U.S. American popular culture from 20th century to the present. Emphasizes dance as a producer of social space and cultural identity as well as a reflection of diverse social realities and dynamics of power. Following required reading and videos, the course surveys time periods of dance from the late 1800s through the 20th century to the present day. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & C | Credit is allowed for only DCE 202 or 294 (Dance in US Popular Culture) |
| DCE | 203 | The Walking Body | Investigates walking as movement language with the focus on physical thinking. Micro-research engages the student with collecting data from peripatetic walks and focused weekly walkings to hone the skill sets of: perception to increase one's awareness to the spatio-temporal context and one's attentional flow during walking. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Pre- or corequisite(s): ENG 101, 105, or 107 with C or better if completed OR Visiting University Student |

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| DCE | 204 | Dance, Health and Wellness | A class of dynamically interacting ideas. Dance promotes health and wellness. Wellness practices create a healthy dancer. A healthy dancer is one who has a wellness mindset and knows how to prevent injuries. Studying the interaction of these three ideas is intended to produce a movement literacy. This movement literacy, however, lives implicitly in a world where bodily communication of tensional relationships, tugs, and pulls is silent. Thus, a further intention is to transform the implicit understanding to explicit communication through applying academic communicative skills of writing and speaking. Circumnavigates the polycenters of healthy movement, injury prevention and wellness identifying strategies, models and practices that best optimize movement. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | L | Pre- or corequisite(s): ENG 101, 105, or 107 with C or better if completed OR Visiting University Student |
| DCE | 205 | How Dance Matters: A Sociocultural Framing | Introduces observing, discussing and analyzing dance through a contemporary sociocultural lens. Introduces the contemporary contexts of the dance forms currently offered in the BFA dance programs, including contemporary ballet, postmodern contemporary, Afro-Latin movement practices and hip hop. By examining where and when the dance occurs, who participates and how, and why dance matters across each of these forms, students gain a deeper understanding of what makes each dance form unique. Investigates the elements of each form that overlap with others and how dance can both ignite and reflect cultural change. Additionally, students learn to write about dance in a way that recognizes and describes key values and attributes of each dance form and articulately uses description, interpretation and evaluation to create informed perspectives of dance. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & C | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| DCE | 210 | Argentine Tango II | Builds upon concepts, figures, and elements of the Argentine Tango introduced in level one. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisite: DCE 110 or DAN/DCE 194 (Argentine Tango I) |
| DCE | 211 | Belly Dance II | Focuses on refining beginning technique, advanced movements, layering and musical interpretation. Uses choreography and improvisation to encourage mind-body awareness. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): DCE 111 OR Visiting University Student |
| DCE | 216 | T'ai Chi Ch'uan II | Intermediate-level study of the ancient Chinese martial art of rounded, fluid, balanced movements. Teaches the sets of long form Yang style of Tai Chi Ch'uan in a slow and relaxed manner. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): DCE 116 or DAN 194 (T'ai Chi Ch'uan I) OR Visiting University Student |
| DCE | 220 | Nonmajors Contemporary Modern II | Intermediate level of contemporary modern dance for nonmajor students. Emphasizes a range of movement styles, fusing contemporary and traditional forms. Special focus on somatic principles, body placement, strength and flexibility. Provides opportunities to explore the history and social significance of modern dance, as well as performance skills and choreography. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 221 | Ballet II | Open to all ASU students, focuses on contemporary and classic ballet practices and increasing students' understanding of the integration of both. Students also learn about the historical and cultural contexts of contemporary ballet. Continued practice on voicing the inner perspective of experiencing ballet and relating it to the aesthetics outer perspective. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 222 | Jazz II | Explores intermediate level of jazz dance techniques. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisite: DCE 122 or DAN 130 (Jazz I) |
| DCE | 223 | Nonmajors Hip Hop II | Designed for intermediate dancers to expand, explore and deepen their training in foundational hip hop dance forms. Focus aligns with instructor area of expertise. Students experience social and community aspects of hip hop culture by engaging with cultural artists and events throughout the term. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): DCE 123 OR Visiting University Student |
| DCE | 224 | Latin/Swing/Ballroom II | Continues development of level one Latin/Swing/Ballroom dances to prepare student to have command of the complex rhythmic patterns and figures used in major partnership dances. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): DCE 124 or DAN 194 (Latin/Swing/Ballroom I) OR Visiting University Student |
| DCE | 225 | Afro-Latin/Salsa II | Designed and structured to build upon content from previous coursework, for students who have completed Level I or have had previous dance history with movement, historical context, culture and rhythms that are associated with Latin social dance. Students continue to refine their technique and sensibility, while engaging in the structures of community and participatory engaged practices in social dance. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): DCE 125 OR Visiting University Student |

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| DCE | 226 | Musical and Kinesthetic Communication in Dance | Brings basic principles of rhythmic awareness and theory to life through movement and breath. Develops listening skills to "hear" movement and to "see" sound, providing a foundation of skills and knowledge to perform and aurally recognize beat patterns, subdivisions, grooves, textural and qualitative subtleties in different styles. Practical application of concepts and abilities for teaching dance musically--connecting to students' personal movement practice, somatic and pedagogy classes as well as linking rhythmic theory concepts with aural and kinesthetic listening skills and life. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Corequisite(s): DCE 124, 133, 134, 135, 136, 139, 224, 233, 234, 235, 236, 239, 324, 333, 334, 335, 336, or 339 OR Visiting University Student |
| DCE | 230 | Second-Year Movement Practices I | Investigates selected movement forms in the second-year movement practices. New movement forms include but are not limited to contact improvisation, Alexander technique, Feldenkrais, Body Mind Centering (BMC), taekwando, aikido, wushu, LMA, yoga, or somatic bodywork. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance majors; DCE 131 with C or better OR Visiting University Student |
| DCE | 231 | Second-Year Movement Practices II | This course is set up in two modules. In module one, students will investigate a movement form, include but are not limited to contact improvisation, Alexander technique, Feldenkrais, Body Mind Centering (BMC), taekwando, aikido, wushu, LMA, yoga, or somatic bodywork. Module two expands the practice of rhythmic awareness through exploration and investigation of the close relation between thought and act, the kinesthetic and the verbal, the text and the beat, as well as the breath and the word. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance student; DCE 230 with C or better |
| DCE | 233 | Hip Hop II | With a deeper understanding and training with a focus on music freestyle and cultural connections, students build upon foundational knowledge and approaches to at least two hip hop forms. Students take instructor-led dance classes while working with local practitioners in the studio and community such as DJs, beatmakers, beatboxers and music producers. | N | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): two completions of DCE 133 with C or better OR Visiting University Student |
| DCE | 234 | Contemporary Modern II | Furtheres the study of contemporary modern dance rooted in postmodern traditions at the intermediate level. Emphasizes somatic principles, performance quality and complex movement ideas. Enhances the student's artistry as a performer and creator; also furtheres student's study of the history and theory of the postmodern contemporary discipline through physical and written assignments. Faculty assess students' abilities within the first week of class to ensure this course is a good fit. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): two completions of DCE 134 with C or better OR Visiting University Student |
| DCE | 235 | Contemporary Ballet II | Furtheres the study of ballet with a contemporary lens, allowing the dancer to develop and hone the relationship between the somatic experience and the ballet tradition. Employs further investigation of concepts as students manipulate physical concepts to deepen their understanding of the theory and lineage of contemporary ballet. Faculty assess students' abilities within the first week of class to ensure this course is a good fit. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): two completions of DCE 135 with C or better OR Visiting University Student |
| DCE | 236 | Somatic Movement Applications: A Closer Look | Co-taught laboratory that explores foundations of somatic education, including principles of dance science, bodywork practices, Bartenieff Fundamentals, and Body-Mind Centering. Emphasizes developing a holistic perception of ourselves, our relation to one another, and to the environment. Nonmajors are welcome and encouraged to enroll as this course benefits anyone interested in dance, theater, music, social engagement, architecture and design, education, and health and wellness, among other areas. | N | LEL | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| DCE | 238 | Hip Hop Ensemble | Comprises dancers and musicians exploring the connections between hip hop musical practices and hip hop movement forms in a live improvisatory setting. Places special emphasis on hybridization, or the blending of musical traits and physical movement from two or more genres. Throughout the semester, builds cooperative practices with one another and experiments in a cross-disciplinary manner. Catalyzes and fosters ability to imagine innovative musical and movement practices within the hip hop aesthetic. Course serves as an "experiment lab" for music and dance students. | N | LAB | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | |

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| DCE | 239 | Afro-Latin II | Beginner/intermediate-level course designed and structured to build upon students who have completed Afro-Latin dance practices with the movement, historical context, culture and rhythms associated with Afro-Latin movement dance. Framework of movement involves reviewing beginner, then covers intermediate fundamentals in footwork and partner work that is learned in salsa technique progression modules. Along with progression modules, addresses through online readings and documentaries the history and social significance of Afro-Latin movement practices, such as salsa on2, cha cha and bachata. Through learning intermediate fundamentals and applying them through social dancing, students succeed and evolve in becoming knowledgeable and proficient social dancers within the salsa community. Expects students to not only have fun, but to integrate their learning within the ASU salsa community. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): two completions of DCE 139 with C or better OR Visiting University Student |
| DCE | 240 | Media for Dance | Computer applications for human movement modeling, digital video design and creation, sound composition, and the incorporation of multimedia design elements into online environments. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | CS | |
| DCE | 260 | Creative Practices III | Explores concepts introduced in the first year of creative practice and further expands into the themes of analysis and investigation. Year two experience involves the investigation of learning to compose and construct choreographic material through individual, collaborative, improvisational, and group exploration. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): DCE 161 with C or better OR Visiting University Student |
| DCE | 261 | Creative Practices IV | Continues developing students' awareness of their own creative process through individual and group projects involving problem solving, creative tasks, and reflection. Emphasizes exposure and refinement of students' consideration of production elements (sound, light, and costume design) and concept development. Includes a lab experience that broadens students' hands-on understanding of production practices. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): DCE 260 with C or better OR Visiting University Student |
| DCE | 262 | Rhythmic Theory for Dance I | Elements of music, music structures, and their relationship to dance. Emphasis on rhythmic analysis and dance accompaniment. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisite: BA Performance and Movement or BFA Dance major |
| DCE | 270 | Second-Year Seminar I | Continues developing tools and processes for reflection and critical thinking by identifying individual goals and objectives related to the students' current and future academic and professional careers. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Dance major; DCE 171 OR Visiting University Student |
| DCE | 271 | Second-Year Seminar II | Provides basic understanding of costume design, sound production, and interactive performance for dance. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Dance major; DCE 270 with C or better |
| DCE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| DCE | 300 | Dancing Histories | Critical investigation, especially in relation to gender, sexuality, race and class, of the history and historiography of vernacular and concert dance forms informing dance in America today. Focuses on Afro-Latin social dancing, ballroom, jazz, hip hop, ballet and modern/postmodern dance forms. Students learn about various ways of conducting research into dance history, including interviewing, researching using primary resources and performing scholarship. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s): ENG 101, 105 or 107 with C or better |
| DCE | 301 | Dance Analysis and Theory | Reflective inquiry into the nature of dance through the lenses of dance analysis and critical theory. Covers philosophical and theoretical issues raised by the study of dance in relation to specific historical and global contexts. Students learn how to describe and analyze the components and form of dance events, and interpret and evaluate works by applying feminist, queer, postcolonial and critical race theories, among others. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| DCE | 302 | History of American Hip Hop Dance | The histories of hip hop dance are multilayered and multifaceted. There is not a singular history of hip hop dance, yet multiple entry points with multiple pathways of understanding to unpack the turbulent and linked histories of historically disenfranchised communities within the context of post-Civil Rights era United States. Designed as a seminar experience and operates from the assumption that hip hop dance is an extension of African diasporic traditions colliding with multiculturalism and youth culture. Serves as a portal to some of the histories, perspectives, individuals and stories that help shape the forms of hip hop dance expressed throughout this course. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & C | Prerequisite(s): minimum 45 hours OR Visiting University Student |

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| DCE | 303 | The Body Condition(ed) | Examines contemporary practices of conditioning the body from a triangulation of perspectives: physical, social, and experiential. Enhances the ability to obtain a holistic understanding of how the self/social dynamic operates within the context of body conditioning. Designed for non-majors. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | SB | Pre- or corequisite(s): ENG 102, 105, or 108 OR Visiting University Student |
| DCE | 306 | History of Salsa: Afro-Latin Social and Global Contexts | For students who are curious about salsa dancing and music, and who have interest in learning about its timeline and origins. Salsa is a migrational phenomenon, and the course traces the journey of multiple timelines that intersect with the global industry it has become today. Course theme revolves around the concept of salsa hybridity and the migrational dance that continues to evolve based on the interexchange of music and dance as it represents Afro-Latinness in the community. Content focuses on tracing the pathways of salsa and its origins from a dance and music perspective. Content also includes chronological investigative critique on performance from salsa congresses and festivals, and social dance videos from various video platforms. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & C | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| DCE | 324 | Latin/Swing/Ballroom III | Refines dances learned in the intermediate level of Latin and ballroom dances, including foxtrot, waltz, salsa, cha cha, rumba, samba, west coast swing, bolero, tango, and swing. Prepares students to have a more advanced command of the complex rhythms and figures used in the major partnership dances. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): DCE 224 or DAN 294 (Latin/Swing/Ballroom II) OR Visiting University Student |
| DCE | 325 | Afro-Latin/Salsa III | Advanced movement course designed to bring an interdisciplinary approach towards performance, competitive, and social partner movement that incorporates multiple contextual and Latin dance style perspectives to inform and critique one's own dance understandings. Latin social movement forms include NY Mambo, cha cha, and bachata. Elements and concepts investigated with partner work include the following: working with the body, kinesthetic movement properties, connection, musicality, and rhythm. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): DCE 125, 139, 225, 239, or 339; Credit is allowed for only DCE 325 or DCE 394 (Latin/Salsa III) OR Visiting University Student |
| DCE | 330 | Third-Year Movement Practices I | Focuses on the application of diverse movement forms and somatic studies in a range of performance contexts. These contexts may include live and mediated performance, community-based projects, pedagogy, analysis of movement forms in relation to musical compositions or the creation of new movement languages. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance major; DCE 231 OR Visiting University Student |
| DCE | 331 | Third-Year Movement Practices II | Student will focus on the integration of diverse movement forms and somatic practices, as well as developing an in-depth understanding of a range of performance contexts practically and theoretically. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance student; DCE 330 with C or better |
| DCE | 333 | Hip Hop III | Underscores hip hop cultural practice as inherently interdisciplinary and as a culture expressed in various practices and forms. Students bring a solid foundation of different techniques, approaches and contexts of multiple hip hop dance styles to fluently and radically bridge their dance practice and movement as a tool to empower and transform. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): two completions of DCE 233 with C or better OR Visiting University Student |
| DCE | 334 | Contemporary Modern III | Advanced level of contemporary modern dance rooted in postmodern traditions. Prepares students for the professional field of dance while continuing to deepen their understanding of the history and social significance of the art form. Includes diverse movement styles that emphasize a nuanced approach to complex movement concepts and somatic principles. Faculty assess students' abilities within the first week of class to ensure this course is a good fit. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): two completions of DCE 234 with C or better OR Visiting University Student |
| DCE | 335 | Contemporary Ballet III | Advanced level for contemporary ballet furthers the study of ballet with a contemporary lens, allowing the dancer to develop and hone the relationship between the somatic experience and the ballet tradition. Employs further investigation of concepts as students continue to apply physical learning to deepen their understanding of the history and theory of contemporary ballet. Written work expands students' contextual understanding of ballet's most current choreographers and happenings. Faculty assess students' abilities within the first week of class to ensure this course is a good fit. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): two completions of DCE 235 with C or better OR Visiting University Student |

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| DCE | 336 | Somatic Movement Development and Facilitation | Laboratory for somatic education that engages students in the theoretical and guided practical study of somatic movement practices. Facilitates students in exploring and addressing personal movement concerns and identifying areas for growth while expanding student understanding of the diversity of approaches to somatic studies. Focuses on body awareness, holding patterns, and movement re-education through various somatic practices drawn from Bartenieff Fundamentals, Body-Mind Centering, ideokinesis, Laban Movement Analysis, Dynamic Embodiment and other related somatic constructs. | N | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): DCE 136 or 236 with C or better OR Visiting University Student |
| DCE | 339 | Afro-Latin III | Advanced course brings an interdisciplinary approach toward performance, competitive and social partner movement that incorporates multiple contextual and Afro-Latin dance style perspectives to inform and critique one's own dance understandings. Provides a learning environment to investigate performance elements/theories and how they relate or contrast within the following dance styles: Afro-Latin Social which include NY Mambo, Cha Cha and Bachata. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): two completions of DCE 239 with C or better; Credit is allowed for only DCE 339 or DCE 394 (Afro-Latin Movement Practices III) or DCE 394 (Salsa III) OR Visiting University Student |
| DCE | 350 | Dance in the Classroom: Learning Through Movement | Explores theories of learning, thought development, and knowledge construction through aesthetic movement experiences. Students look to theories from the fields of aesthetics, phenomenology (study of lived experiences), somatics (study of the soma or body/mind), sociology and epistemology (theory of knowledge) to understand how the intertwined relationship of human thought development and movement patterning can affect children's learning and development. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum junior standing OR Visiting University Student |
| DCE | 354 | Creative Approaches to Teaching Dance I | Explores creative strategies and methodologies for teaching dance to a variety of populations in diverse settings. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance BFA, Dance (Dance Education) BFA, or Performance and Movement BA major OR Visiting University Student |
| DCE | 356 | Creative Approaches to Teaching Dance II | Explores creative strategies and methodologies for teaching dance to a variety of populations in diverse settings. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance BFA, Dance (Dance Education) BFA, or Performance and Movement BA major OR Visiting University Student |
| DCE | 357 | Teaching Internship | Designed for dance education majors pursuing K-12 certification. Students complete a minimum of 25 internship hours in a secondary education classroom setting and are mentored by a high school dance teacher. The internship experience involves observing and assisting the mentor teacher in instructional activities, planning and teaching dance movement and creative practice lessons, choreographing a dance concert work at the internship site, and engaging in self-evaluation processes. Mentor teachers provide ongoing feedback to students in the course and complete two formal assessments. Creative work generated from the internship course is entered into a digital portfolio and shared with course peers and instructors at the end of the semester. | N | PRA | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): Dance BFA, Dance (Dance Education) BFA, or Performance and Movement BA major; DCE 354 with C or better |
| DCE | 360 | Creative Practices V | Conceived as a laboratory for practice-led research and choreography. Emphasizes compositional forms and structures in dance as well as the art of generation, organizing and framing movement. Focuses on developing tools and honing the student's creative voice. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): DCE 261 with C or better OR Visiting University Student |
| DCE | 361 | Creative Practices VI | Conceived as a means of application of creative tools garnered in the previous semester, students select from a survey of options that allow for full immersion in the creative process. Focuses on dance making in relationship with other creative practices and artistic work. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): DCE 360 with C or better OR Visiting University Student |
| DCE | 370 | Third-Year Seminar I | Provides an orientation to the field of community dance practice. Over two consecutive semesters, students investigate foundational theories pertaining to the development of community dance worldwide, are exposed to leaders in community dance practice, and have in-depth applied experiences interacting with different populations in a variety of community dance contexts. | N | SEM | N | YGB | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre-requisite: Dance major; DCE 271 with a Y |
| DCE | 371 | Third-Year Seminar II | Hones skills in collaborative approaches, teaching, leading, and facilitation through partnerships with community organizations in the Phoenix metropolitan area. Students study community dance practices covering a range of creative process and community building tools that can be used in diverse settings. Applies research methods, such as data collection, analysis, and reflection, to measure the efficacy of community arts practices. | N | SEM | N | YGB | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre-requisite: Dance major; DCE 370 with a Y. |
| DCE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |

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| DCE | 402 | Ethnography of Dance Practices | Examines the field of ethnochoreology, ethnographic methods, and interpretive research practices. Develops critical writing, thinking, and viewing skills for comparative dance study. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| DCE | 403 | Making. Living. Thriving Through the Arts | This specialized course looks at how creative practices and research revitalize one another and how artists continue to sustain themselves by bringing imaginative responses to 21st-century living. This course grew out of a wish to share the diversity of approaches in the current dance curriculum at ASU. In this open forum setting, we may develop a vibrant community moving toward visionary, yet realistic ideals in the arts, experiential learning and how we creatively contribute and support ourselves in the world. Emphasizes arts making practices and being self-supporting with one's creative work. Throughout the class, various artist/scholars share their creative research work and how they sustain a life in the arts. Among others, their perspectives may include a variety of intersections such as social issues in health/wellness, equity and justice, entrepreneurial thinking, technology and social engagement. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s): Herberger major or minor; minimum 60 hours |
| DCE | 404 | Dance and Ethics | Examines ethical issues as they relate to the field of dance, including the following: the ethical treatment of dancers within educational and professional institutions; the ethical creation of dances sensitive to copyright/appropriation concerns as well as issues of form and content; the ethical engagement of the arts by the state; the ethical use of dance in trauma recovery and community building. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | L | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum junior standing |
| DCE | 405 | Writing the Creating Body | Invites students into theorizing the lived experience of the creator during the creative act. This inner landscape of the creator's experience is one of change and split-second decisions. Why capture this landscape? As an artist, students can find their own patterns of creativity. If they wish only to appreciate creative artists, their understanding of the creative process deepens and magnifies. To capture this inner landscape, students learn new writing skills within a robust framework that can analyze the fluidity of the creative act. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only DCE 405 or DCE 505 OR Visiting University Student |
| DCE | 433 | Hip Hop IV | Focuses on application of various stylistic, technical and performance techniques expected at an advanced level in various forms of hip hop. Expects students to clearly articulate (in their words and bodies) hip hop as the embodiment of two or more dance styles rooted from the dance scenes of underground, street and/or club dance counterculture. Deepens understanding of the form through performance of the movement within cultural community context, "the studio," and within other community-oriented settings. It is through performing in these venues where students draw connections to help develop a nuanced mode of training within the studio. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): two completions of DCE 333 with C or better; two completions of DCE 338 with C or better OR Visiting University Student |
| DCE | 435 | Contemporary Ballet IV | Focuses on the students' individual application of contemporary ballet technique at an advanced level. Expects students to have an advanced, embodied understanding. Draws on a variety of traditional, codified and contemporary approaches to ballet as well as somatic techniques to enhance students' ballet proficiency through performing movement that is athletically challenging, nuanced and rhythmically complex. Emphasizes musicality and artistry throughout class. Engages students in critical thinking and reflection in relationship to their dancing and dance learning. Additionally, students engage with class concepts creatively through improvisation and composition. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): two completions of DCE 335 with C or better |
| DCE | 438 | Dance Theatre Performance/Production | Project-based class gives the opportunity to explore the collaborative approach of producing and creating work. Students conceive and construct the lighting, sound, costumes, media and movement designs for several projects. All levels are welcome. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance BFA, Film and Media Production BFA, Performance and Movement BA major, Dance minor, or BIS Dance concentration OR Visiting University Student |
| DCE | 439 | Afro-Latin IV | Focuses on the students' individual application of Afro-Latin salsa/mambo technique at an advanced level. Specific to undergraduate students who have completed previous coursework and are ready to focus on individual research, investigation and critique in Afro-Latin movement practices. With an expected advanced understanding of Afro-Latin rhythms and social partnerwork vocabulary, students synthesize past knowledge in previous courses and begin framing questions on areas of expertise to work in an Afro-Latin centric process that leads toward a finding, performance or finished/unfinished work. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): two completions of DCE 239 with C or better; two completions of DCE 339 with C or better OR Visiting University Student |

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| DCE | 460 | Transitions I | Original choreography for group performance with analysis and critique of problems encountered in production. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Dance BFA or Performance and Movement BA major; DCE 361 with C or better OR Visiting University Student |
| DCE | 461 | Transitions II | Effectively positions students as they ready themselves to enter the creative work force. Students fully execute and document their capstone project and develop materials for their portfolio that allow them to represent themselves well as artist professionals. Requires an internship. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): DCE 460 with C or better |
| DCE | 470 | Fourth-Year Seminar | Explores and investigates the larger world of dance as it pertains to transitioning out of the university environment into professional lives. Discussion revolves around career opportunities, options and finding potential work synergies that will parlay into meaningful and exciting lives. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre-requisites: BFA Dance major; DCE 371; Credit is allowed for only DCE 470 or 494 (4th-Yr Seminar) |
| DCE | 482 | The Alexander Technique | Mixed-level course open to students from across the Herberger Institute for Design and the Arts that covers the basic principles of the Alexander Technique (AT). The AT is a gentle reeducational process that promotes increased awareness and ease in movement. With a fundamental understanding and application of the AT principles, explores students' individual artistic practices and everyday patterns of movement through experiential research and application. | N | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Herberger major; min junior standing; Credit is allowed for only DCE 482 or DCE 394 (Alexander Technique:Application&Mvmnt Research) or DCE 582 or DCE 598 AlexanderTechnique:Applic&Mvmnt.Rsrc h for Grad St) OR Visiting University Student |
| DCE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | |
| DCE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | | Prerequisite(s): Barrett Honors student |
| DCE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| DCE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| DCE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | |
| DCE | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 501 | Philosophy of Dance | Analyzes traditional and contemporary theories of dance with regard to issues of expression, form, and meaning. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 502 | Cultural Concepts of Dance | Examines the close connections among culture, dance, and movement through writings in cultural theory, dance ethnology, and philosophy. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 504 | Dance and Ethics | Examination of ethical issues as they relate to the field of dance, including the following: the ethical treatment of dancers within educational and professional institutions; the ethical creation of dances sensitive to copyright/appropriation concerns as well as issues of form and content; the ethical engagement of the arts by the state; the ethical use of dance in trauma recovery and community building. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance MFA student |
| DCE | 505 | Writing the Creating Body | Dives deep into the nexus of the creative process to explore more about student's own understanding or that of another artist. Applies frameworks to investigate the dynamic relationships among artist, audience and creative project that occur during the flow of creating. Lens is the embodied perspective of the creative artist with writing techniques honed for how to capture the inner experience of creating. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Herberger Institute of Design and the Arts graduate student; Credit is allowed for only DCE 405 or DCE 505 |
| DCE | 530 | Somatic Movement Inquiry I | Explores somatic processes and frameworks as modalities for inquiry and research. Students engage in psychophysical investigations of specific somatic movement practices and frameworks, including Laban Movement Analysis, Body-Mind Centering and Dynamic Embodiment, as well as other phenomenological and epistemological frameworks for learning in and through the body. Approaches classroom experiences from theoretically grounded and contextualized perspectives that address through practice current somatic and epistemological thinking. Individual sessions with faculty support the deepening and exploration of personal movement inquiry and somatic research. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance MFA student |

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| DCE | 531 | Somatic Movement Inquiry II | Explores somatic processes and frameworks as modalities for inquiry and research. Students engage in psychophysical investigations of specific somatic movement practices and frameworks, including Body-Mind Centering, the Alexander Technique, Laban Movement Analysis and Dynamic Embodiment, as well as other phenomenological and epistemological frameworks for learning in and through the body. Approaches classroom experiences from theoretically grounded and contextualized perspectives that address through practice current somatic and epistemological thinking. Individual sessions with faculty support the deepening and exploration of personal movement inquiry and somatic research. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance MFA student |
| DCE | 534 | Contemporary Modern | First-year graduate level of contemporary modern dance rooted in postmodern traditions. Prepares students for the professional field of dance while continuing to deepen their knowledge of the history and theory of the practice. Includes diverse movement styles that emphasize a nuanced approach to complex movement concepts and somatic principles. Expects students to take a self-directed approach to course content. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance graduate student |
| DCE | 535 | Contemporary Ballet | Graduate-level theoretical study and movement practice of contemporary ballet for contemporary dancers. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisite: MFA Dance student |
| DCE | 536 | Somatic Practices | Laboratory for somatic education that explores the foundations of movement, voice, expression and spatial awareness. Open to nonmajors, the class welcomes and encourages the participation of students from a wide variety of disciplines. Taught through the principles of specific somatic lenses (e.g., the Alexander Technique, Bartenieff Fundamentals, and Body Mind Centering), the course highlights how embodied awareness affects artistic process and choice making, as well as enhancing physical capacities, kinesthetic intelligence, and the refinement of performance and technical skills. Emphasizes developing a holistic perception of ourselves, our relation to one another, and to the environment. Integrated lecture/lab. Prerequisite(s): degree- or nondegree-seeking graduate. | N | LEL | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 537 | African and Diaspora Movement Practices | Investigates and integrates historical and cultural contexts for West, Central, and South African and Post-African (diasporic) movement practices. Engages movement and physical articulation as tools to examine specific dance cultural knowledge and demonstrate/embody techniques representing that cultural knowledge. | N | LEL | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance MFA student |
| DCE | 538 | Dance Theatre | Performance in specially choreographed dance productions. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre-requisite: MFA Dance student |
| DCE | 540 | Issues in Media for Dance | Introduces desktop multimedia as it relates to dance creation, production, education, and research. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: MFA Dance student |
| DCE | 543 | Sound Design for Dance | Audio mixing for analog/digital recording and editing. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisite: Dance majors |
| DCE | 554 | Teaching Praxis I: Postsecondary Teaching Philosophies, Foundations and Practices | Addresses the theoretical basis and practical application of principles for teaching dance disciplines in a postsecondary setting. Includes discussion, co-teaching and individual teaching projects and sessions, practical application of course readings, and guest speakers. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance MFA student |
| DCE | 560 | Graduate Creative Practices I | Covers the philosophy and the breadth of process-oriented possibilities for art-making and provides opportunities to deepen and define personal artistic practices. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance MFA student |
| DCE | 561 | Graduate Creative Practices II | Continues as a laboratory for practice-led research offering further exposure to a range of practices in dance making and artistic inquiry, including sound design. Supports students' thinking about their evolving art making methodologies and contextualization of their artistic practice in the current field. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance graduate student; DCE 560 |
| DCE | 563 | Rhythmic Awareness | This course focuses on the kinesthetic aspects of weight, space, and time. It is opportunity for individual exploration as well as an ensemble experience, a chance to come together as a group through the communicative nature of sound, movement, and visual patterns. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance MFA student |
| DCE | 570 | Graduate First-Year Seminar I | Part of a four-semester sequence that offers a cohort experience to increase awareness of current global dance practices, present opportunities for dialoguing about topics significant to fulfilling degree requirements and that promote success in the dance program as well as to facilitate transition into the professional world. Seminar. | N | SEM | N | YGB | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Dance MFA student |

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| DCE | 571 | Graduate First-Yr Seminar II | Part of a four-semester sequence that offers a cohort experience to increase awareness of current global dance practices; present opportunities for dialoguing about topics significant to fulfilling degree requirements and that promote success in the dance program as well as to facilitate transition into the professional world. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Dance MFA student |
| DCE | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LAB | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 582 | The Alexander Technique | Mixed-level class open to students from across HIDA, covers the basic principles of the Alexander Technique (AT). The AT is a gentle reeducational process that promotes increased awareness and ease in movement. With a fundamental understanding and application of the AT principles, explores students' individual artistic practices and everyday patterns of movement through experiential research and application | N | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Herberger graduate student; Credit is allowed for only DCE 482 or DCE 394 (Alexander Technique:Application&Movement Research) or DCE 582 or DCE 598 (AlexanderTechnique:Applic&Mvmnt.Rsrc h for Grad St) |
| DCE | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 634 | Postmodern Contemporary | Preparation in the performance and comprehension of professional-level modern dance for second-year graduate students. 6 hours weekly. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Dance Graduate student |
| DCE | 654 | Teaching Praxis II: Theories, Contexts, Populations, Psychomotor Development and Curriculum Design | Applies current learning theories and psychomotor development approaches to teaching practices and curriculum design for a variety of contexts and populations ranging from early childhood to late adulthood and community to institutional settings. Students develop and implement pedagogical praxis frameworks that stem from their developing teaching perspectives, values and objectives. Course experiences are designed to help students effectually integrate pedagogical theory and practice toward successful and meaningful ends. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): DCE 554; Credit is allowed for only DCE 654 or DCE 598 (Apprenticeship) |
| DCE | 656 | Teaching Praxis III: Secondary Practices and Teacher Preparation Course Development/Implementation | Prepares students to teach in secondary dance education settings; to develop and teach higher education dance pedagogy, curriculum development, and teacher prep courses that meet professional teaching standards, state and national learning standards and requirements and institutional benchmarks. Participants develop specific teaching strategies and frameworks, as well as gain practical experience, within the settings of secondary dance education and university teacher preparation courses. Utilizes Laban Movement Analysis and other social somatic frameworks as inroads into teaching, curricular design and student assessment. Students help instruct and mentor undergraduate dance majors in a secondary dance teaching methods course. Illuminates current sociocultural and educational issues that influence teaching and learning in secondary dance classrooms, and addresses strategies and requirements for pre-service teacher preparation courses. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 4 | | Prerequisite(s): DCE 554; Credit is allowed for only DCE 656 or DCE 680 (Secondary Teaching Praxis and Teacher Training Frameworks) |
| DCE | 657 | Pedagogical Research and Fieldwork | Provides a theoretical and practical foundation for students to engage in pedagogical research and fieldwork. Places primary emphasis on investigating and applying qualitative methods to processes of pedagogical inquiry and research. Students are mentored through processes of gathering information, focusing, designing, implementing and assessing an educational research project through fieldwork in a context of their choosing. The outcomes of students' fieldwork projects are documented and articulated in the forms of a scholarly research paper and live research presentation. | N | RSC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): DCE 554 |

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| DCE | 660 | Graduate Creative Practices III | Artistic research through the practices of choreographic choice making, exploration, and experimentation of integrated environments and interdisciplinary collaboration. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: MFA Dance student |
| DCE | 661 | Graduate Creative Practices IV | Culmination of a four-semester Creative Practices sequence, focusing on articulating individual creative practices and identifying the needs of each student relative to their Applied Projects. Students are also responsible for understanding the content and requirements for the selected modules of this course. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: MFA Dance student |
| DCE | 670 | Graduate Second-Year Seminar I | Part of a four semester sequence that offers a cohort experience to increase awareness of current global dance practices, presents opportunities for dialoguing about topics significant to fulfilling degree requirements and promotes success in the dance program as well as to facilitate transition into the professional world. Reflection is a key component of the School of Dance curriculum; develops ability and skills in analysis, but more importantly builds awareness of intuitive and habitual patterns of response to new stimuli. The Seminar is a key moment each week to develop a community of inquiry amongst peers. | N | SEM | N | YGB | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Dance MFA student |
| DCE | 671 | Graduate Second-Year Seminar II | The Second-Year Graduate Seminar is part of a four semester sequence that offers a cohort experience to increase awareness of current global dance practices, present opportunities for dialoguing about topics significant to fulfilling degree requirements and that promote success in the dance program as well as to facilitate transition into the professional world. | N | SEM | N | YGB | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Dance MFA student |
| DCE | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 683 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCE | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCI | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| DCI | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| DCI | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post Baccalaureate Undergraduate student |
| DCI | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post Baccalaureate Undergraduate student |
| DCI | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): COE 501 or DCI 510 with B or better |
| DCI | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post Baccalaureate Undergraduate student |
| DCI | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post Baccalaureate Undergraduate student |
| DCI | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| DCI | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post Baccalaureate Undergraduate student |
| DCI | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| DCI | 701 | Transdisciplinary Seminar I | Covers the "grand challenges" in education and other fields, and the centrality of interdisciplinary approaches in addressing these challenges. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR undergraduate postbaccalaureate student; Credit is allowed for only DCI 701 or DCI 791 (Transdisciplinary Seminar) |
| DCI | 702 | Transdisciplinary Seminar II | Guides PhD students to study, understand and solve multiple aspects of the problem area in a transdisciplinary fashion, approaching the problem from multiple theoretical perspectives, methodological practices and disciplines. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR undergraduate postbaccalaureate student; Credit is allowed for only DCI 702 or DCI 791 (Transdisciplinary Seminar II) |
| DCI | 706 | Academic Writing | Covers the practices of writing for academic purposes, specifically with an aim toward writing for publication. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR undergraduate postbaccalaureate student; Credit is allowed for only DCI 706 or DCI 791 (Academic Writing) |
| DCI | 707 | Scholarly Practices Seminar: Proposal Writing | Covers proposal writing for students seeking funding to support scholarly initiatives across research designs and methods. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): COE 503; Credit is allowed for only DCI 707 or DCI 791 (Proposal Writing - Seminar) or DCI 791 (SchlrlyPractices Smnr: Proposal Writing) |
| DCI | 752 | Quantitative Research Design | Focuses on the purpose, design and conduct of quantitative research that advances the field of education. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): COE 502; Credit is allowed for only DCI 752 or EPA 691 (Introduction to Quantitative Research Design) |
| DCI | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DCI | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post Baccalaureate Undergraduate student |
| DCI | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post Baccalaureate Undergraduate student |
| DCI | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR undergraduate postbaccalaureate student |
| DCI | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post Baccalaureate Undergraduate student |
| DCI | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post Baccalaureate Undergraduate student |
| DCI | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Post Baccalaureate Undergraduate student |
| DNP | 601 | Theoretical Foundations for Advance Practice Nursing | Examines philosophical foundations of advanced nursing practice by analyzing interrelationships among theory, philosophy, practice, and research. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Doctor of Nursing Practice or Nurse Practitioner graduate certificate student |
| DNP | 602 | Evaluating Research for Practice | Provides opportunities for graduate students to develop the knowledge and skills to critically analyze scientific literature and research for application to practice. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Edson College graduate student |

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| DNP | 603 | Health Equity and Social Justice | Focuses on the application of theories related to social justice and knowledge of social determinants of health to the role of the graduate prepared nurse for the purpose of advocating for health equity and creating innovative methods of addressing social injustices to improve health outcomes. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): admission to graduate Nursing program |
| DNP | 604 | Advanced Human Pathophysiology Across Lifespan | Core course focuses on human pathophysiology and concepts of genetics for advance practice nursing. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): Adv Nursing Practice DNP or Acute Care Ped NP cert, Adult Geron NP cert, Fam NP cert, Fam Psych Mntl Hlth NP cert, Ped NP cert, or Women's Hlth NP cert, or Nursing MS or Nursing (Entry to Nursing Practice) MS or Nursing (Nursing Ed) MS |
| DNP | 605 | Advanced Health Assessment Across Lifespan | Advanced health assessment skills, including history-taking strategies and physical, functional, developmental, and psychosocial assessment. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Doctor of Nursing Practice or Nurse Practitioner graduate certificate student |
| DNP | 606 | Principles of Pediatric Acute Care I | Provides the theoretical basis for the assessment and management of infants, children, adolescents and young adults with select complex acute, critical and chronic health conditions in tertiary, emergency and specialty inpatient/outpatient health care settings. Emphasizes recognition of the dynamic and fluctuating health status of emergent pediatric health conditions by body system. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): graduate student enrolled in Advanced Nursing Practice (Acute Care Pediatric Nurse Practitioner) DNP program or Advanced Nursing Practice (Acute Care Pediatric Nurse Practitioner) certificate; Corequisite(s): DNP 607 |
| DNP | 607 | Advanced Pediatric Acute Care Practicum I | This clinical course focuses on the assessment, diagnosis and management of infants, children, adolescents and young adults with select complex acute, critical and chronic health conditions in tertiary, emergency and specialty inpatient/outpatient health care settings. | N | PRA | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-7 | | Prerequisite(s): graduate student enrolled in Advanced Nursing Practice (Acute Care Pediatric Nurse Practitioner) DNP program or Advanced Nursing Practice (Acute Care Pediatric Nurse Practitioner) certificate; Corequisite(s): DNP 606 |
| DNP | 608 | Advanced Pharmacotherapeutics Across Lifespan | For advanced practice nurses, expands theoretical and evidence-based knowledge and promotes synthesis of pharmacotherapeutic concepts and principles across the lifespan. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice DNP or Acute Care Ped NP cert, Adult Geron NP cert, Family NP cert, Fam Psych Mntl Hlth NP cert, or Women's Hlth NP cert, or Nursing MS or Nursing (Entry to Nursing Pract) MS or Nursing (Nursing Ed) MS student |
| DNP | 609 | Advanced Practice Nursing Role | Focuses on the examination and implementation of the advanced practice nursing (APN) role. Presents historical and contemporary social and political influences on the development and implementation of the APN role and the circumstances prompting the movement of education for advanced practice to the doctoral level. Emphasizes the analysis of the role the APN and the Doctor of Nursing Practice prepared provider within the greater health care system. Explores issues and challenges related to advanced practice. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Prerequisite(s): Doctor of Nursing Practice student |
| DNP | 610 | Principles of Advanced Emergency Nursing I | Students acquire knowledge that is relevant to the management of common medical emergencies and management of patients with unexpected illness in pre-hospital, urgent care, and emergency department settings. This knowledge is applied in the required clinical course. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Emergency Nurse Practitioner certificate student; Corequisite(s): DNP 611 |
| DNP | 611 | ENP Practicum I: Advanced Emergency Nursing Practice | Demonstrates management strategies and applies selected practice models for the delivery of high-quality care to patients with unexpected illness in pre-hospital, urgent care, and emergency department settings. Focuses on the delivery of health care services to patients across the lifespan in pre-hospital, urgent care, and emergency department settings. | N | PRA | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Prerequisite(s): Emergency Nurse Practitioner certificate student; Corequisite(s): DNP 610 |
| DNP | 612 | Pediatric Palliative and End-of-Life Care: Research, Theory and Clinical Implications | Examines research, theory and principles for end of life and palliative care in infants, children, adolescents and young adults (birth to age 21 years). | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DNP | 613 | Women's Health Promotion I | Didactic course focuses on theories of health behavior, health promotion, disease prevention and patient education. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Women's Health Nurse Practitioner) DNP or Women's Health Nurse Practitioner certificate student; Corequisite(s): DNP 614 |
| DNP | 614 | Women's Health Practicum I | Clinical assessment and education of women across the lifespan for the purposes of health promotion and disease prevention. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Prerequisite(s): Advanced Nursing Practice (Women's Health Nurse Practitioner) DNP or Women's Health Nurse Practitioner certificate student; Corequisite(s): DNP 613 |

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| DNP | 615 | Management of Common Problems in Women's Health | Focuses on management of nursing care for high-risk perinatal women and women with common health problems. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Women's Health Nurse Practitioner) DNP or Women's Health Nurse Practitioner certificate student; Corequisite(s): DNP 616 |
| DNP | 616 | Advanced Women's Health Practicum II | Clinical application of theories, concepts, and principles in area of concentration. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Prerequisite(s): Advanced Nursing Practice (Women's Health Nurse Practitioner) DNP or Women's Health Nurse Practitioner certificate student; Corequisite(s): DNP 615 |
| DNP | 617 | Management of Complex and Chronic Disease in Women | Didactic course focused on using current evidence-based research as the context for the assessment and management of complex and chronic reproductive and gynecologic health status across the lifespan and patient education. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Women's Health Nurse Practitioner) DNP or Women's Health Nurse Practitioner certificate student; Corequisite(s): DNP 618 |
| DNP | 618 | Advanced Women's Health Practicum III | Clinical course focused on using current evidence-based research as the context for the assessment and management of complex and chronic reproductive and gynecologic health states across the lifespan and patient education. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Prerequisite(s): Advanced Nursing Practice (Women's Health Nurse Practitioner) DNP or Women's Health Nurse Practitioner certificate student; Corequisite(s): DNP 617 |
| DNP | 619 | Principles of Pediatric Acute Care II | Continues to provide the theoretical basis for the assessment and management of infants, children, adolescents and young adults with select complex acute, critical and chronic health conditions in tertiary, emergency and specialty inpatient/outpatient health care settings. Emphasizes recognition of the dynamic and fluctuating health status of emergent pediatric health conditions by body system. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Acute Care Pediatric Nurse Practitioner) DNP or Acute Care Pediatric Nurse Practitioner certificate student; Corequisite(s): DNP 620 |
| DNP | 620 | Advanced Pediatric Acute Care Practicum II | This clinical course focuses on the assessment, diagnosis and management of infants, children, adolescents and young adults with select complex acute, critical and chronic health conditions in tertiary, emergency and specialty inpatient/outpatient health care settings. | N | PRA | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-7 | | Prerequisite(s): Advanced Nursing Practice (Acute Care Pediatric Nurse Practitioner) DNP or Acute Care Pediatric Nurse Practitioner certificate student; Corequisite(s): DNP 619 |
| DNP | 621 | Health Assessment Skills | Skill-based course focuses on advanced clinical skills including suturing, splinting, x-ray, ECG and advanced lab interpretation. | N | LEL | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Prerequisite(s): DNP 605 |
| DNP | 623 | Adult-Gerontology Health Promotion | Introduces adult-gerontology health promotion and disease prevention emphasizing principles of evidence-based practice in clinical and community settings. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Adult-Gerontology Nurse Practitioner) DNP or Adult Gerontology Nurse Practitioner certificate student; Corequisite(s): DNP 624 |
| DNP | 624 | Adult-Gerontology Health Promotion Practicum | Clinical practicum designed to apply principles of evidence-based practice in health promotion and disease prevention in clinical and community settings. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Prerequisite(s): Advanced Nursing Practice (Adult-Gerontology Nurse Practitioner) DNP or Adult Gerontology Nurse Practitioner certificate student; Corequisite(s): DNP 623 |
| DNP | 625 | Management of Common Health Problems in Adult-Gerontology: Theory | Focuses on the theory, research and application of evidence-based practice in the care of adolescents, adults and older adults with common health alterations. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Adult-Gerontology Nurse Practitioner) DNP or Adult Gerontology Nurse Practitioner certificate student; Corequisite(s): DNP 626 |
| DNP | 626 | Management of Common Health Problems in Adult-Gerontology: Practicum | Clinical practicum applies principles of evidence-based practice in primary care management of adolescents, adults and older adults with common health alterations. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Prerequisite(s): Advanced Nursing Practice (Adult-Gerontology Nurse Practitioner) DNP or Adult Gerontology Nurse Practitioner certificate student; Corequisite(s): DNP 625 |
| DNP | 627 | Management of Complex Health Problems in Adult-Gerontology: Theory | Focuses on theory, research and application of evidence-based practice in care of adolescents, adults and older adults with complex health alterations. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Adult-Gerontology Nurse Practitioner) DNP or Adult Gerontology Nurse Practitioner certificate student; Corequisite(s): DNP 628 |
| DNP | 628 | Management of Complex Health Problems in Adult-Gerontology: Practicum | Clinical practicum applies principles of evidence-based practice in primary care management of adolescents, adults and older adults with complex health alterations. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Prerequisite(s): Advanced Nursing Practice (Adult-Gerontology Nurse Practitioner) DNP or Adult Gerontology Nurse Practitioner certificate student; Corequisite(s): DNP 627 |

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| DNP | 630 | Principles of Advanced Emergency Nursing II | Students acquire advanced knowledge that is relevant to common medical and traumatic emergencies. Focuses on preparing the student to implement the role of the advanced practice emergency nurse. This knowledge is applied in the required clinical course. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Emergency Nurse Practitioner certificate student; Corequisite(s): DNP 631 |
| DNP | 631 | ENP Practicum II: Advanced Emergency Nursing Practice | Demonstrate advanced management strategies and applies advanced practice models for the delivery of high-quality care to patients with unexpected illness in pre-hospital, urgent care, and emergency department settings. Focuses on the delivery of health care services to patients across the lifespan in pre-hospital, urgent care, and emergency department settings. | N | PRA | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Prerequisite(s): DNP 610; Corequisite(s): DNP 630 |
| DNP | 633 | Family Health Promotion | Focuses on concepts and strategies to promote, manage, and maintain health of children, adults, and families. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Family Nurse Practitioner) DNP or Family Nurse Practitioner certificate student; Corequisite(s): DNP 634 |
| DNP | 634 | Family Health Promotion Practicum | Clinical application of theories, concepts, and principles in the care of children, | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Prerequisite(s): Advanced Nursing Practice (Family Nurse Practitioner) DNP or Family Nurse Practitioner certificate student; Corequisite(s): DNP 633 |
| DNP | 635 | Management of Common Health Problems in Children, Adults and Families | Didactic course that integrates research into clinical decision making as the context for the assessment and management of acute and common health problems in family practice across the life span. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Family Nurse Practitioner) DNP or Family Nurse Practitioner certificate student; Corequisite(s): DNP 636 |
| DNP | 636 | Management of Common Health Problems in Children, Adults, and Families Practicum | Clinical application of theories, concepts, and research related to the management of acute and common problems in family practice across the lifespan. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Prerequisite(s): Advanced Nursing Practice (Family Nurse Practitioner) DNP or Family Nurse Practitioner certificate student; Corequisite(s): DNP 635 |
| DNP | 637 | Management of Complex and Chronic Health Problems in Children, Adults and Families | Didactic course that integrates research into clinical decision making as the context for the assessment and management of complex and chronic problems in family practice across the lifespan. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Family Nurse Practitioner) DNP or Family Nurse Practitioner certificate student; Corequisite(s): DNP 638 |
| DNP | 638 | Management of Complex and Chronic Health Problems in Children, Adults, and Families Practicum | Clinical application of theories, concepts, and research related to the management of complex and chronic problems in family practice across the life span for Family Nurse Practitioner role specialty. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Prerequisite(s): Advanced Nursing Practice (Family Nurse Practitioner) DNP or Family Nurse Practitioner certificate student; Corequisite(s): DNP 637 |
| DNP | 640 | Advanced Human Pathophysiology Pediatrics | Didactic course for pediatric nurse practitioner students focuses on applying concepts of human pathophysiology and genetics in pediatric patients. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Pre-requisite: DNP Advanced Nursing Practice (Pediatric Nurse Practitioner) |
| DNP | 641 | Advanced Health Assessment Pediatrics | Skills-based advanced health assessment course that includes history-taking strategies and physical, functional, developmental, psychosocial health assessment of children (birth-21). | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (AcuteCare or Pediatric Nurse Practitioner) DNP student or Acute Care Pediatric Nurse Practitioner or Pediatric Nurse Practitioner certificate |
| DNP | 642 | Applied Pharmacotherapeutics for Pediatrics | Applies evidence-based pharmacotherapeutic principles to disease treatment and health promotion and maintenance for pediatric patients. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): DNP Advanced Nursing Practice (AcuteCare or Pediatric Nurse Practitioner) student or Acute Care Ped Nurs Prac or Pediatric Nurse Practitioner certificate |
| DNP | 643 | Developmentally Based Care of the Well Child | Offers information for theory-based developmental care of well children. Includes anticipatory guidance for parents and/or children/teens. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): DNP Advanced Nursing Practice (AcuteCare or Pediatric Nurse Practitioner) student or Acute Care Ped Nurs Prac or Pediatric Nurse Practitioner certificate; Corequisite(s): DNP 644 |
| DNP | 644 | Well Child Advanced Practicum | Clinical application of theories, concepts and principles as they relate to the developmentally based care of the well child. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Prerequisite(s): DNP Advanced Nursing Practice (AcuteCare or Pediatric Nurse Practitioner) student or Acute Care Pediatric Nurse Practitioner or Pediatric Nurse Practitioner graduate certificate student; Corequisite(s): DNP 643 |
| DNP | 645 | Management of Common Problems in Pediatric Primary Care | Provides health promotion and disease prevention strategies for the advanced nursing care of all children and families. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Pediatric Nurse Practitioner) DNP or Pediatric Nurse Practitioner certificate student; Corequisite(s): DNP 646 |

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| DNP | 646 | Management of Common Problems in Pediatric Primary Care Practicum | Facilitates development of advanced clinical skills in the assessment and management of child health, health surveillance and promotion. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Prerequisite(s): Advanced Nursing Practice (Pediatric Nurse Practitioner) DNP or Pediatric Nurse Practitioner certificate student; Corequisite(s): DNP 645 |
| DNP | 647 | Management of Complex and Chronic Health Problems in Pediatric Primary Care | Third pediatric didactic course focuses on assessment and management of childhood complex and chronic health problems and special health conditions. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Pediatric Nurse Practitioner) DNP or Pediatric Nurse Practitioner certificate student; Corequisite(s): DNP 648 |
| DNP | 648 | Management of Complex & Chronic Problems Pediatric Primary Care Practicum | Clinical course assists students in developing advanced clinical skills in decision making with chronically ill or special needs pediatric patients. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Prerequisite(s): Advanced Nursing Practice (Pediatric Nurse Practitioner) DNP or Pediatric Nurse Practitioner graduate certificate student; Corequisite(s): DNP 647 |
| DNP | 649 | Advanced Physiology | Focuses on integrating the structure and function, including the molecular and cellular levels, that are vital to the overall functioning of the human across the lifespan. It is highly encouraged that students taking this course have a basic understanding of physiological principles to be able to learn advanced concepts covered in this course. It serves as an important fundamental foundation required for advanced practice providers and helps support students in their progression into advanced pathophysiology and clinical specialty course work. Examines the complex interactions of multiple body systems in helping to maintain homeostasis and proper body functioning to promote a foundation for health. Uses clinical scenarios to promote innovative ways to integrate the complex physiological concepts. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Acute Care Pediatric Nurse Practitioner) DNP student or Acute Care Pediatric Nurse Practitioner certificate student or Emergency Nurse Practitioner certificate student |
| DNP | 650 | Advanced Human Pathophysiology Neonates | Didactic course for neonatal nurse practitioner students focuses on applying concepts of human pathophysiology and genetics in neonatal patients. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Pre-requisites: DNP Advanced Nursing Practice (Neonatal Nurse Practitioner) |
| DNP | 651 | Advanced Health Assessment of Neonates | Skill-based course focuses on advanced health assessment skills, including history-taking strategies and the physical, functional, genetic, developmental, and psychosocial/cultural health assessment of neonates. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Neonatal Nurse Practitioner) DNP |
| DNP | 652 | Applied Pharmacotherapeutics for Neonates | Focuses on the application of knowledge of pharmacological principles in the treatment of diseases and promotion of health for neonates and their families. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre-requisite: DNP Advanced Nursing Practice (Neonatal Nurse Practitioner) |
| DNP | 653 | Advanced Development and Family Health Promotion: Neonatal Theory I | Concepts, theories, interventions, and research related to the promotion, management, and maintenance of physical, behavioral, and developmental needs of at-risk newborns and infants and their families. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre-requisite: DNP Advanced Nursing Practice (Neonatal Nurse Practitioner); Co-requisite: DNP 654 |
| DNP | 654 | Neonatal Practicum I | Clinical application of theories, concepts, and principles in area of concentration. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Pre-requisite: DNP Advanced Nursing Practice (Neonatal Nurse Practitioner); Co-requisite: DNP 653 |
| DNP | 655 | Management of Common Neonatal Problems | Proactive neonatal theory course focusing on the concepts, theories, and research related to acute and chronic health deviations of neonates and infants. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre-requisite: DNP Advanced Nursing Practice (Neonatal Nurse Practitioner) Co-requisite: DNP 656 |
| DNP | 656 | Neonatal Practicum II | Clinical application of theories, concepts, and principles in area of concentration. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Pre-requisite: DNP Advanced Nursing Practice (Neonatal Nurse Practitioner); Co-requisite: DNP 655 |
| DNP | 657 | Management of Complex Problems in Neonates | Examines the application of knowledge of complex, multi-system alterations in neonatal health from a theoretical and research perspective in preparation for clinical practice. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre-requisite: DNP Advanced Nursing Practice (Neonatal Nurse Practitioner) |
| DNP | 658 | Neonatal Practicum III: Management of Complex Problems in Neonates | Develops and applies advanced neonatal assessment, clinical decision making, and management skills to complex health alterations in at-risk neonates to include cultural, ethical, legal, and advocacy issues. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Pre-requisite: DNP Advanced Nursing Practice (Neonatal Nurse Practitioner); Co-requisite: DNP 657 |
| DNP | 659 | Embryology and Genetics | Provides an understanding of embryology, genetics and physiology concepts. Covers application of normal/abnormal human physical development, human reproduction, teratology and developmental genetics to clinical practice in preconception/prenatal and pediatric genetics. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): College of Health Solutions or Edson College of Nursing and Health Innovation graduate student; Credit is allowed for only DNP 659 or GCO 659 |
| DNP | 660 | Advanced Neuropsychopathology Lifespan | Manifestations of altered neurophysiology and psychopathology over the lifespan. Uses evidence-based support for theoretical views of psychiatric disorders to analyze the relationships of neuropsychopathology. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): Advanced Nursing Practice (Family Psychiatric and Mental Health Nurse Practitioner) DNP or Family Psychiatric and Mental Health Nurse Practitioner certificate student |

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| DNP | 661 | Ethics and Advanced Nursing Practice | Focuses on the ethical implications in the role of the advanced practice nurse and provides information on ethics and how professional and personal values relate to advanced nursing practice. This course meets the Essentials of Doctoral Education as defined by the American Association of Colleges of Nursing (AACN). | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Doctor of Nursing Practice graduate student |
| DNP | 671 | Advanced Mental Health Assessment Across the Lifespan | Focuses on comprehensive mental health assessment of psychiatric disorders occurring in children, adolescents, and families. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): Advanced Nursing Practice (Family Psychiatric and Mental Health Nurse Practitioner) DNP or Family Psychiatric and Mental Health Nurse Practitioner certificate student |
| DNP | 672 | Psychopharmacology Across the Lifespan | Focuses on evidence-based use of medications for mental health disorders across the lifespan. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Family Psychiatric and Mental Health Nurse Practitioner) DNP or Family Psychiatric and Mental Health Nurse Practitioner certificate student |
| DNP | 673 | Mental Health Promotion Across the Lifespan | Focuses on evidence-based interventions to promote mental health across the lifespan. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Family Psychiatric and Mental Health Nurse Practitioner) DNP or Family Psychiatric and Mental Health Nurse Practitioner certificate student; Corequisite(s): DNP 674 |
| DNP | 674 | Mental Health Promotion Across the Lifespan Practicum | Clinical experiences to become skilled in assessment and evidence-based individual intervention of mental health disorders across the lifespan. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Prerequisite(s): Advanced Nursing Practice (Family Psychiatric and Mental Health Nurse Practitioner) DNP or Family Psychiatric and Mental Health Nurse Practitioner certificate student; Corequisite(s): DNP 673 |
| DNP | 675 | Management of Common Mental Health Disorders Across the Lifespan | Emphasizes the assessment and evidence-based management of common mental health disorders across the lifespan. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Family Psychiatric and Mental Health Nurse Practitioner) DNP or Family Psychiatric and Mental Health Nurse Practitioner certificate student; Corequisite(s): DNP 676 |
| DNP | 676 | Management of Common Mental Health Disorders Across the Lifespan Practicum | Clinical experiences necessary to become skilled in the assessment and evidence-based management of the most common mental health disorders across the lifespan. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Prerequisite(s): Advanced Nursing Practice (Family Psychiatric and Mental Health Nurse Practitioner) DNP or Family Psychiatric and Mental Health Nurse Practitioner certificate student; Corequisite(s): DNP 675 |
| DNP | 677 | Management of Complex & Chronic Mental Health Disorders Across the Lifespan | Focuses on modalities of evidence-based treatment with children, adolescents, adults, and families with complex and/or chronic psychopathology. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Family Psychiatric and Mental Health Nurse Practitioner) DNP or Family Psychiatric and Mental Health Nurse Practitioner certificate student; Corequisite(s): DNP 678 |
| DNP | 678 | Management of Complex & Chronic MH Disorders Across the Lifespan Practicum | Clinical experiences in the assessment and evidence-based management of the most complex and chronic mental health disorders across the lifespan. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-6 | | Prerequisite(s): Advanced Nursing Practice (Family Psychiatric and Mental Health Nurse Practitioner) DNP or Family Psychiatric and Mental Health Nurse Practitioner certificate student; Corequisite(s): DNP 677 |
| DNP | 679 | Biostatistics: Principles of Statistical Inference | Examines principles of statistical inference and their application to the analysis and interpretation of epidemiological, psychosocial, medical, nursing, and healthcare data. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Nursing graduate student |
| DNP | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DNP | 682 | Geriatric Health Promotion | Examines theoretical perspectives in aging and cultural and contextual approaches for health promotion in older adults. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DNP | 688 | Management of Complex Diseases and Syndromes in Geriatric Population | Focuses on diagnosis and management of complex diseases and syndromes in the geriatric population. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only DNP 688 or NUR 688 |
| DNP | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | N | IND | N | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | |
| DNP | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| DNP | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DNP | 703 | Innovation in Communication-Scholarly and Professional Writing | Provides a review of principles of scholarly and professional writing, plagiarism and APA. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): Nursing graduate student |
| DNP | 704 | Principles of Evidenced-Based Care in Advanced Practice | Foundational course focuses on the evidence-based process and understanding of evidence-based practice principles assist advanced practice nurses and other healthcare professionals in clinical decision making in order to provide best care. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Pre-requisite: Doctor of Nursing Practice student |
| DNP | 705 | Health Care Outcomes Management | Outcomes management methodology supports implementation of evidence-based practice and measurement of both patient and health care system outcomes attributed to adoption of best practices. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Doctor of Nursing Practice student; DNP 704 |
| DNP | 707 | Disseminating Evidence to Advance Best Practice in Health Care and Health Policy | Focuses on methods for dissemination of evidence to advance best practice within local, regional, and/or national settings, as well as advancement of EBP in health policy and the media. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): DNP 705 |
| DNP | 708 | Systems Thinking in a Complex Health Care Environment | Studies basic and advanced systems principles as they relate innovation to the United States health care system. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Doctor of Nursing Practice student |
| DNP | 709 | Individual and Innovation Leadership in Healthcare Practice | Introduces the role of the innovator, including the essential behaviors of risk taking, managing workload, and addressing the challenges of innovation. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre-requisite: Doctor of Nursing Practice student |
| DNP | 710 | Clinical Perspectives on Biomedical Device Design | Examines clinical perspectives on principles of biomedical device design, including interprofessional engagement with engineering and regulatory professionals. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Doctor of Nursing Practice student |
| DNP | 711 | Healthcare Policy and Innovation | Introduces the political, organizational, and economic dimensions of healthcare policy with emphasis on strategies for innovative policy and practice. | N | SEM | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre-requisite: Doctor of Nursing Practice student |
| DNP | 712 | Clinical Residency and Management | Demonstrates DNP competencies through portfolio documentation of clinical learning experiences and implementation of the DNP Evidence-Based Clinical Applied Project. Doctoral students submit the DNP Portfolio in partial fulfillment of the degree. | N | PRA | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Pre-requisites: Doctor of Nursing Practice student |
| DNP | 713 | Analysis of Organizational Cultures in Health Care | Analyzes culture, organizational implications and relationships to change and innovation in health care. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Doctor of Nursing Practice (AcuteCare or Adult-Gerontology or Advanced NP or Family NP or Family Psychiatric Mental Health or Innovation Leadership or Pediatric NP or Women's Health NP) student |
| DNP | 714 | Professional Relationships in Healthcare | Analyzes professional relationships within healthcare organizations and evidence-based strategies to improve communication, coordination, and collaboration. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice (Adult-Gerontology NP, Family Psychiatric Mental Health NP, Family NP, Innovation Leadership, Pediatric NP, or Women's Health NP) DNP student |
| DNP | 715 | Dynamics and Principles of Information in Health Care | Analyzes and applies multiple sources of information for health care leaders across the continuum of evidence including research, evidence-based practice, translational research, improvement science and quality improvement. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice DNP student |
| DNP | 716 | Leadership of Innovation in Health Care | Analyzes leadership theories in the creation of complex health care system innovation. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3-4 | | Prerequisite(s): Advanced Nursing Practice DNP student or Advanced Nursing Practice (Innovation Leadership) DNP student |
| DSC | 100 | ASU Design Experience | Covers ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. | N | REC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): BS, BSD or BSLA Design School major. Credit is allowed for only DSC 100 or 194 (ASU Design Experience) OR Visiting University Student |
| DSC | 101 | Design Awareness | Surveys cultural, global, and historical context for the design professions. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU & G | |
| DSC | 102 | Introduction to Design | Introduces design, with an emphasis on understanding the process and principles by which design shapes our world. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | |

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| DSC | 236 | Introduction to Computer Modeling | Computers in design, including software concepts, specific packages, and problem solving, illustration, typography, modeling and animation. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | CS | Prerequisite(s): Industrial Design BSD major; DSC 101 with C or better; IND 120 with C or better; IND 121 with C or better; IND 122 with C or better; minimum 3.00 GPA OR Visiting University Student |
| DSC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| DSC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| DSC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | |
| DSC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| DSC | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-3 | | |
| DSC | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Pre-requisite: Master of Science in Design or PhD in Environmental Design & Planning student |
| DSC | 501 | Qualitative Research in Design | Theory and application of qualitative research. Emphasizes using ethnography to identify and specify innovative concepts and strategies. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Master of Industrial Design or Master of Science in Design major |
| DSC | 520 | Contemporary Design Issues | Issues influencing contemporary design such as sustainability, globalization, education, gender, collaboration and emotion. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DSC | 530 | Basic Modeling Techniques | Demonstrates how to create efficient repeatable and safe operations utilizing power tools. Instruction on basic principles of woodworking, material selection, re-saw, dimensioning, tool selection. Emphasizes cut lists, planning parts, basic tool knowledge, measuring and marking, and joinery. | N | LAB | N | GNA | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): Design School graduate student; Credit is allowed for only DSC 530 or DSC 494 (Basic Model Making Techniques) or DSC 598 (Basic Model Making Techniques) |
| DSC | 531 | Basic Mold Making and Casting | Explores basic knowledge on mold making and cold casting. Emphasizes material selection, planning, form-making and project planning. Requires students to execute two molds using appropriate techniques and methods. | N | LAB | N | GNA | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): Design School graduate student; Credit is only allowed for DSC 531 or DSC 598 (Cold Casting and Mold Making) |
| DSC | 540 | Biomimicry in Design | Explores and applies the biomimicry thinking framework in the field of design in order to arrive at sustainable design solutions that create conditions conducive to all life. Through hands-on activities, games, workshops, lectures, field trips, outdoor adventures, discussions, assignments and readings, introduces students to the biomimicry thinking methodology that helps find sustainable solutions to current problems found at various scales within any design disciplines. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only DSC 494 (Biomimicry in Design) or DSC 540 or DSC 598 (Biomimicry in Design) |
| DSC | 550 | Prototyping Futures | In this project-based course, students work in interdisciplinary teams to explore and envision the future of communities, industries, technologies and other elements of our society. In this process, students develop their understanding of the application of extended reality technologies, practices and methodologies for design, and tools for applying research to constructing prototypical scenarios for the future, in addition to gaining experience in effective collaboration. This course is about critical, methodological and narrative skills--the ability to move fluidly through domains, create low-fidelity prototypes, and devise creative solutions to complex problems by envisioning new realities. The development of deep technical skills in a chosen field follows in each program. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AME 550 or DSC 550 or HSD 550 |
| DSC | 551 | Immersive Experience Design I | Focuses on the practices of design for immersive experiences using different media including but not limited to extended reality technologies. Students work on interdisciplinary projects using and developing their skills on composition/aesthetics of environmental design; programmatic/spatial requirements in both real and virtual universes; modeling/simulation of spaces/objects in 3D animated environments, motion graphics, 3D printing/rapid prototyping, storytelling and world building. Develops abilities to manage projects, work effectively in teams and transform research into creative/technological products. | N | LAB | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only DSC 551 or GIT 551 |

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| DSC | 555 | Strategic Design Futures | Designers are increasingly addressing more strategic and long-term situations, while non-designers are increasingly interested in using design approaches to address diverse challenges. Strategic design is a practice that focuses on formulating strategies (problem setting) rather than only implementing strategies (problem solving). Strategic design is closely related to contemporary and emergent design practices such as user experience design, design thinking, service design, speculative design, behavioral design, and co-design, which are increasingly explored, adopted and adapted in projects and organizations. Students understand and practice a variety of strategic design methods and mindsets with the aim of changing and envisioning futures. With hands-on activities and real-world context, students use and develop core strategic design skills such as visualization, sensemaking, synthesis, speculation and facilitation. Some design tools that may be used include storyboards, user flows, journey mapping, participatory ideation, visioning, service blueprints, prototyping-testing. Includes seminar discussions and hands-on activities with a "live project." | N | PRO | N | Z1 | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only DSC 555 or DSC 598 (Strategic Design Futures) or HSD 555 |
| DSC | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Pre-requisite: Master of Science in Design student |
| DSC | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Pre-requisite: Design (Graphic Design) MSD, Design (Indus Design) MSD or Design (Inter Design) MSD student |
| DSC | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Pre-requisite: Design (Graphic Design) MSD, Design (Indus Design) MSD, or Design (Inter Design) MSD student |
| DSC | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | |
| DSC | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Pre-requisite: Design (Graphic Design) MSD, Design (Indus Design) MSD, or Design (Inter Design) MSD student |
| DSC | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Pre-requisite: Design (Graphic Design) MSD, Design (Indus Design) MSD, or Design (Inter Design) MSD student |
| DSC | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DSC | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): Master of Industrial Design, Master of Interior Architecture, Master of Science in Design, or Master of Visual Communication Design major |
| DSC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DSC | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Pre-requisite: Design (Graphic Design) MSD, Design (Indus Design) MSD, or Design (Inter Design) MSD student |
| DSE | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DSE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DSE | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| DSE | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | IND | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DSE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DSE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DSE | 799 | Dissertation | Supervised research focused on preparation of a dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| DST | 101 | Introduction to Disability Studies | Provides an introduction to key concepts, methods, questions and themes in the field of disability studies, including an overview of the focused, unequal treatment experienced by people with disabilities. There are economic, political, social and cultural factors that should be considered by a society which normally addresses disabled bodies through medical frameworks. Debates ethical questions concerning genetic testing, selective abortion and disability therapies. Discusses how social inequalities of class, race, nationality, sexuality and gender relate to the experiences of the disabled. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | C | |
| DST | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-3 | | |
| DST | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| DST | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| DST | 322 | Social and Cultural Implications of the Many Forms of Disability | There are many types of disability, and oppression results from the socially constructed definition of disability. Provides a careful review of the many forms of disability, considering functional restrictions created within society and the impact of cultural limitations. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| DST | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| DST | 458 | Disability and Communication Advocacy | Disability advocacy historically and in the contemporary context. Historical and legal approaches to disability advocacy helps frame students' interrogation of contemporary disability advocacy issues and movements. Addresses disability advocacy issues including questions about the meaning of disability, the ends and forms of advocacy, and the politics of dis/ability. Emphasizes the communication practices that have constructed and debated the meanings, ethics and ends of disability advocacy. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| DST | 469 | Science and Literature | Historical and theoretical links between science and literature, from Francis Bacon to the present, examined in cultural context. May be repeated for credit when topics vary. | N | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours; Credit is allowed for only DST 469 or ENG 469 OR Visiting University Student |
| DST | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | |
| DST | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| DST | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| DST | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |

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| DST | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-3 | | |
| ECD | 211 | The Developing Child: Theory into Practice, Prenatal-Grade 3 | Examines process of physical, social, emotional, cognitive, language, and literacy development of young children; includes observation, practical application, fieldwork. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | SB | |
| ECD | 220 | Introduction to Nutrition, Health and Safety | Emphasizes providing proper nutrition, promoting a safe but challenging learning environment, and becoming knowledgeable of a child's health status. Also covers practical applications for assisting young children to develop good habits and attitudes and to assume lifelong responsibility for their own well-being. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2 | | |
| ECD | 302 | Foundations of Early Childhood Education | Foundational basis of the early childhood field, including historical roots, current practices, ethics, models of teaching, and application in early childhood settings. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| ECD | 310 | Applied Early Child Development | Conveys knowledge of how development is both unique and interconnected. Takes a highly applied approach to build participants' knowledge, recognition and use of evidence-based practices within preschool classrooms that support children's development, both within and across domains. In order to successfully complete assignments in this course, students need access (through volunteering or a work setting) to children ages birth through five at least 15 hours/month. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ECD | 312 | Social/Emotional Foundations of Learning | Foundations of early social development and evidence-based practices for promoting social-emotional development; young children's understanding, interactions, and relationships to the social world. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| ECD | 313 | Technology in Early Childhood Education | Evaluates technology and technological learning tools for early childhood classrooms; integrates technology and its tools into students' learning. Lecture, discussion, active participation. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| ECD | 315 | Classroom Organization and Guidance of Young Children | Theories and strategies to guide children's development toward becoming self governing; typical and atypical behaviors; implementing age-appropriate classroom management techniques that foster individual, social, and academic competence. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| ECD | 316 | Teacher Research: Studying Children in Context | Introduces designing, conducting, interpreting, and reporting teacher research; methods of research and fieldwork with children to improve teaching practices and child outcomes. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| ECD | 321 | Foundations in Language, Literacy and Culture in Early Childhood | Covers oral language and literacy development during the preschool years, with attention to supporting young children's developing cultural identity and awareness. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | L | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; ENG 101, 105, or 107 with C or better; minimum 30 hours |
| ECD | 322 | Cognition and General Knowledge: Science, Math, Logic and Reasoning | Increases students' knowledge of and ability to implement high-quality strategies that support the development of children's mathematical, scientific and logical reasoning in developmentally appropriate ways. In order to successfully complete assignments in this course, students need access (through volunteering or a work setting) to children ages birth through five at least 15 hours/month. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ECD | 323 | Building Home, School, and Community Partnerships | Knowledge and skills to facilitate positive and continuous family-school partnerships; family background, social context, family involvement, and current research on family-school interaction and academic success. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | SB | Prerequisite(s): admission to the Professional Program |
| ECD | 324 | Social Studies and Creative Arts Curriculum, Instruction and Assessment | Social studies and creative arts standards, curriculum, and instructional and assessment strategies in an integrated social studies and creative expression curriculum for children birth through grade 3. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| ECD | 325 | Supporting Dual Language Learners | Increases students' knowledge of the language development of Dual Language Learners (DLLs), the role of home language in assessment and instruction, as well as knowledge and application of instructional practices to support DLLs' oral language and emergent literacy practices. Students design and implement activities for working with young children who are DLLs and their families. In order to successfully complete assignments in this course, students need access (through volunteering or a work setting) to children ages birth through five at least 15 hours/month. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): ECS 321 |
| ECD | 327 | Becoming a Teacher Leader | Explores the perspective that effective early childhood professionals are self-aware, culturally competent leaders who practice ongoing reflection and growth. In order to successfully complete assignments in this course, students need access (through volunteering or a work setting) to children ages birth through five at least 15 hours/month. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |

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| ECD | 341 | Administration/Evaluation of EC Programs | Administration and evaluation of early childhood programs. Emphasizes planning and evaluation; regulations; health, nutrition, and safety; operations, budgeting, and supervision of personnel. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| ECD | 396 | Student Teaching: Early Childhood (Ages Birth-5) | Student teaching in early childhood education classrooms ages birth to 5: synthesized experience in curriculum, instruction, assessment and classroom management. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | Prerequisite(s): admission to the Professional Program |
| ECD | 406 | Assessment: Birth-Grade 3 | Examines assessments appropriate to birth - grade 3 instruction to align curriculum with learner needs. Focuses on test design, interpretation, lesson design, and aspects related to multiple classroom and formal assessments. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| ECD | 416 | Social and Educational Policies Affecting Children and Families | Social policies at the national and state levels; values and assumptions of policies; political factors shaping policy and implementation; links between policy, educational practice, schools, and family functioning. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| ECD | 417 | Arts Integration for Young Children | Provides a foundation for understanding young children's creativity and research-based perspectives for incorporating arts-based components such as drama, movement, dance, music, play and visual arts in education for young children. Further provides developmentally appropriate instructional methods and strategies to promote interdisciplinary learning with creative arts curriculum and inquiry learning, as well as instructional and assessment strategies for preprimary and primary-level children. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum junior standing OR Visiting University Student |
| ECD | 418 | Instructional Methods for Young Children: Integrating Digital Media | Develops integrated experiences with children's literature for facilitating development in reading, writing, speaking, and listening. Further develops educational strategies for promoting growth in the social studies and creative arts curriculum, and instructional/assessment strategies for preprimary- and primary-level children; developmentally appropriate methods and strategies for effective instruction. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| ECD | 476 | Intentional Teaching | Guides teachers in becoming intentional practitioners through observation, assessment, purposeful planning and reflective practice to adapt a variety of supports for children in order to maximize student potential and outcomes. Focuses in particular on teaching and learning within the domains of creative arts and social studies. In order to successfully complete assignments, students need access (through volunteering or a work setting) to children ages birth through five at least 15 hours/month (4-6 hours/week). | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ECD | 477 | Student Teaching: Birth to Pre-K | Supervised practicum in a birth to pre-K program. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 4-6 | | Prerequisite(s): admission to the Professional Program |
| ECD | 478 | Student Teaching: Early Childhood (Grades K-3) | Student teaching in early childhood education classrooms grades K-3: synthesized experience in curriculum, instruction, assessment and classroom management. | Y | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3-9 | | Prerequisite(s): admission to the Professional Program |
| ECD | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-12 | | Prerequisite(s): admission to the Professional Program |
| ECD | 503 | Introduction to Research and Evaluation in Education | Overview of educational inquiry from controlled, quantitative to qualitative, naturalistic. Emphasizes locating and critically interpreting published research. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only COE 501 or ECD 503 or PPE 501 or SPE 501 or TEL 501 |
| ECD | 504 | Learning and Instruction | Introduces psychology of learning and instruction. Includes the foundations of learning theories and their application to educational practice. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ECD 504 or TEL 504 |
| ECD | 505 | Foundations of Early Childhood Education | Foundational basis of the early childhood field, including historical roots, current practices, ethics, models of teaching, and application in early childhood settings. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Pre-requisite: Graduate student |
| ECD | 520 | Child Guidance and Management: Child, Family, Community, and Culture | Introductory exploration of a variety of techniques for developing a positive classroom environment. Includes overview of several classroom and school management programs and possible effects of implementation. Focuses on observations made during the students' classroom and field experiences. Provides the catalyst for introducing students to the program's professional portfolio requirement. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Pre-requisite: Graduate student |
| ECD | 525 | Foundations of Early Childhood Literacy: The Science of Reading | The first of two required literacy courses, examines current and classic research on oral language and early literacy development and effective strategies for teaching language and literacy from birth through grade 3. Focuses on the foundations of literacy development, including the unique learning needs of all students, with an emphasis on systematic phonics and examining the sequence of learning to read with an emphasis on the science of reading methods. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| ECD | 526 | Early Childhood Literacy Methods and Assessments | This second of two required literacy courses focuses on applying scientifically based teaching methods for delivering differentiated literacy instruction, assessment and intervention. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECD | 527 | Mathematics in Early Childhood Education | Explores methods of teaching and assessing mathematical skills and reasoning in children ages birth through third grade along with the broader impact of math literacy in young children. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECD | 541 | Assessment of Young Children | Assessment principles, techniques, and issues related to guiding learning for children birth through eight years. Test construction, interpretation and communication. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECD | 549 | Foundations of Diversity, Human Development, and the Young Child | Psychology of learning and instruction, including the foundations of learning theories and their application to educational practice with an emphasis on diversity, multidirectional human change and cultural embeddedness. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECD | 565 | Appropriate Instructional Methodologies for Young Children | Surveys appropriate teaching methodologies for young children across the curriculum. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Pre-requisite: Graduate student |
| ECD | 567 | Clinical Experience: Early Childhood Internship (Ages Birth-5) | Applies course content in early childhood education preschool classrooms birth to age five: emphasizes observation, classroom management, planning and delivery of instruction and assessment. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECD | 576 | Clinical Experience: Early Childhood Internship (Grades K-3) | Applies course content in early childhood education classrooms grades K-3; emphasizes observation, classroom management, planning and delivery of instruction, and assessment. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECD | 577 | Practicum: Early Childhood (Ages Birth-5) | Student teaching in early childhood education classrooms ages birth to 5: synthesized experience in curriculum, instruction, assessment and classroom management. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECD | 578 | Student Teaching: Early Childhood (Grades K-3) | Student teaching in early childhood education classrooms grades K-3: synthesized experience in curriculum, instruction, assessment and classroom management. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECD | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| ECD | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| ECD | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| ECN | 211 | Macroeconomic Principles | Introductory course in macroeconomics. Topics include the measurement and modeling of output, national income, inflation and unemployment; the determinants of cross-country differences in income; the functions of money and the banking system; the causes of and policy responses to recessions; the effect of monetary and fiscal policy on interest rates and national income. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB | Prerequisite(s): MAT 117, 119, 142, 170, 171, 210, 251, 265, or 270 with C or better OR Visiting University Student |
| ECN | 212 | Microeconomic Principles | Introductory course in microeconomics. Topics include marginal analysis; international trade; supply and demand analysis; market efficiency; basic welfare analysis of market interactions and government intervention; the theory of firm production and costs; profit maximization in different market structures; consumer choice. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB | Prerequisite(s): MAT 117, 119, 142, 170, 171, 210, 251, 265, or 270 with C or better OR Visiting University Student |
| ECN | 213 | Honors Macroeconomics | Introduces modern macroeconomic analysis. Theory of national income, unemployment, inflation, and economic growth and its application to economic policy. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB | Prerequisite(s): Barrett Honors student; MAT 210, 211, 270, or 271 with C or better; Credit is allowed for only ECN 213 or ECN 313 |
| ECN | 214 | Honors Microeconomics | Introduces modern microeconomic analysis. Theories of consumer behavior, production and cost. Output and price determination in a variety of market settings. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB | Prerequisite(s): Barrett Honors student; Pre- or corequisite(s): MAT 211 or 271 with C or better if completed; Credit is allowed for only ECN 214 or ECN 312 |
| ECN | 221 | Business Statistics | Introduces methods of statistical description, inference, probability, sampling, hypothesis testing and regression analysis with focus on business application. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | CS | Prerequisite(s): MAT 210, 251, 265, or 270 with C or better OR MAT 117 or 170 with C or better; minimum 25 hours; Credit is allowed for only ECN 221 or ECN 231 OR Visiting University Student |
| ECN | 231 | Honors Business Statistics | Methods of statistical description, inference, probability, sampling, hypothesis testing and regression analysis with focus on business application. Introduces statistical analysis software. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | CS | Prerequisite(s): Barrett Honors student; MAT 210, 251, 265, or 270 with C or better; Credit is allowed for only ECN 221 or ECN 231 |

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| ECN | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | W. P. Carey School of Business | Department of Economics | 1-4 | | Prerequisite(s): Barrett Honors student; Pre- or corequisite(s): MAT 210, 211, 270, 271, or 272 with C or better if completed |
| ECN | 304 | Classical to Modern Economic Thought | Provides an introduction to the schools of thought concerned with explaining and influencing economic activity. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 211 or 213 with C or better; ECN 212 or 214 with C or better; MAT 211 or 271 with C or better; Credit is allowed for only CEL 304 or ECN 304 or CEL/ECN 394 (Classical to Modern Economic Thought) OR Visiting University Student |
| ECN | 306 | Survey of International Economics | Surveys international trade issues, commercial policy, trade theory, customs unions, and international monetary topics. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB & G | Prerequisite(s): ECN 211 or 213 with C or better; ECN 212 or 214 with C or better; MAT 210, 251, 265, or 270 with C or better OR Visiting University Student |
| ECN | 312 | Intermediate Microeconomic Theory | Expands on models covered in principles. Models consumer and producer choice, market structure and welfare. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB | Prerequisite(s): ECN 211 or 213 with C or better; ECN 212 with C or better; MAT 211, 266, or 271 with C or better; Credit is allowed for only ECN 214 or ECN 312 OR Visiting University Student |
| ECN | 313 | Intermediate Macroeconomic Theory | Expands on topics covered in principles. Emphasizes models of growth, employment, economic fluctuations, monetary and fiscal policy. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB | Prerequisite(s): ECN 214 or 312 with C or better; Credit is allowed for only ECN 213 or ECN 313 OR Visiting University Student |
| ECN | 315 | Money & Banking | Functions of money. Monetary systems, credit functions, banking practices, and central banking policy. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 211 or 213, ECN 212 or 214, and MAT 211 or 271 with C or better OR Visiting University Student |
| ECN | 331 | Economics of the European Economic Union | Examines broad economic policies seeking to influence individuals' decisions, the history of European economic development and policies, as well as institutions and social systems. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB & G | Prerequisite(s): ECN 211 or 213 with C or better; ECN 212 or 214 with C or better; MAT 211, 266, or 271 with C or better OR Visiting University Student |
| ECN | 335 | South Asia and the World Economy | Develops and discusses alternative theories of trade, development, and growth in the context of south Asia and the world economy. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB & G | Prerequisite(s): ECN 211 or 213 with C or better; ECN 212 or 214 with C or better; MAT 211, 266, or 271 with C or better |
| ECN | 342 | Sports Economics | Applies microeconomic concepts of competitive and imperfectly competitive markets, collective bargaining, antitrust issues and public finance to the sports industry. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 211 or 213 with C or better; ECN 212 or 214 with C or better; MAT 211 or 271 with C or better; Credit is allowed for only ECN 342 or ECN 394 (Economics of Sport) OR Visiting University Student |
| ECN | 345 | Survey of Energy and Environmental Economic Issues | Economic principles and empirical methods applied to current private and public policy decisions concerning energy and environmental issues. Topics include gas prices, climate change, electric cars and renewable energy. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 211 or 213 with C or better; ECN 212 or 214 with C or better; MAT 211, 266, or 271 with C or better OR Visiting University Student |
| ECN | 355 | Economics of Healthcare | Uses economic tools and models to discuss and evaluate the American healthcare system. Applies standard concepts in microeconomics, macroeconomics, and public choice economics to the study of the evolution and the current state of the healthcare system and to the study of proposals for change. Focuses on the promise and problems of using economic tools in a historical, ethical, and cultural context to understand the current healthcare system. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 211 or 213 with C or better; ECN 212 or 214 with C or better; MAT 211 or 271 with C or better OR Visiting University Student |
| ECN | 360 | Economic Development | Theories of economic growth and development. Role of capital formation, technological innovation, population and resource development in economic growth. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB & G | Prerequisite(s): ECN 211 or 213 with C or better; ECN 212 or 214 with C or better; MAT 211, 266, or 271 with C or better OR Visiting University Student |
| ECN | 365 | Economics of Russia and Eastern Europe | Origins and analysis of contemporary institutions. Comparative development and differentiation in the 20th century. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB & G | Prerequisite(s): ECN 211 or 213 with C or better; ECN 212 or 214 with C or better; MAT 211 or 271 with C or better |
| ECN | 382 | Managerial Economics | Applies economic analysis to managerial decision making. Market analysis in the context of the socio-legal environment. Does not satisfy Economics major requirements. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Pre-requisites: Not open to Economics or Business majors. Minimum 2.0 ASU cumulative GPA and minimum of 56 total earned hours OR Non-degree student with minimum 2.0 ASU cum GPA OR Graduate student. |

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| ECN | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | W. P. Carey School of Business | Department of Economics | 1-4 | | Prerequisite(s): ECN 211 or 213 with C or better; ECN 212 or 214 with C or better; MAT 211 or 271 with C or better |
| ECN | 404 | History of Economic Thought | Development of economic doctrines, theories of mercantilism, physiocracy, classicism, neoclassicism, Marxism, and contemporary economics. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB | Prerequisite(s): ECN 214 or 312 with C or better; Pre- or corequisite(s): ECN 213 or 313 |
| ECN | 410 | Applied Regression Analysis and Forecasting | Applies regression techniques to forecasting in business and institutional environments. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 221, ECN 231, IEE 380, STP 226, or STP 420 with C or better; ECN 214 or 312 with C or better OR Visiting University Student |
| ECN | 411 | Current Analysis of the U.S. Economy | Studies the major data releases used by economists to track the U.S. economy. Emphasizes how these data are used and their connection to macroeconomic theory. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 214 or 312 with C or better; Pre- or corequisite(s): ECN 213 or 313; Credit is allowed for only ECN 411 or ECN 494 (Contemporary Topics in Macroeconomics) |
| ECN | 413 | Advanced Honors Macroeconomics | Develops and uses various macroeconomic models to evaluate important economic policies. Emphasizes honing students' policy evaluation skills. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): Barrett Honors student; ECN 213 or 313 with C or better; ECN 214 or 312 with C or better |
| ECN | 414 | Advanced Honors Microeconomics | Develops and uses various microeconomic models to evaluate important economic issues. Emphasizes the economics of uncertainty and information. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): Barrett Honors student; ECN 214 or 312 with C or better; Pre- or corequisite(s): ECN 213 or 313 with C or better if completed |
| ECN | 416 | Game Theory and Economic Behavior | Introduces game theory and its application to various economic situations under conditions of complete and incomplete information. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 214 or 312 with C or better; Pre- or corequisite(s): ECN 213 or 313 OR Visiting University Student |
| ECN | 421 | Labor Economics | Labor supply and demand, unemployment, determinants of wages, earnings inequality, labor unions and the structure of labor contracts. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB | Prerequisite(s): ECN 214 or 312 with C or better; Pre- or corequisite(s): ECN 213 or 313 with C or better if completed OR Visiting University Student |
| ECN | 423 | Economics of Education | Focuses on educational decisions, including individual choices, institutional strategies and government policies. Topics include measuring the costs and returns of education, the relationship between education and inequality, and the role of K-12 and postsecondary institutions in economic growth. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 214 or 312 with C or better; Pre- or corequisite(s): ECN 213 or 313; Credit is allowed for only ECN 423 or 494 (Economics of Education) |
| ECN | 425 | Introduction to Econometrics | Elements of regression analysis: estimation, hypothesis tests, prediction. Emphasizes use of econometric results in assessment of economic theories. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): DAT 401, ECN 221, ECN 231, IEE 380, STP 226, or STP 420 with C or better; ECN 214 or 312 with C or better OR Visiting University Student |
| ECN | 436 | International Trade Theory | Comparative-advantage doctrine, including practices under varying commercial policy approaches. Economic impact of international disequilibrium. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB & G | Prerequisite(s): ECN 214 or 312 with C or better; Pre- or corequisite(s): ECN 213 or 313 OR Visiting University Student |
| ECN | 438 | International Monetary Economics | History, theory, and policy of international monetary economics. Balance of payments and exchange rates. International financial markets, including Eurocurrency markets. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB & G | Prerequisite(s): ECN 214 or 312 with C or better; Pre- or corequisite(s): ECN 213 or 313 OR Visiting University Student |
| ECN | 441 | Public Economics | Public goods, externalities, voting models, public expenditures, taxation, and budget formation with emphasis on the federal government. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | SB | Prerequisite(s): ECN 214 or 312 with C or better; Pre- or corequisite(s): ECN 213 or 313 OR Visiting University Student |
| ECN | 445 | Environmental Economics | Advanced topics in environmental economics with quantitative methods for developing information that is used for environmental policy making. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 214 or 312 with C or better; Pre- or corequisite(s): ECN 213 or 313 OR Visiting University Student |
| ECN | 453 | Industrial Organization and Competition Policy | Development of public policies toward business. Antitrust activity. Economic effects of government policies. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 214 or 312 with C or better OR Visiting University Student |
| ECN | 455 | Health Economics | Focuses on health care decisions, including individual and government policies. Topics include demand for and supply of health care, payment for health care, the impact of health care reform and the techniques economists use to evaluate health care interventions. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 214 or 312 with C or better; Pre- or corequisite(s): ECN 213 or 313 OR Visiting University Student |
| ECN | 470 | Mathematical Economics | Integrates economic analysis and mathematical methods into a comprehensive body of knowledge within contemporary economic theory. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 214 or 312 with C or better |

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| ECN | 475 | Capstone in Economics | Capstone course integrating several fields of economics. Draws topics from multiple research areas of wide interest such as growth and development, environmental, health, industrial organization, international, labor and public economics. Focuses on discussion, evaluation and presentation of economic concepts in written and verbal form. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | L | Prerequisite(s): ECN 213 or 313 with C or better; ECN 214 or 312 with C or better; ENG 102, 105, or 108 with C or better; minimum senior standing |
| ECN | 479 | Experiments in Economics | Experiments on risk and time preferences, trust, collective action, social preferences and norms, gender, information, discrimination and market behavior. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): ECN 214 or 312 with C or better; ECN 425 with C or better; Credit is allowed for only ECN 479 or ECN 494 (Experiments in Economics) |
| ECN | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | W. P. Carey School of Business | Department of Economics | 1-12 | | Prerequisite(s): minimum 3.0 GPA; ECN 213 or 313 with C or better; ECN 214 or 312 with C or better |
| ECN | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | W. P. Carey School of Business | Department of Economics | 1-6 | | Prerequisite(s): Barrett Honors student; ECN 213 or 313 with C or better; ECN 214 or 312 with C or better |
| ECN | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | W. P. Carey School of Business | Department of Economics | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better; ECN 213 or 313 with C or better; ECN 214 or 312 with C or better |
| ECN | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | W. P. Carey School of Business | Department of Economics | 1-4 | | Prerequisite(s): ECN 214 or 312 with C or better; Pre- or corequisite(s): ECN 213 or 313 OR Visiting University Student |
| ECN | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | W. P. Carey School of Business | Department of Economics | 1-3 | | |
| ECN | 502 | Managerial Economics | Applies microeconomic analysis to managerial decision making in areas of demand, production, cost, and pricing. Evaluates competitive strategies. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 2-4 | | Prerequisite(s): W. P. Carey MBA student; Credit is allowed for only ECN 502 or FIN 535 |
| ECN | 503 | Global Business Environment | Macroeconomic analysis of issues related to economic growth, inflation, interest rates behavior, unemployment, exchange rate determination, and global competitiveness. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 1-4 | | Prerequisite(s): W. P. Carey MBA student |
| ECN | 504 | Fundamentals of Managerial Economics | Applies microeconomic analysis to managerial decision making in areas of demand, production, cost and pricing. Evaluates competitive strategies. Designed for students with limited business experience and without an undergraduate business degree. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): degree-seeking graduate student |
| ECN | 510 | Microeconomic Theory and Applications | Applies economic theory to production, consumer demand, exchange, and pricing in a market economy. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 2-4 | | Pre-requisites: W.P. Carey degree seeking graduate student |
| ECN | 525 | Applied Regression Models | Simple linear regression, multiple regression, indicator variables, and logistic regression. Emphasizes business and economic applications. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECN | 527 | Categorical Data Analysis | Discrete data analysis in business research. Multidimensional contingency tables and other discrete models. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Pre-requisites: ECN 525 |
| ECN | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Economics | 1-12 | | Pre-requisites: W.P. Carey degree seeking graduate student |
| ECN | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Economics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECN | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | W. P. Carey School of Business | Department of Economics | 1-12 | | Pre-requisites: W.P. Carey degree seeking graduate student |
| ECN | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | W. P. Carey School of Business | Department of Economics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECN | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Economics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECN | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | Z2 | W. P. Carey School of Business | Department of Economics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECN | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | W. P. Carey School of Business | Department of Economics | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| ECN | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | W. P. Carey School of Business | Department of Economics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECN | 711 | Macroeconomic Analysis I | Current theories of output, employment, inflation, and asset prices as well as major aggregates. Introduces dynamic optimization techniques. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Pre-requisites: W.P. Carey degree seeking graduate student |
| ECN | 712 | Microeconomic Analysis I | Theory of production, consumer demand, resource use, and pricing in a market economy. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Pre-requisites: W.P. Carey degree seeking graduate student |
| ECN | 713 | Macroeconomic Analysis II | Focuses on growth theory, dynamic general equilibrium models, monetary theory, open-economy issues. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Pre-requisites: W.P. Carey degree seeking graduate student |
| ECN | 714 | Microeconomic Analysis II | General equilibrium, welfare economics, production, and capital theory. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Pre-requisites: W.P. Carey degree seeking graduate student |
| ECN | 715 | Advanced Macroeconomic Analysis | Focuses on current research areas in macroeconomics and monetary theory with emphasis on methods in economic dynamics and numerical techniques. | N | LEC | Y | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): W.P. Carey degree seeking graduate student; ECN 711 with C or better; ECN 713 with C+ or better |
| ECN | 716 | Advanced Economic Theory I | Economic behavior under uncertainty; markets and contracts under asymmetric information; the theory of games with incomplete information and applications. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): W.P. Carey degree seeking graduate student; ECN 714 with C or better; ECN 712 with C+ or better |
| ECN | 717 | International Macroeconomics | Intertemporal approach to the current account, international business cycles, international risksharing and home bias, models of exchange rate determination, balance of payment crises, sovereign debt and default. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECN | 721 | Labor Economics I | Develops basic theoretical models for analyzing labor market issues. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): W.P. Carey degree seeking graduate student; ECN 713 with C or better; ECN 714 with C or better |
| ECN | 722 | Labor Economics II | Extensions/criticisms of labor market theories. Applications to a variety of policy issues. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): W.P. Carey degree seeking graduate student; ECN 721 with C or better |
| ECN | 725 | Econometrics I | Problems in the formulation of econometric models. Emphasizes estimation, hypothesis testing, and forecast of general linear models. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Pre-requisites: W.P. Carey degree seeking graduate student |
| ECN | 726 | Econometrics II | Estimation and inference of qualitative and limited dependent variable models as well as general multiple equation models. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): W.P. Carey degree seeking graduate student; ECN 725 with C+ or better |
| ECN | 727 | Quantitative Methods in Economics | Generalized method of moment estimation, estimation with censored and truncated samples, nonlinear models, panel-data models, econometrics of nonstationarities. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): W.P. Carey degree seeking graduate student; ECN 713 with C or better; ECN 714 with C or better |
| ECN | 736 | International Trade Theory | Theories of comparative advantage and their empirical verification. Theory and political economy of commercial policy. Resource transfers and the role of the multinational corporation. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): W.P. Carey degree seeking graduate student; ECN 713 with C or better; ECN 714 with C or better |
| ECN | 741 | Public Economics | Economics of collective action, public spending, taxation, and politics. Impact of central governmental activity on resource allocation and income distribution. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): W.P. Carey degree-seeking graduate students; ECN 712 with B or better; Corequisite(s): ECN 714 |
| ECN | 753 | Industrial Organization | Analyzes structure, conduct, and performance in industrial markets; the economics of organizations. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): W.P. Carey degree seeking graduate student; ECN 713 with C or better; ECN 714 with C or better |
| ECN | 760 | Economics of Growth and Development | Economic problems, issues, and policy decisions facing the developing nations of the world. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): W.P. Carey degree seeking graduate student; ECN 711 with C+ or better; ECN 712 with C+ or better; Corequisite(s): ECN 713; ECN 714 |
| ECN | 770 | Mathematics for Economists | Surveys mathematical ideas encountered in economics and econometrics. Topics include measure theory, probability theory, and mathematical statistics. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Pre-requisites: W.P. Carey degree seeking graduate student |
| ECN | 784 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Economics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECN | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Economics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECN | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | W. P. Carey School of Business | Department of Economics | 1-12 | | Prerequisite(s): W. P. Carey degree-seeking graduate student |
| ECN | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | W. P. Carey School of Business | Department of Economics | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| ECN | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | W. P. Carey School of Business | Department of Economics | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECN | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | W. P. Carey School of Business | Department of Economics | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ECS | 310 | Foundations in Typical / Atypical Child Development | Examines the process of typical and atypical physical, social, emotional, cognitive, and language development of young children with or at risk for delay. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student; minimum 39 hours |
| ECS | 312 | Social and Emotional Development of the Young Child | Examines genetic, environmental and biological influences on typical and atypical social and emotional developmental processes through current research, current issues, as well as connections to practice. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | SB | Prerequisite(s): MLFTC major, minor, concentration, or certificate student, or Interdisciplinary Studies BA major; minimum 39 hours |
| ECS | 315 | Classroom Organization and Child Guidance | Develops and implements analysis, intervention, and consultation strategies for effective management of classroom behavior for students with and without disabilities. Age-appropriate techniques addressing individual, social, and academic competence. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum junior standing OR Visiting University Student |
| ECS | 316 | Assessment/Evidence-based Practice | Examines assessments appropriate to birth - grade 3 instruction to align curriculum with learner needs. Focuses on test design, interpretation, lesson design, and aspects related to multiple classroom and formal assessments. Introduces designing, conducting, interpreting, and reporting teacher research; methods of research and fieldwork with children to improve teaching practices and child outcomes. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum junior standing OR Visiting University Student |
| ECS | 321 | Communication, Language Development, and Emergent Literacy | Language and literacy development; language acquisition; methods of facilitating oral language in relation to emergent reading and writing; methods of facilitating early literacy development; clinical observation. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum junior standing |
| ECS | 340 | Creative Curriculum for Children Birth to 8 | Provides an overview of research and curricular strategies for preschool classrooms, including best practices for classroom design, management, scheduling and lesson development. A comprehensive, research-based curriculum that features exploration and discovery as a way of learning. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum junior standing |
| ECS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| ECS | 397 | Student Teaching: Inclusive Early Childhood (Ages Birth-5) | Student teaching in early childhood education inclusive classrooms ages birth to 5: synthesized experience in curriculum, instruction, assessment and classroom management. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | Prerequisite(s): admission to the Professional Program |
| ECS | 411 | Instructional Methodologies for Young Children: STEM | Explores, applies and integrates STEM (Science, Technology, Engineering and Math) content, project-enhanced instructional strategies and assessments. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |
| ECS | 412 | Mathematics Curriculum, Instruction and Assessment | Focuses on math content, methods, skills, and attitudes to be considered in teaching young children. Examines the theoretical foundation for young children's inquiry and learning. Methods focus on practical application of theory in classroom practice. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |
| ECS | 413 | Literacy Curriculum, Instruction and Assessment | Extends ECD 321; language and literacy development in K-3 classrooms; language acquisition; methods of facilitating oral language in relation to emergent reading and writing; methods of facilitating early literacy development; clinical experience. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | L | Prerequisite(s): admission to the Professional Program; ENG 101, 105, or 107 with C or better |
| ECS | 420 | Evaluation and Intervention Strategies for Infants, Toddlers and Preschoolers with Disabilities | Students will learn to screen, assess and provide services to young children with special needs using norm-referenced, criterion-referenced, and formative assessments to determine special education eligibility, plan individualized family service programs, and monitor progress for eligible students. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum junior standing OR Visiting University Student |
| ECS | 427 | Highly Individualized Teaching and Learning | Covers evidence-based research and practices for fostering the social emotional, cognitive and motor development of young children with varying needs and abilities in inclusive settings. Students learn to individualize instructional strategies, design learning environments with appropriate accommodations and adaptations, and understand Individual Education Plans (IEPs) and/or Individual Family Service Plans (IFSPs). In order to successfully complete assignments in this course, students need access (through volunteering or a work setting) to children ages birth through five at least 15 hours/month. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours |

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| ECS | 430 | Systems, Policy, and Advocacy in Early Childhood/Special Education | Social policies at the national and state levels; values and assumptions of policies; political factors shaping policy and implementation; links among policy, educational practice, schools, and family functioning that have a direct impact on both typical and special needs children in early childhood programs. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student, or Interdisciplinary Studies BA major; minimum 39 hours |
| ECS | 431 | Family, Community and Professional Support Systems | Covers methods and issues in cooperative teaching for special education students in general education classrooms, with an emphasis on collaborative communication skills for working with a variety of school professionals and families. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to Professional Teacher Preparation Program or enrolled in Educational Studies program or enrolled in Early Childhood minor |
| ECS | 478 | Student Teaching: Special Education (Grades K-3) | Student teaching in early childhood education inclusive classrooms grades K-3: synthesized experience in curriculum, instruction, assessment and classroom management. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-6 | | Prerequisite(s): admission to the Professional Program |
| EDA | 501 | Foundations of Educational Leadership | Nature of educational administration and the concept of competency as it applies to educational administration. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 505 | American Education System | Political, social, historical, and philosophical analyses of American education at all levels. Examines primary sources, legal findings, and case studies. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 511 | School Law | Interpreting state and federal law and policy in school settings. Includes statutory authority for administrators, liability, constitutional rights, law, and ethics. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 514 | Leadership in Curriculum and Assessment | Curriculum and assessment responsibilities of school administrators. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 526 | Instructional Supervision | Administering curriculum improvement, in-service education, evaluating, and improving teaching competence; administrative instructional responsibilities. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 548 | School, Family, and Community Connections | Administrative factors of primary importance in developing community involvement in public schools. Emphasizes theory and skill of school system and individual communication. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 572 | School Finance and Human Resources | Effective ethical models and strategies for organizing and administering the conduct of school site human resources administration and school financial affairs. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 578 | Critical Issues in Educational Leadership | Explores current critical issues in school leadership, including student support and relationships with governmental agencies and the community. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 611 | Educational Policy and the Law | Emphasizes policy analysis and application of federal and state law to policy evaluation and development in public schools. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| EDA | 634 | Instructional Leadership | Theory, practice, and issues in school change and reform with a focus on leading change efforts at the school site. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 676 | The School Superintendency | Critical examination of the school superintendency and the primary functions of this educational position. Includes the duties, responsibilities, activities, and problems of the school superintendent. Examines the unique leadership role of the school superintendent. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 679 | Administration of Special Programs in Education | For personnel administering special education and federal programs; responsibilities of principals, supervisors, counselors, and directors for special education and federally funded programs. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 683 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 685 | Education in Global Contexts | Global perspectives on education in contemporary society with emphasis on social, political, and economic factors that affect access and equity. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3-6 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 701 | Quantitative Methods in Action Research | Quantitative methods of inquiry for action research: data collection, analysis, interpretation, complementarity analysis, evaluation and data-informed decision making. | N | LEL | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student; Credit is allowed for only EDA 701 or TEL 701 |
| EDA | 702 | Dynamic Contexts of Education | Explores current ethical issues influencing leadership decisions with a focus on real problems in the educational setting. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student; Credit is allowed for only EDA 702 or TEL 702 |
| EDA | 703 | Innovation in Teaching and Learning | Development and psychological processes of human cognition, motivation, and performance applied to cognitively diverse, English language learners, adult professional development. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student; Credit is allowed for only EDA 703 or TEL 703 |
| EDA | 704 | Leadership for Organizational Change | Develops understanding of dynamic and systemic nature of organizations, with emphasis on leadership for building organizational capacity and learning. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student; Credit is allowed for only EDA 704 or TEL 704 |
| EDA | 772 | School District Human Resources and Business Management | Effective ethical models and strategies for organizing and administering the conduct of school site human resources administration and business affairs. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 773 | The Superintendency and School District Leadership Roles and Responsibilities | Examines management roles and responsibilities of public school district superintendents and other leaders in identifying and addressing critical issues. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 783 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| EDA | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDA | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDP | 310 | Educational Psychology for Non-Teachers | Human behavior in educational situations. Individual differences, factors affecting learning, behavioral and cognitive learning, motivation, testing, and assessment. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-6 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| EDP | 311 | Educational Psychology for Future Teachers | Planning and conducting effective instruction based on learning theories and principles. | N | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-3 | SB | Prerequisite(s): Teachers College major, minor or certificate student OR Visiting University Student |
| EDP | 313 | Childhood and Adolescence | Principles underlying total development of pre- and early-adolescent children. Emphasizes physical, intellectual, social, and emotional development with practical implications for teachers. Meets ADE requirement for one course in early adolescent psychology for middle grade endorsement. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | SB | |
| EDP | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| EDP | 454 | Statistical Data Analysis in Education | Role of data analysis in research and decision making. Elements of exploratory data analysis, descriptive indexes, and statistical inference. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | CS | |
| EDP | 502 | Introduction to Data Analysis | Descriptive statistics, visual approaches, estimation, and inferential methods for univariate and bivariate educational research problems. Experience using statistical software. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate; Credit is allowed for only COE 502 or EDP 502 |
| EDP | 510 | Psychology in Education | Planning and conducting effective instruction based on learning theories and principles. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDP | 514 | Psychology of the Adolescent | Cognitive, physical, and social development of adolescents in contemporary society. Impact of family, school, and workplace on adolescent development. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 540 | Learning Theories and Instructional Strategies | Studies grounded instructional strategies rooted in established theories of learning to form the basis of building instruction. Explores how teaching, learning and performing can be designed via technological environments to support instruction. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate student; Credit is allowed for only EDP 540 or LSE 540 |
| EDP | 552 | Multiple Regression and Correlation Methods | Educational applications of regression techniques. Quantitative and qualitative predictors, curvilinear trends, and interactions. Emphasizes analyzing data and interpreting results. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 554 | Analysis-of-Variance Methods | Educational applications of ANOVA techniques. Between- and within-subjects designs, multiple comparisons. Emphasizes using statistical software and interpreting results. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|----------------------------------|---|-------|-----------------|--|
| EDP | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 597 | Applied Research and Reflection | The dual purpose of the project is to synthesize learning from multiple areas of scholarship on teaching and learning, and to reflect on the content and process of the master's degree program. Culminating product includes a reflective paper with a corresponding project, such as a literature review, curricular model, technology product, or other project as agreed upon by the student and the student's advisor. | N | SEM | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDP | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 651 | Methods and Practices of Qualitative Research | Advanced course for students familiar with theory and extant work. Topics include data collection, analysis, reporting, and an extensive fieldwork project. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): COE 503 with C or better |
| EDP | 652 | Multivariate Procedures for Data Analysis | Educational applications of multivariate methods, including MANOVA, discriminant analysis, and exploratory factor analysis. Emphasizes analyzing data and reporting results. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 654 | Structural Equation Modeling in Educational Research | Educational applications of confirmatory factor analysis, path analysis, and full latent variable models. Experience in conducting analyses and reporting results. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 683 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |

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| EDP | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDP | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDS | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-3 | | Pre-requisites: Freshman standing, Maximum 25 hours |
| EDS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| EDS | 200 | Design Literacy and Communication | Builds the requisite skills for students to be able to express their ideas visually. Gives exercises to create an understanding of basic principles of design as well as design communication, principles of composition and aesthetic evaluation. Uses tools such as sketching, drawing, computer graphics and model making as a vehicle to develop an understanding of visual methods of expressing one's self. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Environmental Design or The Arts (Fashion Design) major |
| EDS | 201 | Fundamentals of Sustainability in Design | Explores sustainability as it relates to the key disciplines that comprise environmental design. Topics range from issues affecting the preservation of the urban fabric to the development of earth-friendly materials used by interior designers and product designers to the design of sustainable buildings by architects through the use of appropriate materials and requisite energy efficiencies. Surveys the literature of sustainability, identifying critical issues on the subject today. Explores the theoretical underpinnings of the sustainability movement as it affects environmental design and related disciplines. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| EDS | 223 | Design Thinking | Introduces the notion of design thinking, a concept that is gaining significant recognition in several disciplines including art, design, business, engineering and others. Design thinking can be described as a creative, multidisciplinary, human-centered approach to solving complex problems. Contemporary society faces numerous challenges, and the need for new tools and methods to tackle and solve these problems is more pressing than ever before. Offers several new techniques of design thinking and creative problem solving through engaging lectures and exciting projects. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| EDS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| EDS | 301 | Sustainable Community Design and Practices | Covers concepts and practices of a sustainable built environment of community scale. Exposes theories and methods, best practices to the design of built environments as a vehicle to develop students' understanding of different aspects of planning, designing, building, managing and promoting social and economic development of communities to meet sustainable development objectives. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | HU | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| EDS | 302 | Design Inquiry and Undergraduate Research | Theories and methods of design inquiry within a research environment. Prepares students for the senior-year synthesis courses. Students take on design-related research and develop and write a proposal for an integrative experience/project for an environmental design intervention and make an implementation plan to realize this intervention. | N | RSC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisite: EDS 301 |
| EDS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |

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| EDS | 401 | Environmental Design Synthesis I | First of a two-semester sequence of synthesis courses intended to be integrative, based on design research and inquiry. Serves as a culminating experience where, through the successful completion of an environmental design research project/application or experience, students demonstrate their understanding and synthesis of the knowledge and skills they have acquired in the program. Students identify a relevant research problem in environmental design and undertake the necessary literature search and reading regarding theories and methods related to the selected research question. Emphasizes the use of visual methods as a method of inquiry and research. | N | RSC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): GRA 440 with C or better OR Visiting University Student |
| EDS | 402 | Environmental Design Synthesis II | Second of a two-semester sequence of synthesis courses intended to be integrative, based on design research and inquiry. Serves as a culminating experience where, through the successful completion of an environmental design research project/application or experience, students demonstrate their understanding and synthesis of the knowledge and skills they have acquired in the program. Students implement the research study identified in the first semester of the two-semester sequence. Emphasizes the use of visual methods as a method of inquiry and research. | N | RSC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): EDS 401 |
| EDS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | |
| EDS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | | Prerequisite(s): Barrett Honors student |
| EDS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| EDS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| EDS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| EDS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-3 | | |
| EDT | 180 | Technology Literacy: Problem Solving using Digital Technology Applications | Introducing digital technologies and their place in society. Applies 21st-century skills to problem solving using digital technology applications including spreadsheets and databases. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | CS | Credit is allowed for only EDT 180 or EDT 321 OR Visiting University Student |
| EDT | 321 | Computer Literacy: Mobile Technologies and Your World | Uses mobile technologies across disciplines for communication, collaboration, creativity and problem solving. Employs digital tools including Microsoft Office's spreadsheets and databases, Google apps, mobile apps, and a variety of other Web-based tools in problem-based environments. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | CS | Pre-requisite: Minimum 45 hours; Credit is allowed for only EDT 180 or EDT 321 |
| EDT | 440 | Creating and Marketing Mobile Apps | Focuses on conceptualizing, creating and marketing of apps for mobile devices. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only EDT 440 or EDT 494 (Creating and Marketing Mobile Apps) or EDT 540 |
| EDT | 460 | Games, Technology and Society | Education, healthcare and social activism. Explores general theories about the relationship between technology and society using games as examples, as well as develops a better understanding of methods that take a systemic, contextualized approach to designing games for impact. Students play and analyze existing impact games as well as conduct a landscape analysis for an impact game on a topic of their own choosing. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Pre-requisite: Junior or Senior standing; Credit is allowed for only EDT 460 or 560 |
| EDT | 461 | Understanding Games for Impact | Explores the nature of learning in and around games designed for entertainment as well as games designed intentionally for impact. Students gain familiarity with current research on course topics; develop a language for reflection on the cognitive, sociocultural and educational merits and drawbacks of game-centered learning environments; and gain new insights into the ways in which digital playspaces and pastimes shape how people think and learn. Develops the ability to analyze learning in games and game-related social contexts, using different theoretical perspectives and tools. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum junior standing |

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| EDT | 463 | Games for Impact: The Full Life Cycle | Presents an impact game publishing methodology covering the full life cycle and key considerations for impact game design, development and publishing as well as the unique challenges in making games for impact. Applies methodology to examine an existing impact game currently in development. Students collaboratively workshop an original impact game concept and publishing plan that harnesses the power of games to address a key 21st-century challenge. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): junior or senior standing. Credit is allowed for only EDT 463 or EDT 563 |
| EDT | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| EDT | 524 | Principles and Issues in K-12 Online Learning | Examines current issues, policies, and trends pertaining to K-12 Web-based teaching and learning. Actively explores research related to online learning, with a focus on virtual schooling and emerging best practices for effective online instruction. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Pre-requisite: Practicing or licensed K-12 teacher |
| EDT | 530 | Technology Integration Methods across the Curriculum | Examines a constructivist approach to technology in education. Investigates technology as a catalyst for rethinking instructional goals and practices. | Y | LEL | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDT | 540 | Creating and Marketing Mobile Apps | Focuses on conceptualizing, creating and marketing of apps for mobile devices. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EDT 440 or EDT 494 (Creating and Marketing Mobile Apps) or EDT 540 |
| EDT | 545 | Using the Internet in Education | Explores the Internet as an educational tool for research, inquiry-based learning, and online learning communities. Incorporates constructivist theory. | N | LEL | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDT | 560 | Games, Technology and Society | The role and significance of digital games in society and the process of designing games for impact in areas such as education, healthcare and social activism. Explores general theories about the relationship between technology and society, using games as examples, as well as develops a better understanding of methods that take a systemic, contextualized approach to designing games for impact. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only EDT 460 or EDT 560 |
| EDT | 561 | Understanding Games for Impact | Explores the nature of learning in and around games designed for entertainment as well as games designed intentionally for impact. Students gain familiarity with current research on course topics; develop a language for reflection on the cognitive, sociocultural and educational merits and drawbacks of game-centered learning environments; and gain new insights into the ways in which digital playspaces and pastimes shape how people think and learn. Develops the ability to analyze learning in games and game-related social contexts, using different theoretical perspectives and tools. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only EDT 461 or EDT 561 |
| EDT | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): EDT 501, 502, and 503 with C or better |
| EDT | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: EDT 501, 502, and 503 with C or better |
| EDT | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDT | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDT | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | PRA | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisites: Accepted in either the MED in EDTCH, PHD in EDTECH, or the certificate in EDTECH programs |
| EDT | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | N | IND | N | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDT | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): EDT 502 with C or better |
| EDT | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): EDT 501, 502, and 503 with C or better |

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| EDT | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDT | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): EDT 701 with C or better |
| EDT | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EDU | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | |
| EDU | 301 | Why Education? | Explores and understands diverse forms and roles of education across multiple settings and populations, and from those encounters, evaluates how those forms and embedded practices support different values that are commonly tied to education. This evaluation includes the analysis of fundamental questions about justice, equity, opportunity and fairness in education. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| EDU | 302 | Diversity in Learning Contexts | Examines the relationships among cultural values, social contexts and learners' experiences. Explores the role of prejudice, stereotypes, institutional racism and sexism, and cultural incompatibilities in learning environments. Students debate fundamental questions about justice, equity, opportunity and fairness in order to develop their personal values and beliefs about diversity in learning. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| EDU | 304 | The Bridge Between Coursework, Identity and Career | Connects critical concepts in coursework to field-based opportunities. Identifies social concerns that define an educational field as well as known supports and possible barriers. Given the specified discipline of a field, defines learning opportunities as well as opportunities for leadership, advocacy and innovation. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 2 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| EDU | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| EDU | 396 | Exploring Ideas and Planning for an Internship | Students learn about internship opportunities in nonprofit, government and for-profit organizations. Expands knowledge of educational opportunities in culturally and socially diverse educational spaces. Secures a placement for an upcoming two-semester internship. Students gain a foundation in human-centered design as a process for making changes in educational contexts. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours |
| EDU | 402 | Partnering to Advance Educational Initiatives | Examines global formal and informal partnerships to design innovative and sustainable educational initiatives that address social concerns and meet the needs of diverse populations. Shares solutions through professional communication using technology to collaborate with diverse groups. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| EDU | 403 | Planning for the Senior Capstone Project | Designs an education system or program to meet the needs of a diverse population within a specific community. Applies current research-based learning theories to the design. Uses professional communication skills to establish a partnership to advance an educational effort that promotes change within a community. Students use a deliberate design process to plan out an educational system or program that is aligned with their values and beliefs for learning. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1 | | Pre- or corequisite(s): EDU 396; EDU 484 |
| EDU | 404 | Navigating Change in Educational Innovations | Advocates for educational solutions that change communities and lives by addressing social concerns. Applies professional ethics to navigate through formal systems to change educational environments that meet the needs of a diverse population within a specific community. Expands one's experience in education across different cultural and social settings. Students communicate and collaborate globally to share findings and solutions on the world stage. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours |
| EDU | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): EDU 396 |
| EDU | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-6 | | Prerequisite(s): Barrett Honors student |

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| EDU | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | |
| EDU | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-7 | | Prerequisite(s): EDU 484 |
| EDU | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LAB | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-3 | | |
| EDU | 501 | Education Sciences I: Quantitative Research and Design Inquiry | First course in the MS in Education Sciences sequence with beginning-level topics in quantitative research design, measurement and statistics in practice. Covers fundamental concepts in education research design, measurement, statistics and data management. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 6 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDU | 502 | Education Sciences II: Intermediate Quantitative Inquiry and Measurement | Second course in the MS in Education Sciences sequence with intermediate-level topics in research design, measurement and statistics in practice. Covers intermediate topics essential to the design and implementation of quantitative education research and the analysis of data. Course topics expand upon research skills introduced in earlier coursework. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 6 | | Prerequisite(s): EDU 501 |
| EDU | 503 | Education Sciences III: Advanced Quantitative Analysis and Modeling | Third course in the MS in Education Sciences sequence with advanced-level topics in research design, measurement and statistics in practice. Covers advanced topics in quantitative education research essential to success in real-world projects and effective communication of results. Course topics integrate, expand upon and apply research skills introduced in blocks one and two to design, measurement and analysis. Emphasizes application of design, measurement and analysis topics to consume and produce educational research. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 6 | | Prerequisite(s): EDU 501; EDU 502 |
| EDU | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDU | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDU | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDU | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDU | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDU | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EDU | 701 | Systems Leaders Lab I: Identifying "Wicked Problems" in Learning Systems | Aligned with students' professional settings and ongoing doctoral capstone projects, this lab course (Part I of the three-part LSL Lab Series) provides an overview of how leaders can identify and design solutions to "wicked problems" within learning systems. | N | LAB | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 2 | | Prerequisite(s): Learning Systems Leadership EdD student |
| EDU | 702 | Systems Leaders Lab II: Measuring Learning Systems Performance | Aligned with students' professional settings and ongoing capstone projects, the main motivation behind this lab (Part II of the three-part Lab Series) ensures students are familiar with, also in terms of application, the key concepts and ideas associated with educational and psychological measurement. While theoretical by nature, heavily applies the measurement-based content included throughout this course, and also involves required interactions with students' mentors. | N | LAB | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 2 | | Prerequisite(s): Learning Systems Leadership EdD student; EDU 701 |
| EDU | 703 | Systems Leaders Lab III: Evaluating Learning Systems Change and Performance | Aligned with students' professional settings and ongoing doctoral capstone projects, this lab course (Part III of the three-part LSL Lab Series) provides an overview of how leaders can design and implement approaches to oversee monitoring, evaluation and assessment processes within learning systems. | N | LAB | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 2 | | Prerequisite(s): Learning Systems Leadership EdD student; EDU 701; EDU 702 |

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| EED | 284 | Introduction to Integrated STEAM Learning Experiences | Examines theories and frameworks for guiding STEAM (Science, Technology, Engineering, Arts/Aesthetics, Mathematics) instruction in K-8 classrooms. Exposes prospective educators to strategies and tools for creating equitable and inclusive learning experiences. Addresses planning, enacting, and assessing effective disciplinary integrated approaches | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | |
| EED | 324 | Social Studies for Equity and Social Justice | Provides strategies for integrating social studies content knowledge with other curricular areas. Addresses a variety of issues related to social studies instruction in the elementary school, with an emphasis on valuing diverse cultures and experiences within historical and geographical perspectives. Emphasizes meeting the academic and linguistic needs of all learners including English language learners. Explores instructional materials, technology tools and social studies programs. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |
| EED | 396 | Clinical Experience I | Develops knowledge and skills for effective classroom management, establishing a positive classroom environment, and effective lesson delivery. Introduces use of the TAP instructional rubric, the college professionalism rubric, and strategies for co-teaching. Provides opportunities for students to engage as a teacher and learner in a K-8 classroom setting. Emphasizes focused observation; co-planning with a placement teacher; and co-teaching lessons to a whole group, small group and individual students. Successful completion of EED 396 fulfills two (2) of eight (8) required semester hours of practicum in grades K-8, as required by SBR R7-2-608 for an Elementary Education Teaching Certificate. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-2 | | Prerequisite(s): admission to the Professional Program |
| EED | 397 | Clinical Experience II | Develops knowledge and skills for effective classroom management, establishing a positive classroom environment, and effective lesson delivery. Continues use of the TAP instructional rubric, the college professionalism rubric, and strategies for co-teaching. Provides opportunities for students to engage as a teacher and learner in a classroom setting. Emphasizes focused observation; co-planning with a placement teacher; and co-teaching lessons to a whole group, small group and individual students. Successful completion of this course fulfills two (2) of eight (8) required semester hours of practicum as required by SBR R7-2-608 for an Elementary Education Teaching Certificate or two (2) of eight (8) required semester hours of practicum as required by SBR R7-2-602 for a Special Education Teaching Certificate. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-2 | | Prerequisite(s): admission to the Professional Program; Credit is allowed for only EED 397 or SPE 397 |
| EED | 411 | Science in Elementary Schools | Science education standards, curriculum, instructional and assessment strategies for all children. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours; Credit is allowed for only EED 411 or SCN 411 |
| EED | 412 | Mathematics in Elementary Schools | Methods of teaching mathematics to all students at the K-8 level, instructional planning and assessment. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours; Credit is allowed for only EED 412 or MTE 412 or SPE 410 |
| EED | 433 | Writing in the 21st Century | Theory on the social nature of oral and written language and congruent teaching, management and assessment practices. Emphasizes skills, strategies and dispositions for teaching 21st-century multimodal literacies to diverse learners including ELL with a focus on learners as creators of content, communicators, collaborators and global citizens. | N | LEL | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | L | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; ENG 101, 105, or 107 with C or better; minimum 56 hours |
| EED | 478 | Student Teaching: Elementary School (Grades 1-8) | Student teaching in elementary education classrooms grades 1-8: synthesized experience in curriculum, instruction, assessment and classroom management. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3-15 | | Prerequisite(s): admission to the Professional Program |
| EED | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| EED | 511 | Curriculum Theory and Instructional Planning | Contemporary curriculum theories. Curriculum as an interrelated entity. Process for instructional planning for student understanding and achievement. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EED | 521 | Instructional Planning for the Diverse Classroom | Planning and delivering instruction; making adaptations for English language learners and students with special needs. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| EED | 524 | Social Studies Methods and Assessment | Provides strategies for integrating social studies content knowledge with other curricular areas. Addresses a variety of issues related to social studies instruction in the elementary school, with an emphasis on valuing diverse cultures and experiences within historical and geographical perspectives. Emphasizes meeting the academic and linguistic needs of all learners including English language learners. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EED | 529 | Science Teaching Methods for Elementary School | Focuses on inquiry-based processes, lesson design, teaching methods, and content overview to support science instruction in elementary grades. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EED | 531 | Teaching with Educational Technology | Focuses on using technology in K-12 classrooms. Addresses the integration of technology in all curricular areas for all students. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EED | 532 | Literacy Methods of Instruction and Assessment for Diverse Learners | Focuses on applying scientifically based teaching methods for delivering differentiated literacy instruction, assessment and intervention. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EED | 534 | Social Studies Methods and the Arts | Provides strategies for integrating social studies content knowledge with the arts. Addresses a variety of issues related to social studies instruction in elementary school, with an emphasis on valuing diverse cultures and experiences within historical and geographical perspectives. Emphasizes meeting the academic and linguistic needs of all learners including English Language Learners. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EED | 536 | Integrated Humanities (SS/ARTS/ELA) Methods and Assessment | Focuses on content, assessments and methods of integrated humanities (social studies, arts and English language arts) for the elementary teacher. Apprentice teachers critically analyze and discuss course materials, generate meaningful questions and seek answers concerning the purpose, content, methods and assessments of integrated humanities instruction, and actively participate in course activities. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): TEL 531 |
| EED | 537 | K-8 Mathematics Methods and Assessment | Mathematical knowledge for learning, teaching and assessment in grades K through 8. Focuses on developing conceptual understanding of mathematics through inductive, inquiry-based, problem-centered learning and teaching. Emphasizes representing and explaining mathematics using concrete, digital and real-world representations. Focuses on theories of mathematics learning, standards learning trajectories, and learning designs sequenced concrete-to-pictorial-to-abstract. Introduction to cognitively guided instruction and brain science messages of productive struggle and growth mindset for equitable mathematics learning. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate student |
| EED | 550 | Elementary Methods in Content Areas | Advanced level of development of knowledge and skills of instructional planning and methods of teaching and evaluating in elementary schools. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 550 or SPE 504 |
| EED | 557 | Internship I | Develops knowledge and skills for effective classroom management, establishing a positive classroom environment, and examining K-12 learner behavior. Provides opportunities for students to engage as a teacher and learner in a classroom setting. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-8 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 557 or SED 557 or SPE 556 |
| EED | 567 | Internship II | Develops knowledge and skills for effective classroom management, establishing a positive classroom environment and effective lesson delivery. Reinforces the application and evaluation of the NIET Aspiring Teacher Rubric. Provides opportunities for students to engage as a teacher and learner in a classroom setting. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-8 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 567 or SED 567 or SPE 570 |
| EED | 571 | Apprentice Teaching I | Semester one of apprentice teaching in an elementary (EED)/secondary (SED)/special education (SPE) setting for students who are currently working as the teacher of record. Introduces classroom management, curriculum, instruction and assessment supervised and reinforced by a clinical instructor. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 571 or SED 571 or SPE 571 |
| EED | 574 | Apprentice Teaching II | Semester two of apprentice teaching in an elementary (EED)/secondary (SED)/special education (SPE) setting for students who are currently working as the teacher of record. Reinforced application of developing proficiency in classroom management, curriculum, instruction and assessment occurs through supervision and individualized support by a clinical instructor. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 574 or SED 574 or SPE 574 |
| EED | 576 | Internship III | Develops knowledge and skills for creating learning experiences for a range of learners, executing instructional cycles, using assessment methods and reflecting on best teaching practices. Provides opportunities for pre-service educators to engage as a teacher and learner in a professional experience setting. | Y | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-8 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 576 or SED 576 or SPE 576 |

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| EED | 578 | Residency/Student Teaching in Elementary Education | Student teaching in elementary (EED) school classroom. Synthesized experience in curriculum, instruction and classroom management. Builds upon previous professional experiences to extend learning in a classroom setting and to obtain practice and feedback to continuously improve educator knowledge and skills. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EED | 579 | Apprentice Teaching III | Semester three of apprentice teaching in an elementary (EED)/secondary (SED)/special education (SPE) setting for students who are currently working as the teacher of record and enrolled in the masters plus certification program. Continued development toward proficiency in classroom management, curriculum, instruction and assessment. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 579 or SED 579 or SPE 579 |
| EED | 582 | Residency in Elementary Education for Dual Certification Semester Three Professional Experiences | This 8-week capstone residency experience meets the EED requirement for dual certification in SPE and EED. Synthesizes experience in curriculum, instruction and classroom management. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EED | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 593 or SED 593 or SPE 593 |
| EED | 596 | Residency/Student Teaching | Student teaching in elementary (EED), secondary (SED), or special education school classrooms. Synthesized experience in curriculum, instruction and classroom management. | Y | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-8 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 596 or SED 596 or SPE 596 |
| EED | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| EEE | 120 | Digital Design Fundamentals | Number systems, conversion methods, binary and complement arithmetic, Boolean algebra, circuit minimization, ROMs, PLAs, flipflops, synchronous sequential circuits. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): degree-seeking student; minimum 12 hours; Credit is allowed for only CSE 120 or EEE 120 OR Visiting University Student |
| EEE | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-4 | | |
| EEE | 202 | Circuits I | Principles for analyzing linear and nonlinear circuits. Uses SPICE and MATLAB. Design and measurement of linear analog electrical systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): degree-seeking student; Pre- or corequisite(s): MAT 274 or 275 with C or better if completed; PHY 131 with C or better if completed OR Visiting University Student |
| EEE | 203 | Signals and Systems I | Introduces continuous and discrete time signal and system analysis, linear systems, Fourier, and z-transforms. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): degree-seeking student; EEE 202; MAT 242 with C or better or Pre or corequisite(s): MAT 342 or 343 with C or better if completed OR Visiting University Student |
| EEE | 230 | Computer Organization and Assembly Language Programming | Register-level computer organization. Instruction set architecture. Assembly language. Processor organization and design. Memory organization. IO programming. Exception/interrupt handling. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prereq(s): degree-seeking stdnt w/minC: CSE 100/110; CSE/EEE 120 or SER 232 OR Engr Mgt or Sftwr Engr maj w/minC; CSE110; SER232 OR Elec Engr maj; CSE 100/110; CSE/EEE 120 OR Cmp Sci&Engr grad; Credit for CSE 230 or EEE 230 OR Visiting University Student |
| EEE | 241 | Fundamentals of Electromagnetics | Vector analysis, differential operators, fourier analysis, scalar, vector fields, electro/magneto statics, time-varying fields, boundary value problems, dielectric, magnetic materials, Maxwell's equations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): degree-seeking student; MAT 267 or 272 with C or better; MAT 274 or 275 with C or better; PHY 131 with C or better; Pre- or corequisite(s): EEE 202 OR Visiting University Student |
| EEE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-4 | | |
| EEE | 304 | Signals and Systems II | Communication, signal processing, control systems, continuous, discrete transforms, sampling theorem, analog, digital modulation, filter design, signal processing applications, state space. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 203 OR Visiting University Student |
| EEE | 307 | Signal Processing for Digital Culture | Signal processing for non-majors. Digital filters, Fourier and z transform, DFT and FFT, digital signal processing computing, interdisciplinary DSP applications. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): non-ECEE major; MAT 210, MAT 265, or MAT 270; Credit is allowed for only EEE 307 or EEE 394 (Signal Analysis for the Digital Culture) |
| EEE | 333 | Hardware Design Languages and Programmable Logic | Develops digital logic with modern practices of hardware description languages. Emphasizes usage, synthesis of digital systems for programmable logic, VLSI. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 120 or CSE 120; EEE 202 OR Visiting University Student |

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| EEE | 334 | Circuits II | Design of analog and digital circuits. Diodes/BJTs/Mosfets. Digital and analog circuit building blocks. Fundamentals of mixed signal circuits. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, BHSE undergraduate student or Computer Systems Engineering or Computer Systems Engineering (Information Assurance) student; EEE 202 OR Visiting University Student |
| EEE | 335 | Analog and Digital Circuits | Analog, digital microelectronic circuits and systems. Amplifiers, frequency response, gate sizing, timing analysis, sequential digital circuits. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student or Computer Systems Engineering or Computer Systems Engineering (Information Assurance) major; EEE 334 OR Visiting University Student |
| EEE | 341 | Engineering Electromagnetics | Time-varying electromagnetic fields, waves in homogeneous and stratified media, transmission lines, waveguides and cavity resonators, radiation and antennas. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 203; EEE 241 OR Visiting University Student |
| EEE | 350 | Random Signal Analysis | Probabilistic and statistical analysis as applied to electrical signals and systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; MAE 318 OR pre- or corequisite: EEE 203; OR Fulton Engineering graduate student OR Visiting University Student |
| EEE | 352 | Properties of Electronic Materials | Schrodinger's wave equation, potential barrier problems, bonds of crystals, the band theory of solids, semiconductors, superconductor dielectric, and magnetic properties. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; CHM 114, 115, 116 or 118; EEE 241; PHY 241 with a C or better OR Visiting University Student |
| EEE | 360 | Energy Systems and Power Electronics | Conventional and alternate energy sources for power systems, three-phase analysis, AC generators, transformers, induction, DC motors, power electronic speed control. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 202; Pre- or corequisite(s): EEE 241 OR Visiting University Student |
| EEE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-4 | | |
| EEE | 404 | Real-Time DSP Systems | Digital signal processors, translating signals and systems concepts into real-time multimedia and communications applications, real-time algorithms. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; CSE 230 or EEE 230; EEE 203 |
| EEE | 405 | Machine Learning Basics with Deployment to FPGAs | Machine learning has become an important element in many areas of engineering. Provides a good mathematical background and gives experience with using key packages and methods in Machine Learning (ML). FPGAs provide an efficient method to deploy machine learning models. Some programming language background, Java, C, C++, Python, or MatLab Verilog/System Verilog background is helpful but not required; that content will be provided. Students are not required to purchase an FPGA; units are available. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): EEE 203; MAT 342 or 343; PHY 131; Corequisite(s): EEE 350; Credit is allowed for only EEE 405 or EEE 498/591(Machine Learn Basics w/Deployment to FPGAs) or EEE 498/591(Machine Learn Basics w/ App to FPGAs) OR Visiting University Student |
| EEE | 407 | Digital Signal Processing | Time and frequency domain analysis, difference equations, z-transform, FIR and IIR digital filter design, discrete Fourier transform, FFT, and random sequences. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 203; MAT 342 or 343 with C or better OR Visiting University Student |
| EEE | 419 | Python for Rapid Engineering Solutions | Rapid engineering solutions using Python libraries and functions readily available on the internet. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): EEE 203; MAT 342 or 343; PHY 131; Corequisite(s): EEE 350; Credit is allowed for only EEE 419 or EEE 498 (Python for Rapid Engineering Solutions) or EEE 591 (Python for Rapid Engineering Solutions) OR Visiting University Student |
| EEE | 425 | Digital Systems and Circuits | Digital logic gate analysis and design. Propagation delay times, fan out, power dissipation, noise margins. Design of MOS and bipolar logic families, including NMOS, CMOS, standard and advanced TTL, ECL, and BiCMOS. Inverter, combinational and sequential logic circuit design, MOS memories, VLSI circuits. Computer simulations using PSPICE. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 335 OR Visiting University Student |
| EEE | 433 | Analog Integrated Circuits | Analysis, design, and applications of modern analog circuits using integrated bipolar and field-effect transistor technologies. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 335 OR Visiting University Student |

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| EEE | 434 | Quantum Mechanics for Engineers | Angular momentum, wave packets, Schrodinger wave equation, probability, problems in one dimension, principles of wave mechanics, scattering, tunneling, central forces, angular momentum, hydrogen atom, perturbation theory, variational techniques. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 352 OR Visiting University Student |
| EEE | 435 | Fundamentals of CMOS and MEMS | Introduces basic CMOS processing and fabrication tools. Covers the fundamentals of thermal oxidation, CVD, implantation, diffusion, and process integration. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 352 OR Visiting University Student |
| EEE | 436 | Fundamentals of Solid-State Devices | Semiconductor fundamentals, pn junctions, metal-semiconductor contacts, metal-oxide-semiconductor capacitors and field-effect transistors, bipolar junction transistors. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 352 OR Visiting University Student |
| EEE | 437 | Optoelectronics | Basic operating principles of various types of optoelectronic devices that play important roles in commercial and communication electronics; light-emitting diodes, injection lasers, and photodetectors. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 352 |
| EEE | 439 | Semiconductor Facilities and Cleanroom Practices | Microcontamination, controlled environments, cleanroom layout and systems, modeling, codes and legislation, ultrapure water, production materials, personnel and operations, hazard management, advanced concepts. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 352 OR Visiting University Student |
| EEE | 443 | Antennas for Wireless Communications | Fundamental parameters; radiation integrals; wireless systems; wire, loop, and microstrip antennas; antenna arrays; smart antennas; ground effects; multipath. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 341 |
| EEE | 445 | Microwaves | Waveguides; circuit theory for waveguiding systems; microwave devices, systems, and energy sources; striplines and microstrips; impedance matching transformers; measurements. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 341 (EEE 340) OR Visiting University Student |
| EEE | 448 | Fiber Optics | Principles of fiber-optic communications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 341 OR Visiting University Student |
| EEE | 455 | Communication Systems | Signal analysis techniques applied to the operation of electrical communication systems. Introduction to and overview of modern digital and analog communications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 350 OR Visiting University Student |
| EEE | 459 | Communication Networks | Fundamentals of communication networks. Study of Seven-Layer OSI model. Focus on functionality and performance of protocols used in communication networks. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 203; Corequisite(s): EEE 350 OR Visiting University Student |
| EEE | 460 | Nuclear Power Engineering | Radioactivity and decay. Radiation interactions and dose. Nuclear reaction, fission and fusion theory. Fission reactors, four factor formula, moderation. Nuclear power, TMI, Chernobyl. Nuclear fuel cycle. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; CHM 114 or 116; MAT 274 or 275 with C or better; PHY 241 or 361 with C or better |
| EEE | 463 | Electrical Power Plants | Generation of electric power using fossil, nuclear, and renewable, including solar, geothermal, wind, hydroelectric, biomass and ocean, energy sources. Power plant thermal cycle analysis. Cogeneration and combined cycles. Economics, operations, and design of electric power stations. Energy storage. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE or BHSE undergraduate student; CHM 114 or 116; MAE 241 or PHY 241 with C or better; MAT 274 or 275 with C or better OR Visiting University Student |
| EEE | 465 | Photovoltaic Energy Conversion | Photovoltaics for production of electricity from solar energy. The grand energy challenge. Solar radiation and utilization. Fundamentals of semiconductors for photovoltaics: crystal structures, band theory, doping, carrier statistics, optical absorption, and p-n junctions. Principles of solar cells including loss mechanisms and design principles. Current solar cell technologies. Manufacturing of silicon solar cells. Solar modules, arrays and systems. Economic analysis of solar photovoltaic systems. Terawatt-scale deployment of solar cells. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 352; Credit is allowed for only EEE 465 or 498: Solar Energy |
| EEE | 470 | Electric Power Devices | Analyzes devices used for short circuit protection, including circuit breakers, relays, and current and voltage transducers. Protection against switching and lightning over voltages. Insulation coordination. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 360 OR Visiting University Student |
| EEE | 471 | Power System Analysis | Review of transmission line parameter calculation. Zero sequence impedance, symmetrical components for fault analysis, short circuit calculation, review of power flow analysis, power system stability, and power system control concepts. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 360 |

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| EEE | 472 | Power Electronics and Power Management | Principles of switch mode power conversion, analysis, design and control of dc-dc converters, PWM rectifiers and inverters, power management, power electronics applications in information technology, renewable energy systems, motion control and lighting. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 203 OR Visiting University Student |
| EEE | 473 | Electrical Machinery | Operating principles, modeling and speed control of DC, brushless DC, and AC machines; power converters for DC and AC motors drives. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 360 |
| EEE | 480 | Feedback Systems | Analysis and design of linear feedback systems. Frequency response and root locus techniques, series compensation, and state variable feedback. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 203 or MAE 318 OR Visiting University Student |
| EEE | 481 | Computer-Controlled Systems | Implements computer-based, embedded, control systems using MATLAB xPC Target toolbox. Small-scale, representative projects demonstrate theoretical issues and provide hands-on expertise. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 203 and EEE 230/CSE 230, or MAE 318 OR Visiting University Student |
| EEE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-12 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student |
| EEE | 488 | Senior Design Laboratory I | Design process: research, concept, feasibility, simulation, specifications, benchmarking, and proposal generation. Technical communications and team skills enrichment. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | L | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergrad student; ENG 102, 105 or 108, EEE 241; EEE 334; EEE 350; three courses from the following list: EEE 304, 333, 335, 341, 352 or 360 |
| EEE | 489 | Senior Design Laboratory II | Implement, evaluate, and document EEE 488 design. Social, economic, and safety considerations. Technical communications and team skills enrichment. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | L | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE senior or postbaccalaureate undergraduate student; EEE 488; ENG 102, 105, or 108 with C or better |
| EEE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-6 | | Prerequisite(s): Barrett Honors Electrical Engineering BSE senior |
| EEE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-6 | L | Prerequisite(s): Barrett Honors Electrical Engineering BSE senior; ENG 101, 105, or 107 with C or better |
| EEE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-4 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student; EEE 433 |
| EEE | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-7 | | Prerequisite(s): Fulton ECEE, SEMTE, or BHSE undergraduate student |
| EEE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-3 | | Prerequisite(s): Electrical Engineering BSE major; minimum junior standing |
| EEE | 505 | Time-Frequency Signal Processing | Joint time-frequency analysis of time-varying signals and systems; linear and quadratic time-frequency representations; applications in current areas of signal processing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| EEE | 506 | Digital Spectral Analysis | Principles and applications of digital spectral analysis, least squares, random sequences, parametric, and nonparametric methods for spectral estimation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| EEE | 507 | Multidimensional Signal Processing | Processing and representation of multidimensional signals. Design of systems for processing multidimensional data. Introduces image and array processing issues. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| EEE | 508 | Digital Image and Video Processing and Compression | Fundamentals of digital image perception, representation, processing, and compression. Emphasizes image coding techniques. Signals include still pictures and motion video. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 509 | DSP Algorithms and Software | Linear systems review, digital filter design, software aspects, DFT, FFT, random signals, programming aspects, applications projects, MATLAB and Java simulations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 510 | Multimedia Signal Processing | Speech/audio coding algorithms. LPC, CELP, MPEG, Cell phone, DTV, cinema, and surround sound standards. MPEG/JPEG introduction. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 511 | Artificial Neural Computation | Networks for computation, learning function representations from data, learning algorithms and analysis, function approximation and information representation by networks, applications in control systems and signal analysis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |

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| EEE | 512 | System-Level Design for Heterogeneous Multiprocessor Architectures | In-depth introduction to multicore computing architectures ranging from low-power multiprocessor systems-on-chip (MpSoC) to high-performance chip-multiprocessors (CMP). Fundamental topics on modeling, analysis, and optimization of multicore systems; particular attention on low-power and communication-centric design of multicore systems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student; Credit is allowed for only EEE 512 or EEE 598 (System-Level Design for Multicore Architectures) |
| EEE | 515 | Machine Vision and Pattern Recognition | Covers the field of computer vision, whose broad goal is to create algorithms and systems for processing of visual signals (e.g., images, videos) for low-level, mid-level, and high-level perceptual tasks. Presents the broad principles and techniques for devising computer vision algorithms starting from understanding the imaging process for a pin-hole camera; understanding lenses, image-statistics such as gradients and edges, 3D structure estimation, motion estimation, illumination modeling to perceptual tasks such as shape recognition, texture modeling, face recognition, activity recognition, and scene recognition. The class is a mixture of in-class lectures and discussions, and individual and group projects. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student; Credit allowed for only AME 515 or EEE 515 or EEE 598 (Computational Image Understanding & Pattern Analys) |
| EEE | 516 | Physics-Based Computer Vision | Covers topics in physics-based computer vision and graphics. Includes work on visual computing systems including computational cameras, illumination systems, 3D scanners, rendering/animation and displays. Starting with the basics of traditional photography and the imaging pipeline, proceeds to explore new ways to capture visual information by co-designing camera hardware and software algorithms. Topics covered include plenoptic or multi-modal imaging, coded and compressive sensing, light transport and rendering, programmable illumination, and computational displays. Focuses on understanding and evaluating new imaging technology for specific applications including autonomous vehicles, entertainment and graphics, computer vision and visual recognition, and robotics. Course content delivered via lectures along with written and programming assignments as well as a final project. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Herberger Arts, Media and Engineering grad student or Fulton Engineering grad student; Credit is allowed for only AME 516 or AME 598 (Comp Cam, Ltg & Disp) or EEE 516 or EEE 598 (Comp Cam, Ltg & Disp) or EEE 598 (Phys-based Comp Vision) |
| EEE | 517 | Sensors and Machine Learning | Integrated sensor devices and algorithms; microphone arrays, chemical sensing, mobile sensing; accelerometers and magnetometers, nanopore sensors, and flexible and patch sensors. Signal pre-processing for sensors; feature extraction; image sensing; voice processing; filters; frequency analysis; autocorrelation; principal components; k means algorithm; sensor fusion; neural nets; applications to health, security and mobile systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student; Credit is allowed for only EEE 517 or EEE 598 (Sensor & Machine Learning Apps) |
| EEE | 518 | Fundamentals of Semiconductor Packaging | Multidisciplinary foundation course in addressing electrical, thermal, materials, chemical, manufacturing and reliability problems in semiconductor packaging. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only CHE 518 or EEE 518 or MAE 518 or MSE 548 |
| EEE | 520 | VLSI Design for Reliability | Modeling and design solutions for very large-scale integration (VLSI) reliability. Statistical design under static and dynamic variability. Aging effects and resilient design techniques. Radiation effects in VLSI. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student; Credit is allowed for only CEE 520 or EEE 520 or EEE 598 (VLSI Design for Reliability) |
| EEE | 521 | Low-Power Bioelectronics | Begins with fundamental theory and techniques for low-power analog circuit design especially subthreshold CMOS and BJT circuits (e.g., translinear circuits), then moves to biomedical applications and bio-inspired systems focused upon neuromorphic circuits. Also touches on concepts such as wireless challenges for implants, energy harvesting and electrochemistry. Students have the opportunity to have their final projects fabricated in a commercial CMOS process. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 522 | Radio Frequency Test | Covers current production test schemes for mixed-signal and RF circuits, the economics of production test, and recent research techniques in reducing the production test cost. Prior knowledge of Matlab is necessary to be successful in this class. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 523 | Advanced Analog Integrated Circuits | Analysis and design of analog integrated circuits: analog circuit blocks, reference circuits, operational-amplifier circuits, feedback, and nonlinear circuits. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |

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| EEE | 524 | Communication Transceiver Circuits Design | Communication transceivers and radio frequency system design; fundamentals of transceivers circuits; RF, IF, mixers, filters, frequency synthesizers, receivers, CAD tools, and lab work on IC design stations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| EEE | 525 | VLSI Design | Analysis and design of Very Large Scale Integrated (VLSI) circuits. Physics of small devices, fabrication, regular structures, and system timing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| EEE | 526 | VLSI Architectures | High throughput and low-power VLSI architectures for signal processing. Array processor systems; data path design and optimization; memory design; high-level synthesis; low-power design at system level, algorithm level, and architecture level. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| EEE | 527 | Analog to Digital Converters | Detailed introduction to the design of Nyquist rate, CMOS analog to digital converters. Requires knowledge of analog integrated circuits (analog circuit blocks, reference circuits, operational-amplifier circuits, feedback, and nonlinear circuits) to be successful in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| EEE | 528 | Sensors for the Internet of Things and Wearable Devices | Fundamentals, concepts of system analysis and design, and principles that apply to phase-locked loops (PPLs) used in frequency synthesis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EEE | 529 | Semiconductor Memory Technologies and Systems | Design of semiconductor memory technologies and systems, from the device cell structures to the array and architecture design, with emphasis on the industry trends and cutting-edge technologies including SRAM, DRAM and FLASH technologies and emerging memory technologies such as STT-MRAM, PCRAM and RRAM. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton Electrical, Comp & Energy Engr (ECEE), POLY, SBHSE, SCAI, SEMTE, or SSEBE graduate student; Credit is allowed for only EEE 529 or EEE 598 (Semicondctr Memory Tech & Sys) or CEN/CSE 591 (Memory Sys: Device, Circuit & Architecture) |
| EEE | 530 | Advanced Silicon Processing | Thin films, CVD, oxidation, diffusion, ion-implantation for VLSI, metallization, silicides, advanced lithography, dry etching, rapid thermal processing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| EEE | 531 | Semiconductor Device Theory I | Transport and recombination theory, pn and Schottky barrier diodes, bipolar and junction field-effect transistors, and MOS capacitors and transistors. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| EEE | 532 | Semiconductor Device Theory II | Advanced MOSFETs, charge-coupled devices, solar cells, photodetectors, light-emitting diodes, microwave devices, and modulation-doped structures. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| EEE | 533 | Semiconductor Process/Device Simulation | Device simulation concepts: conventional and advanced MOS devices, bipolar transistors, heterostructures including HEMTs and solar cells. Process simulation concepts: oxidation, ion implantation, diffusion. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 534 | Semiconductor Transport | Carrier transport in semiconductors. Hall effect, high electric field, Boltzmann equation, correlation functions, and carrier-carrier interactions. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 535 | Electron Transport in Nanostructures | Nanostructure physics and applications. 2-D electron systems, quantum wires and dots, ballistic transport, quantum interference, and single-electron tunneling. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 536 | Semiconductor Characterization | Measurement techniques for semiconductor materials and devices. Electrical, optical, physical, and chemical characterization methods. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 537 | Semiconductor Optoelectronics | Electronic states in semiconductors, quantum theory of radiation, absorption processes, radiative processes, nonradiative processes, photoluminescence, and photonic devices. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 538 | Optoelectronic Devices | Provides graduate students with detailed theory and practical knowledge of semiconductors materials and optoelectronic devices such as light-emitting diodes, lasers, photodetectors and solar cells. Also discusses the applications of these devices. Offers not only classroom lectures but also demonstration of real-world experiments in research laboratories at ASU. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 539 | Intro Solid-State Electronics | Crystal lattices, reciprocal lattices, quantum statistics, lattice dynamics, equilibrium, and nonequilibrium processes in semiconductors. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |

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| EEE | 540 | Fast Computational Electromagnetics | Method of moments, finite difference time-domain, finite element methods implemented using fast algorithms (wavelets, FMM, Nystrom) to gain high efficiency. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 541 | Electromagnetic Fields and Guided Waves | Polarization and magnetization; dielectric, conducting, anisotropic, and semiconducting media; duality, uniqueness, and image theory; plane wave functions, waveguides, resonators, and surface guided waves. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 543 | Antenna Analysis and Design | Impedances, broadband antennas, frequency independent antennas, miniaturization, aperture antennas, horns, reflectors, lens antennas, and continuous sources design techniques. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 544 | High-Resolution Radar | Fundamentals; wideband coherent design, waveforms, and processing; stepped frequency; synthetic aperture radar (SAR); inverse synthetic aperture radar (ISAR); imaging. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 545 | Microwave Circuit Design | Analysis and design of microwave attenuators, in-phase and quadrature-phase power dividers, magic tees, directional couplers, phase shifters, DC blocks, and equalizers. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 546 | Advanced Fiber Optics | Theory of propagation in fibers, couplers and connectors, distribution networks, modulation, noise and detection, system design, and fiber sensors. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 547 | Microwave Solid-State Circuit Design I | Applies semiconductor characteristics to practical design of microwave mixers, detectors, limiters, switches, attenuators, multipliers, phase shifters, and amplifiers. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 548 | Coherent Optics | Diffraction, lenses, optical processing, holography, electro-optics, and lasers. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 549 | Statistical Machine Learning: From Theory to Practice | Explores the design, analysis and construction of algorithms that can learn from data and make inferences or predictions about future outcomes. Covers the theory and practice of machine learning (ML) focusing on a methodical approach that highlights the role of statistical and computational methods in analysis of data. Includes a near equal dose of theory and practice with the goal of providing a thorough grounding in the fundamental methodologies and algorithms in machine learning. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton ECEE, POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student; Credit is allowed for only EEE 549 or EEE 598 (Statistical Machine Learning: Theory to Practice) |
| EEE | 550 | Transform Theory and Applications | Introduces abstract integration, function spaces, and complex analysis in the context of integral transform theory. Applications to signal analysis, communication theory, and system theory. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 551 | Information Theory | Entropy and mutual information, source and channel coding theorems, applications for communication and signal processing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| EEE | 552 | Digital and Wireless Communications | Complex signal theory, digital modulation, optimal coherent and incoherent receivers, channel codes, coded modulation, Viterbi algorithm. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 553 | Coding and Applications | Introduces algebra, block and convolutional codes, decoding algorithms, turbo codes, coded modulation, private and public key cryptography. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 554 | Probability and Random Processes | Applies statistical techniques to the representation and analysis of electrical signals and to communications systems analysis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |

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| EEE | 556 | Detection and Estimation Theory | Combines the classical techniques of statistical inference and the random process characterization of communication, radar, and other modern data processing systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 557 | Broadband Networks | Physics of wireless and optical communications. Broadband multiplexing and switching methods. Blocking and queuing analysis. Network optimization, routing, and economics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 558 | Recent Advances in Communications | Cellular systems, path loss, multipath fading channels, modulation and signaling for wireless, diversity, equalization coding, spread spectrum, TDMA/FDMA/CDMA. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 559 | Wireless Networks | Design principles of cellular networks. Multiple access control protocols for wireless systems. Wireless routing and TCP/IP. Mobile management. Call admission control and resource allocation (e.g., power control and rate control). Wireless security. Future-generation wireless networks. A previous course in random signal theory is required to be successful in this class. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton ECEE, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 560 | Mathematical Foundations of Machine Learning | Serves as a primer in statistical learning theory and as a platform for exploring emerging algorithms and theory in large-scale data analytics and learning. This study is at the intersection of information processing, statistical theory and computational sciences. Contains a healthy mix of topics from all of these disciplines. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student; Credit is allowed for only EEE 560 or EEE 598 (Statistical Machine Learning: From Theory to Algorithms) |
| EEE | 562 | Nuclear Reactor Theory and Design | Principles of neutron chain reacting systems. Neutron diffusion and moderation. One-, two-, and multigroup diffusion equation solution methods. Heterogeneous reactors. Nuclear fuel steady-state performance. Core thermal-hydraulics. Core thermal design. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 563 | Nuclear Reactor System Dynamics and Diagnostics | Time-dependent solution to neutron diffusion equation. Reactor kinetics and reactivity changes. Dynamics, stability, and control of reactor systems. Modeling neutronic and thermal processes. System characterization in time and frequency domains. Reactor surveillance and diagnostics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 564 | Interdisciplinary Nuclear Power Operations | Nuclear power plant systems. Studies interrelationship and propagation of effects that systems and design changes have on one another, especially in relation to nuclear power plant safety and operations. Case studies and design projects. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 565 | Solar Cells | Introduction to the generation and utilization of electricity from solar energy. Exploration of the science and engineering of direct conversion (photovoltaics), including the design, fabrication, and operation of solar cells, and the construction and performance of solar cell modules. Prior knowledge of properties of electronic materials is required to be successful in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 566 | Advanced Device Modeling and Simulation | Understanding semi-classical and quantum transport theory in conjunction with device simulations at the nanoscale. Prior knowledge of semiconductor device theory, quantum mechanics and classical semiconductor device simulation is necessary to be successful in this class. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student; Credit is allowed for only EEE 566 or EEE 598 (Advanced Device Modeling) |
| EEE | 571 | Power System Transients | Simple switching transients. Transient analysis by deduction. Damping of transients. Capacitor and reactor switching. Transient recovery voltage. Travelling waves on transmission lines. Lightning. Protection of equipment against transient overvoltages. Introduces computer analysis of transients. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 572 | Advanced Power Electronics | Analyzes device operation, including thyristors, gate-turn-off thyristors, and transistors. Design of rectifier and inverter circuits. Applications such as variable speed drives, HVDC, motor control, and uninterruptable power supplies. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 573 | Electric Power Quality | Sinusoidal waveshape maintenance; study of momentary events, power system harmonics, instrumentation, filters, power conditioners, and other power quality enhancement methods. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |

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| EEE | 574 | Computer Solution of Power Systems | Algorithms for digital computation for the Newton and fast-decoupled power flow problem, and fault analysis. Sparse matrix and vector programming methods, creation of elimination trees, network equivalencing, solution of the least squares problem, introduction to state estimation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 575 | Power System Stability | Dynamic performance of power systems with emphasis on stability. Modeling of system components and control equipment. Analysis of the dynamic behavior of the system in response to small and large disturbances. Knowledge of EEE470, 471 and 473 (or equivalents) is required to be successful in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 576 | Power System Dynamics | Dynamic performance of power systems with emphasis on control. Modeling of control equipment, FACTS devices, wind generators, and nonlinear loads. Design of power system stabilizers. Prior knowledge of electric power devices, power system analysis, and electrical machinery is required to be successful in this course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton ECEE, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 577 | Power Engineering Operations and Planning | Economic dispatch, unit commitment, dynamic programming, power system planning and operation, control, generation modeling, AGC, and power production. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 579 | Power Transmission and Distribution | High-voltage transmission line electric design; conductors, corona, RI and TV noise, insulators, clearances. DC characteristic, feeders voltage drop, and capacitors. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 581 | Filtering of Stochastic Processes | Modeling, estimation, and filtering of stochastic processes, with emphasis on the Kalman filter and its applications in signal processing and control. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 582 | Linear System Theory | Controllability, observability, and realization theory for multivariable continuous time systems. Stabilization and asymptotic state estimation. Disturbance decoupling, noninteracting control. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-12 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 585 | Security and Privacy in Networked Systems | Comprehensive understanding of critical cyber security and privacy threats as well as corresponding solutions in emerging wireless networks, mobile systems, social networks, Internet-of-Things, critical infrastructures, cloud computing, big data analytics, wearable and edge computing, and mobile health. Requires prior knowledge of communications systems or computer networking to be successful in this course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Elect, Comp and Energy Engr (ECEE) or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student; Credit is allowed for only EEE 585 or EEE 598 (Adv Topics in Wireless & Internet Security) or EEE 598 (Selected Topics in Network Security) |
| EEE | 586 | Nonlinear Control Systems | Stability theory, including phase-plane, describing function, Liapunov's method, and frequency domain criteria for continuous and discrete, nonlinear, and time-varying systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 587 | Optimal Control | Optimal control of systems. Calculus of variations, dynamic programming, linear quadratic regulator, numerical methods, and Pontryagin's principle. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 588 | Design of Multivariable Control Systems | Practical tools for designing robust MIMO controllers. State feedback and estimation, model-based compensators, MIMO design methodologies, CAD, real-world applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |

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| EEE | 589 | Convex Optimization | Linear algebra and convex optimization. Vector spaces, matrix algebra, linear programming, Lagrange multipliers, Karush-Kuhn-Tucker (KKT) conditions, duality theory and algorithms for convex optimization. Newton's method, gradient and steepest descent methods. Algorithms for unconstrained, equality constrained and inequality constrained problems, which include interior point methods. Applications to approximation and data fitting and some geometric problems. Applications to signal processing, communications and control systems. Background in linear algebra necessary to be successful in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or SBHSE, SCAI, SEMTE or SSEBE graduate student; Credit is allowed for only CEE 533 or EEE 589 or MAE 521 |
| EEE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-12 | | Prerequisite(s): Electrical Engineering MS, MSE, or PHD students |
| EEE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-12 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-12 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-12 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-4 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-12 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 606 | Adaptive Signal Processing | Principles and applications of adaptive signal processing, adaptive linear combiner, Wiener least-squares solution, gradient search, performance surfaces, LMS/RLS algorithms, block time/frequency domain LMS. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 607 | Speech Compression and Recognition | Speech and audio coding algorithms for applications in wireless communications and multimedia computing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 625 | Advanced VLSI Design | Practical industrial techniques, circuits, and architectures appropriate to high-performance and low-power digital VLSI designs such as microprocessors. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 627 | Oversampling Sigma-Delta Data Converters | Introduces design and analysis of sigma delta oversampled data converters from an IC design perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 4 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 641 | Advanced Electromagnetic Field Theory | Cylindrical wave functions, waveguides, and resonators; spherical wave functions and resonators; scattering from planar, cylindrical, and spherical surfaces; Green's functions. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |

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| EEE | 643 | Advanced Topics in Electromagnetic Radiation | High-frequency asymptotic techniques, geometrical and physical theories of diffraction (GTD and PTD), moment method (MM), radar cross section (RCS) prediction, Fourier transforms in radiation, and synthesis methods. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-12 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-12 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 686 | Adaptive Control | Main topics covered: adaptive identification, convergence, parametric models, performance and robustness properties of adaptive controllers, persistence of excitation, and stability. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-12 | | Prerequisite(s): Electrical Engineering MS, MSE, or PHD student or Master of Engineering student |
| EEE | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-12 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 731 | Advanced MOS Devices | Threshold voltage, subthreshold current, scaling, small geometry effects, hot electrons, and alternative structures. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 3 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-12 | | Prerequisite(s): Electrical Engineering PhD students |
| EEE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-15 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EEE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Electrical Engineering Program | 1-15 | | Prerequisite(s): Fulton Electrical, Computer and Energy Engineering (ECEE) graduate student or POLY, SBHSE, SCAI, SEMTE or SSEBE graduate student |
| EET | 406 | Control System Technology | Control system components, analysis of feedback control systems, stability, performance, and application. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3-4 | | Pre-requisites: EST 310; MAT 266; Credit for EET 506 or EET 406 |
| EET | 408 | Digital Real-Time Control | Analysis, simulation, and design of discrete systems. Approach taken in this class begins with the analysis, simulation and design of a continuous system, which yields an s-based, transfer function compensator. Then, this compensator is transformed into a z-based transfer function, which can be realized with a difference equation in a microcontroller. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EET 406 OR Visiting University Student |
| EET | 430 | Instrumentation and Measurement Systems | Instrumentation and measurement techniques, sensors operating principles. Signal and error analysis. Signal conditioning and data acquisition. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: EST 310; Credit is allowed for only EET 430 or 530 |
| EET | 506 | System Dynamics and Control | Time, frequency, and transform domain analysis of physical systems. Transfer function analysis of feedback control systems performance and stability. Compensation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EET 406 or EET 506 |

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| EET | 508 | Digital Real-Time Control | Sample data control techniques and applications to process control. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student OR Fulton Schools of Engineering senior student with minimum 3.00 ASU GPA |
| EET | 530 | Electronic Test Systems and Applications | Analysis, design, and application of electronic test equipment, test systems, specifications, and documentation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: Graduate (degree or non-degree) students; Credit is allowed for only EET 430 or EET 530 |
| EGR | 101 | Foundations of Engineering Design Project I | Introduces engineering as a profession, critical thinking in engineering design and modeling, team dynamics, engineering communication. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | |
| EGR | 102 | Foundations of Engineering Design Project II | Development and experimental verification of engineering models, engineering design, data acquisition, critical analysis of data, introduction to CADD, engineering communications. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 101; Pre- or corequisite(s): MAT 170 or higher OR Visiting University Student |
| EGR | 104 | Critical Inquiry in Engineering | Critical thinking. Systematic evaluation of information as input to well-informed decision making. Close reading and substantive writing in a technical setting. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | L | Pre- or corequisite(s): ENG 102, 105, or 108 with C or better if completed; Credit is allowed for only EGR 104 or TWC 104 OR Visiting University Student |
| EGR | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-4 | | |
| EGR | 201 | Use-Inspired Design Project I | Design, professionalism, and engineering practice developed in a multidisciplinary project setting. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 102; MAT 265 or 270 with C or better OR Visiting University Student |
| EGR | 202 | Use-Inspired Design Project II | Design, problem solving, and engineering practice developed in a multidisciplinary project setting. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 201 with C or better; Pre- or corequisite(s): EGR 104 or TWC 104 with C or better if completed OR Visiting University Student |
| EGR | 216 | Engineering Electrical Fundamentals | Introduces modeling of electrical systems using mathematical and scientific principles. Covers electrical circuit analysis techniques including Kirchhoff's and Ohm's laws, series and parallel circuit elements, equivalent elements and circuits, and nodal analysis. These techniques are developed for DC, AC, and transient conditions. Also introduces the basic structure of a modern electronic measurement system and relates this structure to measurement accuracy, precision and resolution. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): MAT 265 or 270 with C or better; Credit is allowed for only EGR 216 or RAS 216 OR Visiting University Student |
| EGR | 217 | Engineering Mechanics Fundamentals | Provides a foundation in the theory and principles of statics and dynamics. Examines the effect of forces acting on particles and rigid bodies. Extensively uses vector mechanics. Statics addresses the topics of equilibrium in two and three dimensions, to include distributed loads, trusses, frames, friction and the moment of inertia. Dynamics addresses kinematics and kinetics of particles. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): PHY 121 with C or better OR Visiting University Student |
| EGR | 218 | Materials and Manufacturing Processes | Applies material properties and manufacturing processes to the design and fabrication of engineered artifacts. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): CHM 113 or 114 with C or better OR Visiting University Student |
| EGR | 219 | Computational Modeling of Engineering Systems | Introduces computing that develops software to find solutions to engineering problems. Students write and document code to solve problems in data acquisition, modeling of physical systems, and optimization. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): MAT 266 or 271 with C or better; Pre- or corequisite(s): MAT 274 or 275 OR Visiting University Student |
| EGR | 240 | CADD and Solid Modeling | Uses 3-D solid modeling software to model mechanical parts and produce valid engineering drawings, including use of geometric dimensioning and tolerancing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | |
| EGR | 280 | Engineering Statistics | Applications-oriented introduction to statistics with computer-based experience using statistical software for formulating and solving engineering problems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | CS | Prerequisite(s): MAT 265 or 270 with C or better OR Visiting University Student |
| EGR | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-4 | | |
| EGR | 303 | Mechanical Systems Project I | Analyze, design, implement and characterize a mechanical system through an in-depth mechanical system design project. Project includes modeling, analysis and measurement of the dynamic behavior of the mechanical system. Develops professional and engineering skills in this project setting. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 202 with C or better; EGR 217 with C or better; EGR 219 with C or better OR Visiting University Student |
| EGR | 304 | Embedded Systems Design Project I | Design, implement and debug an embedded electromechanical system through an in-depth design project. Develops professional and engineering skills in this project setting. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 202 with C or better; EGR 216 or RAS 216 with C or better; EGR 219 with C or better; Credit is allowed for only EGR 304 or RAS 304 OR Visiting University Student |
| EGR | 305 | Robotics Systems Project I | Analyze, design, implement and debug a robotic electromechanical system through an in-depth robotic system design project. Develops professional and engineering skills in this project setting. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 202 with C or better; EGR 216 with C or better; EGR 219 with C or better |

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| EGR | 306 | Automotive Systems Project I | Analyze, design, implement and verify an automotive system through an in-depth design project. Develops professional and engineering skills in this project setting. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 202 with C or better; EGR 217 with C or better; EGR 219 with C or better OR Visiting University Student |
| EGR | 307 | Humanitarian Engineering Project I | Provides students with the opportunity to work on a real-world project that is or will be taking place "in the field," in a part of the world with fewer material resources than most places in the United States. Builds the skill sets of students who are interested in pursuing development-related work after graduation. Course is team-based, project-focused and extremely hands-on. Emphasizes skills development on equal par as working with peers, mentors and in-field partners. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): minimum junior standing OR Visiting University Student |
| EGR | 313 | Mechanical Systems Project II | Applies design principles to conceptualize, implement and characterize a fluid and/or thermodynamic system in a project setting. Project emphasizes communication with project stakeholders; applying an appropriate design approach in the context of a fluid and/or thermodynamic system; critical thinking in developing system specifications and evaluating a prototype relative to these specifications; and increasing technical competence. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 303 with C or better; EGR 340 with C or better OR Visiting University Student |
| EGR | 314 | Embedded Systems Design Project II | Applies design principles to conceptualize, implement and characterize an embedded electromechanical system in a project setting. Project emphasizes communication with project stakeholders; applying a human-centered design approach in the context of an embedded system; critical thinking in developing system specifications and evaluating a prototype relative to these specifications; and increasing technical competence. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 304 or RAS 304 with C or better; Credit is allowed for only EGR 314 or RAS 314 OR Visiting University Student |
| EGR | 315 | Robotic Systems Project II | Applies design principles to conceptualize, implement and characterize an electromechanical robotic system in a project setting. Project emphasizes communication with project stakeholders; applying a human-centered design approach in the context of a robotic system; critical thinking in developing system specifications and evaluating a prototype relative to these specifications; and increasing technical competence. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 305 with C or better; EGR 455 with C or better |
| EGR | 316 | Automotive Systems Project II | Applies design principles to conceptualize, implement and characterize an automotive system in a project setting. Project emphasizes communication with project stakeholders; applying a human-centered design approach in the context of an automotive system; critical thinking in developing system specifications and evaluating a prototype relative to these specifications; and increasing technical competence. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 306 with C or better |
| EGR | 317 | Humanitarian Engineering Project II | Applies design principles to conceptualize, implement and characterize an engineered system that addresses a humanitarian objective in a project setting. Project emphasizes communication with project stakeholders, applying an appropriate design approach, thinking critically in developing system specifications and evaluating a prototype relative to these specifications, and increasing technical competence. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): minimum junior standing |
| EGR | 321 | Water Resource Systems | Fundamentals of water supply and surface water hydrology in the context of the engineering, design and analysis of water resources systems. Places particular emphasis on those aspects of water systems that apply in the context of the developing world as well as in the context of environmentally sustainable systems. Course delivery is designed for engineering students with a broad understanding of engineering fundamentals but without specialist civil engineering knowledge. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 217 with C or better; EGR 219 with C or better |
| EGR | 325 | Water and Wastewater Treatment | Essential elements of aquatic chemistry, water pollution and water and wastewater treatment technologies. Provides a fundamental basis for understanding sustainable water and wastewater treatment processes and their design considerations. Includes critical evaluation of contemporary issues concerning our water environment and the associated regulatory framework to strengthen and emphasize importance of adequate practices used in operation and design of engineered water and wastewater treatment systems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): CHM 113 with C or better; EGR 321 with C or better; Credit is allowed for only EGR 325 or ERM 302 OR Visiting University Student |
| EGR | 330 | Design of Electrical Systems | Overview of electrical system architectures and components used in design of smart electrical and electromechanical systems. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 216 with C or better; EGR 219 with C or better OR Visiting University Student |

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| EGR | 334 | Analog-Digital Interface | Signal processing and operational tools that lie between sensors and digital data processors developed from a system perspective. Includes selection, deployment and analysis of sensors, analog signal processors and converters as well as their appropriate power supplies and the impact of all these components on system performance and cost. Uses experimental and simulation tools to demonstrate typical-use cases for medical, military, industrial and consumer applications. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 330 with C or better OR Visiting University Student |
| EGR | 338 | Microcontrollers in Smart Systems | Microcontroller implementation of smart systems. Microcontrollers applied to control dynamic systems, including the interface with sensors and actuators as well as developing simple open- and closed-loop control laws. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 330 with C or better |
| EGR | 340 | Engineering Thermo-Fluids I | First and second laws of thermodynamics, systems, processes, equations of state, property tables. Fluid statics, conservation of momentum, Bernoulli's equation, applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): PHY 121 with C or better; Pre- or corequisite(s): MAT 274 or 275 with C or better if completed OR Visiting University Student |
| EGR | 343 | Mechanics of Solid Materials | Studies strength and physical performance, such as deformations and load-carrying capacity, of natural and artificial solid structures. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 217 with C or better; EGR 218 with C or better OR Visiting University Student |
| EGR | 360 | Concepts in Automotive Engineering | Fundamental engineering principles as they apply to the design of ground vehicles used for the transportation of individuals or materials. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 202; Credit is allowed for only EGR 360 or EGR 394 (Intro to Concepts in Automotive Engineering) |
| EGR | 363 | Automotive Powertrains and Thermal Systems | Internal combustion engine (ICE) design in the context of automotive systems and heat management in vehicle systems, including thermal design of engine and transmission cooling systems. Operating characteristics and efficiencies of the ICE, terminology and abbreviations used in the automotive industry, contemporary fuels and the latest hybrid technology, CAFE standards and EPA vehicle emissions standards, lubrication systems and fluids appropriate for a given design, and current and future standards requirements. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre- or corequisite(s): EGR 340 with C or better if completed |
| EGR | 370 | Welding Survey | Theory and practical application of the most widely used industrial welding processes; introductory welding, fundamental welding metallurgy, weldment design and weld cost estimating; lab experiences using SMAW, GTAW, GMAW, FCAW, RSW, SW, OFC, OAW, PAC, and brazing. Aligns with the American Welding Society (AWS) SENSE standards. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Fulton Engineering undergraduate student OR Visiting University Student |
| EGR | 371 | Best Practices for Humanitarian Engineering | Technological and process-based best practices for engineering students to gain applied competence in low-cost and low-tech appropriate methods and technologies for small-scale technical problems in local and international humanitarian development contexts. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Fulton Schools of Engineering major; junior or senior standing |
| EGR | 380 | Advanced Computer Aided Design and Drafting (CADD) and Solid Modeling | Advanced techniques and practices of solid modeling and drafting, including motion, Finite Element Analysis (FEA), and sheet metal. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 240; Credit is allowed for only EGR 380 or EGR 394 (Advanced CADD & Solid Modeling) OR Visiting University Student |
| EGR | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-4 | | |
| EGR | 401 | Professional Design Project I | First half of a comprehensive project experience based on cumulative knowledge and skills gained in earlier coursework. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | L | Prerequisite(s): EGR 313, EGR 314, EGR 315, EGR 316, MFG 318, or RAS 314 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only EGR 401 or RAS 401 |
| EGR | 402 | Professional Design Project II | Second half of a comprehensive project experience based on cumulative knowledge and skills gained in earlier course work. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 401 or RAS 401 with C or better taken within one previous term; Credit is allowed for only EGR 402 or RAS 402 |
| EGR | 425 | Unit Treatment Technologies and Systems | Addresses fundamental concepts of unit treatment technologies and the scientific and engineering principles that govern the proper design, operation and management of these systems. Course is divided into two overlapping major categories of unit treatment technologies: air-pollution controls and soils/groundwater remediation. Enhances understanding of the unit treatment technologies by reviews of dimensional analysis, mass transport mechanisms, mass balances, modeling, kinetics and reactors. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 325 with C or better; Credit is allowed for only EGR 425 or ERM 402 OR Visiting University Student |

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| EGR | 426 | Integrated Solid Waste Systems | Addresses the fundamental concepts of solid waste, pathways and transformation processes following the from cradle-to-grave approach. Follows the life of the solid waste from point of generation, reclamation and treatment to point of disposal. Emphasizes describing the present solid waste systems as an integrative set of functional units. Considers physical, chemical and biological transformations of the solid waste, together with the existing technologies and practices for management, treatment and disposal of the solid waste. Includes a specific overview of sustainable solid waste practices such as waste minimization, pollution prevention, reuse and reclamation, together with current domestic and foreign regulations. Addresses planning and design of solid waste operations and facilities. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 325 with C or better; Credit is allowed for only EGR 426 or ERM 432 or ERM 532 OR Visiting University Student |
| EGR | 427 | Principles of Hazardous Waste and Materials | Trains future environmental engineers and professionals in fundamental hazardous waste and materials concepts. Addresses regulatory requirements; materials hazard communication; material safety concepts; types of hazardous waste/materials (chemical, radioactive, and infectious); risk assessment and routes of exposure; personal protective equipment; prudent practices; treatment; storage and disposal of hazardous waste/materials through the lens of the cradle-to-grave concept. Gains knowledge about the hazardous waste enforcement processes. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 325 with C or better; Credit is allowed for only EGR 427 or ERM 401 or ERM 501 OR Visiting University Student |
| EGR | 430 | Design, Fabrication, and Architecture of Electronic Devices | Comprehensive introduction to the design, operation, production and application of the most common semiconductor devices and categories of integrated circuit. Demonstrates the close interaction among materials, semiconductor physics and circuit performance, especially in terms of the applications and economics of digital systems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 330 with C or better OR Visiting University Student |
| EGR | 431 | Power Management | Devices and techniques to supply and manage power in electrical systems. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 330 with C or better |
| EGR | 432 | Engineering Thermo-Fluids II | Thermodynamic analysis of mixtures and power cycles. Design and analysis of fluid systems, conduction heat transfer, and introduction to convection and radiation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 340 with C or better; Credit is allowed for only EGR 432 or MET 432 OR Visiting University Student |
| EGR | 433 | Transforms and Systems Modeling | State-space and transform-domain modeling and analysis of electrical and electromechanical systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 216 or RAS 216 with C or better; EGR 455 or RAS 455 with C or better; MAT 274 or 275 with C or better; Pre- or corequisite(s): MAT 342 or 343; Credit is allowed for only EGR 433 or RAS 433 OR Visiting University Student |
| EGR | 438 | RF Systems | Applies fundamental principles of electromagnetics to design and analyze engineered RF systems and applications. Introduces and describes transmission lines, Smith Charts, s-parameters, waves in free space, reflection and refraction and their use in engineering systems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): PHY 331; Credit is allowed for only EGR 438 or EGR 494 (Fundamentals of RF) |
| EGR | 444 | Engineering Design | Applies fundamentals of mechanics in analysis and synthesis of machine components and systems, with emphasis on stress and failure. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 343 with C or better OR Visiting University Student |
| EGR | 445 | Mechanical Engineering Systems | Design and modeling of multicomponent electromechanical systems. Applications of computers, controllers, electronics using system hardware and software development. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 219 with C or better; EGR 444 with C or better |
| EGR | 455 | Robotic Systems I | Analysis and design of robotic systems focusing on kinematics, dynamics, coordinate transformations and modeling. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 217 with C or better; EGR 219 with C or better; Credit is allowed for only EGR 455 or EGR 545 or EGR 598 (Robotic Systems I) or RAS 455 or RAS 545 OR Visiting University Student |
| EGR | 456 | Robotic Systems II | Design of robotic systems focusing on dynamics, modeling and controlling a robot. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 455 or RAS 455 with C or better; Credit is allowed for only EGR 456 or EGR 546 or EGR 598 (Robotics Systems II) or RAS 456 or RAS 546 OR Visiting University Student |
| EGR | 463 | Vehicle Electrical Systems and Hybrid Systems | Basic theory and operation of hybrid electric drive systems of motor vehicles. Covers fundamentals of next generation electrification including: batteries technology, charging, power electronic operation. Emphasizes the principals of HEV energy management strategies and HEV modeling fundamentals. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 216 with C or better; EGR 363 with C or better OR Visiting University Student |

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| EGR | 465 | Ground Vehicle Dynamics | Basic understanding of vehicle dynamics principles and a sufficient knowledge to analyze vehicle dynamic performance and associated chassis system design concepts. Understanding of various dynamical equations of motion governing vehicle behavior as well as computer simulation. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 363 with C or better OR Visiting University Student |
| EGR | 475 | Alternative Energy | Covers basic principles, thermodynamics and economics of alternative energy conversion technologies including solar photovoltaics, concentrating solar, wind, biomass, nuclear, fuel cells and energy storage. Briefly discusses conventional heat and power systems as they pertain to alternative energy integration. Introduces operating characteristics of renewable energy technologies through simulation and then reinforces through hands-on demonstrations and experiments with renewable energy systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EEE 202, EGR 216, EGR 340, or PHY 151 with C or better; Credit is allowed for only EGR 475 or EGR 598 (Alternative Energy) OR Visiting University Student |
| EGR | 476 | Microgrid Design and Operation | Design, modeling, integration, operation and maintenance of microgrids. Simulation-based design is coupled with hands-on integration to provide a comprehensive approach to microgrid systems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EEE 202, EGR 216, EGR 340, or PHY 151 with C or better; Credit is allowed for only EGR 476 or EGR 598 (Microgrid Design and Operation) OR Visiting University Student |
| EGR | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-12 | | |
| EGR | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-6 | | Prerequisite(s): Barrett Honors student |
| EGR | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| EGR | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-4 | | |
| EGR | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-3 | | |
| EGR | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 501 | Applied Linear Algebra for Engineers | Linear algebra with applications to robotic systems, data analysis and machine learning. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EGR 501 or EGR 598 (Applied Linear Algebra for Engineers) or MAE 501 or MSE 501 |
| EGR | 520 | Engineering Analysis I | Analytical methods for evaluation of engineering systems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 521 | Engineering Analysis II | Mathematical techniques for developing solutions of engineering problems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 520; Credit is allowed for only EGR 521 or EGR 598 (Engineering Analysis II) |
| EGR | 522 | Statistics for Quality Control in Manufacturing | Seven QC tools and control charts for data analysis and interpretation; Process capability, 6-Sigma, Lean Manufacturing, Quality system, Case study. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only EGR 522 or EGR 598 (Statistics for Engineers) |
| EGR | 523 | Finite Element Modeling and Analysis | Analyzes machine elements, frames and aerospace structures employing finite element analysis and software. Includes sensitivity analysis and estimating accuracy. Introduces the fundamentals of finite element analysis as well as providing hands-on experience using finite element software to model, analyze and design structures. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only EGR 494 (Finite Element Modeling Analysis) or EGR 523 or EGR 598 (Finite Element Modeling & Analysis) |
| EGR | 525 | Lean Systems | Creates a framework and model of lean engineering and a methodology for applying lean practices to systems engineering as a basis for lean product development. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 530 | Principles of Systems Engineering | Engineering is increasingly about complex systems. Addresses scale, scope and complexity increase that engineers need to consider to bring together technical and social issues in a highly integrated way as they design flexible, adaptable, robust systems that can be easily modified and reconfigured to satisfy changing requirements and new technological opportunities. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 535 | Innovation and Design of Engineering Academic Settings (IDEAS) | Innovation plays an important role in the evolution of the field of engineering education. Explores innovation processes in a variety of contexts, including (but not limited to) engineering education research and methods, theory, dissemination, teaching and training within formal and informal academic settings. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| EGR | 538 | Batteries and Electric Vehicle Technologies | Focuses on building an in-depth understanding of batteries in EV scenarios. Comprises batteries and their types, applications, architecture, cell chemistries, battery manufacturing, battery charging modes and standards, battery management systems, cell balancing, range anxiety. Also covers first life of batteries in electric vehicles and second life in various less-demanding applications. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Polytechnic School | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EGR 538 or EGR 494/EGR 598 (Batteries and Electric Vehicle Technologies) or EGR 494/EGR 598 (Batteries and Fuel Cells) |
| EGR | 545 | Robotic Systems I | Analysis and design of robotic systems focusing on kinematics, dynamics, coordinate transformations and modeling. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EGR 455 or EGR 545 or EGR 598 (Robotic Systems I) or RAS 455 or RAS 545 |
| EGR | 546 | Robotic Systems II | Design of robotic systems focusing on dynamics, modeling and controlling a robot. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EGR 456 or EGR 546 or EGR 598 (Robotics Systems II) or RAS 456 or RAS 546 |
| EGR | 550 | Mechatronic Systems | Presents a clear and comprehensive approach to the area of mechatronic systems, including the sensors, actuators, microcontrollers and applications which are found at the heart of everyday products and devices. Provides a systems-level approach to integrating these elements into a functioning device. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only EGR 550 or RAS 550 |
| EGR | 555 | Mechatronics Device Innovation | Project-based course on the design of mechatronic devices to address needs identified by hospital-based clinicians. Students work in teams with physicians to develop a novel mechatronic device while in parallel an entrepreneurial mindset is fostered. The design process includes: needs finding; problem identification; prior art searches; strategy and concept generation; estimation; sketching; sketch modeling; machine elements, ergonomics and prototyping. Emphasizes the development of creative designs that is motivated by analytical models. Also includes lectures on specific aspects pertinent to novel devices including intellectual property, marketing, licensing and startups and lean launchpad for startups, provided by Skysong Innovations. Significant communication component as students present ideas in class and at an industry forum. Students also write a publication quality final paper, which they are encouraged to submit to a conference or journal. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EGR 494 (Mechatronics Device Innovation) or EGR 555 or EGR 598 (Mechatronics Device Innovation) or RAS 555 |
| EGR | 556 | System Control and Optimization | Topics include state-space models, Lyapunov stability, controllability and observability, optimization and optimal control, and nonlinear systems and control. Includes both theories and real-world engineering examples/demos, and students apply the advanced control system approaches to self-selected course projects. Prior knowledge in classical linear control theory is necessary to be successful in this course. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EGR 556 or EGR 598 (System Control & Optimization) or MAE 506 or RAS 556 |
| EGR | 557 | Foldable Robotics | Organized around new types of robots being developed in research labs and industry across the country, foldable robots are designed and built using layered, flat sheets of a wide variety of materials and folded up to create both form and motion. Design of these devices begins with initial prototypes and proceeds through implementation and optimization, with a focus on application-specific projects that seek to solve problems of cost, parallelism, complexity and time using a relatively fast and easy prototyping method. Students delve deeper into the analytical problems associated with foldable mechanisms in topics such as design, kinematics, manufacturing, dynamics, simulation, optimization and stiffness analysis. Familiarity with programming fundamentals, scripted languages like Python or Matlab, linear algebra, differential equations, calculus, trigonometry and vector math is strongly suggested. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Ira A. Fulton graduate student; Credit is allowed for only EGR 494 (Foldable Robotics) or EGR 557 or EGR 598 (Foldable Robotics) or RAS 557 |

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| EGR | 560 | Vehicle Dynamics and Control | Covers modeling, estimation, control and optimization of a typical vehicle (sub)system dynamics. Recent advances in automotive technology, such as vehicle electrification and automated/connected driving, further complicate vehicle (sub)systems as nonlinear multi-input-multi-output systems with unmodeled dynamics, structure uncertainties and external disturbances. Thus, effective vehicle control design requires to sophisticatedly combine advanced control theory with knowledge of vehicle characteristics. To achieve this goal, the course introduces a variety of modeling, advanced control, estimation and optimization techniques for typical vehicle (sub)systems. Discusses applications of control theories to various vehicle (sub)system dynamics through examples inspired by pertinent research projects. Extensively utilizes co-simulation between Matlab/Simulink and CarSim® for vehicle dynamics analysis, vehicle control design and verification. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only EGR 560 or EGR 598 (Vehicle Dynamics and Control) |
| EGR | 565 | Qualitative Methods for Engineering Education Research | Provides a deep, empirical exposure to interpretive research methods in engineering education research. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Engineering PhD student |
| EGR | 572 | Quantitative Methods for Engineering Education Research | Specific quantitative analysis techniques used in the field of engineering education, with special focus on instrument design, ANOVA and multiple regression. Prior coursework or experience with basic statistical techniques is necessary to be successful in this course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Engineering PhD student |
| EGR | 574 | Engineering Education Systems in Context | Provides a systems understanding of current trends in engineering education research to engage engineering education research graduate students with the latest developments in the field in which they will situate their research projects. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Engineering PhD student |
| EGR | 576 | From Then Until Now: Examining Inequities in STEM | Provides a novel opportunity for students to learn about inequities that have persisted in STEM and to challenge the way inclusion is cultivated. Challenges students to become aware of the past, give context to the present and think creatively about new ways forward. Additionally, takes an entrepreneurial approach toward being inclusive. As both teachers and students, in developing critical consciousness, it is imperative that we refute the banking approach to education and constantly work to critically consider our realities. Adopts an inclusive, student-centered pedagogy. Facilitates learning through activities that provide exposure to and experience with critical content. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or non-degree seeking graduate student; Credit is allowed for only EGR 576 or EGR 598 (From Then Until Now: Examining Inequities in STEM) |
| EGR | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 581 | Simulating Manufacturing Systems | Specific modeling and simulation tools used to understand and optimize manufacturing systems operations, with an emphasis on both model building and statistical interpretation of model output. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only EGR 581 or EGR 598 (Simulating Manufacturing Systems) or MFG 581 |
| EGR | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| EGR | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 602 | Principles of Independent Research | Practice of key components of independent research that include project planning, literature survey, interview, data collection and analysis, proposal development, technical writing and presentation. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Manufacturing Engineering PhD or Systems Engineering PhD student |
| EGR | 608 | Advanced Simulation | Simulation has a central role in design, operation, optimization and evolution of complex systems. There are many tools but they have a common need for rigorous science/math, parameterized models and realistic validation. Uses and compares five common platforms. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Engineering PhD student |
| EGR | 611 | Complex Engineering Systems | Advanced concepts in design and evaluation of engineering systems: subsystems, systems architectures and seamless integration of subsystems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Engineering PhD student |
| EGR | 671 | Applications of Qualitative Methods for Engineering Education Research | Provides a deep, situated exposure to making and handling data in qualitative engineering education research projects. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Engineering PhD student; EGR 565 |
| EGR | 673 | Applications of Quantitative Methods for Engineering Education Research | Applies quantitative analysis techniques to an engineering education research project. Specific focus on data collection, instrument development, and ANOVA/regression analysis techniques. Prior coursework or experience with basic statistical techniques is necessary to be successful in this course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Engineering PhD student; EGR 572 |
| EGR | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EGR | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ELL | 504 | Instructional Design for Culturally and Linguistically Diverse Students | Provides a foundation in instructional design to meet the academic and linguistic needs of culturally and linguistically diverse students, with a focus on English language learners. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BLE 404 or ELL 504 or SPE 404 |
| ELL | 515 | Structured English Immersion (SEI) Methods | Examines current educational practices and historical legal issues. Prepares teacher candidates with a provisional Structured English Immersion endorsement. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BLE 220 or BLE 408 or ELL 515 |
| ELL | 516 | Advanced SEI Methods for ELLs | More fully prepares teachers for linguistically diverse classrooms in which there are students learning through SEI methodology. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ELS | 501 | Environmental Life Sciences: Grand Challenge: Global Climate Change | Introduces first-year graduate students to a range of fields related to the Environmental Life Sciences graduate program. Co-instructed by an interdisciplinary faculty team, combines overview lectures and active discussion of current literature in the fields of inquiry. Culminates in synthetic collaborative research proposals on topics that foster transdisciplinary approaches to environmental life science questions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ELS | 535 | Sustainable Ecosystems | How human activities and management practices alter biodiversity, ecosystem functioning and the provisioning of ecosystem services; use of economic and other social-science perspectives to estimate the value of ecosystem services; evaluation of options for achieving the sustainable flow of services from ecosystems. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only ELS 535 or SOS 535 |
| ELS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | |
| ELS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ELS | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ELS | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| ELS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ELS | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ELS | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EMS | 501 | First Workshop and Orientation | Covers the four learning threads of the EMSL program: global context, strategic sustainability, communications and sustainability, and sustainability leadership. Students engage in meaningful group discussions, field trips and hands-on experiences directly tied to sustainability. Faculty, guest speakers and practitioners engage students in critical thought and apply sustainability theories into real-world scenarios. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): Executive Masters for Sustainability Leadership major |
| EMS | 502 | Global Context I | Examine global sustainability issues, determine materiality for their organization and practice communicating this information to critical stakeholders, i.e., translating the complex global context into compelling organizational realities. Applies tools to identify relevant risks and opportunities within their organizational context and investigates potential responses. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 2 | | Pre- or corequisite(s): EMS 501 or SOS 501 |
| EMS | 503 | Strategic Sustainability I | As a foundational course in strategic sustainability, focuses on sustainability as a strategic lens. Explores the interface among strategy, sustainability and ongoing success, developing a framework for strategic sustainability that underpins authentic and transparent strategic efforts. Identifies the different levels and implications of organizational maturity from a strategic sustainability perspective. Engages in systems mapping, planning and prioritizing methods, tools and techniques to identify and assess strategic opportunities. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 2 | | Pre- or corequisite(s): EMS 501 or SOS 501 |
| EMS | 504 | Communications and Sustainability I | This foundational course for professional communications aims to create chief sustainability storytellers. Helps students survey their internal communications environments, understand their target audiences and their unique customer centricities, and develop their voices through the use of proven story structures and techniques. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 2 | | Pre- or corequisite(s): EMS 501 or SOS 501 |
| EMS | 505 | Sustainability Leadership I | Focuses on emerging sustainability leadership. Students meld powerful and traditional leadership skills while challenging their prior knowledge with a multiple lens examination of leadership in a sustainability context. Provides a view of oneself to prepare students to better understand others. Students create the first phase of their personal plans for their unique needs and individual growth toward sustainability leadership. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 2 | | Pre- or corequisite(s): EMS 501 or SOS 501 |
| EMS | 506 | Global Context II | Building on the skills gained in previous course work, explores proactive response strategies to material global sustainability challenges and opportunities. Examine how organizations can evolve from risk avoidance and compliance to innovation and thought leadership and explores what role they can play as sustainability leaders. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): EMS 502 |
| EMS | 507 | Strategic Sustainability II | Uses reframing, re-visioning and backcasting via a sustainability lens as constructs for introducing strategic sustainability across all aspects of an organization both internally and externally. Students apply and integrate various science-based methods, used successfully by organizations large and small, for developing flexible action platforms for sustainable enterprises. Expects students to create a strategic vision and action plan for an organization. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): EMS 503 |
| EMS | 509 | Communications and Sustainability II | Focuses on audiences and looks at how and where students are telling their stories of sustainability. Students map internal, external and target audiences/markets, strategize channels to reach them with their sustainability stories, and create multi-channel communications plans that incorporate modes of engagement for all audiences. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): EMS 504 |

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| EMS | 510 | Sustainability Leadership II | Challenges prior definitions of systems, responsibility and community from a sustainability and leadership perspective. Also provides a toolbox for leading with sustainability as a fundamental success platform. Provides information needed for students to better understand others, a necessary skill to be able to persuasively lead others to transform their organization into a sustainable enterprise. The focus shifts away from being centered around oneself and towards a focus on audience/stakeholders. Students continue to develop their personal leadership skills. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): EMS 505 |
| EMS | 511 | Global Context III | Expands student perspectives beyond the needs of their organizations and considers what could be gained from industry and cross-industry collaborations. Assesses the implications of changes in leadership perspectives to their organizational contexts. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): EMS 506 |
| EMS | 512 | Strategic Sustainability III | Focuses on expanding efforts for strategic planning and sustainable success beyond the bounds of a given enterprise through strategic collaboration, partnering, innovation and resource development. Applies strategic sustainability as a tool for developing synergistic collaborations and driving innovation for more sustainable enterprises and enterprise systems. Also develops sustainability-informed collaborative approaches to identify and garner resources for strategic imperatives. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): EMS 507 |
| EMS | 513 | Communications and Sustainability III | Ignites the storyteller within as students learn to think like authors; craft their stories in scenes; and produce their presentations to entertain, educate and engage their audiences to move them to action. Reveals the students' transformation into courageous storytellers in presentations that combine their compelling narratives with captivating visual storytelling. Also creates social media editorial calendars to publish their stories to help express their thought leadership in sustainability online. By the end of this course, students learn how to own any room, from the boardroom and break room to the chat room and living room. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): EMS 509 |
| EMS | 514 | Sustainability Leadership III | Focuses on transformational leadership for global success, which requires students to identify and apply pathways to inspire, persuade and influence others to act toward a shared global vision. Some of the challenges that all future sustainability leaders face are future orientation; reframing organizations to be globally scalable yet locally focused; and redefining success and growth using sustainability as a success lens. These are just a few of the challenging tasks that sustainability leaders face. Importantly, sustainable leadership involves being an effective change leader, and this course provides the tools and learning needed to initiate and sustain change. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): EMS 510 |
| EMS | 515 | EMSL Capstone Course I | Guides students through developing their individualized capstone proposal and facilitates interaction with numerous executive-level sustainability leaders and strategists who work in diverse organizations. During spring break, students have the option to participate in a week-long immersive experience in a major U.S. metropolitan area where they directly interact with and provide feedback to other members of their student cohort. The final assignment is development of a sustainability leadership capstone project. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): Sustainability Leadership EMSL student; minimum 3.00 GPA |
| EMS | 516 | EMSL Capstone Course II | Final and culminating course in the EMSL sequence. As such, via initiation of a sustainability capstone project, students apply knowledge and skills learned in all preceding EMSL courses and, especially, what was learned as part of the preceding course during the "immersive" week taught in a major U.S. metropolitan area such as Washington, DC, or Los Angeles, CA. Builds on the capstone proposal previously developed to implement a sustainability leadership project in a specific organization. Thus, students actually initiate that project, track and report its progress, and reflect on the experience going from plan to implementation. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): EMS 508 or EMS 515 |

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| EMS | 522 | Mastering the Global Sustainability Context | Leaders in any organizational context face an increasingly connected and transparent world where social and environmental issues must be weighed in everyday decisions, requiring increasingly more proactive response strategies to meet stakeholder expectations and adapt to market and policy dynamics. Explores iconic sustainability issues and trends and their impact on their organization, institutions, communities and stakeholders. Applies tools to identify the relevant risks and opportunities within their organizational context and evaluate and prioritize relevant solutions and management approaches. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): SOS 508 or 510 |
| EMS | 523 | Strategic Sustainability and Leadership | As sustainability becomes a core strategic goal of any organization, it impacts all aspects of the organization from informing risk and reward to the definitions and dimensions of innovation and overall success. Explores the interface between strategy and sustainability, developing a framework for strategic sustainability that underpins authentic and transparent strategic efforts. Uses reframing, re-visioning and backcasting via a sustainability lens as constructs for introducing strategic sustainability across all aspects of an organization. Explores and applies multiple sustainability-informed approaches, methods and tools to identify, assess and recommend strategic opportunities and adaptable action-pathways. Upon completion, students should be able to use strategic-sustainability knowledge to integrate and apply emerging sustainability approaches and to create strategic visions and action plans for an organization. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): SOS 508 or 510 |
| EMS | 524 | Sustainability Storytelling and Communications | Fundamentals of applying storytelling to sustainability. Leads students through the power of storytelling and effective communications in modern business, nonprofit and government settings. Discovers the why of storytelling, and the neuroscience and anthropology behind its effectiveness. Students learn about communication styles within leadership, their own personal communication strengths and weaknesses, discern the barriers to persuasive communication and storytelling within sustainability, how to remedy common communication missteps, and how to better understand and engage audiences by making them the "hero of the story." Uses digital tools to create and deliver compelling sustainability communications and presentations to any audience, anywhere to enhance the efficacy of sustainability leadership within and outside of an organization. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): SOS 508 or 510 |
| EMS | 525 | Essentials for Transformative Leadership in Sustainability | Melds traditional leadership applications with powerful skills aimed to develop or reawaken innate desires to effect change. Challenges prior knowledge and assumptions with multiple lenses of leadership within a sustainability context while teaching how to lead others. Critically examines prior definitions of systems, responsibility and community from the perspective of sustainability and leadership and provides a toolbox for leading with sustainability as a fundamental success platform. Students create a personal leadership plan for their unique needs and personal growth toward sustainability leadership. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): SOS 508 or 510 |
| EMS | 586 | Introduction to MSL Capstone | Students select and prepare for their final capstone project in the MSL program. Students have an opportunity to present and discuss their concepts and plans with faculty and with other students in the cohort. Students also learn project management techniques for completing their capstone project. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): Sustainability Leadership MSL student; EMS 502; EMS 503; EMS 504; EMS 505; SOS 501 |
| EMS | 587 | MSL Capstone Preparation | Students take their culminating capstone project from proposal to hands-on implementation. Students connect, network, leverage, test, adapt and finally implement their capstone projects. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): EMS 586 |
| EMS | 588 | MSL Capstone | Students complete and fully implement their capstone projects. | N | RSC | N | GNA | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): EMS 587 |
| EMS | 589 | MSL Capstone Project Preparation | One challenge for sustainability leaders is the translation of an idea to an actionable project or program which can lead to sustainable outcomes. Guides students through the initiation and planning stages of a sustainability project, going from theory to hands-on implementation. The capstone is the student's idea in action, allowing him or her to learn to connect, network, leverage, test, adapt and finally implement sustainability solution. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): EMS 522; EMS 523; EMS 524; EMS 525; SOS 508; SOS 509 |

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| EMS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Global Futures | School of Sustainability | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EMS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EMS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Global Futures | School of Sustainability | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EMS | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EMS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EMS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 101 | First-Year Composition | Discovers, organizes and develops ideas in relation to the writer's purpose, subject and audience. Emphasizes modes of written discourse and effective use of rhetorical principles. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): All students; For students for whom English is not the native language, enroll in ENG 107 (or WAC 107); Credit is allowed for only ENG 101 or ENG 105 |
| ENG | 102 | First-Year Composition | Critical reading and writing; emphasizes strategies of academic discourse. Research paper required. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 101 or 107 with C or better OR Visiting University Student |
| ENG | 105 | Advanced First-Year Composition | Concentrated composition course for students with superior writing skills; intensive reading; research papers; logical and rhetorical effectiveness. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ACT English score of 26 or above, or SAT Verbal score of 660 or above (or SAT Verbal score of 620 or above if taken before 2016), or Accuplacer score of 8 or above; Credit is allowed for ENG 101 or ENG 105 OR Visiting University Student |
| ENG | 107 | First-Year Composition | For students for whom English is not the native language. Combines classroom and supplemental instruction to teach academic genres of writing, including definition, summary and analysis. Students for whom English is their first language should enroll in ENG 101. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | |
| ENG | 108 | First-Year Composition | For students for whom English is not the native language. Critical reading and writing; emphasizes strategies of academic discourse. Research writing required. Satisfies graduation requirement of ENG 102. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 101 or 107 with C or better OR Visiting University Student |
| ENG | 110 | Approaching Big Problems | Examines how language helps to shape important issues and big questions in the world today. By studying the process of meaning-making, students work toward understanding these issues better and answering these questions. | N | LEC | Y | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | |
| ENG | 130 | Prototyping Dreams | How do you build your dreams? Explores speculative design and inspirational prototyping as a way to imagine and organize worlds. These prototypes do not have to be functional or material, but they must be functional stories, effectively communicating the creator's vision with others. Surveys a number of creative paradigms for imagining alternative worlds that are more ethical and sustainable, and experiments with techniques for physical, digital, literary and artistic prototyping. | N | LEL | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only AME 130 or ENG 130 OR Visiting University Student |
| ENG | 131 | Poetry in America | Through the lens of American poetry, provides highly engaging learning experiences anchored in four central learning outcomes, or "pillars," which form a foundational approach to close reading poems and other texts: making observations, understanding structure and form, situating texts in history and enjoying language. Additionally, students practice critical and creative analysis and reflect on their goals and progress as readers and writers. | Y | LEC | Y | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Credit is allowed for only ENG 131 or ENG 194 (Poetry in America) |
| ENG | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-3 | | Prerequisite(s): freshman standing; maximum 25 hours |
| ENG | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-4 | | |
| ENG | 200 | Critical Reading and Writing About Literature | Introduces the terminology, methods, and objectives of the study of literature, with practice in interpretation and evaluation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |

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| ENG | 201 | World Literature | Classical and medieval periods. Selections from the great literature of the world in translation and lectures on the cultural background. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU & H & G | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 202 | World Literature | Renaissance and modern periods. Selections from the great literature of the world in translation and lectures on the cultural background. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 203 | Introduction to Health Humanities | Introduces the field of health humanities. Through readings in cultural studies of literature and other media, history of medicine, bioethics, disability studies, cross-cultural and global health, and related scholarly areas, introduces some of the fundamental challenges and debates in this growing interdisciplinary field. Also addresses questions of medical professional ethics and teaches structural awareness of the sociocultural aspects of health and health care. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| ENG | 204 | Topics in Contemporary Literature | Topics in contemporary literature, which may include narrative and medicine. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 205 | Introduction to Writing, Rhetorics and Literacies | How do we understand the ways in which people in systems--both small and large--social, political, and economic, throughout the world use language and other symbolic resources to carry out work? Three fields of study take this kind of questioning especially seriously: studies in writing, studies in rhetoric, and studies in literacy. Inquiry--that persistent, deliberate commitment to question and to build methods sufficient to that questioning--is a generative force in each of these fields of study. Familiarizes students with such questioning traditions and to help them judge for themselves what each is good for. The goal is to strengthen your own repertoire and decision-making power for producing and circulating work (widely defined across material, print, and digital media) that matters in our risk-ridden world. Quite simply, then, this is a course in asking good questions and in evaluating responses to situations that spur questioning. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 206 | Introduction to Literary Studies | Introduces the terminology, methods and objectives for interpreting and writing about literary and cultural texts. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| ENG | 207 | Elements of English Language and Cultures I | English communication and cultural awareness for international users of English. Relies on the many contexts of English use around the world to teach aspects of grammar, reading, writing, listening and speaking. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 107; ENG 108 |
| ENG | 208 | Elements of English Language and Cultures II | English communication and cultural awareness for international users of English. Relies on the many contexts of English use around the world to teach aspects of grammar, reading, writing, listening and speaking. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 107 with C or better; ENG 108 with C or better |
| ENG | 210 | Introduction to Creative Writing | Beginning creative writing in genres other than poetry and fiction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 211 | Introduction to English Studies | Introduces key terms and conventions for analyzing and interpreting diverse literary and cultural texts. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 213 | Introduction to the Study of Language | Language as code; phonetics, phonology, morphology, and syntax; the lexicon; language acquisition; sociolinguistics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 214 | English Grammar and Usage | Fundamentals of English grammar (word and phrase structure), English usage (punctuation, grammatical correctness), and grammatical and usage theory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 215 | Strategies of Academic Writing | Advanced course in techniques of analyzing and writing academic expository prose. Writing is research based. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 216 | Persuasive Writing on Public Issues | Advanced course in techniques of analyzing and writing persuasive arguments addressing topics of current public interest. Papers are research based. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 217 | Writing Reflective Essays | Critical examination of the influences discourse has on formation of identity; narrative analyses of self and culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 218 | Writing About Literature | Advanced writing course requiring analytical and expository essays about fiction, poetry, and drama. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 220 | Gender, Media and Culture | Introduction to gender and the media including magazines, films, advertising, new media, and other popular culture forms. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & C | Credit is allowed for only ENG 220 or WST 220 |
| ENG | 221 | Survey of English Literature | Medieval, Renaissance, and 18th-century literature. Emphasizes major writers and their works in their literary and historical contexts. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 222 | Survey of English Literature | Romantic, Victorian, and 20th-century literature. Emphasizes major writers and their works in their literary and historical contexts. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |

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| ENG | 228 | Introduction to Shakespeare | - | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105 or 108 with C or better; Credit is allowed for only ENG 228 or 294 (Shakespeare for Teachers) OR (Introduction to Shakespeare) |
| ENG | 229 | Love and Lust in Medieval Literature | The medieval period, roughly 600-1500, cannot reasonably be called the "dark ages." Indeed, the Middle Ages provides us with a corpus of literature replete with complex characters struggling to live and love, dealing with sin and lust, unity and diversity, faith and reason within a tumultuous cultural milieu and religious rigor, all of which are feeling the winds of changes. Explores medieval literature, noting the astonishing differences from our own time, as well as surprising similarities. Western civilization, our own 21st century, for better or for worse, is indebted to the love and lust of the medievals. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105 or 108 with C or better; Credit is allowed for only ENG 229 or 294 (Love and Lust in Medieval Lit) |
| ENG | 230 | Introduction to Film Studies | Introduces the style and cultural significance of feature films. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 235 | Introduction to Contemporary Theory | Introduces key ideas and concepts in contemporary critical and cultural theory. In addition to the "posts"--postmodernism, poststructuralism, post-Marxism, postcolonial studies, post-feminism and posthumanism--explores new theoretical formations that have emerged in response to our contemporary social condition, such as queer theory, trauma theory, disability studies, cognitive studies, the new "object-oriented" philosophies and materialist theories. And then there's the "trans" domains--transnationalism, transgender studies and transhumanism--which, like so many contemporary theoretical formations opens up new perspectives on where and how we live, who we are and even what we are. The contemporary theories studied in this course provide the tools for understanding 21st-century life and the limits and enjoyments of our humanity. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 235 or ENG 294 (Literary Theory & Interdisciplinary Studies) or ENG 294 (Introduction to Contemporary Theory) |
| ENG | 241 | Literatures of the United States to 1860 | Surveys literary movements and genres from colonization to the Civil War. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 242 | Literatures of the United States, 1860 to Present | Surveys literary movements and genres from the Civil War to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 243 | Introduction to Writing Family History | Interdisciplinary writing course on theories, methodologies and issues in writing family history. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 244 | Introduction to Researching Family History | Introduces research methods in family history. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 245 | Popular Culture Issues | Selected topics in various forms of popular culture related to written texts. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 287 | Beginning Creative Writing Workshop in Poetry | Beginning writing of poetry. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 288 | Beginning Creative Writing Workshop in Fiction | Beginning writing of fiction. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-4 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 300 | Your Degree in the World | Inquiry-driven course where students examine the place of an English degree within a larger humanities context, and explore the kinds of work they can do in the world with their education. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 1 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 301 | Writing for the Professions | Advanced practice in writing and editing expository prose. Primarily for preprofessional majors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 301 or ENG 302 OR Visiting University Student |
| ENG | 302 | Business Writing | Advanced interdisciplinary writing course designed to improve the workplace writing competence of W. P. Carey School of Business professional and preprofessional students. Lecture, discussion, case studies, cooperative learning, interactive, Internet, student presentations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): W. P. Carey major; ENG 102, 105, or 108 with C or better; minimum 55 hours or junior standing; Credit is allowed for only ENG 301 or ENG 302 OR Visiting University Student |
| ENG | 303 | Classical Backgrounds of English Literature | Readings of Greek and Latin literature in translation as they relate to literature in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 304 | Critical Theories and Methods | Covers ideas and concepts in contemporary critical and cultural theory. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better |

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| ENG | 305 | Interpretive Theory | Develops interpretive practices necessary for English studies. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 307 | Writing Science Fiction | Writing science fiction, primarily the short story. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 308 | Form and History/Culture | Examines how literary and rhetorical forms are situated both historically and culturally. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 309 | Rhetoric for Writers | Students identify, analyze and employ key concepts and theories of rhetoric to understand and compose written texts. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 310 | Intermediate Creative Writing | Intermediate creative writing in genres other than poetry, fiction, or science fiction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 210 with C or better OR Visiting University Student |
| ENG | 311 | Persuasive Writing | Advanced writing course that focuses on persuasive writing for diverse audiences. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 312 | English in its Social Setting | Introduces the sociolinguistic study of the English language. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L or HU or SB | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 313 | Phonology and Morphology | The study of language sound-structure (phonology) and word-structure (morphology) in the framework of current linguistic theory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; ENG 213 or SLC 201 with C or better OR Visiting University Student |
| ENG | 314 | Modern Grammar | Modern descriptive models of English grammar. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 315 | Medieval Literature in Translation | Medieval literature (insular and continental) in translation, from Beowulf to Malory (excluding Chaucer), emphasizing cultural and intellectual backgrounds. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 316 | Literary Readings of the Hebrew Bible | Literary analysis of two of the main genres of the Hebrew Bible: narrative art and poetry. Students learn the main literary conventions of biblical prose and poetry, and how these conventions are applied or subverted. Each class comprises the study of a literary aspect, close readings, and thematic discussions. Biblical texts are read only in translation. They are situated in the religious, literary and artistic traditions that have developed on their basis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ENG 316, HEB 316, JST 316, REL 316 OR Visiting University Student |
| ENG | 317 | Cross-Cultural Writing | Cultural differences and their impact on writing and/or their role in miscommunication and misinterpretation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 318 | The Life and Death of Languages | The history of language development, spread and contraction as well as thinking on where language may be going in the future. Discusses how languages differentiate and become new languages, how they mix with each other and how the development of writing can change this process. Maintains a focus on the ways speakers from different language communities have found to communicate through pidgin languages, bilingualism and languages of wider communication. Moreover, discusses the invention of new varieties and languages by people who feel their current choices do not fit their needs. Lastly, in considering what might be needed in the future, addresses issues such as machine translation, brain-to-brain communication, aspects of intergalactic communication posed in science fiction and interspecies communication. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 318 or ENG 394 (The Life and Death of Languages) OR Visiting University Student |
| ENG | 319 | Future of English | This transdisciplinary course investigates what varieties of English are currently used by whom and for what purposes, and attempts to predict the future of English and its significance at the individual, national and global levels. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | G | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 319 or ENG 394 (Future of English) OR Visiting University Student |
| ENG | 320 | Medievalism in Modern Culture | Studies the representation of Medieval narratives, characters, themes, myths, and images in modern culture. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 321 | Shakespeare | Readings in Shakespeare's major comedies, tragedies, histories, romances and/or poems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 322 | Westerns: Film and Short Stories | A survey of classical short stories and recent films. Focuses on Wister, L'Amour, Grey and Leonard. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 322 or ENG 494 (Westerns: Films and Short Stories) or ENG 494 (Westerns: Movies and Short Novels) |
| ENG | 323 | Rhetoric and Grammar | Practical course taught in the computer lab. Emphasizes rhetorical strategies and grammar for writers. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
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| ENG | 324 | Horror: Film and Short Stories | A survey of major writers since 1800, and of classic filmmakers. The historical development of horror in relation to Gothic and grotesque short stories and films. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 325 | Restoration and the 18th Century | Writers and movements in nondramatic literature of the restoration and early 18th century. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 326 | English Drama 1660-1800 | English drama 1660-1800. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | |
| ENG | 327 | English Studies Research | How to evaluate and conduct various research methods for different areas of English studies. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 328 | The Novel to Jane Austen | From origins of prose fiction through the 18th century. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 329 | 19th-Century British Fiction | Includes such authors as Austen, Dickens, Eliot and Conrad. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 330 | 19th-Century British Poetry | Romantic and Victorian poets studied in context. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 331 | American Drama | Major works in the development of American drama from its beginnings to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 332 | Studies in Race and Ethnicity in Literature and Culture | Investigates racial and ethnic dynamics through literature and culture. | Y | LEC | Y | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 333 | American Ethnic Literature | Examines America's multiethnic identity through works of literature that depict American ethnic, gender, and class sensibilities. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 334 | The American Southwest in Literature and Film | Evaluates literary texts and films addressing the diverse literatures and cultures of the American Southwest. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AMS 336 or ENG 334 or ETH 334 OR Visiting University Student |
| ENG | 335 | American Poetry | Themes and developments in American poetry. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 336 | Women, Film and Culture | Critical examination of the way films can reflect, reinforce or challenge mainstream cultural ideas about women. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 336 or WST 330 OR Visiting University Student |
| ENG | 337 | Major American Novels | Major American novels studied in their ethnically diverse literary, historical, and cultural contexts. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 338 | Protest Literature | Examines traditions of social protest literature across a variety of historical periods and literary and rhetorical genres. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, ENG 105, or ENG 108 with C or better; minimum 24 earned hours; Credit is allowed for ENG 394 (Banned Literature), 338 or 440 (American Protest Novels) |
| ENG | 339 | Creating Dramatic Works: Page to Stage to Screen | Practical study of writing, directing, acting and performance techniques essential for the creation of theatrical works for stage, television and theatrical film presentation. | N | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prereq(s): ENG 102, 105, or 108 w/C or better; Credit allowed for only COM 339 or COM 394(Crt Drm Wrk:Pg to Stg&Scrn) or ENG 339 or ENG 394(Crt Drm Wrk:Pg to Stg&Scrn) or IAP 339 or IAP 394(Crt Drm Wrk:Pg to Stg&Scrn) OR Visiting University Student |
| ENG | 342 | 20th-Century British and Irish Literature | Major works in the development of literature since 1900, studied in their historical and cultural contexts. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 343 | Crime: Film and Short Stories | Examines crime in films and in classical and contemporary fiction with a focus on the short story. Explores a range of important topics including the relationship between the law, violence, gender and the legal, political and social impacts of fictional representations of crime and justice. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 344 | Intermediate Family History Research | How to locate records, analyze and interpret evidence, and write a family history narrative. | N | RSC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 345 | Selected Authors or Issues | Different topics may be offered. Film topics with lab may carry 4 credits. May be repeated for credit when topics vary. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3-4 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 347 | Modern Israeli Literature in Translation | Modern Hebrew, or Israeli Hebrew, started at the end of the 19th century in Europe and today it is the language of the State of Israel. During this short period modern Hebrew developed literature with its unique local characteristic, as well as universal ideas. Reads and examines four books against their social and historical background. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ENG 347 or HEB 347 or JST 347 or SLC 347 or ENG/HEB/JST/SLC 394 (Modern Hebrew Literature in Translation) |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| ENG | 348 | The Borders of Language | In-depth focus on language use, multilingualism and social life in borderlands contexts, in and out of school. Explores the historical and contemporary dimensions of language use in the borderlands, including Indigenous languages, English and Spanish, and hybrid forms. Also introduces theories and methods in the field of linguistic anthropology. Students conduct research on everyday linguistic practice and connect it to broader sociopolitical realities. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only ASB 348 or ASB 394 (The Borders of Language) or ENG 348 or ENG 394 (The Borders of Language) or TCL 348 or TCL 394 (The Borders of Language) |
| ENG | 349 | Global Literary Studies | Studies multiple literatures and cultures across the globe, often deploying transnational and comparative methodologies. | Y | LEC | Y | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 350 | Studies in Literary Histories and Traditions | Studies of one or more literary traditions or historical movements | Y | LEC | Y | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 352 | Short Story | Development of the short story as a literary form; analysis of its technique from the work of representative authors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 353 | African American Literature: Beginnings through the Harlem Renaissance | Focuses on the history of African American literature through the Harlem Renaissance, as exemplified in selected slave narratives, poems, and fiction. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AFR 353 (or AFH 353) or AMS 353 or ENG 353 or ETH 353 OR Visiting University Student |
| ENG | 354 | African American Literature: Harlem Renaissance to the Present | Examines the literary productions of African Americans from the Harlem Renaissance (about 1920) to the present focusing on fiction, poetry, drama, and essays. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AFR 354 (or AFH 354) or AMS 354 or ENG 354 or ETH 354 OR Visiting University Student |
| ENG | 355 | European Dramatic Traditions | Development of European drama since Aeschylus. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 356 | The Bible as Literature | Readings in the Jewish and Christian Scriptures in modern translation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 359 | Indigenous American Literature | Selected oral traditions and contemporary works by Indigenous American authors. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 360 | Western American Literature | Critical examination of ideas and traditions of the literature of the western United States, including the novel. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 361 | Scriptwriting | The art of scriptwriting using 10-minute plays as the platform. Designed to help students learn craft techniques and to expose them to the various forms of the 10-minute script. Includes lectures, writing assignments, discussion, and criticism. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 362 | Film and Media Franchises | Students gain an appreciation for film and media franchises by studying their production, reception and cultural significance. | Y | LEC | Y | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, ENG 105, ENG 108, FMS 100, or FMS 200 with C or better, or minimum 45 hours; Credit is allowed for only ENG 362 or FMS 362 OR Visiting University Student |
| ENG | 363 | Transborder Mexican and Chicano/a Literature of Southwest North America | Development of Chicana and Chicano literature; study of genres and themes; attention to literary antecedents. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 363 or TCL 363 OR Visiting University Student |
| ENG | 364 | Women and Literature | Approaches to issues of gender and representation in literature by and about women. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 365 | History of Film | Development of motion pictures. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3-4 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 366 | Literature on Film | Studies literary texts and their adaptation to film. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 367 | Environmental Issues in Literature and Film | Evaluates literary texts and films that address interconnected cultural, historical, and environmental issues. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 368 | Art of the Personal Essay | Writing personal essays drawing on both research and personal experience. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 369 | Science Fiction Studies | Development of science fiction and fantasy literature. May be repeated for credit when topics vary. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 370 | Science, Values, and the Public | Examines science, communication, and a range of public opinion to understand science as a discourse of profound social power. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 35 hours; Credit is allowed for only BIO 315 or ENG 370 |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| ENG | 371 | Rhetoric of the Environmental Movement | Examines how language is used to conceptualize, clarify/obfuscate, and resolve problems among those who concern themselves with the disposition of natural resources. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 373 | Publishing in Literary Magazines | Analyzes the history, publishing preferences, editorial staff, and submission guidelines of literary magazines. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 374 | Technical Editing | Fundamentals of editing technical and professional materials. Role of editors in analyzing, revising, and polishing manuscripts. Successful writer-editor dialogues. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 375 | Titans of Business | Explores leading CEOs and corporations from a humanities perspective. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 376 | Writing a Personal History | Interdisciplinary writing course emphasizing theories, methodologies, and issues of composing personal histories. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 376 or VTS 376 OR Visiting University Student |
| ENG | 377 | Editing Family History for Public Audiences | Fundamentals of editing family writing. Role of editors in analyzing, revising, and polishing manuscripts for publication. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 378 | Environmental Creative Nonfiction | Lectures, discussion, and criticism concerning the literary history of nature writing and techniques of writing environmental creative nonfiction for publication. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 379 | Travel Writing | Studies the genesis of travel writing, what theories inform travel writing, and the various genres of travel writing today. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 384 | Studies in Gender and Sexuality in Literature and Culture | Approaches to issues of gender and sexuality in literary and cultural texts. May focus on historical period, literary movement, genre, single author, literary theory, theme or other field of study. | Y | LEC | Y | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 385 | Career Development for English Majors | Theoretical and practical aspects of career planning related to skills and interests developed in English studies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 386 | American Gothic | The development of modern American Gothic as a literary form from Poe to Oates. Emphasizes the short story. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 387 | Intermediate Creative Writing Workshop in Poetry: Form, Theory, and Practice | Intermediate writing of poetry. Requires term paper or equivalent out-of-class written work. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 287 with C or better OR Visiting University Student |
| ENG | 388 | Intermediate Creative Writing Workshop in Fiction: Form, Theory, and Practice | Intermediate writing of fiction. Requires term paper or equivalent out-of-class written work. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 210 or 288 with C or better OR Visiting University Student |
| ENG | 390 | Methods of Inquiry | Studies in writing, rhetoric and literacy are multiple and diverse because these areas deal with complicated ways people create meaning, circulate meaning, and understand meaning in a variety of contexts and a variety of modal formats. Examines ways of developing research problems and questions, designing studies and conducting, reading and evaluating research in the areas of writing, rhetoric and literacy. Qualitative methods (e.g., case study, ethnographic methods, interviewing); historical methods (e.g., archival, document analysis and artifact interpretation); rhetorical analysis and discourse analysis; feminist approaches to research and analysis; and recent advances in research in the fields of rhetoric, writing and literacy studies. Investigates the many attitudes and assumptions about creativity and cultural work that make methods of inquiry as controversial as they are significant to contemporary public life. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 391 | Writing in Context | How do we understand the ways in which people use written language to carry out work in professional, academic, social and/or personal contexts? How does our understanding of the ways writing is produced for an audience shift between and among these different contexts? More importantly, how do writers adapt their writing practices in order to facilitate audience understanding as well as cultivate an audience's capacity for action? Familiarize students with rhetorical practices that position them to read, assess and respond to the rhetorical demands of a wide range of writing contexts. Strengthens students' existing rhetorical skill sets and problem-setting capacities for producing and circulating work (widely defined across material, print and digital media) that responds to a range of problems in an applied manner. Assesses the rhetorical demands of writing contexts and in developing and producing tailored, audience-specific texts that forward work in complex, interdisciplinary environments. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| ENG | 392 | History of Rhetorical Theory | Begins in ancient Greece with the rise of the art of public oratory (known as rhetoric) and ends in the present, an era dominated by mass media. Engages in a great deal of reading--lots of very old writings as well as some newer ones. Covers a great many topics and ideas; focuses by continually returning to the subject of public discourse. Challenging readings designed to emphasize the connection between systems of philosophy (or "worldview") and systems of communication. By focusing on big ideas, students become a better thinker and communicator in any chosen career. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| ENG | 393 | Theories of Literacy | While theories of literacy have, for the most part, been determined by the primacy of reading and writing script, more recent scholarship in literacy theory and history has served to challenge such limitations. Many contemporary perspectives on literacy view scripted text as one component of complex acts and practices of written communication that occur in social contexts. Studies that examine such communicative acts in their local contexts reveal that literate practices and the texts that are produced are imbued with social and cultural values and traditions and the needs and desires of individuals. As the statements above illustrate, theories of literacy themselves are embedded within the values and assumptions of individuals, institutions, and academic specialization. Examines some of these theories, their influences on academic scholarship and pedagogy, the ideological assumptions that inform them, and how we might view these theories within broader social-cultural landscapes. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-4 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 395 | Combat in Film | Interdisciplinary approach to and qualitative method for analyzing war movies and military dramas as both historical and cinematic narratives that represent the experiences of infantry marines and soldiers in 20th- and 21st-century U.S. wars. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 394 (Combat in Film) or ENG 395 or FMP 395 or HST 306 (Combat in Film) or HST 395 or VTS 395 OR Visiting University Student |
| ENG | 400 | History of Literary Criticism | Major critics and critical traditions in the Western world. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| ENG | 401 | Topics in Critical Theory | Major critical schools of recent decades--postcolonialist, psychoanalytic, deconstructionist, feminist, new historicist. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours OR Visiting University Student |
| ENG | 403 | Semantics | Program and methods of contemporary formal semantics. Characterizes knowledge of meaning as knowledge of truth conditions. The goal of semantics is thus to uncover the rules that allow the speakers of a language to know under what conditions any sentence is true; or in other words, to construct a theory of truth for natural language. Simple fragments including: predication, quantification, definite descriptions, simple temporal and modal expressions, and attitude verbs. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; ENG 213 or SLC 201 with C or better; minimum 56 hours OR Visiting University Student |
| ENG | 404 | Studies in Second Language Acquisition | Specialized topics in second language teaching and learning, including theory, pedagogy, curriculum, and assessment. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; ENG 213 or SLC 201 with C or better; minimum 56 hours OR Visiting University Student |
| ENG | 408 | Gender, Sexualities and Literacies | Presents diverse perspectives on gender, sexualities and literacies from preschool to adulthood. Focuses on race, ethnicities, sexual orientation and gender identities to provide overviews of current research on gender, sexualities and ethnicities and examines how these subjectivities are expressed in multiple modes of communication. Explores representations and performances of gender and sexualities through literacy practices in sociocultural and educational contexts. Explores related issues through textbook readings, videos, websites, activities, online discussions and projects. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): min 45 hrs; Crdit is allwd for only ENG 408 or WST 408 or ENG 494 (Gndr, Sexualities, & Lit) or ENG 598 (Gndr, Sexualities, & Li) or MAS 598 (Gndr, Sexualities, & Li) or WST 494 (Gndr, Sexualities, & Lit) OR Visiting University Student |
| ENG | 409 | Analyzing Rhetoric | Provides students with the tools and methods by which the effectiveness, truthfulness, ethicality, and/or artistry of persuasive speech and language can be evaluated. Students take a systematic approach to analyzing rhetoric on a variety of selected topics. | Y | LEC | Y | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 409 or ENG 494 (Analyzing Rhetoric: Fake News & Alternative Facts) |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| ENG | 410 | Writing for Publication | Lectures and conferences concerning techniques of writing for publication. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 200 and one 200-level literature course with C or better, OR New College undergraduate student with minimum 45 hours |
| ENG | 411 | Advanced Creative Writing | Advanced creative writing in genres other than poetry, fiction, creative nonfiction, or screenwriting. | N | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ENG 310 with C or better |
| ENG | 412 | Creative Nonfiction | Lectures, discussion, and criticism concerning techniques of writing creative nonfiction for publication. | N | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ENG 310, 388 or 411 with C or better |
| ENG | 413 | History of English Language | Development of English from the earliest times to the modern period. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 413 or LIN 517 OR Visiting University Student |
| ENG | 414 | Studies in Linguistics | Specialized topics in linguistics including phonology, syntax, semantics, pragmatics, discourse, language variation, and change. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; ENG 213 or SLC 201 with C or better; minimum 56 hours OR Visiting University Student |
| ENG | 415 | Studies in Medieval Literature and Culture | Medieval English and continental literature in translation, emphasizing cultural and intellectual backgrounds. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours OR Visiting University Student |
| ENG | 416 | Chaucer in Middle English | Yearly alternate between Chaucer's The Canterbury Tales and Troilus and Criseyde. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours OR Visiting University Student |
| ENG | 417 | Virtual Worlds for Global Communication | Explores the nature of virtual worlds and the multiple uses of these three-dimensional environments (also called metaverses) for new literate and global communications in the 21st century. Uses a combination of a textbook; Blackboard; popular virtual worlds, including Second Life (SL), and Internet resources (e.g., Web sites, e-discussion lists, YouTube videos) to explore the potential of virtual worlds. Explores the capabilities of several of the more than 70 virtual worlds for education, recreation, advancing social justice, global communication, socializing and networking. Participants critically examine the affordances of virtual worlds through readings, videos, online discussions, self-paced tutorials and brief reaction papers. Students receive demonstrations and guided tours by the professor and participate in individual and group explorations of virtual worlds | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 36 hours; Credit is allowed for CMN 598 (Virtual Worlds) or ENG 417 or ENG 494 (Virtual Worlds) or MAS 598 (Virtual Worlds) |
| ENG | 418 | Renaissance Literature | Prose, poetry, and drama of the Renaissance Era with an emphasis on cultural history. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| ENG | 419 | Writing for Podcasts | Focuses on digital communication skills, which are highly valued by companies and nonprofits. Increases awareness and understanding of how podcasts require specific attention to context, audience and meaning making. Emphasizes the theory and practical rhetorical conventions for social and digital media. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only ENG 419 or ENG 494 (Writing in Digital Communities) OR Visiting University Student |
| ENG | 420 | Multicultural Autobiographies | Examines the human experience via autobiographies and personal narratives. Multicultural, literary, and psychological perspectives on individual lives. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | (L or HU) & C | Prereq(s): ENG 101, 105, or 107 w/ C or btr; ENG 200 w/ C or btr; one 200-level lit course w/ C or btr OR New College ugrd std; ENG 101, 105, or 107 w/ C or btr; min 45 hours; Credit is allowed for only ENG 420 or IAS 420 OR Visiting University Student |
| ENG | 421 | Studies in Shakespeare | Close examination in selected dramatic and/or nondramatic works. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; ENG 110 or 200 with C or better; one ENG 200- or 300-level literature course with C or better OR ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |

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| ENG | 422 | Special Topics in Shakespeare | Close examination in selected dramatic and/or nondramatic works. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; ENG 110 or 200 with C or better; one ENG 200- or 300-level literature course with C or better OR ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| ENG | 423 | Renaissance Drama | Topics, authors, and themes in the drama of the Tudor and early Stuart periods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| ENG | 424 | Milton | Selected prose and poetry, emphasizing Paradise Lost, Paradise Regained, and Samson Agonistes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours |
| ENG | 425 | Studies in Romanticism | Romanticism in continental, British, and American literature and culture. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours OR Visiting University Student |
| ENG | 426 | British Culture and Empire | Examines British imperial culture in art and literature, 1870-1914, and postcolonial theory. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours |
| ENG | 427 | Studies in 18th-Century Literature and Culture | Literary, social, and cultural issues of the period studied in an interdisciplinary format. May be repeated for credit when topics vary. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours |
| ENG | 428 | The Pre-Raphaelites | Visual and literary works by Victorian Pre-Raphaelites as works in themselves and through relations between images and texts. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours; Credit is allowed for only ARS 435 or ARS 533 or ENG 428 |
| ENG | 429 | Studies in European Literature and Culture | Literary, cultural, and historical issues. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s) with C or better: ENG 101, 105, 107; ENG 200; one ENG 200- or 300-level literature course OR ENG 101, 105, 107; min 45 hours; Credit is allowed for only CEL 429 or ENG 429 or REL 429 or SLC 429 or THE 429 OR Visiting University Student |
| ENG | 430 | Studies in Victorian Literature and Culture | Literary, social, and cultural issues of the period studied in an interdisciplinary format. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| ENG | 431 | Whitman and Dickinson | Evaluates the 19th-century American Literary Renaissance through the specialized examination of its poetry and authors in their historical context. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 w/ C or better; ENG 200 w/ C or better and one 200-level literature course w/ C or better OR New College undergraduate student; ENG 101, 105, or 107 w/ C or better; minimum 45 hours OR Visiting University Student |
| ENG | 432 | The American Renaissance | Novels, poetry, short fiction, and criticism of the major literary figures of the early to mid-nineteenth century. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): ENG 200 with C or better; one 200-level literature course with C or better OR New College undergraduate student; minimum 45 hours OR Visiting University Student |
| ENG | 433 | Literary Magazine Publishing: Canyon Voices | Practical study of literary magazine production. Students learn every facet of curating and producing an issue of Canyon Voices literary magazine, from reading and reviewing submissions, to editing and designing the magazine, to soliciting submissions. In addition, students learn to organize a public literary reading that showcases the artists and writers featured in the magazine and fosters a literary presence in the community. | N | LEL | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |

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| ENG | 434 | Studies in the Literature and Culture of the Americas | Literature and culture of North America, South America, and the Caribbean. May be repeated for credit when topics vary. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours |
| ENG | 435 | Literatures and Cultures of Immigration and Diaspora | Specialized topics in literary and cultural representations of immigration and diaspora studied in an interdisciplinary context. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours |
| ENG | 436 | Studies in Anglophone Literature and Culture | Literary, social, and cultural issues of English-speaking former colonial territories. May be repeated for credit when topics vary. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours OR Visiting University Student |
| ENG | 437 | The American Novel, 1900 - 1960 | Developments in theory and practice of major novelists. | N | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 w/ C or better; ENG 200 w/ C or better and one 200-level literature course w/ C or better OR New College undergraduate student; ENG 101, 105, or 107 w/ C or better; minimum 45 hours OR Visiting University Student |
| ENG | 438 | American Novel Since 1960 | Major novelists of the period. Developments in theory and practice. | N | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 w/ C or better; ENG 200 w/ C or better and one 200-level literature course w/ C or better OR New College undergraduate student; ENG 101, 105, or 107 w/ C or better; minimum 45 hours OR Visiting University Student |
| ENG | 439 | Technoliteracies | Critically explores the nature of digital communications and expanded definitions of what counts as text and as literate expression in the 21st century. Emphasizes the 21st-century skills and abilities required for and fostered by digital communications (e.g., collaboration, multitasking, intertextual analyses) and examines the newest technologies that enable digital communications (e.g., digital storytelling, virtual worlds, social media, digital crafting, video gaming/modding). In doing so, focuses on the intersections of technologies and the arts as literate communications with implications for teaching and learning. Participants explore these topics through readings, videos and Web sites and by reflecting on their own experiences. Students respond to questions/prompts through online discussions, reflective thought papers, and media or virtual presentations. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 36 hours; Credit is allowed for only ENG 439 or ENG 494 (Technoliteracies) or MAS 598 (Technoliteracies) |
| ENG | 440 | Studies in American Literature and Culture | Various genres in their literary, political, theoretical, and historical contexts. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours OR Visiting University Student |
| ENG | 441 | Introduction to Participatory Media | The spread of participatory media, ranging from zines, e-zines, podcasting and video production tools to video games and virtual worlds has led to significant changes in how we communicate, learn, collaborate, network and create. Introduces theory and research on participatory media and the changing nature of "literacy" in a media age to "literacies." Addresses key concepts and issues, such as language, identity, access and community. Explores these topics through engaging in readings, videos and Web sites; by reflecting on their own experiences; and by responding to questions/prompts through online discussions, thought papers, social media or virtual presentations. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 36 hours; Credit is allowed for only CMN 598 (Intro to New Media) or ENG 441 or ENG 494 (Intro to New Media) or ENG 598 (Intro to New Media) or MAS 598 (Intro to New Media) OR Visiting University Student |
| ENG | 442 | Studies in 20th-Century British and Irish Literature and Culture | Major literary genres (novel, poetry, and drama) in their cultural and historical contexts. May be repeated for credit when topics vary. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours |

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| ENG | 443 | Gender, Culture and Literacy | Explores the interactions and influences of gender and culture on literacy development and practice. Literacy is defined broadly as including the new literacies (e.g., blogs, wikis, zines or self publications) and multiliteracies (e.g., communication through oral, lyrical, visual, digital or written texts) within a broad view of what counts as text. Addresses varying feminist theories and perspectives on masculinities and gender in relation to literacy in home, school, community and work place settings. Participants explore their own written, digital and oral language practices through readings, videos, Web sites, Blackboard discussions, self-reflections, thought papers and action research essays. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 36 hours; Credit for only ENG 443 or ENG 494 (Gender, Culture & Literacy) or MAS 598 (Gender, Culture & Literacy) or WST 415 or WST 494 (Gender, Culture & Literacy) OR Visiting University Student |
| ENG | 444 | Topics for Interdisciplinary Study of Literature and Culture | Uses methodologies from literary studies and other disciplines to understand a topic or problem. Interdisciplinary areas may include fields such as environmental humanities or American studies, as well as other areas of interdisciplinary study. | Y | LEC | Y | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 445 | Studies in American Realism | Writers and influences that shaped the development of literary realism. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; one ENG 200- or 300-level literature course with C or better OR ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| ENG | 446 | Visual Narratives | Students analyze and compose visual narratives (e.g., picture books, comics, graphic novels, film, animation, video games). | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 446 or ENG 520 OR Visiting University Student |
| ENG | 447 | Experimental Narrative | Examines texts that experiment with form, content and narrative perspective within print, film and digital media. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only ENG 447 or FMS 442 or SLC 450 OR Visiting University Student |
| ENG | 448 | Studies in Irish Literature and Culture | Themes and problems pertaining to Irish literature, film, and social and cultural history. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours OR Visiting University Student |
| ENG | 449 | Masculinities, Femininities and Literacies | Explores perspectives on and representations of masculinities and femininities in literacy development and practice. Addresses, beginning with adolescence, a time of identity exploration, feminist and gender perspectives in relation to oral language, reading, writing and electronic communications in home, school, community, education and work settings. Examines gender performance as a local/global issue. Explores the influence of gender on written, digital and oral language practices through textbook readings, videos, websites, self-reflections, thought papers and/or alternative format responses to weekly questions on the course materials, and Blackboard discussions. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 36 hours; Credit is allowed for only ENG 449 or ENG 494 (Masculinities, Femininities, and Literacies) or MAS 598 (Masculinities, Femininities, and Literacies) or WST 417 or WST 494 (Masculinities, Femininities, and Literacies) |
| ENG | 450 | The British Novel | Focuses on the British novel from the 18th century to the present. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Pre-requisites: ENG 200 with C or better and one 200-level literature course with C or better OR New College undergraduate student and minimum 45 credits |
| ENG | 452 | Studies in the Novel | May be repeated for credit when topics vary. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours OR Visiting University Student |
| ENG | 453 | Studies in the American Novel | Poetics and politics of the novel, 18th through 21st centuries. May be repeated for credit when topics vary. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours |
| ENG | 454 | Gender and Literature | Focuses on the representation of gender in literature. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ENG 454 or WST 454 OR Visiting University Student |
| ENG | 455 | Contemporary Women Writers | Critical examination of literature by contemporary women writers. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours |

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| ENG | 456 | Studies in Forensic Linguistics | Focuses on the three main aspects of that branch of applied linguistics, namely language and the law, court cases where language is the central dispute, and linguistic evidence. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 456 or FOR 456 or PAX 456 or SBS 456 |
| ENG | 457 | Studies in American Poetry | May be repeated for credit when topics vary. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours OR Visiting University Student |
| ENG | 458 | Latina/o Literature | Development of Latina/o literature. Study of genres and themes; attention to literary antecedents of the new U.S.-based Latina literature. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & C | Prerequisite(s) with C or better: ENG 101, 105, or 107; ENG 200; one ENG 200- or 300-level literature course OR ENG 101, 105, or 107; min 45 hours; Credit is allowed for only ENG 458 or FMS 464 or TCL 464 OR Visiting University Student |
| ENG | 459 | Studies in African American/Caribbean Literatures | Studies in African American or Caribbean literatures according to genre, period, theory, or selected authors. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & G | Prerequisite(s) with C or better: ENG 101, 105, or 107; ENG 200; one ENG 200- or 300-level literature course OR ENG 101, 105, or 107; minimum 45 hours; Credit is allowed for only AFR 459 or ENG 459 OR Visiting University Student |
| ENG | 460 | Ethnic Women Writers | Concentrates on selected women writers of the U.S. who are Native American, African American, Hispanic, and Asian American. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 200 with C or better; one 200-level literature course with C or better OR College of Integrative Sciences and Arts or New College undergraduate student; minimum 45 hours; Credit allowed for only ENG 460 or WST 467 OR Visiting University Student |
| ENG | 461 | Studies in Women and Literature | Advanced topics in literature by or about women. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours |
| ENG | 462 | African Literature | Focuses on the literature of the African Diaspora, including texts from the Caribbean, the Americas, and Africa. May be repeated for credit when topics vary. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & G | Prerequisite(s): ENG 200 with C or better and one 200-level literature course with C or better OR Integrative Sciences and Arts or New College undergraduate student with minimum 45 earned hours |
| ENG | 463 | African American Literature | Thematic and cultural study of African American literature. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 200 with C or better and one 200-level literature course with C or better OR Integrative Sciences and Arts or New College undergraduate student with minimum 45 earned hours |
| ENG | 464 | Great Directors | Studies the work of one or more influential directors. | N | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 465 | Studies in Film | Advanced topics in cinema. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3-4 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 466 | Studies in International Film | Studies non-American narrative film. | N | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 467 | American Film Musicals | A cultural history of American film musicals. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 468 | Environmental Literary Criticism | Evaluates the disparate critical practices that constitute what is the emerging literary project known as "ecocriticism" or "environmental literary criticism." | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 469 | Science and Literature | Historical and theoretical links between science and literature, from Francis Bacon to the present, examined in cultural context. May be repeated for credit when topics vary. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours; Credit is allowed for only DST 469 or ENG 469 OR Visiting University Student |
| ENG | 470 | Studies in Children's Literature | Various critical approaches and recurring themes studied in relation to classical and contemporary children's literature. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; one other ENG course with C or better OR Visiting University Student |

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| ENG | 471 | Literature for Young Adults | Prose and poetry that meet the interests and capabilities of junior high and high school students. Stresses recent literature. A passing grade of at least "C" (2.00) required before students are permitted to student teach in English. | N | REC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; ENG 110 or 200 with C or better; one ENG 200- or 300-level literature course with C or better OR ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| ENG | 472 | Rhetorical Studies | Developments in theory and practice of major rhetorical inquiries. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| ENG | 473 | Critical Approaches to Children's Literature | Reads picture books, chapter books and fairy tales and analyzes these texts through multiple critical lenses (e.g., feminist, Marxist, historical, structuralism, formalist). | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 473 or ENG 394 (Reading Children's Literature) |
| ENG | 474 | Review Writing | Advanced writing course exploring rhetorical approaches to writing reviews. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Pre-requisites: Completed ENG 102, 105, or 108 with C or better; Minimum 56 hours |
| ENG | 475 | Popular Periodical Writing | Advanced writing course analyzing and imitating genres in popular periodical writing. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L | Pre-requisite(s): Completed ENG 102, 105, or 108 with C or better. Minimum 56 hours |
| ENG | 476 | Studies in Folklore | Surveys the history, genres, and dynamics of folklore, with emphasis on oral traditions. May be repeated for credit when topics vary. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours OR Visiting University Student |
| ENG | 477 | World Literature | Readings in world literature, mostly outside the United States and England. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | (L or HU) & G | Prerequisite(s) w/ C or better: ENG 101, 105, or 107; ENG 200; one 200-level lit course OR College of Integrative Sciences and Arts or New College ugrad std; ENG 101, 105, or 107; min 45 hours; Credit allowed for only ENG 477 or IAS 477 OR Visiting University Student |
| ENG | 478 | Studies in Modernism | Cultural, historical, and literary issues in American and European modernism. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours |
| ENG | 479 | Studies in Postmodernism | Literary, social, and cultural topics in postmodernism. May be repeated for credit when topics vary. | N | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & G | Prerequisite(s): ENG 200 with C or better; one ENG 200- or 300-level literature course with C or better OR minimum 45 hours |
| ENG | 480 | Methods of Teaching English: Composition | Methods of instruction, organization, and presentation of appropriate content in the teaching of composition and other writing skills. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; one other ENG course with C or better OR Visiting University Student |
| ENG | 482 | Methods of Teaching English: Language | Methods of instruction, organization, and presentation of appropriate content in language and usage for junior and senior high schools. | N | REC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours OR Visiting University Student |
| ENG | 483 | Methods of Teaching Secondary Literature and Language | Emphasizes educational methods of planning, teaching, and assessing appropriate content in the instruction of secondary literature, literacy, and language usage. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ENG 200 with C or better and one 200-level literature course with C or better OR New College or Integrative Sciences and Arts undergraduate and minimum junior academic level and one 200-level (or higher) English course with C or better |
| ENG | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
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| ENG | 485 | Digital Tools | Digital (online, electronic) tools as best utilized in language arts curriculum and instruction for junior and senior high schools. Addresses many practical classroom matters; broadens knowledge of Web 2.0 opportunities for teaching and learning. Creates a detailed inventory of the digital tools familiar to secondary students, and compares these to what a clever English teacher can access in a public school classroom. Imaginations, studies, and designs digital tools to enhance student achievement. Uses digital tools to increase student access to history and culture and opportunities for individuals to find and articulate their voices, as well as opens avenues for their creativity. Empowers the English language arts classroom with critical understandings of media, culture and public relations (digital information manipulation) and develops secondary students from passive consumers to literate participants in democracy. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): English (Secondary Education) BA major; ENG 102, 105, 108 and one other ENG course with C or better |
| ENG | 486 | Teaching Text | Approaches to texts (poetry, nonfiction and fiction) as best utilized in language arts curriculum and instruction for junior and senior high schools. Language arts teachers want all of their students to love literature and become immersed in the texts they assign (poems, short stories, plays, nonfiction and informative texts, and novels). Explores activities and philosophies for building a strong reading workshop in the secondary language arts classroom. Through identifying proficient readers, conducting thoughtful conversations about students and reading, and using a variety of ways to invite readers into books, designs and experiences reading workshops based on innovative and effective teaching strategies. Offers hands-on strategies for supporting struggling readers and for teaching reading from a critical lens. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): English (Secondary Education) BA major; ENG 102, 105 or 108 and one other ENG course with C or better; Credit is allowed for only ENG 486 or ENG 598 (Teaching Text) OR Visiting University Student |
| ENG | 487 | Advanced Creative Writing Workshop in Poetry | Advanced writing of poetry. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 310 or 387 with C or better; Credit is allowed for only ENG 411 or ENG 487 OR Visiting University Student |
| ENG | 488 | Advanced Creative Writing Workshop in Fiction | Advanced writing of fiction. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 388 with C or better; Credit is allowed for only ENG 411 or ENG 488 OR Visiting University Student |
| ENG | 489 | Scholarly Products | Students develop culminating projects that demonstrate comprehensive knowledge and command of skills within the field of English studies. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 87 hours OR Visiting University Student |
| ENG | 490 | Literary Forms: Theory and Practice in Poetry | Types, history, analysis of traditional forms, and contemporary adaptations. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 411 or 487 with C or better; Credit is allowed for only ENG 490 or ENG 495 |
| ENG | 491 | Topics for Advanced Research | Students define a conceptual question related to a specific topic in literary scholarship; conduct appropriate research; and craft a response or argument that assesses the question, the evidence and possible responses to it. | Y | LEC | Y | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-6 | | Prerequisite(s): Barrett Honors student |
| ENG | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Liberal Arts and Sciences | Department of English | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ENG | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-4 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| ENG | 495 | Writing Certificate Portfolio | Preparing a portfolio demonstrating advanced writing skills. Limited to and required of students in the Writing certificate program. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1 | | Prerequisite(s): New College Writing certificate student; Credit is allowed for only AMS 490 or ENG 495 OR Visiting University Student |
| ENG | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-6 | | Prerequisite(s): Barrett Honors student |
| ENG | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-7 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better (FYC) |
| ENG | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 501 | Approaches to Research | Theories, methods and/or methodologies as well as qualitative and/or quantitative approaches to the specific discipline. Familiarizes students with the areas of research. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only ENG 501 or LIN 501 |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| ENG | 502 | Contemporary Critical Theories | Studies the principles and techniques of contemporary theory and criticism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 503 | History of Narrative | Historical overview of narrative as a mode of discourse and communication. Begins with the study of influential traditional narrative forms from Biblical and classical sources and moves to study innovation in narrative, including flashbacks, interior monologue, nonlinear narrative and frustration of narrative expectations. | N | SEM | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 504 | Cross-Cultural Studies | Theoretical and analytical issues for comparative research across distinct cultural regions and traditions. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 505 | Narrative Research Methods | Addresses narrative and arts-based forms of qualitative research. Focuses on reporting study findings in narrative form. | N | SEM | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 506 | Methods and Issues in Teaching Language | Developing the language skills of native and non-native speakers through a process approach and advanced writing workshops in junior and senior high schools. | N | REC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 507 | Methods and Issues in Teaching Composition | Up-to-date theory, practice, and implementation of secondary writing instruction. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 509 | Studies in Narrative Writing | Writing course focusing on specific kinds of narrative writing (e.g., blogging, travel writing). Regardless of particular topic focus, this course covers basic structural issues in narrative writing and gives students practical and applied experience crafting their own narratives for multiple audiences. | Y | SEM | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 513 | Classic Texts in Leadership and Statesmanship | Encounters classic texts featuring analyses and discussions of important historical leaders and their actions. These texts both situate examples of leadership and statesmanship in their historical context, and highlight timeless principles of wise and effective leadership. Texts include Thucydides' History of the Peloponnesian War, Plutarch's Lives, Cicero's On Duties, Shakespeare's histories, and the writings and speeches of Abraham Lincoln. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CEL 513 or ENG 513 |
| ENG | 514 | Studies in Experimental Narrative | Critical analysis of experimental or unconventional narratives, including nonlinear narrative, surrealist narrative and metanarrative. Course materials include both text and visual narratives. | N | SEM | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 516 | Literary Publishing | Explores various aspects of literary publishing, including market profile of journals, techniques for preparing submissions, role of literary awards and contests. | N | SEM | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 517 | History of the English Language | Surveys the development of the English language, with an emphasis on major linguistic transformations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ENG 413 or ENG 517 or LIN 517 |
| ENG | 518 | Scientific Narratives | Examines how fictional narratives have shaped popular constructions of science and how scientific works can be read as narrative. Coursework emphasizes critical thinking, discussion and argumentative writing. | N | SEM | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 519 | Superstition Review | Students collaborate to complete tasks that lead to the publication of one issue of the national online literary magazine Superstition Review. | N | PRA | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 520 | Visual Narratives | Students analyze and compose visual narratives (e.g., picture books, comics, graphic novels, film, animation, video games) and explore relevant theory and research. | N | SEM | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ENG 446 or ENG 520 |
| ENG | 521 | Writing the Southwest | Cultural representation in twentieth-century narratives of the Southwest United States. Focuses on canonical and noncanonical texts and addresses multiple representations of race, time periods and genres in the Southwest literature. | N | SEM | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 522 | Narratives of Conquest | Critical study of narratives relating/responding to the conquest of the Americas from the fifteenth century to the present. Addresses conquest narratives that reflect the Spanish colonization period (1510-1810) and the United States colonization period (1848-1965) in the Southwest. Chosen texts illuminate themes related to the nature of colonial relationships, notions of barbarie/civilization and empire building | N | SEM | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 525 | Teaching Second Language Writing | Provides a critical introduction to the field of second language writing as well as issues and strategies in the teaching of second language writing in a wide variety of contexts. After exploring various instructional contexts as well as the characteristics of different types of students and their texts, considers various instructional practices and strategies, focusing on course and assignment designs, reading-writing connection, teacher and peer feedback, grammar instruction, classroom assessment, plagiarism and text borrowing strategies, and negotiating language differences. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking)Credit is allowed for only LIN 525, 591 (Teaching 2nd Language Writing) or ENG 525 |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| ENG | 530 | Old English | Study of Old English grammar, syntax, and phonology, with selected readings. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 531 | Old English Literature | Intensive literary, linguistic, and cultural study of Old English literature. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; ENG 530 |
| ENG | 532 | Middle English Dialects | Study of the principal dialects of Middle English, with selected readings. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 533 | Studies in Medieval Literature | Selected topics in English literature from the 11th through the 15th centuries. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 534 | Studies in Renaissance Literature | Selected topics and literary works studied in the contexts of English Renaissance culture. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 535 | Studies in 18th- and 19th-Century British Literature | Selected topics, issues, figures, and genres in British literature and culture of the 18th and 19th centuries. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 536 | Studies in American Literature before 1900 | Selected topics, issues, figures, and genres in 17th-, 18th-, and 19th-century American literature, including the literature of conquest and contact. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 537 | Studies in Modern and Contemporary British Literature | Selected topics, issues, figures, and genres in British literature and culture after 1900. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 538 | Studies in Modern and Contemporary American Literature | Selected topics, issues, figures, and genres in American literature and culture after 1900. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 539 | Studies in Modernist and Postmodernist Literature and Theory | Selected topics in Modernist and Postmodernist studies. May include literary and theoretical texts. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 540 | Teaching Young Adult Literature | Issues and new approaches in teaching contemporary literature in high school. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 541 | Teaching Texts in Secondary Classrooms | English language arts teachers want all of their students to love literature and become immersed in the texts they assign. Explores activities and philosophies for building a strong reading curriculum in the secondary language arts classroom. Through identifying proficient readers, conducting thoughtful conversations about students and reading, and using a variety of ways to invite readers into texts, designs and experiences reading workshops based on innovative and effective teaching strategies. Students learn to create and implement reading units, literature circles, books of choice, literary tea parties, reading portfolios and final projects. Students also learn hands-on strategies for supporting ethnically and linguistically diverse readers and for teaching reading from a critical lens. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ENG 541 or ENG 598 (Teaching the Novel Grades 6-12) |
| ENG | 542 | Studies in North American Ethnic Literatures | Selected works studied in their cultural contexts from authors representing ethnic experiences in the United States. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 544 | Studies in Colonial and Postcolonial Literature | Selected topics, periods, theories, and figures in works by authors representing colonial and postcolonial regions and/or experiences. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 550 | Translation | Surveys theories and practices of translation into English. Considers target, audience and market. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 551 | Rhetorical Traditions | Examines rhetorical traditions spanning ancient to contemporary rhetorics. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 552 | Composition Studies | Selected topics in the history and theories of composition. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 553 | Technologies of Writing | Critical study and cultural analysis of information technologies and their effects on various writing practices. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 554 | Rhetorics of Race, Class, and Gender | Study of interdependent relationships of race, class, and gender in rhetorical constructions of self and community. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 556 | Theories of Literacy | Examines various theories of literacy, their embedded values and assumptions, and their influences on academic scholarship and pedagogy. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 557 | Computer-Assisted Language Learning | Explores the field of computer-assisted language learning. Traces the development of computer-assisted language learning (CALL) over the last three decades. Focuses on research that explores how computer technology can help facilitate second language development; relies primarily on empirical data to do so. Examine established as well as new research methods in CALL. Participants participate in one research study and apply theoretical and practical aspects of CALL in these projects. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only APL 557 or ENG 557 or SLC 557 |
| ENG | 560 | Genre Studies | Critical analysis and study of works from a single genre or comparative analysis and study of multiple genres. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 561 | Film Studies | Analysis and study of film genres, cinematic techniques, and problems of interpretation and representation. | N | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 562 | Forms of Poetry | Types, history, criticism, and schools of theory of metrical form. Analyzes lyric, narrative, and dramatic poetry. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 563 | Forms of Fiction | Types, history, criticism, and schools of theory in the forms of fiction. Analyzes narrative and dramatic structure. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| ENG | 567 | World War II in Film | Offers a comprehensive survey of how film has represented the Second World War. Using a transdisciplinary approach, studies how films from the time of the Second World War to the present have portrayed that conflict. Compares different perspectives on the causes and results of the war, as well as engage in analysis of how important issues such as international political and economic relationships, religion, gender, ethnicity, class, race, technology and the psychological effects of violence get shown in movies about World War II. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ENG 567 or FMS 567 or WWS 567 |
| ENG | 568 | World War II in Literature | Explores the topic of World War II across fiction, non-fiction, film and other film genres. Focus areas and topics of literature covered in the course may vary from semester to semester, depending upon instructor preference. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ENG 568 or WWS 568 |
| ENG | 571 | Foundations for Teaching English Learners | Provides teachers with foundational knowledge of English language learner education including: identification and knowledge of English language learners in school contexts, the role of culture in learning, principles of second language acquisition and teaching, historical and current perspectives and policies related to English learner education, and the role of parents and communities in the education of English learners. | N | LEC | Y | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 580 (1 hour); Credit is allowed for only ENG 571 or ENG 598 (Foundations for Teaching English Learners) |
| ENG | 572 | Strategies for Teaching English Learners | Supports teachers through a review of core knowledge of strategies and correlated assessments for the instruction of English learners. Teachers learn to assess EL language needs and apply appropriate teaching strategies for supporting learning English and content. Primary emphasis is in the integration of EL language and learning needs and implementation of lesson planning, strategies and appropriately leveled instruction. Teachers complete a semester-long inquiry on integrating course content into their teaching practices. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 571; Pre- or corequisite(s): ENG 580 (2 hours); Credit is allowed for only ENG 572 or ENG 598 (Strategy/Assessment/Core for Teaching Eng Learners) |
| ENG | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 581 | Methods of Teaching Secondary Writing | Emphasizes methods of planning, teaching, and assessing appropriate content in the instruction of composition and related skills in secondary classrooms. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| ENG | 582 | Pedagogy | Overview of diverse theories of English instruction, including composition/rhetoric, linguistics and literary, with emphasis upon development and implementation for high school- and community college-level instructors. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): admission to any graduate program |
| ENG | 583 | Methods of Teaching Secondary Literature and Language | Emphasizes educational methods of planning, teaching, and assessing appropriate content in the instruction of secondary literature, literacy, and language usage. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 0-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | Department of English | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 597 | Graduate Capstone Seminar | The capstone seminar is required for graduate students who must complete a culminating experience for a degree or certificate program. | N | RSC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ENG 597 or LIN 597 |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|-----------------------|-------|-----------------|---|
| ENG | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 601 | Job Market Workshop: Designing Your Future | Focuses on the professional training of graduate students who pursue an academic or alt-ac (alternative academic) job. The material enables students to learn more about their professional opportunities and improve their chances on the job market. In a workshop format, some of the professionalization skills may include conference presentations, increasing professional digital presence, using job search tools, applying for internships and postdocs, writing job letters and grant proposals, managing stress, preparing for interviews, interviewing, presenting job talks and teaching demonstrations, and creating work/life balance. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ENG 601 or ENG 791 (Job Market Workshop) |
| ENG | 602 | Advanced Studies in Theory and/or Criticism | Seminar courses on the principles, strategies, and applications of critical, cultural, and/or literary theory and/or criticism. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 603 | Advanced Studies in Comparative Literature | Seminar courses on the problems, methods, and principles of comparative analysis. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 604 | Interdisciplinary Cultural Studies | Seminar courses on work from literature, anthropology, and/or other disciplines, with an emphasis on cultural influences and functions. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 606 | Advanced Studies in English Education | Current research, issues, and trends in English education. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 625 | Advanced Studies in Second Language Writing | Provides opportunities to explore advanced research topics as well as current issues and controversies in the field of second language writing--an interdisciplinary field of inquiry simultaneously situated in applied linguistics, rhetoric and composition, and teachers of English to Speakers of Other Languages. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ENG 625 or LIN 625 |
| ENG | 632 | Advanced Studies in Medieval and Renaissance Literature and Culture | Seminar in works of the Medieval or Renaissance periods, studied in their cultural contexts. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 635 | Advanced Studies in British Literature | Seminar courses on works produced in or about England, Scotland, and Wales, studied in their cultural contexts. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 636 | Advanced Studies in American Literature | Seminar courses on works produced in or about the United States, studied in their cultural contexts. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 639 | Advanced Studies in Modernism and Postmodernism | Seminar courses on topics in Modernist and Postmodernist studies. May include literary and theoretical texts. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 642 | Advanced Studies in Ethnic, Anglophone, or Post-Colonial Literatures | Seminar courses that consider the influence of cultural or geopolitical developments on the production and circulation of texts. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 651 | Advanced Studies in History and Theories of Rhetoric | Selected topics in the history and/or theory of rhetoric. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 652 | Advanced Composition Studies | Selected topics on particular composition theories, practices, pedagogies, and figures. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 654 | Advanced Studies in Rhetoric, Writing, Technology, and Culture | Advanced study of theoretical, methodological, and pedagogical issues concerning the interrelationships among rhetoric, culture, writing, and writing technologies. | N | SEM | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 655 | Disciplinary Discourses | Investigation of professional and disciplinary issues related to English. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 656 | Studies in Cross-Cultural Discourse | Theoretical and methodological issues in the comparative study of discourses between cultures and communities of practice. | N | SEM | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 662 | Poetic Genres | Creative writing courses in the long poem, the erotic image, death and transfiguration, reading and influence, and others. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 664 | Mixed Genres | Creative writing courses in the prose poem, magical realism, the literature of obsession. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 665 | Creative Methods | Creative writing courses in theory of the novel, poetics, story into film, and others. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 667 | Issues in the Writing Professions | Focuses on career preparation, resources, the role of writing in the community, creative writing, and the Internet. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| ENG | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | Department of English | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | Department of English | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENG | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Liberal Arts and Sciences | Department of English | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ENT | 290 | Entrepreneurship: Opportunity to Impact | How do you know if entrepreneurship is right for you? Don't have an idea today but want to work for a start-up? Focuses on developing an entrepreneurial mindset to prepare students for creating or participating in new ventures in the future, whether that is right now or after graduation. While this course does not contain the secret entrepreneurship code or the instruction manual for entrepreneurial success, it does provide a solid foundation of theory and practice that can set a budding entrepreneur on the right path. Students learn foundational entrepreneurship theories, participate in field activities where those theories are being put to the test, as well as learn to critically analyze their own ideas and other venture opportunities. Utilizes a mixture of teaching mediums including readings, videos, guest speakers, simulations, case studies and assignments completed as an individual and in teams. | N | LEL | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | |
| ENT | 305 | Principles of Entrepreneurship | Entrepreneurship, with an interdisciplinary basis, focusing principles that involve the startup of a new organization, as well as its management into a fully established firm. Specific discipline-based concepts range from marketing to finance and strategic management. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): minimum 2.50 GPA; minimum 30 hours OR Visiting University Student |
| ENT | 325 | Entrepreneurial Leadership | Practical, discussion-based course that explores the challenges and complexities of leadership in an entrepreneurial environment, specifically startups, family businesses, traditional small-to-mid-sized businesses and franchises. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W. P. Carey major; ENT 305 with C or better; minimum 56 hours; minimum 2.00 GPA OR Visiting University Student |
| ENT | 340 | Creativity and Innovation | Teaches key concepts and useful tools and techniques of creativity and innovation to students in order to encourage development of creative skills and habits that can propel them in their career or guide them down a path to start a new venture of their own. Coursework and activities involve complex problem solving activities and relevant trend and environmental analysis in order to explore alternative approaches to challenges. Coursework includes both individual and team activities. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 2.50 GPA; minimum 40 hours; Pre- or corequisite(s): ENT 305 with C or better if completed OR Visiting University Student |
| ENT | 360 | Entrepreneurship and Value Creation | In-depth application of entrepreneurial concepts including opportunity recognition, value creation and new business management. Identifies the needs of a market and problem solves to meet those needs through innovation. Covers common mistakes made in the new venture process and how to work to avoid these mistakes. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): Business or Engineering major; minimum junior standing OR non-Business, non-Engineering major; minimum junior standing; minimum 2.50 GPA; Credit is allowed for only ENT 360 or FSE 301 OR Visiting University Student |

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| ENT | 440 | Entrepreneurship | Prepares students for the challenges of assembling and growing high-potential innovative ventures through the use of analytical frameworks that encompass uncertainty inherent in entrepreneurship (or in entrepreneurial activity). In-depth discussion of cases provides a strong empirical foundation. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey BA or BS major; FIN 300, 302, or 303 with C or better; MGT 300, 303, or 310 with C or better |
| ENT | 441 | Entrepreneurial Management | Provides a framework for dealing with issues from an entrepreneur's perspective. Covers all areas of entrepreneurship from idea conception to prototype development, to testing, refining and harnessing resources. Covers readings and cases related to topics of business models, business plans, managing startups, business law, founder's issues, managing growth, broad business functions and overall strategic and financial positioning. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): Business Entrepreneurship BS, Entrepreneurial Leadership BA, Entrepreneurship & Innovation cert, or Small Business & Entrepreneurship cert student; ENT 305 with C or better; ENT 360 with C or better OR Visiting University Student |
| ENT | 445 | Business Model Development | Develops a complete strategic business model emphasizing the planning process undertaken by successful small business owners and entrepreneurs. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey BA or BS major; ENT 440 (or MGT 440) with C or better |
| ENT | 446 | Venture Capital Experience | Students learn the details of the startup funding process and available resources. Exposes the history of venture capital and other types of capital, current trends, and the trends that are anticipated in the future. Students learn due diligence process as performed by investors and applies these concepts to building and growing their own ventures. Coursework includes both individual and team activities and is open to students in any major of study with the required prerequisite. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey BA or BS major; ACC 240, 241, or 242 with C or better OR non-business student; minimum 2.50 GPA; minimum 56 hours; Credit is allowed for only ENT 446 (or MGT 446) or MGT 494 (Venture Capital Experience) |
| ENT | 447 | Lean Launch | Students learn lean and customer development methodologies to test assumptions made about a new business concept that they wish to explore or launch. Teaches how to effectively utilize business models and critically assess the assumptions made through the testing of hypotheses to create innovative and market-ready ventures. Includes weekly presentations of learning points and team activities outside of the classroom. Open to students in any major of study with the required prerequisite. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey BA or BS major; ACC 241, 242, or 271 w/ C or better OR non-Business student; minimum 2.50 GPA; minimum 56 hours; Credit allowed for only ENT 447 (or MGT 447) or HON 447 or MGT 494 (Lean Launch) OR Visiting University Student |
| ENT | 448 | Corporate Entrepreneurship | Covers five general areas of corporate entrepreneurship: entrepreneurial orientation and corporate venturing; franchising the refining of business models; social venturing; and the extension of partnerships (e.g., joint ventures, strategic alliances). | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): Business Entrepreneurship BS or Entrepreneurial Leadership BA major; ENT 305 with C or better; ENT 360 with C or better OR Visiting University Student |
| ENT | 464 | Collaborative Design Development I | Team-based product development course featuring applied projects. Open to senior students from business, engineering, design, and other disciplines. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 5 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ENT 447 (or MGT 464) or GRA 464 or IND 464 or SOS 474 OR Visiting University Student |
| ENT | 465 | Collaborative Design Development II | Team-based product development course featuring applied projects. Open to senior students from business, engineering, design, and other disciplines. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 5 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ENT 465 (MGT 465) or GRA 465 or IND 465 or SOS 475 OR Visiting University Student |
| ENT | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-12 | | Prerequisite(s): minimum 45 hours |
| ENT | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-6 | | Prerequisite(s): Barrett Honors student |
| ENT | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ENT | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-4 | | |
| ENV | 103 | Introduction to Geology I: Laboratory | 3 hours lab, some field trips. Both GLG 101 and 103 or both GLG 101 and ENV 103 must be taken to secure SQ General Studies credit. | N | LAB | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | SQ | Credit is allowed for only ENV 103 or GLG 103 |
| ENV | 130 | Introduction to Environmental Science | Introduces the interconnected nature of Earth's hydrosphere, lithosphere (soils and rocks), atmosphere, and biosphere. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | SQ | Credit is allowed for only ABS 130 or BIO 130 or ENV 130 OR Visiting University Student |
| ENV | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-3 | | |

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| ENV | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | |
| ENV | 201 | Fundamentals of Environmental Science | Examines the functioning of the earth system and how it has changed over long and short time scales. Emphasizes understanding global processes and how human activities can disrupt these processes, changing the ability of our global environment to support life. Also emphasizes important feedbacks between biological and physical processes and their effects on the biosphere. Discusses the response of natural and managed ecosystems to global change along with prospects for the future. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): BIO 181 and 182 with C or better or BIO 281 and 282 with C or better; CHM 116 with C or better OR Visiting University Student |
| ENV | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | |
| ENV | 300 | Plant Diversity and Evolution | An examination of the major groups of land plants, emphasizing evolutionary history, comparative data, and phylogenetic methods. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | L or SG | Prerequisite(s) with C or better: BIO 181; BIO 182; ENG 101, 105, or 107 OR BIO 281; BIO 282; ENG 101, 105, or 107; Credit allowed for only BIO 303 or ENV 300 or PLB 300 OR Visiting University Student |
| ENV | 302 | Plants and Civilization | Plants and plant products used by people throughout the world. Cultivation, processing, and uses in modern life (beverages, fibers, foods, medicinals, and perfumes). | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | L | Prerequisite(s) with C or better: BIO 181; BIO 182; ENG 101, 105, or 107 OR BIO 281; BIO 282; ENG 101, 105, or 107; Credit is allowed for only BIO 304 or ENV 302 or PLB 302 OR Visiting University Student |
| ENV | 345 | Spatial Analysis in the Environmental Sciences | Develops an understanding of the methods, tools and technologies used to collect, display, analyze and interpret spatial data in environmental science and natural resource management. Provides overview of geographic information system (GIS) applications in these fields. Basics of integrating the global position system (GPS) and remote sensing (RS) into GIS to solve problems in environmental science and natural resource management. | N | LEL | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ENV 201 with C or better |
| ENV | 386 | STEAM Service Learning | Guided process in which students deepen their understanding of their STEAM content area through knowledge-based problem solving that provides a service to others in the community. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ACO 386 or ENV 386 or FOR 386 or LSC 386 or PTX 386 or LSC 494 (Service Learning in the Life Sciences) |
| ENV | 388 | STEM Research Fundamentals | Teaches research skills in the natural sciences. Topics covered include the basic research techniques of the study organism and system, experimental design, literature searches, statistical analysis and preparation of scientific papers and posters. | N | LEL | Y | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 320, BIO 182, or MAT 272 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only ENV 388 or FOR 388 or LSC 388 or PLB 388 or PTX 388 OR Visiting University Student |
| ENV | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ENV | 410 | Soil Science | Fundamental principles of soil science, including physical, chemical, biological and ecological properties. Applies these principles to explain the importance of soil as both a natural resource and ecosystem. Discusses the role of soils as the heart of terrestrial ecosystems, both natural and managed, and the importance of this key natural resource to environmental health and biological productivity. Explores how human activity and global change are impacting this vital natural resource and ecosystem that is crucial to life on earth. The laboratory component also introduces applications and standard methodology for investigating these principles. | N | LEL | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | | Prerequisite(s): BIO 320 with C or better; CHM 116 with C or better; PHY 101 or higher with C or better OR Visiting University Student |
| ENV | 412 | Carbon, Climate and Photosynthesis | Covers the history of planet Earth's climate, how the scientific community came to understand photosynthesis, and how recent discoveries in science have placed the responsibility for many of the changes in the prehistoric climate to evolutionary adaptations in photosynthesis metabolism. Uses a paleontological perspective to give a deeper insight into the current science of human-caused climate change by reviewing its origins in the modification of the carbon cycle. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): BIO 182 with C or better; Credit is allowed for only ENV 412 or ENV 494 (Carbon, Climate & Photosynthesis) or LSC 598 (Carbon, Climate & Photosynth) or PLB 412 or PLB 494 (Carbon, Climate & Photosynthesis) OR Visiting University Student |

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| ENV | 414 | Fundamentals of Forensic Entomology | Provides an introduction to the field of forensic entomology; the use of insects (and other arthropods) in legal investigations. Investigates how insects can be used in food contamination, neglect and abuse cases, with a focus on their use in death investigations. Identifies forensically important insects, in partnership with proper collection and rearing techniques. Along with understanding insect biology, students gain an understanding of how forensic entomology is utilized in law and in the courtroom. Students take an in-depth look at what questions insects can help answer and determine how to calculate a time of colonization (TOC) and how that can relate back to a time of death. Also focuses on scientific writing skills, assessed with the completion of a mock crime scene and production of a case report. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | | Prerequisite(s): FOR 286 with C or better; minimum 45 hours; Credit is allowed for only ENV 414 or FOR 414 or BIO 494/ENV 494/FOR 494 (Fundamentals of Forensic Entomology) OR Visiting University Student |
| ENV | 415 | Field Techniques in Natural Resource Management | Teaches students relevant practices in environmental science field work. Introduces the scientific principles and theories that underlie field techniques and the legal framework that created the need for these techniques. Provides a basic understanding of field work in natural resource management, including both the scientific rationale and the legal requirements involved with these techniques. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ENV 415 or ENV 494 (Field Techniques in Natural Resource Management) or LSC 598 (Field Techniques in Natural Resource Management) OR Visiting University Student |
| ENV | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): minimum 45 hours |
| ENV | 485 | Environmental Impact Assessment | An understanding of federal and state environmental laws, including the scientific processes that are incorporated into decision making, is critical for a variety of careers in the environmental sciences. Provides an overview of these laws and processes and develops the specific written and oral communications skills needed for many environmental, biophysical and natural science professions. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; ENV 201 with C or better OR Visiting University Student |
| ENV | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-6 | | Prerequisite(s): Barrett Honors student; minimum 45 hours |
| ENV | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better; minimum 45 hours |
| ENV | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ENV | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-6 | | Prerequisite(s): Barrett Honors student; minimum 45 hours |
| ENV | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-7 | | Prerequisite(s): minimum 45 hours |
| ENV | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-3 | | Prerequisite(s): minimum 45 hours |
| EPA | 532 | Becoming an Informed Consumer of Educational Research | Development of critical analyses skills in the examination and synthesis of educational research. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPA | 555 | Translating Research for Educational Change | Teaches educators how to translate research to promote educational change in their schools and districts. Three concepts emerge to empower practitioners to translate research to their individual schools and communities: (1) a needs assessment to understand the context (student population, community, networks); (2) an emphasis on the generalizability of research to provide an understanding of which findings are most applicable to specific contexts at which times and under which conditions; and (3) explicit training on ways of knowing to encourage practitioners to develop their own theoretical perspectives and test them against the academic research. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPA | 556 | Data Analysis for Education Decision Makers | Prepares educators to use the sources of information (i.e., results, reports and interactive programs) at their disposal to make educational decisions. Dynamic content is adapted based on the real-world information sources brought forth by the course participants. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| EPA | 559 | Systematic Inquiry for Problem Solving | Trains participants to produce a policy analysis aimed at addressing a problem they identify within their own organizations. Participants identify a problem, gather, analyze data and evidence to draw conclusions, and clearly and succinctly report their findings and recommendations to policymakers. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPA | 565 | Critical Topics in Education Policy | Critical topics in contemporary educational policy debates in the USA. Explores the dominant ideological and theoretical perspectives about what should be the purposes of schooling. Students analyze the humanist, core-curriculum, vocational, pragmatic as well as the standards-based, market-driven, professionally led, and networked models of reform, theories of change, implementation challenges, and the critiques leveled against these approaches. Students analyze critical topics such as policy formation, leadership, teachers unions, academic performance and community involvement. Encourages students to learn critical "policy skills" and reach reflexive and research-based conclusions about what are the requirements to develop "good school systems" and what their their individual and collective contributions could be. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPA | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| EPA | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| EPA | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | REC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPA | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPA | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| EPA | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | |
| EPA | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| EPA | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPA | 701 | Proseminar in Educational Policy I | Small class emphasizing discussion, student presentations and written research papers on the fundamentals of education policy analysis. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EPA 691 (Pro-Sem in Educ Pol Study) or EPA 691 (Pro-Seminar in Ed Policy Analysis I) or EPA 701 |
| EPA | 702 | Proseminar in Educational Policy II | Small class emphasizing discussion, student presentations and written research papers on the fundamentals of education policy analysis. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): EPA 701; Credit is allowed for only EPA 691 (Pro-Seminar in Ed Policy Analysis II) or EPA 702 |
| EPA | 704 | Proseminar in Evaluation and Evaluation Research | Applied program evaluation emphasizing discussion, student collaborations and the development and implementation of an evaluation plan. | N | SEM | Y | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EPA 691 (Pro-Seminar in Program Evaluation I) or EPA 691 (Pro-Seminar in Program Evaluation II) or EPA 704 |
| EPA | 752 | Research Design | Focuses on learning the principles of researching design through discussion, presentations by students and written research papers. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EPA 691 (EPE Research Design) or EPA 691 (Introduction to Quantitative Research Design) or EPA 752 |
| EPA | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|----------------------------|---|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|--|
| EPA | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPA | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPA | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | N | RSC | Y | Z3 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPA | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPD | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPD | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPD | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPD | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPD | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPD | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPD | 700 | Research Methods | Course on research methods in a specific discipline. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): EPD 710, 712, or 714 with C or better |
| EPD | 710 | Current Research in Design | Review and critical evaluation of contemporary literature and research in design, environment and the arts. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Design, Environment and the Arts PhD OR Design, Environment and the Arts (Digital Culture in Design) PhD OR Environmental Design and Planning (Healthcare and Healing Environments) PhD student |
| EPD | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPD | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPD | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPD | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPD | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPD | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| EPD | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EPD | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | The Design School | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ERM | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-3 | | |
| ERM | 201 | Environmental Management | Develops an understanding of the fundamentals of environmental science, environmental issues and major environmental standards. Topics covered include basic ecology, population dynamics, environmental resources, environmental pollution and its prevention, the environmental management regulatory framework, sustainability, pollution prevention, waste minimization, and environmental management systems. Provides the foundational knowledge used by environmental professionals who manage environmental problem solving for industry, regulatory agencies, municipalities, consulting firms, military installations, academic institutions and nonprofit organizations specializing in environmental advocacy. Overview course covering elements that are developed in more depth in other ERM courses. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | |
| ERM | 203 | Environmental Regulations | Explains and discusses federal environmental laws and regulations that apply to the field of environmental management. Addresses the most important Arizona state and county/local regulations that impact decision making in the environmental management practice area. Emphasizes the federal-level requirements, including laws that are most likely to be used by professionals who are not lawyers and working in positions having environmental management and engineering assignments. Uses case studies to help students learn how the laws are applied and implemented in practical situations. Develops an understanding of the fundamentals of environmental laws and regulations. Provides essential knowledge used by environmental and engineering professionals who manage regulatory issue problem solving for industry, government, consulting firms, military installations, academic institutions and nonprofit organizations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): any SG or SQ course |
| ERM | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-4 | | |
| ERM | 302 | Water and Wastewater Treatment Technology | Explores the development of treatment technologies for drinking water and wastewater. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): MAT 210 or higher with C or better; PHY 111 with C or better; Pre- or corequisite(s): CHM 116; Credit is allowed for only EGR 325 or ERM 302 OR Visiting University Student |
| ERM | 364 | Toxicology and Biohazards in Emergency Management | Introduces poisons. Dose response routes of exposure and toxicokinetics. Diseases associated with natural disasters. Clinical presentation of treatments. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | |
| ERM | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-4 | | |
| ERM | 401 | Hazardous Waste Management | Definition of hazardous waste, RCRA and CERCLA regulations, hazardous waste classification system. Overview of hazardous waste management. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): CHM 113 or higher with C or better; ERM 203 with C or better or Environmental Engineering BSE major; Credit is allowed for only EGR 427 or ERM 401 or ERM 501 OR Visiting University Student |
| ERM | 402 | Unit Treatment Technologies | Addresses various treatment technologies for contaminated air, water, and soil. Emphasizes design based upon medium, type of contamination, and concentration. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): ERM 302 with C or better or CEE 361; Credit is allowed for only EGR 425 or ERM 402 OR Visiting University Student |
| ERM | 406 | Environmental Chemistry | Applies basic chemical principles to understanding the reaction, fate and transport of chemicals in water, soil, air and living organisms. Considers major environmental issues in three areas: energy use and sustainable options to fossil fuels; atmospheric pollution including photochemical smog, ozone depleting substances, acid rain and climate change; and water pollution and water management options. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): CHM 116 with C or better; MAT 170 or higher with C or better; Credit is allowed for only CHM 302 or ERM 406 or ERM 526 or ERM 598 (Environmental Chemistry) OR Visiting University Student |

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| ERM | 407 | Occupational Hygiene | Overview of occupational health hazards, including recognition, evaluation, and control. Includes regulatory status and health standards. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): CHM 113 or higher with C or better OR Visiting University Student |
| ERM | 426 | Environmental Issues | Explores the science and policy implications of contemporary problems that threaten the environment. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ERM 426 or ERM 520 OR Visiting University Student |
| ERM | 428 | International Environmental Management | Examines environmental management issues faced by countries outside of the United States and compares approaches to solving these problems from a technological, economic and political basis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | G | Prerequisite(s): minimum 45 hours; Credit is allowed for only ERM 428 or ERM 528 |
| ERM | 432 | Sustainable Solid Waste Management | Addresses engineering and management principles associated with integrated solid waste systems. Follows the life of the solid waste from point of generation, reclamation and treatment to point of disposal. Emphasizes the functional units of a solid waste system and the relationships among them. Addresses the physical, chemical and biological transformations of the solid waste, together with the existing technologies and engineering practices for collection, management, treatment and disposal of the solid waste. Emphasizes the sustainable practices such as waste minimization, pollution prevention, reuse and reclamation of the solid waste. Also discusses existing domestic and foreign regulations guiding the proper solid waste management techniques, as well as planning and design of solid waste system operations and facilities. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): MAT 170 or higher with C or better; minimum junior standing; Credit is allowed for only EGR 426 or ERM 432 or ERM 532 OR Visiting University Student |
| ERM | 480 | Senior Project | Capstone project experience refining skills in communication, research and information retrieval, critical analysis and criticism, and demonstrating technical competence in each student's area of study. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): ERM 203 with C or better; ERM 302 with C or better; Pre- or corequisite(s): ERM 402 |
| ERM | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-12 | | |
| ERM | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-6 | | Prerequisite(s): Barrett Honors student |
| ERM | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ERM | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-4 | | |
| ERM | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-3 | | |
| ERM | 501 | Principles of Hazardous Materials and Waste Management | Foundation for courses in curriculum. Topics include definitions of toxic and hazardous substances and wastes, RCRA classification, and OSHA criteria. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EGR 427 or ERM 401 or ERM 501 |
| ERM | 502 | Regulatory Framework for Toxic and Hazardous Substances | Examines federal, state, and local regulations for hazardous materials and wastes. Includes history and trends in regulatory development. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ERM 502 or ERM 527 or ERM 494 (Regulatory Framework for Toxic & Hazardous Substances) |
| ERM | 503 | Principles of Toxicology | Interaction of chemicals with life and environment. Mechanisms of toxic action, dose-response relationships, toxicity testing models, predictive toxicology, and epidemiology. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ERM | 506 | Chemistry of Hazardous Materials | Chemistry and toxicology of hazardous chemicals. Topics include proper handling, storage, transportation, and disposal. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ERM 494 (Chemistry of Hazardous Materials) or ERM 506 |
| ERM | 507 | Industrial Hygiene | Emphasizes chemical hazards in industrial settings. Topics include recognizing and measuring hazards, control techniques, and regulatory standards. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ERM | 520 | Sustainability and Sustainable Development | Explores broad field of environmental sustainability with U.S. and international coverage of green living practices. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ERM 426 or ERM 520 |
| ERM | 522 | Air Pollution and Toxic Chemicals | Examines issues in the measurement analysis and control of toxic chemicals in air pollution. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ERM | 523 | Soils and Groundwater Contamination | Theoretical and practical hydrogeology as it applies to cleaning up contamination. Investigative techniques, monitoring, risk assumptions, and assessment methodology. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| ERM | 526 | Environmental Chemistry | Focuses on exploring basic chemical principles to understand reactions in the environment, fate and transport of chemicals in water, soil, air and living organisms. Considers major environmental issues in three areas: energy use and sustainable options to fossil fuels; atmospheric pollution including photochemical smog, ozone depleting substances, acid rain and climate change; and water pollution and water management options. Course is divided in three thematic parts: (1) energy, (2) atmosphere and (3) water. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CHM 302 or ERM 406 or ERM 526 or ERM 598 (Environmental Chemistry) |
| ERM | 527 | Environmental/Resources Regulations Concepts | Environmental regulations related to water, land use, endangered species, NEPA and other policy issues. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ERM 502 or ERM 527 or ERM 494 (Regulatory Framework for Toxic & Hazardous Substances) |
| ERM | 528 | International Environmental Management | Studies environmental issues and laws outside the U.S., impact of free trade, and multinational corporations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ERM 428 or ERM 528 |
| ERM | 532 | Sustainable Solid Waste Management | Addresses engineering and management principles associated with integrated solid waste systems. Follows the life of the solid waste from point of generation, reclamation and treatment to point of disposal. Emphasizes the functional units of a solid waste system and the relationships among them. Addresses the physical, chemical and biological transformations of the solid waste, together with the existing technologies and engineering practices for collection, management, treatment and disposal of the solid waste. Emphasizes the sustainable practices such as waste minimization, pollution prevention, reuse and reclamation of the solid waste. Also discusses existing domestic and foreign regulations guiding the proper solid waste management techniques, as well as planning and design of solid waste system operations and facilities. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): Fulton Schools of Engineering or School of Sustainability or Urban and Environmental Planning graduate student or enrolled in ERM 4+1 program; Credit is allowed for only EGR 426 or ERM 432 or ERM 532 |
| ERM | 533 | Water and Wastewater Treatment Technologies | Covers the most essential elements of aquatic chemistry, water pollution and water and wastewater treatment technologies to graduates in environmental and resource management and other interested parties. Provides a fundamental basis for understanding sustainable water and wastewater treatment operations. Includes critical evaluation of contemporary issues concerning our water environment and the associated regulatory framework in the lectures to strengthen and emphasize the importance of adequate practices used in the management of engineered water and wastewater treatment systems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): graduate student in Ira A. Fulton Schools of Engineering, the School of Sustainability, or Urban Planning |
| ERM | 535 | Water Law and Policy | Regulatory framework that governs use of surface water and groundwater, including federal and state laws, interstate compacts and international treaties. Emphasizes the history and development of water resources in the arid American West. Explores the impact of climate change, population growth and competing interests of sectors such as agriculture, municipalities, tribes and hydropower in terms of policy implications for water use. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ERM | 540 | International Environmental Law and Policy | Studies international environmental agreements, enforcement mechanisms, and the role of NGOs and international organizations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ERM | 541 | Environmental Health | Explores the effects of environmental factors on human health and strategies to mitigate those effects. Topics covered include: COVID-19; environmental epidemiology; zoonotic and vector-borne diseases; food-borne and water-borne diseases; air pollution related diseases; diseases associated with toxic metals, elements, pesticides and other chemicals; food protection; institutional health and safety; control of insects and rodents; swimming pool sanitation; healthy homes; contagious diseases (i.e., influenza and Ebola) and health effects of climate change. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ERM 494 (Environmental Health) or ERM 541 or ERM 598 (Environmental Health) |
| ERM | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ERM | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| ERM | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ERM | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ERM | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ERM | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ERM | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Environmental and Resource Management | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ESS | 501 | Social Theory and the Environment | Investigates key conceptual domains of environmental social science from interdisciplinary and comparative perspectives. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ESS | 502 | Political Ecology: Theory and Research | Investigates key theories and research of political ecology through the conceptual domains of environmental social science from interdisciplinary and comparative perspectives. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ESS | 513 | Institutions | Studies formal and informal institutional arrangements for the governance of natural resources using case studies, experiments, and formal models. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ESS | 577 | Interdisciplinary Writing Seminar | If you want your work to make a difference in the world, you need to be able to communicate your ideas to diverse audiences in a way that is interesting and accessible. Teaches students to write clearly, persuasively and ethically to people in their disciplines, in other disciplines, and outside academia. Approaches writing as a way to think critically and refine ideas, as well as to communicate them to others. | N | SEM | Y | GNA | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is only allowed for ESS 577 or SOS 577 or SOS 598 (Interdisciplinary Writing) or SOS 598 (Writing Seminar) |
| ESS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ESS | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ESS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ESS | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EST | 210 | Circuit Analysis I | Parallel/Series circuits, ohm's law, network theorems, capacitors/inductors and transient analysis. Overview of electronic devices, BJT's, FETs, op-amps. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisites: MAT 266 (or 271); PHY 112 (or 131) |
| EST | 310 | Circuit Analysis II | Electronic device analysis and introduction to design. Power supplies, diode circuits, FETs, BJT's, op-amps. Emphasizes frequency response. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: EST 210 |
| EST | 315 | Digital Systems II | Digital electronics systems, HDL circuits and systems design techniques, and device applications. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisite: EST 115 and 210; Credit is allowed for only EST 315 or 394 (Digital Electronics II) |
| EST | 350 | Microcontroller Applications | Interfacing of microcontrollers to sensors, switches, indicators, and other human interfaces using the C programming language. Applications involve the integration of both hardware and software. Also addresses applications dealing with open- and closed-loop applications. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EST 315 OR Visiting University Student |
| EST | 370 | Sensors | Overview of sensor technology, including mechanical, magnetic, radiation, thermal, chemical, and biological applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: EST 200; EST 210; UET 331 |
| EST | 380 | Electronic Devices | Covers materials, structures, and technology for the design, production, and application of the major categories of electronic devices. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): UET 331 OR Visiting University Student |

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| EST | 410 | Electronic System Design | Analysis and design of Op-amps, power amplifiers, and digital logic families, Feedback design using frequency response. Computer analysis and design. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EST 310 OR Visiting University Student |
| EST | 465 | Statistical Process Control | Introduces statistics, seven QC tools, and control charts for data analysis and interpretation; process capability, 6-sigma, lean manufacturing, and quality system. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): Fulton Schools of Engineering undergraduate student; senior standing; Credit is allowed for only EST 465 or EST 565 OR Visiting University Student |
| EST | 470 | Capstone Design I | Small-group projects designing, building, evaluating, and analyzing components, assemblies, and systems. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: EST 345; EST 370; EST 372 |
| EST | 471 | Capstone Design II | Continuation of a small-group project encompassing designing, building, evaluating, and analyzing components, assemblies, and systems. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EST 470 |
| EST | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-3 | | |
| EST | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student OR Fulton Schools of Engineering senior student with minimum 3.00 ASU GPA |
| EST | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-12 | | Prerequisite(s): Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student OR Fulton Schools of Engineering senior student with minimum 3.00 ASU GPA |
| ETH | 100 | Ethnic and Indigenous Lives | Undertakes an introductory comparative analysis of ethnic groups to understand cultural diversity within the United States. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | |
| ETH | 300 | Principles of Ethnic Studies | Familiarizes students with a range of analytical and theoretical frameworks in the field of ethnic studies. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | C | |
| ETH | 310 | Critical Research Methods | Examines methodological approaches common to programs in such disciplines as American Studies, Ethnic Studies, and Women's Studies. Critical qualitative, historical, archival, and feminist methodological approaches to the study of diverse United States populations comprise the focus of this course. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB | Pre-requisite: Minimum 40 hours |
| ETH | 333 | Class in America | Explores social class and inequality in the U.S. including history, culture, work, politics, globalization and intersections of gender, race, ethnicity and place. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only AMS 334 or ETH 333 or WST 334 OR Visiting University Student |
| ETH | 334 | The American Southwest in Literature and Film | Evaluates literary texts and films addressing the diverse literatures and cultures of the American Southwest. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AMS 336 or ENG 334 or ETH 334 OR Visiting University Student |
| ETH | 353 | African American Literature: Beginnings through the Harlem Renaissance | Focuses on the history of African American literature through the Harlem Renaissance, as exemplified in selected slave narratives, poems, and fiction. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AFR 353 (or AFH 353) or AMS 353 or ENG 353 or ETH 353 |
| ETH | 354 | African American Literature: Harlem Renaissance to the Present | Examines the literary productions of African Americans from the Harlem Renaissance (about 1920) to the present focusing on fiction, poetry, drama, and essays. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AFR 354 (or AFH 354) or AMS 354 or ENG 354 or ETH 354 OR Visiting University Student |
| ETH | 380 | Race, Gender, and Class | In-depth examination of how social inequalities are reproduced and perpetuated. Explores the intersections of race, class and gender in culture and society. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): WST 100 or WST 300 or minimum 30 hours; Credit is allowed for only AMS 380 or ETH 380 or WST 380 OR Visiting University Student |
| ETH | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| ETH | 428 | Peoples and Cultures of the American West, to 1848 | Provides an integrated understanding of change over time within and between the native, Mexican, Anglo, Asian and African American communities of the region by looking into the major formative historical forces affecting these populations individually and collectively. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only AMS 428 or ETH 428 or LAS 428 or MAS 598 (Chicano Cultures in Southwest) OR Visiting University Student |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| ETH | 430 | Gender on the Borderlands | Examines women's status in the U.S.-Mexico borderlands through key issues such as migration, labor, violence, education, and culture. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR WST 100 or 300 with C or better; Credit is allowed for only ETH 430 or LAS 430 or WST 430 or JHR 598 (Gender on the Borderlands) OR Visiting University Student |
| ETH | 433 | Race and Sexualities in Social Justice Movements | Investigates queer communities, social control and political resistance. Topics include collective responses to trauma/violence, heteronormativity, and variants of institutionalized racism and sexism. Gives special attention to race and sexuality intersections as well as the politics of coming out, LGBT activism, antiracist movements, the role of allies, and social movement strategies. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prereq(s): ETH 100, HRC 200, or WST 100 w/C or better OR ENG 102, 105, or 108 w/C or better; minimum 36 hours; Credit is allowed for only ETH 433 or JHR 433 or WST 433 or ETH/WST 494 (Race, Sexuality, & Soc Justice Mvmts) OR Visiting University Student |
| ETH | 449 | Hate Speech, Manifestos, and Radical Writings | Examines writings, speeches and texts that provoke radical or even revolutionary social change. At its core, this course asks: What is the radical and what does it do? How do radical writings function as texts, speech acts, inspirational documents, testimonies, accounts of madness, frightening moments, calls to arms, peacekeeping entities or speaking truth to power? Examines injurious speech and provocative writings that span a range of social movements and topics, including radical feminism, radical queer, Black power, indigenous rights, art and performance, anti-technology, animal rights, violence, madness and revolutionary resistance. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): minimum 35 hours; minimum 2.50 GPA; Credit is allowed for only AMS 449 or ETH 449 OR Visiting University Student |
| ETH | 450 | Latina/os, Schooling and Social Inequality | Advanced interdisciplinary understanding of the issues facing Chicano, Mexican American and Latino communities in relation to K-16 schooling in the southwestern United States. Examines various schools of thought that have shaped social discourse and policies, develops a critical perspective on the social and political issues affecting education, and identifies issues--both historical and contemporary--affecting Chicanos in public education. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | C | Prerequisite(s): minimum 45 hours; Credit is allowed for only AMS 450 or ETH 450 or LAS 450 or AMS 429 (Latino/a School & Social Inequity) |
| ETH | 469 | Abject Bodies and the Politics of Trash | Examines the possibilities inherent in "theorizing from the gutter"; looking at the world not from a lofty "Ivory Tower" but from the slime, the muck, the dumpster, the trash heap, the wasteland, the discarded and the downtrodden. Takes its theoretical framework from a radical 1960s manifesto called SCUM Manifesto by Valerie Solanas and from the French feminist philosophies of Julia Kristeva, who theorized the abject as a relationship with the grotesque that reveals the deep-seated fear of death. Uses these theoretical positions to examine trash, both abstractly and literally. Works through a variety of concepts ranging from actual trash, garbage, waste, toxic sludge, pollution and dirt, and tackles more abstract notions of trash such as the knowledge produced on the fringe in circuses, amusement parks, "trailer trash" zones, freak shows and the bodies of those marked as "Other" or different. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only AMS 469 or ETH 469 or JHR/MAS 598 (Abject Bodies and the Politics of Trash) or WST 469 OR Visiting University Student |
| ETH | 473 | Indigenous and Latina/Chicana Representation | Examines from an interdisciplinary perspective contemporary issues experienced by Indigenous and Chicana/Latina women in the U.S. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only ETH 473 or LAS 473 or WST 473 |
| ETH | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | |
| ETH | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| ETH | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ETH | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| ETH | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | IND | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| ETH | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-3 | | |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| EVE | 214 | Environmental Engineering Mechanics | Concepts of engineering statics and dynamics in the context of environmental processes. Includes application of calculus-based physics, where differentiation and integration are applied to basic physical relationships; introduces hydrostatics; and material, force and energy balances. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 3 | | Prerequisite(s): MAT 266 or MAT 271; PHY 121; PHY 122 OR Visiting University Student |
| EVE | 261 | Introduction to Environmental Processes | Environmental laws and regulations; mass and energy balances; concepts of water and wastewater treatment, air quality and control, and solid and hazardous waste management. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 3 | | Prerequisite(s): CHM 116 with C or better OR Visiting University Student |
| EVE | 290 | Statistics and Probability for Environmental Data | Covers descriptive statistics and probability distributions, plotting data, hypothesis testing, analysis of variance, correlation, linear regression, experimental design and introduction to time series analysis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 3 | CS | Prerequisite(s): MAT 266 or 271 with C or better; Credit is allowed for only EVE 290 or EVE 394 (Environmental Statistics and Probability) OR Visiting University Student |
| EVE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-4 | | |
| EVE | 302 | Environmental Engineering Fundamentals: Physical and Chemical Processes | Physical and chemical processes in the environment emphasizing environmental chemistry, and fate and transport of substances in and between water, air, soil, and sediment. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 3 | | Prerequisite(s): Environmental Engineering BSE major; EVE 261 with C or better OR Visiting University Student |
| EVE | 303 | Environmental Engineering Fundamentals: Microbiological Processes | Role of microbiology in the environment including detection and identification of organisms, bacterial growth, microbial metabolism, biogeochemical cycles, and applications to environmental engineering | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 3 | | Prerequisite(s): Environmental Engineering BSE major; EVE 261 with C or better OR Visiting University Student |
| EVE | 304 | Environmental Engineering Processes Lab | Laboratory experiments, data analysis and interpretation of environmental processes in air, water, and other environmental engineering focus areas. | N | LAB | N | GNA | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 2 | | Prerequisite(s): Environmental Engineering BSE major; EVE 302 OR Visiting University Student |
| EVE | 314 | Data Science for Environmental and Civil Engineers | Data collection, processing, analysis, visualization and sharing in the context of environmental and civil engineering applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 3 | | Prerequisite(s): Environmental Engineering BSE major; EVE 290 or IEE 380; Credit is allowed for only EVE 314 or EVE 394 (Data Science for Environmental and Civil Engineers) OR Visiting University Student |
| EVE | 354 | Materials in the Environment | Covers the materials of interest and relevance for environmental engineering. Presents the properties of the materials found in buildings, products and structures of the built environment, as well as contaminants in the natural environment and materials used for environmental remediation, to explain why certain materials are used for specific applications. Then, analyzes material production and fate from a life-cycle perspective, considering material flow analysis, risk assessment and environmental impact. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 4 | | Prerequisite(s): Environmental Engineering BSE major; EVE 261 with C or better; Credit is allowed for only CEE 353 or CNE 353 or EVE 354 or EVE 394 (Materials in the Environment) OR Visiting University Student |
| EVE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-4 | | |
| EVE | 411 | Sustainable Energy, Materials and Technology | Covers technology and environmental challenges associated with traditional energy sources as well as the opportunity to improve the environment through more sustainable approaches to energy production. Beyond this, also covers the role energy plays in modern society, the correlation between energy and economic development, and the technological and nontechnological barriers to advancing alternative, more sustainable approaches to energy generation. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Civil, Environmental and Sustainable Engineering Program | 3 | | Prerequisite(s): EVE 261; Credit is allowed for only EVE 411 or SOS 324 OR Visiting University Student |
| EVE | 452 | Environmental Investigation and Remediation Design | Engineering practice and design covering environmental laws and regulations, environmental sources of contamination, contaminated site investigation and characterization, risk assessment, and remediation technologies. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 3 | | Prerequisite(s): Environmental Engineering BSE major; EVE 302; EVE 303 OR Visiting University Student |
| EVE | 461 | Unit Operations in Drinking Water Treatment | Characterization of surface water and groundwater, and selection and design of conventional and advanced unit processes for drinking water treatment. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 3 | | Prerequisite(s): Environmental Engineering BSE major; EVE 302; Credit is allowed for only CEE 462 or EVE 461 or EVE 494 (Unit Operations in Drinking Water) OR Visiting University Student |
| EVE | 465 | Unit Operations in Wastewater Treatment | Characterization of wastewater quality and quantity, and selection and design of unit processes for wastewater treatment and reuse. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 3 | | Prerequisite(s): Environmental Engineering BSE major; EVE 302; Credit is allowed for only CEE 462 or EVE 465 or EVE 494 (Unit Operations in Wastewater) OR Visiting University Student |
| EVE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-12 | | Prerequisite(s): minimum 45 hours |

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| EVE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | GNA | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-6 | | Prerequisite(s): Barrett Honors student |
| EVE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | RSC | Y | GNA | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| EVE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-4 | | |
| EVE | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-7 | | Prerequisite(s): minimum 45 hours |
| EVE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-3 | | Prerequisite(s): minimum 45 hours |
| EVE | 500 | Research Methods | Course on research methods in a specific discipline. | Y | RSC | Y | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVE | 568 | Environmental Risk Assessment | Risk assessment is an increasingly important set of tools used to inform environmental, engineering and public health regulatory decisions. Additionally, risk assessment can be used to navigate complex decisions and prioritize resource allocation when those resources are scarce. Framework for analyzing risks in engineering and environmental health applications including microbial, chemical and engineering failure risks. Probability and statistics concepts needed to complete a risk assessment including curve-fitting, Monte Carlo analysis, sensitivity analysis, and techniques for interpreting both sparse and large datasets. Additionally, summarizes the principles of toxicology and microbiology to inform case study projects. Explores risk perception, management and communication approaches for applications to multiple scenarios including water and wastewater treatment, indoor air quality and failure analysis. | N | IND | N | GNA | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 3 | | Prerequisite(s): Civil, Environmental and Sustainable Engineering MS or Civil, Environmental and Sustainable Engineering MSE or Environmental Engineering MS student |
| EVE | 571 | Water Quality Modeling | Identifies point and nonpoint source pollution in urban and agricultural watersheds, models the fate and transport of this pollution in watersheds, and evaluates strategies for their mitigation. Additionally, touches on water quality standards and the U.S. regulations governing the pollution sources and control strategies. Focuses on nutrient and sediment pollution of surface waters, but also introduces these concepts for other pollutants and groundwater systems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 3 | | Prerequisite(s): Civil, Environmental and Sustainable Engineering MS or Civil, Environmental and Sustainable Engineering MSE or Environmental Engineering MS student |
| EVE | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVE | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVE | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | N | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVE | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|---|
| EVE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVE | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVE | 599 | Thesis | Supervised research focused on preparation of a thesis, including literature review, research, data collection and analysis, and writing. | N | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | School of Sustainable Engineering and Built Environment | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVO | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-7 | | |
| EVO | 501 | Current Topics in Evolutionary Biology | Broadly conceived presentation of papers and current research in evolutionary biology in a journal-club style format. | N | LEC | N | OP2 | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVO | 539 | Computing for Research | Works mainly with command-line programs, focusing on sequence-based analysis. An interactive flipped course, with required hands-on aspects both in class debugging and troubleshooting and for out-of-class assignments where students work on problem solving and implementation. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 439 or BIO 498 (Computing for Rsrch) or BIO 539 or BIO 598/EVO 598/MCB 598 (Computing for Rsrch) or EVO 539 or MCB 539 |
| EVO | 557 | Practical Applications in Computational Life Sciences | Working group to troubleshoot challenges in computational life sciences. | N | LEC | Y | OP2 | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 498 (Pract Apps in Comp. Life Sci) or BIO 557 or BIO 598 (Pract Apps in Comp. Life Sci) or EVO 557 or EVO 598 (Pract Apps in Comp. Life Sci) |
| EVO | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVO | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVO | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVO | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVO | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVO | 601 | Principles of Evolution | Introductory course for graduate students; covers the principles of evolutionary biology from theoretical, empirical, and historical perspectives. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 522 or EVO 601 |
| EVO | 610 | Research Areas of Evolution | Broadly conceived description of the current research areas of evolutionary biology. Expected of all first-year evolution students. | N | SEM | Y | YGB | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVO | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVO | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| EVO | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EVO | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 101 | Foundations of Health and Fitness Science | Student-centered instructional course designed to excite and propel the student into the development of a successful academic and professional career path in the fields of health coaching, fitness or wellness. Presents a general overview of the career opportunities for students in the health and fitness fields with group and individual assignments that enable participants to more thoroughly explore options related to their goals. Divided into 3 major sections: academic preparation, professional development and career exploration. Assists students to develop their own individual blueprint for accomplishing their professional goals and understand the skills they need to develop along the way to be successful. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only EXW 101 or EXW 290 or EXW 300 OR Visiting University Student |
| EXW | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| EXW | 214 | Flexibility Instructional Competency Laboratory | Science and methods of instruction related to flexibility exercises and activities. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): Exercise and Wellness major or enrolled in Personal Fitness Training certificate |
| EXW | 215 | Resistance Training and Recovery Techniques | Detailed instruction designed to teach students to safely and properly perform a variety of muscular strengthening exercises. Introduces and reviews fundamental principles of physiology and kinesiology underlying the ability to properly perform a wide variety of resistance training exercises and to properly instruct individuals of varying ages and physical abilities in safe and effective performance of those movements. Additionally, covers the purpose for the cool-down and recommendations for recovery techniques to allow participants to prepare for additional bouts of physical activity. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | |
| EXW | 216 | Muscular Strength Instructional Competency Laboratory | Science and methods of instruction related to resistance training and muscular strength activities. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): Exercise and Wellness major or enrolled in Personal Fitness Training certificate |
| EXW | 217 | Cardiorespiratory and Flexibility Training | Comprehensive foundational course designed to teach students how to safely and effectively instruct a wide variety of cardiorespiratory and flexibility exercises one-on-one, and to groups of individuals of varying ages and physical abilities. Provides a basic understanding of the effects of cardiorespiratory exercises on the body and the general scientific principles relative to improving cardiorespiratory fitness. Prepares students to assess joint range of motion and provide specific recommendations for flexibility routines designed to increase joint range of motion and improve the comfort of a client participating in physical activity programs. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | |
| EXW | 218 | Cardiovascular Instructional Competency Laboratory | Science and methods of instruction for cardiovascular exercise and fitness activities. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): Exercise and Wellness major or enrolled in Personal Fitness Training certificate |
| EXW | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| EXW | 302 | Fundamentals of Wellness | Overview of fundamental health, exercise and wellness concepts. Emphasizes personal wellness assessment and application. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| EXW | 321 | Consumer Health | Provides preprofessional primary/secondary educators and community health education specialists with (1) a model for making informed consumer health-related decisions; (2) current information involving consumer related topics, emphasizing necessity of current information for making informed decisions; (3) mechanisms for continued consumer awareness. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only EXW 321 or HEP 361 (EXW 361) |
| EXW | 325 | Fitness for Life | Analyzes physical fitness and benefits of exercise with emphasis on application of strategies for fitness and wellness evaluation, behavior change, and lifelong program planning. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 30 hours OR Visiting University Student |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|-----------------------------|-----------------------------|-------|-----------------|--|
| EXW | 330 | Kinesiological Foundations of Movement | Study and consideration of human movement with emphasis on kinesiology principles and their application to movement and fitness. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): Recreational Therapy BS major; BIO 160 or 201 with C or better OR BIO 160 or 201 with C or better; Pre- or corequisite(s): EXW 101 or KIN 101 with C or better if completed OR Visiting University Student |
| EXW | 331 | Violence Prevention | Examines violence prevention strategies and violence prevention content. Examines the literature to understand principles for use in the development of violence prevention curriculum in school and community settings. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only EXW 331 or HEP 371 (EXW 371) |
| EXW | 335 | Physical Activity and Physiological Concepts | Helps health and fitness professionals/educators understand the basics of exercise physiology, bioenergetics, exercise science and human performance. Topics are designed to provide a base of knowledge so students can progress to design physical activity programs that increase physical function and improve overall health. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 215 with C or better; EXW 217 with C or better; minimum 45 hours OR EXW 214 with C or better; EXW 216 with C or better; EXW 218 with C or better; minimum 45 hours OR Visiting University Student |
| EXW | 342 | Health Behavior Change | Examines major theories of health behavioral change. Develops intervention strategies and techniques employed to facilitate health behavioral change. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): PSY 101; minimum 45 hours; Credit is allowed for only CHS 340 (EXW 340) or EXW 342 or HSC 340 OR Visiting University Student |
| EXW | 344 | Impact of Physical Activity on Health and Disease | Examines the influence of physical activity, fitness and sedentary behavior on the risk of chronic disease and mortality. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): BIO 160 or 201 with C or better; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| EXW | 351 | Substance Abuse Prevention | Prepares preprofessional primary/secondary school and community health educators to prepare and deliver substance abuse prevention education and programming. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only EXW 251 (or EXW 312) or EXW 351 |
| EXW | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| EXW | 400 | Stress Management for Wellness | Examines the stress response and management from a behavioral perspective as it pertains to individuals or groups. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): PSY 101; minimum 60 hours OR Visiting University Student |
| EXW | 412 | Pediatric Obesity | Covers a variety of aspects related to pediatric obesity including the causes and consequences in terms of physiologic, genetic, psychosocial, environmental and economic. Also discusses potential interventions such as behavioral, pharmacologic, surgical and public health and policy. Evidenced-based course where research guides class lectures and discussions. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 315 or KIN 340; Credit is allowed for only EXW 412 or KIN 446 or EXW 494 (Pediatric Obesity) or KIN 494 (Pediatric Obesity) |
| EXW | 420 | Exercise Testing | Theoretical basis and practical application of pre-exercise screening, exercise testing, estimates of energy expenditure, and interpretation of results. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s) with C or better: Kinesiology BS; KIN 334; KIN 340; min 60 hours OR Sports Science & Performance Prog BS; SSP 315; SSP 325; min 60 hours OR all other majors; EXW 215; EXW 217; EXW 330; KIN 340; min 60 hours OR Visiting University Student |
| EXW | 425 | Exercise Prescription for Health and Wellness | Comprehensive course allowing students to apply the principles of exercise prescription to improve the health and fitness of apparently healthy adults and adults with risk factors, stable chronic conditions, and/or comorbidities. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 335, KIN 340, or SSP 315 (EXW 315) with C or better OR Visiting University Student |
| EXW | 426 | Exercise for Neuromuscular Conditions | Covers the impact of various neurological and neuromuscular conditions on the physiological function, motor control, exercise capacity and health of the human body. Students research and apply evidence-based best practices for exercise prescription for persons with such conditions with the goal of maximizing functional abilities and capacity, independence and health-related physical fitness and preventing or treating secondary conditions. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | L | Prereq(s): ENG 101, 105, or 107 w/C or better; EXW 330, KIN 334 or PRM 364; KIN 340 or SSP 315 (EXW 315); Credit for EXW 426 or EXW 494/KIN 494/EXW 598 (Neuro-muscular Exer Prescrip) or EXW 598 (Exer for Neuromuscular Cond) OR Visiting University Student |
| EXW | 427 | Exercise Prescription for Cardiometabolic Health | Provides a case study approach to examine evidence-based applications required to safely prescribe exercise for individuals at risk for, or who present with, common chronic cardiometabolic diseases or conditions. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prereq(s): EXW 420 w/C or better, or both KIN 340 and 352 with B or better; Pre- or coreq(s): KIN 447 w/C or better if completed; Credit is allowed for only EXW 427 or EXW 494/598 (Ex Rx: Cardiorespiratory & Metabolic Cond) OR Visiting University Student |
| EXW | 442 | Motivational Interviewing | Provides a structure for understanding, critiquing and application of core concepts associated with motivational interviewing. Assigns each student to formally interview a volunteer, review the audio/visual stream, and evaluate the efficacy via accepted software and hardware instruments. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): CHS 340 or EXW 342 with C or better; Credit is allowed for only EXW 442 or EXW 494 (Motivational Interviewing) |

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| EXW | 446 | Worksite Wellness | Provides an understanding of how to successfully start, grow and sustain worksite wellness initiatives designed to improve health outcomes, increase employee engagement, and address corporate needs. Develops skills needed to communicate and evaluate worksite wellness program value effectively. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 101 with C or better; Pre- or corequisite(s): CHS 340 with C or better if completed OR Visiting University Student |
| EXW | 450 | Social Determinants of Health and Health Behavior | Examines broad determinants of health that influence the well-being of individuals and communities (e.g., early life, education, employment, culture, policy, the built and food environments, stress and socioeconomic status). | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | (L or SB) & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 60 hours OR Visiting University Student |
| EXW | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): Exercise and Wellness major; EXW 420 with C or better; minimum 2.00 GPA OR Health Education and Health Promotion major; EXW 284 with C or better; EXW 476 (or EXW 436) with C or better |
| EXW | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): Barrett Honors student |
| EXW | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| EXW | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| EXW | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-3 | | |
| EXW | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 501 | Research Statistics | Statistical procedures; sampling techniques, hypothesis testing, and experimental designs as they relate to research publications. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 510 | Obesity Perspectives and Prescriptions | Examines the impact of obesity, body fatness and fat distribution on health from various physiological, psychological, social and cultural perspectives. Explores the importance of the obesogenic environment in the etiology of obesity as well as its role in the prevention and management of obesity. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EXW 510 or EXW 598 (Obesity Perspectives and Prescription) or HEP 410 (EXW 410) |
| EXW | 515 | Advanced Exercise Physiology | Comprehensive and in-depth investigation of human physiology to exercise circumstances. Provides content on the immediate and long-term adaptations to exercise with special reference to exercise metabolism, immune function, skeletal muscle, cardiovascular and pulmonary systems. Also includes critical analysis of the effect of exercise on human physiologic function with in-depth examination of current literature. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Clinical Exercise Physiology MS major or Exercise and Wellness MS major; Credit is allowed for only EXW 515 or KIN 494 (Advanced Exercise Physiology) or KIN 598 (Advanced Exercise Physiology) |
| EXW | 535 | Advanced Exercise Assessment and Prescription | Theory and practice of laboratory methods in applied exercise physiology. Procedures for assessment and prescription for individuals with chronic disease. | N | LEL | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 536 | Physiological Aspects of Physical Activity and Chronic Disease | Role of physiological mechanisms associated with acute and long-term physical activity and its influence on chronic disease and wellness. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 538 | Exercise, Diet and Weight Control | Examines effects of exercise and diet on body fat and energy balance, with special emphasis on obesity treatment and prevention. Topics include fad/popular diets, exercise and fat balance, weight-loss maintenance, body weight set-point, metabolic adaptations to calorie restriction, causes of weight gain and increasing obesity prevalence, health benefits of exercise and diet independent of weight loss. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 540 | Mindfulness, Stress and Health | Overview of the theory, measurement, research and efficacy of mindful awareness practices and programs on stress reduction, health outcomes and health behavior. Includes an experiential learning component focused on practices and content consistent with mindfulness-based stress reduction. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 542 | Health Promotion | Examines the major theories of behavior change and their application to improving health behaviors. Includes practical application through intervention development and critical evaluation of the literature. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 544 | Fitness/Wellness Management | Development of the fitness/wellness industry. Planning, organizing, promoting, and managing fitness/wellness programs. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| EXW | 554 | Planning and Implementation in Health Promotion | Covers selected topics in health promotion across a variety of domains of health. Program planning concepts include the application of planning frameworks, needs assessments, and theory in health promotion program planning and development. Also focuses on practical issues related to health promotion program implementation such as implementation planning, resource management and program marketing. Also covers process evaluation and quality improvement strategies. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EXW 554 or HEP 454 (EXW 454) |
| EXW | 556 | Program Evaluation in Health Promotion | Comprehensive and systematic introduction to the key concepts and methodologies of program evaluation, specifically related to health programs. Discusses approaches to program evaluation in relation to the program's stage of development, resources and informational needs for decision-making. Focus includes program evaluation literature related to physical activity and nutrition. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 554; Credit is allowed for only EXW 556 or HEP 456 (EXW 456) |
| EXW | 560 | Cardiopulmonary Rehabilitation | Exercise testing and prescription for cardiac and pulmonary patients as well as pharmacology, electrocardiography, pathophysiology of chronic diseases, and leadership of patients in cardiac rehabilitation and pulmonary rehabilitation programs. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 562 | Functional Assessment and Exercise Prescription for Older Adults | Assessment of functional capacity and prescription of exercise that is appropriate for older adults including healthy, frail, diseased and very old. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): MS Clinical Exercise Physiology or Exercise and Wellness major |
| EXW | 564 | Aging and Lifestyle Behaviors | Provides an overview of health behaviors in older adults. Centers on the perceptions and behaviors of older adults in reference to illness prevention, health promotion and reactions to acute and chronic illness and the context in which these behaviors occur. Specifically examines the psychological, familial, cultural and contextual factors which influence older adults' personal health practices and illness behaviors. Considers the older person as an individual in a complex system, engaged in decision making and his/her subsequent actions to maintain or improve health status. Solidifies concepts through the use of in-class case studies and discussions. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Pre-requisite: EXW 542 |
| EXW | 565 | Cardiovascular and Pulmonary Physiology | In-depth study of the physiology of exercise with special regard to cardiovascular and pulmonary responses in healthy and chronically diseased individuals. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): MS in Clinical Exercise Physiology major |
| EXW | 568 | Management and Treatment of Chronic Disease for the Clinical Exercise Physiologist | Studies the physiology, pathophysiology and pharmaceutical interventions of common chronic disease incorporating the current research for recommendations on appropriate exercise prescription for this population. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Clinical Exercise Physiology MS student |
| EXW | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 597 | Capstone Project | For non-thesis students in the MS degree program to provide a culminating field experience or non-research project for students to apply the coursework and healthy aging concepts. | N | RSC | N | YGB | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): EXW 500; EXW 501; EXW 536; EXW 542; EXW 591 |
| EXW | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| EXW | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 635 | Physical Activity and Aging | Examines and discusses the physiological effects of aging on the major systems of the body and the health related research on physical activity and aging. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 640 | Analysis of Variance for Exercise and Wellness | Analyzes variance methods with an emphasis on research measures of human performance. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 642 | Exercise Epidemiology | Covers the historical and current perspectives of physical activity and exercise epidemiology as applied to population health. Examines public health surveillance information and evaluates and synthesizes strategies to increase physical activity across health care and community settings. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 643 | Correlation/Regression/Multivariate Statistics | Graduate-level statistics course for PhD/master's students who will be doing research in the area of exercise and wellness. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 645 | Advanced Applied Methods and Data Analysis | Heavily applied focus on implementing research methods and statistical modeling techniques in the health promotion sciences. Addresses practical issues in specifying, interpreting and presenting research findings using appropriate statistical techniques. Addresses reporting standards (e.g., CONSORT, STROBE, PRISMA) and practical issues related to manuscript submission. Covers analytical methods including multiple regression and logistic regression, ANOVA, mediation and moderation, exploratory factor analysis, multilevel models for hierarchical data and intensive longitudinal data, basic time-to-event analyses (i.e., survival), and meta-analysis; also remains flexible to address critical and emerging methodologies in the health promotion sciences. Covers statistical methods in a conceptual nature with a focus on the use of statistical software packages (primarily SPSS) and interpretation of outputs. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 640 |
| EXW | 655 | Physical Activity and Public Health | In-depth analysis of the role of physical inactivity as a public health problem and public health approaches to the study and practice of increasing physical activity. Includes analysis of public health strategies for increasing physical activity at the community, national and international levels. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EXW 655 or EXW 598 (Pa Pub Health) |
| EXW | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 701 | Advanced Research Methods | Provides doctoral students in Nutrition and Health Promotion with instruction in methods to enhance scientific writing skills in the health sciences and guidance through the process required to organize and submit a fundable research grant proposal. | N | SEM | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 700 |
| EXW | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | GNA | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): Exercise and Nutritional Sciences PhD student |
| EXW | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| EXW | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Health Solutions | College of Health Solutions | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 101 | Personal Growth and Relationships | Learn how to set and achieve personal growth goals in addition to learning the science behind attraction, dating, love and how to build and maintain healthy relationships. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | |
| FAS | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-3 | | Pre-requisites: Freshman Standing; Maximum 25 hours |
| FAS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| FAS | 201 | Careers in Family and Human Development | Introduces the program in family and human development and aids in career exploration and development for majors and nonmajors who may be interested in declaring this as a major. Students learn what careers and jobs family and human development students typically enter and what skills can be translated into practice for a career in different professions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1 | | Credit is allowed for only FAS 201 or SOC 201 |
| FAS | 264 | Sociology of Gender | Examines how society influences perceptions of difference and identity within institutions and interactions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & C | Prerequisite(s): ENG 101, 105, 107, or 111 with C or better; Credit is allowed for only FAS 264 or SOC 264 OR Visiting University Student |
| FAS | 290 | Introduction to Social Science Research | Students learn the fundamentals of how social research is conducted and use critical thinking skills to access, analyze, interpret and summarize research. Students gain an appreciation for the value of social research in our everyday lives. Explores both qualitative and quantitative methods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): CDE 232, FAS 101, or SOC 101 with C or better; Credit is allowed for only FAS 290 or SOC 290 OR Visiting University Student |
| FAS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | |
| FAS | 301 | Introduction to Parenting | Integrated approach to understanding parenting and parent-child interactions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | |
| FAS | 324 | Sociology of Work and Organizations | Historical and comparative examination of changes in the structure and meaning of work and current shifts in people's work lives with a focus on race, ethnicity, gender, social class and social networks. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only FAS 324 or SOC 324 OR Visiting University Student |
| FAS | 331 | Modern Family Relationships | Family structures and processes. Explores the science on dating, cohabitation, marriage, parenting, divorce, finances (and more) in multiple family forms, including single-parents, multi-generational, LGBTQ+, childless and blended families. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): FAS 101, PSY 101 or SOC 101 OR Visiting University Student |
| FAS | 332 | Human Sexuality | Relationship of sexuality to family life and to major societal issues. Emphasizes developing healthy, positive, and responsive ways of integrating sexual and other aspects of human living. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | |
| FAS | 361 | Applied Research Methods | Learn how to apply methodological approaches to social research questions. Learn to evaluate, interpret, synthesize, produce and present research. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | L or SB | Prerequisite(s): CDE 232, FAS 101, or SOC 101 with C or better; ENG 101, 105, or 107 with C or better; PSY 230, SBS 304, SOC 390, or STP 226 with C or better; Credit is allowed for only FAS 361 or SOC 391 OR Visiting University Student |
| FAS | 370 | Family Ethnic and Cultural Diversity | Integrative approach to understanding historical and current issues related to the structure and internal dynamics of diverse American families. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & C | Credit is allowed for only AFR 370 or FAS 370 OR Visiting University Student |
| FAS | 390 | Supervised Research Experience | Practical, firsthand experience within current faculty research projects in family studies or child development or sociology. May be repeated for total of 6 hours. | Y | RSC | Y | GNA | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FAS 390 or SOC 399 OR Visiting University Student |
| FAS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | |
| FAS | 410 | Military Family Systems in a Democracy | In-depth overview of recent research, issues, trends relating to military families and the interactions within the military culture and societal cultures. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): FAS 101 or PSY 101 or SOC 101; minimum 30 hours OR Visiting University Student |
| FAS | 435 | Advanced Topics in Modern Family Relationships | Applies critical evaluation to research on relationships and families. Analyzes and discusses contemporary topics related to families, including LGBTQ+ rights, racial justice, immigration and healthcare decisions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; FAS 331 with C or better; minimum 45 hours; Credit is allowed for only FAS 435 or SOC 435 OR Visiting University Student |
| FAS | 436 | Sexuality in Mid-Life and Beyond | Analyzes physical changes, myths and stereotypes, gender issues, and relationship issues pertaining to sexuality in the middle and older adult years. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 60 hours; 6 hours of PSY and/or SOC courses |
| FAS | 440 | Fundamentals of Marriage and Family Therapy | Introduces the fundamental orientations of marriage and family therapy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | |
| FAS | 460 | Leadership, Research, and Collaboration in Community Change | Advanced understanding of leadership and the development of proposals for innovative plans that enhance the well-being of children, youth and families. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): minimum 60 hours; Credit is allowed for only FAS 460 or FAS 498 (Leadership Research & Collaboration in Change) or SOC 460 |
| FAS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | |
| FAS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-6 | | Prerequisite(s): Barrett Honors student |
| FAS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| FAS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| FAS | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-6 | | Prerequisite(s): Barrett Honors student |
| FAS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-7 | | |
| FAS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-3 | | |
| FAS | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEL | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 503 | Academic Professional Development | Becoming and working as a academic, including how to write a vita, choose a thesis topic, or find dissertation data. | N | REC | N | GNA | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 505 | Applied Regression Analysis | Multiple linear regression topics relevant to social science data analysis. Computer applications. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only FAS or SOC 505 |
| FAS | 507 | Categorical Data Analysis | Logistic regression and related topics relevant to categorical data analysis in social sciences. Computer applications. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only FAS or SOC 507 |
| FAS | 508 | Structural Equation Analysis for the Social Sciences | Theory and application of structural equation modeling. Path analysis and latent variable models such as CFA, multiple group analysis and models for longitudinal data. Projects involve conducting analyses and writing results. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only FAS or SOC 508 |
| FAS | 509 | Event History Analysis | Proportional hazards models and other methods for analyzing longitudinal data and establishing hazard rates of events for exploratory variables. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only FAS or SOC 509 |
| FAS | 510 | Bayesian Analyses in the Social Sciences | Discusses principles and practices of Bayesian approaches to statistical inference and modeling. Topics include: philosophical underpinnings of Bayesian inference; associated interpretations of probability; univariate and multivariate models prevalent in the social sciences; Markov chain Monte Carlo estimation; data-model fit; model comparisons procedures; missing data analyses. Course consists of lectures, demonstrations of software, reading assignments, homework assignments and a project. Exposes students to key concepts in Bayesian methods and gains technical foundations necessary to be consumers and contributors to applied and methodological research. Assumes previous knowledge of statistics through multiple regression, and recommends additional topics: multivariate statistics, latent variable modeling, probability theory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CDE 591 (Bayesian Analyses in the Social Sciences) or CDE 591 (Introduction to Bayesian Analyses) or FAS 510 or SOC 510 |
| FAS | 512 | Secondary Data Analysis | Works with existing data to produce a publishable article. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only FAS or SOC 512 |
| FAS | 520 | Structural Equation Modeling with Longitudinal Data | Emphasizes practical applications of longitudinal data analyses from a structural equation modeling perspective. In addition to discussing concepts related to longitudinal methods and design, students learn how to prepare data, model longitudinal data using software (e.g., Mplus), interpret output and report results of analyses. Example topics include panel models with observed and latent variables, measurement and structural invariance testing across time and group, fixed-effects panel models and mediation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): EDP 654, FAS 508, or PSY 533; Credit is allowed for only CDE 591 (Structural Equation Modeling - Longitudinal Data) or FAS 520 |
| FAS | 521 | Latent Growth and Longitudinal Mixture Models | Emphasizes practical applications of longitudinal data analyses from a structural equation modeling perspective as well as practical applications of growth mixture models. In addition to discussing concepts related to longitudinal methods and design, students learn how to model longitudinal data using software (e.g., Mplus), interpret output and report results of analyses. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): EDP 654, FAS 508, or PSY 533; Credit is allowed for only CDE 598 (Latent Growth & Mixture Models-Longitudinal Data) or FAS 521 |
| FAS | 531 | Theoretical Issues in Family Sciences | Historical and current approaches to theory development, evaluation, and application in family studies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 539 | Research Issues in Family Interaction | Critical review of current and past research in the area of family dynamics. Emphasizes interactional processes within the family. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 570 | Introduction to Marriage and Family Therapy | Introduces major marriage and family therapy orientations. Reviews history, theory, application, and outcome research for each orientation. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-MFT student |
| FAS | 571 | Assessment in Marriage and Family Therapy | Assessment and outcome evaluation of couples and families involved in marital and family therapy. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-MFT student |
| FAS | 572 | Advanced Techniques in Marriage and Family Therapy | In-depth review of assumptions and advanced techniques associated with contemporary marriage and family therapy approaches. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-MFT student |

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| FAS | 573 | Dysfunctional Families | Critical review of current theory and empirical evidence connecting marital and family interaction patterns with aberrant behavior. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-MFT student |
| FAS | 574 | Family Theory for Marriage and Family Therapy | Examines the theoretical orientations within the family therapy field, including the evolution, premises, and assumptions of each. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-MFT student |
| FAS | 575 | Applied Issues in Couples - Therapy | Examines issues unique to therapeutic work with couples, including lifespan transition, multicultural issues, divorce, parenting, and remarriage. Seminar. Enroll requirements: Pre-requisites: Admission into MAS-MFT program. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-MFT student |
| FAS | 576 | Applied Issues in Human Development for MFT: Psychopathology | Recognition and diagnosis of maladaptive behavior according to DSM criteria across human development. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-MFT student |
| FAS | 577 | Applied Issues in Children and Adolescents in Marriage and Family Therapy | Examines developmental factors that lead to disorders in children and adolescents, with an emphasis on a systemic framework. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-MFT student |
| FAS | 578 | Applied Issues in Sexuality for Marriage and Family Therapy | Examines the major methods used to assess and treat sexual issues and the treatment of sexual disorders. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-MFT student |
| FAS | 579 | Applied Research in Marriage and Family Therapy | Critical examination of research concepts, quantitative and qualitative research designs, and applicability in clinical settings. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-MFT student |
| FAS | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 581 | Professional Issues and Ethics | Examines legal and ethical concerns of marriage and family therapists, emphasizing licensing standards and the Code of Ethics. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisite: MAS-MFT student |
| FAS | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 586 | Capstone I | Professional exploration and goal specification for non-thesis capstone project. | N | PRA | N | GNA | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree-seeking graduate student in the Sanford School of Social and Family Dynamics; Credit is allowed for only FAS 586 or SOC 586 |
| FAS | 587 | Capstone II | Develops professional expertise and area of focused interest. | N | RSC | N | GNA | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): FAS 586 or SOC 586. Credit is allowed for only FAS 587 or SOC 587 |
| FAS | 588 | Capstone III | Applies developed expertise and knowledge to professional goal. | N | PRA | N | GNA | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): CDE 501 or SOC 501; CDE 531 or SOC 585; FAS 500 or SOC 500; FAS 587 or SOC 587; 12 additional graduate-level hours in CDE, FAS, and/or SOC; Credit is allowed for only FAS 588 or SOC 588 |
| FAS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|------------------------------------|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| FAS | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FAS | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FIN | 123 | ASU Financial Literacy | A practical approach to financial challenges faced by ASU students. Emphasizes financial choices likely to be encountered while at ASU, as well as issues to be encountered immediately upon graduation. Topics include credit cards, student loans, credit scores, saving, investing, insurance, transportation, housing, taxes, goal setting and budgeting. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 1 | | |
| FIN | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Finance | 1-4 | | |
| FIN | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Finance | 1-4 | | |
| FIN | 300 | Fundamentals of Finance | Theory and problems in financial management of business enterprises. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prereqs w/C or better:WPC maj or non-WPC maj w/min 2.5 GPA &min 56 hr; ACC 231,232 or 261; ECN 212; ECN 221,231,IEE 380 or STP 280; MAT 210,251,265 or 270; Pre/coreq:ACC 241,242 or 271; Credit allowed for FIN 300,302 or 303 OR Visiting University Student |
| FIN | 302 | Managerial Finance | Theories and techniques used for business decisions in working capital management, capital budgeting, financial control, and long-term financing. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prereqs w/C or better: WPC Finance major; ACC 231, 232, 261; ECN 211, 213; ECN 212, 214; ECN 221, 231; MAT 211, 266, 271; Pre/coreqs: ACC 241, 242, or 271 w/C or better if complete; Credit allowed for only FIN 302 or 303 OR Visiting University Student |
| FIN | 303 | Honors Finance | Covers basic principles of finance, practical tools for financial decision making, and evaluation methods employed by the firm. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s) with C or better: WPC Honors student; ACC 231, 232, or 261; ECN 211 or 213; ECN 212 or 214; ECN 221 or 231; MAT 211 or 271; Pre- or corequisite(s): ACC 241, 242 or 271 with C or better if completed; Credit allowed for only FIN 302 or 303 |
| FIN | 331 | Financial Markets and Institutions | Analyzes financial markets and intermediaries. Theory of financial intermediation, interest rate theory, money and capital market instruments, and government regulation. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prereqs w/C or better: W.P. Carey BS major or Business minor; ACC 231, 232, or 261; ECN 211 or 213; ECN 212 or 214; ECN 221 or 231; MAT 211, 266, or 271; Pre/coreqs: ACC 241, 242, or 271 with C or better if completed OR Visiting University Student |
| FIN | 361 | Advanced Managerial Finance | Builds on FIN 302. Advanced material on capital budgeting, cost of capital, CAPM, asset valuation, capital structure, and financial policy. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): W.P.Carey Finance BS student; FIN 302 with C or better OR Visiting University Student |

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| FIN | 380 | Personal Financial Management | Dynamic analysis of personal financial planning, including time value of money, stock and bond investment, and retirement and estate planning. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): minimum 2.00 GPA; minimum 56 hours, OR nondegree-seeking student; minimum 2.00 GPA, OR graduate student; Not for Finance major credit OR Visiting University Student |
| FIN | 385 | Personal Insurance Planning | Fundamentals of personal risk and insurance. Understanding and evaluating personal insurance coverage. Helpful for an insurance license. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): W. P. Carey major; FIN 300, 302, or 303 with C or better OR Visiting University Student |
| FIN | 386 | Estate Planning Strategies | Estate planning concepts, issues and strategies. Evaluates a personal estate plan and identifies needed components. Planning for client objectives and wealth. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): W. P. Carey major; FIN 300, 302, or 303 with C or better; FIN 380 with C or better; Pre- or corequisite(s): FIN 385 with C or better if completed OR Visiting University Student |
| FIN | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Finance | 1-4 | | Prerequisite(s): W.P. Carey BS non-Finance major; FIN 300, 302, or 303 with C or better OR Visiting University Student |
| FIN | 420 | Personal Portfolio Management | Managing a portfolio of securities through the investment process. Valuing stocks, bonds, managing risk, and considering tax and inflation consequences. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): Business (Financial Planning) BA major; FIN 300, 302, or 303 with C or better; FIN 380 with C or better OR Visiting University Student |
| FIN | 421 | Security Analysis and Portfolio Management | Security analysis theory and practice. Selection and management of financial asset portfolios. Securities markets and portfolio risk-return analysis. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): W. P. Carey Finance BS major; ACC 340 with C or better; FIN 303 or 361 with C or better OR Visiting University Student |
| FIN | 427 | Derivative Financial Securities | Study of stock options, index options, convertible securities, financial futures, warrants, subscription rights, and arbitrage pricing theory. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): W. P. Carey Finance BS major; ACC 340 with C or better; FIN 303 or 361 with C or better OR Visiting University Student |
| FIN | 431 | Management of Financial Institutions | Asset/liability and capital management in financial institutions. Influence of market factors and regulatory agencies. Emphasizes commercial banks. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): W. P. Carey Finance BS major; ACC 340 with C or better; FIN 303 or 361 with C or better OR Visiting University Student |
| FIN | 455 | Entrepreneurial Finance | Examines principles of entrepreneurial finance with a focus on the underlying economics and institutions involved. Provides insight into evaluating new ventures and practical financial tools for the entrepreneur. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): W. P. Carey Finance BS major; ACC 261 or 340 with C or better; FIN 303 or 361 with C or better; Credit is allowed for only FIN 455 or FIN 555 OR Visiting University Student |
| FIN | 456 | International Financial Management | Exchange rate determination, financial markets, managing multinational corporations, capital budgeting, and hedging currency risk exposure from an international perspective. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | G | Prerequisite(s): W. P. Carey Finance BS major; ACC 340 with C or better; FIN 303 or 361 with C or better OR Barrett Honors student; Finance BS major; FIN 303 with C or better OR Visiting University Student |
| FIN | 460 | Personal Finance Cases and Modeling | Capstone course. Case method training to simulate situations as a financial planner for self and for clients. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): Business (Financial Planning) BA major; ACC 435 with C or better; FIN 385 with C or better; FIN 386 with C or better; Pre- or corequisite(s): FIN 420 with C or better if completed |
| FIN | 461 | Financial Cases and Modeling | Case-oriented capstone course in managerial finance. Contemporary issues of liquidity management, capital budgeting, capital structure, and financial strategy. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | L | Prerequisite(s): Finance BS major; ACC 340 with C or better; ENG 101, 105, or 107 with C or better; FIN 303 or 361 with C or better; minimum 87 hours; Pre- or corequisite(s): FIN 421 with C or better if completed OR Visiting University Student |
| FIN | 471 | SIM Fund | Under faculty supervision, students manage over \$500,000 of the ASU Foundation's assets over the course of the year. Must take for a total of 3 hours. | N | LEC | Y | Z1 | W. P. Carey School of Business | Department of Finance | 1-3 | | Prerequisite(s): FIN 303 or 361 with C or better OR Visiting University Student |
| FIN | 472 | Investment Banking Industry Scholars | Provides conceptual basis for performing analysis, providing advice and making decisions in elite financial services firms. Must take for a total of 3 hours. | N | LEC | Y | GNA | W. P. Carey School of Business | Department of Finance | 1-3 | | Prerequisite(s): application and selection process; Credit is allowed for only FIN 472 or FIN 494 (Investment Banking Industry Scholars) |
| FIN | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | GNA | W. P. Carey School of Business | Department of Finance | 1-12 | | Prerequisite(s): W.P. Carey BS student; FIN 300, 302 or 303 with C or better |
| FIN | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | IND | Y | Z1 | W. P. Carey School of Business | Department of Finance | 1-6 | | Prerequisite(s): Barrett Honors student |

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| FIN | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | W. P. Carey School of Business | Department of Finance | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| FIN | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Finance | 1-4 | | Prerequisite(s): W. P. Carey Finance BS major; ACC 261 or 340 with C or better; FIN 303 or 361 with C or better OR Visiting University Student |
| FIN | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | W. P. Carey School of Business | Department of Finance | 1-3 | | Pre-requisites: W.P. Carey Finance students with professional status |
| FIN | 501 | Basics of Finance: The Art of Managing Resources to Create Value | Develops analytical techniques and financial theories used to make optimal decisions in a corporate setting. Designed for students with limited business experience and without an undergraduate business degree. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): degree-seeking graduate student |
| FIN | 502 | Managerial Finance | Develops analytical techniques and financial theories used to make optimal decisions in a corporate setting. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 2-4 | | Prerequisite(s): W. P. Carey MS Finance or MBA student; ACC 502 with C or better |
| FIN | 509 | Quantitative Methods in Finance I | Empirically investigates properties of financial data such as basic probability theory, matrix algebra, ordinary least squares, and maximum likelihood estimation. Explores these methods both through algebraic derivation and programmed implementation in PYTHON. Provides the basis for portfolio optimization by focusing on the estimation and testing of financial factor models. | N | SEM | N | GNA | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): Finance MS student |
| FIN | 520 | Valuation Techniques | Improves the understanding of valuation concepts and how to apply them. Shows how to value assets using free cash flow and economic value-added methods. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 1-4 | | Prerequisite(s): Degree-seeking graduate student; FIN 502 with C or better |
| FIN | 525 | Investment Strategies | Presents the fundamental principles of risk and return, portfolio diversification, asset allocation, efficient markets, active portfolio management, portfolio evaluation. Reviews selected alternative investment strategies such as hedge fund investments. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 1-4 | | Prerequisite(s): W. P. Carey Finance MS or MBA student; FIN 502 with C or better |
| FIN | 530 | Derivatives | Intermediate- to advanced-level course in derivative assets such as options, forward and futures contracts, swaps and financial engineering. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 1-4 | | Prerequisite(s): W. P. Carey Finance MS student; FIN 502 with C or better |
| FIN | 535 | Quantitative Methods in Finance II | Investigates financial data by using techniques such as autoregressive and vector-autoregressive models, dimension-reduction techniques motivated by latent factor models and machine learning dimension-reducing techniques. Explores these methods using algebraic derivation and implementation in PYTHON. Builds on the statistical and programming skills developed in FIN 509 and emphasizes forecasting for the optimization of portfolios. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): Finance MS student; FIN 509; Credit is allowed for only ECN 502 or FIN 535 |
| FIN | 540 | Advanced Financial Management | Offers a comprehensive exploration of the revolutionary developments occurring in the world's financial markets. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 1-4 | | Prerequisite(s): Degree-seeking graduate student; FIN 502 with C or better |
| FIN | 545 | Advanced Corporate Finance | Studies major decision-making areas and selected topics in corporate finance. Attempts to develop decision-making ability in these areas using both lectures and cases. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 1-4 | | Pre-requisite: W. P. Carey degree-seeking graduate student; Credit is allowed for only FIN 545 or 591 (Advanced Corporate Finance) |
| FIN | 550 | Fixed Income | Intermediate- to advanced-level course in fixed income instruments and associated relative valuation of the securities. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 1-4 | | Prerequisite(s): Degree-seeking graduate student; FIN 502 with C or better |
| FIN | 555 | Entrepreneurial Finance | Provides an overview of the economics and institutions involved in entrepreneurial finance. Focuses on the financing of new ventures. Consists primarily of case analysis, supplemented with in-class exercises and lecture material. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 1-4 | | Prerequisite(s): W.P. Carey degree-seeking graduate student; Credit is allowed for only FIN 455 or FIN 494 (Entrepreneurial Finance) or FIN 555 |
| FIN | 560 | International Finance | Examines the financial issues of an international investment decision. Main topics include foreign exchange market, investment alternatives in the international capital markets, and the management of foreign exchange risk. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 1-4 | | Prerequisite(s): Degree-seeking graduate student; FIN 502 with C or better |
| FIN | 565 | Risk Management in Banks and Financial Institutions | Provides a risk management view of financial institutions (also known as financial intermediaries). Traditionally, banking courses have focused on an overview of the financial services industry, sector by sector, concentrating on balance sheet presentations and overlooking management decision making and risk management. In contrast, this course emphasizes a risk management approach. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 1-4 | | Pre-requisite: W. P. Carey degree-seeking graduate student |
| FIN | 575 | Finance Capstone | Provides a culminating experience as a step in completing the degree. Applies finance principles related to the investment, risk management and financing policies of the firm to develop decision-making ability in these areas. Emphasizes analysis of finance problems through selected readings and case studies. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 1-4 | | Pre-requisite: W. P. Carey degree-seeking graduate student; Credit is allowed for only FIN 575 or 591 (Finance Capstone) |

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| FIN | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Finance | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FIN | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | W. P. Carey School of Business | Department of Finance | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FIN | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Finance | 1-12 | | Prerequisite(s): W. P. Carey degree-seeking graduate student |
| FIN | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | GNA | W. P. Carey School of Business | Department of Finance | 1-12 | | Prerequisite(s): FIN 502 with C or better |
| FIN | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | W. P. Carey School of Business | Department of Finance | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FIN | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Finance | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FIN | 781 | Theory of Finance | Fundamental tools of financial economics; asset pricing, arbitrage, option pricing, capital structure, dividend policy, asymmetric information, and transaction-cost economics. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FIN | 782 | Theory of Finance II | Fundamentals of corporate finance, contract theory, agency problems, and game theory applications in Finance. | N | SEM | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): W. P. Carey graduate student |
| FIN | 783 | Empirical Asset Pricing | Asset pricing models in finance; efficient market hypothesis, empirical factor models, option pricing basics. | N | SEM | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): W. P. Carey graduate student |
| FIN | 785 | Financial Economics of Capital Markets | Asset pricing theory, equilibrium asset pricing models, and the equity premium puzzle; incomplete and imperfect markets. | N | SEM | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): W. P. Carey graduate student |
| FIN | 786 | Corporate Finance | Issues in corporate finance covering topics that impinge on corporate finance, financial contracting, intermediation; empirical corporate finance; microstructure. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 3 | | Pre-requisite: W. P. Carey degree-seeking graduate student |
| FIN | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | W. P. Carey School of Business | Department of Finance | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FIN | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | W. P. Carey School of Business | Department of Finance | 1-12 | | Pre-requisite: W.P. Carey degree-seeking Graduate student |
| FIN | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | W. P. Carey School of Business | Department of Finance | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FIN | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | IND | Y | Z3 | W. P. Carey School of Business | Department of Finance | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FIN | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | W. P. Carey School of Business | Department of Finance | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FIS | 101 | SFIS: The ASU Experience | Welcomes freshman students enrolled in the Innovation in Society major at ASU. Introduces the array of resources available to them as ASU students, stimulates them to reflect on their choice of major, and provides an opportunity to hear about the career trajectories and interests of faculty and alumni from the School for the Future of Innovation in Society. Capped at sections of 20 students to promote discussion and a sense of community. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 1 | | |
| FIS | 111 | Welcome to the Future | Explores the ways in which the future inspires, shapes and motivates the present. Illustrates how possible futures are used by people and institutions to advance agendas, shape conversations and sell products. Examines how science, technology and other forces are mobilized to create change. Empowers students to play a role in shaping our collective future. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | |
| FIS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-4 | | |

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| FIS | 201 | Innovation in Society | Examines the vast implications of innovation, why it is so powerful, and why it really matters. Introduces the theories and processes of innovation as they relate to socio-political change. Students gain knowledge about the history and future of innovation and explore how innovation is entangled with social, political and ethical issues. By identifying and applying analytical tools, students learn to account for the diverse workings and effects of innovation. This course strives to debunk the myth that innovation happens automatically. Rather, different actors rally to create innovations that shape our society, economy and cultures--and that those innovations are not inevitable and could be otherwise. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | H | |
| FIS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-4 | | |
| FIS | 305 | Ways of Knowing | Students research, beginning with the concept of research itself and its various purposes, highlighting knowledge and how it is created in different disciplinary approaches. Exposes historical and philosophical underpinnings of how research is conceptualized, presented and implemented, including what constitutes information, knowledge and evidence. Introduces material that is in a traditional research design and methodology course; however, the emphasis uniquely focuses on knowledge creation, innovation, the nature of disciplinary knowledge and its impact on society. Explores the epistemological differences in problem identification and approaches to inquiry in the disciplinary perspectives of engineering, the sciences and in the social sciences. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| FIS | 307 | Navigating Futures | Foresight methods and their potentials as entry-points into public discussions about near- and mid-range technoscientific developments. Four elements constitute the organizing axis of the course: (1) the history of foresight exercises in government agencies and business organizations; (2) the methods of four forms of foresight exercises (technology foresight, science and technology studies, anticipatory governance and scenario development); (3) a comparative assessment of these dominant forms; and (4) a group-based application exercise using one of the foresight methods. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| FIS | 308 | Politics, Markets and Innovation | Studies the roles that governments, markets and other factors play in promoting, disseminating and regulating science-based technological innovation. Includes examining the theoretical literature on factors that structure markets and shape diffusion, as well as case studies that illustrate the processes and mechanisms that govern innovations in society. In addition to studying the role of governments, firms and universities, also considers the role of publics as consumers who adopt innovations but also as citizens who may be skeptical of them. Includes case studies in agriculture, health care, biotechnology and digital rights. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| FIS | 331 | Technology and the Modern World | Explores how technological systems are developed and embedded in the modern world with an eye to playing a role in creating better futures. Examines how machines and techniques can shape institutions, relationships and values. Challenges students to envision futures that they want and work to develop strategies for moving us (and our systems) toward those futures. Analyzes technologies past, present and imagined, and describes the ways in which technologies shape our world and the ways in which we shape those technologies. Through repeated practice in class students play a productive role in and even facilitate conversations that tease out the relationships between values and technological systems. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): minimum 45 hours |
| FIS | 332 | Risk and the Future | Examines the evolving global risk landscape that is resulting from rapidly increasing global connectivity, tight coupling and massive complexity. Develops an understanding of how innovation in society is changing the risk landscape and considers how innovation in approaches to risk can help navigate this emerging landscape. Topics include technological risk, sociopolitical risk, catastrophic risk, existential risk, converging technologies, perception and uncertainty, anticipation, precaution, uncertainty and risk innovation. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |

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|---------|-------------|--------------------------------------|---|-------------------|-------------------|-----------------|---------------|---------------------------|--|-------|-----------------|---|
| FIS | 334 | Science, Technology and Inequality | Conceptual and theoretical frameworks; provides empirical case studies that contribute to understandings of science and technology as they are used in society. The applications of science and technology in society need to be understood as instrumental to the creation and maintenance of inequality within and between societies. Science and technology does not merely cause or alleviate inequality, but are more profoundly implicated in social relations regarding distribution and access to the benefits of different technologies as well as exposure to risks from science and technology projects in society. The more pervasive and obdurate sources of social distribution are enshrined and entrenched in these scientific and technological systems. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | C | Prerequisite(s): minimum 45 hours; Credit is allowed for only FIS 334 or JUS 334 |
| FIS | 335 | Designing Knowledge | Provides a foundational understanding of how social organizations make and use knowledge. From research laboratories to biotechnology companies to statistical agencies, many organizations are specifically designed to be knowledge enterprises, enterprises whose primary purpose is to produce knowledge. All organizations in modern societies also operate knowledge systems: systems whose purpose is to create, validate, circulate, communicate and apply knowledge in the making of decisions. Examines how these forms of organization work and contribute to modern societies. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| FIS | 336 | Science and Technology Policy | Science and technology are powerful forces in the modern world. They have been hailed as a way to address everything from world hunger to old age. This does not, however, happen automatically, nor does it always work out the way one presumes. Governments make numerous decisions that affect the direction and application of science and technology, and government policies are affected by a myriad of social, political, and cultural factors. This class will explore the variety of ways in which governments make these policies, how the policies shape the development of science and technology and their applications, and how policy may be shaped to create better futures. Governments around the world have coalesced around the idea that science and technology are necessary for the promotion of the good life. We will examine how they put this idea into action by looking at five interrelated topics: Food, Security/Military, Health, Economy, and Sustainability. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | |
| FIS | 337 | Innovation and Global Development | Persistent inequality and poverty continue to plague nations including the USA even in the 21st century. Global development is a complex idea that attempts to address interrelated paradigms of culture, economy, equity, governance, history, societal dynamics, as well as technological issues. Using the framework of the Sustainable Development Goals 2030 (SDGs) this course examines, analyzes and critiques indicators of SDGs as well as explores innovative measures of development that nations around the world are planning and implementing in order to improve the lives of their citizens now and for the future. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | G | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| FIS | 338 | The Moviegoer's Guide to the Future | Unique introduction to cutting-edge technologies and their socially responsible and ethical development and use. Whether you are majoring in science, engineering, the social sciences, the humanities, innovation and entrepreneurship, business, design, film, communication, or the arts, this class enables a better understanding of how particular skills, knowledge and interests can help ensure the socially responsible development and use of emerging science and technology. Uses science fiction movies to explore emerging trends in science and technology and their ethical, responsible and beneficial development. Instructs how to describe how responsible innovation is relevant to developing just and vibrant global futures; discusses a wide range of emerging technologies and their ethical and responsible development; and articulates the importance of taking a transdisciplinary approach to ethical and beneficial entrepreneurship. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FIS 338 or FIS 394 (The Moviegoer's Guide to the Future) OR Visiting University Student |
| FIS | 351 | Public Management and Administration | Examines the context and role of the public manager and the development of the field of public administration. | N | LEC | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FIS 351 or PAF 300 OR Visiting University Student |

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| FIS | 371 | Innovation for Impact: Impact Journey | Builds on the ideas, concepts and experiences engaged in earlier course work. Innovation allows for amazing possibilities, and within each one of us is the potential to create, apply, research and scale innovation to realize impact goals. Grounded in a use-inspired framework with a focus on transforming society, engages innovation for impact with a particular focus on what constitutes and how one achieves sustainable and scalable outcomes. | N | SEM | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 1 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| FIS | 372 | Innovation for Impact: Inquiry Journey | Builds on the ideas, concepts and experiences engaged in earlier course work. Grounded in a use-inspired framework with a focus on transforming society, engages innovation for impact with a particular focus on meaning making, grounded claims, and what it means to gather, analyze, construct and advance meaningful assertions and storied truths that advance productive claims about the potential of an innovation to realize impact goals. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 1 | | Prerequisite(s): minimum 45 hours |
| FIS | 373 | Innovation for Impact: Innovation Journey | Builds on the ideas, concepts and experiences engaged in earlier course work. Grounded in a use-inspired framework with a focus on transforming society, engages innovation for impact with a focus on imagining, designing, developing and optimizing a particular innovation such that it is likely to realize impact goals. Beyond product-centric perspectives that locate change within the innovation, this journey emphasizes an ecological perspective that positions innovation as a shared accomplishment distributed across the designed innovation, engaged participants, prepared facilitators and a responsive ecosystem. | N | SEM | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 1 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| FIS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-4 | | |
| FIS | 403 | Governing Emerging Technologies | Examines the variety of ways in which societies make collective decisions or govern science and technology. Focuses on a particular category of science and technology: the set of emerging technologies like nanotechnology, artificial intelligence and robotics, genetic modification and synthetic biology, cognitive science and neurotechnology, geoengineering, and others that pose particular problems of high stakes, high uncertainty and ambiguous novelty. Closely allied with the research agenda of numerous faculty in the School for the Future of Innovation in Society, especially those in the Center for Nanotechnology in Society, the Risk Innovation Lab, and others; exposes students to inquiry and skills directly from the research front. Students perform numerous research tasks. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| FIS | 431 | Technology, Security and Insecurity in Global Politics | Focuses on the international political aspects of technological change; examines the impact of technological innovation and political change on the international political system. The overall goal is to create an awareness of and ability to analyze and synthesize world events, the particular role of technology, and consider the myriad ways that globalization and technology as a main driver could be changing the international system of nation-states. Technological innovation often takes place within a political context, including international politics, as nation-states and other entities develop technologies within the context of competition and power. There are several issues that run throughout the course as major themes. One is the role of technology in political and social change, and the impact of the latter on the former. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): minimum 45 hours |
| FIS | 432 | Problem Solving Through Strategic Thinking | Students learn how to ask questions, brainstorm and communicate ideas, while dealing with uncertain outcomes and unpredictable risks caused by the ideas and solutions they propose. In understanding which ideas and solutions stick and which don't, students learn how different factors influence the birth, life and death of ideas and the socio-technical systems in which ideation exists. Does it matter who asks the questions and proposes the ideas, who is trying to participate, who was there first, if there is a profit or other conflicting motive and the context and the interests that result in certain solutions being picked over others? This course uses exploration learning approaches, where students follow a progression through what they discover, from understanding who they are as individuals, to how ideas are formed and hypothesis made about proposed solutions. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): minimum 45 hours |

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| FIS | 444 | Environment and Justice | Explores issues of environment and justice. Topics include justice and environmental racism, future generations, nonhuman life, global/non-Western societies. | N | LEC | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | L & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only FIS 444 or JUS 444 |
| FIS | 480 | Innovation in Society Studio | Facilitates experiential learning and allows students to work with clients in the field of technology, innovation and sustainability. Through team projects with identified stakeholders, students engage, plan, design, implement and assess projects while learning interpersonal skills and managing client relationships. Students gain real-world experience and develop skills in project management, including planning, implementing and evaluating a complete project cycle. Allows students to manage both client-based projects and team relationships to complete projects. Students carry out project-based research, conduct interviews and meetings, make site visits, develop work plans and scope of works, negotiate clear deliverables with clients, implement projects and give public presentations. Presentations are grounded in the idea of conducting effective science communication. | N | SEM | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): FIS 305 OR Visiting University Student |
| FIS | 481 | Innovation for Impact: Application Journey | As a culminating experience, course brings together the previous experiences and emerging expertise to investigate, innovate and cultivate an impact innovation to achieve impact goals. Starting with building a grounded appreciation for a particular impact outcome, participants then design an innovation to realize a better future state, grounding this work in lessons with respect to logic models, design fictions, agile startups, and rapid prototyping. Some participants simply test a component and produce a reflective analysis, while others expand credit requirements and iterate to achieve transformative outcomes. | N | SEM | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): FIS 371; FIS 372; FIS 373 |
| FIS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | |
| FIS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-6 | | Prerequisite(s): Barrett Honors student |
| FIS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| FIS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | College of Global Futures | School for the Future of Innovation in Society | 1-4 | | |
| FIS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | RSC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-7 | | |
| FIS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-3 | | |
| FMP | 101 | Orientation to Film | Orientation to university and school resources and procedures. Academic success strategies, mentorship, goal setting. Community-building exercises. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1 | | Prerequisite(s): Film (Filmmaking Practices) BA or Film and Media Production BFA major; freshman standing; Credit is allowed for only FMP 101 or THE 125 (THF 125) OR Visiting University Student |
| FMP | 180 | Principles of Production Technology | Introduces the basic terms, functions, theories and applications of film and media-making equipment and technology related to camera, sound and editing. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | |
| FMP | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-4 | | |
| FMP | 201 | Film: The Creative Process I | History, elements, and techniques of theatrical film: cinematography, directing, acting, scriptwriting, producing, and criticism. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | HU | |
| FMP | 210 | Principles of Filmmaking | Introduces majors to the world of professional film and media production. Examines all aspects of the process from a practical, real-world perspective. Students learn the importance of each phase of the creative process through the five stages of filmmaking: development, preproduction, production, postproduction, and marketing/distribution. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Film and Media Production BFA major; FMP 180 with C or better OR Visiting University Student |
| FMP | 211 | Film Industry Intensive | Dynamically dated courses and experiences designed to bring students in contact with working industry professionals in film and media. | Y | LEL | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-3 | | Credit is allowed for only FMP 211 or FMP 294 (Producing Independent Film and Media) or FMP 294 (Pro Casting Practices): Advice from Professionals) |
| FMP | 215 | Beginning Post-Production for Film & Television: Adobe Premier Pro | Introduces the basics of post-production for digital narrative media, including instruction on Adobe Premiere Pro. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Credit is allowed for only FMP 215 or FMP 394 (Non-Linear Editing for Film and Media) |

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| FMP | 220 | Film and Media Post-Production I | Required 45-hour lab designed to teach students how to use the Avid Media Composer editing program and supporting software with an emphasis on editing techniques and workflow. Part of the Avid Learning Partner program, taught by a Certified Avid Instructor. Satisfies the Media Composer 100-level certification as part of Avid's official curriculum. Upon completion of this course, students take an exam to become an Avid Certified User. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Film and Media Production student OR Visiting University Student |
| FMP | 222 | Education in Film | Critically examines how teachers, students, administrators and educational issues are dramatized and represented in popular media. Explores professional teacher preparation, socio-cultural contexts of education systems and learning, and the use of cinema as social critique. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | L | Prerequisite(s): ENG 101 (or ENG 102) with C or better. Credit is allowed for only FMP 222 or FMP 294 (Education in Film) |
| FMP | 225 | Principles of Visual Effects Compositing | Introductory look into the theory and practice of creating visual effects for film, television and games. Focuses on principles of 2D visual effects as derived and modernized from traditional special effects practices as seen in pre-digital film making. Students view, discuss and critique effects from films in the 20th and 21st centuries and engage in the creation of visual effects shots in a variety of styles employing a number of standard techniques. Covers the use of Adobe Photoshop and After Effects; however, considers some use of 3D applications in the second half of the semester. At the heart of good visual effects is a critical eye and attention to detail that is gained through critique of professional and student works on a weekly basis. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | |
| FMP | 240 | Introduction to Animation for Film | Introduces history, theory, technique and practices of 2D and 3D animation. Covers types of animation and how to create projects for a broad variety of end uses (e.g., motion graphics, TV/film, Web, games). Students create short projects that serve as exercises to study animation techniques as well as more in-depth projects of student design. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Credit is allowed for only FMP 240 or FMP 294 (Introduction to Animation) |
| FMP | 250 | Sex and Violence in Film and TV: Ethics Survey | Sex and violence portrayals in media; examines societal evolution, technological development, market imperatives, production codes, and industry realities and practices. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | |
| FMP | 255 | Media Authorship | Surveys the manipulation, editing, compression, encoding and search engine optimization of digital sound and video media. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | CS | Credit is allowed for only FMP 255 or FMP 294 (Media Authorship) OR Visiting University Student |
| FMP | 261 | Principles of Screenwriting | Explores fundamental skills of script writing for entertainment industry screen media, including: standard script writing software, formatting and technical standards; exercises in character creation and dramatic conflict; and analysis and understanding of common narrative structures of feature-length, series and short-form content. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Pre- or corequisite(s): THF 160 OR Visiting University Student |
| FMP | 280 | Introduction to Film and Media Production | A hands-on production course where students learn first-hand how to make films in a structured, informative environment that works through all phases of production, focusing on collaboration and application of basic mediamaking skills and technology. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Pre- or corequisite(s): FMP 180 or 194 (Principles of Production Technology) OR Visiting University Student |
| FMP | 285 | Portfolio Preparation and Review I | Introduces the basics of Digication e-Portfolio platform, including preparation and presentation of sophomore portfolio milestone for faculty review and admission to upper-division. | N | PRA | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1 | | Prerequisite(s): Film and Media Production BFA major; minimum 32 hours OR Visiting University Student |
| FMP | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEL | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-4 | | |
| FMP | 300 | Short Film Production | Specialized study of conventional film techniques; emphasizes the creative process through project-based, hands-on learning. Group and individual exercises cover all phases of short film production from creative inspiration to online distribution. | Y | LEL | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Film (Film and Media Production) BA, Film (Filmmaking Practices) BA, or Film and Media Production BFA major; FMP 280 with C or better OR Visiting University Student |
| FMP | 315 | Sound Design for Film and Media I | Introduces creative and technical aspects of sound design for film and digital media production, including introduction to Avid Pro Tools software. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prereq(s): Film (Film & Med Prod) BA, Film (Filmmak Pract) BA, or Film and Media Production BFA major; Pre- or corequisite(s): FMP 280 or 300; Credit is allowed for only FMP 314 or FMP 294 (Sound Design: Film) OR Visiting University Student |
| FMP | 318 | Directing for Film and Media I | In-depth analysis of directing theory, textual analysis, visualization, shot composition and spatial connection, staging, rehearsal techniques, and camera movement. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Film (Film and Media Production) BA or Film and Media Production BFA major; FMP 300 with C or better OR Visiting University Student |

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| FMP | 320 | Film and Media Post-Production II | In-depth analysis of editing theory, storytelling, nonlinear editing techniques and equipment, basics of visual and audio effects and color grading using the Avid Media Composer editing program and supporting software with an emphasis on storytelling and aesthetics. Part of the Avid Learning Partner program, taught by a Certified Avid Instructor. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Film (Film and Media Production) BA or Film and Media Production BFA major; FMP 220 with C or better; Pre- or corequisite(s): FMP 300 OR Visiting University Student |
| FMP | 325 | Intermediate Visual Effects Compositing | Offers the opportunity to work with a broad variety of projects with assets ranging from excellent quality to those that are more difficult to work with. In addition to work with pre-prepared assets, students also get the opportunity to create their own effects sequences from scratch (including capturing footage). Students learn best practices for capturing all needed elements on the day of the shoot as well as planning the sequence before recording. Covers work in both 2D and 3D visual effects including: matte painting (2D and 3D), set extensions and additions, blue/green screen compositing, and 3D animation for the addition of elements into a shot. The first section of the class consists of short individual assignments aimed at teaching basic core VFX skills, finishing with the production of a class-produced VFX short film. Class member assignments are based off of individual skill and interest. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): FMP 225 with C or better OR Visiting University Student |
| FMP | 330 | Professional and Technical Writing for Film/TV Industry | Professional (noncreative) writing skills that prepare students for a career in the entertainment industry. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): FMP 261 with C or better; minimum 56 hours OR Visiting University Student |
| FMP | 335 | Careers in Film and Media Industry | Basics of starting a freelance career in the film and media industry; the necessary tools and skills needed to move that career forward through the creation of various business and professional tools; and the various techniques needed to succeed in a variety of production environments. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Digital Culture (Film) BA, Film BA, Film and Media Production BFA major, or Film and Media Production minor; FMP 201 or 285 with C or better OR Visiting University Student |
| FMP | 340 | Approaches to International Cinema | Offers a historical survey of major film movements from across the world's national cinemas from the silent era to this day. Explores key cinematic works, situating them in their aesthetic, cultural and political contexts, and tracing their impact on the global cinematic culture. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 w/C or better; Credit is allowed for only FMP 340 or FMP 394 (Approach to Int'l Cinema) or FMS 341 or FMS 394 (Approach to Int'l Cinema) or SLC 340 or SLC 394 (Approach to Int'l Cinema) OR Visiting University Student |
| FMP | 345 | Cinematography I | Cinematographer's role, photographic and visual theory, framing, shot composition, cameras and equipment, crew management, basic lighting for film and video. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): The Sidney Poitier New American Film School major; FMP 201 or 280 with C or better; Pre- or corequisite(s): FMP 300 OR Visiting University Student |
| FMP | 350 | Directing for Documentary Media | Introduces directing students to the various practices, approaches and techniques of professional documentary media making, including creation of short-form projects that highlight both individual and collaborative perspectives on real-life figures, events and communities. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): FMP 280 or 300 with C or better; Credit is allowed for only FMP 350 or FMP 394 (Documentary Production) OR Visiting University Student |
| FMP | 355 | Transborder Digital Media Making | Covers digital media-making with a focus on issues relating to the U.S.-Mexico border region, specifically within the Phoenix community. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FMP 355 or TCL 355 or FMP 394 (Intro to Transborder Digital Media Making) or TCL 394 (Intro to Transborder Digital Media Making) |
| FMP | 360 | The Filmmaker's Voice | Explores the various ways in which film artists demonstrate their unique perspective and ability, via extended analysis of noted works defined by strong artistic vision, discussion of cultural and historical values, and development of each student's creative voice. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Dance BFA, Digital Culture (Film) BA, Film BA, Film (Film and Media Production) BFA, or Theatre BA major or Film minor; minimum junior standing OR Visiting University Student |
| FMP | 361 | Writing the Short Film | An advanced exploration of screenwriting where students focus on story creation, structure, themes, character development, conflict, pace, tone and dialogue in a mentored and peer-sharing environment, culminating in the creation of two short film screenplays designed to develop the student's unique screenwriting voice. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): FMP 261 with C or better OR Visiting University Student |
| FMP | 365 | Developing a Series | Acquaints students with the development process for episodic series (network, cable, Web, on-demand). Also explores the many facets of the television industry (creative, financial, cultural, historical) and surveys the advances in television content along with an analysis of the cultural impact of television on society. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Digital Culture (Film) or Film major or Film & Media Production minor or Film & Media Production concentration; FMP 261 w/ B or better; Credit is allowed for only FMP 365 or FMP 394 (Developing a TV Series) OR Visiting University Student |

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| FMP | 370 | Producing for Film and Media | Provides the information and techniques to understand the process of being a producer in the film and media industries. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): FMP 300 with C or better; Credit is allowed for only FMP 370 or FMP 494 (Producing Film) OR Visiting University Student |
| FMP | 380 | Film Production Crew | Provides practical, hands-on experience in the creation of film and digital media for all students in film programs, in support of projects required by upper-division coursework or otherwise approved and supervised by faculty. | N | PRA | Y | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-3 | | Prerequisite(s): Film (Filmmaking Practices) BA, Film (Film and Media Production) BA, or Film and Media Production BFA major; FMP 300 with C or better; minimum 2.50 cumulative GPA OR Visiting University Student |
| FMP | 385 | Portfolio Project Development | Provides the opportunity for all Film and Media Production majors to conceive, develop and complete the intellectual property that will form the basis of their senior portfolio projects. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 2 | | Prerequisite(s): Film (Film and Media Production) BA or Film and Media Production BFA major; FMP 285 with C or better; Credit is allowed for only FMP 385 or FMP 398 OR Visiting University Student |
| FMP | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEL | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-4 | | |
| FMP | 395 | Combat in Film | Interdisciplinary approach to and qualitative method for analyzing war movies and military dramas as both historical and cinematic narratives that represent the experiences of infantry marines and soldiers in 20th- and 21st-century U.S. wars. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 394 (Combat in Film) or ENG 395 or FMP 395 or HST 306 (Combat in Film) or HST 395 or VTS 395 OR Visiting University Student |
| FMP | 398 | Capstone Development | Provides the opportunity for all Film and Media Production majors to conceive, develop and complete the intellectual property that will form the basis of their required final capstone projects. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 2 | | Prerequisite(s): Film (Film and Media Production) BA or Film and Media Production BFA major; FMP 300 with C or better; minimum junior standing; Credit is allowed for only FMP 385 or FMP 398 OR Visiting University Student |
| FMP | 400 | Advanced Short Film Production | Advanced production course for students to make short films in support of senior portfolio. | N | LEL | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): FMP 300 with C or better OR Visiting University Student |
| FMP | 401 | Senior Practicum | Weekly advising and consulting with faculty and peers on senior portfolio projects, professional development and career planning. | N | PRA | Y | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1 | | Prerequisite(s): FMP 385 with C or better; senior standing |
| FMP | 403 | Independent Film | Considers the history of avant-garde, alternative and independent film making in American cinema, with an emphasis on shifting technology, industrial practices and cultural innovations. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| FMP | 404 | World Cinema | Films and filmmakers from Europe, Asia, Australia, the Far East, South America, and the Caribbean. Emphasizes cultural content and filmmaking philosophies. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | G | Prerequisite(s): ENG 102, 105 or 108 with C or better |
| FMP | 405 | Film and Television: Pioneers, Practices and Innovations | Examines major historical figures, generic conventions and institutional practices in the global film, television and media industries. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| FMP | 411 | Welcome to Hollywood | Students gain a sense of how the entertainment industry works by examining the product life cycle of filmed entertainment products including inception, development, casting, packaging, financing, production, marketing and distribution. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only FMP 411 or FMP 494 (Welcome to Hollywood) OR Visiting University Student |
| FMP | 415 | Sound Design for Film and Media II | Advanced sound design and delivery for film and media, including post-production sound, music, effects, ADR, and other elements; advanced use of Avid Pro Tools and other industry standard audio recording and producing hardware and software. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): FMP 315 with C or better; Credit is allowed for only FMP 415 or FMP 494 (Advanced Sound Design Film and Media) or FMP 598 (Advanced Sound Design Film and Media) OR Visiting University Student |
| FMP | 417 | Business and Legal Practices in Entertainment | Examines standard business and legal elements of the film and media entertainment industry, including historical, theoretical and ethical frameworks for understanding current practices. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| FMP | 418 | Directing for Film and Media II | Expands on effective techniques for working with actors and on the director's preparation for shooting scenes and films. Students learn while directing with professional set protocols in this hands-on, set-driven class. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Film (Film and Media Production) BA or Film and Media Production BFA major; FMP 318 with C or better OR Visiting University Student |
| FMP | 420 | Film and Media Post-Production III | In-depth analysis of editing theory, storytelling, nonlinear editing techniques and software, advanced sound design and color grading using the Avid Media Composer editing program and supporting software with an emphasis on storytelling and aesthetics. Students receive critiques of their work after each project to determine the development of their proficiency of craft and creativity. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Film (Film and Media Production) BA or Film and Media Production BFA major; FMP 320 with C or better OR Visiting University Student |

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| FMP | 445 | Cinematography II | Advanced cinematographic and motion picture photography techniques, including study of advanced lighting, integration of digital technologies, new hardware and software, and professional development for directors of photography, camera assistants, and grip/electric department personnel. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): FMP 345 with C or better; Credit is allowed for only FMP 445 or FMP 494 (Advanced Study: Cinematography) OR Visiting University Student |
| FMP | 461 | Advanced Screenwriters Workshop | For advanced screenwriting students to create screenplays for television, film and new media in support of senior projects and professional portfolios. | N | LEL | Y | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): FMP 385, FMP 398, or THF 397 with C or better; Pre- or corequisite(s): FMP 361; Credit is allowed for only FMP 461 or FMP 494 (Writing the Feature) or FMP 598 (Writing the Feature) OR Visiting University Student |
| FMP | 465 | Series Writers Workshop | Offers selected students the opportunity to develop and refine material for a proposed episodic series through collaborative workshops and writing sessions that are equivalent to the development processes utilized in various industry paradigms (network, cable, Internet/on-demand). | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): FMP 365 or 394 (Developing a TV Series) with C or better; Digital Culture (Film) or Film major or Film & Media Prod. minor or BIS (Film & Media Prod.); minimum junior standing. Credit for only FMP 465 or 494 (Television Writing Workshop) |
| FMP | 475 | Producing Series | Function and responsibilities of episodic series producers and production executives for television-based platforms (network, cable, internet/on-demand). Explores a close examination of the business of television, specifically budget, license fees, distribution, and union obligations. Other topics include the structure of studios and networks, producing and marketing series for traditional and new media platforms, and general entertainment business practices. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Film (Film & Media Production) BA, Film (Filmmaking Practices) BA, or Film and Media Production BFA major; minimum junior standing OR Visiting University Student |
| FMP | 480 | Film Lab I: Production | Production and principal photography for student-generated collaborative short film/media projects for senior portfolio. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Film (Film and Media Production) BA or Film and Media Production BFA major; FMP 385 or 398 with C or better OR Visiting University Student |
| FMP | 481 | Film Lab II: Post-Production | Completion of principal photography and all phases of editing/post-production on student-generated collaborative short film/media projects for senior portfolio, including final delivery and exhibition. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Film (Film and Media Production) BA or Film and Media Production BFA major; FMP 480 with C or better OR Visiting University Student |
| FMP | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-12 | | Prerequisite(s): minimum 45 hours |
| FMP | 485 | Portfolio Preparation and Review II | Helps students in the advanced development, design, preparation and presentation of senior portfolio milestone for faculty review, as well as mentors fellow students in early portfolio development. | N | PRA | N | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1 | | Prerequisite(s): Film and Media Production BFA major; senior standing OR Visiting University Student |
| FMP | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-6 | | Prerequisite(s): Barrett Honors student |
| FMP | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| FMP | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEL | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-4 | | Prerequisite(s): Film and Media Production student or Filmmaking Practices student or Film and Media Production minor OR Visiting University Student |
| FMP | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-7 | | |
| FMP | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-3 | | Pre-requisites: Film & Media Production or Filmmaking Practices student |
| FMP | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | SEM | Y | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FMP | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| FMP | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-4 | | Pre-requisite: Fine Arts Graduate student |
| FMS | 100 | Introduction to Film and Media Studies | Introduces the narrative structure, visual style and cultural elements of film and media. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | |
| FMS | 110 | Introduction to New Media | Explores the cultural effects of new media technologies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | |
| FMS | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-3 | | |
| FMS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-4 | | |
| FMS | 200 | Film and Media History | Introduces the technological, aesthetic, social and economic aspects of media history. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & H | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| FMS | 209 | Screenwriting Fundamentals | Studies the creativity and the technique of screenwriting for the conventional narrative film and for TV; student writing exercises culminate in a script for micro cinema. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | |
| FMS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-4 | | |
| FMS | 300 | Television Studies | Examines approaches to studying the culture and history of American television. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| FMS | 302 | U.S. Media Industries | Examines the business of contemporary U.S. film, television, and new media and its relationship to artistic vision and production through research and analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; FMS 100 OR Visiting University Student |
| FMS | 309 | Intermediate Screenwriting | Utilizing the elements of storytelling, students develop and write a treatment and the first act of a screenplay. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): Film and Media Studies student; ENG 102, 105 or 108 with C or better; FMS 100 with C or better; FMP 261, FMS 209 or THP 261 with C or better OR Visiting University Student |
| FMS | 340 | Contemporary American Film and Popular Culture | Analyzes American films, television programs, and music as popular cultural documents. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; FMS 100 with C or better OR Visiting University Student |
| FMS | 341 | Approaches to International Cinema | Offers a historical survey of major film movements from across the world's national cinemas from the silent era to this day. Explores key cinematic works, situating them in their aesthetic, cultural and political contexts, and tracing their impact on the global cinematic culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 w/C or better; Credit is allowed for only FMP 340 or FMP 394 (Approach to Int'l Cinema) or FMS 341 or FMS 394 (Approach to Int'l Cinema) or SLC 340 or SLC 394 (Approach to Int'l Cinema) OR Visiting University Student |
| FMS | 345 | Asian Pacific Americans and Film | In-depth examination of the representations of Asian Pacific Americans in narrative, popular, experimental, and documentary film. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU & C & H | Prerequisite(s): APA 200, APA 210, FMS 100, or minimum 24 hours; Credit is allowed for only APA 345 or FMS 345 OR Visiting University Student |
| FMS | 349 | Israeli Wars in Israeli Movies | From its first day, the State of Israel has been in a state of war with the Arab countries. Every few years, the fighting erupted into an open war. At the beginning of the country, there was a consensus that the wars were forced on the Israelis, and therefore, the heavy toll on human life was unavoidable. Since the Six Day War, 1967, and the political change in 1977, Israeli society is split in attitude toward war. The absolute belief in the political and military leaders was shaken, and new political agendas entered the political arena. To this divided society, the Intifadas occurred with the waves of terrorism. These events added fire to the heated debates in Israel. One means of expression is through the cinema. In this course, students watch, analyze, and discuss selected movies on the Israeli wars and terrorism in the streets of Israel. Through these movies, produced by Israelis, we'll try to understand the mood and attitude of the Israelis toward war, enemies, and political and military leaders. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only FMS 349 or HEB 349 or JST 346 or HEB 394 (Israeli Wars in Israeli Movies) OR Visiting University Student |
| FMS | 351 | Emerging Digital Media | Analyzes modern cultural and digital technologies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| FMS | 352 | Chicana/o Film | Explores how Chicano and Chicana filmmakers have interpreted the Chicano experience through the medium of film. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | C | Credit is allowed for only FMS 352 or TCL 352 |
| FMS | 354 | Critical Studies in Animation | Provides critical and practical tools for analyzing mainstream, experimental, and hybrid animation aesthetics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): FMS 100 OR Visiting University Student |

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| FMS | 360 | Media Genres | Studies in select media genres. | Y | LEC | Y | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR FMS 100 or 200 with C or better OR minimum 45 hours OR Visiting University Student; Credit is allowed for only FMS 360 or FMS 394 (Sci Fi Cinema: Technology, Genre & Culture) |
| FMS | 362 | Film and Media Franchises | Students gain an appreciation for film and media franchises by studying their production, reception and cultural significance. | Y | LEC | Y | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, ENG 105, ENG 108, FMS 100, or FMS 200 with C or better, or minimum 45 hours; Credit is allowed for only ENG 362 or FMS 362 OR Visiting University Student |
| FMS | 365 | Video Games and Narrative | Covers fundamental concepts of video game narrative design, with an emphasis on the role of story and narrative in game development and production. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only FMS 365 or FMS 394 (Screenwriting for Games) or FMS 394 (Video Games and Narrative) or FMS 394 (Writing for Video Games) OR Visiting University Student |
| FMS | 370 | Signs of Aliens: Semiotics of Film and Popular Culture | Introduces semiotics and cultural studies; looks at various meanings ascribed to the sign of the alien. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Credit is allowed for only FMS 370 or TCL 370 |
| FMS | 374 | Film and Media Visionaries | In-depth examination of the career and body of work of an innovator in media, whether a producer, director or screenwriter. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| FMS | 375 | LGBTV: Television, Sexuality and Gender | Some of TV's most popular shows now feature lesbian, gay, bisexual and transgender (LGBT) characters. This course looks at representations of LGBT characters and personalities, with a focus on the specificities of the television industry. Looks at LGBT representations on reality shows, sitcoms and dramas in relation to the economic and regulatory structures of the TV business to understand the complex functions of sexual identity in the television industry. Addresses particular texts and images as they relate to TV's industrial practices, paying attention to cultural, political and aesthetic issues of minority representations. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; FMS 100 with C or better; Credit is allowed for only FMS 375 or FMS 394 (LGBTV: Television and Sexuality) OR Visiting University Student |
| FMS | 377 | Baseball, Film, and American Dreams | Critical viewing and analysis of both narrative and documentary baseball film. Genre typically explores American values and national culture, and changes in our concepts of gender roles, race, aging, social class. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; FMS 100 OR Visiting University Student |
| FMS | 380 | Race and Gender in U.S. Media | Critical analysis of how media shapes perceptions of race and gender in U.S. society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU & C | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| FMS | 385 | Ecomedia | Spanning from environmental animation to earth imaging to indigenous media, considers how films, television and other media depict environmental issues, landscapes and technologies. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only FMS 385 or FMS 394 (Media and the Environment) OR Visiting University Student |
| FMS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-4 | | |
| FMS | 409 | Advanced Screenwriting | Utilizing the elements of storytelling, students outline, develop, and write a feature-length screenplay. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; FMS 100 with C or better; FMS 209 with C or better OR Visiting University Student |
| FMS | 411 | Screenwriting Adaptation Studies | Explores the many issues related to narrative adaptation across movies and other media such as television, various Internet phenomena and gaming. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): Film and Media Studies major, minor or BIS Film and Media Studies concentration; ENG 102, 105, or 108 with C or better; FMP 261 or FMS 209 with C or better; Credit is allowed for only FMS 411 or FMS 494 (Screenwriting Adaptation Studies) |
| FMS | 412 | Story Analysis for Film and Television | Investigates Hollywood's creative development process from submission to shooting script. Critiques the scripts of award-winning films, and evaluates the necessary elements of a well-told story. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): Film and Media Studies major, minor, or Film and Media Studies BIS concentration; ENG 102, 105, or 108 with C or better; FMP 261 or FMS 209 with C or better; Credit is allowed for only FMS 412 or FMS 494 (Story Analysis for Film and TV) |

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| FMS | 423 | Italian Organized Crime in Films and History | Through an analysis of historical, anthropological, literary, political and cinematic texts, explores representations of the Italian organized crime in Italian and American films from the early 20th century to today. Discovers different "Mafias" originating in Italy, but whose reach extends much further, such as the Cosa Nostra in Sicily, the Camorra in Naples, and the 'Ndrangheta in Calabria. Examines the fiction, stereotypes, myths and legends surrounding the mafia through a scrupulous analysis of some of the most important American and Italian films portraying mafia culture. Italians have used the medium of film to address the issue of the mafia, raising awareness about the harsh reality of life in the mafia and the ways in which it reaches into every aspect of Italian politics and society. Explores how Italian mafia films subvert international fascination with the mafioso by disrupting the glamorized myths that are mainly perpetuated by American popular cinema. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better or min 45 hours; Credit for only FMS 423 or ITA 423 or SLC 423 or ITA 494/SLC 494 (Italian Organized Crime in Films & History) or FMS 494/ITA 494/SLC 494 (Mafia & Film) OR Visiting University Student |
| FMS | 426 | Films of India | Examines classic, Bollywood and diasporic films of India from 1950 to the present. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): any 200-level or higher course in APH, ARS, ENG, FMS, HST, or MHL with B or better; Credit is allowed for only ARS 444 or ARS 544 or FMS 426 or ARS 494 (Films of India) or ARS 494 (South Asian Cinema) |
| FMS | 427 | Identity and World Film | Examines how films around the world represent gender, race, ethnicity, and sexual orientation through the lens of genres and their variations and how genres reinforce or critique stereotypes. | N | PRA | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | C | Prerequisite(s): any 200-level or higher course in APH, ARS, ENG, FMS, HST, or MHL with B or better; Credit is allowed for only ARS 440 or ENG 465 or FMS 427 OR Visiting University Student |
| FMS | 430 | Artists in Film: Artists' Biopics | Examines artists' "biopics," biographical films about artists, chronologically from the subgenre's first appearance in 1936 to recent films. Explores relationships between film and history and between film and myths of creativity; major directors' attraction to artists' biopics; stereotypes of artists (e.g., genius, deviant); and how notions of creativity are inflected by gender, race and national identity. Assignments include weekly readings and film viewings and one short paper; optional documentaries and films are also available. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): any 200-level or higher course in APH, ARS, ENG, FMS, HST, or MHL with B or better; Credit is allowed for only ARS 443 or FMS 430 |
| FMS | 440 | Los Angeles: Movies and Culture | Explores film treatment of the historical culture of Los Angeles. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & C | Prerequisite(s): BA Film and Media Studies major or minor or BIS Film and Media Studies concentration; ENG 102, 105 or 108 with C or better; FMS 100 with C or better |
| FMS | 441 | Global Cinema | Examines how film represents three important dimensions of globalization: its relationship to national culture, terrorism, and immigration. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105 or 108 with C or better; FMS 100 with C or better |
| FMS | 442 | Experimental Narrative | Examines texts that experiment with form, content and narrative perspective within print, film and digital media. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only ENG 447 or FMS 442 or SLC 450 OR Visiting University Student |
| FMS | 445 | Holocaust, War and German Memory | Examines representations of the Holocaust from across different media (literature, film, architecture, memoir, photography) and from across multiple generations of German engagement with this period in history. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, ENG 105, ENG 108, FMS 100, FMS 200, JST 210, or JST 230 with C or better; Credit is allowed for only FMS 445 or GER 445 or JST 445 or SLC 445 OR Visiting University Student |
| FMS | 446 | Weimar-Era German Film | Examines early film production in Germany during the period of the Weimar Republic. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, ENG 105, ENG 108, FMS 100, or FMS 200 with C or better; Credit is allowed for only FMS 446 or GER 446 or SLC 446 OR Visiting University Student |
| FMS | 450 | Technology, Culture, and Media | Studies the socio-political relationships among technology, culture, and media. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105 or 108 with C or better; FMS 100 with C or better |
| FMS | 455 | Comedy as Social Discourse | Focuses upon the way that comedy can speak with particular clarity to the American condition from behind the microphone and, by extension on the big and small screens. By examining how comic conventions, personae and sensibilities in standup respond to change in social and political sensibilities at specific historical moments, we tease out why comedy, perhaps more than any other genre, can get people to engage (and to think about) a variety of human experiences--often in spite of themselves. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; FMS 100 with C or better; Credit is allowed for only FMS 455 or FMS 494 (Comedy as Social Discourse) |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|-----------------------|-------|-----------------|---|
| FMS | 460 | Masculinity and Film | Examines the representation of masculinity and the male body in film. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): ENG 102, 105 or 108 with C or better; FMS 100 with C or better |
| FMS | 461 | Film Theory and Criticism | Examines the major positions and issues in film theory from an historical perspective. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, ENG 105, ENG 108, or FMS 100 with C or better; Credit is allowed for only FMS 461 or SLC 440 OR Visiting University Student |
| FMS | 464 | Latina/o Literature | Development of Latina/o literature. Study of genres and themes; attention to literary antecedents of the new U.S.-based Latina literature. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & C | Prerequisite(s) with C or better: ENG 101, 105, or 107; ENG 200; one ENG 200- or 300-level literature course OR ENG 101, 105, or 107; min 45 hours; Credit is allowed for only ENG 458 or FMS 464 or TCL 464 OR Visiting University Student |
| FMS | 466 | Constructing the Border on Film | Explores the U.S.-Mexico border on film, examining how border images have been constructed and shaped over time. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | C | Credit is allowed for only FMS 466 or TCL 466 |
| FMS | 468 | Crime and Violence in American Film and Television | Addresses three primary aspects of crime and violence in film and television: representation, societal attitudes, effects on audience. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): Film and Media Studies student; ENG 102, 105, or 108 with C or better; FMS 100 with C or better OR Visiting University Student |
| FMS | 471 | Latinos In Hollywood | Studies representations of Latinos in film; stereotyping, politics of metaphor, allegory, star discourse, self-representation, resistance and independent film. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU & C | Prerequisite(s): minimum 45 hours; Credit is allowed for only FMS 471 or TCL 471 OR Visiting University Student |
| FMS | 474 | Women and Power in Media | Examines the relationship between power and gender for women and other feminized subjects in media. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): ENG 102, 105, 108, FMS 100, or 200 with C or better; OR minimum 45 hours; Credit is allowed for only FMS 474 or FMS 494 (Fighting Femmes: Women and Power in PopularCulture) OR Visiting University Student |
| FMS | 475 | Latin American Film | Examines the role of film in contemporary Latin American culture; films viewed and analyzed as casebook examples. Focuses on the aesthetics and generic conventions of contemporary Latin American films. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, 108, FMS 100, or SLC 202 with C or better; Credit is allowed for only FMS 475 or SLC 475 or SPA 475 or THE 475 or FMS 494/SLC 494/SPA 494/THE 494 (Latin American Film) OR Visiting University Student |
| FMS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | |
| FMS | 490 | Capstone Seminar | Capstone seminar. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | HU | Prerequisite(s): BA Film and Media Studies major; minimum 56 hours; ENG 102, 105 or 108 with C or better; FMS 100 with C or better |
| FMS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-6 | | Prerequisite(s): Barrett Honors student |
| FMS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | Department of English | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| FMS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-4 | | |
| FMS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-7 | | |
| FMS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-3 | | |
| FMS | 502 | Hollywood Film Historiography | Explores historiographic and critical scholarship on Hollywood as an industrial, cultural, and aesthetic enterprise. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FMS | 503 | Media Industries | Examines the business of contemporary U.S. media practices including film, television, Web-based media, music, video games, mobile phones, and other interactive media. Explores the changing economic structures of these media industries and their relationship to artistic vision and production. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FMS | 504 | Film Analysis | Introduce formal and cultural issues important to understanding movies. | N | REC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only FMS 504 or MLS 504 |

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| FMS | 507 | Crime and Violence in American Film (Online) | This course is available online only. Focuses on historiographic and critical scholarship on three aspects of crime and violence in American film: (1) regulation and censorship; (2) representation and society; and (3) theories about the effects on audiences of viewing crime and violence in films. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): Film and Media Studies MAS student |
| FMS | 508 | Race, Gender and Sexuality in Media | Investigates the diverse ways in which race and gender are represented in American film history and culture. In a broader context, also analyzes how the meaning of race and gender, and their intersectionality, has shifted and changed across time and space, and how cinema has contributed to these shifts. Gives attention to the relationships among visual style, narrative structure, generic convention and identity. Students become more literate about the power of film to reflect and refract ideologies of race and gender, and to analyze how these identities impact the experiences of individuals and groups in our society. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FMS | 510 | Digital Media Studies | Digital media technologies have radically shifted U.S. society and culture. Almost all forms of media are now digital, even broadcast television and movie theatres now use digital technologies. To understand our new media landscape, we must understand technology and computation in addition to media theory. Provides the interdisciplinary tools necessary for analyzing digital media. Outlines foundational concepts with particular emphasis on analyzing hardware and interface design and understanding computational elements such as algorithms. Then examines these issues by exploring algorithm advertising and marketing as well as interactivity and collaboration in videogame spaces. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FMS | 511 | Fundamentals of Cinema & Television Narrative Online | Studies the creativity and the technique of screenwriting for the conventional narrative film and for television. Student writing exercises culminate in a script for micro-cinema. Seminar. Prerequisite: online student in MAS American Media and Popular Culture | N | SEM | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): Film and Media Studies MAS student |
| FMS | 512 | Intermediate Cinema and Television Narrative (online) | Focuses on the feature-length screenplay; students complete the first act and treatment of an original feature. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): Film and Media Studies MAS student |
| FMS | 520 | Cultural History of US Television: Theory & Method | Engages both the theory and methods of cultural studies as implemented in television studies and U.S. television history (from the 1940s to the present). | N | SEM | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) |
| FMS | 522 | Los Angeles: Movies and Culture | Focuses on historiographic and critical scholarship of industry, genre and representation in post-war, self-reflexive Hollywood cinema. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FMS | 523 | Authorship in Film and Media | Explores the notion of authorship in film, television, and digital media by engaging with a number of critical methodologies such as auteurism, structuralism, post-structuralism, feminism. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FMS | 527 | Identity and World Film | Examines how films around the world represent gender, race, ethnicity, and sexual orientation through the lens of genres and their variations and how genres reinforce or critiques stereotypes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking): Credit is allowed for only ARS 540, FMS 527 or (ARS 494, ENG 465, FMS 494 or ARS 598 Identity and World Film) |
| FMS | 535 | Comedy as Social Discourse | Focuses upon the way that comedy can speak with particular clarity to the American condition from behind the microphone and, by extension, on the big and small screens. By examining how comic conventions, personae and sensibilities in stand-up respond to change in social and political sensibilities at specific historical moments, we tease out why comedy, perhaps more than any other genre, can get people to engage (and to think about) a variety of human experiences--often in spite of themselves. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only FMS 535 or FMS 598 (Comedy as Social Discourse) |
| FMS | 543 | Artists in Film: Artists' Biopics | Examines artists' "biopics," biographical films about artists, chronologically from the subgenre's first appearance in 1936 to recent films. Explores relationships between film and history and between film and myths of creativity; major directors' attraction to artists' biopics; stereotypes of artists (genius, deviant, etc.); and how notions of creativity are inflected by gender, race and national identity. Assignments include weekly readings and film viewings and one short paper; optional documentaries and films are also available. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ARS 443 or ARS 543 or FMS 430 or FMS 543 or ARS 598 (Artists in Film: Biopics) |

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| FMS | 567 | World War II in Film | Offers a comprehensive survey of how film has represented the Second World War. Using a transdisciplinary approach, studies how films from the time of the Second World War to the present have portrayed that conflict. Compares different perspectives on the causes and results of the war, as well as engage in analysis of how important issues such as international political and economic relationships, religion, gender, ethnicity, class, race, technology and the psychological effects of violence get shown in movies about World War II. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ENG 567 or FMS 567 or WWS 567 |
| FMS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FMS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FMS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 105 | Physical Evidence and the Crime Scene | First course in a two-semester series of laboratory and lecture courses focusing on introducing non-scientists to forensic science. Explores the investigative and laboratory technologies behind common forensic techniques utilized in crime scene documentation and reconstruction, the identification and value of physical evidence, documentation and collection of evidence, comparative analysis, and the latest technologies in mobile device forensics. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 4 | SQ | |
| FOR | 106 | Biology Behind the Crime Scene | Second of two courses offering the non-scientist an introduction to the forensic sciences. Focuses on the biology and chemistry in analytical techniques used in the crime lab such as quantitative DNA analysis, toxicology and controlled substance analysis. Also covers topics related to death investigation, as well as plant and pollen identification as they relate to forensic science and criminal investigations. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 4 | SQ | |
| FOR | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-3 | | |
| FOR | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-4 | | |
| FOR | 200 | Forensic Science Seminar | Introduces key concepts and skills needed to succeed in the program and the forensic science professional field. Students review the CSI effect, the forensic science program at ASU, and begin planning for their culminating experience. Additionally, introduces forensic science professional organizations, basic scientific writing skills, and hearing from experts in the field. | N | SEM | N | YGB | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1 | | Pre- or corequisite(s): FOR 286 with C or better if completed OR Visiting University Student |
| FOR | 210 | Sociology of Murder | Sociological perspectives on various forms of murder and types of murderers. Also considers forms of punishment for murder. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | SB | Credit is allowed for only FOR 210 or SOC 210 |
| FOR | 286 | Principles of Forensic Science | Introduces the ways in which science is applied within the legal system. In particular, students examine the diverse disciplines and techniques that comprise forensic science through detailed discussion of each of the major sections recognized by the American Academy of Forensic Sciences (AAFS): anthropology, criminalistics, digital & multimedia sciences, engineering & applied sciences, general, jurisprudence, odontology, pathology/biology, psychiatry & behavioral science, questioned documents and toxicology. Defines and discusses the roles of these disciplines along with ethics and best practices in their application. Students also participate in laboratory activities related to these disciplines and gain an understanding of how to write a case report and provide expert testimony. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 4 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better; CHM 113 with C or better; CHM 116 with C or better OR Visiting University Student |
| FOR | 290 | Historical Perspectives of Forensic Science | Explores the history and evolution of forensic science and its use in criminal investigations. Topics include: the "discovery" of DNA, the societal impact of forensic science, increased use of forensic science in criminal investigations, and a timeline of technological advances that has helped propel forensic science into popular culture. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Credit is allowed for only FOR 290 or FOR 294 (Historical Perspectives of Forensic Science) |
| FOR | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-4 | | |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|---------------------------------------|-------|-----------------|--|
| FOR | 298 | Honors Directed Study | Independent study or practicum under the supervision of a faculty member. | N | PRA | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-6 | | Prerequisite(s): Barrett Honors student |
| FOR | 350 | Computer Forensics | Concepts of computer forensics, forensic analysis techniques, computer forensic tools and software for forensic investigators, network forensics, data forensics, mobile device forensics, malware forensics, cyber crimes and fraud, computer security incident response. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): ACO 100 or higher with C or better OR CIS 105 with C or better OR Visiting University Student |
| FOR | 360 | Statistical Applications in Forensic Science | Statistical concepts and methods applicable to forensic science and the evaluation of forensic evidence. Emphasizes the practical application to forensic contexts and communication of results. Explores statistical concepts and methodologies including hypothesis testing, confidence intervals, correlation, probability and regression within forensic science contexts. Introduces through applied examples advanced topics related to forensic science such as likelihood ratios, classification, evidence evaluation, error limits and DNA population probabilities. | N | LEL | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): FOR 286 with C or better; STP 226 with C or better OR Visiting University Student |
| FOR | 370 | Fundamentals of Forensic Analysis | Builds on foundational material learned in previous coursework while focusing on the procedures and techniques used in forensic science laboratories. Applies lecture material to hands-on laboratory exercises based on current practices across forensic science subdisciplines including chemistry, biology and criminalistics. Covers quality assurance procedures specific to these areas of forensic science in the lecture and laboratory sections. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 4 | | Prerequisite(s): BIO 182 with C or better; BIO 305 or FOR 286 with C or better; CHM 116 with C or better OR Visiting University Student |
| FOR | 377 | Forensic Analytical Chemistry Laboratory | Focuses on common analytical techniques currently used in forensic laboratories and provides further hands-on experience with methods and instrumentation utilized in a modern crime laboratory. Applies gained knowledge to lab exercises designed with crime laboratory evidence types and protocols in mind. | N | LAB | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 2 | | Prerequisite(s): FOR 375 or LSC 375 with C or better; FOR 376 or LSC 376 with C or better |
| FOR | 380 | Analysis of Nonhuman Forensic DNA Evidence | Nonhuman biological materials are so pervasive in the environment that they often contaminate victims, perpetrators and crime scenes by means of direct deposit or secondary transfer. As the reliability, sensitivity and specificity of animal, plant and microbial DNA assays improve with the advent of new technologies, the potential probative value of DNA information from nonhuman biomaterials also increases, especially for establishing or refuting alibis, determining the chronology of a criminal event and for crime scene reconstruction. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Pre- or corequisite(s): LSC 347 with C or better if completed; Credit is allowed for only FOR 380 or LSC 380 OR Visiting University Student |
| FOR | 386 | STEAM Service Learning | Guided process in which students deepen their understanding of their STEAM content area through knowledge-based problem solving that provides a service to others in the community. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ACO 386 or ENV 386 or FOR 386 or LSC 386 or PTX 386 or LSC 494 (Service Learning in the Life Sciences) |
| FOR | 388 | STEM Research Fundamentals | Teaches research skills in the natural sciences. Topics covered include the basic research techniques of the study organism and system, experimental design, literature searches, statistical analysis and preparation of scientific papers and posters. | N | LEL | Y | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): ACO 320, BIO 182, or MAT 272 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only ENV 388 or FOR 388 or LSC 388 or PLB 388 or PTX 388 OR Visiting University Student |
| FOR | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-4 | | |
| FOR | 400 | Comparative Forensics | Familiarizes students with the comparative methods used in the forensic analysis of fingerprint, questioned document and firearms evidence. Discusses the theory and principles of individualization as assessed in forensic casework. Exposes the operation and theory of the scientific instruments used when performing comparative analysis. Reinforces learning objectives through case studies, practical exercises, outside projects and guest lectures. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): BIO 182 with C or better; CHM 116 with C or better; Pre- or corequisite(s): BIO 305 or FOR 286 with C or better if completed OR Visiting University Student |
| FOR | 401 | Forensic Toxicology | Focuses on toxicology as it pertains to forensic science. Topics include: the history of toxicology; the pharmacodynamics and pharmacokinetics of drugs and alcohol in the human body; as well as the legal applications of toxicology. Also discusses ethics, quality control and quality assurance, and courtroom testimony (as they relate to forensic toxicology). May address other topics such as environmental toxicology, poisons, and current topics related to forensic toxicology. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Pre- or corequisite(s): BIO 305 or FOR 286 with C or better if completed OR BIO 353 with C or better if completed; LSC 347 with C or better if completed; Credit is allowed for only FOR 401 or PTX 401 OR Visiting University Student |

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| FOR | 402 | Forensic Biology | Focuses on molecular genetics and biology pertaining to forensic science. Course subject matter includes: the history of forensic biology, serological techniques, DNA and DNA analyses, topics in molecular genetics, and forensic biology in the crime lab. Also discusses ethics, quality control and quality assurance, and courtroom testimony (as they relate to forensic biology). Addresses other topics such as current court cases and topics related to forensic biology. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Pre- or corequisite(s): BIO 305 or FOR 286 with C or better if completed; LSC 347 with C or better if completed; LSC 348 with C or better if completed OR Visiting University Student |
| FOR | 403 | Comparative Forensics Laboratory | Largely focuses on the application of physical examination of various types of evidence including fingerprints, tape, footwear, handwriting, paper, cartridge casings and bullets. Provides hands-on experience in latent print, trace, questioned document and firearms analysis. These analyses include the utilization of stereozoom microscopes, comparative microscopes, compound microscopes, alternative light sources and other hand tools employed by forensic scientists. | N | LAB | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1 | | Pre- or corequisite(s): BIO 305 or FOR 286 with C or better if completed; FOR 400 with C or better if completed OR Visiting University Student |
| FOR | 404 | Forensic Toxicology Laboratory | Focuses on best practices and contemporary protocols and practices used by forensic toxicology labs. Offers topics and exercises dealing with drugs of abuse including alcohol, prescription medications, over the counter medications, and other substances which may be found in the body by the forensic toxicologist. | N | LAB | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1 | | Pre- or corequisite(s): BIO 305 or FOR 286 with C or better if completed; FOR 401 with C or better if completed OR Visiting University Student |
| FOR | 405 | Techniques in Forensic Biology Laboratory | Covers the basic practical concepts of forensic biology and those used in a biological context at crime scenes. Laboratory exercises include blood pattern analysis, serology, presumptive tests, comparison of hair evidence and DNA analysis. | N | LAB | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1 | | Prerequisite(s): BIO 181; BIO 182; CHM 113; CHM 116; Pre- or corequisite(s) with C or better if completed: BIO 305 or FOR 286; FOR 402; LSC 347; LSC 348 OR Visiting University Student |
| FOR | 406 | Moral Dilemmas | Philosophical analysis of moral dilemmas arising in professional and public settings. Ethical decision making in business, educational, human service, and scientific communities. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only FOR 406 or IAS 406 or PHI 406 OR Visiting University Student |
| FOR | 410 | Testimony and Ethics in the Forensic Sciences | Focuses on the relationship between forensic science and the courtroom. Students learn the accepted standards and professional practices as they relate to forensic scientists and other forensic practitioners. Topics include ethical obligations of a forensic scientist, quality assurance practices and the accreditation process. Students also review the role the expert witness plays within the court system while obtaining an understanding of behavioral and ethical issues that can be encountered from crime scene investigation through to the courtroom. Includes mock trial scenarios. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; FOR 370 with C or better OR Visiting University Student |
| FOR | 413 | Sacred Crimes: Religion and Violence | Religion is capable of doing great good in the lives of humans, leading them to personal betterment and positive social contributions. Yet, throughout human history religion has also led some individuals to engage in acts of violence and other dangerous behaviors. This course explores the history of several religious traditions and texts and their complicated connections to violence and criminality. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | G & H | Prerequisite(s): ENG 102, 105, or 108 w/ C or better; Credit is allowed for only CRJ 423 or FOR 413 or REL 413 or FOR 494 (Sacred Crimes: Religion, Violence & Crim) or REL 494 (Sacred Crimes: Religion, Violence & Crim) OR Visiting University Student |
| FOR | 414 | Fundamentals of Forensic Entomology | Provides an introduction to the field of forensic entomology; the use of insects (and other arthropods) in legal investigations. Investigates how insects can be used in food contamination, neglect and abuse cases, with a focus on their use in death investigations. Identifies forensically important insects, in partnership with proper collection and rearing techniques. Along with understanding insect biology, students gain an understanding of how forensic entomology is utilized in law and in the courtroom. Students take an in-depth look at what questions insects can help answer and determine how to calculate a time of colonization (TOC) and how that can relate back to a time of death. Also focuses on scientific writing skills, assessed with the completion of a mock crime scene and production of a case report. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 4 | | Prerequisite(s): FOR 286 with C or better; minimum 45 hours; Credit is allowed for only ENV 414 or FOR 414 or BIO 494/ENV 494/FOR 494 (Fundamentals of Forensic Entomology) OR Visiting University Student |
| FOR | 425 | Analytical Chemistry for Life Sciences | Presents an analysis of chemicals, including the theoretical and practical considerations regarding the separation, detection and quantitative determination of chemicals. Illustrates the application of different analytical procedures using some of the common chemicals of concern in the forensics and environmental fields. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): CHM 234 with C or better; CHM 238 with C or better; Credit is allowed for only FOR 425 or LSC 425 OR Visiting University Student |

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| FOR | 426 | Analytical Chemistry for Life Sciences Lab | Students learn basic principles of analytical chemistry and explore a wide range of common techniques and methods with applications to forensic science and life sciences. Places specific focus on techniques common in modern analytical laboratories, including gas chromatography, mass spectrometry, FTIR and NMR spectroscopic techniques. Other topics include interpretation of analytical data and evaluation of error and uncertainty in measurements. | N | LAB | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 2 | | Prerequisite(s): CHM 234 with C or better; CHM 238 with C or better; Corequisite(s): FOR 425 or LSC 425; Credit is allowed for only FOR 426 or LSC 426 OR Visiting University Student |
| FOR | 447 | Molecular Genetics Laboratory | Investigative lab involving DNA isolation, PCR, gel electrophoresis, enzyme digestion and ligation, transformation, and hybridization analysis. | N | LAB | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FOR 447 or LSC 447 |
| FOR | 449 | Latin American Cinema: The Dead and the Disappeared | Studies Latin American politics and culture through film with particular focus on recent periods of Latin American history in which there have been social upheavals, dictatorships and state repression, and dirty wars. Discusses film as an art form with specific aesthetic goals, a tool to effect change within society, a mode of cultural and social expression, and a vehicle for reconciling collective trauma and preserving memory. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | G & H | Prerequisite(s): ENG 102, 105, or 108 w/C or better; Credit allowed for only FOR 449, LAS 449, SPA 449, FOR 494 (Lat Am Cinema: Dead & Disap), LAS 494 (Lat Am Cinema: Dead & Disap), SPA 494 (Lat Am Cinema: Dead & Disap) OR Visiting University Student |
| FOR | 454 | History of Genocide | Examines the individuals and institutions responsible for the most infamous episodes of state-sanctioned violence in the 20th century. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | G & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only FOR 454 or HST 454 or REL 454 OR Visiting University Student |
| FOR | 456 | Studies in Forensic Linguistics | Focuses on the three main aspects of that branch of applied linguistics, namely language and the law, court cases where language is the central dispute, and linguistic evidence. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 456 or FOR 456 or PAX 456 or SBS 456 |
| FOR | 475 | Principles of Toxicology | Presents the fundamental principles of toxicology and its application to both human and environmental situations. Starts with the means of defining and quantifying toxic effects through dose response curves (e.g. LD50, EC50, LOEL, NOEL). Then focuses on absorption pathways for toxicants as well as the degradation metabolism pathways for toxicants. Finally focuses on the mechanism of toxic action for common poisons and environmental pollutants. Emphasizes toxicants that students are likely to encounter in forensics and environmental fields. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): BCH 361 or 371 with C or better; Credit is allowed for only FOR 475 or LSC 475 or PTX 475 |
| FOR | 480 | Advanced Topics in Human Forensic DNA Typing | Examines the science of current forensic DNA typing methods by focusing on the technology behind STR, Y-STR and mtDNA typing, real-time PCR, serology tests, capillary electrophoresis, expert systems and statistics. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): LSC 347 with C or better; Credit is allowed for only FOR 480 or LSC 480 OR Visiting University Student |
| FOR | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | YGB | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-12 | | Prerequisite(s): minimum 45 hours |
| FOR | 485 | Forensic Science Capstone | Culmination course integrating all components of Forensic Science major courses demonstrating knowledge and competency in the field of forensic science. Includes Forensic Science Assessment Test (FSAT) preparation and FSAT completion. | N | LEL | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): FOR 410 with C or better; 6 additional hours of upper-division FOR coursework with C or better; senior standing |
| FOR | 486 | Peer Mentoring in the Forensic Sciences | Advanced students learn and apply mentoring skills in teaching labs. | N | SEM | Y | YGB | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| FOR | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-6 | | Prerequisite(s): Barrett Honors student |
| FOR | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| FOR | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-4 | | |
| FOR | 496 | Forensic Science Service Learning | Brings a multidisciplinary approach for connecting forensic science with the public. Students use what they have learned throughout their degree to bring this knowledge to the public through a variety of avenues. Consists of various service learning opportunities that may include working on cold cases, lesson plan and activity design with high school educators and educating the general public. | N | PRO | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): FOR 370 with C or better; minimum 45 hours |
| FOR | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-6 | | Prerequisite(s): Barrett Honors student |
| FOR | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--|---------------------------------------|-------|-----------------|--|
| FOR | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-3 | | |
| FOR | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 501 | Forensic Toxicology | Includes the history of toxicology; the pharmacodynamics and pharmacokinetics of drugs and alcohol in the human body, as well as the legal applications of toxicology. Also discusses ethics, quality control and quality assurance, and courtroom testimony (as they relate to forensic toxicology). | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 502 | Forensic Botany | Teaches students the historical and potential uses of plants and other organisms traditionally included with plants as evidence in forensic investigations. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 503 | Forensic Entomology | Presents current information on the role of arthropods in decomposition, the role of forensic entomology in criminal and civil investigations and the increasing importance of science on society. Provides an understanding of the importance and role that arthropods play in civil and criminal investigations. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 525 | Forensic Science and Governance | Focus on quality assurance and control within a crime laboratory and covered topics specific to laboratory directors and the management of all activities within the laboratory critical to meeting local, regional and national standards. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 532 | Principles of Pharmacology | Aspects of pharmacology using an integrated approach to familiarize students with natural and synthetic therapeutic agents used in medicine. | N | LEL | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 540 | Advanced Topics in Human Forensic DNA Typing | Examines the science of current forensic DNA typing methods by focusing on the technology behind STR, Y-STR and mtDNA typing, real-time PCR, serology tests, capillary electrophoresis, expert systems and statistics. | N | LEL | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 550 | Ethics in Forensic Science | Covers several professional codes of ethics and common ethical dilemmas that may confront criminalists and other forensic scientists. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 560 | Quantitative Methods in Forensic Science Research | Focuses on developing foundations for using statistical analyses as research tools in the forensic sciences, with special emphasis placed on the fundamentals. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 565 | Laboratory Leadership, Policy and Practice | Focuses on essential laboratory management functions, knowledge and skills required to successfully function as a laboratory manager and/or senior-level scientist in clinical, academic, research and applied science laboratories (e.g., forensic science laboratories). Topics include quality assurance and quality control; laboratory accreditation and audits; standards for specific accrediting bodies including but not limited to CLIA, CAP, ASCLD/LAB, OSHA; documentation and sample accessioning; laboratory safety and chemical hazard programs; validation studies and protocol development; certification of individual scientists; and overall laboratory management "best practices." | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only FOR 565 or LSC 565 or PTX 565 |
| FOR | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|--------------------------------|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| FOR | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | RSC | Y | Z3 | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FOR | 599 | Thesis | Supervised research focused on preparation of a thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FRE | 101 | Elementary French I | Introduces the French language and culture through a variety of topics from everyday life. Focuses on the development on all four communicative: listening, speaking, reading and writing. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Students may not enroll in FRE 101 if credit with C or better earned in FRE 102, FRE 110, FRE 201, FRE 202, or FRE 210 |
| FRE | 102 | Elementary French II | Introduces the French language and culture through a variety of topics from everyday life. Focuses on the development on all four communicative: listening, speaking, reading and writing. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): FRE 101 with C or better OR French Placement Test score of 281-340; Students may not enroll in FRE 102 if credit with C or better earned in FRE 110, 111, 201, 202, 210, 305, 311, 312, 321, 322, 411, or 412 OR Visiting University Student |
| FRE | 110 | Intensive French I | Proficiency-based course that provides an intensive introduction to the French language and culture. Introduces the language and culture through a variety of topics from everyday life. Focuses on the development on all four communicative skills. Class time is spent mainly on communicative activities based on active listening and speaking practice of everyday French as used in different social situations, with much use of various print, video and Web-based media. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 6 | G | Students may not enroll in FRE 110 if credit with C or better earned in FRE 101 or FRE 102 or FRE 111 |
| FRE | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| FRE | 201 | Intermediate French I | Grammar review, with emphasis on development of skills of speaking, reading, writing, and listening comprehension. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): FRE 102, 110, or 111 with C or better OR French Placement Test score of 341-394; Students may not enroll in FRE 201 if credit with C or better earned in FRE 210 OR Visiting University Student |
| FRE | 202 | Intermediate French II | Continuation of grammar review with emphasis on development of skills in speaking, reading, writing, and listening comprehension. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): FRE 201 with C or better OR French Placement Test score of 395-476; Students may not enroll in FRE 202 if credit with C or better earned in FRE 210 OR Visiting University Student |
| FRE | 210 | Intensive French II | Second semester of an intensive, proficiency-oriented language course designed to develop functional proficiency in French in a dynamic communicative environment. Class time is spent mainly on a variety of communicative activities based on active listening and speaking practice of everyday French as used in different social situations, with much use of various print, video and Web-based media. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 6-8 | G | Prerequisite(s): FRE 102 with B or better OR FRE 110 with C or better OR French Placement Test score of 395-476; Students may not enroll in FRE 210 if credit with C or better earned in FRE 201 or FRE 202 |
| FRE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| FRE | 305 | Readings in French Literature | Survey of francophone literature designed to teach reading with facility and comprehension. Vocabulary building, familiarity with literary terms, their meaning and use, and introduction to textual analysis of literary genres are major elements. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): FRE 202 or 210 with C or better; Students may not enroll in FRE 305 if credit earned in FRE 321 or FRE 322 OR Visiting University Student |
| FRE | 311 | Oral and Written Expression I | Practices interpersonal and interpretive writing and speaking, emphasizing current usage and promoting facility in the expression of ideas. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): FRE 202 or 210 with C or better OR French Placement Test Score of 477+ OR Visiting University Student |
| FRE | 312 | Oral and Written Expression II | Practices presentational writing and speaking, emphasizing current usage and promoting facility in the expression of ideas. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): FRE 202 or 210 with C or better OR Visiting University Student |
| FRE | 315 | French Phonetics | Practice and theory of French pronunciation. Emphasizes standard French, although an overview of regional varieties is offered. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Pre-requisites: FRE 311 |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| FRE | 319 | Business French | Introduces the structure, vocabulary, and practices of the French business world. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): FRE 311; FRE 312 |
| FRE | 321 | French Cultural Masterpieces I | Masterpieces of French literature of the Middle Ages through the 18th century, and related films. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & H | Prerequisite(s): ENG 101, 105, or 107 with C or better; FRE 305 with C or better; FRE 311 with C or better; Pre- or corequisite(s): FRE 312 OR Visiting University Student |
| FRE | 322 | French Cultural Masterpieces II | Masterpieces of French literature and film from the 19th to 21st century. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; FRE 305 with C or better; FRE 311 with C or better; Pre- or corequisite(s): FRE 312 OR Visiting University Student |
| FRE | 325 | French Language and Culture Through Film | Reviews French vocabulary and grammar through French films, with emphasis on listening comprehension and oral and written production. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): FRE 202 or 210 with C or better; Pre- or corequisite(s): FRE 311 or 312 OR Visiting University Student |
| FRE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| FRE | 411 | Advanced Spoken French | Improvement of spoken French. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): FRE 311; 6 hours of 300-level French OR Visiting University Student |
| FRE | 412 | Advanced Written French | Improvement of composition skills. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): FRE 312; 6 hours of 300-level French |
| FRE | 414 | French and Italian Popular Culture | Popular culture no longer holds the ancillary role traditionally reserved for whatever does not carry the definition of high culture. That popular culture is instead able to provide us with very relevant insights on the identity of a nation and a people is now widely accepted. As a consequence, this class aims at examining popular culture-related artifacts in Italy and France in order to shed a light on crucial issues such as the culture of food and its historical and social significance; the meaning of fashion and design within an urban context, with a special attention to gender roles; the importance of the comics, given in particular the exceptional success the bande dessinée genre is currently enjoying in France throughout the whole age range of the population; the show business with a particular attention to music; and the social function and role of sport with respect to the two dominant sports in both countries (soccer and cycling). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better OR minimum 45 hours; Credit is allowed for only FRE 414 or ITA 414 or SLC 414 OR Visiting University Student |
| FRE | 415 | French Civilization I | Political, intellectual, social, economic, and artistic development of France from its origins to the end of the 17th century. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Pre-requisites:6 hours of upper-division French |
| FRE | 416 | French Civilization II | Political, intellectual, social, economic, and artistic development of France from the 18th century to present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | pre-requisites:6 hours of upper-division French |
| FRE | 421 | Structure of French | Phonology, morphology, syntax, semantics, and varieties of French. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): FRE 311 or 312 OR Visiting University Student |
| FRE | 453 | Theater of the 19th Century | From Romantic drama to the Symbolist Theater. Representative plays of Hugo, Musset, Vigny, Dumas, Becque, Rostand, Feydeau, and Mirbeau. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Pre-requisites: FRE 322; 6 hours of 300-level French courses |
| FRE | 461 | Modern Narrative | Representative authors from Gide to the new Nouveau Roman. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Pre-requisites: FRE 322; 6 hours of 300-level French courses |
| FRE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| FRE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| FRE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| FRE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| FRE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| FRE | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FRE | 521 | History of the French Language | Principal phonological, morphological, and semantic developments of French from Latin to present, with emphasis on Old and Middle French. Some familiarity with Latin is recommended. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| FRE | 550 | French for Reading Knowledge | Teaches non-speakers of foreign language, or those with only basic notions of the language, how to read in a foreign language at an advanced level. Consists of a concise overview of grammar as well as reading comprehension practice for students who plan to take the Graduate Foreign Language Exam or others who would merely like to learn to read in a foreign language. Focuses only on reading and not on listening, speaking or writing as in a traditional language course. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only FRE 494 (French for Reading Knowledge) or FRE 550 or FRE 598 (French for Reading Knowledge) |
| FRE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FRE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FRE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FRE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FRE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FRE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FRE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FSE | 100 | Introduction to Engineering | Introduces the engineering design process; working in engineering teams; the profession of engineering; engineering models, written and oral technical communication skills. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 2 | | |
| FSE | 104 | EPICS Gold Feasibility and Planning | First of a sequence of two one-credit service-learning courses in which EPICS GOLD groups are formed from students potentially representing all engineering, computer science and construction disciplines as well as other ASU majors, including sustainability, business, liberal arts, sciences and others. Groups of 4-5 students work together to assess the feasibility and sustainability of their proposed plans for long-term projects that solve problems and benefit clients and often, the larger community. Project work centers on the engineering, technology, computing, sustainability, business and other needs of a not-for-profit community partner; interdisciplinary group interaction is an integral element for the project success. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1 | | Prerequisite(s): Fulton Schools of Engineering student OR New College student OR Visiting University Student |
| FSE | 150 | Perspectives on Grand Challenges for Engineering | Explores social dimensions of developing engineering solutions to meet local and global challenges. Introduces National Academy of Engineering (NAE) Grand Challenges for engineering and Grand Challenge Scholars Program. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 3 | SB | Prerequisite(s): Admission to the Engineering Grand Challenge Scholars Program OR Visiting University Student |
| FSE | 181 | Technological, Social, and Sustainable Systems | Introduces the importance and role of technological, social, and sustainable systems in the modern world. Provides a framework for the theory and practice of sustainable engineering. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 3 | HU | Credit is allowed for only CEE 181 or FSE 181 or SOS 181 |
| FSE | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 0.25-4 | | |
| FSE | 201 | Engineering Undergraduate Teaching Assistant | Theory and rationale of active learning and teaching strategies that stimulate intellectual development. Leadership, teaching, teamwork and communication skills needed to facilitate effective undergraduate learning in engineering. Implementation of these skills in a classroom setting. | N | PRA | Y | YGB | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1 | | Prerequisite(s): Ira a Fulton School of Engineering major; minimum sophomore standing OR Visiting University Student |

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| FSE | 250 | Grand Challenges Scholars Program (GCSP) Gold | Continues to explore students' chosen Grand Challenges Scholars Program (GCSP) theme area (i.e., sustainability, health, security or joy of living), develop and enhance professional skills, communicate and showcase their accomplishments and progress in GCSP, and identify future opportunities to achieve the GCSP competencies. Also offers opportunities for students to connect with other students and faculty within the GCSP community and receive mentorship from the GCSP faculty director. Emphasizes self-reflective learning, developing important professional skills in preparation for research and/or internship opportunities, and making connections between interests, goals, skill, and GCSP experiences. | Y | LEC | Y | GNA | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1 | | Credit is allowed for only FSE 250 or FSE 294 (Grand Challenges Scholars Program (GCSP) Gold) |
| FSE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 0.25-4 | | |
| FSE | 301 | Entrepreneurship and Value Creation | In-depth application of entrepreneurial concepts including opportunity recognition, value creation and new business management. Identifies the needs of a market and problem solves to meet those needs through innovation. Covers common mistakes made in the new venture process and how to work to avoid these mistakes. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 3 | | Prerequisite(s): Business or Engineering major; minimum junior standing OR non-Business, non-Engineering major; minimum junior standing; minimum 2.50 GPA; Credit is allowed for only ENT 360 or FSE 301 OR Visiting University Student |
| FSE | 310 | Transfer Success in Engineering | Introduces the unique elements, culture, challenges and opportunities at ASU and within the Ira A. Fulton Schools of Engineering. Helps students succeed as engineering students and ultimately as engineers. | N | SEM | N | GNA | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1 | | Prerequisite(s): Fulton Engineering undergraduate student; Credit is allowed for only FSE 310 or FSE 394 (Transfer Success in Engineering) OR Visiting University Student |
| FSE | 350 | Grand Challenges Scholars Program (GCSP) Maroon | Offers opportunities for students in the Grand Challenges Scholars Program (GCSP) who are getting ready to complete their GCSP journey to connect their GCSP experiences to their career goals and next steps in their professional life beyond college. Focuses on reflecting on their GCSP experiences, communicating GCSP accomplishments to future employers and preparing to graduate as a Grand Challenges Scholar. Also offers opportunities for students to connect with the GCSP community and receive mentorship from the GCSP faculty director. Emphasizes self-reflective learning, developing important professional skills in preparation for career opportunities, and making connections between GCSP experiences and future professional goals and activities. | Y | LEC | Y | GNA | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FSE 350 or FSE 394 (Grand Challenges Scholars Program Maroon) OR Visiting University Student |
| FSE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 0.25-4 | | Prerequisite(s): Fulton Engineering undergraduate student OR Visiting University Student |
| FSE | 399 | Cooperative Work Experience | Work periods with industrial firms or government agencies alternated with full-time course work. Not open to students from other colleges. | N | PRA | Y | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1-15 | | Prerequisite(s): Fulton Engineering undergraduate student OR Visiting University Student |
| FSE | 404 | EPICS Gold: EPICS in Action | Second of a sequence of two one-credit service-learning courses in which Engineering Projects in Community Service (EPICS) teams are formed from students potentially representing all engineering, computer science and construction disciplines as well as other ASU majors, including sustainability, business, liberal arts, sciences and others. Groups of 4-5 students in this class work together to develop design solutions for representatives of community partners. The students are expected to continue their prior work in designing engineering solutions that solve problems and benefit clients and often, the larger community. Interdisciplinary group interaction is an integral element for the project success. Students may be continuing a project from a previous FSE 104 or FSE 404 class, or they are invited to begin work on a new project. Encourages student participation for multiple consecutive semesters on a project. Groups are composed of freshmen through seniors. | Y | PRA | Y | GNA | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1-2 | | Prerequisite(s): Fulton Engineering student; minimum junior standing OR EGR 102 OR FSE 104 OR FSE 494 (EPICS Gold: EPICS in Action) OR Visiting University Student |
| FSE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1-12 | | |
| FSE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1-6 | | Prerequisite(s): Barrett Honors student |
| FSE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| FSE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 0.25-4 | | |

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| FSE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1-3 | | |
| FSE | 501 | Technology Entrepreneurship | Fundamental principles and concepts of technology entrepreneurship. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) |
| FSE | 502 | Strategic Enterprise Innovation | Strategies, techniques, and practices of process, product, and management innovation across the enterprise. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 3 | | Prerequisite(s): Ira A. Fulton Engineering graduate student or Innovation and Venture Development MS student |
| FSE | 508 | Engineering and Construction Failures | Engineering, construction and ethics failures. Focuses on failures in the built environment. Students tailor the assignments and projects to their specific engineering or construction discipline. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 3 | | Prereq(s): degree- or nondegree-seeking graduate student; Credit allowed for only CON 508 or FSE 508 or CEE 598 (Engineering and Construction Failures) or CON 494 (Engineering and Construction Failures) or CON 598 (Engineering and Construction Failures) |
| FSE | 570 | Data Science Capstone | Brings together a highly diverse and interdisciplinary group of students to engage in client-driven group projects involving technical and nontechnical aspects of data science. Although one instructor coordinates the class, a number of faculty deliver guest lectures to provide a variety of perspectives on data science. Assembles students into interdisciplinary groups to address projects and generate a project written report and oral presentation. Taken during the final semester of study. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 3 | | Prerequisite(s): Data Science, Analytics and Engineering MS student |
| FSE | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FSE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FSE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| FSE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1-4 | | Prerequisite(s): Fulton Engineering graduate student |
| FSH | 108 | Digital Literacy for the Arts | Effective, efficient, practical and innovative computer-aided visual communication has become essential for business in the contemporary art market. Serves as an introduction to computing in art and design fields. Students use computers to create, design, analyze and problem solve through the exploration of visual design software, fundamental elements of computer-aided design, and peer feedback. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | CS | Credit is allowed for only ART 108 or ART 194 (Digital Literacy for the Arts) or FSH 108 or FSH 194 (Digital Literacy for the Arts) |
| FSH | 122 | Apparel Construction I | Prepares students for a career in the apparel industry or for continued study in graduate school. Introduces core concepts of fashion materials and construction: cutting, sewing and finishing techniques for creating garment prototypes. Focuses on the fashion industry as well as apparel construction and production. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | |
| FSH | 125 | Survey of the Fashion Industry | Prepares the student to know how the fashion industry operates and what to expect when working in it. From manufacturing to retail, it is important for all members of the fashion industry to understand how the processes interrelate. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Credit is allowed for only FSH 125 or HDA 125 |
| FSH | 135 | Foundations in Fashion Design Communications | Immerses students in the language and practices of fashion design through drawing communications. Through in-class exercises, students learn to analyze, describe and critically think about editorial and design-related content. Provides an opportunity to consider and practice figure and clothing essentials such as creating line, shapes, shading, folds, forms, proportions, silhouettes, prints and color theories. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | |
| FSH | 175 | Merchandising Essentials | Introduces merchandising concepts that support assortment planning, pricing strategy, open-to-buy management and inventory management as a fashion merchandiser. Teaches technical retail math concepts and explains their conceptual functions in industry context. Utilizes a mix of lecture to introduce key topics and computer-lab workshop to practice application of merchandising concepts. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | |

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| FSH | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| FSH | 200 | Textiles Survey Lab | Complements and supports the learning objectives and outcomes for the textiles survey lecture. Includes identification of fibers, yarns and fabrics using various methods of scientific testing and other activities to enrich students' understanding of textiles' characteristics and properties and their end uses. | N | LAB | N | GNA | Herberger Institute for Design and the Arts | School of Art | 1 | | Credit is allowed for only FSH 200 or FSH 294 (Textiles Lab) |
| FSH | 201 | Textiles Survey | Offers a broad survey of textiles as they relate to art, fashion and their place in human culture. Topics explore material content, weaves and textile properties; the artistic and social history of textiles; modern textile manufacturing and consumption; and innovations in textile invention for science and industry. The goal is for students to more fully understand the underlying content and structure of textiles in order to better appreciate the overwhelming variety of textiles that have been created over time, place, gender, ethnicity, purpose and methodology. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | |
| FSH | 203 | Fashion Illustration I | In this studio setting, students practice drawing the fashion figure from a live model, both in leotard and in clothing, facilitating understanding of drape, shape, shadow, silhouette and how it relates to fashion design. Demonstrates and practices fundamental skills of visual communication and problem solving, including fabric rendering and proportion and how it relates to the fashion designer's sketch. Brief lectures, demos and critiques are an integral component of each class. Materials used in class include, yet are not limited to, charcoal and gouache. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): ART 110, ART 111, or FSH 135 OR Visiting University Student |
| FSH | 204 | Social Aspects of Fashion | Introduces ways of examining clothing and fashion in context. How do we read images and representations of clothing and how do they manipulate the meaning of the garment and its wearer? In what ways is this visual language used to select and produce fashion? What influences how we dress on a daily basis and over time? These are just some of the questions about appearance, clothing and culture that are used to embark on a participatory research project and as a point of departure for class discussions and related readings. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | L or HU or SB | Prerequisite(s): ENG 101, 102, 105, 107, or 108 with C or better OR Visiting University Student |
| FSH | 205 | Fundamentals of Fashion Design | Provides an introduction to the fashion design process used by brands today. Fashion is created by using flat pattern method and its principles; it's used in industry as it is the fastest, most cost-effective way to create garments. This course does not have a sewing or pattern-making competency and is specifically designed for fashion majors on the business path, non-fashion majors, or those wanting a minor in fashion, not for those on the maker's path to possibly create a collection for runway. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): FSH 122; Credit is allowed for only FSH 205 or FSH 294 (Fundamentals of Fashion Design) OR Visiting University Student |
| FSH | 206 | Fashion Design I | Provides a foundation for the design process through drafting, flat pattern, construction and draping the professional way. In this hands-on setting, students apply principles of art to clothing design. Develops an understanding of the design concept based on the relationship of the two-dimensional pattern shape to the three-dimensional body. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): FSH 122 (FSH 202) OR Visiting University Student |
| FSH | 208 | Fashion Technology I | Introduces the fundamental concepts, procedures and techniques used for manipulating images and documents in digital imaging software and data management software for fashion applications. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): FSH 108, FSH 194 (Digital Literacy for the Arts), or INT 121 OR Visiting University Student |
| FSH | 222 | Apparel Construction II | Provides quality preparation for a profession in the apparel industry. In this hands-on setting, students continue to work on the core concepts of sewing, construction and finishing techniques for fashion garment as demonstrated in class. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): FSH 122 (FSH 202) with C or better; Credit is allowed for only FSH 222 or FSH 394 (Fashion Construction II) OR Visiting University Student |
| FSH | 224 | Accessories Design | Introduces the principles of developing a brand of fashion accessories. Provides the opportunity to develop student's own designs for a range of handbags, belts, shoes, scarves and hats. Through practical and experimental exercises, covers how to research accessory styles and trends to develop ideas and concepts. Students gain an understanding of what it takes to design their own brand and look into the world of accessory manufacturing by hearing from designers working in the industry. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): FSH 122 (FSH 202) with C or better; FSH 206 with C or better; Credit is allowed for only FSH 224 or FSH 394 (Intro to Accessory Design) OR Visiting University Student |

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| FSH | 275 | Merchandising Applications | Explores and practices the application of merchandising concepts in real-world settings. Exposes challenges facing the ever-changing fashion industry and specific challenges faced in fashion merchandising. Further develops students' creativity, critical thinking and retail math skills to address merchandising challenges. As a foundation to applying merchandising concepts, students study business models that are vertically integrated including mono-brand, multi-brand, and fashion resell models. Further examines channels of client engagement and distribution (e.g., omni-channel, e-commerce or private showroom). Interactive course engages students through vivid experiences, interaction with experienced professionals and application of retail math concepts that bring merchandising to life. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): FSH 175 OR Visiting University Student |
| FSH | 280 | Fashion Merchandising | Examines the business side of the fashion industry with a focus on fashion marketing and the fundamentals of merchandising and retailing. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Art | 3 | | Credit is allowed for only FSH 280 or MKT 280 |
| FSH | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | |
| FSH | 300 | Global Fashion Industry | Considers the textile and apparel industries in a global context. Examines issues from several viewpoints providing the facts and data needed to consider the ramifications of events with unbiased perspectives. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | G | Prerequisite(s): FSH 175 or 208 with C or better OR Supply Chain Management BS major; minimum 54 hours OR Visiting University Student |
| FSH | 303 | Fashion Illustration II | Studies fashion illustration as a means of communicating, documenting and promoting fashion. Focuses on refining the fashion figure, rendering fabrics and apparel, and exploring a variety of illustration media and techniques. Also explores the evolution of fashion illustration and illustrators. Emphasizes page design and layout for advertising and promotion. Builds upon previously learned skills and acquired concepts, expanding students' abilities to illustrate fashion figures and render garments and fabrics, and create two-dimensional collections. Enables students to clearly communicate design ideas, and effectively present their designs to critics in junior- and senior-level design courses. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): FSH 203; Credit is allowed for only FSH 303 or FSH 394 (Fashion Illustration II) OR Visiting University Student |
| FSH | 304 | Equity and Inclusion in Fashion | Provides an overview of equity, inclusion and accessibility within the fashion industry through the lens of design, technology, talent, media and retail. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FSH 304 or FSH 394 (Equity and Inclusion in Fashion) OR Visiting University Student |
| FSH | 306 | Fashion Design II | Reviews the principles of flat pattern making and the use of a library of block patterns and pattern manipulations. Develops advanced pattern-making skills. Introduces the torso, jacket and pant blocks. Students develop a strong understanding of flat pattern principles by applying these techniques to create designs for apparel. Students focus on conceptual design through sketching, then apply that two-dimensional idea into patterns to continue the design process through to a garment. Students work in full scale and half scale and learn techniques to move easily between the two. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): FSH 206 with C or better; FSH 222 or FSH 394 (Fashion Construction II) with C or better; Credit is allowed for only FSH 306 or FSH 394 (Fashion Design II) OR Visiting University Student |
| FSH | 308 | Fashion Technology II | Covers the C.A.D. system, Optitex. Students learn how to pattern-make, develop, grade and manipulate patterns in a digital scape through Optitex. Once the patterns are completed, students take those patterns to fit and develop within the 3D prototyping capabilities inside the software. This is an exciting new era that is emerging within the fashion/apparel industry! | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): FSH 208; Credit is allowed for only FSH 308 or FSH 394 (Fashion Technology II) OR Visiting University Student |
| FSH | 322 | Apparel Construction III | Continues and advances students' preparation for a profession in the apparel industry or for continued study in graduate school. In this hands-on setting, students work on concepts of patternmaking, draping, construction and finishing techniques for assigned projects, emphasizing knits: contemporary sportswear, athleisure wear, weekend wear, lingerie. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): FSH 222 or FSH 394 (Fashion Construction II) with C or better; Credit is allowed for only FSH 322 or FSH 494 (Fashion Construction III) OR Visiting University Student |
| FSH | 325 | Personal Style and Wardrobe | Methods of clothing selection, coordination, and evaluation for personal style and wardrobe strategies. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | HU | Prerequisite(s): minimum 24 hours; Credit is allowed for only FSH 325 or FSH 394 (Personal Style and Wardrobe) OR Visiting University Student |
| FSH | 326 | Fashion Styling | Focuses on the teachings of different sectors of the fashion industry in the styling division. Oversees aspects of what it means to be a fashion stylist/wardrobe stylist in the fashion industry with a comprehensive detailed outline of the responsibilities in the field. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 30 hours; Credit is allowed for only FSH 326 or FSH 394 (Fashion Styling) OR Visiting University Student |

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| FSH | 331 | 18th- and 19th-Century European Jewelry Design | The 18th century was defined by stylish sociability that included beautiful dress, sumptuous interiors and exquisite, fashionable jewelry. Who were the influencers for jewelry design during this period? How was society defined by these ornaments? What were the rules of engagement? Did these opulent ornaments affect social strategies? How did jewelry materials evolve into more modern and recognizable forms? All of these questions are answered in this course. The cultural history of jewelry design mirrors the historical and collective customs of society from the established aristocracy, to the rising middle classes, to the expansion of cultural awareness among every world citizen when travel became widely available. So much so, that upon the turn of the 19th century, jewelry design shifted from appearing as solely a status of power and wealth to an eloquent symbol of worldly knowledge and cultural awareness. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ARS 331 or FSH 331 or ARS 394 (18th & 19th Century European Jewelry Design) OR Visiting University Student |
| FSH | 335 | Fashion and Dress in Visual Culture | Explores fashion and dress from the Renaissance to the modern period and considers dress as commenting on society, gender, race and current events. Explores case studies of art works and of selected decades in European history. Looks at dress in paintings for women, men and children in the context of the ways in which dress variously defined gender, race and class identities, social life and economic wealth in different periods of history. Considers issues of style; changes in clothing production (such as brocades, cotton, silk, furs); and the function of accessories in defining identities in art. Examines fashion magazines, historical events and social change and dress as distinct from fashion. Finally, seeks to understand how art serves to heighten the meaning, display and performance of fashion in terms of the portrait subjects and the intended spectators. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ARS 335 or ARS 394 (Fashion and Dress in Art, Ren. to 20th Century) or FSH 335 or FSH 394 (Fashion and Dress in Art, Ren. to 20th Century) OR Visiting University Student |
| FSH | 360 | Sustainable Systems in Fashion | Examines the systems surrounding fashion including design, marketing, manufacturing, supply chains, and so forth, and discusses the impacts these systems have on the environment and society. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FSH 360 or FSH 394 (Sustainable Systems in Fashion) OR Visiting University Student |
| FSH | 375 | Fashion Branding Strategies | What is branding? What makes a fashion brand unique? In the trend-oriented fashion world, branding is what encourages consumers to pick one brand over another. For instance, to spend \$100 for a plain white t-shirt from their favorite designer with just one small logo, over the plain white t-shirt from a high-street brand. Branding also enables sneakers to transcend function and wearability to cultural icon status. Fashion branding transforms a company from a business selling product into a trusted friend. How is a brand created? It is a sum of the creative direction bridging product, packaging and consumer interactions that create a holistic identity. Students gain exposure into the evolution of fashion branding, including iconic brand strategies and market disrupters. Covers how to interweave marketing messages and brand communication strategies to utilize storytelling as a central tool in creating a strong brand identity. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FSH 375 or FSH 394 (Branding for Future Fashion Professionals) OR Visiting University Student |
| FSH | 380 | Fashion Forecasting | Uses lecture and workshop formats to explore the many facets of trend research and forecasting. Topics include trend research, managing inspiration sources and trend ideas, product adoption and turning a trend forecast into a fashion plan. Examines the application of trend forecasting, who does it and how it fits into various careers. Takes a hands-on approach with discussion and additive projects. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FSH 380 or FSH 394 (Fashion Forecasting) OR Visiting University Student |
| FSH | 385 | Fashion Visual Merchandising | Explores visual merchandising principles and techniques used to strengthen a fashion brand's image, engage an audience and optimize profitability. Examines the ideas and practices of business analysis, conceptualization and implementation of store merchandising and displays, and how visual presentations directly impact business. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FSH 385 or FSH 394 (Fashion Visual Merchandising) OR Visiting University Student |
| FSH | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| FSH | 396 | Professional Practices for Fashion | Guest speaker series engages students with fashion industry professionals from across the field who have agreed to participate and discuss their career development paths, their jobs and personal information and provide general advice about working in the fashion industry. Provides students with a better understanding of careers in fashion and pathways to finding them. | N | LEC | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FSH 394 (Professional Practices for Fashion) or FSH 396 OR Visiting University Student |

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| FSH | 397 | Fashion Capstone Development | Guides students in the development of a detailed capstone project proposal. Capstone projects are completed with faculty/staff guidance in subsequent fashion capstone course. Students arrive at a project to be completed in one or two semesters that represents the culmination of their education. | N | LEC | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 1 | | Prerequisite(s): minimum 60 hours OR Visiting University Student |
| FSH | 406 | Fashion Design III | Fashion draping is a key essential part of fashion design and an art form that requires precision, concentration and imagination. Helps students develop their artistic and manual skills and learn many of the intermediate and upper-intermediate principles and methods of draping on the dress form, which is discussed and practiced via series of draping exercises and projects. Requires students during studio sessions to complete creative in-class exercises, including draping muslins/calico and transferring to paper patterns. Once their skills foundation has been developed, students put these techniques to practice by making a finished garment of their own design. All of this provides students with a proficiency in the draping process and understanding that all design processes rely heavily on the skills covered in this class. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): FSH 202; FSH 203; FSH 206; FSH 303; FSH 306; Credit is allowed for only FSH 406 or FSH 494 (Fashion Design III) OR Visiting University Student |
| FSH | 412 | Power Play | Students design and create an alter ego costume for a current or past patient at The Phoenix Children's Hospital. The process is filmed throughout to create a documentary; students are interviewed and filmed. Students participate in a required fashion show and reveal event, gaining intensive experience in the creation and design of adaptive clothing. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum sophomore standing; Credit is allowed for only FSH 412 or FSH 494 (Power Play Fashion Show) OR Visiting University Student |
| FSH | 435 | Contemporary Fashion | Identifies and analyzes contemporary fashion designers and brands in relation to fashion research and inspiration for design and branding. Provides a comprehensive understanding to their approach to silhouettes, construction innovation, textiles, garment details and accessories. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| FSH | 475 | Communication Strategies for Fashion | Provides an understanding of professional public relations (PR) practices for the fashion industry where consumer perception is integral. In their work with fashion designers, retailers and manufacturers, PR practitioners are involved in almost every aspect of fashion, from forecasting trends and working on designer collections, to launching new lines and helping clients grow their brand. Fundamental skills involve public relations writing and marketing strategy. Students research and write various PR documents including pitches, press releases, fact sheets, backgrounders, bios and blogs focusing on fashion-related topics. Students focus on web-based PR strategies, including social media campaigns and online pressrooms. The course is run as a fashion public relations agency, and students choose a real or fictitious fashion brand (a new client) which they use as the target organization for all assignments. Requires students to complete a full brand strategy and develop both a traditional and digital communications plan for the organization. They need to produce and create all the components of a press kit, as well as a series of public relations writing assignments that include everything from press releases to media pitches. They work on social media calendars and create a social media influencer campaign for the brand. For the final presentation, students learn how to plan and promote a fashion event from start to finish. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FSH 394 (PR for Fashion) or FSH 475 OR Visiting University Student |
| FSH | 477 | Fashion Collection Development | Focuses on the process of designing a fashion collection. Collection development is a "holistic," studio-based practice that requires integration of all the technical skills acquired by students: different types of research, ideation, conceptualization, fabric sourcing, fabric manipulation, surface design, sketching, technical drawing, illustration, design and execution. Provides a step-by-step approach to designing a fashion collection and guides students through different stages of the process. Gives special attention to organization and line planning to create a cohesive fashion collection for a catwalk show or digital exhibition space. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): FSH 203; FSH 306; Credit is allowed for only FSH 477 or FSH 394 (Fashion Collection Development) OR Visiting University Student |

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| FSH | 480 | Fashion Retail Development | Get ready for the future of retail. Explores the tools, technologies and management strategies that are used behind the scenes to run a fashion business. Includes learning the fundamentals of managing a fashion retail business across various channels. Takes a hands-on approach to examining the process of managing brick and mortar stores, e-commerce, social commerce, direct-to-consumer and experiential retail methods. Students' understanding of retail channel strategies builds on a basic exploration of financial planning and supply chain operations. Uses a combination of emerging and time-proven strategies to gain a holistic understanding of retail channel management. Approaches include mock buying scenarios and store experience creation as a part of fashion management. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Art | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FSH 394 (Fashion Retail Management) or FSH 480 OR Visiting University Student |
| FSH | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-12 | | Prerequisite(s): minimum 45 hours |
| FSH | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-6 | | Prerequisite(s): Barrett Honors student |
| FSH | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| FSH | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| FSH | 495 | Fashion Capstone | Formally structures the relationship between students conducting independent capstone projects and faculty/staff mentors. A variable credit practicum course, students implement, document and evaluate their capstone project. Acceptance into this course depends on the successful completion and acceptance of a project proposal and formal instructor approval in prerequisite course. | N | PRA | Y | GNA | Herberger Institute for Design and the Arts | School of Art | 3-9 | | Prerequisite(s): FSH 397 or 477 |
| FSH | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Art | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours |
| FSH | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Herberger Institute for Design and the Arts | School of Art | 1-3 | | Prerequisite(s): minimum 45 hours |
| GAP | 10 | Academic Skills I for International Pathways | Non-credit course designed for international ASU-USA Pathways students from any discipline who want to develop both their general English language competence and the academic skills which they need in order to succeed in their for-credit studies. The curriculum has been organized around tasks that students need to master in order to perform and interact appropriately in an international English-medium higher education setting. | N | LEL | N | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 11 | Academic Skills II for International Pathways | Non-credit course designed for international ASU-USA Pathways students from any discipline who want to continue to develop both their general English language competence and the academic skills which they need in order to succeed in their for-credit studies. The curriculum has been organized around tasks that students need to master in order to perform and interact appropriately in an American higher education setting. | N | LEL | N | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 12 | Academic Skills III for International Pathways | Non-credit course designed for international ASU-USA Pathways students from any discipline who want to refine both their general English language competence and the academic skills which they need in order to succeed in their for-credit studies. The curriculum has been organized around tasks that students need to master in order to perform and interact appropriately in an American higher education setting. | N | LEL | N | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 20 | Academic Foundations for International Pathways I | Designed for international ASU-USA Pathways students, this non-credit course develops oral linguistic fluency and accuracy along with listening comprehension skills needed for academic success. In addition, this course creates cultural awareness in the American university setting. | N | LEL | N | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 21 | Academic Foundations for International Pathways II | Designed for international ASU-USA Pathways students, this non-credit course continues developing oral linguistic fluency and accuracy along with listening comprehension skills needed for academic success. In addition, this course creates cultural awareness in the American university setting. | N | LEL | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 22 | Academic Foundations for International Pathways III | Designed for international ASU-USA Pathways students, this non-credit course refines oral linguistic fluency and accuracy along with listening comprehension skills needed for academic success. In addition, this course creates cultural awareness in the American university setting. | N | LEL | Y | GNA | Office of the Provost | Global Launch | 3 | | |

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| GAP | 30 | Communication Bridge for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills and cultural awareness needed to comprehend and practice theories of communication skills in public, small group and interpersonal settings. Also supports, linguistically and culturally, students' study of speech communication processes such as problem solving, decision making and information sharing. | N | LEL | N | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 31 | Math Bridge for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills needed to comprehend and apply math terminology in various math contexts through in-class problem-solving activities and presentations. | N | LEL | N | GNA | Office of the Provost | Global Launch | 1 | | |
| GAP | 32 | Computer Information Systems Bridge for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills needed to understand and apply concepts and terminology related to the role of computers in business and society and use of word processing, spreadsheets, database, presentation and application software. In addition, the course supports the students' linguistic ability to discuss computers in terms of ethics and social issues as well as technology and business. | N | LEL | N | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 33 | Global Management Bridge for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills, communication skills and cultural awareness needed to comprehend and apply basic concepts related to management in a global environment including global politics, legal systems and sociocultural environments. | N | LEL | N | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 34 | Information Technology Bridge I for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills needed to understand and apply concepts and terminology related to the role of information technology, programming and application software. In addition, the course supports the students' linguistic ability to discuss information technology in terms of ethics and social issues. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 35 | Information Technology Bridge II for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course is a continuation of support for student development of language skills needed to understand and apply concepts and terminology related to the role of information technology, programming and application software. In addition, the course supports the students' linguistic ability to discuss information technology in terms of ethics and social issues. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 36 | Computer Software Engineering Bridge I for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills needed to understand and apply concepts and terminology related to Java programming, particularly those that include multiple methods, control flow, array, basic sorting algorithms, static methods, variables and object-oriented programming approach. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 37 | Computer Software Engineering Bridge II for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course is a continuation of support for student development of language skills needed to understand and apply concepts and terminology related to Java programming, particularly those that include multiple methods, control flow, array, basic sorting algorithms, static methods, variables and object-oriented programming approach. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 41 | History Bridge for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills and cultural awareness needed to comprehend global history by exploring topics such as: changes in communication, communities, demography, economics, environment, politics, religion, technology, warfare and women around the world. | N | LEL | N | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 42 | Sociology Bridge for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills needed to understand and apply concepts and terminology related to the fundamentals of sociology. Also supports, linguistically and culturally, students' study of social organization, interaction and social change. | N | LEL | N | GNA | Office of the Provost | Global Launch | 3 | | |

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| GAP | 43 | Chemistry Bridge for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills and cultural awareness needed to comprehend and apply basic principles and concepts of chemistry, particularly for the needs of students in the physical, biological and earth sciences. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 44 | Biology Bridge for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills and cultural awareness needed to comprehend and apply basic principles and concepts of biology including the method of scientific inquiry and behavior of matter and energy in biological systems. | N | LEL | N | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 45 | Physics Bridge for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills and cultural awareness needed to comprehend and apply basic principles and concepts of physics, including kinematics, Newton's laws, the relationship of energy and momentum, as well as the dynamics of particles, solids and fluids. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 46 | Applied Academic English I | Designed for international ASU-USA Pathways students, this course supports student development of language skills and cultural awareness needed to comprehend, practice and apply language skills needed for success in specific and current academic-credit courses. | N | LEL | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 47 | Applied Academic English II | Designed for international ASU-USA Pathways students, this course continues supporting student development of language skills and cultural awareness needed to comprehend, practice and apply language skills needed for success in specific and current academic-credit courses. | N | LEL | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 80 | Math for Business Bridge for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills and cultural awareness needed to comprehend and practice topics in math for business analysis. | N | LEL | N | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 81 | Human Systems Engineering Bridge for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills and cultural awareness needed to comprehend and apply basic principles, methods and theories of psychology and applications to engineering problems relevant to human systems, with particular attention to the intersection of psychology and engineering. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 82 | Engineering Bridge I for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills and cultural awareness needed to comprehend and apply basic principles and concepts of engineering as a profession, including discussing critical thinking in engineering design, modeling, team dynamics and engineering communication. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 83 | Engineering Bridge II for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course is a continuation of support for student development of language skills and cultural awareness needed to comprehend and apply basic principles and concepts of engineering as a profession, including discussing critical thinking in engineering design, modeling, team dynamics and engineering communication. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 90 | Macroeconomics Bridge for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills, higher-level thinking skills and cultural awareness needed to comprehend and analyze the structure and functioning of the American economy as well as the basic economic institution and factors that determine national income and employment levels. | N | LEL | N | GNA | Office of the Provost | Global Launch | 3 | | |
| GAP | 91 | Microeconomics Bridge for International Pathways | Designed for international ASU-USA Pathways students, this non-credit course supports student development of language skills, higher-level thinking skills and cultural awareness needed to comprehend and analyze the structure and functioning of the American economy as well as the basic economic institution and factors that determine national income and employment levels. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 20 | Language Foundations | Entry-level course explores the grammatical, syntactic and cultural underpinnings of the English language for international students studying English as a foreign language. | N | LEC | N | GNA | Office of the Provost | Global Launch | 0 | | |
| GBL | 22 | Special Programs Training | - | N | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 24 | Special Programs Field-Based Learning | - | N | LEC | N | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 25 | Special Programs English for Specific Purposes | - | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |

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| GBL | 26 | Special Programs Project Work | - | N | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 27 | Special Programs Current Issues and Topics | - | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 28 | Academic Culture | Multidisciplinary approach to American academic culture. Designed for international students who will be matriculating into an American university and explores such themes as study skills, using academic resources and participating fully in academic life. | N | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 40 | Basic 1 Listening/Speaking | On completing the Basic 1 Listening/Speaking course, a student will be able to (1) follow directions and comprehend main ideas and supporting details of short, simple passages and conversations spoken slowly; and (2) speak informally to express basic needs, habits and descriptions in a comprehensible manner demonstrating level-appropriate fluency and control of pronunciation, grammar, and vocabulary. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GBL | 41 | Basic 1 Reading/Writing | On completing the Basic 1 Reading/Writing course, a student will be able to (1) recognize main ideas and find supporting details in selected reading passages of a few pages; and (2) produce a guided writing with a personal point of view, demonstrating level-appropriate control of grammar, word forms, and punctuation. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GBL | 42 | Basic 1 Structure | This course covers helping verbs, pronouns, adjectives, count/non-count nouns, and tenses (present, present progressive and simple past). | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 43 | Basic 1 Communication | International students studying English as a foreign language study the fundamentals of English communication. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 50 | Basic 2 Listening/Speaking | On completing the Basic 2 Listening/Speaking course, a student will be able to follow instructions, directions, and comprehend the main ideas and supporting details of 1-3 minute announcements and conversations with controlled speech and delivery; and (2) speak informally in basic social situations in a comprehensible manner demonstrating level-appropriate fluency and control of pronunciation, grammar, and vocabulary. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GBL | 51 | Basic 2 Reading/Writing | On completing the Basic 2 Reading/Writing course, a student will be able to (1) recognize main ideas, find supporting details, and recognize the organizational pattern in short and page-length reading passages; and (2) produce a composition, based on a model, with a personal point of view, demonstrating level-appropriate control of grammar, word form, and punctuation. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GBL | 52 | Basic 2 Structure | Learn grammar for everyday writing and speaking--present, progressive and future tenses, irregular verbs in the past tense, modal verbs, pronouns, order of adjectives, and comparisons. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 53 | Basic 2 Communication | Learn to communicate effectively at the basic level in a variety of everyday situations and develop communication skills necessary for success in today's world. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 60 | Intermediate 1 Listening/Speaking | On completing this course, a student will be able to (1) comprehend the main ideas and supporting details of 1-5 minute listening passages, conversations, instructions, and directions with controlled speech and delivery; and (2) speak informally in common social situations in a comprehensible manner demonstrating level-appropriate fluency and control of pronunciation, grammar, and vocabulary. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GBL | 61 | Intermediate 1 Reading/Writing | On completing this course, a student will be able to (1) recognize the main ideas and find supporting details in selected reading passages of a few pages; and (2) produce an organized composition, with a personal or an objective point of view, demonstrating level-appropriate control of mechanics and grammar. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GBL | 62 | Intermediate 1 Structure | Improve grammar for everyday writing and conversation, present perfect and present perfect continuous and future tenses, noun clauses and grammar to cover frequency, duration, possibility and necessity. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 63 | Intermediate 1 Communication | International students studying English as a foreign language continue to build on the fundamentals of English communication, including working on vocabulary expansion, pronunciation, idiom decoding, fluency and verbal accuracy. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 64 | Intermediate 1 Business: Introduction | International students studying English as a foreign language, learn the fundamental vocabulary, concepts and cultural customs of business in an American context. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |

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| GBL | 65 | Intermediate English for Social Sciences | In this communicative, content-driven course, international students studying English as a foreign language learn how to speak, write and critically analyze the vocabulary, concepts and context for American social sciences. Designed for students at an intermediate level of English proficiency. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 66 | Intermediate English for STEM | In this communicative, content-driven course, international students studying English as a foreign language learn how to speak, write and critically analyze the vocabulary, concepts and context for STEM studies. Designed for students at an intermediate level of English proficiency. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 70 | Intermediate 2 Listening/Speaking | On completing this course, a student will be able to (1) comprehend the main ideas and supporting details of 5-10 minute general topic listening passages with modified speech and delivery; and (2) speak formally and informally on a variety of general topics in a comprehensible manner demonstrating level-appropriate fluency and control of pronunciation, grammar, and vocabulary. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GBL | 71 | Intermediate 2 Reading/Writing | On completing this course, a student will be able to recognize the main ideas and supporting details and distinguish between fact and opinion in a reading passage of several pages; and (2) produce a composition, based on a writing task, with an objective point of view demonstrating level-appropriate control of mechanics and grammar. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GBL | 72 | Intermediate 2 Structure | Focus on an overview of all the tenses. This course also covers passive voice and sequence of tenses with adverbial clauses. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 73 | Intermediate 2 Communication | Learn to communicate effectively at the intermediate level in a variety of everyday situations and develop communication skills necessary for success in today's world. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 74 | Intermediate 2: Business Management | International students studying English as a foreign language discover key concepts and ideas related to business management. Students have the opportunity to speak, read and write about, as well as listen to, accessible levels of business management materials, including work and motivation, company structure and recruitment. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 75 | Intermediate American Culture Studies Special Topic | - | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 76 | Intermediate Bridge to ASU | - | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 80 | Advanced 1 Listening/Speaking | On completing the Advanced 1 Listening/Speaking course, a student will be able comprehend the main ideas and supporting details of brief academic lectures and instructions spoken naturally; and (2) speak formally and informally on academic topics in a comprehensible manner demonstrating level-appropriate fluency and control of pronunciation, grammar, and vocabulary. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GBL | 81 | Advanced 1 Reading/Writing | On completing the Advanced 1 Reading/Writing course, a student will be able to (1) recognize the main ideas and supporting details and determine logical inferences in selected general reading passages of several pages; and (2) produce a composition, based on an assigned writing task, with an objective point of view, demonstrating level-appropriate word choice and control of mechanics and grammar. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GBL | 82 | Advanced 1 Structure | This course covers complex sentence structure, participial phrases, reduced adjective clauses and appositives, infinitives and gerunds, hypothetical conditionals, and the subjunctive. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 85 | English for Humanities and Design Studies | In this communicative, content-driven course, international students studying English as a Foreign Language continue to build their learning of ways to speak, write and critically analyze the vocabulary, concepts and context for humanities and design studies. Designed for students at an advanced level of English proficiency. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 90 | Advanced 2 Core Listening/Speaking | On completing this course, a student will be able to (1) comprehend the main ideas and supporting details of complex but abbreviated academic lectures and instructions spoken naturally; and (2) speak formally and informally on academic topics in a comprehensible manner demonstrating level-appropriate fluency and control of pronunciation, grammar, and vocabulary. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 9 | | |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
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| GBL | 91 | Advanced 2 Core Reading/Writing | On completing this course, a student will be able to (1) recognize the main ideas and supporting details, and determine logical inferences in authentic and selected academic and general reading passages of several passages; and (2) produce a well-developed essay, based on an assigned writing task, with an objective point of view, demonstrating level-appropriate word choice and control of mechanics and grammar. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GBL | 92 | Advanced 2 Structure | This course covers complex sentence structure, participial phrases, reduced adjective clauses and appositives, infinitives and gerunds, hypothetical conditionals, and the subjunctive. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 93 | Advanced Communication Special Topic | Learn to communicate effectively at the advanced level in a variety of everyday situations and develop communication skills necessary for success in today's world. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 94 | Business English Special Topic | Learn to communicate effectively in a variety of business situations and develop English skills necessary for success in today's business world. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 95 | Advanced American Culture Studies | Learn about American culture and develop communication skills necessary for success in today's world. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 96 | Academic English Studies Special Topic | Learn the Academic English necessary for success at an American university or college. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GBL | 98 | Professional English Special Topic | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | Office of the Provost | Global Launch | 3 | | |
| GCO | 510 | Fieldwork Preparatory | Prepares students for fieldwork experiences and equips them with the necessary skills and behaviors to successfully integrate into a variety of clinical settings, including codes of ethics and conduct, HIPAA privacy issues and professionalism. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): Genetic Counseling MS student |
| GCO | 530 | Genetic Counseling Fundamentals | Covers history and evolution of genetic counseling; genetic counseling specialties and the role of a genetic counselor; autonomy and informed consent; psychosocial dimensions of the genetic counseling process and various theoretical perspectives of genetic counseling; and the informed decision-making process. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Genetic Counseling MS student |
| GCO | 540 | Foundations of Medical Genetics | Covers foundational principles, concepts and applications of medical genetics from the clinical perspective, including normal/abnormal DNA structure, function and replication; pathogenic and benign variants and consequences of abnormal processes on human disease and human variation; and cytogenetic mechanisms for chromosomal and genomic conditions. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCO | 560 | Practice of Genetic Counseling | Covers managing genetic counseling cases for different genetic specialties including: prenatal, pediatric/general genetics, adult genetics and genomic medicine. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Genetic Counseling MS student |
| GCO | 570 | Clinical Genetics | Examines major clinical features and natural history of a broad range of genetic diseases including common pediatric and adult syndromes and complex conditions. Covers the diagnostic process and treatment options, including gene therapy and gene editing. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Genetic Counseling MS student; GCO 540 with B- or better |
| GCO | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCO | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCO | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCO | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | |
| GCO | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCO | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| GCO | 599 | Thesis | Supervised research focused on preparation of a thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCO | 610 | Laboratory Fundamentals & Population Screening | Provides fundamental knowledge and understanding of the methodologies utilized for biochemical, cytogenetic and molecular genetic testing. Demonstrates the roles and responsibilities of a genetic counselor in a laboratory setting. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Genetic Counseling MS student |
| GCO | 620 | Genetic Counseling Techniques | Covers skills necessary to assist clients with successful psychological integration of genetic information. Reviews the psychosocial development of an individual throughout the lifespan and communication strategies for discussing a genetic diagnosis with children, adolescents and families. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Genetic Counseling MS student |
| GCO | 625 | Cultural, Ethical & Legal Aspects of Genetics | Develops cultural competency and skills for identifying and responding to cultural aspects of genetic counseling interactions. Explores ethical challenges including health disparities, direct-to-consumer genetic testing, improper informed consent, and genetic research study inequities and violations. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Genetic Counseling MS student |
| GCO | 630 | Advanced Genetic Counseling Techniques | Covers advanced genetic counseling skills and new genetic counseling techniques such as identifying and responding to client resistance, adherence and non-adherence, and successful promotion of client adaptation to a genetic disorder. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Genetic Counseling MS student |
| GCO | 650 | Cancer, Cardiac Genomics and Precision Medicine | Covers underlying etiology of cancer as a genetic disorder, natural history and management strategies for rare and common hereditary cancer syndromes, hereditary component to cardiac conditions, genetic contribution to psychiatric disorders, fundamental concepts related to pharmacogenomics, and application of precision medicine. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCO | 659 | Embryology and Genetics | Provides an understanding of embryology, genetics and physiology concepts. Covers application of normal/abnormal human physical development, human reproduction, teratology and developmental genetics to clinical practice in preconception/prenatal and pediatric genetics. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): College of Health Solutions or Edson College of Nursing and Health Innovation graduate student; Credit is allowed for only DNP 659 or GCO 659 |
| GCO | 660 | Professional Issues for Genetic Counselors | Prepares students for the American Board of Genetic Counseling (ABGC) certification exam. Covers techniques for mentoring and training others, effective transition into the workforce, and strategies for lifelong learning and self care. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Genetic Counseling MS student |
| GCO | 683 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCO | 691 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 102 | Introduction to Human Geography | Systematic study of human use of the Earth. Spatial organization of economic, social, political, and perceptual environments. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | |
| GCU | 113 | United States and Arizona Social Studies | Introduces American (including Arizona) institutions integrating geography, government, history and economic perspectives. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & H | Credit is allowed for only GCU 113 or HST 113 |
| GCU | 114 | World Social Studies | Introduction to the world from the integrated social science perspectives of history, geography, and government. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G & H | Credit is allowed for only HST or GCU 114 |
| GCU | 121 | World Geography | Description and analysis of areal variations in social, economic, and political phenomena in major world regions. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 4 | SB & G | |
| GCU | 171 | The Thread of Energy | Follows the thread of energy through every aspect of our lives. Discusses the technical, social, legal, and policy contexts of all energy resources, including present and unconventional fossil fuels, nuclear power, and renewable resources. Addresses energy use throughout history, the influence of energy on quality of life, the role it plays in political strategies and environmental quality, how it shapes our neighborhoods and cities, its contribution to our personal comfort and national security, and how its importance is reflected in the worlds of business and the humanities. Its dual role is as a stand-alone introduction to energy, and as a first step to more advanced studies of energy in the natural, technical, and social sciences. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | Credit is allowed for only GCU 171 or SOS 171 OR Visiting University Student |
| GCU | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| GCU | 240 | Introduction to Southeast Asia | Interdisciplinary introduction to the cultures, religions, political systems, geography, and history of Southeast Asia. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | (HU or SB) & G | Credit is allowed for only ASB 240 or GCU 240 or HST 240 or POS 240 or REL 240 or SGS 240 OR Visiting University Student |
| GCU | 241 | The Global Economy in Transition | Production, distribution, and consumption of various types of commodities of the world and relationships to the activities of humans. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | |

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| GCU | 253 | Introduction to Cultural and Historical Geography | Cultural patterns, including such phenomena as language, religion, and various aspects of material culture. Origins and diffusion and division of the world into cultural areas. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | |
| GCU | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| GCU | 322 | Geography of U.S. and Canada | Spatial distribution of relevant physical, economic, and cultural phenomena in the United States and Canada. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & C | |
| GCU | 323 | Geography of Latin America | Spatial distribution of relevant physical, cultural, urban and economic phenomena in Mexico, Central America, South America and the Caribbean. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| GCU | 325 | Geography of Europe | Broad and systematic overview of Europe, emphasizing physical, economic, and cultural phenomena. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | |
| GCU | 326 | Geography of Asia | Spatial distribution of relevant physical, economic, and cultural phenomena in Asia, excluding the former Soviet Union. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | |
| GCU | 328 | Geography of Middle East and North Africa | Spatial distribution of relevant physical, economic, and cultural phenomena in the Middle East and North Africa. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | |
| GCU | 332 | Geography of Australia and Oceania | Spatial distribution of relevant physical, economic, and cultural phenomena in Australia, New Zealand, and Pacific Islands. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | |
| GCU | 344 | Geography of Hispanic Americans | Examines the homelands, migrations, settlements, landscapes, roles, and selected cultural traditions of Hispanic Americans. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & C | |
| GCU | 350 | The Geography of World Crises | Contemporary world crises viewed from a perspective of geographic concepts and techniques. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | |
| GCU | 351 | Population Geography | Demographic patterns; spatial, temporal, and structural investigation of the relationship of demographic variables to cultural, economic, and environmental factors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| GCU | 356 | Central American Studies | Part of the summer ASU study abroad Costa Rica Program, which is a language and social sciences immersion program in the capital city, San Jose. A summer offering permits students to enroll in the program without conflicting with full course loads during the fall or spring semester. However, the course is proposed as a stand-alone course that can be offered in a regular semester as well. | N | REC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | Credit is allowed for only ASB 356 or GCU 356 or POS 354 or SBS 356 or SOC 356 |
| GCU | 357 | Social Geography | Environmental perception of individuals and groups. Stresses the spatial aspect of social and physical environments. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| GCU | 359 | Cities of the World I | Historical evolution of urban patterns and structures in the Middle East, India, Southeast Asia, China, Japan, and Europe. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G & H | |
| GCU | 361 | Urban Geography | External spatial relations of cities, internal city structure, and spatial aspects of urban problems in various parts of the world, particularly in the United States. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only GCU 361 or PUP 360 OR Visiting University Student |
| GCU | 362 | Journey Stories: People and Place in Motion | Explores journeys, storytelling and geographies--real and imagined. Draws on novels, novellas, short stories, film and video in illuminating stories and storytelling as transformative of self, place and culture in human and more-than-human worlds. Enjoins journey stories through the trilogy movement, place and identity; signature themes in cultural geography that resonate across the arts, humanities and social sciences. Students respond to artfully rendered journeys in personal ways via word, image and sound, creating their own journeys en route. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | HU | Prerequisite(s): minimum 45 hours; Credit is allowed for only GCU 362 or PUP 362 or PUP 394 (Journey Stories: People & Place in Motion) OR Visiting University Student |
| GCU | 364 | Energy in the Global Arena | Production, transportation, and consumption of energy, emphasizing the electric power industry and its environmental problems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | |
| GCU | 373 | Introduction to Geographic Information Science | Introduces theoretical and computer-based aspects of Geographic Information Systems, involving data analysis and map generation. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 4 | SG | Pre-requisite: PSY 230 or SBS 304 |
| GCU | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| GCU | 414 | Teaching Geography Standards | Introduces Arizona Geography Standards for K-12 educators, emphasizing exciting curricula and illustrated with best practices by master teachers. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | |
| GCU | 421 | Geography of Arizona and Southwestern United States | Geography of the Southwest with an emphasis on Arizona. Divided into physical geography, history, people, and economy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & C | Prerequisite(s): minimum 45 hours OR Visiting University Student |

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| GCU | 424 | Geography of Mexico and Middle America | Central America and Mexico. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | |
| GCU | 425 | Geography of the Mexican American Borderland | Geography of a binational and bicultural region. Examines settlement, boundary issues, ethnic subregions, population change, industrial development, and urban growth. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | (L or SB) & G | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| GCU | 426 | Geography of Russia and Surroundings | Examines the geography of Russia and other post-Soviet states. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | |
| GCU | 432 | Geography of China | Examines the physical, economic, cultural, social, demographic, agricultural, political, historical, and environmental aspects of the geography of China. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB & G | |
| GCU | 433 | Geography of Southeast Asia | Examines the biophysical and social features of Southeast Asian nations and peoples. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | |
| GCU | 441 | Economic Geography | Spatial distribution of primary, secondary, and tertiary economic and production activities. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB | |
| GCU | 442 | Geographical Analysis of Transportation | Networks, modes, economics, and flows at the urban, national, and international scales. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB | |
| GCU | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |
| GCU | 485 | International Field Studies | Organized field study, culture and language in specified international locations. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | G | Pre-requisite: Junior standing; Credit is allowed for only GCU 485 or GPH 485 or LAP 485 or POR 485 or PUP 485 or 585 |
| GCU | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-6 | | Prerequisite(s): Barrett Honors student |
| GCU | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| GCU | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| GCU | 496 | Geographic Research Methods | Scientific techniques used in geographic research. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; GCU 102 with C or better; GIS 205 with C or better; GPH 111 with C or better OR Visiting University Student |
| GCU | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-3 | | |
| GCU | 510 | Solar Energy and Policy | Elucidates and amplifies the importance, role and mechanisms of solar energy policy. Underscores the significance of policy in the successful deployment of solar energy. Complements other courses in the curriculum of the Professional Science Masters (PSM) in Solar Energy, which is largely centered on engineering concepts and techniques. Content is guided by the principle that technical considerations alone are inadequate to stimulate future expansion of solar energy. Additionally, it is stressed that policy considerations are critical to any potential transition to a solar energy economy. Typically taken in conjunction with DC summer workshop "Science Outside the Lab," but may be taken by others as stand-alone course. Course consists of lectures and discussions of policy instruments at the national, state and local scales. Visiting experts from the energy industry provide their personal experience and real-world perspective. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GCU 510 or GCU 598 (Solar Energy & Public Policy) or SEC 510 or SEC 598 (Solar Energy & Public Policy) |
| GCU | 514 | Human Dimensions of Sustainability | Concepts and definitions of the human dimensions of sustainability; the role of attitudes and values in shaping sustainability goals, practices, and programs; the diversity of values and socio-cultural contexts relating to sustainability; bottom-up and top-down sustainable policy development, social data collection methodologies. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GCU 514 or SOS 514 |
| GCU | 515 | Human Migration | Economic, political, social, and geographic factors underlying population movements. Migration selectivity, streams and counter-streams, labor migration, and migration decision making. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| GCU | 526 | Sustainability Science: Interactions Between Human and Environmental Systems | Addresses core ideas in sustainability science--an emerging field of research dealing with the interactions between human and environmental systems. The problem that motivates the course is the challenge of sustainability: improving the well-being of present and future generations in ways that conserve the planet's life support systems over the long term. Students critically discuss a set of presentations and papers covering the field in a systematic way, drawing on and integrating contemporary research from earth systems science, resource economics, institutional analysis, ecology, geography, development studies, health sciences, engineering, and other disciplines. Covers from the theory of sustainability to its multiple applications in the field and explores the impacts of different value systems on both theory and applications. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 526 or GCU 526 or SOS 526 or BIO 591 (Sust Sci: Int Btwn Hum &Env Sys) or GCU 591 (Sust Sci: Int Btwn Hum &Env Sys) or SOS 591 (Sust Sci: Int Btwn Hum &EnvSys) |
| GCU | 528 | Geographic Problems and Context | Investigates different forms of geographic problem solving and contemporary trends in geographic research. Emphasizes applied research and questions at the forefront of the field, and the range of techniques being applied by practitioners. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 529 | Contemporary Geographic Thought | Comparative evaluation of current philosophy concerning the nature and trends of geography. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 542 | Geographical Analysis of Transportation | Examines the geographical aspects of transportation systems. Looks at the geography of networks; transport costs and rates; different modes of transport, trade, economic development, and technology. Studies the movement of freight and passengers at the individual, urban, national, and international scales. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 585 | Geographic Research Design and Proposal Writing | Prepares students to undertake creative geographic research culminating in the generation of new knowledge. Serves as a foundation for the student in achieving the objective of a productive and successful degree. To accomplish this, instruction stresses a research framework, ethical practice, and the generation of an original research proposal. Specific learning objectives are: to produce an area of specialization statement, literature review, problem statement, description of methods and final proposal; to develop the skills needed to conceive and plan a research project; to communicate ideas effectively in written and oral form; to develop and articulate informed opinions about research designs; to learn about academic publishing format and process; and to understand and engage in ethical research practices. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Pre-requisite: Graduate student |
| GCU | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |
| GCU | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | IND | Y | Z3 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 596 | Geographic Research Methods | Prepares students to conduct geographic research by teaching scientific techniques used to study problems in the field of geography. Provides a strong foundation in geographic research methodologies. Covers critical reading and analysis of peer-reviewed research, types of research methodologies, and elements of research design. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|---------------------------------------|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| GCU | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | IND | Y | Z2 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 671 | Introduction to Geographic Teaching | Intensive course in geographic education, scientific method in research on geographic education, research trends, resources for teaching, best practices. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 672 | Physical Geography for Teachers | Transfer of matter and energy exhibited in the Earth's climate, hydrology, soils, biogeography, and landforms; case studies; virtual field trips. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 673 | Human Geography for Teachers | Analyzes cultural, economic, urban, historical, transportation, population, political, and development geography; case studies; virtual field trips. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 674 | Geographic Techniques for Teachers | Introduces geographic techniques, including GPS, GIS, remote sensing, cartography, qualitative, and field methods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 675 | World Geography for Teachers | Systematic overview of geographic knowledge about different world regions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 676 | North American Geography for Teachers | Systematic overview of geographic knowledge about different North American regions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 677 | Geography Across the Curriculum | Intensive course on intergrating reading, writing, and mathematics standards with geography content; selected case studies; best practices. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 683 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | IND | Y | Z3 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GCU | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | IND | Y | Z2 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|-----------------------|---------------|-------|-----------------|--------------|
| GDE | 30 | Basic Foundations for English Language Learners | Introduces a foundation of basic English language to international learners. Focuses on the structures of English, sentence parts and sentence formation, for basic conversations and basic writing skills related to everyday English. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 10.5 | | |
| GDE | 35 | Basic Communication for English Language Learners | Builds on a foundation of basic English language for international learners. Further develops the structures of English needed in basic conversations and basic writing skills related to everyday English. Introduces learners to past forms. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 10.5 | | |
| GDE | 40 | Basic Language Skills for English Language Learners | Refines and expands basic English language skills for international learners. Builds on reading, written and verbal skills to develop learners' language abilities in everyday English. Learners carry out conversations on a variety of personal topics. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 10.5 | | |
| GDE | 45 | Basic Achievement for English Language Learners | Further refines and consolidates basic English language skills for international learners. Emphasizes language skills in reading, writing, listening and speaking to expand learners' knowledge and language use in a wide variety of topics in home, family, friends, work, school, free time and more related to everyday English. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 10.5 | | |
| GDE | 50 | Intermediate Foundations For English Language Learning | Introduces a foundation of intermediate English language to international learners. Builds on the basic structures of English to refine learners' language abilities for everyday and academic English language skills. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 10.5 | | |
| GDE | 55 | Intermediate Communication For English Language Learning | Builds on a foundation of intermediate English language for international learners. Emphasizes and refines communication skills to build learners' language abilities in academic English. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 10.5 | | |
| GDE | 60 | Intermediate Language Skills for English Language Learners | Refines and expands intermediate English language skills for international learners. Emphasizes and refines reading, written and verbal skills to build learners' language abilities in academic English. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 10.5 | | |
| GDE | 65 | Intermediate Achievement for English Language Learners | Further refines intermediate English language skills for international learners. Emphasizes and refines academic English language skills in reading, writing, listening and speaking. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 10.5 | | |
| GDE | 70 | Academic Thinking for English Language Learners | For advanced learners of the English language. Learners apply critical thinking skills to complex texts and receive instruction in the characteristics of persuasion in academic writing and speaking, as well as instruction in advanced language skills commonly found in persuasive rhetoric. Upon successful completion of the course, learners understand the aspects of persuasion, and how best to organize summary and response compositions. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 10.5 | | |
| GDE | 75 | Academic Analysis for English Language Learners | Develops advanced language skills and refines the critical thinking skills necessary in academic coursework. Learners build on prior learning to further develop their reading, writing, listening and speaking skills to successfully analyze and respond to academic topics and texts. Learners acquire advanced academic skills and vocabulary in order to be able to form opinions and arguments. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 10.5 | | |
| GDE | 80 | Academic Persuasion for English Language Learners | For advanced learners of the English language. Learners apply critical thinking skills to complex texts and receive instruction in the characteristics of persuasion in academic writing and speaking, as well as instruction in advanced language skills commonly found in persuasive rhetoric. Upon successful completion of the course, learners understand the aspects of persuasion, and how best to organize summary and response compositions. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 10.5 | | |
| GDE | 86 | Undergraduate Academic Achievement for English Language Learners | Designed for undergraduate-bound international students. Consolidates the English language skills needed to be successful in a rigorous, academic undergraduate program. Refines advanced academic skills introduced in prior language courses through collaboration, communication, compositions and response to course concepts. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 10.5 | | |
| GDE | 88 | Graduate Academic Achievement for English Language Learners | Designed for graduate-bound international students. Consolidates the English language skills needed to be successful in a rigorous, academic graduate program. Learners draw from advanced, complex academic texts to review the literature and to compose evidenced-based writing and speaking assignments related to their fields of study. Expects learners to demonstrate an advanced command of the English language and advanced academic skills. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 10.5 | | |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| GDE | 96 | English for Undergraduate Admission and Achievement | Advanced English language learners refine, demonstrate and are assessed on academic English language skills. Successful completion of the course meets the ASU admissions requirement for proof of English proficiency for international students. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GDE | 98 | English for Graduate Admission and Achievement | Advanced English language learners refine, demonstrate and are assessed on academic English language skills. Successful completion of the course meets the ASU admissions requirement for proof of English proficiency for international students to graduate programs. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GER | 101 | Elementary German I | Reading, writing, speaking, and understanding of basic German, with emphasis on pronunciation and grammar. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Students may not enroll in GER 101 if credit with C or better earned in GER 102, GER 110, GER 201, GER 202 or GER 210 OR Visiting University Student |
| GER | 102 | Elementary German II | Reading, writing, speaking, and understanding of basic German, with emphasis on pronunciation and grammar. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): GER 101 with C or better OR German Placement score of 231-328; Credit is allowed for only GER 102 or GER 110 or GER 111 OR Visiting University Student |
| GER | 110 | Intensive German I | Students learn to read, listen, write and speak German. Develops ability to communicate in German using a variety of tools. Uses German to ask and answer questions; name and describe persons, things, places and events; deals with certain situations; narrates orally and in writing; writes letters and postcards; fills out forms; and comprehends some texts. Expands knowledge of the cultures of the German-speaking countries. Students contribute to the class discussions what they might already know. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 6-8 | G | Students may not enroll in GER 110 if credit with C or better earned in GER 101, GER 102, GER 201, GER 202 or GER 210 |
| GER | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| GER | 201 | Intermediate German I | Intensive review of grammar, with emphasis on the development of the skills of speaking, listening comprehension, reading, and writing. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): GER 102, 110, or 111 with C or better OR German Placement Test score of 329-443 OR Visiting University Student |
| GER | 202 | Intermediate German II | Intensive review of grammar, with emphasis on the development of the skills of speaking, listening comprehension, reading, and writing. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): GER 201 with C or better OR German Placement Test score of 444-547; Credit is allowed for only GER 202 or GER 210 OR Visiting University Student |
| GER | 210 | Intensive German II | Helps develop reading, writing, listening and speaking skills and strategies with activities both inside and outside of class. Guides student further into learning about the cultures of the German-speaking countries. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 6-8 | G | Prerequisite(s): GER 102 or 111 with B or better OR GER 110 with C or better OR German Placement Test score of 408-469; Credit is allowed for only GER 201 or GER 202 or GER 210 |
| GER | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| GER | 310 | Making Sense of German Grammar | Contextualized German grammar in written and spoken German. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): GER 202 or 210 with C or better OR German Placement Test score of 548 and above OR Visiting University Student |
| GER | 311 | Express Yourself in German | Builds and refines conversational skills in German through a focus on important contemporary issues. Strengthens active vocabulary knowledge, trains listening and speaking skills, and develops strategies to understand and respond in everyday German situations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): GER 202 or 210 with C or better OR German Placement Test score of 548 and above OR Visiting University Student |
| GER | 312 | Explore German Culture | Discovers how advancing reading proficiency in German can grant access to an array of ideas from the realms of literature, film, science, politics, history and sustainability. Each semester, students contribute to building a unique syllabus based on individual class interests. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): GER 202 or 210 with C or better OR German Placement Test score of 548 and above OR Visiting University Student |
| GER | 313 | Create in German: Writing, Speaking, Performing | Invites all students on a journey through a variety of writing and speaking adventures in German. From academic to creative writing, and from theater to presentational speaking, offers opportunities to bring all language skills to life. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): GER 202 or 210 with C or better OR German Placement Test score of 548 and above OR Visiting University Student |
| GER | 315 | Germanic Mythology | Religious and spiritual beliefs and practices of the ancient Germanic peoples as reflected in their culture, including the pantheon of their gods, as well as the reception of these beliefs through and including contemporary times. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| GER | 319 | Work with German | Navigates the German business world in real-life situations. Apply for a job, be a trainee and develop a business project in German. Communicate effectively and with cultural awareness in a professional context. Organize and present clear, effective business communications and vocabulary applicable to modern business usage. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): GER 202 or 210 with C or better or German Placement Test score of 548 or higher OR Visiting University Student |
| GER | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| GER | 416 | German Civilization | From 1600 through 1945. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H & G | Pre-requisite: A 300-level German course |
| GER | 420 | Discover - Discuss - Design: German Language and Culture | Covers current research approaches to the German-speaking world such as environmental, migration and memory studies to help students articulate a unique question about the German-speaking world based on their individual interests. Over the course of the semester, students explore their focal area by designing a project that can take a variety of forms, from the classic research paper to digital exhibitions, audio-visual media, or artworks. Develops research skills, discovers interdisciplinary approaches, and discusses outcomes with peers and the community. The majority of course materials and language of instruction are in German. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; GER 312 with C or better OR Visiting University Student |
| GER | 421 | German Literature Survey, 800-1800 | From the beginning to Classicism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): GER 310 with C or better |
| GER | 422 | German Literature Survey, 1800-Today | From Romanticism to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; GER 310 with C or better OR Visiting University Student |
| GER | 431 | German Humor | Popular and literary texts (collections of jokes, pranks and comedies) in the print and visual media provide a basis of comparison for students to reflect critically on the function of humor in German culture from the sixteenth century until the present. Exposes the different types and functions of German humor and understands both the historical and the contemporary theoretical debate on the study of (German) humor. Taught almost exclusively in German, with reading and writing assignments done in the target language. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): Two 300-level GER courses with C or better; Credit is allowed for only GER 431 or GER 494 (German Humor and Comedy) |
| GER | 441 | Fairy Tales | Foundational texts from the oral and written traditions collected and edited by the Brothers Grimm and those created by Hans Christian Andersen in the 19th century, as well as the reception of these tales primarily in the print and visual media of Germany, Europe and the United States, provide a basis of comparison for students to critically reflect on the function of the tales in the 19th century and particularly in the contemporary 20th- and 21st-century global communities. Students perceive the myriad ways in which ancient tales can be re-imagined to reflect different sociocultural environments (more than 50% of the material comes from outside the U.S.) and understand the contemporary theoretical debate on the study of these tales and popular culture. Taught in English with German minors/majors doing some of the reading and writing assignments and the final paper/project in the target language. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GER 441 or SLC 441 OR Visiting University Student |
| GER | 445 | Holocaust, War and German Memory | Examines representations of the Holocaust from across different media (literature, film, architecture, memoir, photography) and from across multiple generations of German engagement with this period in history. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 102, ENG 105, ENG 108, FMS 100, FMS 200, JST 210, or JST 230 with C or better; Credit is allowed for only FMS 445 or GER 445 or JST 445 or SLC 445 OR Visiting University Student |
| GER | 446 | Weimar-Era German Film | Examines early film production in Germany during the period of the Weimar Republic. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, ENG 105, ENG 108, FMS 100, or FMS 200 with C or better; Credit is allowed for only FMS 446 or GER 446 or SLC 446 OR Visiting University Student |
| GER | 447 | German Modernism | Examines examples of modernism in literature, art and film from German-speaking Europe. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GER 447 or SLC 447 |

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| GER | 455 | Berlin: Migration, Arts and Activism | Deals with the culture and politics, arts and activism of migrants in Germany based on the example of Berlin, using historical and contemporary examples. Critically engages with such concepts as migration and identity, transnationalism, assimilation, multilingualism, artivism, activism, xenophobia and racism. Examines examples from various art forms, including film and the creative arts, literature, media and social media to help understand the impact of migration and immigrants on Germany and German society and compares it to experiences in other countries, especially the U.S. A focus on Berlin allows an in-depth and focused micro-observation of the differences and commonalities of various immigrant groups and responses of the local communities in a defined urban space. In order for students to reflect on the impact of migration in German society and the migrants themselves, also looks at migration through the lens of movements for social change and justice. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only GER 455 or SLC 455 |
| GER | 465 | Intercultural Communicative Competence | Focuses on the importance of culture(s) and the ways in which culture(s) effects and interrelates with communication. Communicating across cultures is very important in order for us to be able to function in a globalized, diverse world, e.g., workplace, city. Using our own experiences and discussions as well as the readings, course increases our sensitivity, understanding and awareness of our own culture(s) as well as other culture(s). Approaches the study of intercultural communicative competence in a theoretical and practical way. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only GER 465 or SLC 465 or GER 494 (Intercultural Communicative Competence) or SLC 494 (Intercultural Communicative Competence) |
| GER | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| GER | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| GER | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| GER | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| GER | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | N | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| GER | 550 | German for Reading Knowledge | Teaches non-speakers of foreign language, or those with only basic notions of the language, how to read in a foreign language at an advanced level. Consists of a concise overview of grammar as well as reading comprehension practice for students who plan to take the Graduate Foreign Language Exam or others who would merely like to learn to read in a foreign language. Focuses only on reading and not on listening, speaking, or writing as in a traditional language course. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GER | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GER | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GER | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GER | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GER | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| GER | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 202 | Drones to Satellites: Observing Earth from Above | Seeing the Earth from above has a profound effect on how we view our planet. Introduces Earth observation using platforms like drones, airplanes and satellites. Covers how images and data of our Earth are acquired from above and how they can be processed and interpreted to understand our world. Students gain practical skills for generating information from images to better understand how human beings use and alter Earth's surface. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | CS | Credit is allowed for only GIS 202 or GIS 294 (Drones to Satellites: Observing Earth from Above) |
| GIS | 205 | Geographic Information Science I | Introduces spatial thinking, a cross-disciplinary foundation for geographic information science (the science of dealing with spatial/geographical data; their manipulation, interpretation and use in problem solving); geospatial technologies (the specific technologies underpinning geographic information science); and spatial analysis (the science of solving spatial problems). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | CS | |
| GIS | 211 | Geographic Information Science II | History and basic aspects of GIS including map and data file structure, conversions, and synthesis with a computerized environment. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 4 | CS | Prerequisite(s): GIS 205 with C or better OR Visiting University Student |
| GIS | 220 | Mathematical Principles in GIS | Covers the basic math principles needed to excel in GIS and spatial analysis. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): MAT 117, 119, 142, 170, 210, 211, 251, 265, or 270 with C or better |
| GIS | 222 | Programming Principles in GIS I | Basic principles of programming for GIS in python covering data processing, analysis, and application development. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): MAT 170, 210, 270, 271, or 272 with C or better OR Visiting University Student |
| GIS | 270 | Statistics for Geography and Planning | Descriptive and inferential statistical methods for analysis of data in geographical sciences and urban planning. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): MAT 117, 119, 142, 170, 210, 211, 251, 265, or 270 with C or better OR Visiting University Student |
| GIS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| GIS | 311 | Geographic Information Science III | GIS as a basis for microcomputer spatial analysis and synthesis. Includes digitizing, database organization, spatial retrieval, and graphics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 4 | CS | Prerequisite(s): GIS 211 with C or better OR Visiting University Student |
| GIS | 322 | Programming Principles in GIS II | Fundamental data structures and algorithms for the integration, management, processing and analysis of geographically referenced data. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): GIS 222 with C or better OR Data Science BS major; CSE 110, CSE 205, or GIS 222 with C or better OR Visiting University Student |
| GIS | 341 | Cartography and Georepresentation | Study and creation of maps. Fundamental mapping principles (projection, scale, generalization, symbolization) and computer-based cartographic production. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | CS | Prerequisite(s): GIS 205 with C or better OR Visiting University Student |
| GIS | 351 | Air Photo Interpretation | Subset, remote sensing, includes photography, films, aerial geometry, image components, stereoscopy, photogrammetry, ground truthing; interpret physical, cultural, economic, intelligence information. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): minimum 45 hours |
| GIS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| GIS | 412 | Spatial Decision Support Systems | Theoretical and technical requirements for implementing spatial decision support tools. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): GIS 222 with C or better; GIS 311 with C or better |
| GIS | 431 | Spatial Databases | Covers data modeling concepts, the relational data model for the storage and retrieval of spatial and nonspatial information. The data retrieval emphasizes the industry-standard query language SQL and Spatial Query Languages. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Pre-requisite: GIS 311; GIS 322 |
| GIS | 441 | Geographics: Interactive and Animated Cartography and Geovisualization | Advanced cartography, stressing influence and application of the computer on geographic representation. Emphasizes creation of maps for the Internet. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | CS | Prerequisite(s): GIS 222 with C or better |
| GIS | 451 | Geodesign and Urban Planning | Geodesign is a design and planning method which tightly couples the creation of design proposal with impact simulations informed by geographic contexts, systems thinking and digital technology. Covers the fundamental theory, concepts and frameworks of geodesign. Students become familiar with the geodesign process by reviewing case studies including specific case study applications from University of New South Wales and Arizona State University. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): GIS 205 or PUP 301 with C or better; Credit is allowed for GIS 451 or GIS 551 or PUP 451 or PUP 551 or GIS/PUP 494 (Geodesign and Urban Planning) or GIS/PUP 598 (Geodesign and Urban Planning) OR Visiting University Student |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| GIS | 461 | Fundamentals of Spatial Optimization | Covers the fundamentals of optimization for spatial analysis. Introduces math-based optimization methods, specifically linear programming, integer programming, and branch and bound. Provides the basics for use and application of GIScience and spatial analysis methods for suitability analysis and network analysis. Objectives include: reviewing basics of linear algebra; formulating and solving optimization problems using linear and integer programming; applying raster and vector GIS methods to site suitability analysis, shortest path, and service area problems; and integrating GIS into problem formulation and result visualization. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): GIS 205 or 211; MAT 170, 270, 271, or 272 with C or better; Credit is allowed for only GIS 461 or GIS 561 or PUP 481 or PUP 581 OR Visiting University Student |
| GIS | 462 | Location Analysis and Modeling | Provides an overview of mathematical models for location optimization in the context of GIScience. Applies linear and integer programming (a type of linear algebra), computer programming, and GIS to optimize systems of points, lines and polygons for emergency services, natural resource management, private and public facilities, and undesirable and desirable facilities. Objectives include: formulating, solving, and interpreting location problems; understanding differences among a variety of location analysis and modeling problems and methods; and linking GIS and optimization software for preparing inputs and visualizing results. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): GIS 211 with C or better; GIS 461 with C or better; Credit is allowed for only GIS 462 or GIS 562 or GCU 598 (Location Models) |
| GIS | 469 | Multivariate Statistics for Social Sciences | Provides instruction and hands-on experience with statistical methods for examining the effects of multiple variables. Focuses on multivariate techniques and how statistical techniques can lead to a better understanding of substantive issues. As this is an applied course, lectures and coursework focus more on the application and interpretation of multivariate techniques than on the mathematics behind the statistical techniques. Topics typically include data visualization, correlation, simple regression, multiple regression, logistic regression, multinomial regression, ordinal regression, and principal component analysis. Also teaches how to conduct these statistical techniques and undertake basic programming in the R computer program. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): DAT 300, ECN 221, GIS 270, PSY 230, SOC 390, or STP 226 with C or better; Credit is allowed for only CDE 469 or GIS 469 or SOC 469 or CDE 498/GIS 494 (Multivariate Statistics for Social Sciences) OR Visiting University Student |
| GIS | 470 | Advanced Statistics for Geography and Planning | Statistical techniques applied to the analysis of distributions and relationships. Introduces models and theory in geography. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | CS | Prerequisite(s): DAT 300 or GIS 270 with C or better OR Visiting University Student |
| GIS | 471 | Spatial Statistics for Geography and Planning | Basics of spatial data analysis. Topics include point pattern analysis, spatial autocorrelation, spatial regression, and kriging. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prereqs w/C or better: CDE 469, GIS 469, GIS 470, SOC 469, or CDE 498/GIS 494 (Multivar Stat Soc Sci); GIS 211 or 494 (GIS Methods NonMajors) OR Data Sci BS major; DAT 301 or GIS 470; GIS 211 or 494 (GIS Methods NonMajors) OR Visiting University Student |
| GIS | 472 | Spatial Regression Analysis | Students gain insight into the scope of spatial regression methods, apply them in an empirical setting, and properly interpret the results of spatial regression analysis. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Pre-requisite: GIS 471; Credit is allowed for only GIS 472 or GPH 598 (Spatial Regression) |
| GIS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |
| GIS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-6 | | Prerequisite(s): Barrett Honors student |
| GIS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-6 | | Prerequisite(s): Barrett Honors student |
| GIS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| GIS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-7 | | |
| GIS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-3 | | |
| GIS | 501 | GeoDesign in Practice | Covers the basic topics of GeoDesign in practice including data, analysis, geocoding, mapping and projected implementation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): GIS 601 and 602 (or PUP 576) |
| GIS | 505 | GeoDesign Principles | Systematic exploration and evaluation of alternative complex human-environmental systems using spatially and temporally explicit theories, data and methods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 2 | | Prerequisite(s): GIS 601 and 602, or PUP 576; Credit is allowed for only GIS 505 or PUP 505 |

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| GIS | 512 | Spatial Decision Support | Designs and implements a spatial decision support system and analyzes and understands the theoretical underpinnings that form these systems. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): Degree- or Nondegree-seeking graduate; Credit is allowed for only GIS 412 or GIS 512 |
| GIS | 520 | GIScience Issues and Debates | Examines the underlying theories, current issues and debates surrounding the development and foundation of GIScience as a discipline. Discusses the history of the development of the field, the fundamentals and applications of spatial concepts to problem solving, and explores the trajectories of the field with respect to emerging geospatial technologies. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 521 | Geographic Information Science Programming | In-depth look at programming within GIS. Focuses on programming and methodology, utilizing specific software, and basic scientific computing. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 531 | Spatial Databases | Advanced data modeling concepts, the relational data model for the storage and retrieval of spatial and non-spatial information. Data retrieval emphasizes the industry-standard query language SQL and spatial query languages. Covers research topics for graduate students. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): Degree- or Nondegree-seeking graduate; Credit is allowed for only GIS 431 or GIS 531 |
| GIS | 551 | Geodesign and Urban Planning | Geodesign is a design and planning method which tightly couples the creation of design proposal with impact simulations informed by geographic contexts, systems thinking and digital technology. Covers the fundamental theory, concepts and frameworks of geodesign. Students become familiar with the geodesign process by reviewing case studies including specific case study applications from University of New South Wales and Arizona State University. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; Credit is allowed for GIS 451 or GIS 551 or PUP 451 or PUP 551 or GIS/PUP 494 (Geodesign and Urban Planning) or GIS/PUP 598 (Geodesign and Urban Planning) |
| GIS | 561 | Fundamentals of Spatial Optimization | Covers the fundamentals of optimization for spatial analysis. Introduces math-based optimization methods, specifically linear programming, integer programming, and branch and bound. Provides the basics for use and application of GIScience and spatial analysis methods for suitability analysis and network analysis. Objectives include: reviewing basics of linear algebra; formulating and solving optimization problems using linear and integer programming; applying raster and vector GIS methods to site suitability analysis, shortest path and service area problems; and integrating GIS into problem formulation and result visualization. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GIS 461 or GIS 561 or PUP 481 or PUP 581 |
| GIS | 562 | Location Analysis and Modeling | Provides an overview of mathematical models for location optimization in the context of GIScience. Applies linear and integer programming (a type of linear algebra), computer programming, and GIS to optimize systems of points, lines and polygons for emergency services, natural resource management, private and public facilities, and undesirable and desirable facilities. Objectives include: formulating, solving and interpreting location problems; understanding differences among a variety of location analysis and modeling problems and methods; and linking GIS and optimization software for preparing inputs and visualizing results. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): GIS 561; Credit is allowed for only GIS 462 or GIS 562 or GCU 598 (Location Models) |
| GIS | 563 | Local Statistical Modeling | Understands the processes that generate the data we observe in the real world. If these processes vary over space, we term this spatial non-stationarity and traditional global models are no longer applicable. A set of local spatial models has been developed to examine spatial non-stationarity and one of the most widely used of these is Geographically Weighted Regression (GWR) and its variants. Investigates GWR and the wider context of spatial non-stationarity. Topics include: setting the scene; introduction to GWR; discussion of context; further issues in GWR; software for GWR; workshop on GWR 4; model selection in GWR; inference in GWR; semi-parametric GWR and multiscale GWR (MGWR); software for multiscale GWR; inference for MGWR; multicollinearity and GWR; some myths about GWR; big models; an example of the 2016 U.S. presidential election. Examination is by project (60%) and two presentations (40%). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GIS 563 or GIS 598 (Local Statistical Modeling) |
| GIS | 571 | Spatial Statistics for Geography and Planning | Instructs on a variety of descriptive and inferential spatial statistics. Covers the conceptual foundations of spatial statistics, computes spatial statistics using software, and applies spatial statistical testing to a variety of research problems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed only for GIS 571 or GIS 591 (Spatial Statistics for Geography and Planning) |
| GIS | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| GIS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |
| GIS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 601 | Introduction to Geographic Information Systems | Introduces GIS theory and practice for professionals. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 2 | | Prerequisite(s): Geographic Information Systems MAS student |
| GIS | 602 | Intermediate GIS | Introduces visualization, spatial analysis and open source tools. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 2 | | Prerequisite(s): Geographic Information Systems MAS student |
| GIS | 603 | Spatial Statistics and Modeling | Introduces spatial statistics and modeling. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 2 | | Prerequisite(s): Geographic Information Systems MAS student |
| GIS | 604 | Implementation in the Corporate and Public Sectors | GIS use in the corporate and public sectors including proposal development. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 2 | | Prerequisite(s): Geographic Information Systems MAS student |
| GIS | 605 | GIS Project Planning and Implementation | Moving from project proposal to implementation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 2 | | Prerequisite(s): Geographic Information Systems MAS student |
| GIS | 606 | GIS Project Presentation | Development of technical reports and presentations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 2 | | Prerequisite(s): Geographic Information Systems MAS student |
| GIS | 610 | Programming the GIS Environment | Programming fundamentals for desktop GIS and custom applications. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): Geographic Information Systems MAS student |
| GIS | 630 | GIS Technologies | Uses of GIS technology for data collection and management. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): Geographic Information Systems MAS student |
| GIS | 640 | GIS for Business | Uses of GIS in business practice including site suitability, demographic data and business analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): Geographic Information Systems MAS student |
| GIS | 650 | GIS for the Internet | Programming GIS for the Internet and mobile applications. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): Geographic Information Systems MAS student |
| GIS | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |
| GIS | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| GIS | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIS | 799 | Dissertation | Supervised research focused on preparation of a dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIT | 135 | Graphic Communications | Processes involved in design, asset generation, transmission, production and evaluation of visual content. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | |
| GIT | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-4 | | |
| GIT | 210 | Creative Thinking and Design Visualization | Fundamental methods, concepts and techniques of creative thinking, ideation and problem solving, including communication and societal influences. Examines drawing and design visualization, from sketching to data graphics. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | |
| GIT | 211 | 3D Media Production | Introduces basic 3D workflows and techniques. Topics covered include visual storytelling and composition, project workflows, 3D modeling, virtual cameras, texturing, shading and rendering. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 230 with C or better or Applied Science (Graphic Information Technology) BAS or Applied Science (Internet and Web Development) BAS major OR Visiting University Student |
| GIT | 215 | Introduction to Web Authoring | Website planning and evaluation using industry-standard languages. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Credit is allowed for only GIT 215 or GIT 310 OR Visiting University Student |
| GIT | 230 | Digital Illustration in Publishing | Raster and vector illustration in publishing. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Pre- or corequisite(s): MAT 117 or higher with C or better if completed OR Visiting University Student |
| GIT | 250 | Introduction to Commercial Print | Provides an overview of current print technology, a basic understanding of the print process and current workflows. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): Applied Science (Graphic Info Tech) BAS, Applied Science (Internet & Web Dev) BAS, Graphic Info Tech BS, Graphic Info Tech (Full-Stack Web Development) BS or Graphic Info Tech (User Experience) BS major OR Visiting University Student |
| GIT | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-4 | | |
| GIT | 295 | Introduction to Technical Imaging | Explores imaging technologies utilized in industry. Covers basic imaging concepts, chip technologies, optics, motion analysis, high-speed video, thermal imaging, and science relating to light and latent imaging. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | |
| GIT | 303 | Digital Publishing | Web and print publication design and production using industry-standard composition software, proofing, and output devices. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 230 with C or better or Applied Science (Internet and Web Development) BAS or Applied Science (Graphic Information Technology) BAS major OR Visiting University Student |
| GIT | 310 | Web Foundations | 7.5-week course covers fundamental methods, concepts and techniques of semantic and validated Web development as well as aesthetic Web design. Includes Photoshop, HTML5 and CSS technologies. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): Applied Science (Graphic Information Technology) or Internet and Web Development) BAS major; minimum junior standing; Credit is allowed for only GIT 215 or GIT 310 or GIT 337 (or GIT 237) |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--------------------------------|-------|-----------------|--|
| GIT | 312 | Computer Animation and Motion Graphics | Covers basic 2D/3D animation and motion graphic techniques and principles. Topics covered include project workflows, key frames, path animation, motion principles, hierarchical structures, animated textures, lights, and cameras. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | CS | Prerequisite(s): GIT 211 OR Visiting University Student |
| GIT | 314 | Multimedia Design, Planning and Storyboards | The creative process of generating ideas, conceptualizing projects, planning, designing, story boarding, and presenting interactive multimedia products. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 230 with C or better; minimum junior standing OR Applied Science (Graphic Information Technology) BAS or Applied Science (Internet and Web Development) BAS major OR Visiting University Student |
| GIT | 315 | Digital Video Techniques | Covers video production, including planning, pre-production, production, post-production and online video technologies and how video is an integral part of the graphic information industry. Concentrates on commercial and client-driven video production. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): Applied Science (Graphic Information Technology) BAS major or Applied Science (Internet and Web Development) BAS major or GIT 230 with C or better OR Visiting University Student |
| GIT | 333 | Printing Technology | Theory and application of sheet and web press technology for offset-lithography, flexography, screen process, and digital printing. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 250 OR Visiting University Student |
| GIT | 334 | Image Editing and Manipulation | Theory and application of advanced image editing and raster techniques for reproduction and dissemination. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 230 with C or better or Applied Science (Graphic Information Technology) BAS or Applied Science (Internet and Web Development) BAS major OR Visiting University Student |
| GIT | 335 | Computer Systems Technology | Computer technology: hardware, software, storage, networking, Internet, telecommunications, and information systems. Requires independent research. Not for credit for BS Graphic Information Technology major. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): minimum junior standing; Not for credit for the Graphic Information Technology BS degree OR Visiting University Student |
| GIT | 337 | Web Content Design | User-centered design principles for visual content on the World Wide Web with emphasis on content strategy, user experience, coding and interactivity. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 215 with C or better; GIT 230 OR Applied Science (Graphic Information Technology) BAS or Applied Science (Internet and Web Development) BAS major; Credit is allowed for only GIT 310 or GIT 337 OR Visiting University Student |
| GIT | 340 | Information Design and Usability | Design and technology solutions for increasing Website usability and methods of organizing information to improve the user experience. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): minimum junior standing OR Visiting University Student |
| GIT | 350 | Cross-Media Design | Strengthens design elements and principles. Explores, creates and critiques cross-media design work for print and digital outputs. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 303; Credit is allowed for only GIT 350 or GIT 494 (Cross-Media Design Solutions) OR Visiting University Student |
| GIT | 384 | Commercial Photography | Digital image capture, and output in a commercial studio emphasizing publishing workflow. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 230 with C or better or Applied Science (Graphic Information Technology) BAS or Applied Science (Internet and Web Development) BAS major OR Visiting University Student |
| GIT | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-4 | | |
| GIT | 402 | New Media Internet Technologies | Project-based exploration of new media Internet technologies from a graphic technology prospective. Emphasizes how, why, and when new media can be used to enhance a Web site and the user's experience. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only GIT 402 or GIT 502 |
| GIT | 411 | Visual Narrative in Motion Graphics | Students acquire project experience refining skills in communication, research, critical analysis and criticism, while exploring visual story construction, graphic workflows and process pipelines for motion-based applications. Topics include story conceptualizing and structures, project management, visual composition and motion graphic techniques. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 312 OR Visiting University Student |
| GIT | 413 | Professional Portfolio Design and Presentation | Digital media portfolio design and production to include planning, audience analysis, content selection, authoring tools and formats, production, copyright considerations, marketing and delivery. Should be taken in the last semester of the program. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): Applied Science (Internet and Web Development) BAS major or GIT 303; senior standing; Pre- or corequisite(s): GIT 480 OR Visiting University Student |
| GIT | 414 | Web Site Design and Internet/Web Technologies | Design, authoring, standards, protocols, tools and techniques for development for different Web-based technologies. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 310 or 337 with C or better; Credit is allowed for only GIT 414 or GIT 515 OR Visiting University Student |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--------------------------------|-------|-----------------|---|
| GIT | 415 | Advanced Digital Video Techniques | Advanced video creation and editing techniques including motion graphics, green screen technology, audio sweetening, crew and commercial production. Course culminates with a completed video production that is commercial and professional in nature. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 315 |
| GIT | 417 | Advanced Web Markup and Scripting | Industry-standard programming languages and techniques to add user interactivity to graphic information Web sites and Web applications. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 310 or 337 with C or better; Credit is allowed for only GIT 417 or GIT 519 OR Visiting University Student |
| GIT | 418 | Multimedia Authoring, Scripting and Production | Extended application of industry-standard scripting languages and techniques to add user interactivity to graphic information websites and web applications. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 417 with C or better OR Visiting University Student |
| GIT | 432 | Graphic Industry Business Practices | Business practices related to the graphics industry; business models, cost and rate analysis, marketing and management approaches. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): minimum senior standing; Credit is allowed for only GIT 432 or GIT 532 or GIT 598 (Graphic Industry Business Practices) OR Visiting University Student |
| GIT | 435 | Website and E-Commerce Strategies | E-Commerce site management, marketing analytics and e-commerce business models. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only GIT 435 or GIT 535 or GIT 598 (Website & E-Commerce Strategy) OR Visiting University Student |
| GIT | 437 | Color Reproduction Systems | Scientific analysis for the engineering of color reproduction systems and color models used in the graphics industry. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 334; Credit is allowed for only GIT 437 or GIT 573 |
| GIT | 445 | 360 Production | Overview of 360 photo and video capture and editing, immersive storytelling, and 360/VR. Students explore immersive storytelling (spherical/360/180) by producing various forms of VR video and photos and examining their use in communication, entertainment and industrial applications. Emphasizes technical skills required to produce immersive content from capture to distribution using industry standard NLE and specialty software. In addition, students actively research and analyze the role of this emerging technology and communication medium. Requires prior knowledge of video editing. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 315; Credit is allowed for only GIT 445 or GIT 494 (360 Production) or GIT 545 or GIT 598 (360 Production) OR Visiting University Student |
| GIT | 450 | Digital Workflow in Graphic Industries | Digital production system analysis for content creation, automation output of graphic information to print and Web, including networking and job tracking. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 215 or 303; Credit is allowed for only GIT 450 or GIT 550 or GIT 598 (Digital Workflow Graphic Industr) OR Visiting University Student |
| GIT | 480 | Senior Project | Capstone project experience refining skills in communication, research and information retrieval, critical analysis and criticism, and demonstrating technical competence in each student's area of study. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): minimum senior standing |
| GIT | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | PRA | Y | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-12 | | |
| GIT | 490 | Advanced Commercial Photography | Studio-based class focusing on set design, advanced photographic techniques, raw workflow, marketing, business, and digital rights management. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): GIT 384 |
| GIT | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-6 | | Prerequisite(s): Barrett Honors student |
| GIT | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| GIT | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-4 | | |
| GIT | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-3 | | |
| GIT | 500 | Research Methods | Course on research methods in a specific discipline. | Y | RSC | Y | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIT | 502 | New Media Internet Technologies | Project-based exploration of new media Internet technologies from a graphic information technology prospective. Emphasizes how, why and when new media can be used to enhance a Web site and the user's experience while maintaining branding cohesively across all technologies. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GIT 402 or GIT 502 |
| GIT | 515 | Website Design and Technologies | Standards, tools and techniques for creating websites, with emphasis on designing for multiple devices and systems. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GIT 414 or GIT 515 |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--------------------------------|-------|-----------------|---|
| GIT | 519 | Advanced Scripting for the Web | Uses industry-standard markup and scripting languages to develop interactive websites and applications. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GIT 417 or GIT 519 |
| GIT | 520 | Prototype and Wireframe Design | Applying interaction design techniques to wireframing and prototyping, including principles, theory and practice. This critical step in the design process supports iterative development and proof of concept for stakeholders. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GIT 432 or GIT 598 (Interaction Design, Planning & Implementation) |
| GIT | 532 | Graphic Industry Business Practices | Business practices related to the graphics industry; business models, cost analysis, marketing and management approaches. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GIT 432 or GIT 532 or GIT 598 (Graphic Industry Business Practices) |
| GIT | 535 | Website and E-Commerce Strategies | Covers researching, designing, marketing and managing an e-commerce website. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GIT 435 or GIT 535 or GIT 598 (Website & E-Commerce Strategy) |
| GIT | 537 | Current Issues in Cross Media Production | Directed group study of selected current issues relating to cross-media production for the graphic information industries. Requires graduate group leadership. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): Graphic Information Technology MS student or Technology (Graphic Information Technology) MSTech student |
| GIT | 538 | Personnel Development for the Graphics Industry | Employee training and development specific to production and management in the graphics industry. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): graduate student in Technology (Graphic Info Tech) |
| GIT | 540 | Cross-Media Design Solutions | Universal design theory, creative problem solving, and case study applications for print, Web, and new media products of the graphics industry. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): Graphic Information Technology MS or Technology (Graphic Information Technology) MSTech or User Experience MS student |
| GIT | 542 | Usability and User Experience | Design and technology solutions focusing on how information is organized graphically to communicate and how website usability is employed to improve human interaction with inline information. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): Graphic Information Technology MS or Technology (Graphic Information Technology) MSTech or User Experience MS student |
| GIT | 545 | 360 Production | Overview of 360 photo and video capture and editing, immersive storytelling, and 360/VR. Students explore immersive storytelling (spherical/360/180) by producing various forms of VR video and photos and examining their use in communication, entertainment and industrial applications. Emphasizes technical skills required to produce immersive content from capture to distribution using industry standard NLE and specialty software. In addition, students actively research and analyze the role of this emerging technology and communication medium. Requires prior knowledge of video editing required. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GIT 445 or GIT 494 (360 Production) or GIT 545 or GIT 598 (360 Production) |
| GIT | 550 | Digital Workflow in the Graphics Industry | Digital production system analysis for content creation, automation output of graphic information to print and Web, including networking and job tracking. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GIT 450 or GIT 550 or GIT 598 (Digital Workflow Graphic Industr) |
| GIT | 551 | Immersive Experience Design I | Focuses on the practices of design for immersive experiences using different media including but not limited to extended reality technologies. Students work on interdisciplinary projects using and developing their skills on composition/aesthetics of environmental design; programmatic/spatial requirements in both real and virtual universes; modeling/simulation of spaces/objects in 3D animated environments, motion graphics, 3D printing/rapid prototyping, storytelling and world building. Develops abilities to manage projects, work effectively in teams and transform research into creative/technological products. | N | LAB | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only DSC 551 or GIT 551 |
| GIT | 560 | Capstone | Hands-on project in user experience. Requires a report based on research or applied work as a culminating experience. | N | SEM | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): User Experience MS student; Credit is allowed for only GIT 560 or HSE 560 or TWC 560 |
| GIT | 573 | Color Metrology | In-depth study and analysis of systems used to manage color reproduction in the graphic arts industry and information technology. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GIT 437 or GIT 573 |
| GIT | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| GIT | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIT | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIT | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIT | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIT | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GIT | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Graphic Information Technology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLE | 501 | Global Thinking in Education | An online course introducing students to the analyses of worldwide factors that affect a range of issues in education including access, quality and sustainability across countries and education systems. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLE | 502 | Inquiry in Global Education | Students learn to locate; interpret and critically analyze global education research literature (including comparative, qualitative, and quantitative approaches); develop problem statements and conduct a literature review. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLE | 503 | Evaluating Global Education Policies and Programs | Examines principles, methods and practices of evaluating education programs and policies in international settings. Focuses on types of evaluation, evaluation design, data collection and monitoring, and utilization of findings. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLE | 504 | Exploring Global Issues in the Global Education Research Literature | Reviews, identifies and synthesizes the empirical research literature. Students write a conceptual literature review in an area of interest of global significance. review, identify and synthesize the empirical research literature and will write a conceptual literature review in an area of interest of global significance. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLE | 505 | Evidence in Global Education Inquiry | Covers the basic research methods associated with global education inquiry. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Global Education MEd student; GLE 501; GLE 502; GLE 503 |
| GLE | 506 | Applied Inquiry in Global Education: Developing Proposals for Field Research | Guides students in the development of a proposal for an applied inquiry study to explore and analyze an education problem in the student's interest in an area of global import. Such issues may include but are not limited to education access, quality and sustainability. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Global Education MEd student; GLE 501; GLE 502; GLE 503 |
| GLE | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): Global Education MEd student; GLE 501; GLE 502; GLE 503 |
| GLE | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLG | 101 | Introduction to Geology I (Physical) | Basic principles of geology, geochemistry, and geophysics. Rocks, minerals, weathering, earthquakes, mountain building, volcanoes, water, and glaciers. Both GLG 101 and 103 or both GLG 101 and ENV 103 must be taken to secure SQ General Studies credit. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | SQ | |
| GLG | 102 | Introduction to Geology II (Historical) | Basic principles of applied geology and the use of these principles in the interpretation of geologic history. Both GLG 102 and 104 must be taken to secure SG General Studies credit. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | SG & H | |
| GLG | 103 | Introduction to Geology I: Laboratory | 3 hours lab, some field trips. Both GLG 101 and 103 or both GLG 101 and ENV 103 must be taken to secure SQ General Studies credit. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1 | SQ | Credit is allowed for only ENV 103 or GLG 103 |

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| GLG | 104 | Introduction to Geology II: Laboratory | Lab techniques involving map interpretation, cross sections, and fossils. Both GLG 102 and 104 must be taken to secure SG General Studies credit. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1 | SG | Corequisite(s): GLG 102 OR Visiting University Student |
| GLG | 108 | Water Planet | Overview of the processes that control water supply to natural ecosystems and human civilizations. Part I introduces the basic science that helps us understand the water planet, including the hydrologic cycle, glaciers and ice; rivers, oceans, and natural hazards associated with water such as flooding, landsliding and tsunamis. Part II covers some of the management and resource allocation topics that face humanity today, including droughts, groundwater contamination, impacts on fisheries, conflicts over water, patterns of water use, and effects of global climate change on future water supplies. Uses water issues facing Arizona and California as examples. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 4 | SQ | Credit is allowed for only GLG 108 or SOS 182 OR Visiting University Student |
| GLG | 110 | Dangerous World | Geological studies as they apply to interactions between humans and Earth. Includes geological processes and hazards, resources, and global change. Both GLG 110 and 111 must be taken to secure SQ General Studies credit. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | SQ & G | |
| GLG | 111 | Dangerous World Laboratory | Basic geological processes and concepts. Emphasizes geology-related environmental problems concerning Arizona. Both GLG 110 and 111 must be taken to secure SQ General Studies credit. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1 | SQ | |
| GLG | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | |
| GLG | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | |
| GLG | 301 | Earth Science in Arizona and the Southwest | Place-based application of geology and allied Earth sciences to explore and interpret the geologic history, natural resources, natural hazards and modern landscapes of Arizona and Southwestern North America. Integrates case studies of relationships of Earth systems to history, resilience, and sustainability of Southwestern communities and lifeways. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; GLG 101, GLG 102, GLG 110, GPH 111, or SES 121 with C or better; MAT 117 or higher with C or better; Credit is allowed for only GLG 301 or SOS 372 OR Visiting University Student |
| GLG | 304 | Minerals, Energy, and Society | Studies the science and technology of the minerals and energy industries, how these industries interact with society, and how these interactions may change in the future. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): ENG 101, ENG 105 or ENG 107 with C or better; GLG 101, GLG 102, GLG 110, GPH 111, SES 121, or minimum junior standing; Credit is allowed for only GLG 304, GLG 394 (Minerals, Energy & Society) or SOS 373 |
| GLG | 305 | Dynamic Earth | Focuses on the 4.6-billion year physical and geochemical evolution of Earth, with emphasis on planetary interior and surface processes through time that have resulted in current concentrations of fundamental chemical elements necessary to sustain modern civilization. Specific topics include: (1) elemental abundances and differentiation of the early solar system and Earth; (2) formation of Earth's compositional and rheologic layers; (3) interactions among planetary spheres with focus on biogeochemical cycles; (4) multi-scale tectonics (plate tectonics, continental deformation, igneous and earthquake processes, and mountain building). Provides an essential scientific context for understanding Earth system processes fundamental to environmental science. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): CHM 101 or higher with C or better; both GLG 101 and 103 with C or better, or both GLG 110 and 111 with C or better, or both SES 121 and 123 with C or better; MAT 170, 210, 251, 265, or 270 with C or better OR Visiting University Student |
| GLG | 310 | Structural Geology | Geologic structures and the mechanical processes involved in their formation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): GLG 101 or SES 121 with C or better; MAT 170, 171, 210, 251, 265, or 270 with C or better OR Visiting University Student |
| GLG | 321 | Mineralogy | Crystal chemistry, crystallography, mineral identification, origin and occurrence of minerals, systematic mineralogy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3-4 | | Prerequisite(s): CHM 113 (or both CHM 111 and 117 or 114) with C or better; MAT 170, 210, 265 or 270 with C or better |
| GLG | 325 | Oceanography | Introduces marine geology, chemistry, and physical and biological oceanography. Methods of oceanic exploration, environmental and social aspects of oceans. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s) w/ C or better: BIO 100, BIO 182, BIO 282, SES 220, SES 225, or both GLG 101 & 103, or both SES 121 & 123; CHM 101, 113, 114, 117, or both CHM 107 & 108; Credit allowed for only BIO 325 or CHM 385 or GLG 325 OR Visiting University Student |

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| GLG | 327 | Earth's Critical Zone | The Earth's near surface environment (the "critical zone") supports most life and is the dynamic interface between the solid Earth and its fluid envelopes where much of the geologic record is produced. We now know that we face rapid climate change and the consequences of changes in land use, water resources, and ecosystems. Critical to planning a response to, or mitigation of, environmental change is understanding how the Earth surface works. Focuses on how changes to the environment manifest themselves in the critical zone-- in the form and function of the Earth's surface (landforms, water resources, soils, ecosystems). Offers a quantitative introduction to the form and function of the processes impacting the Earth's critical zone to build an understanding of the interactions of physical, chemical and biotic processes in shaping the surface and determining fluid, solute and sediment fluxes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s) with C or better: CHM 101 or higher or PHY 101 or higher; both GLG 101 and 103, or both SES 121 and 123, or SES 225; MAT 170, 171, 210, 251, 265, or 270; Credit is allowed for only GLG 327 or SOS 374 OR Visiting University Student |
| GLG | 340 | Geologic Hazards of the Mediterranean | Covers geological studies as they apply to interactions between humans and Earth, focusing on geological hazards. Hazards present risks to life, property, global commerce and infrastructure. Such hazards are now more likely than ever to cause large death tolls and impact the global economy, due to increasing population density and the emergence of a global marketplace. Italy is a country that is exposed to a wide range of geologic hazards, such as volcanic eruptions, earthquakes and landslides. Because of its natural geologic setting and long history of scientific leadership, Italy has one of the world's most well-established scientific communities to study and mitigate geologic hazards. These issues are addressed and discussed from both a scientific and human perspective, with primary focus placed on Italian case studies and the role of Italian institutions in hazard science. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only GLG 340 or GLG 394 (Geologic Hazards of the Mediterranean) |
| GLG | 362 | Geomorphology | Land forms and processes that create and modify them. Lab and field study of physiographic features. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): GLG 101, GLG 110, or SES 121 with C or better; MAT 170 with C or better OR Visiting University Student |
| GLG | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | |
| GLG | 404 | Fundamentals of Planetary Geology | Surveys planetary topics, including impacts, tectonics, and volcanism on planetary objects, and use of spacecraft data, including geological mapping. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): GLG 101, GLG 102, SES 121, or SES 122 with C or better OR Visiting University Student |
| GLG | 406 | Geology of Mars | Geological evolution of Mars through analyses of spacecraft data, theoretical modeling, and study of terrestrial analogs; emphasizes current work. Possible field trips to examine Arizona geology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | |
| GLG | 410 | Computers in Geology | Geological computer skills including data processing, visualization, presentation, numerical analysis, software and hardware applications. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | CS | Prerequisite(s): GLG 101 or SES 121 with C or better |
| GLG | 418 | Geophysics | Solid earth geophysics; geomagnetism, gravity, seismology, heat flow. Emphasizes crust and upper mantle. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): MAT 272 or 267 with C or better; PHY 131 with C or better; PHY 132 with C or better OR MAT 272 or 267 with C or better; PHY 151 with C or better OR Visiting University Student |
| GLG | 419 | Geodynamics | Emphasizes application of continuum principles to geological problems, including lithospheric stresses, heat transfer, fluid mechanics, and rock rheology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Pre-requisite(s): MAT 267 or MAT 272 with C or better; PHY 131 and 132 (or PHY 151) with C or better |
| GLG | 420 | Volcanology | Distribution of past and present volcanism, types of volcanic activity, mechanism of eruption, form and structure of volcanoes, and geochemistry of volcanic activity. | N | PRA | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Pre-requisite: Engineering, Math or Science major; Minimum Junior standing |
| GLG | 422 | Planetary Volcanology | Studies the effects of planetary environments and magma compositions on styles of volcanism and the nature of volcanic products on the terrestrial planets and outer planet satellites. Overview of volcanism on specific planetary objects, analysis of spacecraft image data, basic mathematical volcanic modeling, and reviews of key papers. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): GLG 420 with C or better |
| GLG | 424 | Petrology | Origin of igneous and metamorphic rocks. Optical mineralogy, hand specimen identification, and thin-section analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): GLG 321 with C or better OR Visiting University Student |
| GLG | 430 | Paleontology | Introduces concepts and analytical techniques in biogeology, paleobiology, paleoecology, and paleoenvironmental reconstruction from the fossil record. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): GLG 102 or SES 12 with C or better; GLG 104 or SES 124 OR Visiting University Student |

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| GLG | 435 | Sedimentology and Stratigraphy | Examines the fundamental principles and tools utilized in the study of sedimentology and stratigraphy. Focuses on the origin, transportation and deposition of sediment, and the processes that lead to the formation of sedimentary textures, structures and stratal packages. Emphasizes description, analysis and interpretation of lateral and vertical changes in sedimentary strata, both in the field and in laboratory exercises, as it pertains to spatial and temporal variability in depositional mechanisms and environments. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): GLG 102 or SES 122 with C or better OR Visiting University Student |
| GLG | 441 | Ore Deposits | Origin, occurrence, structure, and mineralogy of ore deposits. | N | PRA | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): GLG 101 or SES 121 with C or better; GLG 310 or 321 with C or better OR Visiting University Student |
| GLG | 451 | Field Geology I | Geological mapping techniques using topographic maps and aerial photos. Intensive field-based instruction. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; GLG 310 with C or better; Pre- or corequisite: GLG 321 OR Visiting University Student |
| GLG | 452 | Field Geology II | Geological mapping techniques using topographic maps and aerial photos. Intensive field-based instruction. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; GLG 310 with C or better; GLG 321 with C or better; GLG 451 with C or better OR Visiting University Student |
| GLG | 455 | Advanced Field Geology | Geologic mapping in igneous, sedimentary, and metamorphic terrains of the Basin and Range province of Arizona. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3-4 | | Prerequisite(s): GLG 310 with C or better; Pre- or corequisite(s): GLG 451 with C or better if completed OR Visiting University Student |
| GLG | 460 | Astrobiology | Origin, early evolution, distribution, and future of life on Earth and elsewhere in the cosmos. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): AST 112, BIO 182, BIO 282, GLG 102, SES 122, or SES 126 with C or better; one 300-level course in AST, BIO, CHM, GLG, MIC, PHY, or SES with C or better OR Visiting University Student |
| GLG | 461 | Geomicrobiology | Past and present interactions among microbial life, geological materials, and biogeochemical cycles involving carbon, sulfur, phosphate, nitrogen, and metals. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Credit is allowed for only GLG 461 or MIC 461 |
| GLG | 464 | Solving Environmental Problems | Capstone course intended primarily for seniors in the Earth and Environmental Studies degree program. Hybrid self-study design project workshop guided by faculty, in which student teams research and develop plans for a viable solution to a real environmental problem in the American Southwest. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): Earth and Environmental Studies BA major; GLG 305 with C or better; GLG 327 with C or better; senior standing |
| GLG | 470 | Hydrogeology | Geology of groundwater occurrence, aquifer and well hydraulics, water chemistry and quality, contaminant transport, remediation. Emphasizes quantitative methods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | |
| GLG | 471 | Hydrology | Descriptive and quantitative hydrology; hydrologic cycle, models, and systems. Rain-runoff models. Hydrologic design. Concepts, properties, and basic equations of groundwater flow. Emphasizes quantitative methods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): CEE 341 or MEE 340 or GLG 362 with C or better; Credit is allowed for only CEE 440 or CEE 545 or CEE 598 (Hydrology) or GLG 471 or GLG 490 (Hydrology) OR Visiting University Student |
| GLG | 476 | Earth's Past Climates: The Key to our Sustainable Future | Dynamic interactions among the oceans, earth surface and atmosphere that control Earth's climate in its present state, in the context of past climates and projections for future climates. Assesses the factors that affect the trajectory of future climate change, and the sources and measurement of the critical climate parameters that are essential for guiding decisions for a sustainable future. Also considers recent climate science-related controversies, as well as assessments of scientific statements related to these controversies. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only GLG 476 or GLG 576 or SOS 476 or SOS 576 or GLG 494 (Climate Sci Sustain) or GLG 598 (Climate Sci Sustain) or SOS 494 (Climate Sci Sustain) or SOS 598 (Climate Sci Sustain) |
| GLG | 481 | Geochemistry | Origin and distribution of the chemical elements. Geochemical cycles operating in the Earth's atmosphere, hydrosphere, and lithosphere. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): BCH 341, CHM 341, CHM 346, or GLG 321 with C or better; Credit is allowed for only CHM 481 or GLG 481 OR Visiting University Student |
| GLG | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | |
| GLG | 485 | Meteorites and Cosmochemistry | Chemistry of meteorites and their relationship to the origin of the Earth, solar system, and universe. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): CHM 341, CHM 346, or GLG 321 with C or better; Credit is allowed for only GLG 485 or CHM 485 |

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| GLG | 489 | Field Geochemistry | Explores basic field measurements and sampling techniques for environmental systems, with a focus on carbon cycling in the Colorado River. Surveys a variety of geochemical principles, including: equilibrium aqueous speciation, acid-base chemistry, solution-mineral equilibrium systems, oxidation-reduction reactions, organic and environmental geochemistry and biogeochemical cycles. Applies chemical principles and analytical techniques to answer questions about environmental systems and processes. | N | LEL | N | GNA | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | L | Prerequisite(s): CHM 302, GLG 321, or GLG 481 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only CHM 489 or GLG 489 OR Visiting University Student |
| GLG | 490 | Topics in Geology | Special topics in a range of fields in geology. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-3 | | |
| GLG | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-6 | | Prerequisite(s): Barrett Honors student |
| GLG | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| GLG | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | |
| GLG | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-3 | | |
| GLG | 546 | Advanced Watershed Hydrology | Watershed processes leading to runoff generation and the transformation of meteorological forcing through a hydrologic system. Emphasizes physical mechanisms and their treatment in numerical models. Quantification of uncertainty in hydrological modeling through probabilistic methods. Provides hands-on experience with data analysis and hydrologic models. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GLG 546 or GLG 598 (Advanced Watershed Hydrology) or CEE 546 |
| GLG | 549 | Ecohydrology of Semiarid Landscapes | Interactions between terrestrial plants and limiting resources in arid and semiarid environments. Temporal and spatial aspects of plant-water relations. Process-oriented discussion and examples using simple and complex numerical models. Provides experience with data analysis and instrumentation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CEE 549 or CEE 598 (Ecohydrology of Semiarid Landscapes) or GLG 549 or GLG 598 (Ecohydrology of Semiarid Landscapes) |
| GLG | 576 | Earth's Past Climates: The Key to our Sustainable Future | Dynamic interactions among the oceans, earth surface and atmosphere that control Earth's climate in its present state, in the context of past climates and projections for future climates. Assesses the factors that affect the trajectory of future climate change, and the sources and measurement of the critical climate parameters that are essential for guiding decisions for a sustainable future. Considers recent climate science-related controversies and assessments of scientific statements related to these controversies. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GLG 476 or GLG 576 or GLG 494/598 (Climate Science for Sustainability) or SOS 476 or SOS 576 or SOS 494/598 (Climate Science for Sustainability) |
| GLG | 581 | Isotope Geochemistry | Geochemistry and cosmochemistry of stable and radioactive isotopes; geochronology; isotope equilibria. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLG | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLG | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLG | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLG | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLG | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLG | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| GLG | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLG | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLG | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLG | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GLG | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPE | 10 | English Verbal Skills for International Scholars | Helps international graduate students (prospective ITAs) as well as other graduate students or visiting scholars at ASU improve their spoken English (pronunciation and fluency). Helps familiarize students with American classroom culture and helps them become effective classroom teachers. Each student receives an individual pronunciation assessment to help him or her focus on areas needing improvement. There is direct instruction and practice of pronunciation (e.g., sound, stress, rhythm, intonation). By participating in and leading class discussions, by working in small groups or pairs and by preparing for videotaped presentations, students improve English fluency. | N | LEC | Y | YGB | Office of the Provost | Global Launch | 3 | | |
| GPE | 11 | International Scholar Teacher Training | Familiarizes international graduate students (prospective ITAs) at ASU with American classroom culture and helps them become effective classroom teachers. Exposes various methods of teaching commonly used in the American university classroom. | N | LEL | N | YGB | Office of the Provost | Global Launch | 3 | | |
| GPE | 30 | Special Programs: Language Foundations | Designed for noncredit, special program international students. Helps students develop the skills needed to write, read and communicate effectively in the English language in professional settings. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 6 | | |
| GPE | 31 | Special Programs: Extended Project Work | Designed for special program international students. Helps students effectively apply the four language skills--reading, writing, speaking and listening--in real-world, professional settings. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 6 | | |
| GPE | 32 | Special Programs: Field-Specific English Language Skills | Designed for special program international students. Takes field-specific English language and develops the reading, writing and communication skills in order to successfully navigate professionally within a global context. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 6 | | |
| GPE | 88 | English for University Success: Writing, Reading and Research | Designed for international students who have attained an advanced level of English through Global Launch's intensive English program. Further refines and expands literacy and critical thinking skills needed to thrive in an American institution of higher learning. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GPE | 89 | English for University Success: Academic Thinking | Designed for international students who have attained an advanced level of English through Global Launch's intensive English program. Further refines and expands critical thinking skills and verbal and written expression needed to thrive in an American institution of higher learning. | Y | LEL | Y | GNA | Office of the Provost | Global Launch | 9 | | |
| GPE | 90 | Business Presentation Skills | Develops ability to verbally persuade, inform and motivate an audience. Covers integral key competencies such as: identifying audience, researching and organizing information, preparing and delivering effective visuals, and communicating concisely in English. Coupled with activities which include impromptu business-themed presentations, evaluations by the professor and feedback from peers. | Y | LEC | Y | YGB | Office of the Provost | Global Launch | 6 | | |
| GPE | 91 | Academic and Business Writing Skills | Develops the skills needed to write clearly and effectively, in both academic and business settings, through the exploration of efficient techniques and writing processes for targeting specific audiences with impactful content. | Y | LEC | Y | YGB | Office of the Provost | Global Launch | 6 | | |

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| GPE | 92 | Critical Thinking Through Case Studies and Reading Strategies | Teaches international students reading and critical thinking strategies required for a master's-level program. Teaches how to read and understand dense textbooks, articles and magazines in a timely fashion and identify the important information. | Y | LEC | Y | YGB | Office of the Provost | Global Launch | 6 | | |
| GPE | 93 | American Business and Cross-Cultural Communication | Improves international students' ability to compare and contrast aspects of American business culture with other cultures in order to understand similarities and differences. | Y | LEC | Y | YGB | Office of the Provost | Global Launch | 6 | | |
| GPE | 94 | Business Listening and Conversation | Improves the student's ability to effectively communicate orally at a master's level. Covers speaking and listening strategies and skills necessary to participate in discussions related to business topics. Students learn to control the input they receive and produce coherent and appropriate responses. | Y | LEC | Y | YGB | Office of the Provost | Global Launch | 6 | | |
| GPE | 95 | Academic and Technical Writing | This non-credit course helps graduate-bound international students develop the English skills needed to write clearly and effectively, in both academic and technical settings, through the exploration of efficient techniques and writing processes for targeting specific audiences with relevant and thoughtful content. | N | LEL | Y | YGB | Office of the Provost | Global Launch | 6 | | |
| GPE | 96 | Graduate Presentation and Communication Skills | Designed for graduate-bound international students, this non-credit course helps students develop the skills needed to communicate in English effectively in a variety of graduate academic situations. | N | LEL | Y | YGB | Office of the Provost | Global Launch | 6 | | |
| GPE | 97 | Graduate Reading Skills | Utilizing topics from students' chosen field of study, this non-credit course is designed to give graduate-bound international students a thorough grounding in strategies and techniques for efficient and effective reading in English of complex, dense texts expected of graduate degrees. Graduate students build foundations for critically analyzing texts and applying them to relevant contexts, while amassing a graduate-level English lexis. | N | LEL | Y | YGB | Office of the Provost | Global Launch | 6 | | |
| GPH | 111 | Introduction to Physical Geography | Spatial and functional relationships among climates, landforms, soils, water, and plants. Both GPH 111 and GPH 112 must be taken to secure SQ General Studies credit. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SQ | |
| GPH | 112 | Introduction to Physical Geography Lab | Includes some local or virtual field trips. Both GPH 111 and GPH 112 must be taken to secure SQ General Studies credit. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | SQ | Pre- or corequisite(s): GPH 111 OR Visiting University Student |
| GPH | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-3 | | Prerequisite(s): Freshman standing; maximum 25 hours OR Visiting University Student |
| GPH | 210 | Society and Environment | Examines the interaction among social processes, key environmental issues, and nature's role as a resource at global and regional scales. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | G | Credit is allowed for only GPH 210 or SOS 210 |
| GPH | 211 | Landform Processes | Laboratory science class on earth-surface processes, with exercises emphasizing how erosion, transportation, and deposition modifies landforms. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 4 | SQ | |
| GPH | 212 | Introduction to Meteorology | Fundamentals of weather and climate, including basic atmospheric processes and elements. Students whose curricula require a lab course must also register for GPH 214. Both GPH 212 and 214 must be taken to secure SQ General Studies credit | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SQ | |
| GPH | 213 | Climate and Weather | Fundamentals of meteorological/climatological analysis, including terminology and symbology. Recommended for meteorology/climatology program students. Both GPH 213 and GPH 215 must be taken to secure SG General Studies credit. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SG | |
| GPH | 214 | Introduction to Meteorology Laboratory | Introduces basic meteorological/climatological data and measurements. Suggested concurrent enrollment in GPH 212. Both GPH 212 and 214 must be taken to secure SQ General Studies credit. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | SQ | |
| GPH | 215 | Climate and Weather Laboratory | Fundamentals of meteorological/climatological map analysis and interpretation. Recommended for meteorology/climatology program students. May be taken concurrently with GPH 213. Both GPH 213 and GPH 215 must be taken to secure SG General Studies credit. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | SG | |
| GPH | 267 | Extreme Weather | Introductory survey of extreme weather and climate processes and the often disastrous consequences at the intersection of human operations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| GPH | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| GPH | 314 | Global Change | Response of Earth's natural systems (atmosphere, hydrosphere, lithosphere, biosphere) to past environmental change, and effects of potential future changes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | HU & G | Prerequisite(s): minimum 45 hours OR Visiting University Student |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| GPH | 381 | Geography of Natural Resources | Nature and distribution of natural resources and the problems and principles associated with their use. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | G | |
| GPH | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| GPH | 405 | Energy and Environment | Sources, regulatory and technical controls, distribution, and consequences of the supply and human use of energy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only GPH 405 or GPH 505 |
| GPH | 409 | Synoptic Meteorology I | Diagnostic techniques and synoptic forecasting. Includes techniques of weather analysis, map interpretation, and satellite and radar analysis. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 4 | | Prerequisite(s): GPH 212 with C or better; GPH 214 with C or better; MAT 265 or 270 with C or better; Pre- or corequisite(s): PHY 121 or 150 OR Visiting University Student |
| GPH | 410 | Synoptic Meteorology II | Diagnostic techniques and synoptic forecasting. Includes techniques of weather analysis, map interpretation, and satellite and radar analysis. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 4 | | Prerequisite(s): GPH 409 with C or better |
| GPH | 412 | Physical Meteorology | Physical processes in the earth-atmosphere system on regional and global scales; concepts and analysis of energy, momentum, and mass balances. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): GPH 111; MAT 270; PHY 121/122 with C or better; Credit is allowed for only GPH 412 or GPH 591 (Physical Meteorology) |
| GPH | 413 | Meteorological Instruments and Measurement | Design and operation of ground-base and aerological weather measurement systems. Collection, reduction, storage, retrieval, and analysis of data. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): GPH 213 with C or better or Visiting University Student |
| GPH | 414 | Climate Change | Surveys three climate research areas: paleoclimatology, theories (e.g., greenhouse warming), numerical modeling. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | G | Prerequisite(s): GPH 111 or 213 or 314 with C or better |
| GPH | 418 | Landforms of the Western United States | Studies landforms and geomorphic processes in the western United States, including lecture, topographical maps, aerial photographs, satellite imagery, and field trips. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| GPH | 422 | Plant Geography | Plant communities of the world and their interpretation, emphasizing North American plant associations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): BIO 181 or GPH 111 or PLB 200 with C or better; Credit is allowed for only BIO 430 or GPH 422 or PLB 422 |
| GPH | 433 | Alpine and Arctic Environments | Regional study of advantages and limitations of the natural environment upon present and future problems involving resource distribution, human activities, and regional and interregional adjustments. | N | PRA | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | G | Credit is allowed for only GPH 433 or 598 (Alpine & Arctic Environments) |
| GPH | 444 | Arizona Landscapes | How to interpret and analyze Arizona's amazing landscapes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only GPH 444 or GPH 494 (Arizona Landscapes) OR Visiting University Student |
| GPH | 474 | Dynamic Meteorology I | Large-scale atmospheric motion, kinematics, Newton's laws, wind equation, baroclinics, vorticity, and the midlatitude depression. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s) with C or better: GPH 212; GPH 214; MAT 267 or 272; PHY 131; PHY 132 OR GPH 212; GPH 214; MAT 267 or 272; PHY 151 OR Visiting University Student |
| GPH | 475 | Dynamic Meteorology II | Topics in climate dynamics. General circulation, numerical modeling, teleconnection phenomena, and surface-atmosphere interaction. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): GPH 474 with C or better |
| GPH | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |
| GPH | 491 | Geographic Field Methods | Field techniques, including use of aerial photos, large-scale maps, and fractional code system of mapping; urban and rural field analysis to be done off campus. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | |
| GPH | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-6 | | Prerequisite(s): Barrett Honors student |
| GPH | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| GPH | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| GPH | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-3 | | |
| GPH | 511 | Fluvial Processes | Geographical aspects of processes of river erosion, transportation, sedimentation; emphasizing spatial characteristics of forces, resistance, landforms, sediment; includes computer applications. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| GPH | 513 | Meteorological Instruments and Measurement | Design and operation of ground-based and aerological weather measurement systems. Collection, reduction, storage, retrieval and analysis of data. Final project requires designing a field research measurement program for a hypothetical research question. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GPH 413 or GPH 513 or GPH 598 (Meteorological Instrmntn M) |
| GPH | 563 | Urban Climates | Explores the urban climate system and its relationship with the built infrastructure of cities, including the causes, consequences and mitigation options for urban heat islands. Topics include the urban energy balance; materials in the urban environment; waste heat from energy consumption in cities; scales of urban-influenced climate modification; and implications for human comfort/health, air quality and energy consumption. Intended for graduate students in geographical sciences, urban planning, design, engineering, and related disciplines interested in learning about the urban climate system. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GPH 563 or GPH 598 (Urban Climates) or GPH 598 (Urban Heat Island) |
| GPH | 569 | Digital Analysis of Remotely Sensed Data | Focuses on the digital image processing of remotely sensed data for earth resource analysis and applications. Provides the skills and knowledge to apply digital remote sensing techniques for biophysical and environmental planning and problems. Through laboratory work, students have opportunities to practice concepts and techniques learned in the lecture part. Requires a reasonable background in college algebra and basic statistics. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only GPH 394 (Digital Analysis of Remotely Sensed Data), 569 or 598 (Digital Analysis of Remotely Sensed Data) |
| GPH | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 596 | Advanced Spatial Statistics | Multivariate and advanced statistical techniques including Box-Jenkins modeling and spectral analysis. Requires project papers and presentations. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 597 | Geography Capstone | Allows students to create a culminating experience that reflects the breadth and depth of their MA experience. By doing so, students have the opportunity to articulate the value of the degree to potential employers. Students have several options to fulfill the capstone requirement; they may submit a research paper, a professional portfolio, or a creative component. | N | LEL | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): GCU 528; GCU 596 |
| GPH | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|----------------------------------|---|-------------------|-------------------|-----------------|---------------|---|--|-------|-----------------|--|
| GPH | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GPH | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GRA | 101 | Designing Life | Helps students develop strategies to successfully navigate their education experience. Focuses on critical and reflective thinking. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| GRA | 111 | Graphic Design History I | Surveys development of visual communication from its origins to the 20th century. Investigates significant technological, industrial, and social influences. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU | |
| GRA | 112 | Graphic Design History II | Surveys contemporary and 20th-century graphic design. Investigates relationships among graphic design and related disciplines, technological, industrial, and social influences. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): GRA 111 with C or better |
| GRA | 121 | Principles for Graphic Design I | Graphic design as a language and process for creative thinking and realization. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Environmental Design or Graphic Design major; Corequisite(s): GRA 111 OR Visiting University Student |
| GRA | 122 | Principles for Graphic Design II | Continued exploration of graphic design as a language and process for creative thinking and realization. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): GRA 121 with C or better; Environmental Design or Graphic Design major. Corequisite(s): GRA 112 |
| GRA | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| GRA | 220 | Design Drawing I | Drawing as language to explore and communicate ideas. Development of drawing aptitude as language and process for graphic design thinking. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Graphic Design BSD major; GRA 101 with C or better; GRA 111 with C or better; GRA 112 with C or better; GRA 121 with C or better; GRA 122 with C or better; minimum 3.00 GPA OR Visiting University Student |
| GRA | 221 | Letterform | Drawing of letterforms with focus on proportion and structure. Introduces letterform nomenclature and classifications. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Graphic Design BSD major; GRA 101 with C or better; GRA 111 with C or better; GRA 112 with C or better; GRA 121 with C or better; GRA 122 with C or better; minimum 3.00 GPA OR Visiting University Student |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|---|-------------------|-------|-----------------|--|
| GRA | 222 | Visual Communication I | Theoretical and applied studies in shape, drawing, and color. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Graphic Design BSD major; GRA 101 with C or better; GRA 111 with C or better; GRA 112 with C or better; GRA 121 with C or better; GRA 122 with C or better; minimum 3.00 GPA OR Visiting University Student |
| GRA | 223 | Typography | Theoretical exercises in spatial and textural qualities of type. Problems in tension, activation, and balance. Exercises in simple typographical applications. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Graphic Design BSD or Pre-Graphic Design major; GRA 220 with C or better; GRA 221 with C or better OR Visiting University Student |
| GRA | 224 | Visual Communication II | Transition from theoretical to applied problems. Emphasizes refinement of visual skills. 6 hours a week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Graphic Design BSD or Pre-Graphic Design major; GRA 220 with C or better; GRA 222 with C or better OR Visiting University Student |
| GRA | 225 | Communication/Interaction Design Theory | Theory related to the design of communication artifacts and interaction within various media environments. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| GRA | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| GRA | 321 | Technology for Design I | Explores the process of technology in design. Projects interface with GRA 361. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Graphic Design BSD major; GRA 223 with C or better; GRA 224 with C or better OR Visiting University Student |
| GRA | 322 | Technology for Design II | Emphasizes advanced technology in design problems. Projects interface with GRA 362. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): GRA 321 with C or better OR Visiting University Student |
| GRA | 345 | Design Rhetoric | Develops critical thinking and expression of ideas in concise and persuasive written and spoken form. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | L | Prerequisite(s): Archtctrl Stdies, Dsign Stdies, Dgtal Cltre (Dsign), Envir Dsign, Grphic Dsign, Indstrial Dsign, Interior Dsign, or Landscape Archtctre major, or Dsign Studies minor; ENG 102, 105, or 108 w/ C or better OR Visiting University Student |
| GRA | 361 | Visual Communication III | Explores methodologies of strategic communication, development of visual systems, and information design ideation processes leading to applied projects in print and digital media. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Graphic Design BSD major; GRA 223 with C or better; GRA 224 with C or better OR Visiting University Student |
| GRA | 362 | Visual Communication IV | Comprehensive studio projects with emphasis on production processes leading to multidisciplinary applied projects in print, 3-D space, and digital media. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Graphic Design BSD major; GRA 361 with C or better OR Visiting University Student |
| GRA | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| GRA | 401 | Creative Environment | Explores and investigates theories of the psychology of space, psychology of people in space, and the psychology of objects as it pertains to creativity and the creative environment. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| GRA | 421 | Exhibit Design | Familiarization with the processes associated with the design of exhibits, especially visual communication in 3-D. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Graphic Design BSD major; GRA 362 with C or better OR Visiting University Student |
| GRA | 422 | Motion Graphics and Interaction Design | Discusses and explores theory related to the design of motion graphics and interaction through lectures and studio projects. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Graphic Design BSD major; GRA 322 with C or better OR Visiting University Student |
| GRA | 423 | Advanced Interaction Design | Advanced discussion and exploration of theory related to the design of interaction. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisite: GRA 422 |
| GRA | 424 | Advanced Media | Advanced exploration of digital media for communication. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): GRA 422 with C or better |
| GRA | 440 | Finding Purpose | Career orientation in the creative professions, including value clarification, decision making, lifestyle planning, goal setting, and expression of individual talents. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| GRA | 461 | Visual Communication V | Comprehensive studio projects with emphasis on design processes, including research, writing, critical thinking, practice, presentation, and analysis. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Graphic Design BSD major; GRA 362 with C or better OR Visiting University Student |
| GRA | 462 | Visual Communication VI | Comprehensive studio projects pursued in cooperation with a public organization or private enterprise. All projects culminate in an exhibit. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Graphic Design BSD major; GRA 461 with C or better OR Visiting University Student |
| GRA | 464 | Collaborative Design Development I | Team-based product development course featuring applied projects. Open to senior students from business, engineering, design, and other disciplines. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ENT 464 (or MGT 464) or GRA 464 or IND 464 or SOS 474 OR Visiting University Student |

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| GRA | 465 | Collaborative Design Development II | Team-based product development course featuring applied projects. Open to senior students from business, engineering, design, and other disciplines. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ENT 465 (MGT 465) or GRA 465 or IND 465 or SOS 475 OR Visiting University Student |
| GRA | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | PRA | N | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): Graphic Design major; GRA 362 with C or better |
| GRA | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | | Prerequisite(s): Barrett Honors student |
| GRA | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| GRA | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| GRA | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-3 | | |
| GRA | 501 | Creative Environment and Collaborative Leadership | Explores and investigates creativity and group collaboration leadership as it applies to the creative process. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): graduate Herberger Institute for Design and the Arts major |
| GRA | 521 | Advanced Visual Communication Design Studio I | Students translate data, stories and references that they collect in their research into masterful visual narratives. This studio is an inquisitive environment for exploring ways to frame information and weave stories with graphic design. Students acquire new knowledge as individuals and as a group. Emphasizes studio-based research, conceptual development and articulation of process, voice and a high level of design execution. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Master of Visual Communication Design major. Credit is allowed for only GRA 521 or GRA 590 (Advanced Visual Communication Design Studio I) |
| GRA | 522 | Advanced Visual Communication Design Studio II | Encourages students to develop a framework for understanding the role of design systems, tools and objects as cultural artifacts and their reflection on social diversity. In particular, students focus on the cultural experience of collaborative consumption as it is fostered through visual communication design. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): GRA 521. Credit is allowed for only GRA 522 or GRA 590 (Advanced Visual Communication Design Studio II) |
| GRA | 526 | Visiting Designers | Series of workshops (three per semester) in which students work closely with professionals and scholars in design and related disciplines. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisites: Master of Science in Design or PhD in Environmental Design & Planning student |
| GRA | 561 | Methods in Visual Communication I | Introduces methodology in visual communication. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisites: Master of Science in Design or PhD in Environmental Design & Planning student |
| GRA | 562 | Methods in Visual Communication II | Advanced theories and methodologies in visual communication. Emphasizes visual search as the synthesis of theory and practice. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): GRA 561 with C or better |
| GRA | 563 | Thesis Document Design | Emphasizes the construction of the final thesis document as a visual communication object and/or medium. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisites: Master of Science in Design student |
| GRA | 581 | Internship in Teaching Design | Develop assignments, conduct critiques, structure dialogue, make presentations, and assist in the instruction of studio and lecture courses. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisites: Master of Science in Design student |
| GRA | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GRA | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GRA | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GRA | 621 | Advanced Visual Communication Design Studio III | Structured around the Design School traveling-studio model, this studio challenges students to work together to identify new design opportunities. For approximately one week during the semester, students travel to an off-campus location to examine a local condition there for which new design solutions are needed. Students return to ASU and continue working on the project for the semester. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): GRA 522 |

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| GRA | 622 | Advanced Visual Communication Design Studio IV | As a culmination of study at the master level, the student is responsible for the development of an individually determined, semester-long project in response to defined objectives, periodic commentary by committee, and formal review. Students meet regularly with a faculty member to discuss assignments. Final faculty review and project book containing a written as well as graphic theoretical component are the forms of final presentation for this contribution to the field of visual communication design. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): GRA 621 |
| GRD | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Graduate College | Graduate College | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GRD | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Graduate College | Graduate College | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GRD | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Graduate College | Graduate College | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GRD | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | GNA | Graduate College | Graduate College | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GRD | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Graduate College | Graduate College | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GRD | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | N | LEC | Y | Z1 | Graduate College | Graduate College | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GRD | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | GNA | Graduate College | Graduate College | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GRK | 101 | Elementary Ancient Greek | The beginnings of the ancient Greek language, the language of Homer, Sophocles, Plato and the New Testament. Grammar and vocabulary, with an emphasis on reading ability. For beginning students only. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | |
| GRK | 140 | Greek and Latin Roots in Bioscientific Terminology | Introduces students to the ancient Greek and Latin root words most commonly used in biological, medical, and other scientific terminology, and gives practice identifying them in context. The knowledge of these root words enables students to memorize with greater ease and increased retention the bioscientific terminology they encounter in other coursework as well as in their medical or scientific profession. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Credit is allowed for only BIO 140 or GRK 140 or LAT 140 or SLC 140 OR Visiting University Student |
| GRK | 142 | Ancient Greek Civilization | Ancient Greek civilization and culture. Studies (in roughly equal parts) the art, archaeology, literature, culture and history of ancient Greece from prehistoric times until after the conquests of Alexander the Great (the Hellenistic Age). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Credit is allowed for only GRK 142 or SLC 142 |
| GRK | 201 | Intermediate Ancient Greek | Ancient Greek syntax and grammar, equipping the student to read the foundational texts of Greco-Roman antiquity. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): GRK 101 with C or better |
| GRK | 223 | Introduction to Greek and Roman Mythology | Familiarizes students with the characters and events of ancient Greek and Roman myths through their literary manifestations, and moves beyond mere narrative to consider the possible interpretations and functions of these myths, thus revealing the central concerns of ancient society and giving insights into the working of our own society and its literary and artistic traditions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Credit is allowed for only GRK 223 or LAT 223 or SLC 223 |
| GRK | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| GRK | 301 | Ancient Greek Literature I | Readings in ancient Greek prose; advanced grammar. May be repeated for credit. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): GRK 201 with C or better OR Visiting University Student |
| GRK | 302 | Ancient Greek Literature II | Readings in ancient Greek poetry. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): GRK 201 with C or better |
| GRK | 344 | Classics and Comics | Explores the connections between the classical tradition of Ancient Greek and Roman literature and the modern American superhero comic book tradition. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 101 or 105 or 107 with C or better; Credit is allowed for only GRK 344 or LAT 344 or SLC 344 or GRK/LAT/SLC 394 (Classics and Comics) or SLC 494 (Classics and Comics) |
| GRK | 346 | Ancient Greece II: Late Classical and Hellenistic Period | Traces the transformation of the Greek world between the end of the Peloponnesian War (404 B.C.) and the absorption of the last major Greek state by growing power of Rome (30 B.C.), with special attention to how Greeks in this period lived and thought and how the period's political and economic changes helped to create new forms of culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only GRK 346 or HST 346 or SLC 346 |

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| GRK | 347 | Ancient Greece I: Bronze Age through the Peloponnesian War | Traces Greek History from its prehistoric beginnings through the Peloponnesian War (431-404 B.C.), with a special focus on the Archaic (ca. 800-480 B.C.) and Early Classical periods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only GRK 347 or HST 347 or SLC 345 OR Visiting University Student |
| GRK | 351 | Tales of Troy | Provides an in-depth exploration of the ancient Greek archaic primary source material, including literary, art historical and archaeological sources. Uses stories about the Trojan War as a theme for the course, but does not limit exploration of the literature, art, history and culture of archaic Greece. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GRK 351 or GRK 394 (Tales of Troy) or LAT 394 (Tales of Troy) or SLC 351 or SLC 394 (Tales of Troy) OR Visiting University Student |
| GRK | 352 | The Rise and Fall of Ancient Athens | Comprehensive coverage of the cultural and historical world of the ancient Greek civilization from the end of the Greco-Persian wars in 479 BCE through the rise and decline of Athens (including the Peloponnesian War with Sparta) to the final defeat of the Greek cities by Philip of Macedon in 338 BCE. This holistic study addresses not only the history of this period but also its literature, art and philosophy, with an emphasis on how these phenomena relate to one another. This period advanced to the state that was regarded by later civilizations as their peak, and which inspired Rome and Europe in the Renaissance. Athens, as the cultural center of Greece at this time, boasted the tragedies of Aeschylus, Sophocles, and Euripides, the comedies of Aristophanes, the history of Thucydides, the philosophy of Plato, and the artistic achievement of the Parthenon. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GRK 352 or GRK 394 (Glory that was Greece) or LAT 394 (Glory that was Greece) or SLC 352 or SLC 394 (Glory that was Greece) OR Visiting University Student |
| GRK | 353 | Alexander and His Empires | Comprehensive coverage of the cultural and historical world of the ancient Greek civilization from the ascent of Alexander the Great to the Macedonian throne in 338-336 BCE, through the existence of the kingdoms that followed his conquests, until their final subjugation by the Roman Empire in 31 BCE. This holistic study addresses not only the history of this period, but also its literature, art, religion, philosophy and science, with an emphasis on how these phenomena relate to one another. This was a period of massive economic and military expansion (including colonization), accompanied by social dislocation and cultural and scientific innovation. In these respects, this period has much to teach us today. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GRK 353 or GRK 394 (Alexander and His Empires) or SLC 353 or SLC 394 (Alexander and His Empires) OR Visiting University Student |
| GRK | 360 | Greece and Rome at War | Covers ancient Greek and Roman warfare and features military historical staples like strategy, tactics, logistics, battles and leadership. Other topics that intersect this exploration of ancient warfare include ethnolinguistic identity, state formation, religion, gender, imperialism, military theory, medicine, monumental building and slavery. Students acquire wide knowledge of the relevant history and are encouraged to critically think about essential themes in historical studies. Also features a strong interactive component, including group discussions, theory-crafting and presentations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only GRK 360 or HST 397 or LAT 360 or SLC 360 OR Visiting University Student |
| GRK | 362 | Ancient Greek Religion | Surveys ancient Greek religion, including its gods, ritual practices and festivals. Analyzes the development of the religion over time, and how both ancient and modern figures interpreted its meaning. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 101 (or ENG 105 or 107) with C or better; Credit is allowed for only GRK 362, REL 360, SLC 362 or SLC 394 (Ancient Greek Religion) |
| GRK | 363 | Ancient Magic and Witchcraft | Examines magical spells, curses, amulets and other materials from ancient Greece and Rome. Students read anthropological discussions of magic worldwide to understand how ancient magic operated, what its function was within Greco-Roman society, and how it developed over the centuries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GRK 363 or LAT 363 or SLC 363 or GRK 394/LAT 394/REL 394/SLC 394 (Magic and Witchcraft in Antiquity) OR Visiting University Student |
| GRK | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| GRK | 444 | Heroes, Ancient and Modern | Explores the heroic literature of the ancient Greeks and Romans, then traces the classical tradition and reception of the classical hero in medieval and modern texts. Incorporates history, art history and material culture from the relevant societies to supplement study of the texts involved. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only GRK 444, LAT 444, SLC 444 or SLC 494 (Heroes: Ancient and Modern) |
| GRK | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| GRK | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| GRK | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |

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| GRK | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| GSC | 501 | War, Conflict and Security | Explores the rapidly changing and highly complex geopolitical, technological and strategic context within which modern conflict and war occur. Introduces the profound social, political, economic and cultural implications of the changing nature of war and conflict. Provides an overview of the historical background of war and conflict, and some of the classic philosophical and military-strategic theories and conceptions of war. Introduces the institutional framework, the Westphalian state-based system of modern international law and relations, within which much of the theory and practice of modern conflict and war has developed. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GSC | 502 | Security Studies | Continues the exploration of the rapidly changing and highly complex geopolitical, technological and strategic context within which modern conflict and war occur; the profound social, political, economic and cultural implications of the changing nature of war and conflict. Provides an overview of several fundamental themes that run through the history of war and strategy, and discusses the increasing importance of nonmilitary "soft power" in managing conflict situations. Also introduces the importance of regional knowledge in conflict as a critical operational competence (using the Russian invasion of Crimea and Ukraine as a case study), as well as the broader challenges of civilizational conflict and the importance of identity and narrative in modern conflict. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GSC | 503 | Future of War | Provides an overview of key issues and ideas associated with the future of war. Each week presents a set of readings related to a particular theme including how the future of war has been visualized, new domains of conflict, new and emerging technologies; shifting power dynamics, and varied national views and doctrines. Readings and video elements also explore various case studies and scenarios as well as fictional treatments. Students gain an understanding of core theories, concepts and considerations, providing them with a foundation for engaging the complexity of war and its future. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GSC | 504 | Understanding Conflict and War | Provides a critical overview of different definitions and meanings of war and armed conflict. Engages key theories used to understand conflict including realism, neorealism, liberalism and constructivism. Considers core issues in the field, linking empirical studies with explanations for what drives, sustains and resolves conflict including reviewing the fact that democratic states tend not to go to war with each other (the democratic peace); the structure and logic of arms races; escalation and alliance; and core ideas regarding peace, conflict management and conflict resolution. Many of the issues and theories reviewed in this class are linked with case studies and concrete examples. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GSC | 505 | Law of War | Provides an overview of key elements of the law of war, also known as international humanitarian law (IHL) and the law of armed conflict (LOAC). Engages basic questions of international law, reviewing its history, sources and structure. Covers jus ad Bellum, the rules governing how states legally go to war as well as jus in bello, the established ideas regarding how to manage actions during armed conflict. Covers key principles within the law of war, including distinction, proportionality and necessity as well as reviewing the differences between international and noninternational armed conflicts and other key ideas. Reviews the systems through which the law of war is enforced and also considers basic theoretical and practical issues regarding compliance. In general, links the ideas, practices, rules and understandings of the law of war with specific cases and concrete examples. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GSC | 506 | U.S. Politics of Security | Builds a foundational understanding of the complex system of formal and informal actors and structural forces that shape U.S. security policy. Starts with both theoretical and case study examinations of the role domestic politics plays in the production of policy decisions. Analyzes critical institutional actors and relationships between actors, including: the President and Congress, the National Security Council and interagency, and the civilian-military relationship. Finally, investigates key structural forces placed on the policy-making process by the American society, and the relationship between policymakers and the public. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| GSC | 507 | Global Politics of Security | Offers several approaches to understanding the global politics of security, including: the structure of international and multinational security institutions and actors including nongovernmental organizations (NGOs), the United Nations' Security Council, peacekeeping missions, regional organizations (NATO, EU, Inter-American System, ASEAN) and others. Also considers the roles of private military and intelligence contractors and corporations working on issues of direct and indirect relation to security issues. Through specific case studies and examples, reviews the operation of these bodies and their complex relationships. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GSC | 508 | Comparative Studies of Conflict | Provides a critical overview of key theories on the causes, justifications and structures of political conflict and the use of violence. Begins by outlining core issues within the problem of social order, that is, how to think about managing governance and power. Reviews the idea of "collective action" and its link with force and violence, ideas that are contrasted with nonviolence as a political strategy. Then considers civil wars and interstate wars, comparing these forms of organized violence, as well as the current challenges of armed nonstate actors (within an international system premised on states) and an overview of the meaning of peace. Links the issues and theories reviewed in this class with case studies and concrete examples as a means of linking key ideas with their practical and policy implications. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GSC | 509 | Emerging Technologies and Global Security | Provides an introduction to the implications of accelerating changes in military and security technologies, fueled by rapid developments in five core technology systems: nanotechnology, biotechnology, information and communications technology (ICT), robotics and applied cognitive science. Also introduces the idea of revolutions in military affairs, a concept that has been used to frame discussions about the strategic implications of new technologies from drones to cyber. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GSC | 510 | Governance in Post-Conflict and Transitional Contexts | One of the most pressing current global security policy issues involves understanding and implementing strategies, mechanisms and processes to address post-conflict and transitional contexts. How do societies create and manage representational governance after the fall of authoritarian regimes? How can institutions be rebuilt and reconstituted? How can a social order address the justice demands of victims of brutal political violence whose suffering was often a key element of prior systems of rule? Provides a critical introduction to the field of post-conflict reconstruction and transitional justice. Reviews the tense and uncertain nature of post-conflict environments and their challenges, engages the security questions raised by peacekeeping and stability operations. Also considers the difficulties of governance and reconstruction in the aftermath of conflict. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GSC | 511 | Terrorism and Insurgency | Provides a critical overview of the use of terror by governments, insurgents and other nonstate actors. Engages the definition of terrorism and provides an overview of key practices and strategies. Reviews key theories as to the causes, meaning and impact of the deployment of terror as a strategy by distinct groups. This involves a consideration of state terror, insurgencies and global terror networks. Links many of the core ideas reviewed in this class with a set of case studies designed to ground the broader discussion of terror within specific situations and contexts. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GSC | 512 | Global Trends | Takes a broad look at emerging global patterns as they relate to governance, security and social order. Examines a number of interrelated topics, including: globalization and various forms of backlash; populist movements; socioeconomic inequality both within and between societies; the shifting of economic power from the global west to the global east; demographic changes and the resource strain that results; democratic backsliding, protests and social unrest; and the weakening of state-society relations. Situates these conflicting trends within a bigger question: What does it all mean for global stability? Do these new challenges signify the erosion of an aging order, and if so, what emerges from the upheaval? | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| GSC | 550 | Capstone | Serves as the culminating experience of the Masters in Global Security (MAGS). The capstone course allows each student to explore a research area, interest, theme or question. Final written products will be developed individually based on consultation with faculty. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; GSC 501 |
| GSC | 560 | Overview of Cybersecurity | Provides an overview of key issues and ideas associated with cybersecurity. Each week presents a set of readings related to particular themes including: the principles of cybersecurity and the special challenges posed by an interconnected world; key elements of internet architecture; outline of cyberattacks and cyberdefense; public and private internet governance and protection; espionage; and an overview of cyberwar. Provides a general overview of questions and core concepts regarding the cyber domain, the nature and structure of the internet and how to understand the special risks, benefits, offensive and defensive elements of an increasingly interconnected world. Reviews a set of core theories, concepts and considerations to provide students who may have little background in the area and do not need any technical proficiency with a foundation for engaging the complex nature of cybersecurity and its rising significance for global security. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GSC 560 or GSC 598 (Overview of Cybersecurity) |
| GSC | 561 | Cybersecurity Threats and Trends | Provides an overview of cybersecurity threats and trends. Each week presents a set of readings related to particular themes including: an overview of hacking and data breaches; special challenges and risks associated with protecting critical infrastructure on a state and federal level; and the complex, global threats posed by cybercrime. Also explores the risks associated with rapidly expanding social media and interconnectedness currently and into the future as well as providing an overview of key legal and ethical issues associated with cybersecurity policy. Provides a general overview of these issues in an effort to outline major issues regarding cybersecurity threats and how to best think about their impact on global security. Assists students in developing a strong conceptual foundation for engaging these issues and their broad policy implications. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GSC | 562 | Cybersecurity, Global Politics and Resiliency | Provides an overview of global cybersecurity preparation and resiliency. Because international cybersecurity threats change rapidly and because complete protection for most systems is impossible in an interconnected world, a significant amount of cyber policy focuses on improving mechanisms of preparation and enabling multiple forms of resiliency. The general idea is that attacks cannot be prevented or fully anticipated so creating more flexible, redundant and multi-faceted systems is a useful policy. Each week's readings are related to themes including: understanding core vulnerabilities, types of attackers and targets, modes of deterrence and encryption systems and tools. Engages the special challenges raised by attribution and outlines how to conceptualize and ensure system resiliency. Provides a critical overview of central ideas, concepts and terminology for better engaging of cybersecurity preparation and resiliency as a key element of global security. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GSC | 563 | Cybersecurity Planning and Strategy | Provides an overview of cybersecurity planning and strategy. Since cybersecurity is a constantly evolving field, many aspects of planning are in a state of continual evolution. Many believe that broad-based, flexible strategies are necessary to enable key actors and institutions to engage in adequate policies to ensure general cybersecurity preparedness. Class themes include: an overview of key institutions and actors, central concepts of threat analysis, public and private cyberpolicy, and elements of international regulation. Also engages issues of cybersecurity strategy, the special challenges of non-state actors and ways to conceptualize and engage the future of cybersecurity. Reviews essential ideas and concepts, gains familiarity with key actors and institutions, and engages the complex interplay of governmental, intergovernmental, commercial and non-state actors engaged in cyber threats and protective action. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): GSC 560 |
| GSC | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| GSC | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GSC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GTD | 501 | Global Technology and Development | Major theories of economic, political, and social development, with particular emphasis on the impact of current technologies and globalization. | N | LEC | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GTD | 503 | Technology and the International Political System | Historical development of international political system, with emphasis on role of technology. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GTD | 504 | Technology and Development in Zones of Conflict | Examines the special context of technology and development in zones of conflict that face wars among other nations, civil strife and dramatic political change. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GTD | 505 | Social Science Inquiry for Global Development | Research design and processes in the social sciences including development of problem statements, effective literature reviews, diverse techniques of primary and secondary data collection and analysis, and design and development of research proposals. | N | LEC | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GTD | 506 | Applied Project Methods in Global Development | Surveys theoretical frameworks, research methods and knowledge mobilization techniques for research and creative applied projects in global development. | N | LEC | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GTD | 507 | Technology and Development in The Middle East | Examines historical and current patterns of political and socioeconomic development in the Middle East, including the role of technological development and current events. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GTD 507 or GTD 598 (Political Development in the Middle East) |
| GTD | 508 | Technology and Development in Latin America | Examines historical and current patterns of political and socioeconomic development in Latin America, including the role of technological development and current events. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GTD 508 or GTD 598 (Technology and Development in Latin America) |
| GTD | 509 | Technology and Development in North Africa | Examines historical and current patterns of political and socioeconomic development in North Africa, including the role of technological development and current events. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GTD 509 or GTD 598 (Technology and Development in North Africa) |
| GTD | 510 | Technology and Development in Sub-Saharan Africa | Examines historical and current patterns of political and socioeconomic development in Sub-Saharan Africa, including the role of technological development and current events. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GTD 510 or GTD 598 (Technology and Development in Sub-Saharan Africa) |
| GTD | 511 | Development Policy and Practices | Since the Bretton Woods Agreements in 1944, enormous energy has been devoted to generating the right tools for global development policy. Yet, little attention is given to the relationship between these tools, the practice of development and actual outcomes. At best, it is understood as a "gap" between the theory of development policy and practices. There is no reflection on what the good development policy looks like or what collective learning we have thus far. Informs students on the complexity of policy making and its relationship to development practices through time. Creates an intellectual space to discuss the practices of global development; uses case studies to enhance students' creativity and skill needed in managing and negotiating critical development challenges. Approaches development policy (models, strategies and project design) primarily as a tool to legitimize power relation rather than to orient practice for desired development outcomes. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| GTD | 512 | International Governance and Development of Nuclear Technologies | Examines the historical context, present development and possible futures of nuclear technologies around the world. Topics include the origins of the modern nuclear era (1945-present), the nuclear fuel cycle including waste management, nuclear energy for security and modernization, nuclear catastrophes, and new possibilities in nuclear technologies, as well as international policies, national imperatives and local concerns with nuclear development. Students gain a better understanding of the complex political, environmental, cultural and economic values that inform and shape the development and implementation of, as well as resistance to, nuclear technologies. | N | LEC | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GTD 512 or GTD 598 (Technology and Development in Global Nuclear Energy) |
| GTD | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GTD | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GTD | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GTD | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | GNA | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GTD | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Global Futures | School for the Future of Innovation in Society | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GTD | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| GTD | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 501 | Perspectives on Aging and the Life Course | Uses life course perspective to appreciate age over time and examine demographics, theories and changes of aging, and gerontological issues. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 502 | Research and Program Evaluation Issues in Aging | Focuses on critical thinking and empirical research in aging, along with program evaluation. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 503 | Diversity in Aging | Examines various assumptions and parameters of diversity, autonomy, interdependence, ethical standards and communication with older individuals | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 504 | Caregiving Issues for Families and Professionals | Focuses on family communication, common health problems, and family dynamics that affect the structure of the complex caregiving experience. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 505 | Interdisciplinary and Community Collaboration in Aging | Focuses on community collaboration with the family and older individuals to provide comprehensive care in aging. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 506 | Administrative Systems Management in Aging | Focuses on administration and management of long-term care providers in nursing facilities; subacute and post-acute care; assisted living; senior housing; and community-based care. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 507 | Care Coordination Across the Continuum of Care | Focuses on care coordination of older adults across the continuum of care. Content includes an examination of the components of care coordination and the skills needed to address the needs of older adults with complex health challenges. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 508 | Mental Health Assessment and Intervention | Focuses on the aging experience and examines principles of gerontological counseling theory and practice. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 509 | Interventions to Support Aging in Place | Focuses on creating supportive interventions to assist older adults in maintaining independence in their home environments. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 510 | Innovations in Program Development and Policy | Focuses on creating age-friendly communities using innovative interventions and programs to promote older adult independence and quality of life. Also explores the influence of policy on care of older adults. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| HCA | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCA | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 100 | Introduction to the Science of Health Care Delivery | Introduces the science of health care delivery in the United States. Presents basic concepts in health services, health care organizations, and the delivery of safe, accessible, high-quality health care. Solidifies concepts through the use of assignments, exams and discussions. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | |
| HCD | 101 | Introduction to Population Health | Introduces population health in the United States. Familiarizes students with the broad discipline of population health and how it influences community and individual health status. Discusses the role of various agencies in population health, methods of measurement and evaluation, major population health issues in the United States, and factors that contribute to individual and community health. Solidifies concepts through the use of in-class discussion, group work and individual analysis. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only HCD 101 or POP 100 (or PBH 100) OR Visiting University Student |
| HCD | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| HCD | 201 | Economics for Health Majors | Introduces economics and demonstrates the relevance of economic principles to the study of health care delivery systems and public health. Combines elements of a traditional introductory economics curriculum with broad coverage of microeconomics and specific application to current issues in health care delivery and public health policy. Prepares students for further study of health economics. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only HCD 201 or PBH 201 OR Visiting University Student |
| HCD | 300 | Biostatistics | Biostatistics and its use in health and health services research. Familiarizes students with statistical concepts and methods to analyze and interpret data and conceptually addresses statistical theory. Introduces Excel software to manage data and perform statistical tests. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | CS | Prerequisite(s): completion of General Studies MA requirement with C or better; minimum 30 hours; Credit is allowed for only HCD 300 or PBH 300 OR Visiting University Student |
| HCD | 302 | Health Care Management | Broad concepts and skills of management; application of these techniques to health care organizations, nonprofit and community-based organizations. Students appreciate the variability of management styles and personalities and begin to develop their own style. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 30 hours OR Visiting University Student |
| HCD | 303 | Global Health Care Systems | Examines health care delivery systems internationally and explores contemporary issues affecting the institutions that provide health care and the people who seek health services. Covers the historical development of international health care systems, the organization and financing of systems of care, and the policy process and priority setting. Also covers current efforts at health care reform. Provides students with the necessary professional skills to be effective participants in efforts to evaluate and improve the delivery of health care nationally and internationally. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | G | Prerequisite(s): minimum 30 hours OR Visiting University Student |
| HCD | 304 | Health Care Finance | Covers health care financing with an emphasis on the financial drivers of the U.S. health care system. Provides an overview of key accounting practices, financial statements and managing budgets. Covers cost containment strategies and the ethics of financial management. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): HCD 300 with C or better OR Visiting University Student |
| HCD | 330 | Health Care Systems in the U.S. | Presents and integrates the organization, financing, and delivery of health services in the United States from the professional, organizational, community, and systems perspectives. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 30 hours OR Visiting University Student |
| HCD | 332 | Population Health Policy and Legislation | Provides a historical and current overview of the federal/state/local law and policy-making processes that are relevant to population health, including how policies are implemented in society and the impact of those policies on health outcomes. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 30 hours OR Visiting University Student |
| HCD | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |

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| HCD | 400 | Interpreting the Scientific Literature | Emphasizes clinical relevance and application of searching and interpreting the literature, using case studies as examples. Applies these skills through in-class activities and through written report at the conclusion of the course. These tools ultimately assist the student with critical thinking and application of concepts to clinical scenarios. Class is held in a computer lab to facilitate class engagement. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| HCD | 401 | Leadership and Professionalism | Leadership, leadership theory and inter-professionalism in practice. Applies didactic content to case studies and activities designed to promote critical thinking and effective teamwork. Solidifies concepts through the use of assignments, exams and discussions. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only HCD 401 or MED 450 OR Visiting University Student |
| HCD | 402 | Health Economics | Examines decisions made by patients, practitioners, health care administrators, and public policy makers using economic tools and models. Gives particular emphasis to using economic models to understand and predict decision making under scarcity and imperfect information, which provides insight into the successes and pitfalls of a health care system. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): ECN 212, HCD 201, or PBH 201 with C or better; minimum 45 hours; Credit is allowed for only HCD 402 or PBH 402 OR Visiting University Student |
| HCD | 403 | Process Engineering | Core concepts in process engineering, specifically related to systems improvement and patient safety. The Institute of Medicine (IOM) advocates for integrating process engineering within health care to optimize health care outcomes. The IOM addresses multiple dimensions of health, including efficiency, effectiveness, safety, equity, patient-centeredness and access. These domains provide the framework from which faculty approach course content. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| HCD | 404 | Advanced Concepts in the Science of Health Care Delivery | Applies the themes of science, systems and leadership across the continuum of health and health care. Application and discussion of core competencies to facilitate critical thinking. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| HCD | 405 | Health Technology | Develops essential skills in identifying, analyzing and evaluating information technology applications in health care. Examples include electronic health records, computerized prescriber order entry, and computerized clinical decision support. Discusses the use of health technology in a variety of care settings, including outpatient and inpatient, and facilitate access to health care in resource-poor communities through the use of efficient technology. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |
| HCD | 420 | Population Health Management | Presents an overview of population health and its management. Emphasizes a solutions-based perspective, consistent with the Quadruple Aim. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only HCD 420 or IBC 420 |
| HCD | 422 | Health Disparities and Access to Health | Racial and ethnic health disparities in the United States. Explores disparities in healthcare seen at the provider and system level and their effects on health in the community. Also considers the historical context of racial and ethnic health disparities and the demographic and conceptual issues surrounding health disparities research. Reflects on the effects of behavior, socioeconomic status and group-specific disparities on community health status. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only HCD 422 or PBH 422 OR Visiting University Student |
| HCD | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | YGB | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): Science of Health Care Delivery BS major; minimum junior standing; minimum 2.00 GPA |
| HCD | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): Barrett Honors student |
| HCD | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| HCD | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| HCD | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-7 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| HCD | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-3 | | |

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| HCD | 501 | Biostatistics and Data Management | Provides an understanding of the statistical tools and principles of research design and methods in health behavior research in health environments. Encompasses an overview of quantitative, qualitative and mixed designs and focuses on the interpretation and communication of health behavior research through published reports and presentations. Incorporates research approaches and methodologies utilized in an array of content areas. Helps students gain a strong conceptual understanding and application of the statistical tools and research methods used to answer research questions of interest to health and health behavior researchers; it does not focus on mathematical treatments of underlying assumptions and formulae and related statistical problems sets or exercises. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 502 | Health Care Systems and Design | Introduces direct health care delivery structures and processes within and across health care settings, and their impact on the patient, family and community experience of the health care system and services. Examines the interaction among people, resources, delivery systems and built environments using perspectives, tools and strategies from multiple disciplines to evaluate strengths, gaps and opportunities for system improvements. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 510 | High-Value Patient-Centered Care | Evidence-based strategies for clinicians and health care administrators to implement into their workplace setting to promote healthy lifestyle behaviors and ultimately promote high-value, patient-centered care. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 511 | Health Economics, Policy, and Payment Models | Economics provides a framework to understand and predict human decision making under scarcity, uncertainty and imperfect information. Examines concepts central to health care economics and their application to important decisions made by patients, families, practitioners, administrators and policy makers. Uses an individual family's scenario through a progressive case study to evaluate how incentives and information affect the health and health care of each family member. Each meeting integrates basic economic principles, existing facts and knowledge from economic research, and individual perspectives and experience regarding how these concepts apply to health care policy. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Degree- or Nondegree-seeking graduate; Credit is allowed for only BMD 511 or HCD 511 |
| HCD | 517 | Economic Evaluation in Health Care | This course will provide students with an introduction to economic evaluation in health care, including its use as a tool to assist with government decision making. The course will focus on the concepts and the methods involved in cost-effectiveness/utility analysis. It will facilitate the development of skills required to critically appraise economic evaluations and illustrate how to apply the concepts involved to assess health interventions. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): International Health Management MIHM student |
| HCD | 520 | Population Health | Presents population health within a framework of health care delivery, public health, health promotion and prevention, health policy, and community programs and resources. Emphasizes a solutions-based perspective consistent with the Triple Aim. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 521 | Law and Health Promotion | Analyzes case studies which illustrate the impact of policy and law on health promotion strategies and health outcomes. Includes discussions of the theoretical foundations supporting legal, ethical and economic decision making related to health promotion and real-world examples of the impact of current policies. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 527 | Health Care Economics and Financial Management | This course combines health economics and health care financial management. There is an introduction to double entry accounting to provide a working knowledge of cash and accrual accounting, plus an analysis of balance sheets, profit and loss statements and cash flow statements. How to construct a budget in a health care environment is a core skill in this course. The health economics component of the course introduces students to important economic concepts such as opportunity cost and supplier-induced demand and illustrates how these concepts can be applied to the health care industry. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): International Health Management MIHM student |

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| HCD | 532 | Health Care Management and Finance | Health care organizations are very complex institutions and require sophisticated understanding of modern management techniques. Provides a comprehensive overview of health care management concepts and principles with a focus on developing individual management skills. Centered on the management function and its unique purpose for an organization. Emphasizes planning, organizing, motivating and controlling, and how to acquire competency in these functions. Also addresses health care finance, which is an essential management competency. | N | LEC | Y | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 537 | Comparative Health Care Systems | The first part of this course focuses on the principles and practice of health system analysis, the sources and utilisation of information relating to the development, organisation and operation of health services, and frameworks for assessing the performance of different health systems. Then, drawing on material from the health systems of affluent and developing countries, we examine the constitutional, legal, economic, social, and political environments within which health care systems operate and the various patterns that emerge. We review patterns of health service organisation and management: health policy development and planning; characteristics of personal, community and environmental health services and their activities; health service financing arrangements, including health insurance systems; and, the health workforce. The impact of some recent attempts at health system reform in different countries is assessed and proposals for future re-structuring are critically reviewed. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): International Health Management MIHM student |
| HCD | 540 | Process Engineering for Health Care Quality and Safety | Provides an introduction to the science of health care delivery, an exciting field that focuses on how to achieve the quality care that providers want to deliver and patients expect to receive. Too often quality care is compromised by inadequately designed systems of care. Provides an overview of the health care delivery system and then introduces the major components of the field. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 547 | Health Leadership and Workforce Management | This course critically examines a range of theories, models and approaches to leading and managing at different levels in health service organisations. It provides tools to identify and respond to management problems in the context of major changes in priorities and services in health and its workforce. Whether you come from a clinical, public health or other disciplinary background we consider how you can draw upon that understanding and your current organisational setting to strengthen your health leadership capacity and workforce management skills. Topics include: the shifting role of managers in health services; management and leadership theories and models; influence, power and management ethics; managing in resource constrained environments; diversity in health service settings; managing teams and motivating staff; conflict management and improving health worker performance; workforce planning and capacity building. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): International Health Management MIHM student |
| HCD | 550 | Capstone | Discusses the results from student capstone projects, done in teams, and these projects related to broad topics explored during the prior coursework in the program. Capstone projects are identified early in the master's program in conjunction with and overseen by the degree leaders and the industry partners, and often a health care organization or health agency. These projects are worked on through the year with final written and verbal reports due in the last half of the semester. | N | RSC | N | GNA | College of Health Solutions | College of Health Solutions | 1-2 | | Prerequisite(s): HCD 502 with C or better |
| HCD | 557 | Clinical Governance and Risk Management | This course provides an overview of emerging health policy with particular attention to clinical governance. The course consists of three components. The first component targets the main constituents of clinical governance, including practice design, analysis and improvement, error reporting and investigation, public accountability and open disclosure, multi-disciplinary teamwork and clinical leadership. The second component introduces the tools of clinical process redesign. These tools can help managers make practical improvements to practices in their units. The third component targets risk management by providing an overview of the kinds of risks faced by health service managers, and by outlining different views of risk (adverse effect versus opportunity capital). The course is comprised of three case studies that engage students in addressing specific but generalisable manifestations of the three components that make up the course. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): International Health Management MIHM student |

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| HCD | 560 | Systems Metabolic Physiology | Studies vertebrate energy metabolism in the context of systems physiology. With a particular focus on mammals and especially humans, discusses macronutrient storage, mobilization and utilization at the whole organism level. Presents theory and practice of several methodologies used to measure metabolic turnover, including indirect calorimetry, mass balance, isotopic tracers and doubly labeled water. Topics include metabolic rate and fuel selection during rest, locomotion and environmental stress such as energy scarcity or oversupply. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 3.00 GPA; degree- or nondegree-seeking graduate student |
| HCD | 561 | Cellular Energetics and Metabolism | Focuses on the thermodynamics and kinetics of energetic processes at the cellular level. Discusses the metabolism of macronutrients by cells, principally skeletal muscle, cardiac muscle, adipose and liver. Presents membrane transport, energy storage and mobilization, non-oxidative/oxidative pathways of ATP synthesis and energy dissipation processes. Develops and uses concepts of metabolic control, energetic efficiency, metabolic scope and signaling to explore classic and current biomedical literature. Particularly emphasizes mitochondrial metabolism, including the chemiosmotic theory, proton leak, superoxide (free radical) production, interactions between the glycolytic and oxidative pathways, and the central role mitochondria play in health, disease and mortality. Describes the theory and practice of several methodologies central to the study of energy metabolism. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 3.00 GPA; degree- or nondegree-seeking graduate student |
| HCD | 563 | The Metabolic Syndrome | Provides a comprehensive understanding of the metabolic syndrome from an environmental, genetic and molecular perspective. Also discusses the treatment of this complex disease including lifestyle changes, pharmacological interventions and surgical procedures. Evidenced-based course where research guides class lectures and discussions. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 564 | Translational Biomedical Sciences Seminar and Data Club | Combined seminar and data club related to translational biomedical sciences. | N | SEM | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 3.00 GPA; degree- or nondegree-seeking graduate student |
| HCD | 567 | Infectious Diseases Challenges: Epidemiology and Control | Throughout history new pathogens such as HIV, SARS and pandemic influenza have emerged to challenge human populations. This course will introduce you to the challenges of controlling or managing infectious diseases through an appreciation of key factors such as differing modes of transmission, the impact of travel and behavior on transmission, the importance of surveillance in achieving disease prevention and control, key steps in outbreak investigation and current disease control and management strategies. Dengue fever, hepatitis A virus, HIV, influenza, measles, meningococcal meningitis, rota virus, SARS and TB will be used to learn about preparing for and containing diseases with potentially catastrophic impact to the health and economic stability. This course supports you achieving a range of capabilities that you will need if you are planning to have a career in epidemiology and infectious disease control. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): International Health Management MIHM student |
| HCD | 570 | Process Engineering | Provides an overview of process engineering and the specifics of Lean Six Sigma as it applies quality improvement/process improvement in health care. The current health care system cannot deliver the necessary quality to ensure safety or consistent outcomes in predictable and controllable ways. It is essential to understand the impact of process engineering to improve the performance of health care delivery, and to understand the steps to performing a Lean Six Sigma process improvement project. This course builds on the quality improvement techniques introduced in earlier course work. Also enables students to obtain their Green Belt Certification in Lean Six Sigma. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 575 | Leadership and Professionalism | Integrates principles of leadership theory, innovation leadership, change leadership and systems thinking through didactic and experiential learning. Identifies characteristics of successful leaders in health and health care, develops competence and confidence in creativity and innovation, and identifies ways to implement meaningful change in the dynamic health care environment. Applies theories to case studies in health and health systems to promote critical analysis, discussion and reflection on topics that provide the framework for future coursework. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| HCD | 577 | Infection Prevention Control in the Health Care Setting | Antimicrobial resistance is an urgent global health priority. In the near future common treatable infections may become untreatable. Currently 1 out of 20 hospitalised patients contracts a health care associated infection, of which around 50% are preventable. These infections add to the functional disability and emotional stress of the patient and in some cases, lead to disabling conditions that reduce their quality of life. In addition, they contribute to increased hospital stays and added expense to the health care system. Infection prevention and control in health care settings is now of national priority endorsed by the Australian Government, Ministries of Health, the Australian Commission of Quality and Safety in Health Care, health care facility accreditation organisations, as well as internationally by the World Health Organization. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): International Health Management MIHM student |
| HCD | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 587 | Outbreak Investigation and Intelligence | The course will provide a grounding in epidemiological pattern recognition (epidemic, endemic, sporadic) in infectious diseases for first-outbreak responders, surveillance officers, or policy makers from medicine, allied health, public health, emergency management, law enforcement, military or others from relevant backgrounds. Case studies in risk assessment, risk mitigation, response and prevention will be studied. These will cover Ebola virus disease, MERS-CoV, avian influenza and salmonellosis; distinguishing natural from unnatural epidemics, surveillance tools, rapid intelligence and analysis methods. Data quality in resource limited settings and implications for risk assessment will be examined. Understanding of modelling and forecasting of infectious diseases based on known transmission dynamics and patterns will also be explored. Preparation of first line responders to optimise usage of infectious diseases intelligence techniques will be covered, including prioritisation of data sourcing/mining, strengthening, mapping disease transmission patterns to modes of transmission, and ultimately epidemic control measures. | N | LEC | Y | NSW | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): International Health Management MIHM student |
| HCD | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCD | 602 | Health Informatics for Health Care Professionals | Offers health care professionals an overview of the field of health informatics. Combines varied perspectives from medicine and computer/information/organization science for use of computers and information in health care and the health sciences. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCI | 150 | Introduction to Health Innovation | Introduces health care innovation including diffusion of innovation, technology and current health care innovative ideas and practices. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | |
| HCI | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-4 | | |

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| HCI | 250 | Health Entrepreneurship and Value Creation | Change your mindset. Focuses on recognizing and questioning your assumptions, learning how to gather and accept feedback, and designing pivots to improve innovative and entrepreneurial outcomes. Seeks value creation opportunities in health and health care settings through opportunity recognition, value creation and business modeling. Students create an innovative change idea, demonstrate proficiency in lean startup methodologies, and "pitch or ditch" a ready-to-launch idea. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | |
| HCI | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-4 | | |
| HCI | 298 | Honors Directed Study | Independent study or practicum under the supervision of a faculty member. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-6 | | Prerequisite(s): Barrett Honors student |
| HCI | 311 | Health Innovation: Foundational Concepts | Provides foundational knowledge for leading health innovation. Organized around the Seven Pillars of Innovation: innovation process, leadership structure, outcomes, evidence-based practice, finance, policy, and technology and communication. Emphasizes principles of health innovation, in addition to characteristics, skills and knowledge required for the innovator. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): ENG 102,105, or 108 with C or better; minimum 45 hours OR Visiting University Student |
| HCI | 313 | Philosophy of Science in Health Care: Understanding Paradigms of Health and Healing | Philosophy of science and its application to health and healing paradigms. Employs selected schools of thought and individual philosophers within philosophy of science to closely examine health and healing paradigms. Discusses concepts such as "life" and "death". Explores questions: What is science? What is health? Examines the way in which philosophy of science informs perceptions and definitions of health and healing in individuals and populations. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours OR Visiting University Student |
| HCI | 344 | Management and Leadership in Health Organizations | Focuses on management, administration and leadership strategies in health institutions with an emphasis on organizational innovation and entrepreneurial thinking. Managing in health organizations includes unique challenges related to labor relations, practice codes of conduct, federal privacy considerations, and accreditation regulations. Includes a review of leadership methods, labor laws and practices for effective management in health- and health care-related organizations. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCI 311 with C or better OR Visiting University Student |
| HCI | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-4 | | Prerequisite(s): minimum 45 hours |
| HCI | 412 | Transforming Health Care: A Systems Perspective for Innovation | Investigates the essential elements of systems thinking as a framework for innovation in addressing current and future issues in health care. Demonstrates systems thinking to present and future problems in health care and utilizes the knowledge and understanding of behavioral and learning styles to facilitate innovation in diverse systems. Stresses the importance of collaboration to the systems perspective, in addition to the value of individual worldviews. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours OR Visiting University Student |
| HCI | 421 | Health Care Policy: The Innovator's View | Innovation perspective on policy decision making in the health care environment. This perspective views policy-making as a fluctuating, dynamic and evolving process as seen through a lens of innovation principles. Explores the relationship between politics and policy and discusses factors influencing policy development. Identifies methods to formulate and implement policy and presents models to evaluate, analyze and modify health care policy. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours OR Visiting University Student |
| HCI | 425 | Facilitating Innovation to Achieve Outcomes | Principles of facilitation that promote and enable the implementation of innovation to achieve outcomes. This approach identifies facilitation as requiring collaboration, continuous evaluation, and a focus on identifying and measuring health outcomes. Discusses characteristics of effective teams, innovation leadership behaviors that impact change, and involvement of end users. Compares and contrasts traditional project management processes with innovative facilitation techniques. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCI 311 with C or better OR Visiting University Student |
| HCI | 428 | Technology: A Tool to Advance Innovation in Health Care | Explores the role of technology in achieving the Triple Aim: improved quality, improved patient experience and decreased cost. Compares and contrasts tools of technology that hold the potential to advance innovation in health care. Examines the relationship among the users, their behaviors and technology and how this interaction advances communication, automation, organization and standardization. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours OR Visiting University Student |
| HCI | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): minimum 45 hours |

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| HCI | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-6 | | Prerequisite(s): Barrett Honors student |
| HCI | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| HCI | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-4 | | Prerequisite(s): minimum 45 hours |
| HCI | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-6 | | Prerequisite(s): Barrett Honors student |
| HCI | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-3 | | Prerequisite(s): minimum 45 hours |
| HCI | 538 | Innovation and the Individual | Role of the innovator, including the essential insight, leadership styles, vision, ethical wisdom, resiliency and the development of an attitude supportive of risk taking. Examines and correlates different situational challenges with types of intelligence, behaviors, learning styles. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCI | 540 | Understanding and Applying Principles of Evidence-Based Practice | Understanding how application of evidence-based practice principles assists health care professionals to provide the best care. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCI | 542 | Systems Thinking in a Complex Environment | Explores systems thinking theories and methodologies in the context of the complex and often chaotic environment of health care. Examines opportunities and challenges for innovation and innovative leadership in the health care system. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCI | 543 | Approaches to Health Care Innovation | Theory-based survey course introduces approaches to lead innovation in an organization. Many change initiatives are designed by those not completing the work, leaving workers isolated, restricted and powerless. Teaches health care leaders to value collaboration with and seeking input from those who will carry out the work. Analyzes approaches to planned change: positive deviance, appreciative inquiry and creation of a learning organization. Students construct a change plan using an appropriate approach to address a health care problem. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCI | 544 | Information Technology (IT) for Health Care Innovation | Transforming health care through the development of sound information technology strategies is critical to the success of most health care organizations today. Examines information technology trends and their strategic application in health care. Learners create a plan for engaging IT resources and capabilities, and for executing an IT-based strategy for solving a problem in health care. Topics covered include: strategic processes, digital transformation, IT assets, design thinking, value creation, IT governance and transition change management. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCI | 545 | Public Speaking for Innovation: Building Your Presence and Making the Case for Change | Builds presence as a speaker and a leader. Public speaking has evolved dramatically over the last few years. Now it is about creating a public presence; e.g., on YouTube, Facebook live, TED Talks. Public speaking for innovation is a combination of finding and building one's presence as a speaker--and translating that to an ability to explain and persuade, making the case for change. Students build their presence and gain the foundational knowledge necessary to successfully explain and persuade in various modalities of media, from speaking in person to video creations. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCI | 548 | Advanced Principles and Concepts of Innovation | Explores and analyzes the innovation in complex systems, focusing on developing specific skills for successful innovations. Specifically addresses strategies to overcome barriers and resistance to innovation in health care. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCI 538 with C or better |
| HCI | 550 | Health Care Policy and Innovation | Introduces the political, organizational, and economic dimensions of health care policy, emphasizing strategies for innovative policy and practice. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCI | 552 | Financing for Innovation | Provides an overview of healthcare economics; develops budgeting, planning, and management skills; and culminates in financial analysis skills necessary to facilitate management decision making or writing business plans or grant proposals. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCI | 554 | Outcomes Evaluation | Outcomes measurement, management, and evaluation for health care practitioners and/or leaders. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCI | 561 | Innovation Methods | Explores methods to generate innovation for use in a health care setting. Provides tools and practice in generating ideas, exploring utilizing appreciative inquiry, and demonstrating competencies related to the theories and processes of innovation. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| HCI | 563 | Capstone: Final Innovation Project | Applies the concepts learned in MHI core courses and presents evidence of knowledge in innovation principles, applications and strategies for implementation and evaluation. Develops an innovation project in the form of a presentation. Provides a comprehensive methodology for completing all aspects of an innovation opportunity. Student-directed demonstrations of the application of learned leadership skills and techniques for facilitating team and individual implementation. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 5 | | Prerequisite(s) with C or better: HCI 538; HCI 540; HCI 542; HCI 544; HCI 548; HCI 550; HCI 552; HCI 561 |
| HCI | 570 | Innovation Proposal: Culminating Experience for Health Care Innovation Certificate | Applies concepts learned and operationalizes skills acquired throughout the Health Care Innovation certificate. Students envision emerging paths toward an outcome by first presenting a problem they have identified within a health care organization, and creating collaborative relationships and developing strategies to initiate change in their chosen setting. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): HCI 538; HCI 542; HCI 554; HCI 561 |
| HCI | 571 | Health Care Innovation Leadership Portfolio: Culminating Experience | Examines and applies personal leadership potential. Focuses on the effective development and facilitation of human networks to advance innovation in the health care space. Challenges students to appraise and analyze personal leadership strengths, challenges and opportunities. Explores strategies to evaluate students' current networks; develops the students' emergent professional networks. Gives focus to building relationships necessary to advance innovation in the health care space. Students develop and implement an action plan to advance their personal leadership growth and network utilization. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCI 538; HCI 543; HCI 545; NLM 562 |
| HCI | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | N | PRA | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCI | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCI | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCI | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 210 | Ethics for the Health Care Professional | Health care ethics emphasizing analysis and ethical decision making at clinical and health policy levels for health care professionals. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | HU | |
| HCR | 220 | Introduction to Health Professions and the U.S. Health Care System | Introduces the historical, social, political, economic and interprofessional contexts in which health care professions and the United States health care system evolved. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | H | |
| HCR | 221 | Foundational Concepts for Health Care Coordination | Focuses on the foundational elements of health care coordination. Discusses the health care coordination process including assessment, implementation and evaluation. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| HCR | 230 | Culture and Health | Cultures of diverse groups and health/illness. Cross-cultural communication, awareness of own cultural influences, indigenous and alternative healing practices. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | C & G | |
| HCR | 231 | Fundamentals of Community Health | Provides a framework for understanding community health concepts. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| HCR | 240 | Human Pathophysiology | Chemical, biologic, biochemical, and psychological processes used in study of structural and functional alterations in health with selected therapeutics. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): BIO 201 with C or better; BIO 202 with C or better; CHM 101 or higher with C or better; MIC 205 with C or better; MIC 206 with C or better OR Visiting University Student |
| HCR | 241 | Foundations of Integrative Health | Discusses the similarities and differences of the biomedical and integrative health care systems providing an overview of integrative health. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| HCR | 245 | Sleep, Sleep Disorders and Behavior | Focuses on the nature, organization, function and biopsychosocial determinants of sleep and sleep disorders across the lifespan, emphasizing the social and behavioral processes that influence them. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | SB | |

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| HCR | 259 | Compliance and the Health Care Industry | Introduces health care compliance as an industry and a profession. Explores the complex federal and state laws that regulate the delivery and reimbursement practices of the U.S. health care system. Also explores federally legislated mandates for formal compliance programs, program elements, and the organizational steps for program implementation in specific health care settings. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Students may not enroll in HCR 259 if credit with C or better earned in both HCR 260 and HCR 261 OR Visiting University Student |
| HCR | 262 | Health Care Licensure, Professional Development and Practice | Introduces interprofessional practice, professional licensure, education and training, certification and scope of practice within the health care industry. Explores compliance standards and accreditation as they relate to the authority and scope of licensure boards, which are designed to safeguard the public health. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | |
| HCR | 263 | Introduction to Medical Billing and Compliance | Introduces the complex process of medical coding and billing practices and related federal regulations and programs. Provides learners with a fundamental understanding of medical coding and billing processes including terminology, stakeholders and regulatory impact. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 259 or 260 with C or better OR Visiting University Student |
| HCR | 264 | Regulatory Essentials of Compliance Program Design | Offers a comprehensive overview of the regulations that impact the health care delivery industry. These regulations include: protections against fraud and abuse, patient rights and privacy, protected health information (PHI) and electronic protected health information (ePHI), and occupational health and safety. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 259 or 261 with C or better OR Visiting University Student |
| HCR | 265 | Health Care Compliance Essentials | Comprehensive study of the creation, management and evaluation of all aspects of a formal health care compliance program. Learners investigate and discuss roles of the compliance officer and compliance committee, risk analysis, recommendations for and implementation of corrective action. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 259 OR Visiting University Student |
| HCR | 280 | Team-Based Research Practicum | Small-group (e.g., team, project, lab, clinic, center-based) health, nursing, health care and health innovation-related study and research experiences, led by a faculty mentor. | Y | PRA | Y | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 15 hours OR Visiting University Student |
| HCR | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | PRA | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-4 | | |
| HCR | 298 | Honors Directed Study | Independent study or practicum under the supervision of a faculty member. | N | PRA | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-6 | | Prerequisite(s): Barrett Honors student |
| HCR | 301 | Research Methods for the Health Care Professional | Explores basic concepts of qualitative and quantitative research design utilizing methods of assessment, planning, implementation and evaluation. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): PSY 230, SOC 390, STP 226, or SWU 321 with C or better if completed; TWC 347 or 362 with C or better if completed OR Visiting University Student |
| HCR | 302 | Social Determinants of Health | Addresses issues of social determinants and health disparities at the local, national and global levels. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): HCR 301 with C or better if completed; TWC 347 or 362 with C or better if completed OR Business (Health Care) BA major or Health Care Coordination BIS emphasis or Health Care Coordination minor OR Visiting University Student |
| HCR | 303 | Assessing Needs, Assets and Capacity for Health Education | Assesses needs, assets and capacity for health education at the individual, family and community levels. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 210 with C or better; HCR 230 with C or better; Pre- or corequisite(s): CDE 232 with C or better if completed OR Visiting University Student |
| HCR | 310 | Fundamentals of Human Trafficking | Covers the complex problem of human trafficking including types of human trafficking, terminology, victim identification, policy implications, and the role of health providers and governmental and community agencies. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only HCR 310 or HCR 394 (Fundamentals of Human Trafficking) OR Visiting University Student |
| HCR | 321 | Advanced Concepts for Health Care Coordination | Presents advanced concepts for health care coordination, including: interprofessional teamwork, medication reconciliation, patient/family engagement and other tools that facilitate best practices for health care coordination. Students also learn models for health care coordination, and concepts and practices to facilitate transitions of care. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Business (Health Care) BA major OR HCR 221 with C or better OR Visiting University Student |
| HCR | 331 | Communication within Communities | Focuses on the integral nature of communication in health care, including the role communication plays in shaping individual, social and cultural beliefs and expectations about health. Provides skills for effective communication when working with individuals, groups and the media. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| HCR | 335 | Program Development and Management for Community Health | Incorporates models, research and resource management to plan, strategize and evaluate community programs that promote healthy lifestyle choices in various, as well as specific, geographic communities. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): General Studies Literacy course; minimum 45 hours OR Visiting University Student |

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| HCR | 336 | Environmental Community Health | Examines the interdependent relationship between the health of the environment and the health of communities. Includes a focus on specific communities, as well as agencies and laws involved in the health of communities. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 231 with C or better OR Visiting University Student |
| HCR | 341 | Biological, Manipulative, and Body-Based Therapies | Analyzes the principles and practices of select biological and body-based therapies and modalities and their use in the health care system. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): any BIO course or any CHM course OR Visiting University Student |
| HCR | 342 | Mind-Body and Energy Therapies and Modalities | Analyzes the principles and practices of select mind-body and energy therapies and modalities and explains and distinguishes their use in the health care system. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): any BIO course or any CHM course OR Visiting University Student |
| HCR | 343 | Historical and Cultural Foundations of Integrative Health Care | Distinguishes commonalities and differences between early healing traditions and investigates the utility for today's health care system. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Business (Health Care) BA major OR HCR 241 (or HCR 340) with C or better OR Visiting University Student |
| HCR | 350 | Introduction to Clinical Research | Provides an introduction to the biomedical and clinical research field and associated operational processes. Examines clinical trial development phases, regulatory protections for human subjects, clinical research team specializations, research organizations, good clinical practice, institutional review board functions, and research funding mechanisms. Explores specialized career positions for nursing and allied health professionals. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| HCR | 360 | Data Security and Privacy in Health Care Compliance | Focuses on administrative practices that ensure the security of computerized systems and the protection of health information. Topics include communication and reporting, as well as specific regulations and authorities such as the Health Insurance Portability and Accountability Act (HIPAA) Privacy and Breach rules, and HIPAA Security and Meaningful Use Attestation. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 259 with C or better OR Visiting University Student |
| HCR | 361 | Risk Management in Health Care Compliance | Risk management practices as they relate to the oversight of operations and processes within the health care industry. Utilizes various tools to predict, analyze and mitigate practices that may lead to industry noncompliance. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 259 with C or better OR Visiting University Student |
| HCR | 362 | Monitoring and Auditing for Health Care Compliance | Ongoing health care compliance evaluation process critical to a successful compliance program. Provides the knowledge to utilize monitoring and auditing systems to ensure health care operations conform to established standards or comply with federal, state or local rules and regulations. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 259 with C or better OR Visiting University Student |
| HCR | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-4 | | |
| HCR | 400 | Evidence-Based Practice for the Health Care Professional | Methods of clinical and scientific inquiry. Focuses on the application of an evidence-based practice approach. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 301; TWC 347 or 362, OR Applied Science (Health Innovation) BAS major OR Visiting University Student |
| HCR | 402 | Advocacy for Health and Health Education | Discusses and analyzes existing or proposed policies on health and strategies for influencing the policy-making process. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 303 with C or better |
| HCR | 406 | Health Literacy for Health Care Professionals | Prepares students to use best practices for health communication that promote consumer health literacy. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 210 or MED 320 (HCD 320); HCR 230 or HSC 210 (HCD 210) OR Applied Science (Health Innovation) BAS major; Pre- or coreq(s): HCR 301 w/C or better if completed or Applied Science (Health Innov) BAS major OR Visiting University Student |
| HCR | 410 | Fundamentals of Human Lactation | Focuses on the fundamental aspects of breastfeeding and lactation using research findings and evidence-based practices. The physiologic and psychosocial concepts surrounding breastfeeding focus on supporting families to achieve optimal health outcomes. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): BIO 160 or 201; Credit is allowed for only HCR 410 or HCR 494 (Human Lactation and Breastfeeding) OR Visiting University Student |
| HCR | 420 | Professional Role Development: Health Care Coordination | Professional role development including role transition, leadership and project management for health care coordination. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Business (Health Care) BA major OR HCR 221 (or HCR 320) with C or better; HCR 321 with C or better OR Visiting University Student |
| HCR | 422 | Policy and Financial Principles in Health Care Coordination | In-depth look at the history of health care policy in the United States from World War II to the present focusing on how Medicare, Medicaid and the Affordable Care Act impact health care system and patient reimbursement. Also discusses elements of insurance, managed care and universal care. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Business (Health Care) BA major OR HCR 221 with C or better OR Visiting University Student |

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| HCR | 426 | Health Care Coordination Capstone | Applies higher-level critical thinking, teamwork, effective communication, informatics and design process required to develop a "real-world" health care coordination solution that will be a catalyst for change by improving safe patient-centered transitions, lowering readmission rates, increasing patient safety, and/or decreasing the cost of care. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 321 with C or better; HCR 400 with C or better; HCR 422 with C or better |
| HCR | 430 | Foundation to Health Care Systems | Explores the impact of the current U.S. health care system on the health of individuals, families and communities. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 231 (HCR 330) or 259 or 260 with C or better OR Visiting University Student |
| HCR | 435 | Leaders in Community Health | Prepares students to assume a leadership role in health promotion in communities. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 231 with C or better; Pre- or corequisite(s): HCR 335 with C or better if completed OR Visiting University Student |
| HCR | 439 | Community Health Capstone | Provides the opportunity to explore the health status of communities and to develop strategies for community health improvement. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s) with C or better: HCR 231, 331, 335, 336. Pre- or corequisite(s): HCR 430, 435 with C or better if completed |
| HCR | 440 | Interprofessional Approaches to Integrative Health Care | Prepares learners to develop and lead interprofessional teams with a focus on roles and responsibilities of integrative health care providers and practitioners. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Business (Health Care) BA major OR HCR 241 (or HCR 340) with C or better OR Visiting University Student |
| HCR | 441 | Legal and Ethical Issues Impacting Integrative Health Care | Examines current laws, government regulations, ethical principles and case studies to understand issues and consumers' use of integrative modalities. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 241 with C or better OR Visiting University Student |
| HCR | 449 | Integrative Health Care Capstone | Provides the opportunity to design a healing environment project that reflects the philosophy, mission and values of a health care organization in relation to underlying philosophy and beliefs of integrative health care. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 241 and 341 and 342 and 343 and 400 and 440 all with C or better; Pre- or corequisite(s): HCR 441; TWC 443 |
| HCR | 460 | Investigations and Disclosures in Health Care Compliance | Types of disclosures required by and investigations conducted by regulatory and accrediting agencies overseeing health care entities. Introduces oversight activities, enforcement and potential penalties incurred by health care entities. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 362 OR Visiting University Student |
| HCR | 461 | Corrective and Preventive Action Plans | Use of corrective and preventive actions (CAPA) in meeting the challenges of a compliant health care services operation. Covers design and implementation of CAPA to respond to deviations or errors in the health care environment. Identifies problems, implements corrective actions, evaluates consequences and employs preventive measures. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): HCR 460 OR Visiting University Student |
| HCR | 463 | Capstone Project Health Care Compliance | Culminating course integrating all components of health care compliance core courses and demonstrating knowledge and competency in the field of health care compliance. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Pre- or corequisite(s): HCR 460; HCR 461 |
| HCR | 471 | Interprofessional Education and Community Health | Community-engaged service learning exposes students to community health and interprofessional education through the delivery of team-based services with vulnerable populations. Students build on their professional practice skills as they develop interprofessional competencies. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prereq(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only CRD 471 or HCR 471 or CRD/HCR/PRM 494 (Interprofessional Education & Community Health) or CRD 598 (Interprofessional Education & Community Health) OR Visiting University Student |
| HCR | 472 | Interprofessional Education and Complex Health | Complex health community-based experiential learning with immersive "real-world" learning opportunities. Students dedicate hours at pre-approved placement sites serving a community; apply new (and advance prior) complex health knowledge and skills; benefit from an expanded scope of supervised practice experience while providing targeted complex health interventions that address health and health care disparity needs, improve care quality, and reduce care costs for individuals, families, communities, and/or populations with complex health needs. Students practice values and ethics, communication, roles and responsibilities, teams and teamwork, and leadership competencies essential for interprofessional collaborative practice and team-based care. Online and in-person collaborative learning includes: seminars, course readings, discussions, and reflection assignments to facilitate critical thinking and a deeper understanding of the delivery of complex health interprofessional team-based care in the community. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prereqs with C or better: CRD 471, HCR 471, or CRD/HCR 494 (Interprof Ed & Comm Hlth) OR Hlth Care Coord major; HCR 210; HCR 220; HCR 230; Credit for only CRD 472 or HCR 472 or CRD/HCR 494/598 (Interprof Ed & Complex Hlth) OR Visiting University Student |

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| HCR | 473 | Interprofessional Education and Comprehensive Systems Health | Community-engaged experiential learning integrates students into comprehensive systems health and interprofessional education through the creation of team-based community impact projects with vulnerable populations. Students refine their professional practice and leadership skills as they integrate interprofessional competencies. | N | LEC | Y | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-3 | | Prereqs w/min C: CRD 471, CRD 472, HCR 471, HCR 472 or CRD/HCR494 (Interprf Ed&Comm Hlth or Interprf Ed&Cmplx Hlth) OR Hlth Care Coord, Comm Hlth or Integrative Hlth BS; HCR210; HCR220; HCR230; Credit for CRD 473 or HCR 473 OR Visiting University Student |
| HCR | 480 | Advanced Team-Based Research Practicum | Small-group (e.g., team, project, lab, clinic, center-based) health, nursing, health care and health innovation-related study and research experiences, led by a faculty mentor. Advanced research practices designed for upper-division undergraduate students. | Y | PRA | Y | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HCR | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | |
| HCR | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-6 | | Prerequisite(s): Barrett Honors student |
| HCR | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| HCR | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | PRA | Y | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-4 | | |
| HCR | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-6 | | Prerequisite(s): Barrett Honors student |
| HCR | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-7 | | |
| HCR | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-3 | | |
| HCR | 543 | Food Safety and Protection | Covers food safety from the point of view of retail food safety inspectors. Addresses careers in food safety and protection, food and waterborne pathogens, food safety laws and regulations, hazard analysis, food safety inspection steps, investigations, report writing and response to food emergencies. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 544 | Assessing Food Safety and Developing Policy Procedures and Training | Provides overview for the knowledge, skills and abilities required for assessing food safety and developing food safety policies, procedures and training. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 543 |
| HCR | 545 | Foundations of Biospecimen Repository Administration | Examines the biospecimen repository industry from a business perspective. Students learn the scientific basis, collaborative nature, required personnel, timelines and processes that underlie the business environment of biospecimen repositories and their administration. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 546 | Management of Biospecimen Repository Operations | Examines the biospecimen repository industry from an operational perspective. Students learn the process aspects of repository start-up through collection, maintenance and disbursement of specimens. Key elements include personnel training, planning, quality control, risk management, project management and safety implementation. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 545 |
| HCR | 547 | Biospecimen Resource and Technology Management | Examines the biospecimen repository industry from a technology and resource perspective. Students learn the planning and selection of technology and resources for the support of the start-up and long-term maintenance of a biospecimen repository. Key elements include technology and resources assessment and choice, cost-benefit analysis, initial budget, long-term and short-term planning. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 545 |
| HCR | 548 | Regulation and Ethics in Biospecimen Repository Administration | Examines the biospecimen repository industry from an ethical and regulatory perspective. Students learn the ethical and consenting challenges of biospecimen collection, storage and disbursement. Examines relevant historical case histories to inform current policies and practices. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 549 | Scientific Innovation and Biospecimen Repository Administration | Explores the driving effects of scientific innovation on biospecimen administration management. Students learn how scientific advancements increase the demand of high-quality biospecimens and high-quality data, referred to as next-generation biorepository research. Examines tracking pre-analytical variables, adequate preservation and storage methods, controlled biospecimen and data custodianship, governance with ethical and scientific oversight of operations. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 545 |

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| HCR | 550 | Quality Assurance and Safety in Food and Dietary Supplements | Covers current applicable regulations and the regulatory framework that ensure the safety and quality of dietary supplements for the consumer. Reviews FDA regulations including Good Manufacturing Practices (GMP), quality in the development and manufacture of dietary supplements, labeling requirements, advertising, product quality, premarket notification, marketing, and postmarketing of dietary supplements. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 551 | Clinical Research Monitoring | Introduces clinical trial monitoring processes and procedures. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): HCR 561 with C or better if completed |
| HCR | 552 | Medical Device Development and Regulation | Comprehensive examination of the regulatory framework for the design, development, approval/clearance and marketing of medical devices in the United States throughout the product lifecycle. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): HCR 561 with C or better if completed |
| HCR | 553 | Quality Assurance and Clinical Research | Explores basic quality assurance techniques, standards and applications in the clinical research arena. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): HCR 561 with C or better if completed |
| HCR | 555 | Pharmaceutical Safety and Risk Management | Comprehensive examination of regulatory, legal, and scientific factors in pharmacovigilance and risk management and risk mitigation. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): HCR 561 with C or better if completed |
| HCR | 557 | Clinical Research Design and Methods | Explores basic clinical trial biostatistical methods in concert with clinical trial design and methods. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): HCR 561 with C or better if completed |
| HCR | 558 | Technical Writing for the Regulatory Professional | Focuses on teaching and applying writing and presentation skills critical for regulatory professionals. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): HCR 561 with C or better if completed |
| HCR | 560 | Regulatory Science Capstone | Culmination course integrating all components of regulatory core courses demonstrating knowledge and competency in the field of regulatory science. | N | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-3 | | Pre-requisite: Regulatory Science and Health Safety Master of Science student |
| HCR | 561 | Responsible Conduct of Clinical Research | Introduces concepts and policies for the responsible conduct of research (RCOR), institutional review boards, and dissemination of findings. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 562 | Clinical Research Data Management and Technology Implementation | Orientation to database design and management, technology assessment methods, auditing procedures for continuous quality improvement (CQI), and cost-effectiveness analysis (CEA). | N | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): HCR 561 with C or better if completed |
| HCR | 563 | Fundamentals of Regulatory Affairs | Principles of clinical research management and regulatory affairs. Overview of national/international regulatory systems and agencies, and trends in conducting clinical research. | N | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): HCR 561 with C or better if completed |
| HCR | 564 | Global Regulatory Affairs Leadership | Links students to international networks; exposes students to regulators of therapeutic products in different jurisdictions and provides networking within a global industry to enhance the confidence of students to influence global regulatory policy development. Enables students to network with senior executives and experienced regulatory affairs professionals in the global therapeutics industry. Provides skills, knowledge and global connections to discuss and develop strategies to address principles and issues facing global pharmaceutical regulatory affairs and its role in the maintenance of public health. Students develop a deep understanding of therapeutic product regulation across the world and acquire the skills to lead change management in international regulatory issues. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HCR 564 or HCR 598 (Global Regulatory Affairs Leadership) |
| HCR | 565 | Clinical Research Operations | Development, implementation, and operations of FDA clinical research trials, including budgeting, contract negotiations, site evaluation, marketing, project management, and reporting. | N | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 566 | Clinical Research Management Capstone | Culmination course integrating CRM degree coursework by demonstrating knowledge and competency in clinical research management planning, operations, and implementation processes. | N | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCR 551 with C or better; HCR 561 with C or better; HCR 563 with C or better; HCR 565 with C or better; HCR 574 with C or better; 15 additional hours of HCR graduate-level courses with C or better |
| HCR | 567 | Research Management and Contemporary Research Topics | Management and leadership principles integrated with contemporary research topics will be introduced. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): HCR 561 with C or better if completed |
| HCR | 568 | Health Care Project Management | Designed for graduate students and managers who desire to improve their effectiveness as project managers in the health care context. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 570 | Introduction to International Health Systems, Professions, and Research | Introduces systems of international healthcare delivery, professions that provide healthcare delivery, and international research principles and practices. | N | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 571 | Cultural Diversity and Healthcare Delivery | In-depth exploration of culturally diverse aspects of population health, including culture-bound syndromes, folk practices, assessment approaches, and interactions. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 572 | International Healthcare Delivery Capstone | Culminating course integrating all International Health requirements that produce culturally responsive implementation and evaluation plan for the student's clinical practice. A portion of the course will be held in Mexico. | N | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 574 | Scientific and Research Review Boards | The role and responsibilities of Scientific and Research Review Boards in the conduct of human research. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): HCR 561 with C or better if completed |

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| HCR | 575 | Management and Negotiation of Clinical Trial Budgets and Contracts | Examines best practices in contracting, negotiating and budgeting for industry-sponsored clinical trials. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): HCR 561 with C or better if completed |
| HCR | 576 | Drug Discovery, Development and Regulations | Covers the drug discovery and development process from bench to market, including bench and animal research, FDA approval for human studies (Investigational New Drug submission), Phase I-IV clinical studies, New Drug Application, marketing and post approval surveillance. Reviews applicable regulations, laws, guidance documents, good clinical practices related to drug development in the U.S. and globally. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Clinical Research Management MS, Regulatory Science MS or Regulatory Science (Food Safety) MS student |
| HCR | 577 | Global Regulatory Affairs | Covers regulatory authorities, processes, procedures, International Conference on Harmonisation (ICH) guidelines and documentation for the marketing approval of new medical products in the U.S., European Union (EU), Asia and emerging countries. Reviews global regulatory submissions, focusing on the organization and requirements of the Common Technical Document (CTD) global sections. Also reviews global trends, ethical considerations, country-specific considerations and cultural considerations. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Regulatory Science MS or Regulatory Science (Food Safety) MS student |
| HCR | 578 | Legal Aspects of Clinical Research | Reviews the legal implications related to conducting clinical research. Covers current topics and legal issues, standards, duty of care, informed consent, research contracts, malpractice, negligence, informed consent, liability, clinical trials and criminal law, disclosures of clinical information, and liability. Students review and discuss recent research cases and litigation on a wide range of legal issues. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Clinical Research Management MS, Clinical Research Management (Regulatory Science) MS, Regulatory Science MS or Regulatory Science (Food Safety) MS student |
| HCR | 579 | Translational Research in Drug Discovery and Development | Reviews the translation of new drug research from bench to FDA approval. Provides an overview and history of the translational process in the discovery of new drugs and biologics used in the treatment of medical conditions. Topics include: addressing the gaps in drug development, new approaches to speed the process from bench to FDA approval, and the provision evidence-based medicine for sustainable pharmaceutical products utilized in medical treatment. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Clinical Research Management (Regulatory Science) MS or Regulatory Science MS student |
| HCR | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | SEM | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HCR | 610 | Genomics and Population Health | Covers genetics and genomics, diverging into two tracks of subject matter interest. Emphasizes the effects of social determinants on population health and genetic expression, ethical, social and legal implications in the doctoral track; and emphasizes the planning and operational aspects of clinical trials and precision health care in the master's degree track. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 605; Credit is allowed for only HCR 610 or NUR 610 |
| HCS | 501 | Foundations in Health Care Simulation | Explores theoretical foundations of health care simulation education and delivery. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree-seeking graduate student |
| HCS | 502 | Health Care Simulation Educational Assessment and Debriefing Methods | Explores assessment and debriefing practices in health care simulation education. Provides opportunity to analyze and plan debriefing strategies that support reflective, student-centered learning. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCS 501 |
| HCS | 503 | Principles of Operations Management in Health Care | Engages students in the business practices and principles essential to health care simulation program operations. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): HCS 501 |

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| HCS | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): HCS 501; HCS 502; HCS 503 |
| HCS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRO | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): HCS 501; HCS 502; HCS 503 |
| HDA | 101 | ASU and Herberger Institute Experience | Introduces all new first-time ASU students to the unique elements, culture, challenges and opportunities of their university and the Herberger Institute for Design and the Arts. Explains and defines success with integrity, ASU resources and involvement, the importance of arts to society and the community, personality and learning style, and success in college and beyond. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1 | | Prerequisite(s): Herberger Institute for Design and the Arts majors |
| HDA | 111 | Art and Society | Introduces the interplay between art and society, particularly how one influences the other. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | |
| HDA | 125 | Survey of the Fashion Industry | Prepares the student to know how the fashion industry operates and what to expect when working in it. From manufacturing to retail, it is important for all members of the fashion industry to understand how the processes interrelate. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | HU | Credit is allowed for only FSH 125 or HDA 125 |
| HDA | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-4 | | |
| HDA | 210 | Creativity and Innovation in Design and the Arts | Designed to get students thinking in a focused manner about creative practice and process. Many young designers and artists arrive at higher education in their discipline having taught themselves or having received a piecemeal education in the directed application of ideas. Aids students in knowing why and how they are creative. Covers types of creativity, how inspiration happens, how to take a project from idea to reality, how to work creatively in teams and how to fuse creative ideas with an understanding of environment to help realize work in socially useful ways. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | |
| HDA | 225 | Fashion Design | Expands upon fashion design fundamentals learned earlier to encompass additional aspects of the fashion industry, which includes fashion as business, and as a sociological and cultural phenomenon. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | Prerequisite(s): HDA 125 with C or better |
| HDA | 252 | Foundations Arts and Design Entrepreneurship | Develops entrepreneurial knowledge and skills supporting the self-actualization, self-efficacy and market acumen of artists and designers. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | Prerequisite(s): Herberger Institute for Design and the Arts student OR Visiting University Student |
| HDA | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-4 | | |
| HDA | 296 | Creative Futures: Studio | Develops skills in creating fully realized design ideas and creative ventures, while consciously developing skills in self-analysis, cultural competencies and communication. Through the coursework, readings and projects, students develop new methods and systems of thought for dealing with challenging, complex, collaborative projects. In sequence with the sequel course, these courses are designed as a critical "making" component of the BS in Technological Leadership. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | |
| HDA | 310 | Socially Engaged Practice | Students gain a wide literacy in the community arts field through reading, discussion and technical practice. Examines theories and techniques of community-based project development. Pairs artists with communities to create art rooted in the needs, values, desires, triumphs and challenges of that community. Helps prepare the artist of the 21st century with skills to apply artistic practices in diverse contexts. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | Prerequisite(s): minimum 42 hours OR Visiting University Student |
| HDA | 311 | Work and Careers in the Cultural and Creative Industries | Introduces fundamental questions in the study of work and careers in the cultural and creative industries, including an overview of historical changes in the relationship between the individual and his or her work environment; comparisons between different types of work arrangements (part-time, freelance, internships); and practical implications for contemporary workers. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | Prerequisite(s): minimum 45 hours |
| HDA | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-4 | | |
| HDA | 397 | Capstone Development | Prepares students for a successful capstone project. Students develop a formal proposal and identify a mentor for the project. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1 | | Prerequisite(s): The Arts BA major; minimum 56 hours |
| HDA | 410 | Design and the Arts Corps Seminar | Explores specific strategies and approaches to socially engaged art practices through readings, visiting artist presentations and direct engagement with community-based projects. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only HDA 410 or HDA 510 OR Visiting University Student |

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| HDA | 420 | Design and the Arts Business Administration | Design and the arts business seminar course that covers core business principles for design or arts businesses such as human resources, legal issues, accounting and finance. Asks with each of these areas how these disciplines uniquely work within design or arts settings. Investigates global business topics and discusses why ethics is integral to every design or arts business enterprise. Provides a broad understanding of design or arts business activities and practices, allowing more effective participation in business discussions in the future. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| HDA | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-12 | | |
| HDA | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-6 | | Prerequisite(s): Barrett Honors student |
| HDA | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-6 | | Prerequisite(s): Barrett Honors student |
| HDA | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-4 | | |
| HDA | 496 | Creative Futures: Advanced Studio | Develops advanced skills in creating fully realized design ideas and leading creative ventures, while consciously developing skills in self-analysis, cultural competencies and communication. Through the coursework, readings and projects, students develop new methods and systems of thought for dealing with challenging, complex, collaborative projects. In sequence with a prerequisite course, these courses are designed as a critical "making" component of the BS in Technological Leadership. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3-6 | | Prerequisite(s): HDA 296 with C or better OR Visiting University Student |
| HDA | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| HDA | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-3 | | |
| HDA | 510 | Design and the Arts Corps Seminar | Explores specific strategies and approaches to socially engaged art practices through readings, visiting artist presentations and direct engagement with community-based projects. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HDA 410 or HDA 510 |
| HDA | 511 | Purpose, Collaboration and Accountability | Help students identify their personal purpose and how that connects to arts, culture, design and cross-sectoral work. Also builds capacity for arts and design-based modalities of collaboration that unite people across sectors, art forms, and institutional systems. Addresses hybrid business models, creative facilitation skills, deep listening, co-designing processes and projects, while analyzing the ethics of work aimed at public good outcomes. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HDA | 512 | Proposal Development | Students create a draft proposal for their culminating applied projects, research their chosen topic, make a case for how the project intersects with a gap in the field, and learn how to pitch ideas. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-2 | | Prerequisite(s): Creative Enterprise and Cultural Leadership MA student |
| HDA | 513 | Applied Creative Research and Evaluation Methods | Working on a real-world project related to art and design in collaboration with a field partner, students learn to construct robust research questions and identify appropriate methods to pursue an area of inquiry. Introduces principles of equitable evaluation and research to prepare students to understand how their work in the broad art and design fields engages with and impacts communities. Explores various methods including qualitative interviews, focus groups, observation and design thinking approaches. Emphasizes understanding how art and design intersect with the converging contexts of place and community, field and discipline, economy and policy. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HDA | 514 | Creativity and Impact, Opportunities for Change | Art and design work, organizational structures, and collaboration opportunities are expanding. Disrupts frameworks of art and design work to introduce pressing questions and new ways of working aimed at more effective and sustainable engagement with other sectors. Organized around five core themes: context/equity, cross-sector work, changemaking and leadership, structures of work, evaluation and accountability. Discussion is tied to pressing current issues through regular engagements with local and national field leaders, ASU faculty and National Accelerator for Cultural Innovation fellows. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | Prerequisite(s): Creative Enterprise and Cultural Leadership MA student |

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| HDA | 521 | Counting Arts and Culture: Reasoning with Empirical Evidence | Builds understanding of economic concepts as applied to the arts and culture sector, with specific attention to how art and culture enterprises work as businesses, how such enterprises function in our wider economic system, which are growing and which disappearing (and why), all toward the goal of building the student's capacity to lead arts and culture enterprise in a complex economic environment. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HDA | 522 | Media Literacy and Distribution | Addresses the impact that digital distribution has had on traditional media business models and the way media and our culture are changing because of it. Also looks at the way in which industries are adapting to this change in the media landscape. Three distinct sections: content literacy, production and distribution metrics, economic and cultural implications. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HDA | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HDA | 581 | Emerging Media Colloquium | Focuses on professional and community development outcomes for the graduate programs in emerging media. Students have significant contact with partners and guests from industry and community, are able to discuss and expand their interests and views with their faculty and peers, share and discuss progress on research and professional projects, create a personal professional development plan, and refine and present their portfolio of work for public review. In addition, this course serves as a point of connection between student cohorts and faculty for the purposes of social/community development and wellness. | N | SEM | Y | GNA | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1 | | Prerequisite(s): Design (Experience Design) MSD or Digital Culture (Extended Reality Technologies) MS student |
| HDA | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HDA | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HDA | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HDA | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HDA | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HDA | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HDA | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HDA | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | Dean, Herberger Institute for Design and the Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HEB | 101 | Elementary Modern Hebrew I | Reading, writing, speaking, and understanding of basic modern Hebrew, with emphasis on pronunciation and grammar. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | |
| HEB | 102 | Elementary Modern Hebrew II | Reading, writing, speaking, and understanding of basic modern Hebrew, with emphasis on pronunciation and grammar. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): HEB 101 with C or better OR Visiting University Student |
| HEB | 133 | Elementary Biblical Hebrew | Offers an introduction to Biblical Hebrew, the language in which most of the books of the Hebrew Bible/Old Testament are written. Provides the basic tools to understand and translate Biblical Hebrew texts. Covers the alphabet, basic vocabulary, morphology and syntax. Emphasizes a linguistic, literary and historical approach to the biblical text. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Credit is allowed for only HEB 133 (HEB 131) or JST 133 (JST 131) or REL 133 (REL 131) |
| HEB | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| HEB | 201 | Intermediate Modern Hebrew | Intensive review of grammar, with emphasis on the development of the skills of speaking, listening comprehension, reading, and writing. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): HEB 102 with C or better OR Visiting University Student |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| HEB | 202 | Intermediate Modern Hebrew | Intensive review of grammar, with emphasis on the development of the skills of speaking, listening comprehension, reading, and writing. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): HEB 201 with C or better |
| HEB | 233 | Intermediate Biblical Hebrew | Completes the study of Biblical Hebrew grammar. Prepares students to translate simple texts from Hebrew Bible and use critical editions of the biblical text. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): HEB 133 (HEB 131), JST 133 (JST 131), or REL 133 (REL 131) with C or better; Credit is allowed for only HEB 233 (HEB 132) or JST 233 (JST 132) or REL 233 (REL 132) OR Visiting University Student |
| HEB | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| HEB | 313 | Advanced Modern Hebrew I | Continues developing speaking, reading, and writing skills in modern Hebrew, with a focus on different aspects of the Israeli culture studied in literature, cinema, and music. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): HEB 202 with C or better OR Visiting University Student |
| HEB | 314 | Advanced Modern Hebrew II | Continues developing speaking, reading, and writing skills in Modern Hebrew, with a focus on different aspects of the Israeli culture studied in literature, cinema, and music. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): HEB 202 OR Visiting University Student |
| HEB | 316 | Literary Readings of the Hebrew Bible | Literary analysis of two of the main genres of the Hebrew Bible: narrative art and poetry. Students learn the main literary conventions of biblical prose and poetry, and how these conventions are applied or subverted. Each class comprises the study of a literary aspect, close readings, and thematic discussions. Biblical texts are read only in translation. They are situated in the religious, literary and artistic traditions that have developed on their basis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ENG 316, HEB 316, JST 316, REL 316 OR Visiting University Student |
| HEB | 333 | Biblical Hebrew Literature I | Advanced study of Biblical Hebrew. Deepens understanding of the grammar and composition of the Hebrew Bible. Translates texts of different literary genres (narrative, legal, poetic, prophetic) and different periods. Introduces the basic principles of textual criticism and different approaches to interpret the texts of the Hebrew Bible. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): HEB 233 (HEB 132), JST 233 (JST 132), or REL 233 (REL 132) with C or better; Credit is allowed for only HEB 333 (HEB 231) or JST 333 (JST 231) or REL 333 (REL 231) OR Visiting University Student |
| HEB | 334 | Biblical Hebrew Literature II | Readings in prophetic and wisdom texts of the Hebrew Bible and cognate literature (Dead Sea Scrolls, inscriptions, etc.). Addresses advanced topics in Biblical Hebrew language and literature, as well as in translation and interpretation. Topics and texts change annually. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): HEB 333 (HEB 231), JST 333 (JST 231), or REL 333 (REL 231) with C or better; Credit is allowed for only HEB 334 (HEB 232) or JST 334 (JST 232) or REL 334 (REL 232) OR Visiting University Student |
| HEB | 347 | Modern Israeli Literature in Translation | Modern Hebrew, or Israeli Hebrew, started at the end of the 19th century in Europe and today it is the language of the State of Israel. During this short period modern Hebrew developed literature with its unique local characteristic, as well as universal ideas. Reads and examines four books against their social and historical background. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ENG 347 or HEB 347 or JST 347 or SLC 347 or ENG/HEB/JST/SLC 394 (Modern Hebrew Literature in Translation) |
| HEB | 348 | Israeli Society and Culture | Different partitions of the Israeli society, based on ethnic origin, by religious affiliation or by political association. Depicts how Israel is an absorbing immigration state. Israel is a welfare state and the course covers aspects of a welfare state, such as health, retirement, public transportation, art, higher education and more. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only HEB 348 or HEB 394 (Israeli Culture and Society) or JST 348 or REL 311 or SLC 348 OR Visiting University Student |
| HEB | 349 | Israeli Wars in Israeli Movies | From its first day, the State of Israel has been in a state of war with the Arab countries. Every few years, the fighting erupted into an open war. At the beginning of the country, there was a consensus that the wars were forced on the Israelis, and therefore, the heavy toll on human life was unavoidable. Since the Six Day War, 1967, and the political change in 1977, Israeli society is split in attitude toward war. The absolute belief in the political and military leaders was shaken, and new political agendas entered the political arena. To this divided society, the Intifadas occurred with the waves of terrorism. These events added fire to the heated debates in Israel. One means of expression is through the cinema. In this course, students watch, analyze, and discuss selected movies on the Israeli wars and terrorism in the streets of Israel. Through these movies, produced by Israelis, we'll try to understand the mood and attitude of the Israelis toward war, enemies, and political and military leaders. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only FMS 349 or HEB 349 or JST 346 or HEB 394 (Israeli Wars in Israeli Movies) OR Visiting University Student |
| HEB | 375 | Contemporary Culture of Israel | Intense study of aspects of historical, social, political, and cultural modern life in Israel. Beginning of Zionism to present day. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | |
| HEB | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |

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| HEB | 411 | Judaism and the Beginnings of Christianity | Studies the beginnings of Christianity in relation to Judaism: their common context, the process of their distinction and their mutual influence. Through a historical and thematic approach, explores the parallel construction of Jewish and Christian identities. Combines readings from primary sources (Hellenistic Judaism, Qumran, New Testament, Early Christianity, Rabbinic Judaism) and up-to-date scholarly literature. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Prerequisite(s): ENG 101,105,107,108 or HST 100,102 or REL 100 or SLC 142, 202 w/ C or better; Credit is allowed for only HEB/JST/REL 411 or HEB 394 (Judaism & the Origins of Christianity) or HEB 494 (Judeo-Hellenistic Lit) OR Visiting University Student |
| HEB | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| HEB | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| HEB | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | N | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| HED | 510 | Introduction to Higher Education | Overview of American higher education, including philosophical, political, and social aspects. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 527 | Seminar: Student Affairs Administration | Organizational models, administrative competencies and skills, and emerging challenges of student affairs administration. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 573 | Applied Inquiry in Higher Education | Provides an overview of research, evaluation and assessment practices in higher education and strategies for utilizing these practices as professionals in higher education. Focuses on learning about and demystifying the process of scientific inquiry, with the intent of translating that knowledge to regular practice in a higher education professional career. It is not a highly technical methods course--no advanced knowledge of statistics or qualitative techniques is assumed--but instead gives practitioners a foundation in educational research design as well as the tools to be literate, thoughtful, critical and frequent consumers of research. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Higher and Postsecondary Education MEd student |
| HED | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 603 | Foundation of Data Analytics in Higher Education | How decisions are made in higher education and how data and analytics can support university leaders. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 604 | Analytics Process and Technology in Higher Education | Process and technology used to facilitate data-informed decision making in higher education. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student; HED 603 |
| HED | 605 | Data Management and Preparation for Higher Ed Analytics | Data preparation and management for data-informed decision making in higher education institutions. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; HED 603 |
| HED | 606 | Advanced Analytic Methods for Higher Education | Advanced analytic methods, including data mining, in support of data-informed decision making in higher education institutions. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; HED 603 |
| HED | 607 | Visualization and Presentation for Higher Education | Principles of effective presentation and visualization of data for exploratory, predictive and persuasive purposes. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 608 | Trends in Advanced Analytic Methods for Higher Education | Emerging advanced analytic method in use within higher education. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; HED 603 |
| HED | 620 | Diversity, Equity and Social Justice in Higher Education | Overview of the demographic of college students, faculty, and staff. Addresses issues of access, persistence and development. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| HED | 634 | The American Community College | Philosophy, history, curriculum, faculty, students, organization, financing, research, policy and current issues. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 644 | Higher Education Finance and Budgeting | Financial planning and budgeting in higher education institutions. Issues related to financing public and private colleges and universities. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 649 | Law and Policy in Higher Education | Analyzes legal issues related to higher education; examines key court decisions. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 679 | The American College Student | Overview of American college student from demographic, background characteristics, and values/attitudes/perspectives. Includes access, persistence, and degree completion. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 688 | Organizational Theory | Major views of organizations and their influence on role definition and participant behaviors in educational organization. | N | SEM | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 689 | Leadership in Higher Education | Theory and practice of leadership and administration in higher education institutions. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HED | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HEP | 100 | Introduction to Health and Wellness | Current concepts in health, exercise, and wellness. Emphasizes personal health, theories, attitudes, beliefs, and behaviors. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | SB | Credit is allowed for only HEP 100 (EXW 100) or KIN 100 |
| HEP | 102 | Foundations of Health Education and Health Promotion | Foundational course for those who anticipate working in the health field. Learners gain a broad understanding of historical, cultural and philosophical underpinnings of health promotion. They refine necessary skills for working as health professionals, including effective researching, writing and critical thinking. Explores principles of a preventive approach to health and wellness. Introduces the importance of evidence-based practice. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | |
| HEP | 241 | Health Education Methods for Injury Prevention and Preparedness | Unintentional injuries affect people throughout the lifespan. Examining factors that influence injury helps to determine effective education and prevention efforts. Explores strategies for preventing unintentional injuries for adults and children. Examines topics in injury prevention for the development of health promotion resources and practices in the following settings: home, sports, recreational and transportation. Also includes emergency preparedness education focused on helping people prevent and mitigate the effects of emergency/unforeseen incidents at the individual, family and community levels. Specifically, explores the CDC Crisis & Emergency Risk Communication (CERC) program as a tool for developing effective communication strategies regarding emergency situations. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | |
| HEP | 251 | Preventing HIV and Substance Misuse | Provides an introductory examination of Human Immunodeficiency Virus (HIV), substance misuse and addiction. Explores health education and promotion approaches to preventing both HIV and substance misuse and examines the biological, historical and societal implications of these diseases. Prepares learners to deliver HIV and substance misuse prevention education. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only EXW 351 or HEP 251 (EXW 312) |
| HEP | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| HEP | 303 | Human Sexuality for Health Education | Provides preprofessional primary/secondary teachers and health education specialists with knowledge of the physiological, psychological and social aspects of human sexuality for health education. Provides content knowledge and curriculum development strategies to support educators in creating human sexuality curriculum for school and community health settings. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |

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| HEP | 348 | Methods of Health Education | Covers how to develop sound, effective, appropriate instruction and learner experiences utilizing backwards planning, formative and summative assessment methods, educational psychology, and appropriate instructional methods to facilitate the mastery of health-related knowledge, skills, attitudes and behaviors in health education and health promotion. Focuses on understanding best practice pedagogy and the diverse learner; structuring the learning environment; developing appropriate student learning objectives; selecting appropriate instructional methods; and developing a quality lesson, assessments, presentation and unit plan. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| HEP | 350 | Substance Use and Addictive Behaviors | Examines substance use patterns throughout the U.S. Explores regional trends, historical influences and policy impacts. Presents effective prevention and intervention practices. Emphasizes the importance of reducing stigma associated with substance use. Learners engage in scientific inquiry and research. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BIO 160 or 201 with C or better OR Visiting University Student |
| HEP | 361 | Digital Health Communication and Education | Application-based course explores digital health communication and education. Evaluates the ways in which digital platforms are used to share health information. Teaches how to utilize social media to teach others about evidence-based health information. Examines misinformation and effective ways to challenge it. Creates evidence-based digital health communication campaign. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only EXW 321 or HEP 361 (EXW 361) OR Visiting University Student |
| HEP | 371 | Conflict Management and Mediation and Violence Prevention | Explores conflict mediation and violence prevention interventions. Prepares students to address conflict, deal effectively with difficult people, and incorporate effective conflict management and mediation skills in various personal and professional settings. Examines and applies principles of the public health approach of violence prevention programming. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only EXW 331 or HEP 371 (EXW 371) |
| HEP | 380 | Body Image and Wellness | Explores body image in American culture from physical, psychological, historical, and societal perspectives. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 30 hours OR Visiting University Student |
| HEP | 384 | Preinternship for Health Education and Health Promotion | Professional development course designed to help students prepare for senior-year experiential learning courses: internships and applied projects. Facilitates strengthening of interpersonal competencies and professional self-marketing through resume development, communication and networking. Prepares students for either the Internship or the Applied Projects course through Internship Learning Agreement or Applied Project Proposal documentation, respectively. | N | LEC | N | YGB | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): College of Health Solutions major; minimum 75 hours |
| HEP | 386 | Assessing Strengths and Needs for Health Education and Promotion | Experiential course in which students assess a health issue in their home communities. Students select a health topic on which they focus throughout the course. They conduct a needs and strengths assessment, collecting both primary and secondary data; volunteer for an organization working on the health issue they choose; create a plan to actualize an evidence-based intervention; and develop a mission statement, goals and SMART objectives. The result is a foundational health promotion program plan that may be further developed in a subsequent course. | N | PRA | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): HEP 102 with C or better; minimum 45 hours; Credit is allowed for only HEP 386 or HEP 394 (Health Education and Health Promotion Capstone 1) |
| HEP | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| HEP | 410 | Obesity Perspectives and Prescriptions | Examines the impact of obesity or body fatness on health from multiple perspectives. Provides a structure for understanding, critiquing and synthesizing the information and misinformation about obesity, weight loss and health. Challenges students to examine potential obesity solutions from a wellness perspective by considering obesity as a normal physiological response within a pathological environment and explores several applications for prevention and treatment of obesity. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BIO 160 or 202 with C or better; PSY 101 with C or better; Credit is allowed for only EXW 510 or EXW 598 (Obesity Perspectives and Prescription) or HEP 410 (EXW 410) OR Visiting University Student |
| HEP | 443 | Emotional Health and Interpersonal Relationships | Explores factors associated with the development of emotional health and well being. Emphasizes pre-professional primary/secondary teachers and health education specialists teaching and promoting emotional health within a school or community setting. Encourages pre-professional primary/secondary teachers and health education specialists to deepen their commitment to effective curriculum principles related to emotional health. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| HEP | 444 | Epidemiology | Introduces epidemiological concepts and prepares the student to read, comprehend, and report epidemiological research. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): any CS statistics course with C or better; Credit is allowed for only HEP 444 or POP 598 (Epidemiology) OR Visiting University Student |

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| HEP | 448 | Foundations of School Health Education | Illustrates health education in K-12 and post-secondary educational settings. Explores various resources for health education specialists, including the CDC's Division of Adolescent and School Health, the School Health Index, the Health Education Curriculum Analysis Tool, and the Coordinated School Health Approach. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |
| HEP | 452 | Health Advocacy in Health Education | Learn how to make change happen to improve health for individuals and communities. Identifies and discusses features of coalitions and partnerships that support advocacy and policy change. Describes and applies methods and resources for advocating in health promotion, including photovoice, positive deviance and digital advocacy. Outlines and practices key strategies for communicating with diverse audiences. Introduces a strengths-based, community-led paradigm for generating systems change. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| HEP | 454 | Health Promotion Program Planning and Implementation | Applies theory-based concepts and methods of health promotion (HP). Covers selected topics in HP across a variety of domains of health. Program planning concepts include the use of planning frameworks, needs assessments, and the use of theory in health promotion program planning. Also covers practical issues related to health promotion program implementation such as resource management and program marketing. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): CHS 340 (EXW 340) with C or better; ENG 101, 105, or 107 with C or better; HEP 102 (EXW 102) with C or better; Credit is allowed for only EXW 554 or HEP 454 (EXW 454) OR Visiting University Student |
| HEP | 456 | Health Promotion Program Evaluation | Covers program evaluation concepts including how to plan an evaluation, how to analyze and interpret data, and how to report evaluation results. Students learn a basic framework for conducting a program evaluation, various research/evaluation designs, and data analysis and statistics. Topics are covered in enough detail so that the student may understand how inferences are made regarding program evaluation. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): HEP 454 (EXW 454) with C or better; Credit is allowed for only EXW 556 or HEP 456 (EXW 456) OR Visiting University Student |
| HEP | 466 | Health Promotion Program Management and Administration | Develops skills necessary to become an effective grant writer and health promotion manager. Identifies sources of funding, conducts needs assessment research, and tailors grant proposals for health promotion programs. Uses team and individual processes to build knowledge and skills for managing and administering health education/promotion programs. Aligned with specific competencies and objectives required for Certified Health Education Specialists (CHES) offered by the National Commission for Health Education Credentialing. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| HEP | 476 | Community Health | Applies major concepts of community health with an emphasis on contextual tailoring. Defines and explores the community science paradigm. Defines and applies cultural competence. Presents features and current trends for health and health care in the U.S., including key policies, family health, minority health and environmental influences. Reinforces the commitment to evidence-based practice. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): HEP 454 (EXW 454) with C or better OR Visiting University Student |
| HEP | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | |
| HEP | 486 | Applied Projects in Health Education and Health Promotion | Provides an opportunity for self-directed, structured practice in health education and health promotion with faculty support and supervision. Students develop and/or implement a health education and health promotion project of their own design, based on self-identified interests and long-term career plans. Applies specific competencies of health education specialists, preparing students to enter the workforce as confident and practiced health professionals. Requires permission to enroll from the course instructor, based on approval of the applied project proposal prepared during the preinternship course. | Y | PRA | Y | GNA | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): HEP 384; HEP 452 (EXW 452); HEP 454 (EXW 454) OR Visiting University Student |
| HEP | 490 | CHES Exam Preparation | Prepares qualifying students for the Certified Health Education Specialist (CHES) examination offered by the National Commission for Health Education Credentialing. Provides a review of the Eight Areas of Responsibility for Certified Health Education Specialists. Increases knowledge of health education and health promotion concepts to prepare for the CHES examination. | N | LEC | N | YGB | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): Community Health BS major or HEP 454 with C or better; minimum 45 hours OR Visiting University Student |
| HEP | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): Barrett Honors student |
| HEP | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): Barrett Honors student |
| HEP | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|---|--|-------|-----------------|--|
| HEP | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-3 | | |
| HHE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HHE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Herberger Institute of Design and the Arts Graduate student |
| HIN | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| HIN | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| HON | 171 | The Human Event | Landmarks in the social and intellectual development of the human race, with emphasis on critical thinking and argumentative writing. Enrollment restricted to Barrett students. | N | LEC | N | OPT | Barrett, The Honors College | Barrett, The Honors College | 3 | L or HU | Prerequisite(s): lower-division Barrett Honors student |
| HON | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | Barrett, The Honors College | Barrett, The Honors College | 1-3 | | Prerequisite(s): Barrett Honors student |
| HON | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Barrett, The Honors College | Barrett, The Honors College | 1-4 | | Prerequisite(s): Barrett Honors student; maximum 60 hours |
| HON | 272 | The Human Event | Covers the Renaissance through the modern period. | N | LEC | N | OPT | Barrett, The Honors College | Barrett, The Honors College | 3 | (L or HU) & H | Prerequisite(s): HON 171 with C or better |
| HON | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Barrett, The Honors College | Barrett, The Honors College | 1-4 | | Prerequisite(s): Barrett Honors student |
| HON | 370 | History of Ideas | Advanced and intensive survey of key social and intellectual currents in the development of humanity as reflected in both philosophical and creative works with an emphasis on critical thinking and discussion, as well as argumentative writing. | N | SEM | N | GNA | Barrett, The Honors College | Barrett, The Honors College | 3 | L or HU | Prerequisite(s): Upper Division Barrett Honors student; Credit is allowed for only HON 171 or HON 272 or HON 370 |
| HON | 378 | Culture and Society in England, Ireland, and Scotland | Chronologically explores texts, events, and sites for historical and cultural impact on development of England, Ireland, Scotland, and their countries' relationships with each other. | N | SEM | N | OPT | Barrett, The Honors College | Barrett, The Honors College | 3 | HU & H & G | Prerequisite(s): Barrett Honors student |
| HON | 379 | Romantics, Victorians, and Moderns | Examines the development and impact of various literatures, arts, and ideas in England, Ireland, and Scotland from the Romantic through the Modern period. | N | SEM | N | OPT | Barrett, The Honors College | Barrett, The Honors College | 3 | HU & G | Prerequisite(s): Barrett Honors student |
| HON | 380 | Aesthetics and Society | Advanced, interdisciplinary seminar explores the unique roles of aesthetics in society through philosophy, cultural studies, art, music, literature, film, and/or other media forms, with themes such as the politics of beauty, art and emotion, or creative production and reception. | N | SEM | N | GNA | Barrett, The Honors College | Barrett, The Honors College | 3 | HU | Prerequisite(s): Barrett Honors student; HON 171, 272, or 370 |
| HON | 381 | Science and Social Worlds | Advanced multidisciplinary seminar examining the historical, cultural and political roles of science in society, including the politics of scientific knowledge production, the ethics of new technologies, and philosophical approaches to the study of health and medicine. | N | SEM | N | GNA | Barrett, The Honors College | Barrett, The Honors College | 3 | | Prerequisite(s): Barrett Honors student; HON 171 and 272 (or HON 370 or 394: History of Ideas; Credit is allowed for only HON 381 or 394: Science and the Self |
| HON | 386 | Writing about Self and Place | Cultural curiosity and literary expression align in intellectually provocative ways that deepen our understanding of the interplay between self and place. Examines the ways in which conceptions of individual and national identity and cultural environments inform each other. Students read and analyze modern travel writing to learn literary strategies that they then employ when reflecting upon and documenting their experiences as individuals studying the culture of a place. Learning activities include engaging with a variety of creative nonfiction writing and creating personal narratives. | N | SEM | N | GNA | Barrett, The Honors College | Barrett, The Honors College | 3 | | Prerequisite(s): Barrett Honors student; HON 370 OR both HON 171 and 172; Credit is allowed for only HON 386 or HON 394 (Identity and Place) or HON 394 (Writing about Self and Place) |
| HON | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Barrett, The Honors College | Barrett, The Honors College | 1-4 | | Prerequisite(s): Barrett Honors student; minimum 30 hours |
| HON | 447 | Lean Launch | Students learn lean and customer development methodologies to test assumptions made about a new business concept that they wish to explore or launch. Teaches how to effectively utilize business models and critically assess the assumptions made through the testing of hypotheses to create innovative and market-ready ventures. Includes weekly presentations of learning points and team activities outside of the classroom. Open to students in any major of study with the required prerequisite. | N | LEC | N | GNA | Barrett, The Honors College | Barrett, The Honors College | 3 | | Prerequisite(s): W.P. Carey BA or BS major; ACC 241, 242, or 271 with C or better OR non-Business student with minimum ASU 2.50 GPA; minimum 56 hours; Credit is allowed for only ENT 447 (or MGT 447) or HON 447 or MGT 494 (Lean Launch) |
| HON | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Barrett, The Honors College | Barrett, The Honors College | 0-12 | | Prerequisite(s): Barrett Honors student |
| HON | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Barrett, The Honors College | Barrett, The Honors College | 1-6 | | Prerequisite(s): Barrett Honors student |

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| HON | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Barrett, The Honors College | Barrett, The Honors College | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better; minimum 75 hours |
| HON | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Barrett, The Honors College | Barrett, The Honors College | 1-4 | | Prerequisite(s): Barrett Honors student; minimum 45 hours |
| HON | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | Y | LEC | Y | OPT | Barrett, The Honors College | Barrett, The Honors College | 1-6 | | Prerequisite(s): Barrett Honors student |
| HON | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Barrett, The Honors College | Barrett, The Honors College | 1-7 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| HON | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Barrett, The Honors College | Barrett, The Honors College | 1-3 | | Prerequisite(s): Barrett Honors student |
| HPS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| HPS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| HPS | 311 | Origins, Evolution, and Creation | History of opposition to evolutionary thinking with special reference to American creationism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Credit is only allowed for BIO 344 or HPS 311 |
| HPS | 313 | Probability, Evidence, and Decision | Philosophical topics in epistemology and practical reasoning; probability and its use in representing and reasoning about belief, evidence, and rational choice. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): MAT 117 or 142 or higher; minimum 30 hours; Credit is allowed for only HPS 313 or PHI 313 |
| HPS | 314 | Philosophy of Science | Structure and justification of scientific theories, explanation, and theory change. Roles of observation and laws, theoretical concepts and entities, reduction, probability, confirmation, space and time, and causation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | HU | Credit is allowed for only HPS 314 or PHI 314 OR Visiting University Student |
| HPS | 322 | History of Science I | Development and application of scientific thinking from ancient times through the 17th century. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | HU & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only BIO 328 or HPS 322 OR Visiting University Student |
| HPS | 323 | History of Science II | Development and application of scientific thinking from the 18th century to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | HU & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only BIO 317 or HPS 323 OR Visiting University Student |
| HPS | 330 | History of Biology: Conflicts and Controversies | Focuses on 19th and 20th centuries, considering biology as a discipline. Evolution, problems of heredity, development, and cell theory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | H | Credit is allowed for only BIO 316 or HPS 330 OR Visiting University Student |
| HPS | 331 | History of Medicine | Scientific study of the human body, changing theories of disease, evolution of practical opinions on treatment, and the emerging institutionalization of medical practice. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | HU & H | Credit is allowed for only BIO 318 or HPS 331 OR Visiting University Student |
| HPS | 332 | The Darwinian Revolution | Origin, nature, and subsequent history of the ideas of Charles Darwin. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | |
| HPS | 336 | Exploration and Science | 500-year survey of exploration as a historical process and cultural activity of Western civilization, with emphasis on its links with modern science. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | SB & H | |
| HPS | 340 | Biology and Society | Explores interactions between biological sciences and society, e.g., biomedical, environmental, ethical, historical, legal, philosophical, political, and social issues. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better OR BIO 281 with C or better; BIO 282 with C or better; Credit is allowed for only BIO 311 or HPS 340 OR Visiting University Student |
| HPS | 349 | Nature, Sustainability and Religion | Explores how world religions have conceptualized the natural world, what they have contributed to the current environmental crisis and how they might also serve as inspiration to address the crisis. By focusing on Judaism, Christianity and Islam, the course introduces students to the field of religion and ecology and explores its relationship to other academic disciplines such as environmental philosophy and ethics, justice studies and gender studies. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only HPS 349 or JST 349 or REL 349 or SOS 349 or JST, REL, or SOS 394 (Religion and Ecology) or JST, REL, or SOS 394 (Religion and Environment) |
| HPS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| HPS | 410 | Biomedical Research Ethics | Considers issues related to values in science such as collaboration, finances, legal issues, media, mentoring, ownership of ideas, scientific integrity. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only BIO 416 or HPS 410 OR Visiting University Student |
| HPS | 452 | Philosophy of Biology and Medicine | Examines fundamental topics in the philosophy of biology and their implications for medicine. Examples include biological mechanisms and evidence-based medicine, species concepts and race, reductionism and the nature of individuality, and theories of function and health. Uses these topics throughout the semester to address two overarching questions about whether biology is fundamentally different from physics and whether medicine can be reduced to applications of biology. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): minimum 25 hours; Credit is allowed for only BIO 452 or HPS 452 or PHI 452 or BIO/HPS/PHI 394 (Philosophy of Biology and Medicine Introduction) or BIO/HPS/PHI 494 (Philosophy of Biology and Medicine) OR Visiting University Student |

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| HPS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | |
| HPS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| HPS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| HPS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| HPS | 495 | Undergraduate Research | Supervised research in biology/microbiology/molecular biosciences and biotechnology/or plant biology. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-3 | | Pre-requisite: Junior or senior standing |
| HPS | 496 | Undergraduate Thesis | Guided research culminating in the preparation of an undergraduate thesis based on supervised research done in this and previous semesters. | N | RSC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): junior or senior standing; Credit is allowed for only BIO 496 or HPS 496 or MBB 496 or MIC 496 OR Visiting University Student |
| HPS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-7 | | |
| HPS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-3 | | |
| HPS | 516 | History of Biology | Covers themes such as the voyages of discovery, systematics, and classification; morphology and embryology; Darwin and evolutionary biology; the rise of genetics; molecular and organismal approaches of post-WWII biology; recent history of biology. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 518 or HPS 516 |
| HPS | 520 | Masters of Nonfiction | Students read and critically discuss works by well-known nonfiction writers to improve their own writing skills. Consists of weekly writing exercises, reviewed with workshop-style discussions centered on individual authors, themes or genres such as history, journalism, personal essays, biography, character profiles, travelogues, book reviews and op/ed commentary. | N | LEC | Y | GNA | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HPS 520 or HSD 520 or HST 520 |
| HPS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HPS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HPS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HPS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HPS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HPS | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HPS | 615 | Biology and Society Lab | This course brings together graduate students, postdocs, and faculty members in biology and society. Sessions include panel discussions of biology and society topics from multiple perspectives, student-led discussions of important literature, practice presentations of papers for national meetings, discussion of dissertation and thesis ideas, and other activities that help to forge an active intellectual lab group. | N | LAB | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 615 or HPS 615 |
| HPS | 620 | Research Prospectus Writing | Workshop-style course where students develop and peer review graduate-level project prospectuses, such as those for NSF grant proposals, journal articles, theses, and dissertations. Appropriate for graduate students in Biology and Society, History and Philosophy of Science, the life sciences, and related programs. | N | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HPS 620 or BIO 620 |

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| HPS | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HPS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HPS | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HPS | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HRC | 200 | Introduction to Social and Cultural Analysis | Introduces social and cultural analysis. Focuses on key terms and analytical categories for interdisciplinary work in social and cultural analysis and related fields such as American studies, ethnic studies, women and gender studies and Latin American studies. Examines a range of forms of oppression and privilege from a social justice perspective. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | |
| HRC | 310 | Social and Cultural Analysis: Method and Theory | Covers how scholars in social and cultural studies think, argue, research and write. Traces the changing definition of fields such as American studies, ethnic studies, and women and gender studies. Studies these fields in relationship to 20th-century social movements and related theoretical categories including Marxism, cultural studies and class; feminism, gender and sexuality; and post-Colonialism, race and ethnicity. Covers basic archival and ethnographic research techniques underlying interdisciplinary research methods in these fields. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | C | Prerequisite(s): minimum 36 hours OR Visiting University Student |
| HRC | 480 | Capstone: Practices and Approaches | Focuses on a wide variety of interdisciplinary theories, methodologies and epistemologies that focus on social identities, power, privilege and activism. Students complete a scholarly research paper or project in their area of interest and engage with cutting-edge texts in the field. Encourages students to apply knowledge acquired throughout their undergraduate course of study, including the intersectional analysis of race, class, gender and sexuality and transnational theories. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L | Prerequisite(s): AMS 201, ETH 100, HRC 200, or WST 100; ENG 101, 105, or 107 with C or better |
| HRC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| HRC | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| HRC | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-3 | | |
| HSC | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| HSC | 210 | Cultural Aspects of Health | Examines how culture influences health, health care practices, barriers to health care, interactions with health care professionals, and health disparities in the U.S. Addresses the need for cultural competence among health practitioners. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | C | |
| HSC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| HSC | 300 | Complementary Health Care | Evaluates the major components of complementary and alternative health care models and evidenced-based recommendations related to complementary health care. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 56 hours OR Visiting University Student |
| HSC | 310 | Health Communication | Focuses on communicating topics related to health through an examination of theoretical frameworks, communication techniques, and different technologies including ehealth and mhealth. Addresses communication through channels that promote the health of individuals and communities. Topics may include clinician to client communication, peer to peer communication, health literacy, health in the media, and effective public health communication. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |

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| HSC | 340 | Changing Health Behaviors | Comprehensive review of the theoretical bases of health behavior change. Students gain the knowledge to identify behaviors associated with optimal health and wellness and to develop theory-based intervention strategies and techniques to effectively influence behavior change. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prereq(s): Comm Health or Exer & Wellness or Health Sci or Health Sci (Healthy Lifestyles Coach) BS major or Health Wellness Coach cert student; min 30 hours; Credit allowed for only CHS 340 (EXW 340) or EXW 342 or HSC 340 OR Visiting University Student |
| HSC | 355 | Eating for Lifelong Health | Examines dietary choices throughout the life span and how they impact personal health and wellness. Raises awareness of thoughts and behaviors related to food and physical activity. Recognizes potential behavioral and social factors that impact participation in wellness programs. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | SB | Prerequisite(s): NTR 100 or 241 OR Visiting University Student |
| HSC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| HSC | 400 | Practicum in Health Sciences | Supervised experience in area of student specialization. Students are placed with an agency, organization, business, and/or facility that meets their specific academic goals. | N | PRA | Y | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Health Sciences Senior student |
| HSC | 410 | Supporting the Health of Older Adults | Focuses on community and national policies and programs that affect the health of older adults, programs to improve access to health care as well as to improve overall health, issues related to family and professional caregiving, and future challenges related to caring for older adults. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |
| HSC | 412 | Health Issues in Later Life | Focuses on health issues that primarily affect adults ages 50 years and over as related to nutrition, physical activity, environmental toxins. Focuses on exploring those factors known to promote healthy aging. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |
| HSC | 420 | Evaluation of Health Sciences Research | Investigates methods of inquiry in health sciences and techniques for critiquing and interpreting research within the context of evidence-based practice. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): POS 401 (or PSY 230 or 231 or SOC 390 or STP 226 or 231 or 420) OR Medical Studies major with HCD 300 (or HSC 320) |
| HSC | 432 | Legal Issues in Health Care | Legal doctrines provide protection of consumers, health care providers, and health care institutions with regard to health care delivery including access and cost. Provides an overview of the legal obligation and rights of private and public stakeholders in the delivery and receipt of health care services. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| HSC | 440 | Health Coaching Concepts and Skills | Health and wellness coaching skills and competencies for health professionals with emphasis on the practical application of behavioral health coaching theories, motivational interviewing and goal-attainment skills to empower clients and promote sustainable healthy lifestyle changes. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): CHS 340 (EXW 340), EXW 342, HSC 340, or NTR 350; Credit is allowed for only HSC 440 or NTR 530 or HSC 598 (Health Coaching Concepts and Skills) OR Visiting University Student |
| HSC | 441 | Applied Health Coaching Techniques | Complements previously learned coaching theory, skills and techniques related to guiding individuals and groups through meaningful lifestyle changes by emphasizing the use of evidence-based coaching approaches. Using a mentor, self-assessment and peer feedback model, students practice, compare and contrast diverse coaching methodologies emphasizing motivational interviewing techniques and cultivating their coaching voice. Students are assigned coaching clients, schedule coaching sessions, follow-up with clients, practice professional boundaries setting, become acquainted with ethical issues and referral processes, and validate their knowledge and skills when working with people with chronic disease who require lifestyle management strategies to improve their conditions. Program faculty provide mentorship and feedback regarding student's coaching performance. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): HSC 440 with C or better; Pre- or corequisite(s) with C or better if completed: EXW 325 or 335; EXW 344; HSC 355 (or NTR 355); NTR 241 OR Visiting University Student |
| HSC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | YGB | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): minimum 2.00 GPA; minimum junior standing |
| HSC | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): Barrett Honors student |
| HSC | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| HSC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| HSC | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| HSC | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-3 | | |

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| HSC | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-4 | | |
| HSD | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 501 | Science and Technology Policy | Covers the role and nature of science and technology in democratic societies, and how policy impacts their development, use and potential risks and benefits. Addresses the history of science and technology policy in the U.S. and how science-based research and innovation are integrated into the design and implementation of government decision making. Students study the history and actions leading to the formation of a science and technology-related policy of their choice. Drawing on multiple areas of expertise, the course emphasizes the need for novel yet informed approaches to science and technology policy in today's rapidly changing world. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 502 | Advanced Science and Technology Policy | Explores innovation systems; the relationship between science and technology policy, equity and equality; the theory and practice of policy implementation; the utility of public value mapping; and the nature of technological fixes. Begins to explore the policy challenges and opportunities presented by emerging and converging technologies, and a changing governance and geopolitical landscape. Students study the implementation of a specific previously selected science and technology policy. Brings a transdisciplinary approach to science and technology policy that is uniquely relevant to today's increasingly technologically complex world. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): HSD 501 with B or better |
| HSD | 503 | Governing Emerging Technologies | Examines the governance of science and technology through a focus on emerging technologies whose potential consequences in society are apparent only in anticipation and whose manifestations are still being shaped by local, domestic, and international institutions. These emerging technologies include nanotechnologies, synthetic biology, and other technologies associated with genetic modification, and information and cognitive science and neuro-technologies. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 504 | Analysis of Large-Scale Socio-Technological Systems | Provide skills and methods to analyze the design and management of large-scale socio-technological systems and the societal impacts of large-scale technological systems change. Emphasizes assessing the intertwining of lives and livelihoods in large-scale technological systems and the risks and vulnerabilities associated with large-scale systems failures, including the effects of both technological failures and natural hazards. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 505 | Science and Technology Policy Workshop | Provides the capstone experience for the Professional Science Master's in Science and Technology Policy. Builds on theoretical and analytical work carried out in the program's required courses, providing an integrative experience that requires students to synthesize knowledge gained in prior coursework and apply it to real-world policy problems and settings. By blending exposure to national science and technology policy officials and nationally recognized academic experts, the workshop both advances student learning beyond that possible in the classroom while encouraging students to expand their abilities to connect theoretical and practical insights. At the same time, the workshop provides a natural transition from the student's formal classroom learning to their required applied policy internships, which commences upon the end of the workshop. | N | SEM | N | YGB | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 512 | Solar Energy Policy Workshop | Successful and rapid development of solar energy requires the training of a highly skilled technical workforce that is also well versed in the socioeconomic (e.g., social, economic, behavioral, policy) and commercial aspects of solar energy. Provides practical policy experience. Explores the relationships among science, policy and societal outcomes in a place where many important decisions about these things are made: Washington, D.C. During the one-week course, students meet and interact with the people who fund, regulate, shape, critique, publicize and study solar energy and science, including congressional staffers, funding agency officers, lobbyists, regulators, journalists, academics, museum curators, and others. | N | SEM | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 2 | | Prerequisite(s): Solar Energy Engineering and Commercialization PSM student; Credit is allowed for only HSD 512 or HSD 594 (Solar Energy Policy Workshop) |

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| HSD | 515 | Science, Technology and Public Affairs | Explores the political, economic, cultural, and moral foundations of science and technology policy and governance in democratic society. | N | LEC | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 515 or GLG 547 or HSD 515 or PAF 547 or SOS 516 |
| HSD | 517 | Uncertainty and Decision Making | Knowledge is always incomplete, yet decisions must be made. Explores uncertainty and its relation to decision making, with a particular focus on the ways that science and science-derived information is applied with the intent of improving decisions. Explores the many meanings and origins of uncertainty, using theoretical and case-based approaches. A central theme is the relation among uncertainty, scientific prediction, and decision making, especially in politically charged issues, for example as related to management of the environment. Ultimately understands how effective decisions can be made in the face of inevitable uncertainties and contested knowledge. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASB 517 or BIO 517 or BIO 591 (Uncertainty & Decision Making) or HSD 517 or POS 527 or SOS 518 |
| HSD | 520 | Masters of Nonfiction | Students read and critically discuss works by well-known nonfiction writers to improve their own writing skills. Consists of weekly writing exercises, reviewed with workshop-style discussions centered on individual authors, themes or genres such as history, journalism, personal essays, biography, character profiles, travelogues, book reviews and op/ed commentary. | N | LEC | Y | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HPS 520 or HSD 520 or HST 520 |
| HSD | 521 | Writing True Stories that Matter | Researchers, policy wonks, grant writers, program managers, aspiring politicians, decision makers and writers of all ages: Everyone needs to know how to find and write a strong, effective, true story. This course helps students and professionals transform research, experiences and ideas into compelling nonfiction narratives so that readers are both educated and entertained. In this semester-long workshop, the instructor proceeds, step-by-step, through the entire writing true stories process, from finding the story to recreating scenes and building a scene-by-scene structure that is informative and cogent. Participants learn how to read with a writer's eye and recognize and utilize structural patterns. Explains, illustrates and practices literary techniques like dialogue, flash descriptions, inner point of view, and the art of imbedding information in story. | N | SEM | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HSD 521 or COM 598 (Writing True Stories That Matter: Creative Nonfiction) or HSD 598 (Writing True Stories That Matter: Creative Nonfiction) |
| HSD | 540 | Responsible Innovation and Research | Responsible Innovation (RI) and Research is a vision of how values can best be incorporated into the practice of science, technology and innovation (STI). It touches on a host of other similar concepts like Public Interest Technology, Tech for Good, Just Tech and others. At their core, RI and its cognates understand that STI is not a value-free endeavor, and thus it is better to recognize those values and work with them to help assure that our investments in STI are attuned to the goals of science policy as well as to broader public values and the pursuit of a more just, democratic society. Emphasize bringing students to the forefront of the emerging scholarship around RI and related concepts, including perspectives grounded in justice, equity, diversity and inclusion; communicating with colleagues and publics about values and RI in the practice of STI; and performing a real-world project, inquiry or intervention around RI. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 550 | Prototyping Futures | In this project-based course, students work in interdisciplinary teams to explore and envision the future of communities, industries, technologies and other elements of our society. In this process, students develop their understanding of the application of extended reality technologies, practices and methodologies for design, and tools for applying research to constructing prototypical scenarios for the future, in addition to gaining experience in effective collaboration. This course is about critical, methodological and narrative skills—the ability to move fluidly through domains, create low-fidelity prototypes, and devise creative solutions to complex problems by envisioning new realities. The development of deep technical skills in a chosen field follows in each program. | N | LEL | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AME 550 or DSC 550 or HSD 550 |

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| HSD | 551 | Future-Focused Research Methods | In times of discontinuous change, deep ambiguity and high levels of novelty, the future is characterized by radical uncertainty. Making decisions, choosing policies or organizing community action is complicated by the range of complex potential futures in play. As researchers and practitioners concerned with socio-technical change, what are the tools and methods to grapple with and make sense of uncertainty? This class surveys the field of foresight, drawing from a broad array of scholarly traditions, to catalogue the different methodological approaches to navigate change. Looks to scholars who approach the sociology of time, the dynamics of socio-technical systems, innovation studies, social psychology and futures studies to explore the concept of the future with an eye toward the implications for research methods. Utilizes different ways of thinking about the future to support and develop cognitive, social and organizational capacities to imagine and enact different futures. In doing so, the epistemology of the future is foregrounded, probing the nature and consequences of anticipatory knowledge production. | N | SEM | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 552 | Worldbuilding and Imagination | To make a convincing future, you need to create a convincing world. Storytellers, artists, game designers, politicians and scientists all engage in the practice of building worlds in order to inspire, to question, and sometimes to terrify us. They create narratives, experiences and simulations of places, real and imagined, that combine scientific, cultural and aesthetic forms of knowledge. Why? This course explores the theory and practice of worldbuilding as a way to time travel to the future and the past, as well as to other configurations of the present. It also allows us to better understand the systems we live in and define plans of action to change them for the better. In this way, worldbuilding is a way to create collective visions for the future that inspire change today. Students study a variety of future worlds and build their own through collaborative projects that involve writing, making and public engagement. | N | SEM | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 555 | Strategic Design Futures | Designers are increasingly addressing more strategic and long-term situations, while non-designers are increasingly interested in using design approaches to address diverse challenges. Strategic design is a practice that focuses on formulating strategies (problem setting) rather than only implementing strategies (problem solving). Strategic design is closely related to contemporary and emergent design practices such as user experience design, design thinking, service design, speculative design, behavioral design, and co-design, which are increasingly explored, adopted and adapted in projects and organizations. Students understand and practice a variety of strategic design methods and mindsets with the aim of changing and envisioning futures. With hands-on activities and real-world context, students use and develop core strategic design skills such as visualization, sensemaking, synthesis, speculation and facilitation. Some design tools that may be used include storyboards, user flows, journey mapping, participatory ideation, visioning, service blueprints, prototyping-testing. Includes seminar discussions and hands-on activities with a "live project." | N | PRO | N | Z1 | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only DSC 555 or DSC 598 (Strategic Design Futures) or HSD 555 |
| HSD | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | |
| HSD | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | GNA | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRA | Y | GNA | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| HSD | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Global Futures | School for the Future of Innovation in Society | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 601 | HSD I: Human Dimensions of Science and Technology | Interdisciplinary synthesis, theoretical foundations, and methods for humanistic and social science research on science and technology. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 602 | HSD II: Science, Power and Politics | Interdisciplinary synthesis, theoretical foundations, and methods for humanistic and social science research on science and technology. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 610 | Colloquium | Regular meeting for the entire HSDST community. Includes outside speakers, student and faculty member presentations, and community discussions. | N | SEM | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRA | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Global Futures | School for the Future of Innovation in Society | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSD | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Global Futures | School for the Future of Innovation in Society | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 101 | Introduction to Human Systems Engineering | Introduces basic principles, methods and theories of psychology and applications to engineering problems relevant to human systems. Gives particular attention to the intersection of psychology and engineering. Students learn brain anatomy and physiology, sensation and perception, cognition, social systems and research methods so that they are able to design systems consistent with human capabilities and limitations. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | SB | |

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| HSE | 223 | Applied Biology of Human Behavior | Introduces the biological basis of human behavior and implications for human systems engineering. Structure and function of the nervous system as well as the behavioral effects of the physiological processes outside the brain (for example, hormones secreted by glands). Biological processes involved in many aspects of our behavior such as eating, sleeping, sexual behavior, emotional responses, sensory perception, learning and memory, language and cognitive functions, mental illness and drug abuses. Introduces a wide range of techniques and methods used to investigate the biological foundations of behavior. Prepares students for advanced courses in neuroscience, psychology or related fields. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | SB | Prerequisite(s): HSE 101 or PSY 101 with C or better OR Visiting University Student |
| HSE | 224 | Applied Social Science | Covers social behaviors, social cognition and emotion critical for engineered systems that interact with humans (artificial intelligence, robots). Students learn how human beings behave, think and feel in daily social situations and think about how that information can be used to create effective human systems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | SB | Prerequisite(s): HSE 101 or PSY 101 with C or better OR Visiting University Student |
| HSE | 225 | Human Systems Integration | Reviews human systems integration (HSI), which is basically systems engineering from a human-centered perspective. Research, theory and methodological approach as applied to a variety of systems ranging from transportation systems to medical and military systems. Discusses handbook chapters and specific examples of human systems integration. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): HSE 101 or PSY 101 with C or better; Credit is allowed for only HSE 225 or IEE 225 OR Visiting University Student |
| HSE | 230 | Statistics for Human Systems Research I | Basic methods of exploratory data analysis (including graphics) and statistical computing methods, including a detailed look at hypothesis testing, effect size and power analysis, as well as some methods for dealing with categorical and discrete data. Introduces both correlation/regression and analysis of variance (ANOVA), as well as common statistical software. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | CS | Prerequisite(s): HSE 101 or PSY 101 with C or better; MAT 117 or higher with C or better OR Visiting University Student |
| HSE | 290 | Experimental Methods for Human Systems Research | Introduces the basics of research methodology as applied in human systems engineering. Quantitative and experimental design from an applied perspective. Guided study of the process of conducting research within human systems engineering. Project topics range from research question generation and literature review to reporting of results. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | L | Prerequisite(s): ECN 221, ECN 231, EGR 280, HSE 230, IEE 380, PSY 230, STP 226, STP 420, or STS 401 with C or better; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| HSE | 323 | Perceptual Systems | In-depth exploration of methods by which humans receive and interpret information from the world by vision, audition, taste, smell, touch and movement. Emphasizes the integration of behavioral and neural research with potential applications to engineering practice. Topics cover a wide range from the biological basis of sensory information processing to the behavioral aspects of perception, and to the applications of perceptual theories to disciplines like computer vision, display technologies, graphic design and sound processing. Solid foundation for further coursework and research in neuroscience or psychology; students also gain knowledge that could be useful in various professions. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | SB | Prerequisite(s): HSE 101 or PSY 101 with C or better; minimum junior standing |
| HSE | 324 | Applied Cognitive Science | Human cognition and how it bears on the design of technological and social systems. Although focuses on applications, requires student to delve into the basic literature that informs these applications and produce a literature review that draws on both applied and theoretical work. Many weeks involve a hands-on experience with a method or technique, and weekly quizzes emphasize critical thinking about these examples. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | SB | Prerequisite(s): HSE 101 or PSY 101 with C or better OR Visiting University Student |
| HSE | 325 | Human-Computer Interaction | Theories, methods, and findings concerning the usability of computer systems and the design of effective user interfaces. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): HSE 101 or PSY 101 with C or better OR Visiting University Student |
| HSE | 390 | Qualitative Research Methods | Reviews basics of qualitative research with applications to human systems engineering. Covers fundamental concepts of reliability and validity, and considers best practices in survey, questionnaire, interview and observation methods. Introduces and applies content analysis and grounded theory approaches for analyzing and interpreting qualitative data (e.g., interview transcripts and open-ended survey responses). All concepts are taught with an applied focus and real-world examples. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; HSE 290 or PSY 290 with C or better OR Visiting University Student |
| HSE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-4 | | Prerequisite(s): minimum 45 hours |
| HSE | 422 | Human Factors in Sport | Examines how psychological principles can be applied to enhance the performance of athletes and coaches. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): HSE 101 or PSY 101 with C or better; minimum junior standing OR Visiting University Student |

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| HSE | 423 | Human Factors in Transportation | Examines human performance and human-machine design issues in aviation and ground transportation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): HSE 101 or PSY 101 with C or better; minimum junior standing OR Visiting University Student |
| HSE | 424 | Human Automation Interaction | Current perspectives and techniques for modeling human-automation interaction to improve system design and system integration. Topics discussed include basic principles in human-technology interaction, key concepts to consider when designing and assessing supervisory control automation, and promising approaches for integrating increasingly autonomous automation, such as adaptive algorithms and embodied agents, into human systems. | N | SEM | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): HSE 101 or PSY 101 with C or better; minimum junior standing; Credit is allowed for only HSE 424 or HSE 524 OR Visiting University Student |
| HSE | 425 | Human Factors in Medical Systems | Comprehensive introduction to human factors issues related to healthcare systems, medical training, and medical device design. Topics range from psychological and physiological aspects of human behavior like perceptual and cognitive functions, motor behavior, learning, motivation, physiology, and ergonomics to applied issues in the context of medicine and healthcare like human-computer interactions in medical information systems, the ergonomic design of medical devices, evaluation of medical device usability, team training in healthcare and the organization of medical environment. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): HSE 101 or PSY 101 with C or better; minimum junior standing; Credit is allowed for only HSE 425 or HSE 525 OR Visiting University Student |
| HSE | 426 | Training and Expertise | Reviews principles and features of expertise and the acquisition of skilled performance, such as knowledge, deliberate practice, self-regulation, feedback and training. Discusses and applies methods of evaluating expert performance (e.g., cognitive task analysis) and designing effective training systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): HSE 101 or PSY 101 with C or better; minimum junior standing OR Visiting University Student |
| HSE | 427 | Designing for Learning | Reviews principles of learning with applications to human systems engineering. Covers fundamental cognitive, metacognitive and motivational aspects of learning, and their applications in instructional design frameworks. Applies concepts to the design of multimedia instruction, educational technologies and similar learning resources. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): HSE 101 or PSY 101 with C or better; minimum junior standing OR Visiting University Student |
| HSE | 428 | Judgment and Decision Making | Reviews basic principles of human judgment and decision making with applications to human systems engineering. Covers "intuitive" vs. "rational" ways of thinking, heuristics and common biases (e.g., correspondence bias, self-serving bias). Also covers examples of effective thinking such as intelligence, creativity, transfer and relational reasoning. All concepts are taught with an applied focus. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): HSE 101 or PSY 101 with C or better; minimum junior standing OR Visiting University Student |
| HSE | 429 | Product Design and Evaluation | Applies human systems engineering methods to product design and evaluation. Consumer behavior, consumer research methods, systems and design thinking, how to conduct interviews, observational research, contextual analysis, questionnaire design and analysis, opportunity identification, usability testing and creativity. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): HSE 101 or PSY 101 with C or better; minimum junior standing; Credit is allowed for only HSE 429 or HSE 529 OR Visiting University Student |
| HSE | 430 | Statistics for Human Systems Research II | Statistical methods commonly used in human systems engineering research. Emphasizes (1) connecting research designs and statistical analysis, (2) interpreting and breaking down significant effects, (3) addressing practical problems associated with doing research in applied contexts, (4) using statistical methods to understand the connection between variables in a complex system, and (5) the use of statistical software. Primarily focuses on analysis of variance (ANOVA) but introduces other techniques (including mediation analysis, structural equation modeling and cluster analysis). Recommended for preparation for both graduate study and careers in related industry. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | CS | Prerequisite(s): HSE 230 or PSY 230 or PSY 231; Credit is allowed for only HSE 430 or PSY 530 OR Visiting University Student |
| HSE | 477 | Human Systems Engineering Capstone Experience | Applied psychology from a systems perspective. Requires a report based on research and/or applied work as a culminating experience. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): Human Systems Engineering BS or Human Systems Engineering (User Experience) BS major; senior standing; Pre- or corequisite(s): HSE 290 or PSY 290; HSE 324 or PSY 324 |
| HSE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-12 | | |
| HSE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-6 | | Prerequisite(s): Barrett Honors student |
| HSE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |

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| HSE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| HSE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-3 | | |
| HSE | 520 | Methods and Tools in Applied Cognitive Science | Provides a hands-on approach to understanding and using advanced methodologies commonly implemented in the field of cognitive science. | N | SEM | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 521 | Methods and Tools in Human Systems Engineering | Specific methods and tools used in the field of human systems engineering, with computer-based experience through both writing and using human factors tools and software. | N | SEM | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 524 | Human Automation Interaction | Covers different perspectives and techniques for improving automation design and system integration. Covers basic principles in human-technology interaction, key concepts in supervisory control automation, and promising approaches for increasingly autonomous automation such as adaptive algorithms and embodied agents (robots). Emphasizes literature review, concept synthesis and communication skills through writing, in-class presentations and in-class discussion. | N | SEM | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HSE 424 or HSE 524 |
| HSE | 525 | Health and Human Systems Engineering | Covers different perspectives and techniques in medical human factors and health systems engineering to improve system design and system integration in healthcare. Covers basic principles in human-technology interaction, macroergonomics, and job design in the context of healthcare, health organizations, and health technologies. Emphasizes synthesis of reading materials, problem scoping and communication skills through writing and discussion. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HSE 425 or HSE 525 |
| HSE | 529 | Product Design and Evaluation | Covers User Experience (UX) design that includes usability, usefulness, emotional impact and meaningfulness in the context of product design. Topics include: understanding needs, designing solutions, prototyping candidates, and evaluating UX | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HSE 429 or HSE 529 |
| HSE | 530 | Intermediate Statistics for Human Systems Engineering | One-way and factorial designs, contrasts, post-hoc tests, probing of interactions, mixed designs, power, computer applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HSE 530 or HSE 598 (Statistics for Human Systems Research III) or PSY 530 |
| HSE | 531 | Data Analytics: Modeling Human Subjects Data | Principles and methods of analyzing human subjects data. Improves analytical and communication skills for scientific research; acquires and develops skills in using the open-source statistical computing platform R; and builds confidence in wrangling, analyzing and visualizing human subjects data. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HSE 531 or HSE 598 (Data Analytics) |
| HSE | 540 | Foundations of Applied Cognitive Science | Provides a critical background in the theory and organization of the field of cognitive science. | N | SEM | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 542 | Foundations of Human Systems Engineering | A wide variety of methodologies utilized by and applications of the broad field of human systems engineering. | N | SEM | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 560 | Capstone | Hands-on project in user experience. Requires a report based on research or applied work as a culminating experience. | N | SEM | N | GNA | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): User Experience MS student; Credit is allowed for only GIT 560 or HSE 560 or TWC 560 |
| HSE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | SEM | Y | Z1 | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| HSE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | IND | Y | Z2 | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSM | 502 | The Health Service System and the Business of Health Care | Acquaints students with the various organizations and actors across the value chain of health care. Assesses provider, supplier, payor and IT multiple perspectives. Exposes the major concepts needed to understand the health sector globally (key business and clinical functions). Students emerge being able to be dropped down into a conversation about a health care company or problem and understand a large proportion of what is being discussed. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HSM | 506 | Managing Health Care Organizations | Examines the dynamics within health care organizations. Provides a deep-dive into the best practices and key considerations for health care managers as they seek to operate within and modify their organizations. Employing concepts from organizational behavior and systems theory, provides students with a framework to define and resolve operational challenges associated with the management of a health care organization. Asks students to think as senior manager or consultants and propose solutions that are evidence based, feasible and demonstrate knowledge of the key contingencies associated with the context. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): W. P. Carey MBA student |
| HSM | 512 | Healthcare Economics | Economics of production and distribution of healthcare services, with special emphasis on the impact of regulation, competition, and economic incentives. | N | LEC | Y | OPT | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): HSM 502 with C or better |
| HSM | 550 | Health Care Marketing | Marketing is a set of processes, relationships and co-creations meant to create, communicate and deliver value to the customer. Takes a customer-centric approach to health care marketing. Examines the changing roles in health care, organizations' approaches to patient-centricity, patient empowerment, responsibilities and experience. In addition, considers patient metrics such as patient engagement, customer effort, net promotion and patient satisfaction measures used by the U.S. government's Centers for Medicare and Medicaid Services. Considers marketing from the patient/provider, organizational and network/system points of view, organizational buying and selling processes, and the development and navigation of health care networks/systems from a marketing organization, service provider's and customer experience perspectives. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): W. P. Carey MBA student |
| HSM | 552 | Health Care Supply Chain Management | Examines the variety of organizations that constitute the health sector value chain with an emphasis on suppliers, distributors, IT intermediaries, group purchasing organizations, regulatory bodies, and payers. Key considerations include the design of stakeholder relationships along the value chain and the extent to which business and clinical considerations drive decision making and influence outcomes. Topics include strategic sourcing and contracting, stakeholder incentives and risk across the value chain, physician/professional perspectives and the management of the value chain relationships necessary to achieve high quality, ethical behavior and safe patient care. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HSM 552 or HSM 598 (Healthcare Supply Chain Management) |

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| HSM | 575 | Entrepreneurship, Innovation and Strategy in the Health Care Sector | Problems with health care quality, access and costs bedevil all countries. Focuses on the creation of global business innovations in health care that can better meet these needs. At its end, students should understand the opportunities for different kinds of health care innovations and how to create viable strategies and business models to meet them. Enables students to craft business models that attain alignment between an entrepreneurial health care venture and the Six Factors that shape this sector: financing, structure, public policy, consumers, technology and accountability. Covers these issues in every part of the sector, including insurance, services, IT, medical devices, biotechnology, diagnostics and pharmaceuticals. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Economics | 3 | | Prerequisite(s): W. P. Carey MBA student |
| HSM | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Economics | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HST | 100 | Global History to 1500 | Surveys human origins; early civilizations in Africa and Eurasia; the ancient Mediterranean; the pre-Columbian Americas; the rise of Islam and Muslim empires; medieval Europe; the Indian sub-continent and imperial China, to 1500. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H & G | |
| HST | 101 | Global History Since 1500 | Surveys Africa, the Americas, and Eurasia; changes in communication, communities, demography, economics, environment, politics, religion, technology, warfare, and women. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H & G | Credit is allowed for only HST 101 or SGS 111 OR Visiting University Student |
| HST | 102 | Europe and the Mediterranean: Ancient and Medieval | Origins and development of European societies and institutions from the ancient world through the Middle Ages. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | |
| HST | 103 | Early Modern Europe: Renaissance to Enlightenment | The development of European societies and institutions from the Renaissance and Reformation through the Age of Enlightenment. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & H | |
| HST | 104 | Modern Europe: French Revolution to European Union | The development of European societies and institutions from the French Revolution to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & G & H | |
| HST | 106 | Asian Civilizations | Civilizations of China, Japan, and India from antiquity to the 17th century. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & G & H | |
| HST | 108 | Introduction to Japan | Historical survey of the people, culture, politics, and economy of Japan, supplemented by audiovisual presentations. Intended for nonmajors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | |
| HST | 109 | United States to 1865 | Growth of the Republic from colonial times through the Civil War period. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & H | |
| HST | 110 | United States Since 1865 | Growth of the Republic from the Civil War to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | |
| HST | 111 | Introduction to Asia | Offers a basic introduction to the geography, history, cultures, states, and societies of South and Southeast Asia as well as China, Japan, and Korea. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H & G | Credit is allowed for only HST or REL 111 |
| HST | 112 | Foundations of Democracy | Introduces an interdisciplinary study of democracy with special attention to its historical development as a form of government. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | Credit is allowed for only HST 112 or POS 112 |
| HST | 113 | United States and Arizona Social Studies | Introduces American (including Arizona) institutions integrating geography, government, history and economic perspectives. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Credit is allowed for only GCU 113 or HST 113 |
| HST | 114 | World Social Studies | Introduction to the world from the integrated social science perspectives of history, geography, and government. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Credit is allowed for only GCU or HST 114 |
| HST | 130 | The Historian's Craft | Introduces the ways historians ask questions and propose answers. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Credit is allowed for only HST 130 or HST 330 OR Visiting University Student |
| HST | 141 | Russian Civilization: From Tsars to Putin | For centuries, Russians have argued about who they are as a people and a nation by turning to their history, religion, literature, arts and language. With a foundation in Russian history and geography and using primary sources, we survey debates over Russian history and civilization to understand how Russians have imagined themselves and their nation and empires. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & G & H | Pre- or corequisite(s): ENG 101, 105, or 107 with C or better if completed; Credit is allowed for only HST 141 or RUS 141 or SLC 141 OR Visiting University Student |
| HST | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-3 | | Pre-requisites: Freshman standing; Maximum 25 hours |
| HST | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |

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| HST | 203 | Historical Themes in Latin America | General introduction to selected themes in Latin American history. May be repeated for credit when topics vary. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | |
| HST | 204 | Historical Themes in the US | General introduction to selected themes in United States history. May be repeated for credit when topics vary. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | |
| HST | 210 | American Social History | American society from the colonial period to the present. Ethnicity, race, age, and sex as factors in historical experience. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or SB) & H | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| HST | 211 | Jews and Judaism in America | Chronological analysis of Jews and Judaism in American history and letters. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H & C | Credit is allowed for only HST 211 or JST 211 or REL 211 |
| HST | 214 | The World's Game: History and Culture of Soccer | Provides a survey of the cultural significance and global reach of soccer, both historically and in contemporary culture. Students study materials from around the world in several mediums; they view films that explore the cultural impact of the game; read literary works that focus on soccer; and engage with scholarly articles and contemporary news media dedicated to the game. Provides a comprehensive sense of the history, personalities, rivalries, fandom, and even the finances and scandals related to the world's game. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G | Prerequisite(s): Credit is allowed for only HST 214 or HST 294 (The Beautiful Game: History & Culture of Soccer) or SLC 214 or SLC 294 (The Beautiful Game: History & Culture of Soccer) |
| HST | 230 | Introduction to Jewish Civilization | Overview of Jewish civilization from antiquity to the present. Answers the following questions: Who are the Jews? What do Jews believe? How did Jews interact with non-Jews? What was the lasting contribution of Jews to the world? In the attempt to answer these questions, provides the skills of being a good college student. Presents Judaism as an evolving civilization with an overarching distinctive culture but with a variety of subcultures and ethnic diversity. Presents the Jewish civilization through literature, films, music, and internet resources, with an overview of its complexity and diversity. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H & G | Credit is allowed for only HST, JST or REL 230 |
| HST | 240 | Introduction to Southeast Asia | Interdisciplinary introduction to the cultures, religions, political systems, geography, and history of Southeast Asia. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & G | Credit is allowed for only ASB 240 or GCU 240 or HST 240 or POS 240 or REL240 or SGS 240 OR Visiting University Student |
| HST | 241 | Russian Pop Culture: Protest and Propaganda | How does Russian culture reflect recent history? How does official culture and various counter movements frame Russia's political present, the country's relationship with its neighbors and multiethnic communities at home? From mainstream entertainment to independent alternatives, Russian artists are addressing changes happening in a country rocked by authoritarianism, corruption and militarism. Under the guise of strengthening the nation's "spiritual bonds," Russian authorities are promoting nationalism, religious dogmatism and uncritical nostalgia for the Soviet past. Protesting these trends are independent artistic initiatives, proposing counter-narratives, social critiques and calls for action. Students learn about the politics of Russian culture today by engaging with texts, films, music and media projects. All course materials and instruction are in English. Students with sufficient language proficiency have an option to analyze sources in Russian. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only HST 241 or RUS 241 or SLC 241 or HON/HST/RUS/SGS/SLC 294 (Russian Pop Culture: Protest and Propaganda) OR Visiting University Student |
| HST | 245 | Introduction to India and South Asia | Provides an introduction to the history and major contemporary political, economic, social, religious and cultural features of the South Asia region at large and of selected South Asian nations in particular. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H & G | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only HST 245, POS 245, REL 245, SGS 245 or SLC 245 |
| HST | 260 | Introduction to Islam | Examines Islamic beliefs, ceremonies, festivals, and institutions. Assumes no prior knowledge about Islam. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Credit is allowed for only HST 260 or REL 260 |
| HST | 272 | Heretics, Saints and Emperors: Christianity in the Ancient World | Origins, development and expansion of Christianity; major themes and tensions from the New Testament world to the beginning of the Middle Ages. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only HST 272 or REL 272 (REL 372) OR Visiting University Student |
| HST | 280 | History of Science, Technology and Innovation | Fast-paced introduction to the intertwined histories of science, technology and innovation as they shape the globe from the ancients to the present. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| HST | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |
| HST | 300 | Experience of America's Modern Wars | Surveys the history of America's wars, military and veterans from the American Revolution through today. Also exposes how American society has understood the role of the military and those who served, both during and after their service in American wars. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only HST 300 or MVS 301 or VTS 301 OR Visiting University Student |

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| HST | 301 | Global History of Health | Examines disease and health transitions in broadest context of human history, from primate ancestors to hunter-gatherers, to transcontinental contact, colonialism, industrialization, urbanization. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 301 or HST 301 or SSH 301 OR Visiting University Student |
| HST | 302 | Studies in History | Specialized topics in history. Explores countries, cultures, and issues in history, and their interpretation in historical scholarship. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 302 or JST 302 OR Visiting University Student |
| HST | 303 | Studies in Asian History | Specialized topics in Asian history. Explores countries, cultures, and issues in history, and their interpretation in historical scholarship. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 304 | Studies in European History | Specialized topics in European history. Explores countries, cultures, and issues in history, and their interpretation in historical scholarship. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 304 or JST 304 OR Visiting University Student |
| HST | 305 | Studies in Latin American History | Specialized topics in Latin American history. Explores countries, cultures, and issues in history, and their interpretation in historical scholarship. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 306 | Studies in United States History | Specialized topics in United States history. Explores regions, cultures, and issues in history, and their interpretation in historical scholarship. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 306 or JST 306 OR Visiting University Student |
| HST | 307 | Studies in African History | Specialized topics in African history. Explores countries, cultures, and issues in history, and their interpretation in historical scholarship. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 308 | History and Philosophy of Sustainability | Examines sustainability issues in a broadly interdisciplinary way, but with a special emphasis on humanities perspectives, focusing on human ideas, values and institutions as they have evolved over time. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102 or 105 or 108 with C or better; minimum 25 hours; Credit is allowed for only HST 308 or PHI 322 or SOS 309 or BIO/HST/PHI/SOS 394 (History & Philosophy of Sustainability) |
| HST | 309 | Exploration and Empire | Surveys European discovery, exploration, and imperialism in the early modern and modern periods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 310 | Film as History | In-depth study of moving image media as recorder, object, and writer of history. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 312 | History of Women in Science and Medicine | In-depth inquiry into the history of gender issues in Western science and medicine from Greco-Roman antiquity through the beginning of the 21st century. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU or SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 314 | American Cultural History Since 1865 | Culture, including ideas, ideals, the arts, and social and economic standards, from the age of industrialism to modern U.S. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 30 hours; Credit is allowed for only AMS 321 or HST 314 OR Visiting University Student |
| HST | 315 | Political History of the U. S. | American political history since independence, focusing post-1865. Evaluates major trends in issues, presidential leadership, elections, and state politics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 316 | 20th-Century U.S. Foreign Relations | U.S. relations with foreign powers from the late 19th century to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 30 hours |
| HST | 317 | History of Postwar U.S. Conservatism | Traces the origins of U.S. conservatism as it developed in the work of U.S. and European thinkers, intellectuals and authors after WWII. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 317 or HST 294 (American Conservatism) or POS 317 OR Visiting University Student |
| HST | 318 | History of Engineering | The history of engineering from the earliest record to modern times, examining the social, cultural, and economic effects on society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or SB) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours OR Visiting University Student |
| HST | 319 | History of Aviation | The history of aviation, focusing on technical, political, economic, social and cultural aspects. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only HST 319 or HST 306 (Aviation History) OR Visiting University Student |
| HST | 320 | U.S. Urban History since 1850 | History of the city in American life from the mid-19th century to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 321 | Constitutional History/US to 1865 | Origin and development of the American constitutional system from colonial period through the Civil War. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |

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| HST | 322 | Constitutional History of the United States Since 1865 | Development of the U.S. constitutional system from Reconstruction to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | H | |
| HST | 323 | Historical Studies in Race, Crime, and the Law | Studies the historical relationship between the criminal justice system in the United States and a segment of society that has traditionally faced official and unofficial discrimination: American racial minorities. Focuses on the experiences of Mexican Americans and Africans Americans with the criminal justice system. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 101 with C or better; ENG 102 with C or better; Credit is allowed for only AFR 335 or HST 323 or TCL 335 OR Visiting University Student |
| HST | 324 | Food in Latin America | Uses food as a critical lens for studying Latin American culture and history and looks at how the evolution of human development, and especially the food that we eat, is influenced by social, political and economic context. Studies the production and commodification of food in Latin America, and its globalization. Also covers how Latin American cuisine sheds light on the formation of cultural identity and perceptions of nationalism. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 305 (Food) or HST 324 or LAS 324 OR Visiting University Student |
| HST | 325 | Immigration and Ethnicity in the United States | Origins, historical development, and future of a multiethnic society, 1492 to 2050. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 326 | The Global History of the Trans-Atlantic Slave Trade | Reading- and writing-intensive course that employs critical thought to look at the origins, development, abolition, and impact of Atlantic slave trade as a global economic enterprise and great human tragedy; slavery experience. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): AFR 200 or HST 109 or minimum 45 hours; Credit is allowed for only AFR 305 (or AFH 305) or HST 326 OR Visiting University Student |
| HST | 327 | Women in U.S. History, 1600 to 1880 | Historical discussion of American women of diverse racial, religious, and ethnic groups and classes; focuses on changing definitions of women's roles. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & C & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 328 | Women in U.S. History, 1880-1980 | Historical discussion of American women of diverse racial, religious, and ethnic groups and classes; focuses on changing definitions of women's roles. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & C & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 329 | Women in 20th-Century U.S. West | Nuanced exploration of how women of various cultures have contended for and shaped the U.S. West, including the West of imagination. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | H & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 330 | Historical Thinking | Advanced examination of the ways historians ask questions and propose answers. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 130 or HST 330 OR Visiting University Student |
| HST | 331 | Mexican American History to 1900 | Mexican American history from pre-Hispanic origins to frontier journeys north through 19th-century life in the U.S. Southwest. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H & C | Prerequisite(s): ENG 102, 105 or 108 with a C or better; minimum 30 hours; Credit is allowed for only HST 331 or TCL 331 OR Visiting University Student |
| HST | 332 | Mexican American History Since 1900 | Traces the formation of Mexican American communities across the rural and urban U.S. and examines 20th-century immigration from Mexico. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H & C | Prerequisite(s): ENG 102, 105 or 108 with a C or better; minimum 30 hours; Credit is allowed for only HST 332 or TCL 332 OR Visiting University Student |
| HST | 333 | African American History to 1865 | In-depth examination of African Americans' roles in American history, thought, and culture from slavery to 1865. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only AFR 363 or HST 333 OR Visiting University Student |
| HST | 334 | African American History Since 1865 | In-depth examination of African Americans' role in American history, thought, and culture from 1865 to present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & C & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only AFR 364 or HST 334 OR Visiting University Student |
| HST | 335 | History of Black Women in America | Advanced examination of the challenges that black women have faced historically in America and how they have responded to those challenges socially, politically, economically, and culturally. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): AFR 200, WST 100, WST 300, or minimum 45 hours; Credit is allowed for only AFR 302 or HST 335 or WST 302 OR Visiting University Student |
| HST | 336 | Islamic Civilization | Global historical survey of Islamic cultures and societies up to the modern period. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only HST 336 or REL 365 OR Visiting University Student |
| HST | 337 | American Indian History to 1900 | Cultural, economic, political, and social continuity and change of American Indian communities to 1900. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & C & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 338 | American Indian History since 1900 | Cultural, economic, political, and social continuity and change of American Indian communities from 1900 to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & C & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |

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| HST | 339 | Islam in the Modern World | Examines the worldwide transformations of Islamic religion, cultures, and societies in the modern period. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only HST 339 or REL 366 OR Visiting University Student |
| HST | 340 | American Military History | Studies the role of the military in American life during war and peace from colonial times to the present day. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 341 | U.S. West 19th Century | Social, political, and economic development of the trans-Mississippi West, beginning with the Louisiana Purchase and ending in 1900. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105 or 108 with a C or better; minimum 30 hours; Credit is allowed for only HST 341 or HIS 320 |
| HST | 342 | U.S. West 20th Century | Role of the western states in U.S. history since 1890 emphasizing politics, the environment, industry and labor, and ethnic minorities. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 343 | American Southwest | Development of the region from 1848 to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or SB) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 344 | Arizona | Emergence of the state from early times to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 30 hours |
| HST | 345 | Environmental History | Examines the interaction between humans and the natural world in the United States from the late 19th century to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L | Prerequisite(s): ENG 102, 105, 108, or 112 with C or better OR Visiting University Student |
| HST | 346 | Ancient Greece II: Late Classical and Hellenistic Period | Traces the transformation of the Greek world between the end of the Peloponnesian War (404 B.C.) and the absorption of the last major Greek state by growing power of Rome (30 B.C.), with special attention to how Greeks in this period lived and thought and how the period's political and economic changes helped to create new forms of culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only GRK 346 or HST 346 or SLC 346 |
| HST | 347 | Ancient Greece I: Bronze Age through the Peloponnesian War | Traces Greek History from its prehistoric beginnings through the Peloponnesian War (431-404 B.C.), with a special focus on the Archaic (ca. 800-480 B.C.) and Early Classical periods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only GRK 347 or HST 347 or SLC 345 OR Visiting University Student |
| HST | 348 | Rome | History and civilization of Rome from the beginning of the Republic to the end of the Empire. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 349 | Early Middle Ages | Political, socioeconomic, and cultural developments of Western Europe from the 5th through 10th centuries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 350 | Later Middle Ages | Political, socioeconomic, and cultural developments of Western Europe from the 11th through 15th centuries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 351 | Renaissance Europe | Culture of the Renaissance in Italy and Northern Europe from the 14th to the early 16th centuries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU or SB) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 352 | Europe's Reformations | Causes and implications of the major Protestant, Catholic, and Radical religious reformations in 16th- and 17th-century Europe. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU or SB) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 353 | Old Regime in Europe | Society and culture of Europe during the 17th and 18th centuries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 354 | Revolutionary Europe | Political, social, economic, and intellectual currents in Europe from the French through the Russian Revolutions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 355 | Total War and the Crisis of Modernity | Forces of change and instability in early 20th-century Europe. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 356 | Europe since 1945 | Europe in its world setting since World War II, emphasizing major political and social issues from 1945 to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 357 | Historical Perspectives on Philosophy and Religion | Comprehensive, advanced study of central concepts in the philosophy of religion in the history of Western philosophy. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105 or ENG 108 with C or better; minimum 30 hours; Credit is allowed for only HST 357 or PHI 391 or REL 391 |
| HST | 358 | Jewish History from Antiquity to 1492 | Continuity and change in political, legal, economic and sociocultural history of the Jews from ancient through medieval times. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 359 | Jewish History from 1492 to 1948 | Jewish history from early modern through modern times, highlighting emancipation, enlightenment, and Jewish responses to modernity. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |

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| HST | 360 | The Crusades: Religion & Conflict in the Middle Ages | Examines the origins, the development, and the outcomes of the movement that we call "crusades" by connecting the military aspect of the crusades to broader developments. Focuses primarily, but not exclusively, on the period 1095-1453. Geographically covers chiefly the Mediterranean, and, to a lesser extent, northeastern Europe. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105 or 108 with a C or better; minimum 30 hours; Credit is allowed for only HST 360 or HST 394 (Crusades in the Middle Ages) OR Visiting University Student |
| HST | 361 | Witchcraft and Heresy in Europe | Background, origins, and development of the Inquisition; persecution of women and marginal groups. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & H | Prerequisite(s): ENG 102, 105 or 108 with a C or better; minimum 30 hours; Credit is allowed for only HST 361 or REL 374 OR Visiting University Student |
| HST | 362 | Sex and Society in Classical and Medieval Europe | Family life, sex roles, and marriage, and their relationship to political, economic, and religious change in classical and medieval Europe. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 363 | Sex and Society in Early Modern Europe | Family life, sex roles, and marriage and their relationship to political, economic, and religious change in early modern Europe. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 364 | Sex and Society in Modern Europe | Family life, sex roles, and marriage, and their relationship to political, economic, and social changes in modern Europe. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or SB) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 365 | World Wars I and II: Europe's Eastern Front | In-depth study of the history of the Eastern Front in Europe in the two world wars. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, ENG 105 or ENG 108 with C or better; Minimum 30 hours; Credit is allowed for only HST 365 or HST 394 (WWI and WWII Eastern Front) |
| HST | 366 | England to 1689 | In-depth examination of the political, economic, and social development of the English people to the late 17th century. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 367 | From Empire to Brexit: Modern Britain | Examines the politics, societies and cultures of Britain (England, Scotland, Wales and Ireland) and the British Empire from the late seventeenth century to the present, with a focus on how interactions with the wider world shaped Britain. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| HST | 368 | Culture and Imagination in European History | Topics in European cultural and intellectual history. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 369 | History and Memory of the Holocaust | In-depth study of the history of the genocide of Jews, the rise of modern antisemitism within the context of Nazi Germany, and the memory and memorialization of the Holocaust post 1945. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 369 or JST 369 or REL 312 or HST 304 (Shoah: History, Memory, and Representation) or HST 394 (History of the Holocaust) |
| HST | 370 | Eastern Europe in Transition | Democratization, privatization, and identity transformations since the fall of communism in contemporary Eastern Europe and the former Soviet Union. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 371 | Language Hegemony and Culture | Historical and cultural analysis of language and the ideological constructs imposed upon resident populations in the Southwest North American region since 1540. Analyzes the suppositions, ideologies, premises and mechanisms by which Spanish and English became imposed among Native peoples and later national populations of Mexicans during the 19th century and continuing with their descendants and migrating populations crossing the bifurcated border. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 371 or HST 371 or SLC 371 or SPA 371 or TCL 371 or ASB/HST/SLC/SPA/TCL 394 (Language Hegemony & Culture in SW North America) |
| HST | 372 | Modern Middle East | In-depth examination of the effect of the West and modernization on Middle Eastern governments, religion, and society in the 19th and 20th centuries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): minimum 24 hours OR Visiting University Student |
| HST | 373 | Roman History I: Foundations and Republic | Traces the growth of Roman power from Rome's humble beginnings in the eighth century B.C. to its domination of the Mediterranean and the transformation of the Roman Republic into the Roman Empire after the Battle of Actium (31 B.C.). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 373 or LAT 373 or SLC 373 |
| HST | 374 | Roman History II: The Roman Empire | The Roman Empire from the reign of the first emperor, Augustus (27 B.C.-A.D. 14), to that of Justinian (A.D. 527-565), focusing on the lives of the Roman emperors, the society and culture of the empire, and the profound changes that eventually contributed to the empire's collapse. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 374 or LAT 374 or SLC 374 |
| HST | 375 | Colonial Latin America | Ancient civilization, exploration and conquerors, and colonial institutions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 375 or LAS 375 |
| HST | 376 | Modern Latin America | In-depth examination of the development of independent Latin American republics since 1821. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 376 or LAS 376 OR Visiting University Student |

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| HST | 377 | Sports in United States History | Focuses on major themes in American sports history, organized topically around fall sports. Themes encourage students to think critically about relationships among sport and society, identity, community, media, capitalism and education. Lectures, discussions, readings and films explore race, gender, class and sexuality as categories of analysis, and the role of sport in constructing ideas about the body along gender and racial lines. Also highlights social justice issues in sport as well as athlete activism throughout the twentieth century. Explores the ways in which the participation of Black, Latino/a and Native American athletes has both mirrored and diverged from Black, Latino/a and Native American citizens' participation in society throughout United States history. Also studies the process through which the equal opportunity to participate in school sports became defined as a civil right and, more recently, a human right. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 378 | Poverty, Inequality and Social Justice in Latin America | With persistently high levels of poverty and inequality, Latin America is often considered the most unequal region in the world. This course explores the economic, political, social and geographic origins of poverty and inequality in Latin American countries since independence. It also studies efforts to address the problem by governments, non-governmental organizations, the international community, religious groups and activists. Explores these themes in more detail through a case study of one Latin American country and a global intensive experience at the end of the course. By reflecting on the Latin American experience, students gain insights for wealthy countries like the United States where inequality is on the rise. | N | LEC | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | G | Prerequisite(s): minimum 45 hours; Credit is allowed for only HST 378 or JHR 378 or JUS 378 or LAS 378 OR Visiting University Student |
| HST | 379 | History of College Sports | Student-controlled intercollegiate contests quickly transformed into big-time college sports by the early twentieth century, revolutionizing the sports industry in the United States as well as the landscape of higher education. The American college sports enterprise is unique; nowhere else in the world does a large, amateur, revenue-generating system of school sports exist. After an exploration of the origins of intercollegiate athletics and the creation of the modern National Collegiate Athletic Association, topics include integration, women's intercollegiate athletics, the big business of amateurism, and scandal. Video lectures, readings and films introduce students to these often controversial topics, grounding them in the historical record. Many of the current debates concerning college sports have been taking place for more than a century. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 379 or HST 306 (History of College Sports) |
| HST | 380 | Studies in the History of Science | Major themes in the history of science with varying topics. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 381 | Studies in the History of Ideas | Major themes in the history of ideas with varying topics. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 382 | Studies in the History of Innovation and Technology | Studies the development and impact of innovation processes and technology on society, culture, and environment throughout history. Specific themes and topics vary. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 383 | China | Political, economic, social, and cultural history of the Chinese people from early times to the 17th century. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 30 hours; Credit is allowed for only CHI 333, HST 383 or SLC 333 |
| HST | 384 | Modern China: 1700 to the Present | Political, economic, social, and cultural history of the Chinese people from the 17th century to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 384 or SLC 334 OR Visiting University Student |
| HST | 386 | Interpreting China's Classics | Study of selected Confucian and/or Taoist classics and ways they have been read in both Asian and Western scholarship. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 30 hours; Credit is allowed for only CHI 336, HST 386 or SLC 336 |
| HST | 387 | Japan | Political, economic, social, and cultural history of the Japanese people from early times to the 17th century. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or SB) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 388 | Japan | Political, economic, social, and cultural history of the Japanese people from the 17th century to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 389 | Japan Society and Values/Premod | Effects of economic and social transitions on personal and social values as reflected in the dramatizations of contemporary events. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |

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| HST | 390 | Jewish Philosophy | The history of Jewish philosophy from its origins in the Hebrew Scriptures to postmodern expressions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105 or 108 with a C or better; Minimum 30 hours; Credit is allowed for only HST 390, JST 314, PHI 390 or REL 314 |
| HST | 391 | Modern Southeast Asia | Vietnam, Laos, Cambodia, Thailand, Burma, Malaysia, Singapore, Brunei, Indonesia, and Philippines since 1750: imperialism, revolution, and independence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Pre-requisite(s): ENG 102, 105 or 108 with a C or better; Minimum 30 hours; Credit is allowed for only HST 391 or SGS 381 |
| HST | 392 | Modern India | In-depth study of modern India and its neighboring countries from the 18th century to the present. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 392 or HST 303 (Modern South Asia) or HST 394 (Modern South Asia) |
| HST | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 30 hours OR Visiting University Student |
| HST | 395 | Combat in Film | Interdisciplinary approach to and qualitative method for analyzing war movies and military dramas as both historical and cinematic narratives that represent the experiences of infantry marines and soldiers in 20th- and 21st-century U.S. wars. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 394 (Combat in Film) or ENG 395 or FMP 395 or HST 306 (Combat in Film) or HST 395 or VTS 395 OR Visiting University Student |
| HST | 396 | Islam and Politics | Examines Islamic political ideas with respect to texts, history, society and movements from Muhammad to the present day. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only HST 396 or REL 396 (REL 460) OR Visiting University Student |
| HST | 397 | Greece and Rome at War | Covers ancient Greek and Roman warfare and features military historical staples like strategy, tactics, logistics, battles and leadership. Other topics that intersect this exploration of ancient warfare include ethnolinguistic identity, state formation, religion, gender, imperialism, military theory, medicine, monumental building and slavery. Students acquire wide knowledge of the relevant history and are encouraged to critically think about essential themes in historical studies. Also features a strong interactive component, including group discussions, theory-crafting and presentations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only GRK 360 or HST 397 or LAT 360 or SLC 360 OR Visiting University Student |
| HST | 404 | Conquest and Encounters in Colonial Latin America | How did Hernan Cortés and Francisco Pizarro defeat the Aztec and Inca Empires? Despite numeric inferiority, limited provisions, and little knowledge about the Americas, Cortés and Pizarro defeated advanced civilizations that had experienced warriors and millions of inhabitants. Possible explanations include the conquistador's valor, advanced weaponry, superior military strategy, Indian allies, and biological attacks. In their encounters with native peoples of the Americas, Europeans were not always conquerors. Alvar Núñez Cabeza de Vaca and Lope de Aguirre failed both in their attempt to conquer a large Indian civilization and in their effort to find mineral wealth. A few Europeans such as Bartolomé de Las Casas spoke out against the abuses committed against the Indians during the conquest. Explores these issues from the perspective of both Europeans and native peoples and looks at the long-term impact for Latin America and its peoples. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours; Credit is allowed for only HST 404 or LAS 404 OR Visiting University Student |
| HST | 405 | Colonial American History to 1763 | Political, economic, social, and cultural history of the colonial era. Concentrates on English colonies, with some consideration of Spanish, French, and other colonial regions in North America. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; Minimum 55 hours |
| HST | 406 | American Revolution/1763-1789 | Causes, course, and consequences of the American Revolution culminating in the ratification of the Constitution. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 407 | Early U.S. Republic/1789-1850 | Political, social, economic, and cultural development of the United States from the Revolution to 1850. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or SB) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours OR Visiting University Student |
| HST | 408 | Civil War and Reconstruction | Explores the causes, conduct, and consequences of the American Civil War, concentrating on the years 1848 to 1877. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or SB) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours OR Visiting University Student |
| HST | 409 | Emergence Modern U.S. 1877-1918 | Triumph of modern political, social, and economic structures and values, 1877-1918; role of region, religion, race, and ethnicity. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 412 | Contemporary U.S., 1973- Present | End of the Cold War, political crises, and cultural transformations in the U.S. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 413 | Contemporary America | The United States from 1945 to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or SB) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours OR Visiting University Student |

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| HST | 414 | Political History and Leadership | Research seminar in political values and leadership. Combines lecture, readings and guest lectures by leaders in business, public affairs and the media. Culminates in a substantial written research effort. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours; Credit is allowed for only HST 414 or POS 414 |
| HST | 419 | 20th Century Chicano/a History | Historical development of the Chicano community in the 20th century. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only HST 419 or LAS 419 |
| HST | 423 | The Tudor Monarchy | Political, cultural, and social foundations of 16th-century England. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 424 | The Stuart Monarchy | Political, social, economic, and cultural developments in 17th-century England. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 426 | The British Empire | British imperialism and colonialism in Africa, the Americas, Asia, and the South Pacific. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 427 | French Revolution/Napoleonic Era | Conditions in Pre-Revolutionary and Revolutionary France; organization of France under Napoleon and impact of French changes upon Europe. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 429 | Modern Germany | Germany since 1871. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 430 | The Ottoman Empire in the Classical Period | Focuses on the largest and most powerful Islamic polity from the late Middle Ages until the early twentieth century: its formation, institutions, social and cultural life, and its multifaceted impact on Europe and the Near East. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102 or 105 or 108 with C or better; minimum 55 hours; Credit is allowed for only HST 430 or HST 495 (The Ottoman Empire in the Classical Period) or HST 498 (The Ottoman Empire in the Classical Period) |
| HST | 432 | Eastern Europe the Balkans, 20th Century | Politics and culture in Eastern Europe and the Balkans from World War I to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 435 | Russian Empire: From Ivan the Terrible to 1917 | Development of Russian medieval and imperial institutions and society from the 16th century to 1917. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours OR Visiting University Student |
| HST | 436 | Rise & Fall of Soviet Communism | In-depth study of Communist revolutionaries' rule of Russia, focusing on utopian culture, Stalinist terror, heroism in war, and the breakup of the former Soviet Union. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours OR Visiting University Student |
| HST | 438 | Modern Spain | Cultural, economic, political, and social development of modern Spain. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 439 | Athenian Democracy | Discussion-based seminar familiarizes participants with the origins, characteristic institutions and political ideology of the Athenian democracy of the 5th and 4th centuries BCE. Engages selected topics in the study of Athenian democracy and gives participants an idea of the substance of contemporary debates within scholarship. Topics will include: The origins of the Athenian democracy; women, slaves, and other subordinate social groups within the democracy; elite critique of democratic ideology and episodes of outright civil war; leaders and masses; the role of the court system within the democracy; democracy and the Athenian empire; and violence in Athenian society. The goal of the course, in addition to a greater familiarity with the Athenian democracy, will be a research paper with a well-chosen topic and a distinctive thesis. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | H | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| HST | 441 | Latin America and the World Economy | Globalization did not begin in the late twentieth century, but rather global trade has linked Latin America with the rest of the world for over five hundred years. The region has been an active and important participant in the world economy since Columbus's first voyage in 1492. This course explores the social, cultural, economic, and environmental impact of such participation on both Latin America and the rest of the world. It is organized both chronologically and thematically. We will study both colonial and post-colonial trade. The commodities studied include sugar, rubber, bananas, and cocaine. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L & G & H | Prerequisite(s): ENG 101, 105 or 107 with C or better; minimum 45 hours; Credit is allowed for only HST 441 or JHR 441 or LAS 441 OR Visiting University Student |
| HST | 443 | The United States and Latin America | Latin American struggle for diplomatic recognition, attempts at political union, participation in international organizations since 1810, and relations between the United States and Latin America. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 444 | Latin American Independence | History of independence movements throughout the Western hemisphere from the late 18th century until the mid-19th century. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, 108, or 112 with C or better; minimum 55 hours |

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| HST | 445 | 20th-Century Cuba | History of Cuba from colonial era to formation of the early republic; political, economic, social development in late 20th century. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 447 | Modern Mexico | In-depth examination of political, economic, social, and cultural developments in Mexico from 1810 to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105 or 108 with a C or better; minimum 55 hours; Credit is allowed for only HIS 423 or HST 447 |
| HST | 448 | Mexican/U.S. Border | Analyzes the evolution of the Mexican/U.S. border region from the mid-19th century to the present. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 449 | Mexican Immigration to the U.S. | Assesses the evolution of immigration and emigration public policy since the mid-19th century. Seeks to contextualize the relationship between immigration and other elemental nation-state issues as the economy, education, identify, and civil rights. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | (L or SB) & H & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours |
| HST | 451 | Chinese Cultural History I | China's classics in translation studied both for their intrinsic ideas and for the origins of Chinese thought. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 55 hours; Credit is allowed for only CHI 451, HST 451 or SLC 451 |
| HST | 452 | Chinese Cultural History II | Evolution of Confucian thought, its synthesis with Taoism and Buddhism, and modern reactions against, and uses of, Confucian traditions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 55 hours; Credit is allowed for only CHI 452 or HST 452 or SLC 452 |
| HST | 454 | History of Genocide | Examines the individuals and institutions responsible for the most infamous episodes of state-sanctioned violence in the 20th century. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only FOR 454 or HST 454 or REL 454 OR Visiting University Student |
| HST | 456 | The Vietnam War | Intersection of American and Asian histories in Vietnam, viewed from as many sides as possible. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours OR Visiting University Student |
| HST | 459 | Gandhi and the Politics of Nonviolence | In-depth study of Gandhi and the Gandhian political philosophy and practice of nonviolence. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102 (or ENG 105 or 108) with C or better; minimum 55 hours. Credit is allowed for only HST 459 or HST 498, Gandhi: Politics of Non-Violence |
| HST | 460 | World War II | Explores the causes, conduct and consequences of World War II. When did World War II start? How was it fought, and what did that mean for soldiers, the homefront and millions of civilians in Japanese or German occupied regions? What did the world that emerged in its wake look like? The course explores these fundamental questions with an emphasis on multiple explanations of the causes of the war in Asia and Europe and the contingency of Allied victory. Explores the war as both a total and a global war in which perceptions of race, class and gender shaped the experience of combatants and noncombatants, many of whom died in indiscriminate bombing campaigns. Racial ideologies also led to the brutalization of soldiers, which in turn fueled the violence against civilians, as exemplified by the Holocaust and Japanese war crimes. Finally, the course turns to the global order emerging after the war and the different narratives that emerged from it. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only HST 460 or HST 494 (Introduction to World War II Studies) or HST 494 (World War II Studies) or JST 460 or WWS 460 OR Visiting University Student |
| HST | 465 | Women in Europe, 1750 to Present | European women's diverse religious, ethnic, national, and economic roles in society, culture, and politics, 1750 to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & H | Prerequisite(s): ENG 102, 105, 108 with C or better; minimum 55 hours |
| HST | 480 | Methods of Teaching History: Classroom Resources | Methods in instruction, organization, and presentation of the subject matter of history and closely allied fields. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; ENG 102, 105, or 108 with C or better; minimum 56 hours |
| HST | 481 | Methods of Teaching History: Community Resources | Identify community-based resources for teaching history, work with resources, and learn how to integrate them into the secondary classroom. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; HST 480 or SED 480 with C or better; minimum 56 hours |
| HST | 482 | Writing and the History of Science, Ideas and Technology | Writing-intensive course examines intersections between texts and major themes in the history of science and technology. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| HST | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | |
| HST | 485 | History in the Wild | History outside of conventional academic texts and purposes. Students craft historical narratives in ways that engage an audience beyond the professor, present information in forms other than (but not excluding) writing, and identify and use sources found outside of archives. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours OR Visiting University Student |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|--|
| HST | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| HST | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better; HST 300 or 495 with C or better |
| HST | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours OR Visiting University Student |
| HST | 495 | Methods of Historical Inquiry | Capstone course in history as an academic discipline, including formulation of research questions, use of primary and secondary sources to evaluate, form and support historical arguments. Students draft and revise a scholarly research paper. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L | Prerequisite(s): History or History of Science, Tech and Innovation or Jewish Studies or Secondary Education (History) major; ENG 102, 105, or 108 with C or better; minimum 55 hrs; Credit allowed for only HST 495 or JST 490 OR Visiting University Student |
| HST | 496 | South, Southeast, and East Asia in the Global Matrix | In this capstone seminar, Asia studies majors take up broad comparative themes, integrating knowledge from previous coursework and executing a research project culminating in a major paper. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Asia Studies BA or History BA major; ENG 102, 105, or 108 with C or better; minimum 55 hours OR Visiting University Student |
| HST | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-3 | | |
| HST | 502 | Public History Methodology | Introduces historical research methodologies, techniques, and strategies used by public historians. Readings, short papers, and guest speakers. Required for students in the public history concentration. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): History MA or PHD student |
| HST | 504 | Digital Humanities: Critical Theory and Methods | Digital technologies are now intricately woven into our lives--whether it's in terms of authoring a paper in a text editor, sending texts and emails, or doing data analysis. Popular narratives of the "big" and the "new" celebrate and sometimes bemoan the ways that these tools shape our communication, access to information, habits and even our physical bodies. Focuses on the histories of these technologies, their operations, popular conceptions about such tools, and their affordances and limits for humanities scholarship. Students learn how to leverage digital technologies, but also how to critically read them. Broad ranging; in addition to surveying the "big tent," students are encouraged to utilize their final projects to engage with specific disciplinary digital tools and methods relevant to their scholarly work. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CDH 501 or HST 504 or REL 504 |
| HST | 515 | Studies in Historiography | Methods and theories of writers of history. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Pre-requisite: History MA or PHD student |
| HST | 520 | Masters of Nonfiction | Students read and critically discuss works by well-known nonfiction writers to improve their own writing skills. Consists of weekly writing exercises, reviewed with workshop-style discussions centered on individual authors, themes or genres such as history, journalism, personal essays, biography, character profiles, travelogues, book reviews and op/ed commentary. | N | LEC | Y | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HPS 520 or HSD 520 or HST 520 |
| HST | 525 | Historical Resource Management | Identification, documentation, and interpretation of historic period buildings, sites, and districts. Emphasizes interdisciplinary efforts among historians, architects, and anthropologists. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Pre-requisite: History MA or PHD student |
| HST | 527 | Historical Administration | Preparation of historians in administration of archives and historical sites, museums, societies, and offices in government agencies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Pre-requisite: History MA or PHD student |
| HST | 532 | Community History | Techniques and methods of community history emphasizing local resources. Required for community history option. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Pre-requisite: History MA or PHD student |
| HST | 573 | Museum Administration | Formal organization and management of museums, governance, personnel matters, fund raising and grantsmanship, legal and ethical issues. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASB 573 or HST 573 |
| HST | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HST | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Pre-requisite: History MA or PHD student |

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| HST | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HST | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HST | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HST | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1 | | Pre-requisite: History MA or PHD student |
| HST | 597 | Capstone | Allows students to build a culminating experience that reflects the breadth and depth of their MA experience and to articulate the value of the degree to potential employers or admissions committee members. | N | LEL | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): HST 502, 641, 642, or 643; HST 591; HST 640; 24 graduate hours |
| HST | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HST | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Pre-requisite: History MA or PHD student |
| HST | 640 | Historical Methods | Core readings course engages key historical monographs focused on historical methods. Provides core content knowledge and an understanding of debates and trends in the field. Provides a basic understanding of existing literature in the field. Develops ability to analyze historical methods and develop scholarly historical arguments. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): History MA or PhD student; Credit is allowed for only HST 640 or HST 500 (Historical Methodology) |
| HST | 641 | North American History | Core readings course engages key historical monographs focused on historical methods. Provides core content knowledge and an understanding of debates and trends in the field. Provides a basic understanding of existing literature in the field. Develops ability to analyze historical methods and develop scholarly historical arguments. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): History MA or PhD student; Credit is allowed for only HST 641 or HST 598 (US to 1877) |
| HST | 643 | Global History | Core readings course engages key historical monographs focused on global history. Provides core content knowledge and an understanding of debates and trends in the field. Provides a basic understanding of existing literature in the field. Develops ability to analyze historical methods and develop scholarly historical arguments. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): History MA or PhD student; Credit is allowed for only HST 643 or HST 598 (World and Global History) |
| HST | 644 | Area Studies in History | Core readings course engages key historical monographs focused on a geographic or thematic area of study. Topic varies by semester. Provides core content knowledge and an understanding of debates and trends in the field. Provides an understanding of existing literature in the field. Develops ability to analyze historical methods and develop scholarly historical arguments. | Y | LEC | Y | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): History MA or PhD student; Credit is allowed for only HST 644 or HST 598 (European Core I: Pre-Modern Europe) or HST 598 (Medieval and Early Modern Europe) or HST 598 (Pre-Modern Europe and the World) |
| HST | 682 | Advanced Research Skill | Designed for students who are demonstrating a non-linguistic skill such as: quantitative methods of analysis, geographic information system mapping, documentary editing, training in archival management, oral history interview techniques and historic preservation, or interdisciplinary training in fields relevant to the student's research interests such as geography, anthropology, sociology, political science or public administration, literature, ethnic studies, women's studies, ecology. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1 | | Prerequisite(s): History MA or PhD student; Credit is allowed for only HST 682 or HST 692 (Documentary Editing Advanced Research) |
| HST | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HST | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Pre-requisite: History MA or PHD student |
| HST | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Pre-requisite: History MA or PHD student |

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| HST | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HST | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Pre-requisite: History MA or PHD student |
| HST | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-15 | | Pre-requisite: History MA or PHD student |
| HST | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1 | | Pre-requisite: History MA or PHD student |
| HST | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-15 | | Pre-requisite: History MA or PHD student |
| HUL | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 0.25-4 | | |
| HUL | 250 | Introduction to Interdisciplinary Research | Introduces undergraduate students to transdisciplinary and interdisciplinary academic inquiry so that they may expand their understanding of and capacity to tackle the grand social challenges facing the world today. Equips students to engage in the interdisciplinary and intergenerational collaborative inquiry through the pedagogy of the Humanities Lab, which explores and seeks to address those grand social challenges. | N | LEL | N | GNA | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU or SB | |
| HUL | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| HUL | 300 | Humanities Lab: Engaged | Labs critically engage with grand social challenges using a collaborative, interdisciplinary and hands-on inquiry process. Student-faculty teams design and conduct original investigations and then develop a means to publicly share the proposed solutions based on their work. | N | LAB | Y | GNA | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| HUL | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| HUL | 400 | Humanities Lab: Immersive | Labs critically engage with grand social challenges using a collaborative, interdisciplinary and hands-on inquiry process. Undergraduate and graduate student, faculty and outside collaborators work together as an intergenerational team to design and conduct original investigations. The teams then synthesize their work, respond to review feedback, and develop a means to publicly share their proposed solution(s) based on their work. | N | LAB | Y | GNA | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| HUL | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| HUL | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| HUL | 549 | Humanities Lab: Transformative | Labs critically engage with grand social challenges using a collaborative, interdisciplinary and hands-on inquiry process. Undergraduate and graduate students, faculty and outside collaborators work together as an intergenerational team to design and conduct original investigations with graduate students closely mentoring undergraduate students. The teams synthesize their work, respond to review feedback, and develop a means to publicly share their proposed solution(s) based on their work. | N | LAB | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HUL | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| HUL | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| HUL | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| HUL | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAL | 501 | Principles of Character-Driven Leadership | Provides the core concepts of character-driven leadership defined as the commitment to do the right thing, the right way for the right reasons. Focuses on values; individual, organizational and national, along with ethics; culminating with a clear understanding of leadership. Led by a former U.S. Army, Lieutenant General with leadership experience of over 36 years in the Army and 6 years in higher education. Explores the "leader in me" by examining the values that they embrace and the causes that they believe in, along with understanding "the environment I lead in" and the criticality of comprehending where they lead and who they lead. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAL | 502 | The Making of U.S. National Security Policy | Core requirement for the master's degree in International Affairs and Leadership. Takes students through the realistic process of developing and implementing U.S. national security policy. Presented by a former senior national security professional, outlines the origins and current structure of America's national security architecture. Using actual policy decisions, students exercise the process of analysis, decision making and translating into action, elements of the country's national security agenda. Also includes intensive analysis of the intent and outcome of such critical policy decisions and the leadership exercised by the participating decision makers. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAL | 503 | Applied International Leadership: Case Studies | Builds on the theoretical and practical foundation of leadership development conveyed in previous course work. During the semester, students engage with faculty and with each other in multiple in-depth applied leadership scenarios, examining various aspects of leadership in international settings. The semester culminates in individual student presentations analyzing a complex international leadership challenge. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; IAL 501 |
| IAL | 504 | U.S. Diplomacy in Action: The Embassy Country Team | Led by a former U.S. Ambassador, students constitute a U.S. Embassy Country Team for a specific country and manage a reality-based diplomatic agenda. Students are assigned the actual roles of Embassy team members, and together with their "Ambassador," Students practice how U.S. foreign policy is developed and executed in the field. Through readings, case studies and insights of outside foreign policy experts and U.S. Foreign Service Officers, students are challenged to understand current bilateral policies and relations between the United States and the country assigned for the course. Students also develop new, creative programs for the future that promote U.S. interests and also improve the understanding between the people of the country and the United States. Case studies and class simulation exercises of policy making and program management help students understand good and bad character-driven decisions and leadership. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAL | 505 | Key Issues in Today's Global Economy | Projects forward what the economic and business environment will offer to graduates of the IAL master's program as they enter the job market. "Character-driven leadership" course content prepares students for success in their chosen career field. Led by a former U.S. Ambassador with extensive experience in economic and commercial diplomacy as well and private sector international business for and over 30 years. Through readings, case studies and insights of economic and business leaders, challenges students to consider not only possible future trends that offer growth and opportunities, but also economic and business developments that threaten setbacks, insecurity and failures. Case studies and class simulation exercises of policy making inform students of good and bad character-driven decisions and leadership in the business and policy world. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| IAL | 508 | Transatlantic Relations: Does Europe Still Matter? | Presents IAL students with a brief review of the rich history of the development of the Atlantic Alliance since the end of World War II, the end of the Cold War, and cooperation since the tragedy of the attacks on 9/11. But most importantly, this course projects forward what direction the U.S. and Europe are moving in the future. Challenges students to analyze and consider "over the horizon" trends and opportunities, but also the risks of conflict and how to mitigate and solve challenges. Case studies present "character-driven leadership" by U.S. and European leaders as they manage issues of cooperation and competition. Through readings, case studies and insights of European leaders, U.S. and European academic experts, and practitioners in government, business and Non-Governmental Organizations (NGOs), students develop their own policy proposals. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAL | 509 | Western Hemisphere: Good Neighbors, Tough Challenges | Elective course toward the MA in International Affairs and Leadership. Explores the opportunities and challenges facing the United States in its relationships with its regional neighbors, including Canada, Mexico, Central America, the Caribbean and South America. The lectures and readings consider how the region's social, cultural and economic history shapes its relations with the U.S. and the rest of the world. In a series of papers, students analyze how U.S. interests in the region can be best articulated in light of these factors. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAL | 511 | Human Rights and Realpolitik | Why is it that states around the world frequently "don't do the right thing" when faced with human suffering at home and abroad? What is it about the international order that has permitted malicious tyrants and others to propagate injustice and carry out atrocity crimes, frequently against their own people? Is the world getting better or worse in preventing human rights abuses? What factors are inhibiting attainment of the aspirational goals of the 1948 Universal Declaration of Human Rights? This course aims to explore the role of states and other actors in today's international system in protecting--or not--human beings throughout the world. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAL | 512 | Setting the Global Counterterrorism Agenda | Elective for the master's degree in International Affairs and Leadership. Analyzes, discusses and proposes tactics and strategies for countering global terrorism, mainly, but not exclusively from the U.S. perspective. Presented by a former senior U.S. government counter-terrorism professional, focuses on U.S. counter-terrorism strategy against Middle East terrorism since 9/11. On hand of actual policy decisions, students exercise the process of decision making and translating into action, elements of the U.S. counter-terrorism agenda in partnership with allies and even adversaries. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAL | 514 | Transnational Challenges: Combatting Human Trafficking | Offers a practical, global, interdisciplinary examination of the many issues surrounding human trafficking and modern slavery. Includes an overview of the legal perspectives on human trafficking, as well as various perspectives and alternative approaches to addressing modern day slavery. Discusses the roles of government, investors and consumers in detail, providing students the opportunity to explore diverse methods in understanding the complexity of human trafficking and modern slavery. Through class discussions and writing assignments, challenges students to critically think about methods for combatting the multitude of factors that contribute to human trafficking and modern slavery. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAL | 560 | Capstone | In consultation and with the approval of the instructor, students research and identify a specific international affairs leadership challenge they present at the conclusion of the degree program. The capstone product should be a visually rich 20-minute oral presentation that shows analytical rigor and defends a tangible strategic plan for achieving impact and positive change. The oral presentation must be accompanied by written back-up material that substantiates and defends the student's policy analysis and proposal for action. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAL | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAL | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | Prerequisite(s): International Affairs and Leadership MA student |

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| IAL | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | Prerequisite(s): International Affairs and Leadership MA student |
| IAL | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1 | | Prerequisite(s): International Affairs and Leadership MA student |
| IAL | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAP | 101 | Art, Artist, and Culture | Provides an approach to art, creativity, and culture in global, historical, and contemporary contexts. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | |
| IAP | 102 | Foundations I: Performance Techniques and Composition | Focuses on practice-based studies of contemporary presentational strategies and techniques. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Credit is allowed for only IAP 102 or IAP 110 or IAP 111 |
| IAP | 103 | Foundations I: Interdisciplinary Art Practice | Covers art and performance studies and applications of theory and praxis in contemporary interdisciplinary artworks. Shows students how the creative arts in inquiry and in action applied across disciplines can make a critical difference. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Credit is allowed for only IAP 103 or IAP 110 or IAP 111 |
| IAP | 104 | Foundations I: Fundamentals of Sound Art | Investigates late 20th- and 21st-century sound art and our relationship with it. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Credit is allowed for only IAP 104 or IAP 110 or IAP 111 |
| IAP | 105 | Foundations I: Fundamentals of Visual Art | Focuses on contemporary aesthetic concepts and language for interdisciplinary visual arts application. Introduces core concepts of visual design: the elements and principles of design and the creative process, the basics of drawing, color theory, typography and 2D design. Engages student in the fundamental aspects of design to build an adequate foundation and prepares for the next level of the study of interdisciplinary arts practice. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Credit is allowed for only IAP 105 or IAP 110 or IAP 111 |
| IAP | 110 | Foundations of Visual Art, Performance and Interdisciplinarity | Uses a hands-on approach to survey visual art and performance toward a foundational understanding, later applied in interdisciplinary artmaking. Students learn the fundamentals of these areas to produce visual artworks, devise and produce performance works, and gain understanding of interdisciplinary approaches to their artistic creation. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Credit is allowed for only IAP 102 or IAP 103 or IAP 104 or IAP 105 or IAP 110 |
| IAP | 111 | Foundations of Sound, Digital Arts, and Games | Uses a hands-on approach to examine sound, digital arts and games toward a foundational understanding, later applied in interdisciplinary artmaking. Students learn the fundamentals of these areas to produce sonic artworks, digital images and videos, and games, to gain an understanding of interdisciplinary approaches to their artistic creation. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Credit is allowed for only IAP 102 or IAP 103 or IAP 104 or IAP 105 or IAP 111 |
| IAP | 201 | Introduction to Interdisciplinary Arts | Considers interdisciplinarity in practical terms in all art forms. Also considers antecedents and cross-cultural issues. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | |
| IAP | 202 | Perspectives on Interdisciplinary Arts and Performance | Social, cultural, and historical examination of interdisciplinary art and performance and a survey of current interdisciplinary work and approaches. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | |
| IAP | 220 | Introduction to Game Studies | Examines the history, evolution, culture, aesthetics, ontology, anatomy, business and fundamentals of studying and building video games and the ways in which they interface with multiple disciplines in the humanities. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only IAP 220 or IAP 294 (Introduction to Game Studies) OR Visiting University Student |
| IAP | 222 | Games and Ethics | Involves students in the process of ethical gameplay design. Analyzes in-game challenges and mechanics with the lenses of various ethical theories. Students not only think deeply about the relationship between ethics and in-game challenges in game design, but also about real-life challenges that they might not have before realized were connected. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Credit is allowed for only IAP 222 or IAP 294 (Games and Ethics) or IAP 294 (Game Over: Ethics and Games) |

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| IAP | 264 | Music, Mind and Culture | This interdisciplinary course explores how music and the general subjects of sound, noise, silence, hearing/listening are approached interdisciplinarily through the arts, humanities and sciences. In contemporary scholarship, the study of music crosses different academic fields and disciplines, including: musicology and music history, sociology and anthropology, cultural studies, religion, psychology, biology, ecology, neuroscience, mathematics, physics, technology and engineering, business and economics, philosophy, and aesthetics. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Credit is only allowed for IAP 264 or IAP 294 (Music, Mind, and Culture) |
| IAP | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| IAP | 301 | Energetic Systems of Art: Collaboration in the Arts | Identifies and explores the energetic systems at work in the creation, performance, and perception of art. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | |
| IAP | 302 | Cross-Cultural Perspectives on the Arts | Social and cultural perspectives of art and performance through a survey of historical and contemporary attitudes. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| IAP | 304 | Traditions of the Avant-Garde and Experimental Art | Surveys 20th-century art movements and isms, including futurism, dada, surrealism, constructivism, realism, the Bauhaus, abstract expressionism, minimalism. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| IAP | 305 | 20th and 21st Century Art, Performance, and Media | Surveys artists, movements, and trends in the arts with an emphasis on interdisciplinary performance, media, and technology. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| IAP | 307 | Art and War | Global interdisciplinary survey of the range of work created by artists in response to war, through time. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & G | |
| IAP | 310 | Women in Art | Cultural, historical, and social issues relating to the seeming scarcity of women artists and changing social contexts for women artists. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Pre- or corequisite(s): ENG 101 or 105 with C or better; Credit is allowed for only IAP or IAS 310 |
| IAP | 321 | Music Composition I | Study and implementation of specific compositional theories and procedures. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 45 hours |
| IAP | 322 | Multitrack Digital Recording | Explores the fundamentals of digital multitrack recording. Areas of exploration include basic sound theory, acoustics, psychoacoustics, microphones techniques, audio recording, MIDI, editing, mixing and mastering for stereo or multi-channel projects. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 30 hours OR Visiting University Student |
| IAP | 324 | The Voice and Performance | Involves all aspects of the human voice, including research, creation, and performance. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 325 | Sound Performance: Exploring Alternative Performance Groups | Utilizes innovative sound ensembles to explore all aspects of sound and its place in various art forms. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Pre-requisite: BA Digital Culture major or BA Interdisciplinary Arts and Performance major; Pre/Co-requisite: IAP 201 or 202 |
| IAP | 331 | Performance, Acting, and the Individual | Explores the concepts of the self, the subject, and the author as each pertains to the solo artist. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| IAP | 332 | Technical Production for Interdisciplinary Arts | Develops basic technical knowledge and application of fundamental stagecraft techniques used in the creation and presentation of performance works. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 333 | Directing for Performance | Explores various strategies for performance. Emphasizes nontraditional staging and performance. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 334 | Conceptual Development in the Arts | Conceptual development processes in the arts from initial idea to formal project proposals, grants, and production plans. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): Digital Culture or Interdisciplinary Arts and Performance or Performance and Movement BA major; Corequisite(s): IAP 201 or 202 OR Visiting University Student |
| IAP | 335 | Acting for the Camera | Designed for students who are interested in pursuing a career in front of the camera, and students who are more generally interested in the arts and desire a better understanding of the commercial and film acting industry. It is a practical study of essential television and theatrical film presentation, teaching the student actor essential performance techniques in front of the camera, developing creativity in this performance environment and enhancing performance levels. | N | LEL | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only COM 335 or IAP 335 OR Visiting University Student |

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| IAP | 339 | Creating Dramatic Works: Page to Stage to Screen | Practical study of writing, directing, acting and performance techniques essential for the creation of theatrical works for stage, television and theatrical film presentation. | N | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prereq(s): ENG 102, 105, or 108 w/C or better; Credit allowed for only COM 339 or COM 394(Crt Drm Wrk:Pg to Stg&Scrn) or ENG 339 or ENG 394(Crt Drm Wrk:Pg to Stg&Scrn) or IAP 339 or IAP 394(Crt Drm Wrk:Pg to Stg&Scrn) OR Visiting University Student |
| IAP | 341 | History of Anime | Japanese animation is at the nexus of an international multimedia industry worth over \$6.5 billion a year, linked to everything from manga to computer games, Pokemon and plushies. In this comprehensive course, students chronicle the production and reception history of the entire medium, from a handful of hobbyists in the 1910s to contemporary examples. Explores the past century's cultural and technological developments, addresses historiography issues with Japanese academic discourse, and covers previously neglected topics such as wartime instructional animation and work-for-hire for American clients. Founded on the testimonies of industry professionals and drawing on a myriad of Japanese-language documents, memoirs and books, the subjects of inquiry illuminate the anime business from the inside--investigating its innovators, unsung heroes and controversies. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only IAP 341 or IAP 394 (History of Anime) or IAS 341 or IAS 394 (History of Anime) OR Visiting University Student |
| IAP | 352 | Seeing and Drawing | Develops drawing and seeing skills that are important not only to visual arts but also to music, dance, and theatre. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 354 | Visual Representation | Explores materials, processes, and aesthetic concepts of art making through various media with readings on cultural perspectives and contemporary theory. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): Digital Culture BA major or Interdisciplinary Arts and Performance BA major; Pre- or corequisite(s): IAP 201 or 202 |
| IAP | 355 | Illusion and Vision | Inquiry into 2-D surfaces for visual representation and personal expression; includes readings on color theory, visual perception, and historical/cultural patterns. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 361 | Digital Editing and Media Literacy | Investigates the approaches used in digital editing with a focus on interactivity, graphics, audio, and desktop video. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | CS | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| IAP | 362 | Games and Narratology | Focuses on design techniques for the writing of nonlinear and interactive stories in the video game development process. Compares and contrasts game writing with other creative writing such as short story, song writing, oral history, poetry, fiction and film. Examines, deconstructs and questions the game design approach commonly referred to as narratology. Inspects key texts in media and cultural studies for attitudes, ideas and thoughts on games and narrative in games. Uses materials, processes, and aesthetic concepts of level design and visual skills needed to create a video game using a game engine. Knowledge of introductory computer science recommended. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| IAP | 363 | Sound, Image, and Media | Interdisciplinary arts projects for experimental approaches to relating sound and visual image, accompanied by survey of historical and contemporary material. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 364 | Documentaries | Media arts projects exploring new and experimental forms of visualization based upon an interdisciplinary survey of historical and contemporary examples. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 365 | Digital Interactivity | Combines graphics, video, and animation with digital authoring tools for creation of interactive multimedia Web sites. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Pre-requisites: Interdisciplinary Arts and Performance or Applied Computing or Digital Culture student |
| IAP | 366 | 3D Modeling and Media Literacy | Explores the fundamentals of producing 3D modeling with a strong focus given to techniques and praxis of 3D design. Students use skills developed over the semester combined with conceptual idea development, their own premise, 21st-century theory, practice and the aesthetic pipeline for digital 3D imagery to culminate in a portfolio that demonstrates the application of their new skills and self-awareness. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): IAP 103 with C or better; IAP 201 or 202 with C or better; Credit is allowed for only IAP 366 or IAP 394 (3D Modeling and Media Literacy) OR Visiting University Student |
| IAP | 367 | Motion Graphics and Animation | Explores the concepts, aesthetics and technical tools of 2D animation in interdisciplinary arts creation. Course structure includes lectures with examples, hands-on demonstrations, online tutorials (homework assignments), and presentations by guest artists working with 2D digital media. Students learn the basics of 2D animation and visualization techniques, working with multiple applications to accomplish interdisciplinary creative and aesthetically strong artworks. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): IAP 103 with C or better; IAP 201 or 202 with C or better; Credit is allowed for only IAP 367 or IAP 394 (Motion Graphics & Animation) OR Visiting University Student |

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| IAP | 368 | Digital Graphic Technologies | Employs technology used in contemporary graphic designs to design concepts and techniques for modeling and representation applications. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Pre-requisites: Interdisciplinary Arts and Performance or Applied Computing or Digital Culture student |
| IAP | 371 | Verbal Art | Examines varieties of verbal art in everyday life, literature, oral and literate cultures. Considers diverse cultural forms and values. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 375 | Contemporary Performance: Theories and Practice | Performance course focusing on elements of contemporary and digital performance in relationship to stage, new technologies, video, installations, and public art. Through interdisciplinary strategies, students gain tools to deepen their knowledge and range of performance. Requires students to engage in research, conceptualization, and the creation of new original work, combining classroom workshops, various readings, fieldwork, and production to emphasize interdisciplinarity, collaboration, and personal vision. Once theories and concepts are explored, students work in a conceptually based and physically rigorous environment toward producing new work, culminating in a final performance project. | N | STO | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): Digital Culture BA or Interdisciplinary Arts and Performance BA or Performance and Movement BA major; Corequisite(s): IAP 201 or 202 OR Visiting University Student |
| IAP | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEL | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| IAP | 407 | Utopia/Dystopia: Science Fiction and Media | Five science fiction novels by female authors, along with many science fiction films, provide the lens through which students examine the socio-political, artistic and scientific contexts/concepts of utopian and dystopian novels and cinema. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only IAP 407 or WST 407 or IAP 394 (Utopia/Dystopia: Science Fiction and Media) |
| IAP | 420 | Theatre in America | Examines the major movements and pivotal moments in the history of American theatre from the 1700s to its current state, particularly its efforts to establish an identity that reflects the unique and changing citizenry of the United States. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): minimum 40 hours. Credit is allowed for only AMS 420 or IAP 420 or THE 420 |
| IAP | 421 | Composition: Process, Technique and Style | Advanced study of specific compositional theories and procedures; in-depth analysis of individual work. | N | LEL | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only IAP 421 or IAP 560 or MAS 560 or MAS 598 (Composition: Process, Technique, and Style II) OR Visiting University Student |
| IAP | 431 | Perspectives on Performance and Acting | Focuses on the interaction of the performer with media, alternative stagings, and collaboration with other performers. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 433 | Directing Workshop | Applies experimental directorial techniques to presentations and deconstruction of classical works including European and cross-cultural traditions. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Credit is allowed for only IAP 433 or MAS 598 (Directing Workshop) |
| IAP | 434 | Production Laboratory | Develops original scripts into showcase productions. Students function as theatrical ensemble, participate in all phases of performance and production values. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 441 | Movement for Performance | Explores the relationship of movement as it relates to performance, both historically and cross-culturally. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 462 | Games and Play | Focuses on a study of play and game design. Discusses what play is and why humans need it as it pertains to game design. Considers and analyzes an examination of the dark side of play. Scrutinizes the concept of what critical play is and how games are working within social, political and cultural systems. Studies these concepts as the students design and execute a serious or artistic game demo using the materials, processes, aesthetic concepts of art making and scripting skills needed to create a video game using a 3D game engine. Knowledge of introductory computer science recommended. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 45 hours |
| IAP | 463 | Recording Studio Practicum | Supports advanced media students' work in the recording studio and media lab by refining skills producing recordings that enhance their academic and/or professional portfolios. | N | STO | Y | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1 | | Prerequisite(s): IAP 322 or 469; Credit is allowed for only IAP 463 or IAP 494 (Recording Studio Practicum) |
| IAP | 464 | Media and Diversity | Interdisciplinary art projects exploring identity, perception, and technologies from a basis of class, race, ethnicity, gender, sexuality, and ecology. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & G | |
| IAP | 465 | Media Technologies and the Arts | Practical explorations of media arts interrelated with cultures, society, and technology, addressed through readings, discussion, research, and student arts projects. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 466 | Digital Interactivity, Advanced | Explores applications of embedded microprocessors in making art. Students learn to utilize sensors to gather information about the physical environment in order to generate sonic, visual and tactile responses via microprocessors. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| IAP | 467 | Acoustic Ecology | Investigations into the relationship between audio art and ecology; covers field recording, oral histories, digital editing, and designing audio Web site and databases. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 468 | Digital Graphic Applications | Targeting, planning, design, authoring, development, and presentation of professional digital media graphics for Internet and print. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): Applied Computing BS or Interdisciplinary Arts and Performance BA major; Credit is allowed for only IAP 468 or IAP 569 or MAS 569 OR Visiting University Student |
| IAP | 469 | Advanced Audio Production | Engages advanced media students in the technical, logistical, and aesthetic concerns specific to audio in all forms of digital media. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAP | 471 | Language, Culture, and Performance | In-depth examination of language in myth, poetry, social and aesthetic performance genres. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only IAP 471 or IAP 570 or MAS 570 or MAS 598 (Language, Culture, and Performance) OR Visiting University Student |
| IAP | 473 | Aesthetic Research | Investigates how artists, in all disciplines and from different historical periods, conduct or participate in research. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| IAP | 474 | Art and Film | Focuses on film as an art form in relation to the arts through aesthetics, cinematic theory, period study. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| IAP | 480 | Art as Praxis: From Conceptualization to Production | Capstone course. Students complete an exit project or internship as well as an arts portfolio under the guidance of an instructor and mentor. | N | LAB | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3-6 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| IAP | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | |
| IAP | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| IAP | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| IAP | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| IAP | 496 | Playworks Portfolio | Students devise a career plan, establish a digital portfolio, prepare artist statement, and become familiar with contracts and legal documents associated with a career as a serious independent game developer or studio artist. | N | LEL | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): Arts and Humanities in Games certificate student OR Visiting University Student |
| IAP | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-3 | | |
| IAP | 560 | Composition: Process, Technique, and Style | Advanced study of specific compositional theories and procedures; in-depth analysis of individual work. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IAP 421 or IAP 560 or MAS 560 or MAS 598 (Composition: Process, Technique, and Style II) |
| IAP | 569 | Digital Graphic Applications | Targeting, planning, design, authoring, development, and presentation of professional digital media graphics for Internet and print. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IAP 468 or IAP 569 or MAS 569 |
| IAP | 570 | Language, Culture and Performance | In-depth examination of language in myth, poetry, social and aesthetic performance genres. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IAP 471 or IAP 570 or MAS 570 or MAS 598 (Language, Culture, and Performance) |
| IAP | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | PRA | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAP | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAP | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| IAP | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAP | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IAS | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-3 | | |
| IAS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| IAS | 300 | Career Strategies and Personal Resilience | Analysis of sociological and economic factors of 21st-century work environments, integrated with a psychological understanding of resilience. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better OR New College Applied Science major OR Visiting University Student |
| IAS | 305 | Work and Identity | Explores the relationship between work and identity, as well as the search for meaning in work across generations. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB | |
| IAS | 340 | Bioethics | Critical examination of moral questions arising in biomedical contexts, particularly due to new technologies and scientific discoveries. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): minimum 45 hours; Credit is allowed for only BIO 312 or IAS 340 or PHI 320 OR Visiting University Student |
| IAS | 341 | History of Anime | Japanese animation is at the nexus of an international multimedia industry worth over \$6.5 billion a year, linked to everything from manga to computer games, Pokemon and plushies. In this comprehensive course, students chronicle the production and reception history of the entire medium, from a handful of hobbyists in the 1910s to contemporary examples. Explores the past century's cultural and technological developments, addresses historiography issues with Japanese academic discourse, and covers previously neglected topics such as wartime instructional animation and work-for-hire for American clients. Founded on the testimonies of industry professionals and drawing on a myriad of Japanese-language documents, memoirs and books, the subjects of inquiry illuminate the anime business from the inside--investigating its innovators, unsung heroes and controversies. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only IAP 341 or IAP 394 (History of Anime) or IAS 341 or IAS 394 (History of Anime) OR Visiting University Student |
| IAS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| IAS | 406 | Moral Dilemmas | Philosophical analysis of moral dilemmas arising in professional and public settings. Ethical decision making in business, educational, human service, and scientific communities. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only FOR 406 or IAS 406 or PHI 406 OR Visiting University Student |
| IAS | 407 | Environmental Philosophy and Policy | Ethical concepts and theories applied to environmental issues: biotic community, biodiversity, degradation, ecofeminism, ecology, economics, population, property rights, and wilderness. Not open to students with credit in PHI 310. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101 or 105 with C or better; Credit is allowed for only IAS 407 or PHI 407 |
| IAS | 409 | Eco-Community Ethics | Traces human interaction with the Earth from hunters and gatherers to the present day, examining groups who have lived within ecological constraints and limits. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Credit is allowed for only IAS 409 or PHI 409 |
| IAS | 410 | Evolution of Ideas | Investigates ideas (paradigms) and revolutions (paradigm shifts). Examines several topics from perspectives of science, arts, humanities, social sciences. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| IAS | 415 | Life in the Universe | Examines the search for life in extreme environments on Earth and in remote locations beyond Earth. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAS | 416 | Black Holes and Beyond | Explores developments in understanding nature's most basic force-gravity-from Aristotelian concepts to modern theories of curved space-time. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| IAS | 417 | Philosophy of Censorship | Investigates philosophical concepts underlying instances of censorship, both in historical and in contemporary settings. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 30 hours; Credit is allowed for only IAS 417 or PHI 417 or PHI 494 (Censorship: Philoso/Relig/Soc Perspectives) or REL 494 (Censorship: Philoso/Relig/Soc Perspectives) |

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| IAS | 420 | Multicultural Autobiographies | Examines the human experience via autobiographies and personal narratives. Multicultural, literary, and psychological perspectives on individual lives. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | (L or HU) & C | Prereq(s): ENG 101, 105, or 107 w/ C or btr; ENG 200 w/ C or btr; one 200-level lit course w/ C or btr OR New College ugrd std; ENG 101, 105, or 107 w/ C or btr; min 45 hours; Credit is allowed for only ENG 420 or IAS 420 OR Visiting University Student |
| IAS | 430 | Science and Religion | Examines evolving relationships between scientific thought and Western and Eastern religious thought. Explores cosmologies, worldviews, and epistemologies. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only IAS 430 or MAS 510 OR Visiting University Student |
| IAS | 450 | Philosophical and Spiritual Issues in Death and Dying | From Plato to Maimonides to Heidegger to Kubler-Ross, scholars, clinicians and spiritual writers have recognized that attitudes about death and dying contribute to understandings of human existence. Recalling the ancient Socratic, biblical and other spiritual traditions of the cura animarum (care for and cure of the soul) and joining contemporary post/secular conversations relevant to integration of body-mind-spirit, this course introduces basic concepts and practices of care ethics and spirituality. Focuses on relations among existential (ontological), therapeutic (psychosomatic), and spiritual (religious) dimensions of care. Theoretically, the course is inter-faith in approach, holistic in scope, and specialized in content. Practically, students examine real-life issues in care ethics and spirituality from multiple perspectives. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only IAS 450 or MAS 550 or PHI 450 or PHI 494 (Issues in Death & Dying) or REL 450 or REL 494 (Issues in Death & Dying) OR Visiting University Student |
| IAS | 480 | Capstone: Practices and Approaches | Individualized projects developed by the student under the guidance of the capstone coordinator based upon the student's area of concentration. Provides an opportunity to apply the knowledge and skills developed in the course of their program to real-world situations. | N | RSC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | Prerequisite(s): Interdisciplinary Arts and Sciences BA or Philosophy, Religion, and Society BA or Applied Science BAS major |
| IAS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | |
| IAS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| IAS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| IAS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| IAS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | IND | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| IAS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-3 | | |
| IAS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 110 | Introduction to Integrated Behavioral Health | Introduces major clinical concepts and practice models related to team-based medical and behavioral health care integration. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | |
| IBC | 120 | Introduction to Integrated Health Care Systems | Provides an introduction and overview of the American health care system and its driving forces, with a focus on the move to integrated health care systems. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | |
| IBC | 415 | Behavioral Health Over the Lifespan | Common issues and concerns faced throughout the different life stages and the associated behavioral health needs. Presents evidence-based strategies for primary prevention and early intervention. Provides case examples to effectively illustrate the application of the key constructs addressed in the course. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |
| IBC | 420 | Population Health Management | Presents an overview of population health and its management. Emphasizes a solutions-based perspective, consistent with the Quadruple Aim. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only HCD 420 or IBC 420 |
| IBC | 425 | Cognitive and Behavioral Counseling | Frameworks for conceptualizing health behavior change. Reviews evidence-based approaches that address patient's behavioral health needs in primary care and other medical settings. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |

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| IBC | 430 | Medical Pathophysiology, Terminology and Behavioral Health | Provides an overview of pathophysiology and medical treatment of common medical conditions in primary care (e.g., diabetes, coronary heart disease, hypertension, asthma, cancer). Emphasizes medical terminology, pathophysiology, common medical treatments and behavioral health issues associated with those conditions that students can expect to see in integrated medical settings, especially integrated primary care. Students learn appropriate medical terminology for symptoms, diseases, treatments and medical tests so they can communicate effectively with inter-professional medical teams. Discusses the role of the behavioral health provider as it relates to these conditions as well. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |
| IBC | 520 | Integrated Health: The Patient-Centered Medical Home (PCMH) | Covers the Patient-Centered Medical Home (PCMH), with an emphasis on alignment in primary care and other integrated health care systems. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 530 | Evidence-Based Integrated Health Care | Provides a health care manager's introduction to evidence-based guidelines for integrated health care design and delivery systems. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 540 | Integrated Health Care Process Improvement | Team-based quality improvement evaluation, measurement and health care system transformation. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 550 | Integrated Health Care Operations | Integrated health care operations, including an in-depth exploration of health care and integrated care systems, planning, program assessment, implementation and change management. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 560 | Integrated Health Care Data Analytics | Data analytic tools and techniques used to plan, implement and improve integrated health care transformation. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 570 | Integrated Health Care Financial Management | Integrated health care financial management. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 585 | Team-Based Consultation and Leadership | Team-based leadership and consultation in integrated health care. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 586 | Behavioral Health Professional Writing Style | Focuses on improving overall professional writing skills, with an emphasis on how to write a literature review, use APA format, cite sources ethically and access available writing resources as necessary. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Behavioral Health (Clinical) or Behavioral Health (Management) DBH student; Credit is allowed for only IBC 586 or IBC 590 (Professional Writing Skills) |
| IBC | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | RSC | Y | Z3 | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 601 | Models of Integrated Primary Care | Provides an overview of the primary care environment as well as current models of integrated primary behavioral health care. Reviews and critiques models of health care based on their success in impacted patient health outcomes and improving physician satisfaction, along with fiscal and care delivery systems for each. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 602 | Healthcare Statistics | Provides an overview of contemporary issues in health statistics and develops student proficiency in completing hands-on statistical analyses using Microsoft Excel. Develops proficiency in using Excel to manage data analyses as an ongoing tool to collect and analyze clinical and cost-effectiveness data in primary care and related healthcare settings. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| IBC | 603 | Brief Interventions in Primary Care | Provides an overview of evidence-based care for the integrated primary care environment. In particular, reviews and applies the most common approaches to addressing co-morbid behavioral and medical conditions, including but not limited to brief psychotherapy, adherence enhancement, lifestyle medicine, and others, using cognitive-behavioral, acceptance and commitment therapy, solution-focused, and motivational interviewing approaches. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IBC 603 or IBC 691 (Brief Interventions in Primary Care) or IBC 702 |
| IBC | 604 | Clinical Medicine/Pathophysiology | Overview of each of the main systems within the human body. Addresses the major diseases (symptoms, diagnosis, and medical treatments) within each system. Students learn appropriate medical terminology for symptoms, diseases, treatments, and medical tests so they can communicate effectively with medical practitioners (nurses and physicians). Content is equivalent to pathophysiology training in an RN program. Also addresses the role of behavioral care providers in medical settings; design and implementation of psychoeducational programs in primary care; stress management techniques for use in medical settings; chronic pain management; identification and treatment of somatization disorder; increasing compliance in noncompliant patients; alternative/complementary medicine; overview of nutrition; and the effects of exercise and nutrition on prevention and treatment of diseases. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 608 | Psychopharmacology for the Behavioral Care Provider | Provides overview of psychopharmacology to equip the behavioral care provider with the understanding of psychotropic medications necessary to make prescription recommendations to primary care physicians and to participate in medication management for patients being prescribed psychotropics. Basic principles of pharmacology in general, including pharmacokinetics, pharmacodynamics, medication development and the FDA approval process, interaction effects, drug company marketing strategies, appropriate and inappropriate medication usage, over-medication, and off-label medication use. Reviews pharmacokinetics and pharmacodynamics in special populations (children, the elderly, and patients with co-morbid medical and psychological conditions). | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 609 | Clinical Neuropathophysiology | Presents overview of each of the basic neuroanatomy, neurophysiology, and a focus on the manifestations of neurophysiological dysfunction across the life span for Doctor of Behavioral Health (DBH) program behavioral clinicians. Covers the basic human brain anatomy, neurophysiological processes, development, and maturation. Using case studies, presents and discusses evidence-based support for theories of psychiatric disorders and neuropsychopathology. Incorporates evidence-based research findings on the role of genetics, neurophysiological adaptation, epidemiological and societal influences in order to develop understanding of disruptions in normal neurophysiological functioning. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 610 | Behavioral and Psychological Assessment in Primary Care | Presents a comprehensive model of behavioral and psychological assessment for behavioral health clinicians in primary care and related medical settings. Provides behavioral health consultants with the necessary knowledge base and skills to develop an appropriate assessment and treatment plan for a variety of commonly seen complaints in primary care. Places attention on the assessment of both psychiatric and behavioral complaints across the lifespan. Students become familiar with both structured interview and empirically support quantitative measures consistently utilized to enhance our understanding of the presenting complaint. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|-----------------------------|-----------------------------|-------|-----------------|---|
| IBC | 611 | Population-Based Behavioral Health Management | Overview epidemiology for health care followed by population-based approaches to behavioral intervention. Epidemiology includes concept of populations; descriptions and definitions of health and disease; measurement of health (measures, morbidity, mortality and health); designs for studying the health of populations and standardization of population health measures. Population-based management includes definitions of medical management; planning health care for populations and population health outcomes; quality of care and economic analysis of population-based interventions; adjunctive treatments as a core component of population-based interventions. Also, advanced application of population-based behavioral interventions with a focus on design, measures, analysis, results and discussion of current approaches. Includes predictive modeling methods for defining populations; interventions focusing on stepped-care approaches; engagement strategies, interventions, measurement, and follow-up. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 612 | Introduction to Behavioral Interventions | Provides a foundational understanding of behavioral health interventions for primary care settings for those students intending to work in administrative, management or allied health positions. Provides a theoretical basis for various psychological schools of thought, as well as an overview of the empirical evidence for those approaches. Reviews models of therapy including: psychodynamic, brief strategic, cognitive-behavioral and solution-focused. Also reviews two intervention strategies typically used in integrated settings: Acceptance and Commitment Therapy (ACT) and Motivational Interviewing (MI). Explores the ways that these approaches serve as the theoretical framework of the Biodyne model. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only IBC 612 or IBC 780 (Introduction to Behavior Intervention) |
| IBC | 614 | Quality and Performance Measurement, Improvement, and Incentives in Health Care | Overview of health care quality management, emerging models of health care performance measurement, and models of pay for performance incentives in health care designed to reward providers for attaining quality of care goals. Prepares behavioral clinicians to provide services that are consistent with best practices in quality management and performance measurement in health care and to provide care that is consistent with performance incentive programs that are present or on the horizon. A key characteristic of health care reform is increased focus on provider quality of care, accountability for quality via performance measurement, and aligning provider incentives to meet national and regional quality of care performance targets. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 615 | Innovative Technologies in Behavioral Health | Provides a quick overview and answers to basic questions related to both online therapy and telemental health. Gives a downloadable audio recording (MP3) and access to the accompanying video clips that augment a rich sampling of pages extracted from our other coursework. As a composite, this experience introduces our multi-modal learning environment and, more importantly, gives an idea of the issues involved with establishing an online or otherwise remote practice. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only IBC 616 or IBC 780 (Innovative Technologies in Behav. Health Intervention) |
| IBC | 620 | Psychosomatic Illness: Diagnosis & Treatment | Teaches how to successfully diagnose and treat physical illness caused by various forms of psychosocial stress (psychophysiological disorders, PPD). Because patients are often unaware of the nature or degree of stresses that are responsible for their illness, places emphasis on learning how to detect and use clues that patients provide to develop a more complete understanding of the struggles than they are able to perceive for themselves. Focuses on selecting, assessing and treating a patient known to the student who has medically unexplained physical symptoms. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 624 | Integrated Behavioral Health Care for Children and Adolescents | Integrates developmental psychology with pediatric psychology in order to prepare behavioral clinicians to provide screening, assessment, and intervention for children and adolescents in primary care and other medical settings. Presents an overview of developmental stages with an emphasis on critical tasks, while contrasting normal versus abnormal development. Develops societal, familial, and cultural influences. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| IBC | 626 | Behavioral Health Management | Presents an introduction to the roles and responsibilities of supervisor/manager in a health care organization. Provides behavioral health professionals moving into management with the necessary knowledge base and skills to be an entry-level manager and focuses on the further knowledge acquisition needed to become an experienced, effective manager and leader. In addition, discusses the larger context in which healthcare businesses operate--health care reform, regulations and technological changes. Participants take time to look at personal characteristics, interpersonal styles and presentation that affect how one is perceived and responded to in an organization. Too often we have observed individuals with high-level clinical skills moving into management without the requisite skills and understanding of issues, restricting their ability to be successful. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IBC 626 (or IBC 724) or IBC 780 (Behavioral Health Management) |
| IBC | 630 | Financial Management of Health Care | Covers the fundamentals of health care finance with a concentration on health care system financing and the related operational management issues. Grounds clinical managers in finance principles and assists those students with understanding the financial issues currently faced by stakeholder organizations in the health care system. Focuses on the information and tools needed by managers to address financial issues and challenges as an organizational leader for integrated care. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IBC 630 or IBC 691 (Financial Management in Healthcare) |
| IBC | 633 | Motivational Interviewing for the Behavioral Care Provider | Introduces and develops the core skills of Motivational Interviewing as a method of communication and care delivery to strengthen and build relationships, collaboration and motivations towards positive behavior change. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree-seeking graduate student; Credit is allowed for only IBC 633 or IBC 598 (Motivational Interview for Behav. Care Prov) |
| IBC | 634 | Strategies and Techniques for Behavior Change in Primary Care | Examines and discusses the theoretical and applied health-related research changing nutrition, smoking and physical activity behaviors in clinical practice. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 640 | Family and Couples in Primary Care | Explores the systemic dimensions of health care delivery that are relevant to working with families and couples in primary care. Students study models from family therapy and medical family therapy that address family dynamics associated with the management of health and illness, the progression of chronic diseases, and other medical conditions. Reviews strategies for adapting family systemic approaches to provide patient- and family-centered health care in a primary care setting. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 650 | Veterans Health | Provides an introduction to the military and veteran culture and the integrated health care needs and management concerns related to this unique population. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IBC 650 or IBC 691 (Veterans Health) |
| IBC | 660 | Healthcare Legal, Ethical, and Professional Issues | Examines current codes of ethics in behavioral health and medical care in addition to their differences, strengths and weaknesses. Identifies specialized issues relevant for practicing in integrated health care, and explores approaches for avoiding and/or resolving legal, ethical and professional problems commonly faced in clinical practice. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 670 | Integrated Behavioral Health Interventions for Substance Use Disorders | Focuses on the theoretical foundations, research and strategies for identifying, intervening and/or referring patients in primary care and other healthcare settings that present with substance use disorders or problem use. Provides detailed information about the clinical model of SBIRT (Screening, Brief Intervention, and Referral to Treatment), along with strategies for implementing sustainable business models for SBIRT in healthcare environments. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only IBC 670 or IBC 780 (Integrated Behavioral Health Interventions for Substance) |
| IBC | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s) with B or better: Behavioral Health (Clinical) DBH student; HCD 501; IBC 586 or 590; IBC 601; IBC 603; IBC 614 OR Behavioral Health (Management) DBH student; HCD 501; HCD 602; IBC 586 or 590; IBC 601; IBC 614; IBC 626 |
| IBC | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| IBC | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 716 | Health Care Information Management | Provides a comprehensive overview of health care information technology (HIT), including the effects of the external environment and government policies on its evolution; the expanded role of the CIO; the basics of hardware, software and communication systems; the types of operational, management and clinical applications; and the value HIT brings to the enterprise. Included concepts reflect a broad vision of HIT management as a combination of technology, information and manpower leadership. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IBC 716 or IBC 691 (Healthcare Information Management) |
| IBC | 718 | Healthcare Systems: Organization, Delivery and Economics | Provides an overview of the U.S. healthcare system with a focus on economics and policy. Primary goals of the course are to enable students to recognize the relevance of economics to healthcare and to apply economic principles to better understand health-related issues; understand the U.S. healthcare delivery system in the context of social, policy, and economic factors; evaluate the evolving nature of healthcare reform initiatives and their implications for clinical practice, financing, research and policy; analyze public healthcare policy from an economic perspective. Students also focus on behavioral healthcare economics and policy and the economics of behavioral health services in medical settings. Students also understand the medical cost offset effect, including economic benefits of behavioral interventions for co-morbid medical and behavioral conditions, measurement of medical cost-offset, and cost-offset for psychopharmacology and specific behavioral conditions. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 720 | Behavioral Health Entrepreneurship | Provides an introduction to the essential entrepreneurship skills for the behavioral healthcare clinician. Focuses on entrepreneurial skills designed to prepare the behavioral clinician to start a new business venture or revitalize an existing organization or business, to meet the needs of the evolving healthcare system and marketplace. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 725 | Effective Consultation in Integrated Health Care | Prepares students to function as effective consultants in integrated care settings. Effective consultation includes the ability to engage, educate, inform, persuade and collaborate with diverse professionals both within the clinic or hospital setting but also in related systems of care. The hospital or clinic setting includes care providers such as PCPs, nurse, allied health administrative support staff, and managers and executives such as medical director, CEO and CFO. The hospital or clinic also includes related departments such as quality improvement, electronic health records/health information technology, billing, finance and actuary. Systems of care include the patient/family, community, health plans, disease prevention or management companies, specialty mental health and substance use disorder providers, community-based resources, large employer group and related EAP providers. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IBC 725 or IBC 691 (Effective Consultation in Behavioral Health) |
| IBC | 728 | Cultural Diversity, Health and Illness | Focuses on the relationship among cultural diversity, health and illness, and multicultural psychotherapy in primary care and other healthcare settings. Prepares behavioral clinicians to identify the relationship between cultural diversity and health and illness and to use effective psychotherapy informed by cultural diversity in primary care and related medical settings. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 732 | Leadership in Health Care | Leadership, management and organizational behavior in health care settings. Organizational behavior theories and concepts related to leadership. Uniqueness of structures, processes and interactions in integrated care programs and how to adapt these to medical settings. Communication skills, teamwork and collaboration. Current challenges to leadership in health care reform. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IBC 732 or IBC 691 (Leadership in Healthcare) |
| IBC | 740 | Integrated Behavioral Interventions, Cost Savings, Medical Cost Offset and Return on Investment | Design, implementation, and evaluation of integrated health care direct financial and cost savings return on investment. Enhances understanding of how evidenced-based care and best practice in management and leadership results in improved patient health outcomes and reduced health care costs. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IBC | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRA | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| IDN | 101 | Elementary Indonesian I | Basic communication, reading, and writing skills. Intensive oral/aural classroom drill supplemented by prose reading. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | | |
| IDN | 102 | Elementary Indonesian II | Basic communication, reading, and writing skills. Intensive oral/aural classroom drill supplemented by prose reading. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | | Prerequisite(s): IDN 101 with C or better OR Visiting University Student |
| IDN | 201 | Intermediate Indonesian I | Systematic review of grammar. Continued development of communication skills with increased emphasis on reading and writing. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): IDN 102 with C or better OR Visiting University Student |
| IDN | 202 | Intermediate Indonesian II | Systematic review of grammar. Continued development of communication skills with increased emphasis on reading and writing. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): IDN 201 with C or better OR Visiting University Student |
| IDN | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| IDN | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| IDS | 140 | The Nature of Knowledge Systems | Introduces students to the structure and divisions of knowledge systems in the university setting. After surveying the different types of disciplines, students learn processes for using knowledge and insights from different sources in an integrative manner. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | HU | |
| IDS | 150 | Introduction to Military Studies | Focuses on the way interdisciplinary scholars in national security at the interface of history and political science ask questions and propose answers. Introduces the basics of research, writing and criticism with an eye toward how solutions are constructed from diverse sources. Evaluates primary and secondary sources including identifying purpose, intended audience and biases. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Credit is allowed for only IDS 150 or MVS 100 |
| IDS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| IDS | 201 | Intellectual Fusion | Introduces students to the history of interdisciplinarity. Examines major theories and methods of interdisciplinarity, and students use these methods to begin to examine complex interdisciplinary problems. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | |
| IDS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| IDS | 298 | Honors Directed Study | Independent study or practicum under the supervision of a faculty member. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | | Prerequisite(s): Barrett Honors student |
| IDS | 300 | Theories and Applications of Organizational Studies | Critical analysis and application of organizational theory and conceptual perspectives to identify and solve problems, emphasizing personal and organizational application. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L or SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum sophomore standing OR Visiting University Student |
| IDS | 301 | Becoming Interdisciplinary | The history of interdisciplinarity and methods of integrating knowledge and insights from multiple perspectives. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Interdisciplinary Studies or Interdisciplinary Studies (Organizational Studies) major OR Visiting University Student |
| IDS | 302 | Integration Skills | Develops integrative skills to create new understandings, models, products and ideas. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Interdisciplinary Studies or Interdisciplinary Studies (Organizational Studies) major; IDS 201 or 301 with C or better OR Visiting University Student |
| IDS | 310 | Integration: Cultural Contexts | Explores how the practice of integrating knowledge, skills and perspectives from multiple sources can be used to better understand cultural diversity in contemporary U.S. society. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | C | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| IDS | 311 | Integration: Global Contexts | Explores how the practice of integrating knowledge, skills and perspectives from multiple sources can be used to better understand global issues. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours |
| IDS | 312 | Integrative Perspectives on Change | Applies integrative and interdisciplinary tools, methods, knowledge and skills to examine ideas, issues and institutions as they change over time. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| IDS | 313 | Integrative Perspectives on a Changing World | Applies integrative and interdisciplinary tools, methods, knowledge and skills to examine global ideas, issues and institutions as they change over time. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| IDS | 314 | Integrative Perspectives on Cultural Dynamics | Applies integrative and interdisciplinary tools, methods, knowledge and skills to examine the shifting dynamics of cultural diversity in the United States. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum 45 hours |
| IDS | 315 | Integration: Social Contexts | Explores how the practice of integrating knowledge, skills and perspectives from multiple sources can be used to better understand human behavior and interactions. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| IDS | 316 | Integration: Humanities Contexts | Explores how the practice of integrating knowledge, skills and perspectives from multiple sources can be used to better understand human thought and creativity. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| IDS | 321 | Interdisciplinary Issues | Focuses on an interdisciplinary topic from the perspective of multiple disciplines. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |

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| IDS | 350 | Military Studies Interdisciplinary Capstone | Students complete an interdisciplinary research or applied project relevant to national security using methods from history and political science. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; IDS 150 |
| IDS | 355 | Peace Corps Seminar | The Peace Corps: its mission, history, concerns and application process. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | G | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| IDS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| IDS | 400 | Interdisciplinary Career Prep | Prepares students for the experiential learning capstone and for future careers in interdisciplinary studies. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1 | | Prerequisite(s): Interdisciplinary Studies BA or Interdisciplinary Studies (Organizational Studies) BA major; Credit is allowed for only IDS 400 or IDS 494 (Interdisciplinary Career Prep) OR Visiting University Student |
| IDS | 401 | Integration: Experiential Learning | Offers students the opportunity to apply their integrative skills in internships, directed projects or other experiential contexts. | Y | RSC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Interdisciplinary Studies or Interdisciplinary Studies (Organizational Studies) major; IDS 201 or 301 with C or better; IDS 302 with C or better; minimum 2.00 GPA OR Visiting University Student |
| IDS | 402 | Senior Seminar | Capstone course helps integrate classroom and experiential learning. Students choose among course topics that address their interests. | N | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): Interdisciplinary Studies student; ENG 101, 105 or 107 with C or better; IDS 302 with C or better; minimum 2.0 GPA |
| IDS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | |
| IDS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | OP4 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | | Prerequisite(s): Barrett Honors student |
| IDS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| IDS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| IDS | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | | Prerequisite(s): Barrett Honors student |
| IDS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-7 | | |
| IDS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-3 | | |
| IED | 320 | Early Education and Development/Indigenous Children | Assists students in developing their knowledge of the development of Indigenous children and appropriate methods and strategies for effective instruction in preschool/kindergarten classrooms. Explores issues faced by Native American teachers to provide both an effective and meaningful educational experience for Native American and Alaska/Hawaiian Native children. | N | LEL | N | GNA | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only IED 320 or IED 394 (Early Education & Development of Indigenous Children) |
| IED | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| IED | 410 | History American Indian Education | Philosophical and historical review of the development of American Indian education policies in both traditional and contemporary society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & H & C | Credit is allowed for only IED 410 or 510 |
| IED | 430 | Lang/Literacy-Indig Peoples | Examines issues, policies, theoretical foundations, and practices of indigenous peoples and other language minority communities from a sociolinguistics and language reclamation perspective. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | (HU or SB) & C | Credit is allowed for only IED 430 or 530 |
| IED | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-7 | | |
| IED | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-3 | | |
| IED | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 501 | Critical Indigenous Research Methodologies | Examines research, its methods and methodologies through an indigenous framework. Presents different methods, their connections to various research questions, and thoughts of ways to analyze extant educational data. Additionally, examines traditional methodologies, methodological clashes, and the insertion of critical indigenous research methodologies into the framing of the conversation. Offers an historical overview of research in indigenous communities. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR postbaccalaureate student; Credit is allowed for only IED 501 or JUS 691 (Decolonizing Indigenous Research Methods) |

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| IED | 502 | Indigenous Knowledges in Education | Provides an overview of the literature on indigenous knowledge systems as they tie into education as broadly defined. Specifically focuses on indigenous knowledge systems and how it encapsulates relationships (between people and each other, humans and their environment, and humans and written and oral learning); responsibility; reciprocity; and respect. Covers both historical understandings of indigenous knowledge systems and the ways that these knowledge systems are currently being taken up by tribal peoples. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or postbaccalaureate student; Credit is allowed for only IED 502 or JUS 691 (Indigenous Knowledges in Education) |
| IED | 503 | Current Issues in Indigenous Education | Examines current issues facing indigenous student academic achievements and their path to higher education in the United States. Focuses on how structural and systematic dynamics influence indigenous education. Exposes students to literature and engages in discussions that allow them to analyze how policy, practice and lived-experiences shape indigenous education. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR postbaccalaureate student |
| IED | 510 | History of Indigenous Education | Philosophical and historical review of the development of indigenous education policies in both traditional and contemporary society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR undergraduate postbaccalaureate student; Credit is allowed for only IED 410 or IED 510 |
| IED | 530 | Language/Literacy-Indig People | Examines issues, policies, theoretical foundations, and practices of indigenous peoples and other language minority communities from a sociolinguistics and language reclamation perspective. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student; Credit is allowed for only IED 430 or 530 |
| IED | 535 | Community-Based Participatory Action Research | Examines the basic structures of what comprises the research paradigm called Community-Based Participatory Action Research (CBPR). CBPR is research that connects "research experts" with community members with an explicit focus on sharing power, knowledge and ownership of data and its concomitant resources and products. Offers a "how-to" for students in constructing research projects utilizing this lens/framework. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR postbaccalaureate student |
| IED | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 585 | Capstone | Allows students to build a culminating experience that reflects the breadth and depth of their MA experience and allows each student to explore a research area, interest, theme or question within Indigenous education. Develops final written products individually based on consultation with faculty. Each student has a two-faculty member committee to support the capstone project. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR postbaccalaureate student |
| IED | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |

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| IED | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Social Transformation | 1 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IED | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IED | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IED | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Social Transformation | 1-15 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| IEE | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-4 | | |
| IEE | 210 | Introduction to Industrial Engineering | Comprehensive overview of what industrial engineers (IEs) do in the workforce for both IE and non-IE majors. Topics include quality management, process control charts, queueing analysis, time study, project management, forecasting methods and inventory management. Emphasis on the mathematics used in these listed topics is of paramount importance evaluated by explicit examination and applying the mathematics in an IE context. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): MAT 265 or 270 with C or better OR Visiting University Student |
| IEE | 220 | Business and Industrial Engineering | Introduces business for industrial engineers, including business/financial structures, fundamentals of cost and accounting, role of business/engineering in society. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; Introduction to Engineering course with C or better OR Engineering Management student; minimum 25 hours OR Visiting University Student |
| IEE | 225 | Human Systems Integration | Reviews human systems integration (HSI), which is basically systems engineering from a human-centered perspective. Research, theory and methodological approach as applied to a variety of systems ranging from transportation systems to medical and military systems. Discusses handbook chapters and specific examples of human systems integration. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): HSE 101 or PSY 101 with C or better; Credit is allowed for only HSE 225 or IEE 225 OR Visiting University Student |

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| IEE | 300 | Economic Analysis for Engineers | Economic evaluation of alternatives for engineering decisions, emphasizing the time value of money. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergrad student: MAT 265 or 270 with C or better and Introduction to Engineering course with C or better OR Engineering Management Minor/Concentration: MAT 265 or 270 with C or better OR Visiting University Student |
| IEE | 305 | Information Systems Engineering | Overview of computer and information systems applications. Topics include client/server; distributed computing; networks; process modeling; e-commerce; enterprise applications; Internet. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | CS | Prerequisite(s): Fulton Engineering undergraduate student; CSE 205 OR Non-Fulton Engineering undergraduate student; CSE 205; minimum 3.00 GPA OR Visiting University Student |
| IEE | 320 | Extreme Excel | Today's workplace environment for engineers demands advanced skills in using worksheet applications such as Microsoft Excel. Course addresses this important gap in the curriculum to provide support for students who are in need of training on the various capabilities of the software. In particular, students become familiar with various functionalities that are critical for performing their jobs as engineers. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1 | | Prerequisite(s): minimum 45 hours or degree- or nondegree-seeking graduate student OR Visiting University Student |
| IEE | 321 | Professional Engineering Practice | Methods and tools for preparing students for work in industry including ethics, technical writing and communications; understanding how learned undergraduate skills are used in the workplace and in engineering problem solving. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1 | | Prerequisite(s): Engineering Management BSE or Industrial Engineering BSE major; IEE 300 with C or better; IEE 380 with C or better; Pre- or corequisite(s): IEE 369 with C or better if completed OR Visiting University Student |
| IEE | 369 | Work Analysis and Design | Planning, analysis and design of methods of accomplishing work. Emphasizes human factors, work planning, methods analysis and design, and work measurement. Applications in diverse fields. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | L | Prerequisite(s): Fulton Engineering undergraduate student or Engineering Management minor/concentration; ENG 101, 105, or 107 with C or better; FIN 300 or IEE 300 with C or better OR Visiting University Student |
| IEE | 376 | Operations Research Deterministic Techniques/Applications | Industrial systems applications with deterministic operations research techniques. Resource allocation, product mix, production, transportation, task assignment, networks. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 4 | | Prerequisite(s) with C or better: Indust Engr major; CSE 205; IEE 210; MAT 242, 342, or 343 OR Engr Mngmnt student or Math Concepts of Engr certificate student; CSE 205; MAT 242, 342, or 343 OR Industrial Engr grad student OR Visiting University Student |
| IEE | 380 | Probability and Statistics for Engineering Problem Solving | Applications-oriented course with computer-based experience using statistical software for formulating and solving engineering problems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | CS | Prerequisite(s): Fulton Engineering undergrad stdnt, Engr Management minor, or Math Concepts of Engr cert stdnt; MAT 266 or 271 with C or better OR Industrial Engr grad stdnt or Data Science, Analytics & Engr PhD stdnt OR Visiting University Student |
| IEE | 381 | Lean Six Sigma Methodology | Define, measure, analyze, improve and control (DMAIC) steps of six sigma methodology for business and quality improvement. Reviews the necessary statistical tools and illustrates their integration into the problem-solving process. Overview of lean principles and design for six sigma. Unique features of applying six sigma and DMAIC in transactional and service organizations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): IEE 380 with C or better; Credit is allowed for only IEE 381 or IEE 498 (Six Sigma Methodology) or IEE 498 (Six Sigma Green Belt) OR Visiting University Student |
| IEE | 385 | Engineering Statistics: Probability | Conditional probability, common probability models, Goodness-of-fit tests and reliability models. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate or Mathematical Concepts of Engineering certificate student; IEE 380 with C or better OR Industrial Engineering graduate student OR Visiting University Student |
| IEE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-4 | | |
| IEE | 412 | Introduction to Financial Engineering | Intensive exploration course of three phases: (1) a preparation phase for the terminology and financial lingo to be used throughout the semester, (2) introduction of more advanced financial topics such as portfolio formation, assessment and traditional portfolio theory, (3) several financial engineering topics such as the application of stochastic models to stock and derivatives pricing and financial risk management. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): IEE 380 with C or better OR senior standing OR Visiting University Student |

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| IEE | 421 | Urban Operations Research | Covers a sample of operations research (OR) techniques that can be used to model urban problems. Studies two main areas: (1) deterministic decision making, including linear programming and network flow problems, facility location, travel salesman and vehicle routing problems, and scheduling; (2) stochastic decision making, including probabilistic modeling, discrete Markov chains, Poisson process, queuing theory, spatially distributed queues and optimization under uncertainty. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): IEE 376 with C or better; IEE 380 with C or better; IEE 385 with C or better; Credit is allowed for only IEE 421 or IEE 498 (Urban Operations Research) or IEE 521 or IEE 598 (Urban Operations Research) OR Visiting University Student |
| IEE | 426 | Operations Research in Healthcare | Quantitative methods for modeling and analysis of healthcare systems to address operational and tactical decision-making problems. Topics include forecasting, scheduling, decision making, facility location and layout, staffing, quality control and supply chain management in hospitals and healthcare delivery facilities. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisites: IEE 376 and 380 with C or better; Credit is allowed for only IEE 426, 498 (OR in Hospitals), 526 or 598 (OR in Hospitals) |
| IEE | 431 | Engineering Administration | Introduces quantitative and qualitative approaches to management functions, engineering administration, organizational analysis, decision making, and communication. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | L | Prerequisite(s): Fulton Engr undergrad stdt, Dig Cult (Media Processing) BA/BS major, or Engr Mgmt minor or concentration; ENG 101, 105, or 107 w/ C or better; min junior standing; Credit allowed for only IEE 431 or IEE 541 OR Visiting University Student |
| IEE | 437 | Human Factors Engineering | Studies the human psychological and physiological factors that underlie the design of equipment and the interaction between people and machines. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student or minimum 3.0 GPA; Credit is allowed for only IEE 437 or IEE 547 OR Visiting University Student |
| IEE | 454 | Risk Management | Methods and tools for identifying, assessing, mitigating and controlling risk in business and engineering design activities. Decision tools include cost-benefit analysis, decision trees, value of information, Bayesian statistical decision making, fault trees, and failure modes and effects analysis (FMEA). | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Engineering major or Engineering Management Minor/Concentration; ECN 221 or IEE 380 with C or better; minimum junior standing OR Visiting University Student |
| IEE | 456 | Introduction to Systems Engineering | Foundation course addressing the concepts needed for successful system planning, design and build process. Topics include successfully bringing large-scale systems to completion on schedule and on budget, modeling and cost estimating techniques, risk and variability. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Fulton Engineering student; IEE 300 with C or better; junior or senior standing OR Engineering Management minor or concentration; IEE 300 with C or better; Credit is allowed for only IEE 456 or IEE 556 OR Visiting University Student |
| IEE | 458 | Project Management | Life-cycle processes for selecting and managing large-scale projects to ensure successful completion. Topics include project phases, defining milestones, work breakdown structure, group decision making and teamwork, organizational structure, human resource management, technological and economic feasibility, configuration management, budget control, and resource allocation and scheduling. Use of modern tools for planning and controlling project performance. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s) with C or better: Engineering major or Engineering Mgt minor or concentration; ECN 221 or IEE 380; min junior standing OR non-Engr majors; EEE 350, HSE 230, MAE 301, MFG 480, or STP 420; min junior standing OR Visiting University Student |
| IEE | 461 | Production Control | Techniques for the planning, control, and evaluation of production systems. Forecasting, inventory control, scheduling, enterprise requirements planning, supply chain design, and coordination. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; IEE 376 with C or better; IEE 380 with C or better OR Visiting University Student |
| IEE | 470 | Stochastic Operations Research | Modeling and analysis with emphasis on stochastic operations research. Models for stochastic processes, including Markov chains, queuing and decision analysis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Comp Science BS, Engin Mgmt BSE, Indust Engin BSE, Informatics BS, or Mathematical Concepts of Engin cert student; IEE 376 w/ C or better; IEE 385 w/ C or better OR Industrial Engr graduate student OR Visiting University Student |
| IEE | 474 | Quality Control | Basic statistical process control techniques, capability analysis, design of experiments, and acceptance sampling plans. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): IEE 380 with C or better OR Visiting University Student |
| IEE | 475 | Simulating Stochastic Systems | Analyzes stochastic systems using basic queuing networks and discrete event simulation. Basic network modeling, shared resources, routing, assembly logic. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 4 | CS | Prerequisite(s): Fulton Engineering undergraduate student; CSE 205 with C or better; IEE 385 with C or better OR non-Engineering major; CSE 205 with C or better; IEE 385 with C or better; minimum 3.00 GPA OR Visiting University Student |

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| IEE | 477 | System Dynamics and Thinking | Methods for the modeling and analysis of system dynamics; metrics to measure business performance; continuous simulation tools for evaluation of system performance over time. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): CSE 205 with C or better; IEE 380 with C or better; Credit is allowed for only IEE 477 or IEE 498 (System Dynamics Engineering) OR Visiting University Student |
| IEE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-12 | | |
| IEE | 485 | Systems Design Capstone I | Senior capstone project provides students with the skills required to effectively complete a capstone project in design and development. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | L | Prereq(s) with C or better: Engr Mgmt BSE major; ENG 101, 105, or 107 or postbacc; IEE 321; IEE 369; IEE 458 OR Industrial Engr BSE major; ENG 101, 105, or 107 or postbacc; IEE 321; IEE 369; IEE 376; Pre- or coreq(s): Industrial Engr BSE major; IEE 475 |
| IEE | 486 | Systems Design Capstone II | Project in design and development. Individual or team capstone project in creative design and synthesis. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | L | Prerequisite(s): Engineering Management BSE or Industrial Engineering BSE major; minimum senior standing or postbaccalaureate; ENG 101, 105, or 107 with C or better; IEE 485 with C or better |
| IEE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-6 | | Prerequisite(s): Barrett Honors student |
| IEE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| IEE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-4 | | |
| IEE | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-7 | | |
| IEE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-3 | | |
| IEE | 505 | Information Systems Engr | Studies information systems application engineering. Topics include information technology, data modeling, data organization, process mapping, application and database engineering, and user interface development. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton graduate student; Credit is allowed for only IEE 505 or IEE 506 |
| IEE | 506 | Web-Enabled Decision Support Systems | Development and analysis of Web-enabled applications for decision support. Topics include: (1) Web application development using ASP.NET; (2) design for computing scalability, interface usability and cyber security; and (3) use of application development skills and design concepts to develop a decision support system consisting of database, analytical data processing, expert knowledge and reasoning, and user-friendly interface for enabling transitions from data to information, knowledge and decisions. Knowledge of database development is necessary to be successful in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton graduate student; Credit is allowed for only IEE 505 or IEE 506 |
| IEE | 511 | Analysis of Decision Processes | Methods of making decisions in complex environments and statistical decision theory; effects of risk, uncertainty, and strategy on engineering and managerial decisions. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisites: Engineering Graduate student; Credit is allowed for only IEE 498 (Analysis of Decision Processes) or 511 |
| IEE | 512 | Introduction to Financial Engineering | Introductory course on financial engineering covering traditional portfolio theory, forwards, futures, financial stochastic models, option pricing, and risk management. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 520 | Statistical Learning for Data Mining | Surveys data analysis methods for massive data sets and provides experience in analysis with computer software. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; BMI 515, IEE 572, or IEE 578; Credit is allowed for only BMI 555 or CSE 572 or IEE 520 |
| IEE | 521 | Urban Operations Research | Covers a sample of operations research (OR) techniques that can be used to model urban problems. Studies two main areas: (1) deterministic decision making, including linear programming and network flow problems, facility location, travel salesman and vehicle routing problems, and scheduling; (2) stochastic decision making, including probabilistic modeling, discrete Markov chains, Poisson process, queuing theory, spatially distributed queues and optimization under uncertainty. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only IEE 421 or IEE 521 |

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| IEE | 526 | Operations Research in Healthcare | Quantitative methods for modeling and analysis of healthcare systems to address operational and tactical decision-making problems. Topics include forecasting, scheduling, decision making, facility location and layout, staffing, quality control and supply chain management in hospitals and healthcare delivery facilities. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisites: Graduate Engineering student; Credit is allowed for only IEE 426, 498 (OR in Hospitals), 526 or 598 (OR in Hospitals) |
| IEE | 530 | Enterprise Modeling | Focuses on social, economic, and technical models of the enterprise with emphasis on the management of technological resources. Includes organization, econometric, financial, and large-scale mathematical models. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: Engineering Graduate student |
| IEE | 533 | Scheduling | Provides the basic theory of scheduling and introduction to the applications domain. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: Engineering Graduate student |
| IEE | 534 | Supply Chain Modeling and Analysis | Techniques for modeling and analysis of supply chains. Inventory management, transportation/location models, value of information, channel alignment, risk pooling, contracts. Requires knowledge of basic statistics and probability and some optimization. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student |
| IEE | 535 | Intro Intl Logistics Systems | Exploratory project-oriented course that addresses domestic and international logistics practices from a high-level descriptive perspective and an analytical model-based perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 541 | Engineering Administration | Introduces quantitative and qualitative approaches to management functions, engineering administration, organizational analysis, decision making, and communication. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: Engineering Graduate student; Credit is allowed for only IEE 431 or 541 |
| IEE | 545 | Advanced Simulating Stochastic Systems | Analyzes stochastic systems using basic queuing networks and discrete event simulation. Basic network modeling, shared resources, routing, assembly logic. | N | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| IEE | 547 | Human Factors Engineering | Study of people at work; designing for human performance effectiveness and productivity. Considerations of human physiological and psychological factors. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisites: Engineering Graduate student; Credit is allowed for only IEE 437 or 547 |
| IEE | 552 | Strategic Technological Planning | Studies concepts of strategy, strategy formulation process, and strategic planning methodologies with emphasis on engineering design and manufacturing strategy, complemented with case studies. Presents and uses an analytical executive planning decision support system throughout course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: Engineering Graduate student |
| IEE | 556 | Introduction to Systems Engineering | Foundation course addressing the concepts needed for successful system planning, design and build process. Topics include successfully bringing large-scale systems to completion on schedule and on budget, modeling and cost estimating techniques, risk and variability. Graduate students are expected to have a background in and understanding of large-scale systems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only IEE 456 or IEE 556 or IEE 598 (Intro to Systems Engineering) |
| IEE | 561 | Production Systems | Understanding how factories operate, how performance is measured, and how operational changes impact performance metrics. Operational philosophies, increasing production efficiency through quantitative methods. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: Engineering Graduate student |
| IEE | 570 | Advanced Quality Control | Process monitoring with control charts (Shewhart, cusum, EWMA), feedback adjustment and engineering process control, process capability, autocorrelation, selected topics from current literature. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: Engineering Graduate student |
| IEE | 571 | Quality Management | Total quality concepts, quality strategies, quality and competitive position, quality costs, vendor relations, the quality manual, and quality in the services. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: Engineering Graduate student |
| IEE | 572 | Design Engineering Experiments | Analysis of variance and experimental design. Topics include strategy of experimentation, factorials, blocking and confounding, fractional factorials, response surfaces, nested and split-plot designs. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: Engineering Graduate student |
| IEE | 573 | Reliability Engineering | Nature of reliability, time to failure densities, series/parallel/standby systems, complex system reliability, Bayesian reliability, and sequential reliability tests. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: Engineering Graduate student |
| IEE | 574 | Appl Deterministic Oper Rsch | Develops advanced techniques in operations research for the solution of complex industrial systems problems. Goal programming, integer programming, heuristic methods, dynamic and nonlinear programming. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: Industrial Engineering MS, MSE or PhD student |
| IEE | 575 | Appl Stochastic Oper Rsch Mdls | Formulate and solve industrial systems problems with stochastic components using analytical techniques. Convolution, continuous-time Markov chains, queues with batching, priorities, balking, open/closed queuing networks. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: Engineering Graduate student |

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| IEE | 576 | Network Optimization and Algorithms | Algorithms to solve network flow problems with an objective to improve computational complexity by using appropriate data structures and computing procedures. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only IEE 576 or IEE 598 (Network Flows and Algorithms) or IEE 598 (Network Optimization and Algorithms) |
| IEE | 577 | Data Science for System Decision Analytics | Focuses on applied data science techniques for the system decision support in PYTHON. Also targets anyone who is interested in data analytics in general or plans to work with data in a future career (such as data scientist and data analytics). Highly encourages some prior knowledge about PYTHON. Focuses on the conceptual understanding of system modeling, statistical and machine learning, and optimization with some mathematical formulation. Also covers the main concept and some implementation of the latest development in data science, such as distributed computing, large-scale optimization, and deep learning. Furthermore, covers how to implement these models for different types of data, such as tabular data, images, text data. Finally, discusses how to interpret these models for decision support of complex systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student |
| IEE | 578 | Regression Analysis | Regression model building oriented toward engineers and physical scientists. Topics include linear regression, diagnostics, biased and robust fitting, nonlinear regression. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Engineering Graduate student |
| IEE | 579 | Time Series Analy/forecasting | Forecasting time series by regression-based, exponential smoothing, and ARIMA model techniques; uses digital computer programs to augment the theory. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: Engineering Graduate student |
| IEE | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 581 | Six Sigma Methodology | The six sigma process improvement strategy of define, measure, analyze, improve, and control (DMAIC). Integrates and deploys statistical methods and other six sigma problem solving via the DMAIC framework. Requires background in undergraduate engineering statistics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Engineering Graduate student |
| IEE | 582 | Response Surfaces/Process Opt | Classical response surface analysis and designs including steepest ascent, canonical analysis, and multiple responses. Other topics include process robustness studies, robust design, and mixture experiments. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Engineering MS, MSE or PHD major; IEE 572 with C or better |
| IEE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 585 | Six Sigma Capstone | The DMAIC (define, measure, analyze, improve, control) improvement strategy is applied in the formulation and execution of a six sigma project. | N | PRA | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; IEE 530, 561, 572, 573, or 578; IEE 570; IEE 581 |
| IEE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-12 | | Pre-requisite: Industrial Engineering MS, MSE or PHD student |
| IEE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-4 | | Prerequisite(s): Engineering graduate student |

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| IEE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 605 | Foundations of Information Systems Engineering | Introduces science and engineering technologies of information systems design and analysis with focus on industrial engineering applications. Topics include: design and analysis of computational algorithms; and data mining techniques for classification, clustering, feature extraction and data reduction problems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): graduate Industrial Engineering student |
| IEE | 620 | Optimization I | First course of the PhD-level deterministic course series. Covers foundations of optimization and linear programming. Prior working knowledge of linear algebra and knowledge of how to formulate linear programs is required for this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 622 | Optimization II | Introduces computational methods to solve optimization problems with integer variables and the mathematical theory behind them. Follows formulation of integer programming models with a survey of relaxation, decomposition and cutting-plane methods. Discusses various practical problems such as facility location, transportation and distribution problems. Assigns computational examples using the software IBM ILOG OPL. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: IEE 620; Credit is allowed for only IEE 622 or 598 (Optimization II) |
| IEE | 640 | Probability & Stochastic Processes | Presents fundamentals of probability and stochastic processes from a non-measure theoretic point-of-view to develop (a) basic model building and probabilistic reasoning skills, and (b) an understanding of important qualitative characteristics of some basic stochastic processes used to model dynamical systems with noise. Topics include a review of probability theory with particular attention to conditional probability and expectation; Markov chains; Renewal theory and the Poisson process. Considers applications in reliability, inventory theory, queueing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Pre-requisite: IEE 470, Graduate Industrial Engineering major; Credit is allowed for only IEE 598 (Prob & Stoch Model) or 640 |
| IEE | 670 | Mathematical Statistics | Introduction to the field of mathematical statistics at a level intended for first-year PhD students in Industrial Engineering. Builds a solid background in the principles, concepts, and techniques of mathematical statistics. Prepares students for advanced study and research in statistics, and is useful for understanding statistical data analysis techniques and developing statistical thinking. Completion of at least one course in probability and statistics is required prior to taking this class. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 672 | Adv Topics-Experimental Design | Multilevel and mixed-level factorials and fractions, design optimality, incomplete blocks, unbalanced designs, random effects and variance components, analysis of covariance. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 3 | | Prerequisite(s): Engineering MS, MSE or PHD major; IEE 572 with C or better |
| IEE | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-12 | | Pre-requisite: Industrial Engineering MS, MSE or PHD student |
| IEE | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | GNA | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-12 | | |
| IEE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IEE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Industrial, Systems and Operations Engineering Program | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| IFT | 100 | Introduction to Information Technology | Project-based introduction to the key concepts, tools and devices underlying today's technologies. Introduces computer hardware, software and system architecture, the Internet, the World Wide Web and information technology ethics. Forms a foundation for future courses offered in the Information Technology major and the information technology discipline. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | |
| IFT | 101 | Information Technology Programming Logic | Introduces basic analysis and synthesis procedures for an understanding of information system logical structures. Topics include: identifying organizational domains for potential automation, informational descriptions (scenarios) of those domains, and program structure and logical designs for potential problem/opportunity resolution. Uses graphical and textual models to express the logic and uses Python to implement the logic. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Credit is allowed for only IFT 101 or IFT 194 (Information Technology Programming Logic) OR Visiting University Student |
| IFT | 103 | Operating System Architecture | Introduces Linux, Windows and Mac operating systems. Begins with an overview of the hardware of modern computer and operating systems. Also introduces user management, memory management, network and disc storage. Provides hands-on practices to introduce computer and operating system virtualization. Provides an isolated environment to practice and do labs on advanced topics in the field of memory management, different portable data file input/output. Students learn Command Line Interface (Bash/Power Shell) to interact with computers and transfer data files from one operating system to another operating system. Also introduces basic computer networking and hardware security. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | |
| IFT | 166 | Introduction to Internet Networking | Introduces the OSI model and the protocol layers associated with information communication technology. Describes the role and purpose of each layer. Covers various network topologies, communications protocols, transmission media, networking hardware and software, network management and troubleshooting. Students gain hands-on experience in basic network configuration. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | |
| IFT | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 1-4 | | |
| IFT | 200 | Information Modeling, Storage and Retrieval | Covers the different types of data modeling with emphasis on the relational model. Develop solutions for data modeling problems, starting with identifying user and data requirements. Fundamentals of database design going through the conceptual, logical and physical data modeling steps. Create relational databases in order to store data. Utilize Structured Query Language (SQL) to represent, retrieve, and manage a database. Students learn how applications connect to databases, and interact with them. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 101 with C or better OR Visiting University Student |
| IFT | 202 | Foundations of Information and Computer System Security | Introduces information technology (IT) security aspects and how technology can be vulnerable to unwanted intrusions. Project-based introduction to privacy, ethics, legal, social and professional responsibilities for information technology. Principles of information security and assurance and their implications on access. Tools and methods to identify intrusion, best security practices. Securing communications and applications. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 101 with C or better; IFT 103 with C or better; IFT 166 with C or better OR Visiting University Student |
| IFT | 210 | Introduction to Java Technologies | Introduces Java as a platform for application development. Fundamental concepts of the Java language (classes, objects, conditions, loops, arrays), object-oriented programming and design (inheritance, polymorphism, interfaces), exceptions, and basics of the user interface programming. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 101 with C or better OR Visiting University Student |
| IFT | 220 | Managing Configurations and Active Directory | Introduces the concept of Directory Services by exploring Active Directory from design and implementation. Further explores the role Active Directory plays in managing computer policy and security, user's identity management and authentication, and configuration management of both client computers and servers. Introduces the use of PowerShell scripting. Students implement their own Active Directory domain and then use it to perform various configuration management tasks. Assumes no previous experience with Configuration Management concepts or Active Directory. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 103 with C or better; IFT 166 with C or better OR Visiting University Student |

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| IFT | 250 | Introduction to UNIX Utilities | Technical overview (introduction) to Unix-style operating systems such as Linux. Covers a broad range of features of the operating system from core system technologies such as the Filesystem Hierarchy Standard (FHS), to using the shell and common Unix/Linux utilities to accomplish day-to-day computing tasks. Includes output redirection, file manipulation, basic system and environment configuration, and system monitoring. Assumes no prior experience with the Unix operating system. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 103 with C or better OR Visiting University Student |
| IFT | 266 | Network Information Communication Technology | Focuses on the physical layer, data-link layer and network layer of the OSI model. Introduces data communications, including signals and transmission impairments. Also introduces network topologies and local-area networks with particular attention on the network switch. Network layer protocols (IPv4 and IPv6) are included with focus on IPv6. Subnetting (classful and classless) are explored in more detail and Variable Length Subnet Mask) VLSM is introduced. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 166 with C or better OR Visiting University Student |
| IFT | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 1-4 | | |
| IFT | 300 | Intermediate Database Management Systems | Fundamental methods in managing data-oriented systems. Relational, object and hierarchical data architectures. Query languages including SQL. Semantics of transaction processing. Database system architectures including cloud-based, client-server and embedded databases. Security and privacy issues associated with SQL-structured databases. Modern trends in data management including unstructured data type management, data mining and business analytics. Describes NoSQL data management platforms. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 200 with C or better; Credit is allowed for only ACO 220 or ACO 320 or CSE 412 or IFT 300 (or IFT 433) or SER 322 OR Visiting University Student |
| IFT | 301 | Web Programming for Human Computer Interface | Human-computer interaction design for rich media systems. Design processes, tools and principles for applications that are highly interactive with their users and which include multiple input/output modalities and multimedia. Project-driven course. Key topics include wireframes and persona structures associated with HCI. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 200 with C or better; IFT 210 with C or better OR Visiting University Student |
| IFT | 310 | Information Systems Project Development | Intense review of information technology organizational management; project development for IT infrastructure, management and security systems. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 200 with C or better; IFT 202 or 394 (Intro to Cyber Security) with C or better; IFT 266 or 394 (Networking Character & Protocols) with C or better OR Visiting University Student |
| IFT | 320 | Managing the Cloud | Provides a hands-on comprehensive study of Cloud concepts and capabilities across the various Cloud service models including Infrastructure as a Service (IaaS), Platform as a Service (PaaS) and Software as a Service (SaaS). Studies the latest solutions for cloud computing developed by Google, Amazon and Microsoft. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 200 with C or better; IFT 202 or 394 (Intro to Cyber Security) with C or better; IFT 266 or 394 (Networking Charac & Protocols) with C or better OR Visiting University Student |
| IFT | 360 | Applications in Artificial Intelligence | Artificial Intelligence (AI) is one of the most exciting technologies, both shaping and challenging the future of our industries and workforce. AI is a multidisciplinary area comprising theoretical, experimental and applied investigations of intelligent systems. Converging technologies along with natural language processing, big data and the Internet of Things (IoT) are driving the growth of AI. An introductory course in AI is a good place to start as it gives students an overview of the components, brings students up to speed on the AI research and developments to date. Covers examples of AI in use today such as Web crawlers, how humans detect financial frauds, self-driving cars, facial recognition systems, and natural language processors. Provides hands-on experience with the AI programming of different intelligent agents. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 200 with C or better; IFT 210 with C or better OR Visiting University Student |
| IFT | 365 | Applied Programming Language for Information Technology | Object-oriented programming (OOP) with a focus on advanced techniques used in developing applications. Emphasizes problem solving using the software development life cycle. Supports application creation and testing through study of programming basics, data structures and OOP fundamentals resulting in a framework of collection classes students use to solve problems and create applications. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 210 with C or better OR Visiting University Student |
| IFT | 366 | TCP/IP and Routing | In-depth study of the TCP/IP protocol suite and router technology. Covers the underlying applications, components and sub-protocols that make up the TCP/IP suite. Emphasizes the fundamentals of routing, router configuration, understanding routing protocols and setting up access control lists. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 266 or 394 (Networking Charac & Protocols) with C or better OR Visiting University Student |

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| IFT | 370 | Mobile Computing and Applications for Information Technology | Infrastructure and architecture of mobile computing, wireless protocols, design principles, patterns and practices for mobile app development Android and iPhone platforms. Presents the development processes for both types, focusing on Android development with Java in providing hands-on development of applications in support of an applied practice learning experience. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 210 with C or better; IFT 301 with C or better OR Visiting University Student |
| IFT | 372 | Wireless Fundamentals | Foundational course in wireless networking includes systems-level coverage of advanced information communication technology (ICT) focusing on digital wireless communications systems used in today's ICT networks. Introduces communication techniques that allow high-speed mobile connectivity. Includes topical areas in noise, modulation techniques, signal path loss, basic antenna theory and other similar topics required to understand how a wireless network architecture is developed. Also introduces the characteristics of both Wi-Fi based systems and smart phone-based systems. Specific topics include: binary communications, QPSK, PCM, TDM, QAM, OFDM, OFDMA and the wireless environment. Lays the foundation for fully understanding how to create and develop a wireless network. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 266 or 394 (Networking Character and Protocols) with C or better OR Visiting University Student |
| IFT | 380 | Advanced Systems Configuration Management | Explores in-depth advanced configuration management concepts and methods of deploying, configuring, monitoring and reporting on systems (both servers and workstations). Utilizes widely used CM tools to help illustrate and study patch management, application deployment, OS deployment, remote control, configuration baselines, drift remediation, inventory management and compliance reporting. Uses PowerShell as a scripting language. Assumes previous experience with directory services and PowerShell and introduces query languages without expecting prior experience. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 220 with C or better OR Visiting University Student |
| IFT | 381 | Information System Security | Fundamental course in information systems security that focuses on various security concepts. Students learn about intrusion systems and techniques to identify and help limit incursions. Familiarizes students with the different types of firewalls and their applications in the network. Details software security, hacking techniques and operating systems security. Moreover, emphasizes the initial security and privacy issues of some new technologies such as cloud computing, fog computing, Internet of Things (IoT), and blockchain. Finally, presents the fundamentals of AWS security testing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 202 or 394 (Intro to Cyber Security) with C or better OR Visiting University Student |
| IFT | 383 | Shell and Script Programming with UNIX | UNIX operating system programming of shells, environment and 4th-generation languages and tools, such as sed, awk, perl, grep, make. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 250 with C or better OR Visiting University Student |
| IFT | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 1-4 | | |
| IFT | 401 | Information Technology Capstone Project I | First half of a comprehensive project experience based on cumulative knowledge and skills gained in earlier coursework. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s) with C or better: IFT 220; IFT 250; IFT 266 or IFT 394 (Networking Characteristics & Protocols); IFT 300 (IFT 433); IFT 301; IFT 310; IFT 320 (IFT 472); IFT 381; minimum senior standing |
| IFT | 402 | Information Technology Capstone Project II | Second half of a comprehensive project experience based on cumulative knowledge and skills gained in earlier coursework. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 401 with C or better |
| IFT | 410 | Big Data Tools and Practices | Architecture of Hadoop clusters at both the hardware and system software levels. Applies Hadoop and related Big Data technologies such as MapReduce, Pig, Hive and Impala in developing analytics and solving the types of problems faced by enterprises today. Expects programming experience in Java or Python and a general understanding of databases, networking and distributed systems. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 200 with C or better OR Visiting University Student |
| IFT | 420 | Cloud Architecture for Information Technology | Cloud technology has increased usability and reduced the cost of computing for global business environments. Leveraging the interoperability and rapid time to deployment allows for a high level of availability and scalability. Provides an overview of the methodologies and techniques that address cloud automation, design patterns, and optimization which are used to build a well-architected cloud computing environment. Students have the opportunity to learn how to deploy a fault-tolerant, efficient and scalable cloud infrastructure that considers important factors as security, reliability and high availability. Leverages the AWS Academy Cloud Architecting course, which supports students in preparing for AWS Certified Solutions Architect - Associate exam. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 266 with C or better; IFT 320 with C or better; Credit is allowed for only IFT 420 or IFT 560 or IFT 598 (Cloud Architecture for Information Technology) OR Visiting University Student |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|------------------------|-------|-----------------|--|
| IFT | 421 | Data in the Cloud for Information Technology | Examines the architecture, frameworks and tools used to develop, analyze and communicate data using cloud services. Topics include the benefits, risks and opportunities represented by cloud technologies as well as the unique tools and infrastructure. Also covers cloud data solutions, data acquisition, migration, security, identity management and disaster recovery. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 320 with C or better; Pre- or corequisite(s): IFT 300 with C or better if completed; Credit is allowed for only IFT 421 or IFT 561 or IFT 598 (Data in the Cloud for Information Technology) OR Visiting University Student |
| IFT | 422 | Cloud Security and Operations for Information Technology | Cloud security solutions are required to address availability, authentication, integrity, confidentiality and auditing. It starts with a combination of operating system virtualization, processes automation and dynamic response to changing business conditions. Covers the way traditional models of security, governance, and operations have changed due to the fact that the cloud user and the cloud provider both hold responsibilities for the security measures. Provides an overview of the methodologies and techniques to create and maintain a secure well-operated cloud computing environment. Students have the opportunity to learn how to manage, secure and scale cloud infrastructures and their underlying functions for scaling, container computing, monitoring, database services and account security. Leverages the AWS Academy Cloud Operations course, which supports students in preparing for the AWS SysOps Administrator - Associate exam and (ISC)2 CCSP exam. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 320 with C or better; IFT 381 with C or better; Credit is allowed for only IFT 422 or IFT 562 or IFT 598 (Cloud Security & Operations for Information Tech) OR Visiting University Student |
| IFT | 443 | Analyzing Big Data | Data mining and statistical techniques that arise in data analytic applications. Students learn and practice working with big data using data analytic techniques presented in earlier coursework. Discusses one or more applications associated with data analytic techniques. Practices using advanced techniques that build on the knowledge provided in earlier coursework and knowledge gained from a statistical methods course. Familiarity with databases and statistics are essential. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 410 (IFT 333) with C or better OR Visiting University Student |
| IFT | 458 | Middleware Programming and Database Security | Covers the main concepts of middleware technologies. Includes the various methodologies used to integrate applications, databases and Web services. Students develop multilevel applications using programming/scripting languages (such as PHP, Java, Python, Perl) which access data stored in a database. Middleware programs typically control database access and protect database SQL programs from security breaches. Students access the data from applications and other Web technologies such as XML, as well as protecting the data from unauthorized access. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s) w/C or better: Graphic Info Tech (Full-Stack Web Dvlpmnt) BS major; GIT 215 OR IFT 301; IFT 383; Credit is allowed for only ACO 321 or CSE 414 or IFT 458 or IFT 554 or IFT 598 (Mdlwre Prgmng & Dtabse Sec) OR Visiting University Student |
| IFT | 460 | Managing Intelligent Devices in an Enterprise Environment | Systems and devices with unique identifiers that are connected to the Internet. Hands-on study of enterprise-related intelligent applications including energy, logistics, industrial control, retail and agriculture, among multiple domains. Includes the development of working code for real-world Internet of Things (IoT) applications. Requires high-level programming skills. Incorporates a taxonomy of IoT systems with increasing levels of complexity. Programming aspects of IoT devices and rapid prototyping follows the foundational information. Covers IoT data analytics and tools used to manage these intelligent devices. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s) with C or better: IFT 200; IFT 202; IFT 250; Credit is allowed for only IFT 460 or IFT 494 (Managing Intelligent Devices in an Enterprise Env) or IFT 598 (Managing Intelligent Devices in an Enterprise Env) OR Visiting University Student |
| IFT | 466 | Advanced Computer Networks for Information Technology | Redundancy protocols, QoS and the implementation of wide area networks. Focuses on advanced concepts and implementation of EIGRP, OSPF, BGP and extended ACLs. Also covers in detail implementing routing from an IPv6 perspective. Additional topics include cloud computing and SDNs. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 366 with C or better OR Visiting University Student |
| IFT | 475 | Security Analysis | Processes used in cyber security analyses. Presents through exercises techniques to ensure confidentiality, integrity and availability. Includes vulnerability assessments based on faulty software design. Explores malicious code and computer crime, including operating system (OS) root kits. Students are instructed in how to conduct analyses in support of cyber security initiatives. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 381 with C or better OR Visiting University Student |
| IFT | 482 | Network Forensics | Use and creation of advanced network forensics tools: intrusion detection and prevention, honeynets, traffic routing and management, and data reduction and graphing tools. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 381 (IFT 481) with C or better; Credit is allowed for only ACO 331 or IFT 482 or IFT 523 or IFT 598 (Network Forensics) OR Visiting University Student |

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| IFT | 483 | Developing Security Policy | Focuses on development of security policy, risk solutions and incident response facilities. Using the information security framework, identifies strategies and processes used in governance, risk management, asset management, human resources and physical security to create, evaluate and audit security policies. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 381 with C or better; Credit is allowed for only IFT 483 or IFT 543 or IFT 598 (Developing Security Policy) OR Visiting University Student |
| IFT | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Information Technology | 1-12 | | |
| IFT | 488 | Systems Administration of UNIX | UNIX administration of system and user services using command line and GUI tools. System security and forensics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 383 with C or better OR Visiting University Student |
| IFT | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Information Technology | 1-6 | | Prerequisite(s): Barrett Honors student |
| IFT | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | Information Technology | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| IFT | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 1-4 | | |
| IFT | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Information Technology | 1-3 | | |
| IFT | 510 | Principles of Computer and Information Technology Architecture | A comprehensive introduction to computer and information technology architectures. Provides a detailed understanding of computer architecture, system software and network architecture, including the relationships among these IT-related entities. Forms a technical foundation for understanding current IT-related technologies and how they work as an integrated system. Begins with the historical study of computing and networks and progresses through computer and networking architecture. Topics include principles of a computer's physical and operating system architecture and its relationship to a network's architecture, including hardware and software functionalities. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IFT | 511 | Analyzing Big Data | Covers how data science can be used as tools to analyze large amounts of data for the purpose of extracting business value. Covers multiple topics with real business examples. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IFT 511 or IFT 598 (Analyzing Big Data) |
| IFT | 512 | Advanced Big Data Analytics/AI | Develops a workflow structure and implementation of an end-to-end Machine Learning (ML) environment, from a hands-on DevOps (Development - Operations) perspective. This workflow structure forms the substrate for the layers of algorithms and models that are intended to implement and deliver/monitor analytics and AI products. To that end, the student learns about modern data storage evolutions (e.g., LakeHouses/Delta Lake) and end-to-end management/governance of machine learning/AI models (MLFlow) and products. Also deepens knowledge of advanced data analysis and statistical techniques that arise in data analytic and monitoring applications as students see how the ML work integrates with their substrate development. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 511; Credit is allowed for only IFT 512 or IFT 598 (Advanced Analytics for Big Data/AI) or IFT 598 (Advanced Data Analytics) |
| IFT | 520 | Advanced Information Systems Security | Advanced methods that can be used to make the information secure in different environments. Provides details about modern cryptographic algorithms and their applications to make the IoT, Cloud and Big data information secure. Also provides comprehensive information about how to make wireless networks secure, different case studies and application in a real environment. Finally, covers the human aspect of information security for identifying issues and developing real solutions. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IFT | 523 | Network Forensics for Information Technology | Use and creation of advanced network forensics tools: intrusion detection and prevention, honeynets, traffic routing and management, and data reduction and graphing tools. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 520; Credit is allowed for only ACO 331 or IFT 482 or IFT 523 or IFT 598 (Network Forensics) |
| IFT | 525 | Introducing AI into CyberSecurity for Information Technology | Artificial intelligence (AI) is common in the cybersecurity professional's personal and work life, both in many recognizable and highly perceptible ways as well as those that are not so obvious. As this field continues to grow, it is helpful to understand the related terms and technologies of this always expanding field and to share in discussions about its use in possible and actual presentations. Students learn terminology related to the spectrum of AI technology, including deep learning, machine learning, AI neural networks, and natural language processing, and are introduced to some of the current practical applications of these technologies. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IFT 525 or IFT 598 (Introducing AI into CyberSecurity) |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|------------------------|-------|-----------------|---|
| IFT | 530 | Advanced Database Management Systems | Teaches advanced concepts of database management systems, for example, further dependencies and higher normal forms, indexing, transaction and locking, concurrency control, database security, backup and recovery, accessing XML data, query optimization techniques, and databases for web applications. Students expand their SQL programming knowledge through focused database design practice with an increasingly complex problem and solution set using Microsoft SQL Server. Introduces NoSQL for SQL developers and about unstructured "big data" databases and hands-on experience with MongoDB. Project-driven course builds on the background presented in Software Development for Information Technology. Familiarity with information modeling and software development process is essential. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IFT | 533 | Data Visualization and Reporting for IT | Covers fundamentals of data visualization theory, different types of visualization charts, how to understand the data to be visualized and chart selection best practices for a given visualization task. Also covers the dashboard design process. Applies concepts to visualize various real and synthetic datasets using various visualization tools such as Python Bokeh and Tableau to create interactive dashboards. Students apply all learned concepts through a course project in which they design and implement dashboards for real visualization tasks and for the purpose of reporting important insights and findings to technical and nontechnical managerial teams. Touches on ETL since data needs to be read and transformed prior to visualization and reporting. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IFT 533 or IFT 598 (Data Visualization & Reporting for IT) |
| IFT | 536 | Natural Language Processing for Information Technology | Practical, advanced-level course introducing the variety of ways to represent and interpret language. Focuses on exploiting representations and identifying appropriate tools, applications and processes to analyze text and speech data, translation, summation, extracting information, semantic mapping and indexing, automatic query resolution, and developing natural interfaces to databases. Natural language processing is an extremely multidisciplinary, therefore includes ideas central to linguistics, computer science, machine learning and statistics. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only IFT 536 or IFT 598 (Natural Language Processing) |
| IFT | 540 | Information Systems Development | Proven techniques and methodologies for modeling information requirements and organizational data resources with a strong focus on gleaning information from data. Students learn how to discover, document and structure functional system requirements and user interface requirements at a level appropriate for advanced information technology practitioner, and develop conceptual data models. Covers the phases of a generic systems development life cycle (SDLC), object-oriented analysis and design (OOAD) with UML modeling, and Agile methodologies. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IFT | 543 | Security Compliance for Information Technology | Focuses on the development of security policy, risk solutions and incident response facilities. Using the information security framework, identifies strategies and processes used in governance, risk management, asset management, human resources and physical security to create, evaluate and audit security policies. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only IFT 483 or IFT 543 or IFT 598 (Developing Security Policy) |
| IFT | 545 | Advanced Security Analysis | Advanced inspection of concepts and exercises related to security analysis. Expands analysis techniques to include wireless protocols, interception techniques, man-in-the-middle attacks, forgeries, cloned and replay attacks, cyber warfare, data corruption, data leakage and peer-to-peer networks. Through a variety of exercises, students work with tools and technologies available on the commercial market. The teaching environment is designed to impart the skills required by a corporate security professional. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IFT | 554 | Middleware Programming and Database Security for Information Technology | Introduces the main concepts of middleware technologies. Includes the various methodologies used in developing full-stack applications, the technologies and architectural designs to integrate applications, databases and front ends. Students design secure application access to persistence data stored in a database using middle layer architecture and from applications technologies. Development of the middleware using programming/scripting languages (such as JavaScript, PHP, Java, Python, Perl, and C#). | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 530; Credit is allowed for only ACO 321 or CSE 414 or IFT 458 or IFT 554 or IFT 598 (Middleware Programming & Database Security) |
| IFT | 560 | Cloud Architecture for Information Technology | Covers cloud design concepts such as cloud security, networking, databases, design patterns and architecture. Has a concentration on Amazon Web Services (AWS) and contains most of the materials needed to pass the AWS Certified Cloud Architect - Associate exam. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Pre- or corequisite(s): IFT 510; Credit is allowed for only IFT 420 or IFT 560 or IFT 598 (Cloud Architecture for Information Technology) |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| IFT | 561 | Data in the Cloud for Information Technology | Examines the architecture, frameworks and tools used to develop, analyze and communicate data using cloud services. Topics include the benefits, risks and opportunities represented by cloud technologies as well as the unique tools and infrastructure. Examines and compares cloud solutions, data acquisition, migration, security, identity management and disaster recovery across a variety of current providers. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only IFT 421 or IFT 561 or IFT 598 (Data in the Cloud for Information Technology) |
| IFT | 562 | Cloud Security and Operations for Information Technology | Cloud security solutions are required to address availability, authentication, integrity, confidentiality and auditing. It starts with a combination of operating system virtualization, processes automation and dynamic response to changing business conditions. The way traditional models of security, governance and operations have changed due to the fact that the cloud user and the cloud provider both hold responsibilities for the security measures. Provides an overview of the methodologies and techniques to create and maintain a secure well-operated cloud computing environment. Students have the opportunity to learn how to manage, secure and scale cloud infrastructures and their underlying functions for scaling, container computing, monitoring, database services and account security. Leverages the AWS Academy Cloud Operations course, which supports students in preparing for the AWS SysOps Administrator - Associate exam and (ISC)2 CCSP exam. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Information Technology | 3 | | Prerequisite(s): IFT 560 with C or better; Credit is allowed for only IFT 422 or IFT 562 or IFT 598 (Cloud Security & Operations for Information Tech) |
| IFT | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 1-12 | | |
| IFT | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Information Technology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IFT | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Information Technology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IFT | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Information Technology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IFT | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Information Technology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IFT | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IFT | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Information Technology | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IFT | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Information Technology | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IGD | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | GNA | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IGD | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IGD | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IGD | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|---|--|-------|-----------------|---|
| IGD | 601 | Re-Thinking Global Development | Traces and analyzes the origins of international or global development as theory, concept, policy and practice. Studies the key theories that have been influential in development conceptualization and policy, within the context of the history in which they arose; evaluates the results; and considers future trends and scenarios considering the critiques of such mainstream approaches. | N | SEM | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IGD | 602 | Innovation for Inclusive Development | Clear advances in economic, social and political development and wealth generation have been uneven, and have resulted, as well, in an increasing gap between wealth and poverty. Continuing in the same direction could exacerbate existing problems, and in this course, we imagine different future outcomes and how to make policy today for a better future. | N | SEM | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IGD | 603 | Methods for Research in Global Development | Provides a practical introduction to research methods and methodologies in global development. Through hands-on exercises, exposes students to issues around quantitative and qualitative data collection and management, analysis and interpretation of results, and research ethics and practice in development as well as application of research to policy development and its implications. | N | SEM | N | GNA | College of Global Futures | School for the Future of Innovation in Society | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IGD | 604 | Colloquium in Innovation in Global Development | This student-centered and faculty-mentored colloquium provides critical opportunities for leadership, organization, planning and implementation of events related to global development studies. Encourages students to propose and plan their own events, focused on issues and topics of importance to them, and utilizing the resources on the ASU campus and Phoenix area. | N | SEM | Y | GNA | College of Global Futures | School for the Future of Innovation in Society | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IGD | 784 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IGD | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IGD | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IGD | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | RSC | Y | Z3 | College of Global Futures | School for the Future of Innovation in Society | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IGD | 799 | Dissertation | Supervised research focused on preparation of a dissertation, including literature review, research, data collection, analysis and writing. | Y | RSC | Y | Z2 | College of Global Futures | School for the Future of Innovation in Society | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IND | 120 | Drawing for Industrial Design | Drawing as language to explore and communicate ideas. Development of drawing aptitude as language and process for industrial design thinking. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Environmental Design BSD or Industrial Design BSD major OR Visiting University Student |
| IND | 121 | Principles for Industrial Design I | Industrial design as a language and process for creative thinking and realization. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Environmental Design or Industrial Design major. Corequisite(s): IND 122 |
| IND | 122 | Principles for Industrial Design II | Continued exploration of industrial design as a language and process for creative thinking and realization. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): IND 120 with C or better; Environmental Design or Industrial Design major. Corequisite(s): IND 121 |
| IND | 227 | Visual Methods for Problem Solving | Introduces conceptual design activity based on the mind-eye-media feedback loop. Graphic language used to represent conjecture, analysis, synthesis of objects, and their contexts. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Industrial Design BSD major; DSC 101 with C or better; IND 120 with C or better; IND 121 with C or better; IND 122 with C or better; minimum 3.00 GPA OR Visiting University Student |
| IND | 228 | Imaging and Visualization | Design activities stressing graphic language abstraction practiced for presentation. Discusses structure of criticism, including description, interpretation, and evaluation. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisites: Industrial Design student; IND 227 with C or better; Co-requisite: IND 261 |
| IND | 242 | Materials and Design | Materials application in design. Introduces characteristics and properties of metals and organic materials, including plastics, and inorganic materials. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| IND | 243 | Design for Ecology and Social Equity | Explores the role of design in the ecological crisis; materials, processes, strategies and methods to design more ecologically friendly and socially equitable products. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|---|-------------------|-------|-----------------|--|
| IND | 260 | Industrial Design I | Introduces the method and process of the industrial designer. Determinants necessary in small product design. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Industrial Design BSD major; DSC 101 with C or better; IND 120 with C or better; IND 121 with C or better; IND 122 with C or better; minimum 3.00 GPA OR Visiting University Student |
| IND | 261 | Industrial Design II | Issues of physical form development related to product and design; form development properties of paper, fibers, wood, metal, and plastics. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisites: Industrial Design student; IND 260 with C or better; Co-requisite: IND 228 |
| IND | 316 | 20th-Century Design I | European and American design from 1850 to 2000 with thematic emphases on worldview, technology, transportation, economics and nature. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU & H | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| IND | 317 | 20th-Century Design II | European and American design from 1850 to 2000 with thematic emphases on communication, education, material culture, politics and society. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU & H | Prerequisite(s): minimum 45 hours |
| IND | 327 | Presentation Graphics | Studies methods for portfolio and professional product presentation using graphic media for information transfer. Stresses aesthetic judgment, organization, and craftsmanship . | N | SEM | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Industrial Design BSD major; Corequisite(s): IND 360 OR Visiting University Student |
| IND | 328 | Graphics for Industrial Design | Investigates and applies applications and planning to the development of an identity for a product line structured as a system. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisites: Industrial Design student; IND 327 with C or better; Co-requisite: IND 361 |
| IND | 344 | Human Factors in Design | Man-machine environment systems; human characteristics and behavior applied to design of products, systems, and their operating environment. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| IND | 354 | Principles of Product Design | Influences of physical and mechanical concepts in product design; mechanisms, kinematics, and fastening systems. Concepts of analysis for product design. Influences of concepts on aesthetics. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Digital Culture (Design) BA, Industrial Design BSD, or Pre-Industrial Design major; PHY 111 with C or better |
| IND | 360 | Industrial Design III | Methods of visual thinking, conceptualization, and ideation related to building skill levels in professional design presentation techniques. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Industrial Design BSD major; IND 261 with C or better; Corequisite(s): IND 327 OR Visiting University Student |
| IND | 361 | Industrial Design IV | Emphasizes developing ideas into a complete functional product, including survey and application of aesthetics, human factors, materials, and manufacturing. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Pre-requisites: Industrial Design student; IND 360 with C or better; Co-requisite: IND 328 |
| IND | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| IND | 424 | Packaging Design | Reviews how companies package and brand their products to attract consumers. Students examine the packaging design of their choice of product in the marketplace and create packaging design by considering user experience, sustainability aspect, materials and branding. Final-review format includes a full-scale 3D mockup of the packaging redesign, supplemented with graphical data and drawings. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Graphic Design, Industrial Design, or Interior Design major; minimum 60 hours; Credit is allowed for only IND 424 or IND 494 (Packaging Design) or IND 494 (Product Branding for Package Design) |
| IND | 460 | Design Project I | Complete analysis of the product unit as an element of mass production, featuring marketing, technology, human factors, and visual design. Emphasizes professional standards. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Industrial Design BSD major; IND 361 with C or better; Corequisite(s): IND 470 OR Visiting University Student |
| IND | 461 | Design Project II | Product design, with emphasis in systems interaction. Culmination of design process and technique. Encourages individual project direction. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Industrial Design BSD major; IND 460 with C or better |
| IND | 464 | Collaborative Design Development I | Team-based product development course featuring applied projects. Open to senior students from business, engineering, design, and other disciplines. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ENT 464 (or MGT 464) or GRA 464 or IND 464 or SOS 474 OR Visiting University Student |
| IND | 465 | Collaborative Design Development II | Team-based product development course featuring applied projects. Open to senior students from business, engineering, design, and other disciplines. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ENT 465 (MGT 465) or GRA 465 or IND 465 or SOS 475 OR Visiting University Student |
| IND | 470 | Professional Practice for Industrial Design | Business procedures, management techniques, accounting systems, ethics, and legal responsibilities of the design professions. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | L | Prerequisite(s): Design Studies minor student; ENG 101, 105, or 107 with C or better OR Industrial Design BSD major; ENG 101, 105, or 107 with C or better; Corequisite(s): IND 460 OR Visiting University Student |
| IND | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): Industrial Design BSD major; IND 361 with C or better |

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| IND | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | | Prerequisite(s): Barrett Honors student |
| IND | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| IND | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| IND | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-3 | | |
| IND | 504 | Contemporary Issues in Industrial Design | Survey of contemporary design issues in industrial design as defined by the faculty and students. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): Master of Industrial Design student; Corequisite(s): IND 521; Credit is allowed for only IND 504 or IND 598 (Industrial Design Seminar: Contemporary Issues) |
| IND | 510 | Foundation Industrial Design Studio | Fundamentals of industrial design, methodology, visualization and representation. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 6 | | Prerequisite(s): Master of Industrial Design student; Credit is allowed for only IND 510 or IND 590 (Foundation Industrial Design Studio) |
| IND | 511 | Core Industrial Design Studio I | Emphasizes developing ideas into a complete functional product, including survey and application of aesthetics, human factors, materials and manufacturing. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 6 | | Prerequisite(s): Master of Industrial Design student; IND 510 with C or better; Credit is allowed for only IND 511 or IND 590 (Core Industrial Design Studio I) |
| IND | 512 | Core Industrial Design Studio II | Industrial design projects with an emphasis on research and visualization techniques. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 6 | | Prerequisite(s): Master of Industrial Design student; IND 511 with C or better; Credit is allowed for only IND 512 or IND 590 (Core Industrial Design Studio II) |
| IND | 516 | The Culture of Objects | Examines the meanings of objects from the perspectives of design, material culture, philosophy and cultural studies. Covers such concepts as form language, planned obsolescence, object fetishism, product semantics, consumer value, production labor and user needs. Explains these ideas theoretically but also with case studies of historical and contemporary objects. Looks behind the scenes and beneath the surface at some of our most familiar and iconic objects. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Master of Industrial Design or Master of Science in Design (Industrial Design or Interior Design or Visual Communication Design) student; Credit is allowed for only IND 516 or DSC 598 (The Culture of Objects) |
| IND | 521 | Advanced Industrial Design Studio I | Design language, motivation and inspiration, form exploration sketching, rough form study mock-ups, form development, and presentation. Product redesign. Students create new design language proposals for an existing product and redesign the product based on one of these languages. Provides instruction and opportunities to understand product design language and how to redesign existing products with different design guidelines. Results include evidence of concept development (sketches, drawings, models); functional development; human factors and ergonomic considerations; materials and process specifications; sustainability recommendations; and appearance visual materials and models (virtual and physical). Project-based course includes readings, presentations, critical analysis, discussion and the public exhibition and presentation of design work. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Master of Industrial Design major. Credit is allowed for only IND 521 or IND 590 (Advanced Industrial Design Studio I) |
| IND | 522 | Advanced Industrial Design Studio II | New product development with emphasis on design research, problem solving and functional/aesthetic development. Preliminary research about human behavior and health promotion. Based on the research findings, students conduct design research in teams and work on individual design projects. Student project results include evidence of concept development (sketches, drawings, models); functional development; human factors and ergonomic considerations; materials and process specifications; sustainability recommendations; and final appearance visual materials and models (virtual and physical). Project-based course includes readings, presentations, critical analysis, discussion, and the public exhibition and presentation of design work. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): IND 521. Corequisite(s): DSC 501. Credit is allowed for only IND 522 or IND 590 (Advanced Industrial Design Studio II) |
| IND | 532 | Solving Problems with Life Cycle Assessment | Teaches the method known as Life Cycle Assessment (LCA), which quantitatively estimates the environmental health and human health performance of materials, energy sources and processes. This science-based method informs design teams how to reduce or eliminate complex environmental problems caused by the production, use and disposal of physical products and related services. Teaches attributional LCA that conforms to ISO 14040-series LCA guidelines. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Master of Industrial Design student: IND 522 OR Master of Science in Design (Industrial Design) student; Credit is allowed for only IND 532 or IND 598 (Solving Problems with LCA) |

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| IND | 544 | Human Factors Systems and Documentation | Advanced topics associated with theory and methods of human factors in design. Individual projects stressing problem organization, evaluation, and documentation. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Herberger Institute of Design and the Arts Graduate student |
| IND | 548 | Design for Sustainable Development | Research on designing systems that are economically viable, ecologically friendly, and socially equitable. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IND | 550 | Furniture Design | Explores furniture design and production methods for industrial design. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Master of Industrial Design student; Credit is allowed for only IND 550 or IND 598 (Furniture Design) |
| IND | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IND | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IND | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IND | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IND | 621 | Advanced Industrial Design Studio III | Structured around the Design School traveling-studio model, this studio challenges students to identify new design concepts that improve society and the natural environment while also delighting users and creating value for business. For approximately one week, students travel to an off-campus location to examine a local condition there for which new design solutions are needed. Students return to ASU and continue working on the project for the semester. Project-based course includes readings, presentations, critical analysis, discussion and the public exhibition and presentation of design work. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): IND 522 |
| IND | 622 | Advanced Industrial Design Studio IV | Challenges students to create new design concepts that improve society and the natural environment while also delighting users and creating value for business. Requires some independent direction by the student; however, instructor assigns deadlines and expectations for deliverables, and requires cooperation and collaboration among students. Project-based course includes readings, presentations, critical analysis, discussion and the public exhibition and presentation of design work. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): IND 621 |
| IND | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| INT | 111 | Interior Design Issues and Theories | Interiors issues, theories, and philosophies. Emphasizes unique social and cultural factors that shape 20th-century design concepts. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU | |
| INT | 120 | Design Fundamentals I | Development of visual literacy. Introduces drawing and graphic representation as methods of seeing and problem solving. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Architectural Studies, Environmental Design, Interior Design, or Landscape Architecture major; Credit is allowed for only ALA 121 or INT 120 OR Visiting University Student |
| INT | 121 | Introduction to Computer Modeling for Interior Design | Computers in interior design, including software concepts, specific packages, and problem solving, illustration, typography, modeling, and animation. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | CS | |
| INT | 122 | Principles of Design | Applied visual vocabulary: studio experience exploring applications, process and conceptual development of the principles of order and composition. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Environmental Design or Interior Design major; INT 120 with C or better; Corequisite(s): INT 124 |
| INT | 123 | Introduction to Computer-Aided Design and Building Information Modeling | Introduces AutoCAD computer-aided design and Revit building information modeling principles and strategies for designers of the built environment. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | |

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| INT | 124 | Design Fundamentals II Lecture | Theory and applications of basic design principles, history and theory of how architecture, interior design and landscape architecture design is impacted by basic design. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): Architectural Studies BSD or Environmental Design BS or Interior Design BSD or Landscape Architecture BSLA major; Corequisite(s): ALA 122 or INT 122; Credit is allowed for only ALA 124 or INT 124 |
| INT | 131 | Design and Human Behavior | Applies conceptual design to issues of programming and space planning, user needs, and behavior. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | SB | |
| INT | 223 | Drafting for Interior Design | Orthographic, paraline, axonometric, and perspective projection; shades and shadows; and basic descriptive geometry for interior designers. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s) with C or better: Interior Design BSD major; INT 111; INT 120; INT 121; INT 122; INT 123; INT 124; INT 131; minimum 3.00 GPA OR Visiting University Student |
| INT | 253 | Interior Materials, Finishes, and Specifications | Survey, evaluation, and specification of materials, finishes, and performance criteria for interiors. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Interior Design BSD major; INT 261 with C or better |
| INT | 261 | Interior Design Studio I | Studio problems in interior design related to behavioral response in personal and small-group spaces. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s) with C or better: Interior Design BSD major; INT 111; INT 120; INT 121; INT 122; INT 123; INT 124; INT 131; minimum 3.00 GPA OR Visiting University Student |
| INT | 262 | Interior Design Studio II | Focuses on environments that entertain or host the public, including but not limited to nightclubs, restaurants, theaters, hotels, city and country clubs, golf facilities, cruise ships and conference facilities. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Interior Design BSD major; INT 261 with C or better OR Visiting University Student |
| INT | 310 | History of Interior Design I | Evolution of interior design as an expression of cultural influences from the ancient periods to 1835. Analysis of interior architecture, planning and lighting of interior spaces, and furniture. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU & H | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| INT | 311 | History of Interior Design II | Evolution of interior design as an expression of cultural influences 1835 to present. Analysis of interior architecture, planning and lighting of interior spaces, and furniture. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU & H | Pre-requisite(s): INT 310 with C or better |
| INT | 341 | Interior Codes: Public Welfare and Safety | Codes and regulations as performance criteria for interior design. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 2 | | Pre-requisite: Interior Design student; Co-Requisites: INT 253; INT 262 |
| INT | 351 | Ambient Environment | Surveys environmental control systems, acoustics, and lighting issues. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Interior Design BSD major; MSE 208, PHS 208, or PHY 101 with C or better; Corequisite(s): INT 352; INT 362 OR Digital Culture (Design) BA major OR Visiting University Student |
| INT | 352 | Construction Methods in Interior Design | Design theory related to analysis, materials, and building techniques of horizontal and vertical construction in interior design. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Interior Design BSD major; Corequisite(s): INT 362 OR Visiting University Student |
| INT | 354 | Construction Documents | Elements of construction drawing sets, application of codes and specifications, and contract administration. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisite: Interior Design student; Co-requisite: INT 363 |
| INT | 362 | Interior Design Studio III | Investigates interior design issues in hospitality and retail environments. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Interior Design BSD major; Corequisite(s): INT 351; INT 352 OR Visiting University Student |
| INT | 363 | Interior Design Studio IV | Explores the poetics of materials and their assemblage in the design of public and private spaces. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Interior Design BSD major; INT 362 with C or better; Corequisite(s): INT 354 |
| INT | 381 | Preinternship Seminar | Preparation of internship materials that produce and enhance a successful internship experience. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite: INT 262 |
| INT | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| INT | 412 | History of Decorative Arts in Interiors | Design of decorative arts as an expression of cultural influences and as an extension of interior spaces. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU | Prerequisite(s): INT 311 with C or better. Credit is allowed for only INT 412 or INT 515 |
| INT | 413 | History of Textiles in Interior Design | Cultural and historical expression of textiles as related to interiors. | N | PRA | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): INT 412 with C or better. Credit is allowed for only INT 413 or INT 516 |
| INT | 415 | Latin American Design | The impact of Latin American culture and civilization on design throughout the Americas. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only INT 415 or INT 494 (Design and Culture in Latin America) OR Visiting University Student |
| INT | 446 | Furniture Design and Production | Design, construction, cost estimating, and installation in interior furniture and millwork. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Pre-requisite: Graphic Design BSD, Interior Architecture BSD or Industrial Design BSD student |
| INT | 464 | Interior Design Studio V | Studio problems in interior design-related issues in work environments. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Interior Design BSD major; INT 363 with C or better; Corequisite(s): INT 471 OR Visiting University Student |

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| INT | 465 | Interior Design Studio VI | Advanced interior design problem solving related to institutional facilities. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Interior Design BSD major; INT 464 with C or better; Corequisite(s): INT 472 OR Visiting University Student |
| INT | 471 | Facilities Management | Facility management process in large-scale organizations. Planning, long-range forecasting, and productivity. Project management methodologies using micro-based software programs. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | |
| INT | 472 | Professional Practice for Interior Design | Business procedures, project control, fee structures, and professional product liabilities. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 2 | | Pre-requisites: Interior Design student; Co-requisite: INT 465 |
| INT | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): Interior Design BSD major; INT 363 with C or better |
| INT | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | | Prerequisite(s): Barrett Honors student |
| INT | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| INT | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| INT | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-3 | | |
| INT | 510 | Foundation Interior Architecture Studio | Fundamentals of interior architectural design, methodology, visualization and representation. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 6 | | Prerequisite(s): Interior Architecture MIA student; Credit is allowed for only INT 510 or INT 590 (Foundation Interior Architecture Studio) |
| INT | 511 | Core Interior Architecture Studio I | Applies design fundamentals in interior architectural problems, including construction, materiality, technology, programmatic and environmental determinants. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 6 | | Prerequisite(s): Interior Architecture MIA student; INT 510 with C or better; Credit is allowed for only INT 511 or INT 590 (Core Interior Architecture Studio I) |
| INT | 512 | Core Interior Architecture Studio II | Applies interior architectural design fundamentals to increasingly complex problems, including specific sites and activities. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 6 | | Prerequisite(s): Interior Architecture MIA student; INT 511 with C or better; Credit is allowed for only INT 512 or INT 590 (Core Interior Architecture Studio II) |
| INT | 514 | Interior Architecture Issues | Explores the evolving nature of interior architecture by looking at the unique environmental, cultural and social factors that contributed to shape this new and expanding discipline of design. Emphasizes ideas and significant case studies from the period between the 1950s until the present. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only INT 494 (Seminar: Interior Architecture Issues) or INT 514 |
| INT | 519 | Designing with Materials | A comprehensive overview of technical specifications, materiality and interior construction; emphasizes the selection and specification of interior building materials. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Interior Architecture MIA student; Corequisite(s): INT 521; Credit is allowed for only INT 519 or INT 598 (Contemporary Issues in Interior Arch Seminar) |
| INT | 520 | Professional Practice for Interior Architecture | Business procedures, project control, fee structures and professional product liabilities. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 2 | | Prerequisite(s): INT 521; Credit is allowed for only INT 520 or INT 598 (Professional Practice for Interior Design) |
| INT | 521 | Advanced Interior Architecture Studio I | Studio problems in interior architecture related to the integration of building structure and systems with the behavioral response to personal spaces. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Master of Interior Architecture major. Credit is allowed for only INT 521 or INT 590 (Advanced Interior Architecture Studio I) |
| INT | 522 | Advanced Interior Architecture Studio II | Investigates interior architecture issues, including construction, technology, programmatic and environmental determinants. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): INT 521; Corequisite(s): INT 527; Credit is allowed for only INT 522 or INT 590 (Advanced Interior Architecture Studio II) |
| INT | 527 | Contemporary Design Theory | Aesthetic, political, economic, and social theories that have shaped modern design; theory as the basis for design philosophies. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Herberger Institute of Design and the Arts Graduate student |
| INT | 529 | Design Criticism | Applies critical methods to design as material culture and human expression; evaluates achievement versus intention. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Herberger Institute of Design and the Arts Graduate student |
| INT | 541 | Codes and Building Regulations | Codes and regulations as performance criteria for interior design. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): INT 521; Credit is allowed for only INT 541 or INT 598 (Codes and Building Regulations) |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|---|-------------------|-------|-----------------|--|
| INT | 547 | Sustainability in Interior Architecture | Attention to the concept of green buildings and a sustainable built environment has been rapidly growing due to environmental issues such as energy consumption, gas emission and exhaustion of natural resources. All these issues drive architects, designers and engineers to reassess conventional architectural design and construction processes. This course explores topics in sustainable design related to interior architecture, while exploring the concept of sustainability and its role in the interior design process. Presents techniques and skills for designing the built environment, including a focus on renewable energy and design solutions that promote building occupants' health, comfort, safety and well being. Also discusses building design rating systems such as LEED and WELL Building Standards. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only INT 547 or INT 598 (Sustainability in Interior Architecture) |
| INT | 550 | Environmental Systems of Interior Architecture | Surveys building environmental control systems, acoustics, materiality and lighting properties. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Herberger Institute for Design and the Arts graduate student; Credit is allowed for only INT 550 or INT 598 (Environmental Systems for Interior Architecture) |
| INT | 554 | Construction Documents for Interior Architecture | Elements of construction drawings sets, application of codes and specifications, and contract administration. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): INT 521; Credit is allowed for only INT 554 or INT 598 (Construction Documents in Interior Architecture) |
| INT | 558 | Lighting Design | Fundamentals of lighting, which includes daylighting and artificial lighting; understanding of lighting as a design element: lighting concepts, design strategies, techniques, documentation, case studies and analysis tools. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Herberger Institute of Design and the Arts graduate student |
| INT | 581 | Preinternship Seminar for Interior Architecture | Preparation of internship materials, which produce and enhance a successful internship experience. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): Master of Interior Architecture student; Corequisite(s): INT 521; Credit is allowed for only INT 581 or INT 598 (Preinternship Seminar for Master of Interior Arch) |
| INT | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): INT 522 with C or better |
| INT | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| INT | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| INT | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| INT | 602 | Quantitative Research Methods for Interior Architecture | Seminar course in research, with a particular emphasis on quantitative and empirical methods. Students develop an appreciation for and understanding of different conceptual frameworks of design, environment and the arts knowledge; develop a knowledge of a broad range of alternative approaches to interdisciplinary research with emphasis on quantitative methods; become aware of different research methods, tools and approaches; craft a research question and transform it to a plan of research; understand the components of the research process and research proposal; develop improved skill in scholarly writing; become aware of ethical and other critical issues related to research; critically assess the strengths and weaknesses of various research studies and techniques; analyze data using several statistical methods, using statistics software. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Herberger Institute for Design and the Arts graduate student |
| INT | 621 | Advanced Interior Architecture Studio III | Structured around the Design School traveling-studio model, based on design problems emphasizing the global context of interior architecture as it influences interior space and architectural form. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): INT 522 |
| INT | 622 | Advanced Interior Architecture Studio IV | Individual, student-initiated capstone project reflecting a culminating synthesis of interior architecture ideas. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): INT 621 |

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| INT | 650 | Diversity and Design | Seminar-based investigation of how different aspects of embodied identities impact how spaces are designed and how people experience spaces. Explores the history of identity politics in relation to the design professions, as well as critiques of design approaches based on a universal body. Students learn about the relationship between design and, among other aspects, gender, race, ethnicity, culture, disability, age, class, gender identity, or sexual orientation. Expects students to recognize and understand what biases impact their work as designers. Critically investigates methods to assess these biases and their impact on users, as well as solutions to avoid or mitigate them. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only INT 598 (Diversity and Design) or INT 598 (Identities and Design) or INT 650 |
| INT | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IPI | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 0.25-4 | | |
| IPI | 196 | Fundamentals of Inquiry | Introduces the fundamentals of using inquiry methods for knowledge creation and extension in the fields of science and technology. Students work together to reach understanding on a large goal question associated with human society and space exploration. As a class, uses a weekly inquiry cycle to step toward the goal: read some content, ask a 'Natural Next Question' (NNQ) that takes us one step further toward the goal, seek content to help answer that question, report on what was learned, and after a few times, summarize the new knowledge with a distillation exercise, and then repeat this inquiry cycle. Strongly focuses on teaching students how to guide their learning by asking productive questions to drive their research, how to find content to answer their questions, how to approach challenging primary content, how to work well in teams, and how to distill and share their learning. | N | LEL | N | GNA | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 3 | | Prerequisite(s): Technological Leadership BS major OR Visiting University Student |
| IPI | 241 | Designing and Making (Electronics and Programming) | Humanity's future as an interplanetary species is only made possible through the continued development of new technologies able to provide solutions to difficult problems. This course facilitates students developing proficiency in both "making" and "designing," and it seeks to support students in gaining basic technical "makerspace" abilities. More important than the hard skills, students grow in their capacity for technical design thinking--the process by which modern technologies are imagined and developed. Hands-on and project-based, students learn tools and processes for solving global and interplanetary problems with special consideration given to the ways that technologies impact society. Students gain basic proficiency in the electrical, computer programming and design aspects of technology development in makerspaces through supervised research and design of creative projects that relate to aerospace engineering, space exploration and/or an inclusive, interplanetary future. Students also gain a basic knowledge of circuits and soldering, Arduino programming, tinkering and debugging methods, creative problem solving, team-based project management, the relationship between technology and society, and basic technological design methods. | N | LEL | N | GNA | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 3 | | Credit is allowed for only IPI 241 or IPI 294 (Designing and Making for an Interplanetary Future) |
| IPI | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 1-4 | | |
| IPI | 296 | Inquiry | To be most effective in work and life, we need to learn how to recognize and solve problems, and to work in teams. Students work together to reach understanding on a large goal associated with human society and space exploration. An example from a previous class is, "What will the Moon be like after human settlement?" As a class, uses a weekly inquiry cycle to step toward the goal: read some content, ask a "natural next question" that takes us one step further toward the goal, seek content to help answer that question, and repeat. Students learn how to understand a complex problem through multiple steps, to approach challenging primary content, to productively critique each other's work, and to think critically. Students meet for 2 hours per week but work extensively outside of class. | Y | LEL | Y | GNA | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |

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| IPI | 341 | Designing and Making (3D Printing and Fabrication) | Humanity's future as an interplanetary species is only made possible through the continued development of new technologies able to provide solutions to difficult problems. Facilitates students developing proficiency in both "making" and "designing," and seeks to support students in gaining basic technical "makerspace" abilities. More important than the hard skills, students grow in their capacity for technical design thinking--the process by which modern technologies are imagined and developed. Hands-on and project-based, students learn tools and processes for solving global and interplanetary problems, with special consideration given to the ways that technologies impact society. Students gain basic proficiency in the mechanical and design aspects of technology development in makerspaces through supervised research and design of creative projects that relate to aerospace engineering, space exploration and/or an inclusive, interplanetary future. Students gain basic knowledge of CAD modeling and 3D printing including the creation of common machine elements (gears, bearings, shafts, springs and fasteners); tinkering and debugging methods; creative problem solving; team-based project management; the relationship between technology and society; and basic technological design methods. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 3 | | Prerequisite(s): Technological Leadership BS major or Technological Leadership minor or BIS Technological Leadership emphasis or IPI 241 with C or better or minimum 45 hours OR Visiting University Student |
| IPI | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 1-4 | | |
| IPI | 400 | Fundamentals of Career Success | Guides Technological Leadership majors through the internship experience, helping them to identify internship goals, conduct an internship search, develop and refine application materials (e.g., resumes, cover letters, LinkedIn profiles) and present themselves professionally throughout the entire search process. Students also develop an understanding and appreciation for the internship experience and how it connects to their career development and goals. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 2 | | Pre- or corequisite(s): HUL 250 or IPI 296 with C or better if completed; Credit is allowed for only IPI 400 or IPI 494 (Foundations of Career Success) OR Visiting University Student |
| IPI | 402 | Technological Leadership Career Exploration | Career-focused facilitation in preparation for students' post-graduation plans, including job search or graduate school acceptance. Focuses on career relationship-building techniques, job-readiness skills and the development of a professional portfolio. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 1 | | Prerequisite(s): IPI 484 with Y grade OR Visiting University Student |
| IPI | 441 | Designing and Making: Advanced Projects | Humanity's future as an interplanetary species is only made possible through the continued development of new technologies able to provide solutions to difficult problems. Facilitates students developing proficiency in both "making" and "designing." Builds on both the basic technical "makerspace" abilities and also the technical design thinking aptitudes from prior coursework. Hands-on and project-based; however, expects students to pursue mastery of advanced topics and skills from the course module map. In addition, expects students to take on a leadership role within their group project. Students gain advanced proficiency in the mechanical, electrical, computer programming and design aspects of technology development through course modules, but students are pushed to pursue self-directed research on topics that apply to creative projects that relate to aerospace engineering, space exploration and/or an inclusive, interplanetary future. | N | LEL | Y | GNA | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 3 | | Prerequisite(s): IPI 241 with C or better; IPI 341 with C or better OR Visiting University Student |
| IPI | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 1-12 | | |
| IPI | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| IPI | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| IPI | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 1-4 | | |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| IPI | 496 | Advanced Inquiry | To be most effective in work and life, we need to learn how to recognize and solve problems, and to work in teams. Students work together to reach understanding on a large goal associated with human society and space exploration. An example from a previous class is, "What will the Moon be like after human settlement?" As a class, uses a weekly inquiry cycle to step toward our goal: read some content, ask a "natural next question" that takes us one step further toward the goal, seek content to help answer that question, and repeat. Each student runs an independent research project using the techniques taught throughout the course. The research project requires some knowledge creation--that is, development of ideas, supported hypotheses, observations and the like, that add to the mass of human knowledge rather than just restating it. | N | LEC | Y | GNA | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 3 | | Prerequisite(s): HUL 250 with C or better; IPI 196 with C or better OR IPI 296 with C or better OR Visiting University Student |
| IPI | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 1-7 | | |
| IPI | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 1-3 | | |
| IPI | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 110 | Dimensions of Social Science | Introductory survey of the disciplinary components of social science, including sociology, political science, economics. Module includes sociology, economics, political science, philosophy. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Credit is allowed for only ISS 110 or ISS 302 |
| ISS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| ISS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| ISS | 301 | Integrated Social Science Research Methods | Overview of the methods of social science inquiry with a view to transcending disciplinary boundaries. Topics include data collection and data management techniques. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum 45 hours |
| ISS | 302 | Scope of Social Science | Surveys the disciplinary components of social science including sociology, political science, economics. Module includes sociology, economics, political science, philosophy. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only ISS 110 or ISS 302 OR Visiting University Student |
| ISS | 304 | Integrated Theories of Social Science | Broad survey of the major foundational theories in the disciplines of social science, including sociological theory, economic theory, political theory, anthropological theory and philosophy. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum 45 hours |
| ISS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | Prerequisite(s): minimum 45 hours |
| ISS | 401 | Statistics for Integrated Social Science | Statistical techniques for the social sciences, including the role and rationale of statistics, descriptive measures, associational measures and inferential statistics. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | CS | Prerequisite(s): MAT 142 or higher OR Visiting University Student |
| ISS | 410 | Integrative Leadership Studies | Explores the concept and practice of leadership by examining general leadership theories and personal leadership skills with a view to transcending disciplinary boundaries. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum 45 hours |
| ISS | 415 | Knowledge Management | Overview of concepts in knowledge management, types of knowledge, processes of knowledge generation, codification and transfer. Role of technology and networks in knowledge management and effective leveraging of organizational intellectual capital. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum 45 hours |
| ISS | 428 | Religion and Global Violence | Examines the tensions and interplay of religious and secular accounts for violence globally; considers theoretical frameworks from the social sciences for understanding such violence. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB & G | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ISS | 437 | Integrative Ethics in Social Science | Investigates ethical issues across professional disciplines in the social sciences with a view to integrating the literature and innovations. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ISS 437 or ISS 512 OR Visiting University Student |
| ISS | 441 | Conflict and Conflict Resolution | Overview of peace theories and peace movements; peace and peacebuilding; the nature and sources of global conflicts; critical security studies (covering human, food and environmental security); mechanisms for peaceful resolution of conflicts; culture of peace; and the relationship between underdevelopment and conflicts, particularly in politically fragile societies. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB & G | Prerequisite(s): minimum 45 hours |
| ISS | 450 | Consumerism and Sustainable Development | Analyzes the impact of the quest for more and better consumer goods as it affects sustainable development and global ecology. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| ISS | 456 | Culture, Conflict and War | Explores the complex relationship between culture and conflict through an analysis of past and present conflicts and the role of culture in those conflicts. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | (L or SB) & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours OR Visiting University Student |
| ISS | 482 | Globalization and International Political Economy | Surveys the political, economic and social forces that influence international political and economic relationships. Topics include international economic, technological and cultural competition; international trade and multicultural corporations; and economic relations between more developed and less developed countries. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ISS 482 or ISS 522 |
| ISS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | PRA | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): minimum 87 hours |
| ISS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | | Prerequisite(s): Barrett Honors student |
| ISS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | | Prerequisite(s): Barrett Honors student |
| ISS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| ISS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | N | PRA | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-7 | | Prerequisite(s): minimum 87 hours |
| ISS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | N | SEM | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-3 | | Prerequisite(s): minimum 45 hours |
| ISS | 501 | Advanced Integrated Social Research Methods | Advanced review of methods of social science inquiry with a view to transcending disciplinary boundaries. Topics include the scientific method, theory building and hypotheses, measurement and scaling, reliability and validity, and the structure and development of research designs and applications. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 502 | Advanced Seminar in Integrated Social Science | Integrative survey of the disciplinary components of social science as disparate ways of making sense of human experience, including sociology, political science, philosophy and economics. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 504 | Advanced Integrated Theories of Social Science | Cross-disciplinary examination of major social science theories, such as: rational choice, environmentalism, institutionalism, functionalism, sociobiology, world systems approach, Marxism and democratic theory. Emphasizes bridging disciplinary boundaries. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 505 | Multivariate Methodologies of Social Science | Applies advanced statistics and statistical modeling in decision making in social research, with emphasis on regression modeling techniques. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 506 | Community Governance, Leadership and Civic Engagement | Explores theory and research on community governance with an emphasis on analyzing leadership in promoting civic engagement. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 508 | Knowledge, Innovation and Social Change | Surveys the sources of knowledge and knowledge generation, facilitating factors for innovations especially in the development of technologies that drive significant, universal and enduring social change. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 510 | Religion, Secularism and Social Dynamics | Analyzes the role of religion and secularism in the modern social sphere, and the social processes that govern religious belief and behavior. Emphasizes reading current research, applying relevant social theories, and deriving scientifically valid explanations for observations about religion. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 512 | Integrative Ethics in Social Science | Investigates ethical issues across professional disciplines in the social sciences through an overview of recent innovations, discoveries and developments. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ISS 437 or ISS 512 |
| ISS | 514 | Cultural Diversity and Gender Understanding | Reviews the epistemological, theoretical and legal premises on the concept of social justice and the cultural, racial, ethnic, gender and other bases for the agitation for social justice, including strategies in pursuit of social justice. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 516 | Conflict Resolution, Peace Studies and Social Movements | Evaluates the intersection of peace, conflict and social movements through a survey of social movements that promote war or peace throughout the contemporary world. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 518 | Science, Technology and Social Systems | Issues, definitions and literature involved in the study of science, technology and the evolution of social systems, emphasizing contemporary issues confronting modern societies and potential solutions to resolving these issues. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| ISS | 522 | Globalization and International Political Economy | Advanced treatment of the political, economic and social forces that influence international political and economic relationships. Topics include international economic, technological and cultural competition; international trade and multicultural corporations; and economic relations between more developed and less developed countries. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ISS 482 or ISS 522 |
| ISS | 562 | Politics of Development and Underdevelopment | Examines the various perspectives and premises associated with efforts to promote economic and political change in different parts of the world, particularly in poor countries. Topics include population growth; migration and management; food production; shelter; education; industrialization; comparative advantage; foreign aid; and corruption. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | N | PRA | N | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | N | RSC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | N | RSC | N | Z2 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | N | PRA | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | N | SEM | N | Z3 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand). | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ISS | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | N | RSC | Y | Z2 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ITA | 101 | Elementary Italian I | Fundamentals of the language. Emphasizes listening, speaking, reading, writing, and cultural proficiency. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | |
| ITA | 102 | Elementary Italian II | Fundamentals of the language. Emphasizes listening, speaking, reading, writing, and cultural proficiency. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | |
| ITA | 110 | Intensive Italian I | Proficiency-oriented language course designed to achieve the maximum level of proficiency in an intensive and dynamic communicative environment. Class time is spent on a variety of fast-paced communicative activities focused especially on the development of speaking skills. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 6 | G | Credit is allowed for only ITA 101 or ITA 102 or ITA 110 or ITA 111 |
| ITA | 112 | Italian for Romance Language Speakers | 15-week hybrid course: 3 hours class meetings, 1 hour student self-study. Designed for students with an active competence in Spanish or another Romance language such as French, Portuguese and/or Romanian, who wish to learn the essential elements of the Italian grammar at an accelerated pace, as well as acquire listening, speaking, reading and writing skills. Based upon the theory of "intercomprehension" which implies the speaker's ability to understand the speech of another speaker who communicates in a dialect of the same language or a related language. Due to the linguistic similarities between Spanish, other Romance languages and Italian, students master the four language skills of listening, speaking, reading and writing of in Italian at a faster pace. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | Credit is allowed for only ITA 112 or ITA 194 (Italian for Spanish Speakers) or ITA 194 (Italian for Romance Language Speakers) |
| ITA | 114 | Gateway to Italy | Designed for students who have no previous knowledge of Italian, but wish to attend a study abroad program in Italy or acquire novice proficiency in the Italian language along with basic notions of Italian geography, society and culture. Develops basic vocabulary that enable students to engage in simple, everyday conversations in order to enhance and support their Italian experience, minimize stress and reduce the culture shock. Offers an insight into a wide array of cultural norms and practices of Italy, which are essential for an initial contact with the country and serves as a stepping stone for further study. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Credit is allowed only for ITA 114 or ITA 194 (Gateway to Italy) |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| ITA | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| ITA | 201 | Intermediate Italian I | Emphasizes reading, writing, listening, and speaking proficiency at an intermediate level. Focuses on both spoken and written genres of Italian culture. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): ITA 102 or 110 with C or better; Students may not enroll in ITA 201 if credit with C or better earned in ITA 210 OR Visiting University Student |
| ITA | 202 | Intermediate Italian II | Emphasizes reading, writing, listening, and speaking proficiency at an intermediate level. Focuses on values of Italian culture. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): ITA 201 with C or better; Students may not enroll in ITA 202 if credit with C or better earned in ITA 210 OR Visiting University Student |
| ITA | 210 | Intensive Italian II | Proficiency-oriented language course designed to achieve the maximum level of proficiency in an intensive and dynamic communicative environment. Class time is spent on a variety of fast-paced communicative activities focused especially on the development of speaking skills. Class meets four times a week. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 6-8 | G | Prerequisite(s): ITA 102 with B or better or ITA 110 with C or better; Credit is allowed for only ITA 201 or ITA 202 or ITA 210 |
| ITA | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| ITA | 311 | Speak Italy: Language, People, Culture | Develops oral/aural proficiency through the study of diverse voices from Italian culture and the analysis of spoken multimedia genres and cultural products. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): ITA 202 or 210 with C or better OR Visiting University Student |
| ITA | 312 | Write Italy: Language, People, Culture | Develops reading/writing proficiency through the study of various texts in Italian and the analysis of written multimedia genres and cultural products. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; ITA 202 or 210 with C or better OR Visiting University Student |
| ITA | 315 | Italian Culture: The Good, The Bad and The Ugly | Studies the rich diversity and complexity of Italian culture through analysis of different media, discussion and writing in Italian. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; ITA 202 or 210 with C or better OR Visiting University Student |
| ITA | 319 | Italian for Professions | Conversation and composition course in which students gain the linguistic skills necessary to work in Italy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ITA 202 or 210 with C or better OR Visiting University Student |
| ITA | 321 | Italian Renaissance Culture: Politicians, Merchants, Artists and Courtesans | Studies the new voices of Renaissance culture through analysis of different media, discussion and writing in Italian. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | H | Prerequisite(s): ITA 202 or 210 with C or better OR Visiting University Student |
| ITA | 322 | Modern Italian Culture: Explorers, Scientists, Musicians and Revolutionaries | Studies the contributions of Italian thinkers to the development of modern western culture through analysis of different media, discussion and writing in Italian. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ITA 202 or 210 with C or better OR Visiting University Student |
| ITA | 350 | Food and Culture: The Mediterranean Lifestyle in Italy | Analyzes the Mediterranean lifestyle (food and eating practices) in Italy from a historical/cultural, scientific and sociological perspective. Students first examine the history and regional cultures of the Mediterranean diet in Italy as they analyze its rich biological diversity and history of cultural exchange. Students then gain an understanding of the critical nutrients of the Mediterranean diet and of the scientific evidence for its health benefits, especially how it can help prevent chronic diseases like obesity and type 2 diabetes, which affect more than half of all adults in the U.S. In addition, students keep a food log for one week, which they then analyze in terms of the critical nutrients of the Mediterranean diet. Finally, Italian food cannot be studied without preparing it! As UNESCO points out, the sharing of food is an important part of the Mediterranean lifestyle. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit allowed for only ITA 350 or ITA 394 (Food & Culture: Mediterranean Lifestyle in Italy) or SLC 350 or SLC 394 (Food & Culture: Mediterranean Lifestyle in Italy) OR Visiting University Student |
| ITA | 380 | Natural Disasters: Environmental and Cultural Resilience in Italy | The Italian peninsula is home to some of the most diverse physical and geological landscapes on earth. Over time, natural disasters such as earthquakes, volcanic eruptions and landslides have transformed Italian culture, creating a distinct, reciprocal and enduring relationship between nature and Italian society. Studies pivotal natural disasters that have occurred throughout Italian history, including the Mt. Vesuvius, Pompeii and Etna volcanic eruptions; the Messina, Belice Valley, Campania, Friuli and L'Aquila earthquakes; and the Vajont landslide. Identifies and measures the physical and geological features of Italy that make it susceptible to natural disasters. Incorporates a variety of sources designed to give students both a theoretical and practical understanding of Italian culture and natural disasters. Uses class discussions, collaborative projects, creative writing, academic texts, personal narratives, films, videos, guest lectures and current articles. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ITA 380 or SLC 380 or HON/ITA/SLC 394 (Natural Disasters: Environmental & Cultural Resilience) OR Visiting University Student |
| ITA | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |

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| ITA | 413 | Advanced Italian | Development and assessment of advanced spoken and written Italian proficiency through activities using all four skills. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): ITA 311 or 312 with C or better OR Visiting University Student |
| ITA | 414 | French and Italian Popular Culture | Popular culture no longer holds the ancillary role traditionally reserved for whatever does not carry the definition of high culture. That popular culture is instead able to provide us with very relevant insights on the identity of a nation and a people is now widely accepted. As a consequence, this class aims at examining popular culture-related artifacts in Italy and France in order to shed a light on crucial issues such as the culture of food and its historical and social significance; the meaning of fashion and design within an urban context, with a special attention to gender roles; the importance of the comics, given in particular the exceptional success the bande dessinée genre is currently enjoying in France throughout the whole age range of the population; the show business with a particular attention to music; and the social function and role of sport with respect to the two dominant sports in both countries (soccer and cycling). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better OR minimum 45 hours; Credit is allowed for only FRE 414 or ITA 414 or SLC 414 OR Visiting University Student |
| ITA | 420 | Italian Cinema | Major trends of Italian cinema from the post-war period to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L & G | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| ITA | 423 | Italian Organized Crime in Films and History | Through an analysis of historical, anthropological, literary, political and cinematic texts, explores representations of the Italian organized crime in Italian and American films from the early 20th century to today. Discovers different "Mafias" originating in Italy, but whose reach extends much further, such as the Cosa Nostra in Sicily, the Camorra in Naples, and the 'Ndrangheta in Calabria. Examines the fiction, stereotypes, myths and legends surrounding the mafia through a scrupulous analysis of some of the most important American and Italian films portraying mafia culture. Italians have used the medium of film to address the issue of the mafia, raising awareness about the harsh reality of life in the mafia and the ways in which it reaches into every aspect of Italian politics and society. Explores how Italian mafia films subvert international fascination with the mafioso by disrupting the glamorized myths that are mainly perpetuated by American popular cinema. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better or min 45 hours; Credit for only FMS 423 or ITA 423 or SLC 423 or ITA 494/SLC 494 (Italian Organized Crime in Films & History) or FMS 494/ITA 494/SLC 494 (Mafia & Film) OR Visiting University Student |
| ITA | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| ITA | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| ITA | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| ITA | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| ITA | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| ITA | 550 | Italian for Reading Knowledge | Teaches non-speakers of foreign language, or those with only basic notions of the language, how to read in a foreign language at an advanced level. Consists of a concise overview of grammar as well as reading comprehension practice for students who plan to take the Graduate Foreign Language Exam or others who would merely like to learn to read in a foreign language. Focuses only on reading and not on listening, speaking or writing as in a traditional language course. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ITA 494 (Italian for Reading Knowledge) or ITA 550 |
| ITA | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| ITA | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IVD | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| IVD | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |

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| IVD | 525 | Fundamentals of Entrepreneurial Leadership | "Experiential" course for students to practice "being" a leader at the personal, interpersonal and community levels. While typical leadership classes leave one knowing about leaders and leadership, this class leaves students being leaders as part of their natural self-expression. The program follows an ontological pedagogy, rather than epistemological one. Ontology is the study of the nature and function of being "as lived" in real time. Epistemology by contrast deals with the varieties, grounds, and validity of knowledge. Leadership skills include mastery of communication at each of the three levels, from personal relationships to large-scale messaging for media and branding; and looking beyond the personal and interpersonal sociological level of analysis to incorporate principles of social and environmental justice into their relationships and the enterprises they lead. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Innovation and Venture Development MS student; Corequisite(s): IVD 560 |
| IVD | 560 | Innovation Studio I: Discovery and Insight | A prerequisite for successful innovation and venture development is a deep understanding of the multidimensional context in which the innovation will be situated, and in which the venture will compete, whether a commercial enterprise or nonprofit. This course gives students the design, business and engineering research and evaluation tools and experience to investigate and immerse themselves in industry or sector customer needs, the competitive landscape and cultural context, as well as ways to predict and mitigate the unintended consequences of their innovation on society and the environment. Teaches students where to begin, how to inquire, how to evaluate information they uncover, and how to use critical thinking and analysis to develop the insights that become the foundation of their venture-development journey. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Innovation and Venture Development MS student |
| IVD | 561 | Innovation Studio II: Problem Reframing | Problem reframing is essential to the innovation process, and to properly diagnosing problems so they can be investigated from multiple perspectives. It entails pushing past conventional assumptions about barriers to success, to find root causes--sometimes different problems altogether--that inspire novel, diverse approaches. Problem reframing is a powerful tool that increases the options and resources available in addressing any challenge. Students learn the difference between root causes and symptoms, understand the systems affected by and affecting their challenge, and learn to see and act on problems as opportunities for breakthrough solutions. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Innovation and Venture Development MS student; IVD 560; Corequisite(s): IVD 525 |
| IVD | 562 | Innovation Studio III: Explore, Fail, Solve | In this iterative, creative "make-to-learn" phase of venture development, students explore prototyping and testing with audiences or end-users to develop feedback loops for real-time evaluation of their ideas, then synthesize learning from both successes and failures to progress toward a solution. Key components include mastery of ideation and creative development, framing strategic questions and success indicators for prototyping of services or products, evaluation of feedback and iteration of progressively more promising ideas, and evaluation of their innovations measured against the success indicators they developed. Students learn and practice prototyping service interactions as well as product innovations. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Innovation and Venture Development MS student; IVD 525; IVD 561. |
| IVD | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IVD | 630 | Scaling Entrepreneurial Leadership | The personal skills required to succeed in a small start-up environment are different from those required to run a successful enterprise or nonprofit. Many entrepreneurs do not have access to the learning that prepares them to both launch and successfully scale their venture. Complexities of board management, fostering a creative culture, codifying a communication system that becomes a source of energy and a north star for the organization, inculcating values of social and environmental justice into a culture and translating them into daily behavior are required capacities which cannot be learned in theory, only in practice. Students master the skills to lead an enterprise through the challenges of the 21st century. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Innovation and Venture Development MS student; Corequisite(s): IVD 562 |

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| IVD | 660 | Innovation Studio IV: Business Model | Faced with the challenge of business model generation and prototyping, students need to define the starting points of value proposition, supply chain and customer segments. Later in the process, a clear description of the revenue model, customer relationship, key resources, key activities, key partners and cost structure complement the original value proposition design. The refinement of the newly created business model is made through a process of iteration. Students have an overall comprehension of the strategic innovation process made of (a) strategy, (b) execution, (c) tools and (d) metrics before moving to the stages of scaling and growth of the business. In order to develop a viable business model, students need to understand the costs of development, manufacturing and getting their goods or services to customers. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Innovation and Venture Development MS student; IVD 525; IVD 560; IVD 561; IVD 562; Corequisite(s): IVD 630 |
| IVD | 661 | Innovation Studio V: Scale | SCALE is translated as proportional growth of production and profit aiming at a larger market position. Understanding the timing to scale a business model is crucial to its success and scaling can be discussed in terms of market, process and team. Faced with scaling issues of their business models, students need to build their own framework--or tools--in order to make decisions concerning the whens (time) and hows (market, process, tools) of scaling. Topics covered also include, but not limited to, venture funding strategies, budgeting capital needs, developing e-commerce, CRM analytics, supply chain and operations. At the end of this semester, students present a fully developed venture, with clearly articulated market need, viable innovation based on end-user feedback, business model and plan for scale. Where relevant, students register their intellectual property through ASU, using the university's published guidelines and procedures. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 6 | | Prerequisite(s): IVD 525; IVD 560; IVD 561; IVD 562; IVD 630; IVD 660 |
| IVD | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| IVD | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JHR | 100 | Introduction to Social Justice and Human Rights | Interdisciplinary introduction to the study of social justice and human rights through examination of materialism, intersectionality and inequality, advocacy and social change, and critical trauma studies and humanitarianism in transnational and global perspective. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | |
| JHR | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-4 | | |
| JHR | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-4 | | |
| JHR | 305 | Theory and Practice of Social Justice and Human Rights | Interdisciplinary survey of theories and practices of social justice and human rights in transnational and global perspective. Explores various theories of social justice and human rights and examines in-depth case studies of social injustice and human rights challenges. Also explores the future of social justice and human rights in light of global climatic and environmental change. Social sciences theories and methods combine with humanistic philosophy to understand the foundations of social justice and human rights. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | Prerequisite(s): minimum 45 hours |
| JHR | 378 | Poverty, Inequality and Social Justice in Latin America | With persistently high levels of poverty and inequality, Latin America is often considered the most unequal region in the world. This course explores the economic, political, social and geographic origins of poverty and inequality in Latin American countries since independence. It also studies efforts to address the problem by governments, non-governmental organizations, the international community, religious groups and activists. Explores these themes in more detail through a case study of one Latin American country and a global intensive experience at the end of the course. By reflecting on the Latin American experience, students gain insights for wealthy countries like the United States where inequality is on the rise. | N | LEC | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | G | Prerequisite(s): minimum 45 hours; Credit is allowed for only HST 378 or JHR 378 or JUS 378 or LAS 378 OR Visiting University Student |
| JHR | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| JHR | 425 | The Politics of Immigration | Examines immigration and citizenship in the United States, with a focus on changes in policy, politics and incorporation trends. While a primary focus is on contemporary politics and policies, also spends much time on immigration and citizenship's legal history and on how scholars use history to reveal new, important insights for our understanding of debates today. Starts with a discussion of migration to the U.S. today and considers theories about international migration. Then moves to the history of immigration and citizenship policies and politics in the U.S. and continues up to present day political and national debates and initiatives. Contains a particular focus on the history, politics and debates around "undocumented"/"illegal"/unauthorized populations, on related citizenship and membership politics. With the continuing national debates, also spends additional time throughout the semester analyzing current reform politics and prospects, along with the different interests and constituencies battling for reform. Readings and assignments feature some of the different disciplinary approaches used in the study of immigration, drawing primarily from political science, history, sociology and anthropology. Aims to gain a better understanding of the different approaches and implications for using different types of methodologies. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only JHR 425 or JUS 426 OR Visiting University Student |
| JHR | 433 | Race and Sexualities in Social Justice Movements | Investigates queer communities, social control and political resistance. Topics include collective responses to trauma/violence, heteronormativity, and variants of institutionalized racism and sexism. Gives special attention to race and sexuality intersections as well as the politics of coming out, LGBT activism, antiracist movements, the role of allies, and social movement strategies. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prereq(s): ETH 100, HRC 200, or WST 100 w/C or better OR ENG 102, 105, or 108 w/C or better; minimum 36 hours; Credit is allowed for only ETH 433 or JHR 433 or WST 433 or ETH/WST 494 (Race, Sexuality, & Soc Justice Mvmts) OR Visiting University Student |
| JHR | 441 | Latin America and the World Economy | Globalization did not begin in the late twentieth century, but rather global trade has linked Latin America with the rest of the world for over five hundred years. The region has been an active and important participant in the world economy since Columbus's first voyage in 1492. This course explores the social, cultural, economic, and environmental impact of such participation on both Latin America and the rest of the world. It is organized both chronologically and thematically. We will study both colonial and post-colonial trade. The commodities studied include sugar, rubber, bananas, and cocaine. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | L & G & H | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only HST 441 or JHR 441 or LAS 441 OR Visiting University Student |
| JHR | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): minimum 45 hours |
| JHR | 485 | Social Justice and Human Rights Capstone | Senior-level culminating course helps students consolidate their capstone assignments into an intellectual portfolio of written work. Although writing is a critical skillset for academic success, learning how to write is often treated as a secondary pursuit acquired "on the job." Assignments once submitted to fulfill course requirements are soon forgotten, and the labor spent on them is forever lost. This course offers a rare and invaluable opportunity to revisit the writing students have produced in their studies, thinking in highly focused ways about what ideas interest them and why. Students grapple with conventions of social scientific writing, understand how to formulate rigorous research questions and practice drafting structured arguments around key concepts. Additionally, students revise and refine existing papers, trace intersections between them and integrate them into a body of work. Students critically engage with others' work, offering constructive annotated feedback on others' papers while applying the same insights to their own writing. By the end of the course, students create a portfolio representing their best and most promising work. They are able to thoughtfully articulate the knowledge they have acquired over the years, as well as point toward possible trajectories for future research. This culminating experience not only equips students for graduate school, but enhances their skills for a range of professional fields--including law, journalism, policy-making, social work and beyond--where rigorous thinking and writing are essential. | N | PRO | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Social Justice and Human Rights BA major; JHR 305 with C or better; senior standing |
| JHR | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |

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| JHR | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| JHR | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| JHR | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-3 | | Prerequisite(s): minimum 45 hours |
| JHR | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): Social Justice and Human Rights MA student |
| JHR | 501 | Proseminar in Social Justice and Human Rights | This intensive course deepens students' knowledge of the theory and practice of SJHR in local, national and global contexts. It engages participatory pedagogy, giving students a unique opportunity to connect the scholarly discourse to their own interests and lived experience. Via a series of reflexive discussions and assignments, students interrogate assumptions, explore their positionalities and ethics, and develop their own voices as SJHR scholars and professionals. | N | SEM | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Social Justice and Human Rights MA student |
| JHR | 502 | Foundations of Social Justice and Human Rights | Provides students with foundational knowledge in the theory, method and practice of social justice and human rights. Defines the meaning and scope of both "human rights" and "social justice" and focuses explicitly on the relationship between them. Students learn about the historical, political and legal foundations of international human rights concepts, laws and institutions and how to apply a social justice perspective to understand the differential distribution of access to human rights according to inequalities of nationality, race, class, gender and more. Drawing on major disciplinary perspectives in anthropology, sociology, political science and law, provides the core knowledge and skills that students need to succeed in the program as a whole. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JHR | 503 | Gender Based Violence and Sex Trafficking | Following passage of the Palermo Protocol, the first modern global treaty on trafficking in the year 2000, sex trafficking has received enormous global attention. Focuses on the period following the passage of this treaty to understand both the causes and consequences of sex trafficking around the world. Are there patterns associated with victimization? Do traffickers use similar tactics for recruitment? What are countries doing to prosecute traffickers and protect victims? Students conduct guided research developing their expertise on trafficking in one country of their choosing, applying the tools and theories from class to evaluate their chosen case. Course adopts an interdisciplinary perspective drawing on work from political science, sociology, anthropology, counseling, psychology and law. Often draws on literature from feminist criminology studies to account for a more nuanced perspective. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Social Justice and Human Rights MA student; Credit is allowed for only JHR 503 or JHR 598 (Gender-based Violence and Sex Trafficking) |

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| JHR | 504 | International Law and Organizations | Focuses on the fundamentals of international legal order, global governance structures and the influence of several key actors within this field, which include State actors as well as international organizations. Provides students with a good understanding and interesting insights about the nature, sources and scope of international law; types of international regulatory instruments such as treaties, conventions and other agreements, and their influence within the international arena. Students learn about the roles of international adjudicative bodies like the International Court of Justice (ICJ) and other judicial tribunals in managing global affairs. Focuses on international legal order and global institutional structures; also examines key global political and economic governance organizations and their relationship with States. Specifically, examines international inter-governmental organizations (IGOs) like the United Nations (UN), and its specialized agencies including International Monetary Fund (IMF), World Bank, World Health Organization (WHO), World Intellectual Property Organization (WIPO), and the UN Educational, Scientific and Cultural Organization (UNESCO). Also looks at the role of international nongovernmental organizations (INGOs) such as Amnesty International, Greenpeace, International Red Cross and Red Crescent Movement, and The Global Fund to Fight AIDS, Tuberculosis and Malaria (The Global Fund), and assess their importance as active actors in the area of global governance. Focuses on examining sets of carefully selected case illustrations (current and past) from around the world, along with practical learning activities regarding topical issues, helping students gain deeper and functional knowledge about the various topics discussed and issues examined. Cases and instances explored cut across areas like global peace and security, human rights and social justice, environment, public health and economic development. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Social Justice and Human Rights MA student; Credit is allowed for only JHR 504 or JHR 598 (International Law and Organizations) |
| JHR | 505 | Migration, Asylum and Refugees | Interdisciplinary course that introduces students to social scientific debates on migration and displacement in the contemporary world. Over the past decade, recurring wars and natural disasters have driven millions to flee from their homes. According to the United Nations High Commissioner for Refugees (UNHCR), the global number of displaced people is over 70 million, the highest ever recorded since World War II. Now more than ever, it is important to critically examine the social, political and legal processes by which people are displaced and disenfranchised. Delves into social scientific perspectives on forced migration, drawing on essential concepts and theories in anthropology, political theory and international relations. Students question the taken-for-granted distinctions between refugees and "economic migrants," and investigate the historical contexts and institutional structures shaping global displacement that have brought us to our present moment. What does the figure of the refugee reveal about modern conceptualizations of citizenship and the nation-state? How do we think about the violence and precarity of displacement beyond metaphors of "exception," and is it possible to protect the rights of asylum-seekers in conjunction with those of vulnerable citizens? How is the suffering of distant others rendered legible to Western audiences, and how do the conditions of humanitarian work serve to further amplify inequalities between the givers and receivers of aid? The purpose is not to provide an exhaustive summary of various disciplinary approaches to migration, asylum and refugees, but rather, to develop some keen insights into the foundational forces shaping migrant lives and the power relations underpinning our endeavor to alleviate displacement. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Social Justice and Human Rights MA student; Credit is allowed for only JHR 505 or JHR 598 (Migration, Asylum, and Refugees) |
| JHR | 506 | Grant Writing for Social Justice and Human Rights | Seminar in grant writing and fund raising for social justice and human rights. Provide an introduction to the grassroots grant writing and fund raising process, with a particular focus on justice-oriented nonprofit and international nongovernmental organizations. | N | SEM | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JHR | 510 | Problem-Based Seminar in Social Justice and Human Rights | Interdisciplinary seminar examines current problems in social justice and human rights from several different theoretical and analytical viewpoints. May be repeated once for credit. | Y | SEM | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Social Justice and Human Rights MA student |

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| JHR | 511 | Community-Embedded Seminar in Social Justice and Human Rights | Interdisciplinary seminar requiring students to be placed in community organizations dealing with the course issue during the semester. Emphasizes developing effective strategies for partnerships with relevant community organizations and evaluating institutional settings, policies, and procedures from the perspective of social justice and human rights. | Y | SEM | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Social Justice and Human Rights MA student |
| JHR | 515 | Power and Inequality in Academia and Activism | Centers the perspective of racialized and gendered minorities in academia and in activism in an effort to achieve racial and gender justice in academia and beyond. Covers research, teaching and mentorship in academia and inclusive solidarity and egalitarian political imaginaries in activism. Students read empirical research that helps them navigate racial, gendered and epistemic oppression in research, teaching and mentorship. Students also read empirical research that helps them navigate intersecting forms of oppression within and outside of social justice movements. They then apply these skills to their own thesis, applied projects or capstone projects in collaboration with their peer writing groups, which also function as peer accountability and mentoring groups. The goal is to challenge hierarchical power dynamics in academia and in activism by developing an alternative model of mentorship and an egalitarian way of relating rooted in mutual respect, trust and solidarity. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Social Justice and Human Rights MA student; Credit is allowed for only JHR 494 (Navigating academia: Racialized & gendered lenses) or JHR 515 or JHR 591 (Navigating academia: Racialized & gendered lenses) |
| JHR | 525 | Critical Methodologies in Social Justice and Human Rights | This advanced seminar addresses the political and ethical questions that arise in community-embedded or other social justice and human rights-oriented research. Focuses on interpretive, ethnographic, feminist, and broadly decolonial research methods and their philosophical, political, and ethical underpinnings. | N | SEM | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Social Justice and Human Rights MA student |
| JHR | 540 | Critical Humanitarianism | Interdisciplinary lecture course introduces students to social scientific debates on humanitarianism, international aid and the ethics of alleviating suffering in the contemporary world. Since its birth in the 19th century, modern humanitarianism has emerged as a powerful actor in world affairs, not only assisting the vulnerable during moments of crisis but shaping politics and governance in its own right. Critically investigates the historical, cultural, institutional and technological contexts of humanitarian action. Rather than taking the morality of "saving lives" as self-evident, this course explores how moral judgements about life are formed, transformed, appropriated and sometimes ignored in the pursuit of humanitarian interests. How does one situate the emergence of humanitarianism in histories of capitalism and abolitionist movements? What definitions of the human are evoked in calls for humanitarian intervention, and how are these definitions sutured by notions of race? Why does the suffering of others evoke humanitarian sympathies and what are the ethical motivations that guide aid workers? How do we hold these ethical callings in tension with various forms of institutional violence perpetrated in humanitarian contexts? How does race shape the construction of both the subjects and objects of humanitarian aid, and what would it mean to decolonize the world of humanitarianism? The purpose is not to provide an exhaustive summary of all the theoretical approaches and empirical issues in humanitarian studies, but to develop some specific insights into what it means to "do good" and how goodness is invariably entangled in contemporary questions of power, politics, violence and history. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASB/JHR/POS/SBS/SOC 494 (Critical Humanitarianism) or JHR 540 or JHR 598 (Critical Humanitarianism) |
| JHR | 549 | Capstone in Social Justice and Human Rights | Culminating experience for students in the MA in Social Justice and Human Rights program. Analyzes and evaluates literature in the field and recommends practices of social justice and human rights through written and/or media projects. Includes practices of social justice and human rights within and across various organizations and local, global or transnational contexts. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Social Justice and Human Rights MA online student |
| JHR | 550 | Global Justice | Explores questions of justice that cross national borders, including delivery of foreign aid, immigration and military intervention, among other issues. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only JHR 494 (Global Justice) or JHR 550 or JHR 598 (Global Justice) or POS 480 or SBS 480 |
| JHR | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| JHR | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JHR | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JHR | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JHR | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JHR | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JHR | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JHR | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JHR | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1 | | Prerequisite(s): Social Justice and Human Rights MA student |
| JHR | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JHR | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JMC | 101 | Grammar for Journalists | Grammar course specifically designed to help journalism majors master the essentials of grammar. All majors must achieve an 80 percent in the course, indicating a mastery of grammar, before they can move on to any other journalism course. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Prerequisite(s): Journalism and Mass Communication major or Sports Journalism major; Credit is allowed for only JMC 101 or JMC 194 (Grammar for Journalists) or MCO 101 or MCO 194 (Everyday Grammar) OR Visiting University Student |
| JMC | 102 | Coding for Journalists | Provides a basic understanding of how the Internet works, knowledge of how to create and upload Web pages, and a basic introduction to programming with JavaScript. Assumes no previous knowledge of any of the topics, although requires basic knowledge of how to use a Web browser and navigate the Web. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major; Credit is allowed for only JMC 102 or JMC 194 (Coding for Journalists) or MCO 102 or MCO 194 (Fundamentals of Coding) OR Visiting University Student |
| JMC | 110 | Principles and History of Journalism | Fundamental principles of journalism and the evolution of those principles through the history of the U.S. news media. By understanding the history of journalism, students learn about the most critical values of the profession. This is the first of four "values" courses Cronkite students take during the four-year curriculum. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | SB | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major; Credit is allowed for only JMC 110 or MCO 120 OR Visiting University Student |
| JMC | 115 | Diversity and Civility at Cronkite | Emphasizes the importance of diversity, inclusion, equity and civility to ensure all Cronkite students feel represented, valued and supported. Offers training and awareness on cultural sensitivities, civil discourse, bias awareness and diversity initiatives at the Cronkite School and ASU. Empowers students to approach reporting and communication projects with a multicultural perspective and inspire mutual respect among students from various backgrounds and beliefs within different Cronkite professional paths. | N | SEM | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Prerequisite(s): Digital Audiences BS, Journalism and Mass Communication BA, or Sports Journalism BA major; Credit is allowed for only JMC 115 or JMC 194 (Diversity and Civility at Cronkite) OR Visiting University Student |

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| JMC | 120 | Studio Production | Introduces the vocabulary of production. Develops familiarity with the studio equipment, its care and operation, and basic production procedures. Covers the ability to function as a member of a production team; sound attitudes toward assignments and constructive criticism; and an appreciation of production as a tool of the communication process. Discusses career opportunities in the diverse marketplace. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Prerequisite(s): Journalism and Mass Communication major; Credit is allowed for only JMC 120 or 194 (Studio Production) OR Visiting University Student |
| JMC | 121 | Sports Production | Introduces the vocabulary of production. Develops familiarity with the studio equipment, its care and operation, and basic production procedures. Covers the ability to function as a member of a production team; sound attitudes toward assignments and constructive criticism; and an appreciation of production as a tool of the communication process. Discusses career opportunities in the diverse marketplace. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Prerequisite(s): Sports Journalism major; Credit is allowed for only JMC 121 or JMC 194 (Sports Production) OR Visiting University Student |
| JMC | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-4 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major OR Visiting University Student |
| JMC | 201 | News Reporting and Writing | Introductory news writing course required for all Cronkite majors. Students learn the basic reporting and writing skills needed for further study in print, broadcasting, online or public relations. Students practice reporting and writing news stories with an emphasis on accuracy, newsworthiness, deadlines, objectivity and fairness. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | L | Prerequisite(s): Journalism and Mass Communication BA or Sports Journalism BA major; ENG 101, 105, or 107 with C or better; JMC 101 or MCO 101 with B- or better; JMC 110 or MCO 120 with C or better OR Visiting University Student |
| JMC | 220 | Broadcast Voice and Delivery | Builds vocal skills both for everyday life, and for on-air performance. Focuses on breathing, voice control and pitch, articulation, stress and intonation, resonance, sounding conversational, anchoring, and on-camera body language. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism BA major; Credit is allowed for only JMC 220 or JMC 294 (Broadcast Performance Skills) or JMC 294 (Broadcast Voice and Delivery) OR Visiting University Student |
| JMC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-4 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major |
| JMC | 301 | Intermediate Reporting and Writing | Students produce a wide range of news and enterprise stories that take them into the community to report on police, courts, business and government, among other topics. Students hone their interviewing, reporting and writing skills and pitch their stories to professional and student media outlets. They gain a deeper and more sophisticated understanding of newsworthiness, journalism ethics and law. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | L | Prerequisite(s): Journalism and Mass Communication major; ENG 102, 105, or 108 with C or better; JMC 101 or JMC 194 (Grammar for Journalists); JMC 201 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 302 | Sports Reporting | Students learn how to cover a sports beat in this hands-on class. They develop story ideas and sources and report and write multiple stories on deadline. Expects students to pitch stories to professional outlets with the goal of publication. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Sports Journalism major; ENG 102, 105, or 108 with C or better; JMC 101 or JMC 194 (Grammar for Journalists); JMC 201 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 305 | Multimedia Journalism | Software and digital tools commonly used by multimedia journalists, including shooting and editing photos and video, social media, Web analytics, basic HTML, blogging, and design for the Web. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication BA major; ENG 101, 105, or 107 w/C or better; JMC 101 or MCO 101 w/B- or better; JMC 110 or MCO 120 w/C or better; Credit is allowed for only JMC 305 or JMC 306 or MCO 335 OR Visiting University Student |
| JMC | 306 | Sports Multimedia Journalism | Students learn and employ a range of software and digital tools commonly used by multimedia sports journalists. They shoot and edit photos and video, create social media, analyze and understand audience analytics, and learn basic design for the Web, with a focus on creating content for sports audiences. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Sports Journalism BA major; ENG 101, 105, or 107 with C or better; JMC 101 or MCO 101 with B- or better; JMC 110 or MCO 120 with C or better; Credit is allowed for only JMC 305 or JMC 306 or MCO 335 OR Visiting University Student |
| JMC | 310 | Principles of Strategic Communications | Introduces students interested in careers in public relations, strategic media and related areas to the practices and principles of public relations in corporate, nonprofit, agency, government and other settings. Covers the role of public relations professionals, how the field is changing and career opportunities. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism BA major; JMC 201 with C or better; minimum 2.50 GPA OR Visiting University Student |

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| JMC | 313 | Introduction to Editing | Hands-on training in editing copy, photos and graphics and writing headlines and other display text for print and digital platforms. Emphasizes editing for accuracy, clarity, brevity, grammar and tone. Students practice AP style, develop news judgment and consider the ethical implications of their work. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major; JMC 101 with B or better; JMC 201 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 315 | Intermediate Reporting and Writing (Broadcast) | Intermediate broadcast news reporting and writing techniques with emphasis on audio. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | L | Prerequisite(s): Journalism and Mass Communication major; ENG 102, 105, or 108 with C or better; JMC 101 or JMC 194 (Grammar for Journalists); JMC 201 with C or better; minimum 2.50 cumulative GPA |
| JMC | 320 | Newscast Producing | Principles of broadcast news producing, delivered via a combined lecture/lab experience and assignments based on editorial judgment, technical skills and industry awareness. Students emerge with strategies for total newsroom management, confidence in producing news content and newscasts under deadline pressure and prepared for a variety of producer-related roles in professional newsroom environments. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication BA or Sports Journalism BA major; JMC 301, 302 or 315 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 325 | Breaking News Multimedia Reporting | Students cover breaking news for azcentral.com, gaining practical experience in an online, multimedia environment. Students are selected by The Arizona Republic and work with professional editors in the Republic Media newsroom. Their work appears on azcentral.com and may appear in the print edition of the newspaper. Students must commit to two full days a week, and they earn pay in addition to class credit. | N | LEL | N | Z2 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication BA or Sports Journalism BA major; JMC 201 with C or better; JMC 305 or 306 with C or better; JMC 366, 367, or 402 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 330 | Television Reporting | Hands-on experience reporting and producing television news packages. Teaches visual storytelling skills including writing, reporting, videography and editing for broadcast and other platforms. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication BA major; JMC 301 or 315 with C or better; JMC 345 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 330 or JMC 331 or JMC 333 OR Visiting University Student |
| JMC | 331 | Television Sports Reporting | Hands-on experience reporting and producing television sports packages. Skills taught include sports writing, reporting and editing for broadcast. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Sports Journalism BA major; JMC 302 with C or better; JMC 346 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 330 or JMC 331 or JMC 333 OR Visiting University Student |
| JMC | 333 | Advanced Bilingual Broadcast Reporting | Students produce bilingual television packages on a wide range of issues of interest to Latino audiences. Students also report and produce an occasional Spanish-language newscast. Students develop advanced reporting, interviewing, visual storytelling and writing skills in English and Spanish, preparing them for entry-level positions in a small/medium market local television newsroom. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication major; JMC 301 or 315 with C or better; JMC 345 with C or better; Credit is allowed for only JMC 330 or JMC 331 or JMC 333 or JMC 494 (Advanced Bilingual Broadcast Reporting) |
| JMC | 345 | Videography | Students conceive, plan, shoot, write and edit television news packages in this hands-on class. Skills taught include sequencing, framing, lighting, sound, story structure, news judgment, storytelling and editing. Students may use school-supplied cameras and editing facilities but must provide a Flash Memory card and portable external FireWire Hard Drive. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication major; JMC 301 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 345 or JMC 346 OR Visiting University Student |
| JMC | 346 | Sports Videography | Develops an understanding of visual sports storytelling and craft compelling sports stories using video and sound. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Sports Journalism BA major; ENG 102, 105, or 108 with C or better; JMC 302 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 345 or JMC 346 OR Visiting University Student |
| JMC | 351 | Photojournalism I | Teaches basic skills required to compose, shoot and prepare still photos for publication. Hands-on, with students shooting a range of assignments from news events to environmental portraits, and producing a portfolio of their work. Students may share a school-supplied Canon camera or provide their own. The camera should be a digital SLR camera body with at least a kit zoom lens, and the camera body must have a manual setting and have the ability to turn off any built-in camera flash. Students need digital media cards of at least 2 GB and an external digital card reader. Students may not use point-and-shoot cameras or cameras with Flash (built-in or external) for this class. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication major; JMC 101 or JMC 194 (Grammar for Journalists); JMC 201 with C or better; minimum 2.50 cumulative GPA; Credit is allowed for only JMC 351 or JMC 352 OR Visiting University Student |

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| JMC | 352 | Sports Photojournalism | Students learn photojournalism skills, including composition, shooting and preparing still photos for publication in a sports context. Hands-on, with students shooting a range of sports assignments and producing a portfolio of their work. Students may share a school-supplied Canon camera or provide their own. The camera should be a digital SLR camera body with at least a kit zoom lens, and the camera body must have a manual setting and have the ability to turn off any built-in camera flash. Students need digital media cards of at least 2 GB and an external digital card reader. Students may not use point-and-shoot cameras or cameras with flash (built-in or external) for this class. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Sports Journalism BA major; JMC 101 or JMC 194 (Grammar for Journalists); JMC 201 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 351 or JMC 352 OR Visiting University Student |
| JMC | 355 | Podcasting and Audio Storytelling | Explores various styles of journalistic audio storytelling for podcasts, including interviews, narrated reports and non-narrated postcards. Students develop a podcast based on a unique value proposition that fulfills a specific need for their audience. Along the way, students practice audio editing and marketing skills to develop a podcast with intention and longevity. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prereq(s): Journ & Mass Comm BA or Sports Journ BA maj; JMC 301 or 302 w/C or better; min 2.50 GPA; Credit allowed for only JMC 355 or JMC 394 (AudioStory&Prod or Podcast&AudioStory) or MCO 375 or MCO 494/598 (Podcasting) OR Visiting University Student |
| JMC | 366 | Journalism Ethics and Diversity | Explores contemporary news media ethical problems in a seminar setting. Uses journalism ethical perspectives to obtain keys to unlock contemporary dilemmas surrounding the news media. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prereq(s): Journ & Mass Comm major; JMC 101 or 194 (Gramr for Journ); JMC 110 or MCO 120 w/ C or better; min 2.50 GPA; min 25 hours; Credit allowed for only JMC 366 or JMC 367 or MCO 366 or MCO 494(Media Ethics & Diversity) OR Visiting University Student |
| JMC | 367 | Ethics and Diversity in Sports Journalism | Explores ethical problems related to sports media in a seminar setting. Discussion-based course applies journalistic values and principles to contemporary ethical dilemmas in sports media and helps prepare students for work in the profession. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prereq (s): Sports Journ BA major; JMC 101 or 194 (Gram for Journ); JMC 110 or MCO 120 w/ C or better; min 2.50 GPA; min 25 hours; Credit allowed for only JMC 366 or JMC 367 or MCO 366 or MCO 494(Media Ethics & Diversity) OR Visiting University Student |
| JMC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-4 | | Prerequisite(s): Journalism and Mass Communication major or Sports Journalism major; minimum 2.50 GPA OR Visiting University Student |
| JMC | 402 | Mass Communication Law | Provides a grounding in the laws and regulations that govern various aspects of the media with a focus on First Amendment guarantees and privileges and the extent to which those have been limited by courts and lawmakers. Topics include freedom of expression, libel, privacy and obscenity. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prereq (s): Journ & Mass Com or Sport Journ major; ENG 102, 105, or 108 w C or better; JMC 101 or 194 (Gram Journ); JMC 201 w C or better; min 2.50 GPA; min 56 hours; Credit allowed for only JMC 402 or MCO 403 or MCO 503 OR Visiting University Student |
| JMC | 406 | Humphrey Seminar | Identifies, examines and exports role models of leadership in the field of global communications. Explores leadership issues in journalism, strategic communications and management under different cultural and political systems. | N | SEM | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major; minimum 2.50 GPA; Credit is allowed for only JMC 406 or JMC 494 (Humphrey Seminar) or MCO 512 or MCO 598 (Humphrey Seminar) |
| JMC | 410 | Turning Points in TV History | Uses historic television footage to talk about the evolution of news coverage and the ethical decisions journalists face. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism BA major; JMC 101 or MCO 101; minimum 2.50 GPA; Credit is allowed for only JMC 410 or JMC 494 (Turning Points in TV History) OR Visiting University Student |
| JMC | 412 | Opinion Writing | Traces the evolution of a new form of writing that blends the traditions of magazine features and classic newspaper opinion. Students pitch and write features in consultation with editors for Slate, the popular online magazine. Emphasizes curiosity-driven, smart and witty writing that advances an argument with strong voice and intellectual integrity. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication major; JMC 301 with C or better; minimum 2.50 cumulative GPA |
| JMC | 413 | Advanced Editing | Builds on skills learned earlier. Students master editing skills that include AP style, grammar, headline writing and page layout as well as editing graphics and other visuals, editing Web content and uses of social media. Students hone their news judgment and learn to work quickly and accurately on deadline. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major; JMC 313 with C or better; minimum 2.50 GPA |

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| JMC | 414 | Digital Graphic Design | Theory, organization, and practice of layout, typography, and design in traditional and multimedia publishing. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major; JMC 305 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 415 | Writing for Public Relations | Develops the professional-level writing and strategic skills expected of public relations practitioners. Students learn how to design and produce strategic plans, news releases, media kits and executive communications. They are exposed to communications approaches required for different audiences and media and learn about public relations theory as well as audience research and analysis. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prereq(s) w/C or better: Journ & Mass Comm BA or Sports Journ BA major; JMC 301 or 302; JMC 310; min 2.50 GPA OR Mass Comm grad student; Credit allowed for only JMC 415 or MCO 537 or MCO 598 (Writing for Public Relations) OR Visiting University Student |
| JMC | 417 | Public Relations Campaigns | Students work with professional clients in an agency setting to research, plan and create comprehensive public relations campaign that address clients' needs. Concepts, theories and techniques relevant to public relations campaigns as well as strategic planning, campaign components and technology resources and tools. Analyzes, discusses and responds to current public relations issues and case studies. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication major; JMC 415 with C or better; JMC 436 with C or better; minimum 2.50 cumulative GPA OR graduate Mass Communication student |
| JMC | 419 | Strategic Communications Leadership and Ethics | Communications and the ability to tell an organization's story to a variety of audiences and stakeholders is a key part of corporate strategy. Provides a broad understanding of ethical communications practices in agency and corporate settings, and includes instruction in reputation management, corporate communications, brand management, and stakeholder engagement in a digital context. Especially useful for future communications professionals and those who will work with them such as journalists and business leaders. | N | SEM | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): JMC 301 or 302 with C or better; JMC 305 or 306 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 419 or MCO 519 OR Visiting University Student |
| JMC | 421 | Advanced Digital Storytelling | Explores and practices the art of storytelling for digital audiences. Each student produces a digital project consisting of images, sound and text using various storytelling forms. Projects may consist of narrative multimedia features, news coverage, enterprise or investigative reporting. Emphasizes creating quality journalism, visual impact and creative use of multimedia tools and techniques. The best work is entered in national and regional contests. It is recommended that students have taken other classes or can demonstrate skills in visual journalism (photography, videography or graphics). | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major; JMC 301, 302 or 315 with C or better; JMC 305 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 421 or JMC 494 (Advanced Digital Storytelling) |
| JMC | 422 | Live Sports Event Production | Students receive a tremendous hands-on education in the art and science of live sports event production; they are responsible for producing ASU sports events for Pac-12 Plus live streams. Among the sports covered for Pac-12 Plus include soccer, volleyball, basketball, hockey, wrestling, swimming and others. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Sports Journalism BA major; JMC 121 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 422 or JMC 394 (Live Sports Event Production) OR Visiting University Student |
| JMC | 430 | Sports Marketing and Campaigns | Students create a real-world sports marketing campaign for a client (clients change each semester). Students strategize, plan, and clearly explain to the client how to execute their campaign. Executives from the client judge and ultimately select a winning campaign. | N | LEL | N | Z1 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Sports Journalism BA major; JMC 302 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 434 | Advanced Bilingual Reporting | In this project-based class, students work together to cover various angles of a topic related to Latinos in the U.S. Their digital and video stories, photographs and graphics often result in publication. Students need some ability to report in Spanish, although they do not have to be proficient. Prepares students for work in the Borderlands Bureau of Cronkite News or Cronkite Noticias, the school's Spanish-language news site. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prereq(s) w/ C or better: Journ & Mass Comm or Sprt Journ mjr; JMC 201; JMC 301, 302, or 315; JMC 305; min 2.50 GPA; Credit allowed for only JMC 434 or JMC 494 (Adv Biling Report) or MCO 534 or MCO 598 (Adv Biling Report) OR Visiting University Student |
| JMC | 435 | Latino and Transnational Issues | This fall-only seminar gives students a nuanced understanding of topics such as immigration, trade, health care, politics and cross-border conflict and cooperation, preparing them to report on some of today's most important issues. Students who complete the course are considered for a spring in-depth reporting course, which includes a reporting trip to another country. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication BA or Sports Journalism BA major; JMC 101 or MCO 101 with C or better; JMC 201 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 436 | Public Relations Research | Students learn about the importance of research in communications, conduct research using qualitative and quantitative methods, and analyze data to understand implications within a specific communications context. They also critically evaluate published academic and professional research and are exposed to types of research and their application in the field of public relations. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication BA major; JMC 301 with C or better; JMC 310 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 436 or JMC 494 (Public Relations Research) OR Visiting University Student |

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| JMC | 437 | Documentary Production | Students learn the fundamentals of producing documentaries, including research, script writing, production and shooting and editing video. Students produce a long-form documentary. Students become familiar with television documentary history in order to identify trends and learn about legal and ethical issues relevant to video documentary production. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism BA major; JMC 345, 346, or 448 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 440 | Magazine Writing | Students report and write stories suitable for magazine outlets. They develop and pitch stories, learn new reporting techniques and employ literary techniques such as description and scene setting in their writing. See class notes for additional information. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication BA or Sports Journalism BA major; JMC 301 or 302 with C or better; minimum 2.50 GPA OR Sports Journalism MA student OR Master of Mass Communication MMC student OR Visiting University Student |
| JMC | 441 | Narrative Writing and Reporting. | Covers the elements of narrative journalism--structure and narrative arc, the use of character, description, dialogue and quotes, context and background, and pacing--and applies them to a long-form story students report and write during the semester. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prereq(s): Journalism&Mass Communication BA or Sports Journalism BA major; JMC 301 or 302 w/C or better; min 2.50 GPA; Credit allowed for only JMC 441 or JMC 494 (Narrative Writing) or MCO 541 or MCO 598 (Narrative Writing) OR Visiting University Student |
| JMC | 442 | Sports and Culture Commentary | Discusses various forms of commentary-based content creation. Students learn how to craft informed opinion in both news and sports across a variety of platforms, including written columns and video and audio commentaries. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism & Mass Communication BA or Sports Journalism BA major; JMC 301 or 302 with C or better; min 2.50 GPA; Credit allowed for only JMC 442 or MCO 542 or JMC 494/MCO 598 (Opinion in the Digital Age) OR Visiting University Student |
| JMC | 444 | Accountability Journalism | Accountability journalism in the digital age -- its history, mission, values, techniques, ethics and future. Students research and analyze notable recent examples of accountability journalism and produce accountability story ideas. | N | SEM | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Prerequisite(s): Journalism & Mass Comm or Sports Journalism BA major; min 45 hours; min 2.50 GPA; Credit is allowed for only JMC 444 or JMC 494 (Accountability Journalism) or MCO 544 or MCO 598 (Accountability Journalism) OR Visiting University Student |
| JMC | 446 | News 21 | Prepares students for the Carnegie-Knight News21 investigative journalism summer fellowship. Immerses students in the selected topic for the annual investigation, conducting deep research, generating data and public records, interviewing experts, developing sources and producing initial reports and multimedia elements. Considers students who perform well in the seminar for paid summer fellowships during which they travel the country to complete their reporting and produce the annual project on an issue of national import. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major; JMC 201 with C or better; JMC 301, 302, or 315 with C or better; min 2.50 GPA; Credit is allowed for only JMC 446 or JMC 494 (News21) or MCO 546 or MCO 598 (News 21 Seminar) |
| JMC | 448 | Non-Narrative Video Storytelling | Teaches students how to create video pieces that effectively communicate a story, information or concept to an audience in non-narrative form that is engaging, interesting and intelligent. Focuses on the various forms of non-narrative storytelling to gain experience creating both longer and shorter pieces with DSLR cameras, advanced editing and graphics that are appropriate to the intended platform. Students learn how to shoot video and stills with a DSLR camera and when to use each in video creation, while advancing skills as a video editor and graphic designer. Students broaden their creativity and range as a video producer in the areas of journalism and mass communication. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication BA or Sports Journalism BA major; JMC 305 or 306 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 448 or MCO 548 OR Visiting University Student |
| JMC | 450 | Issues in Coverage of Business and the Economy | Basics of business and economic reporting, one of the fastest-growing areas of journalism. Students learn what skills are needed to cover business and economic stories as well as the basics of how private companies operate and the factors that drive the economy. Students learn about opportunities in the field and hear from leaders in business journalism. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication BA major or Sports Journalism BA major; JMC 101 or JMC 194 (Grammar for Journalists); JMC 201 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 451 | Photojournalism II | Develops photojournalism and visual storytelling skills through extensive hands-on practice shooting and editing for online and print media. Introduces shooting video with DSLR cameras and becoming proficient at image cropping, writing cutlines and editing using Adobe Photoshop. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism BA major; JMC 305 with C or better; JMC 351 or 352 with C or better; minimum 2.50 GPA OR Visiting University Student |

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| JMC | 452 | Visual Storytelling | Develops visual storytelling skills, working closely with a professional visual journalist to tell multimedia documentary stories that utilize video, still photos and text. In addition to the basics of storytelling, covers non-traditional techniques, including time-lapse, panos, HDR and star trails. Students should have basic skills in both still photography and videography and are expected to provide their own DSLR camera that can accommodate external mics and that have video capability. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication major; minimum 2.50 GPA; JMC 345 or JMC 351 with C or better |
| JMC | 453 | Reporting on Business and the Economy | Trains in the basics of reporting about business and the economy. Helps students tell the stories behind companies, people and money, while improving competence in using numbers in stories. Offers the opportunity to have stories appear in print, online or broadcast. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major; JMC 301, 302, or 315 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 453 or JMC 494 (Reporting on Business/Economy) |
| JMC | 455 | Digital Media Entrepreneurship | Students identify a marketable idea and transform it into a product and/or company. In the process, they learn about key concepts of entrepreneurship and practice skills that they can employ as entrepreneurs themselves. Students are exposed to a range of national and regional entrepreneurs and emerge with a deeper understanding of entrepreneurship's importance within the media and communications landscape. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major; minimum 2.50 GPA; JMC 305 with C or better; Credit is allowed for only JMC 455, JMC 494 (Digital Media Entrepreneurship), MCO 555, or MCO 598 (Digital Media Entrepreneurship) |
| JMC | 457 | Advanced Radio Reporting | Develops planning, writing, voicing and detailed editing skills in a variety of radio broadcast formats, including general news, business, as well as hard and soft news feature reporting. Emphasizes pre- and post-production planning, development and execution. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism & Mass Communication BA major; JMC 301, 302 or 315 with C or better; Credit is allowed for only JMC 457 or JMC 494 (Advanced Radio Reporting) or MCO 557 or MCO 598 (Advanced Radio Reporting) OR Visiting University Student |
| JMC | 460 | Advanced Online Media | Builds on and expands basic multimedia knowledge. Students leave the course with heightened Web-language literacy and visual sophistication; fluency with multiple digital tools that create, publish and distribute content; and the requisite storytelling skills to produce work of a professional level on diverse online and mobile platforms. Draws on Adobe Creative Cloud software and other current tools. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism BA major; JMC 305 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 460 or MCO 515 OR Visiting University Student |
| JMC | 465 | Telling Stories with Data | Techniques and tools of reporting using data and public records as well as how to use the Internet and other online sources to find information and sources for stories. Students get experience with computer spreadsheets, database software and statistical techniques as they develop their advanced reporting skills. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism BA major; JMC 301, 302, or 315 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 470 | Depth Reporting | Students learn to conceptualize, report and write or produce long-form, in-depth stories for publication or broadcast. Students learn techniques of investigative reporting, including use of public records and data, as well as advanced interviewing techniques, and discover compelling ways to tell complex stories. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism BA major; JMC 301, 302, or 315 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 473 | The Business and Future of Journalism | Exposes advanced journalism students to broad media management problems; helps students understand how essential the bottom-line and quality journalism are to the entire journalistic enterprise; helps students think about how to balance those two concerns. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication BA major; JMC 101 or MCO 101 with B or better; JMC 201 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 473 or JMC 474 or MCO 470 or MCO 470 or MCO 525 OR Visiting University Student |
| JMC | 474 | Advanced Issues in 21st-Century Sports and Media | Exposes challenges facing sports and media in the 21st century, including changing content models, revenue streams, and the evolving relationship between teams and media outlets. | N | SEM | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Sports Journalism BA major; JMC 101 or MCO 101 with B or better; JMC 201 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 473 or JMC 474 or MCO 470 or MCO 526 OR Visiting University Student |
| JMC | 475 | Video Production and Graphics Lab | Immersive studio production experience in which students learn applied video and TV production including functions of control room and studio work for a daily newscast; advanced video editing; and building motion graphics for news packages for studio presentations and digital platforms. The lab serves external clients and also serves as the Cronkite School's in-house production team. | N | LEL | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3-9 | | Prerequisite(s): JMC 305 or 306 with C or better; JMC 345, 346, or 448 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 475 or JMC 498 (TV Production & Graphics Lab) OR Visiting University Student |

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| JMC | 476 | Cronkite Agency: Public Relations | Immersive learning experience and full-service integrated communication agency supports clients with comprehensive strategic communications services. Public relations team specializes in cross-disciplinary strategic communication tactics. Students create PR and media relations campaigns, develop compelling multimedia content, conduct market and audience research, and collaboratively prepare proposals and presentations. | N | LEL | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3-9 | | Prerequisite(s): JMC 415 with C or better; JMC 436 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 477 | New Media Innovation and Entrepreneurship Lab | Immersive learning experience where students create innovative multimedia products and digital media startups. Students conduct research, develop pitches and prototypes, discover and test new software and storytelling approaches, develop immersive and emerging media products, and harness technology and innovation to disrupt and advance media. | N | LEL | Y | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3-9 | | Prerequisite(s): JMC 301 or 302 with C or better; JMC 305 or 306 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 478 | Cronkite News Bureau | Cronkite News is an immersive learning experience inside an award-winning newsroom that reaches nearly 2 million homes each day. Students activate their reporting and storytelling skills across newsroom roles, including digital reporters, TV reporters, news producers, digital producers and visual producers. | N | LEL | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3-9 | | Prerequisite(s): JMC 301 or 302 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 479 | Cronkite News: Washington Bureau | Students participate in a full-time regional reporting bureau that gives them the opportunity to work as a Washington correspondent. | N | LEL | Y | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3-9 | | Prerequisite(s): JMC 301 or 302 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 480 | Cronkite News: Phoenix Sports Bureau | Students gain valuable experience in sports reporting, shooting, editing and voicing packages for partnership outlets. | N | LEL | Y | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3-9 | | Prerequisite(s): JMC 302 with C or better; JMC 306 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 481 | Cronkite News: Los Angeles Sports Bureau | Students gain valuable experience in sports journalism reporting, shooting, editing and voicing packages for partnership outlets. | N | LEL | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3-9 | | Prerequisite(s): JMC 302 with C or better; JMC 306 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 482 | Sports Knowledge Lab | The Sports Knowledge Lab is part of the Global Sport Institute, an international sports research and knowledge lab based at Arizona State that connects people to the power of sport by translating and amplifying complex sports research to broad, global audiences. Under the guidance of the executive editor of the Sports Knowledge Lab, students are responsible for the production and presentation of a variety of curated and original content from across the globe that examines the impact of sport on society and provides context for top sports headlines from around the world. Content includes long-form writing, documentaries, articles, newsletters, data visualization and podcasts. Global Sport Matters provides compelling angles that not only deepen people's understanding of issues that fit within the framework of the Global Sport Matters mission, but provides unique context, knowledge and tools that can lead to change. | N | LEL | Y | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3-9 | | Prerequisite(s): JMC 301, 302, or 315 with C or better; JMC 305 with C or better; Credit is allowed for only JMC 482 or JMC 498 (Sports Knowledge Lab) |
| JMC | 483 | Cronkite News: Digital Production | Students produce stories and multimedia across platforms for Cronkite News and professional news outlets. | N | LEL | Y | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3-9 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major; JMC 301 or 302 or 315 with C or better; JMC 305 with C or better; minimum 2.50 cumulative GPA; Credit is allowed for only JMC 483 or JMC 478 (Cronkite News Digital Production) |
| JMC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | LEC | N | Z1 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-12 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism BA major; JMC 301 or 302 with C or better; JMC 305 or 306 with C or better; minimum 2.50 GPA |
| JMC | 485 | Television Magazine | Produce a 13-week television magazine program for Arizona PBS focusing on science research at Arizona State University, using long form DSLR video storytelling skills. Opportunity to field produce, research, report, use videography, writing and graphic skills under the direction of instructors. | N | LEL | Y | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3-9 | | Prereq(s) C or better: Journ & Mass Comm or Sprts Journ BA mjr; JMC 301 or 315; JMC 345 or 494 (DSLR Vid Story); min 2.50 GPA; Credit allowed for only JMC 478 (TV Special Prj) or 485 or 494 (Pub Insight Net) or 498 (TV Mag) OR Visiting University Student |

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| JMC | 486 | Cronkite Agency: Digital Marketing | Immersive learning experience and full-service integrated communication agency supports clients with comprehensive strategic communications services. Digital marketing team specializes in growing and engaging digital audiences. Students conduct audience and competitive research, analyze site and social content performance, create and measure paid and organic social media campaigns, execute SEM campaigns, create and optimize digital content, and make strategic recommendations to clients. | N | LEL | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3-9 | | Prerequisite(s): JMC 301 or 302 with C or better; JMC 305 or 306 with C or better; MCO 307 with C or better; minimum 2.50 GPA OR Visiting University Student |
| JMC | 487 | Howard Center for Investigative Journalism | Develops the next generation of watchdog reporters through hands-on investigative journalism projects. Students produce in-depth digital and documentary-style journalism that illuminates problems or wrongdoing and holds public officials accountable. The Center partners with national and regional news organizations to disseminate and publish student work. Completion of one Advanced Skills course with C or better (from Journalism and Mass Communication major map) is recommended to succeed in this course. | N | LEL | Y | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3-9 | | Prerequisite(s): JMC 301 or 302 with C or better; JMC 305 or 306 with C or better; Credit is allowed for only JMC 487 or JMC 498 (Howard Center for Investigative Reporting) OR Visiting University Student |
| JMC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-4 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism major; minimum 2.50 cumulative GPA OR graduate Mass Communication student OR Visiting University Student |
| JMC | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-7 | | Prerequisite(s): Journalism and Mass Communication BA major; minimum 2.25 GPA; successful completion of English proficiency exam OR Master of Mass Communication student |
| JMC | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-3 | | |
| JPN | 101 | First-Year Japanese I | Basic speaking, listening, reading, writing, computer skills with the Japanese language, as well as cultural knowledge. Hiragana, katakana, 80 kanji. For students without previous Japanese instruction. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Students may not enroll in JPN 101 if credit with C or better earned in JPN 110, 201, 202, 210, 301, 302, 309, 310, 311 or 401 |
| JPN | 102 | First-Year Japanese II | Continued development of JPN 101 skills. 110 additional kanji. Communication skills goal: ACTFL Guideline Novice-High. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): JPN 101 with C or better; Students may not enroll in JPN 102 if credit with C or better earned in JPN 110, 201, 202, 210, 301, 302, 309, 310, 311 or 401 OR Visiting University Student |
| JPN | 110 | Intensive Japanese I | First semester of the one-year intensive Japanese language sequence designed to train novice-level speakers to become competent intermediate speakers who can carry out conversation on familiar topics or handle straightforward situations. Emphasizes both oral and written communication through development of skills in listening, speaking, reading, writing and cultural awareness. Students manage a number of communicative tasks in social situations. Conversations are restricted to a few of the predictable topics necessary for survival; students express themselves in straightforward situations and on familiar topics. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 8 | | Students may not enroll in JPN 110 if credit with C or better earned in JPN 101, 102, 201, 202, 210, 301, 302, 309, 310, 311, or 401 |
| JPN | 115 | Japanese Popular Culture: Anime, Manga and Film | Examines different media of Japanese popular culture such as comics (manga), animation (anime) and film for evidence of how the Japanese express their self identity in Japanese society. By separating the media into themes such as technology and the future, war/apocalypse/disaster, violence in society, gender and sexuality, and human relations, understands the Japanese culture (and social consciousness) more intimately. Students view films, read scholarly articles on the subject matter, and actively participate in the course through written papers and discussion. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Credit is allowed for only JPN 115 or SLC 115 |
| JPN | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEL | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| JPN | 201 | Second-Year Japanese I | Continued development in speaking, listening, reading, writing, computer skills with the Japanese language, as well as cultural knowledge. 110 additional kanji. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): JPN 102 or 110 with C or better; Students may not enroll in JPN 201 if credit with C or better earned in JPN 202, 210, 301, 302, 309, 310, 311 or 401 OR Visiting University Student |

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| JPN | 202 | Second-Year Japanese II | Continued development of previously taught skills. 110 additional kanji. Communication skills goal: ACTFL Guideline Intermediate-Low to Intermediate-Mid. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): JPN 201 with C or better; Students may not enroll in JPN 202 if credit with C or better earned in JPN 210, 301, 302, 309, 310, 311 or 401 OR Visiting University Student |
| JPN | 206 | Japanese Calligraphy | Introduces Japanese calligraphy using traditional implements, starting with basic brush strokes and stroke order for kanji and kana. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | |
| JPN | 210 | Intensive Japanese II | Second semester of the one-year intensive Japanese language sequence designed to train novice-level speakers to become competent intermediate speakers who can carry out conversation on familiar topics or handle straightforward situations. Emphasizes both oral and written communication through development of skills in listening, speaking, reading, writing and cultural awareness. Students manage a number of communicative tasks in social situations. Conversations are restricted to a few of the predictable topics necessary for survival; students express themselves in straightforward situations and on familiar topics. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 6-8 | | Prerequisite(s): JPN 102 with B or better or JPN 110 with C or better; Students may not enroll in JPN 210 if credit with C or better earned in JPN 201, 202, 301, 302, 309, 310, 311 or 401 OR Visiting University Student |
| JPN | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| JPN | 301 | Third-Year Japanese I | Development of reading skills, using authentic materials to comprehend structure, grammar, idioms, and culture. Expansion of kanji and vocabulary. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): JPN 202 or 210 with C or better; Students may not enroll in JPN 301 if credit with C or better earned in JPN 302 or JPN 401 OR Visiting University Student |
| JPN | 302 | Third-Year Japanese II | Continued development of reading skills, as in JPN 301. Reading proficiency goal: ACTFL Guideline Intermediate-High. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): JPN 301 with C or better; Students may not enroll in JPN 302 if credit with C or better earned in JPN 401 OR Visiting University Student |
| JPN | 309 | Japanese Oral Communication I | Development of interpersonal, interpretive, and presentational oral/aural skills in familiar topics with sociolinguistic skills and understanding of Japanese culture. JPN 309 and 310 must be taken in sequence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): JPN 202 or 210 with C or better OR Visiting University Student |
| JPN | 310 | Japanese Oral Communication II | Continued development of oral/aural skills, with increased emphasis on honorifics. Speaking proficiency outcome goal: ACTFL Guideline Intermediate-High. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): JPN 309 with C or better |
| JPN | 311 | Japanese Composition I | Learning structural guidelines for narrative writing, developing organization skills to support ideas. Writing proficiency outcome goal: ACTFL Guideline Intermediate-High. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): JPN 202 or 210 with C or better |
| JPN | 315 | The Language of Japanese Popular Culture I: Gender and Onomatopoeia/Mimesis | Develops reading and listening skills using Japanese popular culture materials of various genres, including narratives, comics, anime, film and music. Introduces linguistic elements that are not found in regular language textbooks. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): JPN 202 or JPN 210 with C or better; Credit is allowed for only JPN 315 or JPN 394 (The Language of Japanese Popular Culture I) |
| JPN | 316 | The Language of Japanese Popular Culture II: Honorifics and Dialects | Understands Japanese popular culture materials such as anime, music, movies, manga and narratives through their target language of Japanese. Emphasized language areas are honorifics, formal expressions, dialects and slang and vulgar expressions that are tolerable in the classroom environment. Introduces elements of the history, geography and culture of Japan to further students' understanding of the materials. Students improve their receptive skills, i.e., listening and reading, by engaging with these materials, and through the technique of shadowing, also improve their pronunciation, intonation and grammatical accuracy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Pre- or corequisite(s): JPN 301 with C or better if completed; Credit is allowed for only JPN 316 or JPN 394 (The Language of Japanese Popular Culture II) |
| JPN | 333 | Japanese Civilization from the Ice Age to Last Thursday | Provides an overview of the entire sweep of Japanese history and culture from the earliest inhabitants of the Japanese archipelago, circa 30,000 BCE, to the earthquake and tsunami of March 2011 and beyond. Covers the main events, narratives, and individuals of Japanese history through documentary sources and literary works such as plays, novels, poetry and manga. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only JPN 333 or JPN 394 (Japanese Civilization) or SLC 394 (Japanese Civilization) |
| JPN | 354 | Zen and Japanese Culture | Students conduct historical, philosophical and sociological analyses of some of the fundamentals of Zen, mainly those of Japanese tradition. Examines the influence of Zen thoughts on value, culture and society in both pre-modern and modern Japan. Classes consist of lectures, documentary films and discussion sessions. Taught in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only JPN 354 or JPN 394 (Zen and Japanese Culture) or REL 353 or SLC 354 or SLC 394 (Zen and Japanese Culture) OR Visiting University Student |

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| JPN | 355 | Religious Practice of People in Modern Japan | Examines the influence of Japanese religions on Japanese value, culture and society while surveying the major religious traditions of modern Japan focusing on Shinto, Buddhism and new religions. Also explores current religious practices in Japan and how religion interacts with the government, community groups and daily lives of people. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only JPN 355 or SLC 355 or JPN 394 (Religious Practice of People in Modern Japan) or SLC 394 (Religious Practice of People in Modern Japan) OR Visiting University Student |
| JPN | 367 | Religion, Philosophy and Culture in Japan | Examines the influence of Japanese thoughts on value, culture and society while surveying the major religious and philosophical traditions in both pre-modern and modern Japan focusing on Shinto, Confucianism, Daoism, Buddhism and New Religions. Classes consist of lectures, documentary films and discussion sessions. Taught in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only JPN 367 or JPN 394 (Religion, Philosophy, and Culture in Japan) or REL 367 or SLC 367 OR Visiting University Student |
| JPN | 370 | Japanese Aesthetics: Art and Beauty in Japan | Surveys the history of Japanese art and beauty and investigates several issues of Japanese aesthetics from historical, philosophical and sociological perspectives. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only JPN 370 or JPN 394 (Japanese Aesthetics: Art & Beauty in Japan) or SLC 370 or SLC 394 (Japanese Aesthetics: Art & Beauty in Japan) OR Visiting University Student |
| JPN | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| JPN | 401 | Reading Modern Japanese Texts | Readings in modern literary and expository texts. Focus varies from year to year. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; JPN 302 with C or better OR Visiting University Student |
| JPN | 414 | Introduction to Classical Japanese | Readings from various genres of pre-20th-century literature, with analysis of the structure of the classical language. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): JPN 302 with C or better OR Visiting University Student |
| JPN | 415 | Advanced Classical Japanese | Close readings of selected premodern texts, with focus on grammatical and stylistic features. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): JPN 414 with C or better |
| JPN | 430 | Buddhist Meditation in East Asia | Surveys various types of Buddhist meditation in different schools, starting from those of India, and more from East Asia, particularly Japan. Investigates the pragmatic function of each meditative technique, how some of the fine/performing/martial arts were integrated with Buddhist ideas to become "meditation in action." | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only JPN 430 or SLC 430 or JPN 494 (Buddhist Meditation in Asia) or SLC 494 (Buddhist Meditation in Asia) OR Visiting University Student |
| JPN | 445 | Readings in Modern Japanese Letters and Culture | Advanced study of selected facets of modern Japanese letters and culture, including literature, material and visual culture, film, and other media. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): JPN 401 with C or better OR Visiting University Student |
| JPN | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| JPN | 485 | Japanese Literature and the Art of Translation | Examines the theory and practice of literary translation with two-fold aims: first, to analyze the ways in which translation has been theorized and practiced in a variety of historical contexts; second, to provide a space in which to discuss, experiment with, and polish original translations of Japanese-language texts in a wide range of written and visual forms. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): JPN 302 with C or better; Credit is allowed for only JPN 485 or JPN 585 OR Visiting University Student |
| JPN | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| JPN | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| JPN | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| JPN | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| JPN | 501 | Proseminar: East Asian Humanities | Provides MA and PhD students with a solid understanding of both the history of their academic discipline, as well as the various methodological approaches employed in the professional study of East Asian literature, history, language and culture. Centers on the close reading and discussion of a wide range of secondary sources, dealing with key issues in the development of East Asian humanities. Topics include premodern and modern discourses of language and literature; the trajectories of academic disciplines and approaches such as philology, sinology/Japanology, area studies and comparative literature; academic theories of space and temporality; translation studies; and book history. In addition to pursuing independent research, participants are expected to make regular presentations summarizing the main points in each week's readings. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CHI 501 or JPN 501 |

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| JPN | 502 | Academic Writing | Trains graduate students in research methodology and conventions in academic writing. Centers on fine tuning students' command of the various components in English expository essays within the academic field of East Asian studies. Also addresses various contexts in academic writing, such conferences and proposals targeting audiences beyond the disciplinary boundaries of East Asian studies. | N | SEM | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CHI 502 or JPN 502 |
| JPN | 585 | Advanced Problems of Translation | Theories and practice of translation; strategies for handling a variety of Japanese texts. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Credit is allowed for only JPN 485 or 585 |
| JPN | 586 | History of Japanology | Provides students at the MA level with a deep understanding of the history of Japanese studies in the United States, Japan and Europe; the key issues and debates that have characterized the study of Japan from the eighteenth century to the present; and the methodological approaches employed in the professional study of Japanese literature and culture. Centers on the close reading and discussion of a range of primary and secondary sources (in English and Japanese) dealing with central issues in the development of Japan studies. In addition to pursuing independent research, students are expected to make regular presentations summarizing the main points in each week's readings. The course presumes that participants have the equivalent of 3+ years of college-level Japanese language study and a B.A. (or equivalent) in Japanese literature, language and/or culture. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JPN | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JPN | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JPN | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JPN | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JPN | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JPN | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JPN | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JST | 133 | Elementary Biblical Hebrew | Offers an introduction to Biblical Hebrew, the language in which most of the books of the Hebrew Bible/Old Testament are written. Provides the basic tools to understand and translate Biblical Hebrew texts. Covers the alphabet, basic vocabulary, morphology and syntax. Emphasizes a linguistic, literary and historical approach to the biblical text. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G | Credit is allowed for only HEB 133 (HEB 131) or JST 133 (JST 131) or REL 133 (REL 131) |
| JST | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-3 | | |
| JST | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |
| JST | 210 | Introduction to Judaism | Beliefs, ceremonies, festivals, and institutions of Judaism emphasizing the contemporary era. Assumes no previous knowledge about Judaism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | Prerequisite(s): ENG 101 or 105 or 107 with C or better; Credit is allowed for only JST 210 or REL 210 |
| JST | 211 | Jews and Judaism in America | Chronological analysis of Jews and Judaism in American history and letters. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H & C | Credit is allowed for only HST 211 or JST 211 or REL 211 |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|---|
| JST | 230 | Introduction to Jewish Civilization | Overview of Jewish civilization from antiquity to the present. Answers the following questions: Who are the Jews? What do Jews believe? How did Jews interact with non-Jews? What was the lasting contribution of Jews to the world? In the attempt to answer these questions, provides the skills of being a good college student. Presents Judaism as an evolving civilization with an overarching distinctive culture but with a variety of subcultures and ethnic diversity. Presents the Jewish civilization through literature, films, music, and internet resources, with an overview of its complexity and diversity. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H & G | Credit is allowed for only HST, JST or REL 230 |
| JST | 233 | Intermediate Biblical Hebrew | Completes the study of Biblical Hebrew grammar. Prepares students to translate simple texts from Hebrew Bible and use critical editions of the biblical text. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G | Prerequisite(s): HEB 133 (HEB 131), JST 133 (JST 131), or REL 133 (REL 131) with C or better; Credit is allowed for only HEB 233 (HEB 132) or JST 233 (JST 132) or REL 233 (REL 132) OR Visiting University Student |
| JST | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |
| JST | 302 | Studies in History | Specialized topics in history. Explores countries, cultures, and issues in history, and their interpretation in historical scholarship. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 302 or JST 302 OR Visiting University Student |
| JST | 304 | Studies in European History | Specialized topics in European history. Explores countries, cultures, and issues in history, and their interpretation in historical scholarship. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 304 or JST 304 OR Visiting University Student |
| JST | 306 | Studies in United States History | Specialized topics in United States history. Explores regions, cultures, and issues in history, and their interpretation in historical scholarship. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 306 or JST 306 OR Visiting University Student |
| JST | 314 | Jewish Philosophy | The history of Jewish philosophy from its origins in the Hebrew Scriptures to postmodern expressions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105 or 108 with a C or better; Minimum 30 hours; Credit is allowed for only HST 390, JST 314, PHI 390 or REL 314 |
| JST | 315 | Hebrew Bible (Old Testament) | Nature, content, background, historical situation, and message of the books of the Hebrew Bible in English translation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 24 hours; Credit is allowed for only JST or REL 315 OR Visiting University Student |
| JST | 316 | Literary Readings of the Hebrew Bible | Literary analysis of two of the main genres of the Hebrew Bible: narrative art and poetry. Students learn the main literary conventions of biblical prose and poetry, and how these conventions are applied or subverted. Each class comprises the study of a literary aspect, close readings, and thematic discussions. Biblical texts are read only in translation. They are situated in the religious, literary and artistic traditions that have developed on their basis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ENG 316, HEB 316, JST 316, REL 316 OR Visiting University Student |
| JST | 318 | Contemporary American Jewish Identities | Analyzes the complexity and diversity of the contemporary American Jewish community in religious and secular affairs. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & C | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 24 hours; Credit is allowed for only JST 318, REL 318 or SOC 375 |
| JST | 333 | Biblical Hebrew Literature I | Advanced study of Biblical Hebrew. Deepens understanding of the grammar and composition of the Hebrew Bible. Translates texts of different literary genres (narrative, legal, poetic, prophetic) and different periods. Introduces the basic principles of textual criticism and different approaches to interpret the texts of the Hebrew Bible. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G | Prerequisite(s): HEB 233 (HEB 132), JST 233 (JST 132), or REL 233 (REL 132) with C or better; Credit is allowed for only HEB 333 (HEB 231) or JST 333 (JST 231) or REL 333 (REL 231) OR Visiting University Student |
| JST | 334 | Biblical Hebrew Literature II | Readings in prophetic and wisdom texts of the Hebrew Bible and cognate literature (Dead Sea Scrolls, inscriptions, etc.). Addresses advanced topics in Biblical Hebrew language and literature, as well as in translation and interpretation. Topics and texts change annually. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G | Prerequisite(s): HEB 333 (HEB 231), JST 333 (JST 231), or REL 333 (REL 231) with C or better; Credit is allowed for only HEB 334 (HEB 232) or JST 334 (JST 232) or REL 334 (REL 232) OR Visiting University Student |

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| JST | 346 | Israeli Wars in Israeli Movies | From its first day, the State of Israel has been in a state of war with the Arab countries. Every few years, the fighting erupted into an open war. At the beginning of the country, there was a consensus that the wars were forced on the Israelis, and therefore, the heavy toll on human life was unavoidable. Since the Six Day War, 1967, and the political change in 1977, Israeli society is split in attitude toward war. The absolute belief in the political and military leaders was shaken, and new political agendas entered the political arena. To this divided society, the Intifadas occurred with the waves of terrorism. These events added fire to the heated debates in Israel. One means of expression is through the cinema. In this course, students watch, analyze, and discuss selected movies on the Israeli wars and terrorism in the streets of Israel. Through these movies, produced by Israelis, we'll try to understand the mood and attitude of the Israelis toward war, enemies, and political and military leaders. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only FMS 349 or HEB 349 or JST 346 or HEB 394 (Israeli Wars in Israeli Movies) OR Visiting University Student |
| JST | 347 | Modern Israeli Literature in Translation | Modern Hebrew, or Israeli Hebrew, started at the end of the 19th century in Europe and today it is the language of the State of Israel. During this short period modern Hebrew developed literature with its unique local characteristic, as well as universal ideas. Reads and examines four books against their social and historical background. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ENG 347 or HEB 347 or JST 347 or SLC 347 or ENG/HEB/JST/SLC 394 (Modern Hebrew Literature in Translation) |
| JST | 348 | Israeli Society and Culture | Different partitions of the Israeli society, based on ethnic origin, by religious affiliation or by political association. Depicts how Israel is an absorbing immigration state. Israel is a welfare state and the course covers aspects of a welfare state, such as health, retirement, public transportation, art, higher education and more. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only HEB 348 or HEB 394 (Israeli Culture and Society) or JST 348 or REL 311 or SLC 348 OR Visiting University Student |
| JST | 349 | Nature, Sustainability and Religion | Explores how world religions have conceptualized the natural world, what they have contributed to the current environmental crisis and how they might also serve as inspiration to address the crisis. By focusing on Judaism, Christianity and Islam, the course introduces students to the field of religion and ecology and explores its relationship to other academic disciplines such as environmental philosophy and ethics, justice studies and gender studies. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only HPS 349 or JST 349 or REL 349 or SOS 349 or JST, REL, or SOS 394 (Religion and Ecology) or JST, REL, or SOS 394 (Religion and Environment) |
| JST | 369 | History and Memory of the Holocaust | In-depth study of the history of the genocide of Jews, the rise of modern antisemitism within the context of Nazi Germany, and the memory and memorialization of the Holocaust post 1945. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 369 or JST 369 or REL 312 or HST 304 (Shoah: History, Memory, and Representation) or HST 394 (History of the Holocaust) |
| JST | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |
| JST | 411 | Judaism and the Beginnings of Christianity | Studies the beginnings of Christianity in relation to Judaism: their common context, the process of their distinction and their mutual influence. Through a historical and thematic approach, explores the parallel construction of Jewish and Christian identities. Combines readings from primary sources (Hellenistic Judaism, Qumran, New Testament, Early Christianity, Rabbinic Judaism) and up-to-date scholarly literature. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | ENG 101,105,107,108 or HST 100,102 or REL 100 or SLC 142, 202 w/ C or better; Credit is allowed for only HEB/JST/REL 411 or HEB 394 (Judaism & the Origins of Christianity) or HEB 494 (Judeo-Hellenistic Lit) OR Visiting University Student |
| JST | 445 | Holocaust, War and German Memory | Examines representations of the Holocaust from across different media (literature, film, architecture, memoir, photography) and from across multiple generations of German engagement with this period in history. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, ENG 105, ENG 108, FMS 100, FMS 200, JST 210, or JST 230 with C or better; Credit is allowed for only FMS 445 or GER 445 or JST 445 or SLC 445 OR Visiting University Student |

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| JST | 459 | Latin American Jewish Culture | Focuses on forms of cultural production in Latin America marked by or under the aegis of Jewish diasporic identity from the late nineteenth century to the present. While Jewish immigrants and Latin Americans of Jewish descent may be found in all Latin American societies, cultural production is found concentrated in countries like Argentina, Brazil, Mexico and Chile. Investigates essentially cultural versions of a sociohistorical consciousness, and ranges across a broad spectrum of Latin American Jewish texts in an investigation of what forms of production have emerged to represent this important immigrant component of Latin American national societies. Examines novels and other literary works, along with photography and films, and looks at theme, motifs, characters that can be identified with what might be called a Jewish consciousness or Jewish sensitivity. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only JST 459 or JST 494 (Jewish Latin American Culture) or SLC 459 or SLC 498 (Jewish Latin American Culture) or SPA 459 or SPA 498 (Jewish Latin American Culture) |
| JST | 460 | World War II | Explores the causes, conduct and consequences of World War II. When did World War II start? How was it fought, and what did that mean for soldiers, the homefront and millions of civilians in Japanese or German occupied regions? What did the world that emerged in its wake look like? The course explores these fundamental questions with an emphasis on multiple explanations of the causes of the war in Asia and Europe and the contingency of Allied victory. Explores the war as both a total and a global war in which perceptions of race, class and gender shaped the experience of combatants and noncombatants, many of whom died in indiscriminate bombing campaigns. Racial ideologies also led to the brutalization of soldiers, which in turn fueled the violence against civilians, as exemplified by the Holocaust and Japanese war crimes. Finally, the course turns to the global order emerging after the war and the different narratives that emerged from it. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only HST 460 or HST 494 (Introduction to World War II Studies) or HST 494 (World War II Studies) or JST 460 or WWS 460 OR Visiting University Student |
| JST | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | |
| JST | 490 | Methods of Historical Inquiry | Capstone course in history as an academic discipline, including formulation of research questions, use of primary and secondary sources to evaluate, form and support historical arguments. Students draft and revise a scholarly research paper. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L | Prerequisite(s): History or History of Science, Tech and Innovation or Jewish Studies or Secondary Education (History) major; ENG 102, 105, or 108 with C or better; minimum 55 hrs; Credit allowed for only HST 495 or JST 490 OR Visiting University Student |
| JST | 491 | History of Antisemitism | Antisemitism means hostility, negative perceptions and persecution of Jews. Examines the evolution of antisemitism in the West from antiquity to modern times. Explains the history of antisemitism by looking at the interplay of religious, economic, cultural and political factors. Gives special attention to the origins of Christianity, the place of Judaism in Christian self-understanding, the power struggle between popes and emperors during the Middle Ages, the involvement of Jews in money lending, the alliance between the Jews and the secular princes, the rise of modern nationalism, and the place of racism in the politics of modern nation states. With a better understanding of the history of antisemitism, ponders the differences and similarities between premodern anti-Judaism and modern antisemitism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours |
| JST | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| JST | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| JST | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|--|
| JST | 495 | Judaism, Science and World Religions | Studies the correlation between science and religion as an interdisciplinary study from a historical perspective. Session topics fall into three distinct units. The first correlates the physical sciences with Western religious theology; the second explores the consequences of the life sciences on religious psychology; and the third examines the impact of the interconnection between sciences and religions in society. Each unit is studied through specific readings, film, lectures, and discussion. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105 or 108 with C or better; JST 210, 230 with C or better or REL 210 with C or better; Minimum 87 hours |
| JST | 496 | Biblical Narratives: Literary Approaches | Presents different trends in synchronic approaches applied to the Bible such as narrative criticism, semiotics, reader-response criticism, and situates them both in the postmodern cultural context and in the history of biblical exegesis. Explores various literary devices in biblical narratives, such as repetition, type-scenes, characterization, the change of points of view, the use of metaphors. Studies each technique on particular biblical texts, literally translated into English, with a special emphasis on how these techniques guide the interpretation and create meaning. Questions the significance of literary approaches for religious or ideological texts, such as the Hebrew Bible. Also considers criticisms raised against these approaches, assesses their limits, and envisions their future. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105 or 108 with C or better; JST 210, 230 with C or better or REL 210 with C or better; Minimum 87 hours |
| JST | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-7 | | |
| JST | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-3 | | |
| JUS | 105 | Introduction to Justice Studies | Introductory overview to the study of justice from a social science perspective. Primary topics include justice theories and justice research. Appropriate for freshmen and sophomores. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Credit is allowed for only JUS 105 or 305 OR Visiting University Student |
| JUS | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-3 | | Pre-requisites: Must have less than or equal to 25 earned hours |
| JUS | 200 | Topics in Concepts and Issues of Justice | Uses critical thinking skills to analyze and comprehend controversial social issues (e.g., abortion, affirmative action, capital punishment, the flat tax, and immigration). | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | |
| JUS | 207 | Homicide and Serial Killers | Explores the scholarship, research and rational analysis of the mass, spree and serial killer. It will examine some of the causes and underpinnings of these killers within the U.S. as well as the major theories and understandings of this phenomenon. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | |
| JUS | 210 | Introduction to Ethnic Studies in the U.S. | Covers diversity of experiences and relations among racial and ethnic groups in the United States. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | C | Credit is allowed for only AFR 212 or APA 210 or JUS 210 or TCL 210 OR Visiting University Student |
| JUS | 214 | The Pursuit of Justice in the 21st Century | Introduces a wide variety of institutions and organizations--locally, nationally and internationally--that seek justice. Provides an understanding of the many ways justice is institutionalized in modern societies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | |
| JUS | 215 | Bob Marley and Reggae: Lyrics of Resistance | Studies political content, influence and impact of Caribbean popular music, in particular the music of Bob Marley. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & G | Credit is allowed for only AFR 215 or JUS 215 |
| JUS | 220 | Introduction to Social Transformation | Introduces key concepts in the study of social change, social innovation, and social transformation. Studies examples of social movements, social activism, community organizing, and coalition building and how such efforts have transformed society and culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Credit is allowed for only APA 220 or JUS 220 or SST 220 |
| JUS | 222 | Drugs and Justice | Provides an historical overview of the development and circulation of certain drugs; explores the more specific effects of drug use and abuse in everyday life; and examines the efforts by governments to both restrict/end and facilitate/expand the drug trade. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | |
| JUS | 235 | Disability, Justice and Advocacy | Overarching history of the disability rights movement and how it is similar to and different from other civil and rights movements. Examines how policies and activism are interconnected within this movement, in addition to looking at other human categories related to disabilities such as gender, sexuality, race and socioeconomic status. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | C | Credit is allowed for only COM 235 or JUS 235 or SST 235 or WST 235 |
| JUS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| JUS | 300 | Race and Racism in Africa/African Diaspora | Advanced study of the concepts of race and racism and how they manifest themselves in the USA, the Caribbean, and Africa. Examines the construction of race, racism, and race relations in Africa and the African Diaspora as well as practices to challenge ethnicity, racism, and racial oppression. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours; Credit is allowed for only AFR 301 (or AFS 301) or JUS 300 |

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| JUS | 301 | Research in Justice Studies | Focuses on developing and evaluating research designs, data collection, and the relationship between validity and reliability. Stresses methods for conducting research. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| JUS | 302 | Statistical Analysis for Justice Studies | Concepts and application of descriptive and inferential statistics, including linear regression, for justice studies research.. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | CS | Prerequisite(s): ENG 102, 105, or 108 with C or better; MAT 117, 142, 170, or General Studies MA course with C or better; minimum 24 hours OR Visiting University Student |
| JUS | 303 | Justice Theory | Examines classic and contemporary philosophies and theories of justice, including legal, social, and criminal justice. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | L | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 24 hours OR Visiting University Student |
| JUS | 304 | Islands of Globalization: Caribbean Politics and Political Economy | In-depth study of the complexities of contemporary Caribbean politics and political economy. Examines the countries that constitute the Caribbean community and common market and the Caribbean Latin American countries such as Cuba and the Dominican Republic and analyzes the historical evolution of the region's political and economic systems and the impact of globalization. Traces the development of the region's political economy from the colonial period to the present; looks at the impact of globalization on contemporary politics, economics, and culture and the region's response. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G & H | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours; Credit is allowed for only AFR 304 (or AFS 304) or JUS 304 |
| JUS | 305 | Principles of Justice Studies | Introductory overview to the study of justice from a social science perspective. Primary topics include justice theories and justice research. Appropriate for juniors and seniors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only JUS 105 or JUS 305 OR Visiting University Student |
| JUS | 308 | Courts and Society | History and development of courts. Relationship between dispute resolution mechanisms and cultural/social structure/processes in which they are embedded. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| JUS | 317 | Genes, Race and Society | An in-depth examination of the biological and social construction of race in western societies. Special emphasis is placed on examining these constructs from a historical perspective. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & H & C | Prerequisite(s): AFR 200 or minimum 30 hours; Credit is allowed for only AFR 317 or JUS 317 |
| JUS | 320 | Community and Social Justice | Discusses and analyzes definitions of community; impact of environment on behavior; promises of community organization for local empowerment. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours |
| JUS | 321 | Wealth Distribution and Poverty | Examines wealth and income distribution in the United States and analyzes ideological and political forces producing an increasingly unequal society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours |
| JUS | 323 | Justice and the Development of the Welfare State | Provides a comprehensive overview of the development of social welfare and relevant issues pertaining to social justice. Introduces upper-division students to different ideas about the meaning of social welfare in the context of the development of the U.S. welfare state. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours |
| JUS | 325 | Globalization and Socio-Economic Justice | Addresses a trend producing increasing interconnectedness of economies and societies, as well as creating new conflicts and divisions. Provides greater understanding of global forces, as well as the effect of these forces on global economic justice. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; minimum 2.00 GPA; Credit is allowed for only JUS 325 or SGS 325 or SOC 325 OR Visiting University Student |
| JUS | 326 | Music as Political Discourse: Reggae, Calypso, and Hip Hop | This is a reading and writing intensive course that employs critical thought that explores African Diaspora popular music as a medium of social and political expression. It examines the political content of Reggae, Calypso and Hip Hop and their role in triggering and influencing popular discourse in the Caribbean and the USA. Course material will analyze the interrelationships among the musical forms and their role in fostering Black and Pan African Cultural Identity, Political Consciousness and World Peace. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & H & G | Prerequisite(s): AFR 200 (or AFS 200); minimum 45 hours; Credit is allowed for only AFR 325 (or AFS 325) or JUS 326 |
| JUS | 327 | Music and Justice: Revolutionary Measures | Examines music and its diverse role in society, including its impact on social and political control as well as its relationship to justice. Since the beginning of recorded history, music has played a significant role in the production of formal and informal social control. Societies use music as part of ritual and religious worship, entertainment, expression, communication and aesthetic pleasure as well as a means of political protest. However, music has also been effectively used by states, from liberal democracies to dictatorships, to compel obedience whether through propaganda or torture in inflicting and/or exacerbating pain and suffering. Indeed, current research reveals the powerful effects of music at a cellular level to mobilize people. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only JUS 327 or JUS 394 (Music, Social Conflict, and Justice) or JUS 494 (Music, Social Conflict, and Justice) OR Visiting University Student |

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| JUS | 329 | Domestic Violence | Critical inquiry into the legal, historical, theoretical, comparative, and treatment literatures on domestic violence; application of contemporary justice and social change theories to research how society defines and organizes against domestic violence. May include consideration of intimate partner abuse, child abuse and neglect, and gender violence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 24 hours OR Visiting University Student |
| JUS | 330 | Survey of African American Politics | In-depth study of the dynamics of the African American political experience. Examines the historical development of African American politics from the anti-slavery era to the Civil Rights breakthrough of the 1960's through the present political climate. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & H | Prerequisite(s): AFR 200 or minimum 45 hours; Credit is allowed for only AFR 330 or JUS 330 OR Visiting University Student |
| JUS | 332 | Politics of Energy Policy and Justice | Examines the social and political dimensions that shape energy and environmental policy. Focuses primarily on the U.S. Introduces elements of regional or global policy where they influence or shape domestic politics and policies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours |
| JUS | 334 | Science, Technology and Inequality | Conceptual and theoretical frameworks; provides empirical case studies that contribute to understandings of science and technology as they are used in society. The applications of science and technology in society need to be understood as instrumental to the creation and maintenance of inequality within and between societies. Science and technology does not merely cause or alleviate inequality, but are more profoundly implicated in social relations regarding distribution and access to the benefits of different technologies as well as exposure to risks from science and technology projects in society. The more pervasive and obdurate sources of social distribution are enshrined and entrenched in these scientific and technological systems. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Social Transformation | 3 | C | Prerequisite(s): minimum 45 hours; Credit is allowed for only FIS 334 or JUS 334 |
| JUS | 335 | Organized Crime | Critical inquiry into organized crime and its illegal activities; analysis and application of contemporary theories; analysis of strategies for reducing the prevalence and power of organized crime in the U.S. and other nations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours |
| JUS | 343 | Culture and Society Transformation | Uses video documentaries and movies to explore the way in which cultural values, economic background and human interaction impact and transform societies. Societal changes in Central and Eastern Europe make a good case study for contrasting and comparing with other societies and understanding global trends and issues in today's world. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G | Prereq(s): ENG 101, 105, or 107 with C or better; Credit for only ASB 345 or ASB 394 (Cult & Soc Transform) or JUS 343 or JUS 394(Cult & Soc Transform) or ROM 343 or SLC 343 or SLC 394 (Cult & Soc Transform) or SOS 344 or SOS 394 (Cult & Soc Transform) |
| JUS | 345 | Peoples and Cultures of the Caribbean | Traces the socio-political history of the wider Caribbean from the 15th century to the present. Focuses on the following broad areas: the early years of European settlement and colonization; the construction of slavery and plantation society; and the transition from colonization to political independence. Critically examines the origins and building blocks of Caribbean society as well as analyzes the linkages between the region and the rest of the African diaspora. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G & H | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours; Credit is allowed for only AFR 345 (or AFS 345) or JUS 345 |
| JUS | 347 | Immigration, Education and the Family | Cultural processes related to immigration and their impact on the social construction of the immigrant family and the education of other children. Immigration theories, immigration debates and discourses, the immigration landscape of the 21st century, conceptualizations of the family, and the methodological challenges family researchers face. Topics include issues pertaining to education and the family and globalization. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only APA 347 or JUS 347 OR Visiting University Student |
| JUS | 350 | Immigration and Justice | Examines immigration policy, history of immigration, refugee issues, labor force participation, gender, family, children, social networks, and transnationalism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| JUS | 351 | Gender and Hip Hop | Interrogates the history and global proliferation of hip hop as a set of cultural and consumer practices including music, dance, art, fashion, language and entrepreneurialism. Uses an intersectional approach to unpack hip hop's contributions to larger social discourses around race, gender, gender expression, sexuality, sexual identity and sexual expression, and youth culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AFR 351 or AFR 394 (Gender and Hip Hop) or JUS 351 or JUS 394 (Gender and Hip Hop) or WST 351 or WST 394 (Gender and Hip Hop) OR Visiting University Student |
| JUS | 352 | The Global Politics of Human Rights | Examines political forces that have shaped gradual construction of an international human rights regime and a universal culture of rights, including civil and political rights, as well as economic, social, and cultural rights. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only JUS 352 or SOC 354 OR Visiting University Student |

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| JUS | 353 | Borders, Prisons and Suburbs | Explores how the relationship between race and space has been important to the development of broad patterns of social inequality in the United States. Through a variety of readings, films and other material, examines how ideas of race and space have been important to the making and maintenance of national boundaries, citizenship, regional histories and spatial typologies such as border, ghetto, suburb and prison. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): minimum 24 hours; Credit is allowed for only AFR 352 (or AFS 352) or APA 352 or JUS 353 or TCL 353 |
| JUS | 355 | Human Rights Organizations and Institutions | Investigates the emergence and evolution of the organizations and institutions designed to promote and protect human rights at global, regional and national scales. Explores reasons why it is necessary to institutionalize human rights, the trial and error process that led to postwar international human rights regime, challenges and the future of human rights. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Social Transformation | 3 | G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only JUS 355 or SOC 355 OR Visiting University Student |
| JUS | 360 | Law and Social Control | Resolution of social issues through the application of law as an agent of social control. Nature, sanctions, and limits of law. Categories of law and schools of jurisprudence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours |
| JUS | 365 | Inequality and Diversity in Education | Advanced exploration of various dimensions of diversity in relation to educational systems and outcomes. Through sociological and psychological research, case studies and films, students examine how educational inequality is created and reproduced through individual actions and institutional constraints. Also considers the connection between schooling and human rights and ways in which educational inequality may be addressed. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | L & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; AFR 212, APA 200, APA 210, CDE 232, JUS 210, TCL 210, or minimum 24 hours; Credit is allowed for only AFR 350, APA 350, CDE 350, JUS 365, SOC 350, or TCL 360 OR Visiting University Student |
| JUS | 370 | Cultural Diversity and Justice | Analyzes how cultural diversity challenges and broadens conventional understanding of justice. Examines how cultural beliefs and practices come into conflicts with public law and policy. Assesses the U.S.'s performance on incorporating cultural diversity in its social institutions including education, media, and popular culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| JUS | 371 | Sexuality and Social Justice | Theoretical and case-study based examination of how people, either alone, in groups, as members of an organization or participants in a social movement, seek to change the meaning, representation and regulation of sexuality. Analysis and practice of skills, strategies and tactics associated with the pursuit of "sexuality justice" by advocates within social movements. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only JUS 371 or JUS 394 (Sexuality and Social Justice) |
| JUS | 374 | The Holocaust, Genocide, and Human Rights | Explores the psychological, social, historical, and political dimensions of the Holocaust and the phenomenon of genocide. Also examines the more recent international cases of genocide along with a discussion and analysis of the Universal Declaration of Human Rights. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| JUS | 375 | Justice and the Mass Media | Analysis of the impact of mass media and popular culture on social justice issues, including criminal justice. Critical inquiry into portrayals of gender, race, culture and class in mass media and other forms of popular culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours |
| JUS | 377 | Arizona, Immigration, Latinos and Politics | Contemporary immigration and its related issues have generated significant debates, reforms and responses by government officials, businesses and private citizens, to name but a few in this country. This course provides a much-needed framework for understanding some of the immigration issues in Arizona and the country generally. It also focuses on some of the political responses by Latinos and their significant mobilization at the local, state and federal levels. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only JUS 377 or POS 377 or SGS 377 or TCL 377 or JUS/HST/POS/SGS/TCL 394 (Arizona, Immigration, Latinos and Politics) OR Visiting University Student |
| JUS | 378 | Poverty, Inequality and Social Justice in Latin America | With persistently high levels of poverty and inequality, Latin America is often considered the most unequal region in the world. This course explores the economic, political, social and geographic origins of poverty and inequality in Latin American countries since independence. It also studies efforts to address the problem by governments, non-governmental organizations, the international community, religious groups and activists. Explores these themes in more detail through a case study of one Latin American country and a global intensive experience at the end of the course. By reflecting on the Latin American experience, students gain insights for wealthy countries like the United States where inequality is on the rise. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 3 | G | Prerequisite(s): minimum 45 hours; Credit is allowed for only HST 378 or JHR 378 or JUS 378 or LAS 378 OR Visiting University Student |
| JUS | 382 | Justice and Pop Culture | Explores the connections between the production, reproduction, and consumption of popular culture and the resultant impact on issues of justice. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU or SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours |
| JUS | 385 | Justice and Everyday Life | Justice and injustice in everyday life and how small things can become legal issues. Role of language and interaction in social order. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |

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| JUS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| JUS | 405 | Inequality, Economy and Justice | Addresses economic issues and justice implications, including the interplay among economic conditions, race-ethnicity, class, and gender worldwide. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or SB) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours OR Visiting University Student |
| JUS | 408 | Comparative Development of the Welfare State | Embodies a multidisciplinary perspective on welfare issues and exposes students to different ideas about justice beyond the United States. Allows them to better understand how and why states organize and deliver justice in different ways. Exposes students to cross-national variation in how history, culture, politics, and economics have shaped the development and content of different types of welfare states. Engages theoretical perspectives from political sociology and political economy concerning the emergence and future fate of these welfare states. Analyzes comparative analysis of three distinctive types of welfare states; Liberal, Conservative, and Social Democratic Welfare States, with particular emphasis on their varying capacity to combine economic efficiency with social justice. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | L & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours |
| JUS | 410 | Punishment: Logic and Approach | Analyzes forms of punishment, how and why they have changed. Areas include philosophy, history, and social structure of punishment. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours |
| JUS | 420 | Women, Work, and Justice | Examines gender inequality in the workplace, including the nature of women's work, theoretical issues, and models for promoting gender justice at work. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or SB) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only JUS 420 or SOC 425 |
| JUS | 421 | Race Ethnicity and Politics in the African Diaspora | Reading and writing intensive course that employs critical thought to look at the competition for political power among different ethnic groups in Africa, the Caribbean and the USA and the implications for political stability, economic development, democratic governance, democratization, nationhood and the empowerment of African and African Diasporan populations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G | Prerequisite(s): AFR 200 (or AFS 200) and minimum junior standing OR minimum 9 upper-division hours in any classes with the following prefix: AFH, AFS, AFR, APA, JUS, POS, SGS, SOC, WST; Credit is allowed for only AFR 420 or JUS 421 |
| JUS | 422 | Women, Law, and Social Control | Examines social, economic, and legal factors that are relevant to mechanisms of social control of women, including formal legal control and informal control through violence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only JUS 422 or WST 422 |
| JUS | 424 | Ethics and Alternative Tourism | Cultural processes related to alternative tourism and their impact on both the tourist and local. Travel, tourism, globalization, development, human rights and the commodification of people and places. Topics include issues pertaining to Western tourism, commodification, race/class/gender and globalization. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): ENG 102 (or ENG 105 or 108) with C or better; minimum 36 hours. Credit is allowed for only JUS 424 or JUS 494 (Sex, Drugs and Death) |
| JUS | 425 | Race, Gender, and Justice | Critically examines major theories, research findings, policies, and controversies concerning race, ethnicity, gender, and crime. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or SB) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours OR Visiting University Student |
| JUS | 426 | The Politics of Immigration | Examines immigration and citizenship in the United States, with a focus on changes in policy, politics and incorporation trends. While a primary focus is on contemporary politics and policies, also spends much time on immigration and citizenship's legal history and on how scholars use history to reveal new, important insights for our understanding of debates today. Starts with a discussion of migration to the U.S. today and considers theories about international migration. Then moves to the history of immigration and citizenship policies and politics in the U.S. and continues up to present day political and national debates and initiatives. Contains a particular focus on the history, politics and debates around "undocumented"/"illegal"/unauthorized populations, on related citizenship and membership politics. With the continuing national debates, also spends additional time throughout the semester analyzing current reform politics and prospects, along with the different interests and constituencies battling for reform. Readings and assignments feature some of the different disciplinary approaches used in the study of immigration, drawing primarily from political science, history, sociology and anthropology. Aims to gain a better understanding of the different approaches and implications for using different types of methodologies. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only JHR 425 or JUS 426 OR Visiting University Student |

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| JUS | 427 | Identity and Justice | Theory of symbolic interaction which provides a vocabulary, observational methodology (i.e., dramaturgy) and a set of grounding concepts that allow students to explore identity in its everyday practices. Explores the transformation and emergence of identities in public discursive spaces and the political impact of identity as it is deployed (invoked) and interpreted (imputed) among interactants in the social world. Establishes the position that identity operates as a central constitutive function in the construction of meaning and, subsequently, our ideas and attitudes about justice. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | L | Prerequisite(s): ENG 102, 105 or 108 with C or better; Minimum 36 hours; Credit is allowed for only JUS 427 or JUS 494 (Identity & Justice) |
| JUS | 428 | Critical Race Theory | In-depth analysis of the ways in which race has been historically utilized, constructed, and contested in American civil society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only AFR 428, APA 428, JUS 428 or SST 428 OR Visiting University Student |
| JUS | 430 | Social Protest, Conflict, and Change | Analyzes historical and contemporary protest movements advocating equality based on race, gender, and sexual orientation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or SB) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours OR Visiting University Student |
| JUS | 432 | Racial Justice | Racial inequality remains a dominant theme in understanding social, legal, and economic justice in the U.S. today. Explores controversial topics surrounding race and justice. Emphasizes current legal, economic, political, and social conceptual frameworks. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only JUS 432 or SOC 432 OR Visiting University Student |
| JUS | 435 | Cinema and Justice | Tracks the conceptualizations of justice that have been and are currently conveyed in film, including but not limited to the relationship between crime and various notions of justice. Other depictions include social issues such as gender, race, or economics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours OR Visiting University Student |
| JUS | 437 | The Social Construction of Disability and Justice | Examines the construction of disability as a social, cultural and political phenomenon. Dominant understandings of disability typically use narrow medical and therapeutic explanations and thus disabled individuals often are defined as deviant, stigmatized, incompetent and marginal. Disability is a construct that finds its meaning and representation within a social and cultural context. Accordingly, this class examines the ideologies that such representations can conceal in order to crack the hegemonic façade, challenging the ways in which disability is perceived and treated by the dominant society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only JUS 437 or JUS 494 (The Social Construction of Disability) |
| JUS | 438 | Human Differences: Dilemmas of Justice | General examination of democracy and human differences that expands into in-depth investigations of (1) racial difference and identity politics; (2) gender and sexual difference in democracy; and (3) cultural difference and the multiculturalism debate. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours |
| JUS | 440 | Prisons, Power and the Punishments of the Past | Examines the history and logics of a "U.S. Penal Democracy," tracing how prisons became the preferred and accepted choice for punishment. Traces how the practices, policies and rationalizations of punishment (physical, psychological and social) have been at the center of U.S. politics beginning in the 17th century. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102 (or ENG 105 or 108) with C or better; minimum 36 hours. Credit is allowed for only JUS 440 or JUS 494 (Prisons, Power and the Punishments of History) |
| JUS | 444 | Environment and Justice | Explores issues of environment and justice. Topics include justice and environmental racism, future generations, nonhuman life, global/non-Western societies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | L & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only FIS 444 or JUS 444 |
| JUS | 445 | Surveillance and Society | Explore how surveillance technologies alter social life; the complex ways that they interact to produce security, fear, control, and/or vulnerability. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours |
| JUS | 456 | Human Rights and Sustainability | Addresses the connections between human rights and environmental sustainability. Legal and scholarly approaches linking these areas present new perspectives for addressing some of the greatest challenges of our time, given the important resource dimensions of economic and social rights and the human dimensions of sustainability. Yet human rights demands and environmental concerns are not always in harmony. Explores these tensions and opportunities by examining three substantive areas: urban ecology and human rights, the human right to food, and the human rights implications of extractive industries such as oil and mining. Following an introduction to the key concepts of human rights and sustainability, explores the substantive areas through theoretical and empirical readings on each; grassroots accounts of struggles over environment-related human rights; and selections from literature and film that illustrate the environmental justice issues at stake. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or SB) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only JUS 456 or JUS 497 (Seminar in Human Rights) or SOC 455 or SOS 456 |
| JUS | 460 | Feminism and Justice | Explores feminist thought and critiques traditional political theories. Examines issues of racism, sexuality, and the law. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours |

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| JUS | 463 | Discretionary Justice | Use/abuse, key issues/manifestations of discretion in legal system and other societal institutions. Theoretical/empirical linkages between discretion and discrimination, based on race, ethnicity, and gender. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours |
| JUS | 465 | Death Penalty in the United States | Focuses on capital punishment in the United States; explores negotiation of law, politics, morality, public policy, and culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours OR Visiting University Student |
| JUS | 467 | Terrorism, War, and Justice | Examines the relationship among terrorism, war, and justice. Analyzes terrorism within the larger study of deviance and social control, comparative politics, hegemony, and international law. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours OR Visiting University Student |
| JUS | 468 | Protest, Justice, Law and the Media | Examines research on protests, political deviance, trials/law and justice, and critiques some of the media representations of related ideas. Investigates global social movements, political protests and nascent political trials. Analyzes varied justifications for defining action as diversity, deviance or crime and the reasons for using criminal, civil or alternative (positive) sanctions (especially via indigenous peoples). Explores the encompassing meaning of a political trial. Many people throughout the world find everyday life to be a trial, especially those placed on the margins of globalization. Expands the research on media and trials that usually have been examined narrowly by legal institutions in North America and reinforced by hegemony. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only JUS 468 or JUS 494 (Protest, Justice and the Media) |
| JUS | 469 | Political Deviance and the Law | Examines the controversies created by political and deviant behavior, including a critical view of law as an agent of social control. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or SB) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours OR Visiting University Student |
| JUS | 470 | Alternative Dispute Resolution | Critical examination of the tenets of alternative dispute resolution movement; exposure to the programs of ADR, including community and court based. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | L & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours |
| JUS | 475 | Law, Societies and Justice in Latino-America | Reviews justice-related sociological and criminological theories in the target language. Introduces the application of social theories and human right principles to the issues affecting Latino communities both in Latin America and the United States. Students engage in critical inquiries and focused research to develop culturally sensitive and insightful solutions to criminal and justice-related topics that affect Latinos in their communities (physical or virtual). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G | Prerequisite(s) with C or better: ENG 102, 105 or 108; SPA 202 or 204 OR Spanish Placement Test score of 421-520 OR Español Placement Test score of 370-520; Credit allowed for JUS 475, SPA 470 or JUS/SPA 494 (Law, Societies & Justice in Latino-America) |
| JUS | 477 | Youth and Justice | Critical examination of youth-related justice issues, including economic justice, violence against youth, delinquency, and the juvenile justice system. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | L or SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours OR Visiting University Student |
| JUS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| JUS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-6 | | Prerequisite(s): Barrett Honors student |
| JUS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| JUS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours OR Visiting University Student |
| JUS | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-6 | | Prerequisite(s): Barrett Honors student |
| JUS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-7 | | |
| JUS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-3 | | |
| JUS | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisites: Social and Cultural Pedagogy MA student, Justice Studies MS or PHD student |
| JUS | 501 | Justice Theory | Theories and philosophies of social, economic, political, and criminal justice. Applies theories to contemporary justice issues. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Pre-requisites: Justice Studies MS or PHD student |
| JUS | 509 | Statistical Problems in Justice Research | Methodological problems of research design and statistical methods specific to justice studies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Pre-requisites: Justice Studies MS or PHD student |
| JUS | 521 | Qualitative Data Analysis and Evaluation | Analyzes qualitative data, e.g., field notes, in-depth interview transcripts, document analysis, coding, and retrieval with a microcomputer; qualitative evaluation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Pre-requisites: Justice Studies MS or PHD student |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------|-------|-----------------|--|
| JUS | 530 | Social Policy, Critical Advocacy and Disability | Graduate seminar focuses on social policy and critical advocacy as it relates to disability culture and rights. Focuses on state, national and international discourses around disability-related policies, rights, social movements and advocacy/activism. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; Credit is allowed for only JUS 530 or JUS 598 (Policy, Advocacy and Disability) or JUS 598 (Social Policy and Critical Advocacy) |
| JUS | 542 | American Indian Justice | Provides a broad overview of American Indian and Alaskan Native issues of justice and injustice in contemporary society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 550 | Gender, Race, and Economic Justice | Provides a critical social scientific perspective on economic issues particularly as they relate to gender, race, and class equality. Examines issues of economic inequalities as they are distributed along the lines of gender and race. Components converge to identify the social justice ramifications of economic policy and economic conditions. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 555 | Migration/Immigration and Justice | Explores the causes and consequences of immigration to the United States and the incorporation of immigrants into the American economy and society. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 560 | Women, Law, and Social Control | Gender issues in the exercise of formal and informal mechanisms of social control, including economic, social, legal factors, both violent and nonviolent. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 565 | Critical and Comparative Issues in Disability | Examines the construction of disability as a social, cultural and political phenomenon. Focuses on how disability is defined and represented in society as well as the implications/consequences of such definitions. Hegemonic understandings of disability typically have employed narrow medical and therapeutic explanations. From such deterministic perspectives, the disabled individual often has been defined as deviant, stigmatized, incompetent and marginal. This class rejects the perception of disability as a functional impairment that limits a person's activities. Instead, disability is a construct that finds its meaning and representation within a social and cultural context. Accordingly, examines the ideologies that such representations can conceal in order to crack the hegemonic façade, challenging the ways in which disability is perceived and treated by the dominant society. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only JUS 565 or JUS 598 (The Social Construction of Disability) |
| JUS | 575 | Race, Gender, and the Law | Explores the law and social sciences literature on race, ethnicity, gender, and the legal order. Critically assesses the major contemporary theoretical and policy debates and controversies in the field from a variety of disciplinary and interdisciplinary lenses, setting these debates in their historical contexts. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 588 | Justice and the Mass Media | Analyzes the nature and impact of mass media messages about justice concerns for social order. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Social Transformation | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| JUS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 610 | Law and the Social Sciences | Analyzes the theoretical grounds underlying diverse studies of law and society; creation and administration of law; and jurisprudence and politics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 620 | Justice Research Methodology | Covers the epistemology of knowledge and method in justice research, history, and philosophy of social science and critical inquiry, as well as perspectives that link these concerns to research strategies. Explores the strengths and weaknesses of introduced methodologies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): Justice Studies MS or PHD student; JUS 500 with C or better |
| JUS | 630 | Data Analysis for Justice Research | Bivariate and multivariate techniques of data analysis and hypothesis testing for justice-related research and use of information and statistical programs. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): Justice Studies MS or PHD student; JUS 509 with C or better |
| JUS | 633 | Community Research | Focuses on epistemology, methodology, and the production of knowledge about community and seeks to link theory, methodology, specific research strategies, and social criticism about the conduct of community research. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 640 | Theoretical Perspectives on Justice | Analyzes philosophical perspectives of justice; linkages between social science theory and justice constructs; application of justice to social issues. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): Justice Studies MS or PHD student; JUS 501 with C or better |
| JUS | 650 | Advanced Qualitative Data Analysis | Advanced qualitative data collection and analysis techniques, including ethnography, in-depth interviews, field notes, coding, transcribing, content analysis, textual analysis. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Pre-requisites: Justice Studies MS or PHD student |
| JUS | 651 | Theorizing Sexuality and Social Justice | Examines the intellectual development of "sexuality" knowledge across disciplines; analyzes the regulation of sexuality through social policy and cultural norms; case studies of how social movements counter normative definitions of sexuality and work toward their vision of "sexuality justice." | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only JUS 591 (Sexuality and Social Justice) or JUS 651 or JUS 691 (Sexuality and Social Justice) |
| JUS | 656 | Human Rights and Sustainability | Addresses the connections between human rights and environmental sustainability. Legal and scholarly approaches linking these areas present new perspectives for addressing some of the greatest challenges of our time, given the important resource dimensions of economic and social rights and the human dimensions of sustainability. Yet human rights demands and environmental concerns are not always in harmony. Explores these tensions and opportunities by examining three substantive areas: urban ecology and human rights, the human right to food, and the human rights implications of extractive industries such as oil and mining. Following an introduction to the key concepts of human rights and sustainability, explores the substantive areas through theoretical and empirical readings on each; grassroots accounts of struggles over environment-related human rights; and selections from literature and film that illustrate the environmental justice issues at stake. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only JUS 656 or SOS 656 or JUS 691 (Human Rights & Sustainability) |
| JUS | 660 | Globalization and Economic Justice | Explores the political economy of globalization from a theoretical as well as practical standpoint. Sources used come from a variety of disciplines--sociology, political science, international relations, geography, and economics--all of which contribute unique theoretical and normative tools for analyzing the effect of global forces on economic justice. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Pre-requisites: Graduate student |
| JUS | 669 | Political Trials and Indigenous Justice | Focuses upon research on political trials, deviance, and conceptions of indigenous and contemporary justice. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| JUS | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Social Transformation | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| JUS | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Liberal Arts and Sciences | School of Social Transformation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| KIN | 100 | Introduction to Health and Wellness | Current concepts in health, exercise, and wellness. Emphasizes personal health, theories, attitudes, beliefs, and behaviors. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | SB | Credit is allowed for only HEP 100 (EXW 100) or KIN 100 |
| KIN | 101 | Introduction to Kinesiology | Introduces the disciplines and professions associated with kinesiology, sport and exercise science, with an emphasis on evidence-based practice, exercise physiology, sport and exercise psychology, motor behavior and biomechanics. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |
| KIN | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| KIN | 290 | Introduction to Evidence-Based Practice | Introduces best practices for gathering, interpreting, analyzing, synthesizing and evaluating research within the health and health care professions. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s) w/ C or better: College of Health Solutions major; ENG 101, 105, or 107; ECN 221, HCD 300, JUS 302, PBH 300, POS 401, PSY 230, SOC 390, STP 226, STP 231 or SWU 321; Credit allowed for only KIN 290 or NTR 290 OR Visiting University Student |
| KIN | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| KIN | 310 | Collegiate Sports | Participation in men's or women's intercollegiate competition. May be repeated for 4 hours 1 per year. Y/E grade. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1 | | |
| KIN | 334 | Functional Anatomy and Kinesiology | Promotes an understanding of the structure and function of the musculoskeletal system and how that system produces human movement. Covers origins, insertions, innervations and actions for most major skeletal muscles and applies that information to the fundamental analysis of movements. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BIO 201 with C or better; BIO 202 with C or better OR Visiting University Student |
| KIN | 335 | Biomechanics | Basic anatomical and mechanical principles applied to human movement. Emphasizes kinematic and kinetic concepts at the total body, local joint and tissue level. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prereq(s) w/min C: Kinesiology BS maj; BIO 201; BIO 202; KIN 101 w/B- or better; MAT 170, 210, 251, 270, 271, or 272; PHY 111 OR non-Kinesiology BS maj; BIO 201; BIO 202; KIN 101; MAT 170, 210, 251, 270, 271, or 272; PHY 111 OR Visiting University Student |
| KIN | 340 | Physiology of Exercise | Physiological mechanisms of acute responses and chronic adaptations to exercise. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s) with C or better: Kinesiology BS major; BIO 201; BIO 202; CHM 101, 113, 114, or 117; KIN 101 with B- or better OR non-Kinesiology BS major; BIO 201; BIO 202; CHM 101, 113, 114, or 117; KIN 101 OR Visiting University Student |
| KIN | 345 | Motor Behavior | Evaluates movement through the perspectives of neural control, development through the lifespan, and the most effective ways to teach and learn motor skills. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Kinesiology BS major; BIO 201 with C or better; KIN 101 with B- or better; PSY 101 with C or better OR non-Kinesiology BS major; BIO 201 with C or better; KIN 101 with C or better; PSY 101 with C or better OR Visiting University Student |
| KIN | 348 | Psychological Skills for Optimal Performance | Covers psychological theory and applied psychological techniques to improve performance and overall effectiveness in sport and related areas. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | SB | Prerequisite(s): KIN 101; PSY 101; Credit is allowed for only CAP 121 or KIN 348 OR Visiting University Student |
| KIN | 352 | Psychosocial Aspects of Physical Activity | Addresses interrelationships between physical activity and psychosocial variables, including correlates of and barriers to physical activity. Introduces research and reinforces concepts related to behavior change theory, motivational theory, exercise psychology and evidence-based interventions to promote physical activity. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | SB & C | Prerequisite(s): Kinesiology BS major; KIN 101 with B- or better; PSY 101 with C or better OR non-Kinesiology BS major; KIN 101 with C or better; PSY 101 with C or better OR Visiting University Student |
| KIN | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |

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| KIN | 400 | Topics in Neuroscience | Covers in-depth important and emerging developments in neuroscience, emphasizing lectures that include readings of recent reviews and contemporary publications in peer-reviewed journals. Includes a significant writing component; students learn skills for writing scientific publications and grant applications. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BIO 360 with C or better; Credit is allowed for only BIO 400 or KIN 400 or PSY 400 or SHS 400 |
| KIN | 412 | Biomechanics of the Skeletal System | Biomechanics of tissues, structures, and major joints of the musculoskeletal system. Discussion of injury mechanisms. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 335 with C or better; Credit is allowed for only KIN 412 or KIN 512 OR Visiting University Student |
| KIN | 413 | Qualitative Analysis in Sport Biomechanics | Develops systematic approach for detecting and correcting errors in human performance using anatomical and mechanical principles. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 335 (EPE 335) with C or better |
| KIN | 414 | Electromyographic Kinesiology | Muscular contributions to human movement, muscle mechanics, electrophysiological basis, and practical application of electromyography. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; KIN 335 with C or better; KIN 340 with C or better OR Visiting University Student |
| KIN | 415 | Theory of Corrective Exercise | Philosophic approach of assessing whole body movement and determining common injury mechanisms. Expands understanding of basic movement patterns that cause injury and how to approach potential solutions. Covers identification of imbalances and disfunctions for potential corrective exercise implementation. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 330 or KIN 334; Credit is allowed for only KIN 415 or KIN 515 OR Visiting University Student |
| KIN | 416 | Low Back Pain: Muscles and Movement | Explores research on anatomical/kinesiological abnormalities and movement-related therapies associated with chronic low back pain. Develops competency to determine implications for evidence-based treatment of this common medical condition. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 330 or KIN 334 with C or better; Credit is allowed for only KIN 416 or KIN 494 (Functional Anatomy of Low Back Pain) OR Visiting University Student |
| KIN | 418 | Experimental Neuromechanics | Exploration of different quantitative techniques (electromyography, video, force plates) to analyze human movement from a motor control and biomechanical perspective. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; KIN 290; KIN 335 OR Visiting University Student |
| KIN | 421 | Human Motor Control | Focuses on understanding how the human central nervous system controls, regulates, and learns movements. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; KIN 345 with C or better OR Visiting University Student |
| KIN | 422 | Motor Control in Special Populations | Discusses principles of motor control theories and related practical applications for certain special developmental populations. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; KIN 345 with C or better OR Visiting University Student |
| KIN | 423 | Motor Control and Aging | Functional and behavioral changes to the motor control system as humans age, how specifically it impacts motor control and learning. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; KIN 345 with C or better OR Visiting University Student |
| KIN | 424 | Neural Aspects of Movement and Rehabilitation | An in-depth discussion of how the nervous system controls movement. Provides insight into how the enormous repertoire of human movements (e.g., gait, posture, voluntary hand movements) is controlled by a distributed motor system (e.g., spinal cord, basal ganglia, motor cortex); how pathology to the system alters movements; and an introduction to how rehabilitative approaches address these pathologies. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 345; Credit is allowed for only KIN 424 or KIN 494 (Neural Aspects of Movement and Rehabilitation) OR Visiting University Student |
| KIN | 437 | Comparative Biomechanics and Motor Control | Guides students to critically evaluate how the physical and mechanical properties of organisms and their environment affect biological tissues, structures, and motor control. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BIO 181 with C or better; MAT 170 with C or better; PHY 111 with C or better OR Visiting University Student |
| KIN | 440 | Exercise Biochemistry | Study of bioenergetics and metabolism of cellular (skeletal muscle, heart, and liver) organelles and proteins during exercise. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 340; Credit is allowed for only KIN 440 or 532 |
| KIN | 441 | Physiology of Women in Sport | Physiological aspects of women engaging in physical activity. Emphasizes factors affecting performance and health throughout life. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; KIN 340 with C or better; Credit is allowed for only KIN 441 or KIN 531 OR Visiting University Student |
| KIN | 442 | Fuel Metabolism | Discusses current research concerning the metabolism of carbohydrate, fat, and protein during exercise. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 340 with C or better OR Exercise and Wellness major; EXW 315 with B or better; Credit is allowed for only KIN 442 or KIN 536 OR Visiting University Student |
| KIN | 443 | Exercise Endocrinology | Focuses on the cellular and systems physiology of the neuroendocrine system, as well as presents research-based findings of how exercise alters neuroendocrine function to improve performance and offset injury. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; KIN 340 with C or better; Credit is allowed for only KIN 443 or KIN 533 OR Visiting University Student |
| KIN | 444 | Metabolic Adaptations to Exercise Training | Examines physiologic adaptations to exercise training as they relate to metabolism and tissue functions. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 340 with C or better OR Visiting University Student |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|-----------------------------|-----------------------------|-------|-----------------|---|
| KIN | 446 | Pediatric Obesity | Covers a variety of aspects related to pediatric obesity including the causes and consequences in terms of physiologic, genetic, psychosocial, environmental and economic. Also discusses potential interventions such as behavioral, pharmacologic, surgical and public health and policy. Evidenced-based course where research guides class lectures and discussions. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 315 or KIN 340; Credit is allowed for only EXW 412 or KIN 446 or EXW 494 (Pediatric Obesity) or KIN 494 (Pediatric Obesity) |
| KIN | 447 | ECG Interpretation | Using ECG data, this course comprehensively investigates cardiac arrhythmias and interactions with therapeutic drugs and exercise. | N | LEL | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 340 or SSP 315 (EXW 315) with C or better; Credit is allowed for only KIN 447 or KIN 547 OR Visiting University Student |
| KIN | 450 | Biopsychosocial Perspectives on Physical Activity and Health | Utilizes a problem-based learning approach to examine a biopsychosocial perspective of physical and mental health. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 352 with C or better OR Visiting University Student |
| KIN | 452 | Exercise Psychology | Analyzes existing scientific evidence to critically assess the use of exercise to maintain mental health and treat mental illness. Addresses a variety of topics from stress to clinical depression along with research methods to enable students to critically assess the evidence and determine the best applied exercise-based recommendations. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | SB | Prerequisite(s): KIN 352 with C or better; Credit is allowed for only CAP 121 or KIN 452 or KIN 522 OR Visiting University Student |
| KIN | 454 | Motivational Theory in Exercise and Health | Assesses motivational theories relevant to the field of exercise and health psychology. Evaluates research and utilizes the findings to create applied public service announcements targeted toward a specific health issue (e.g., exercise, nutrition, smoking) and a specific population. Assesses students on four group public service announcements and "mini exams" for each unit. Taught in class, online and in a hybrid format. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 352 with C or better; Credit is allowed for only KIN 454 or KIN 494 (Motivational Theory in Exercise & Health) |
| KIN | 460 | Theory of Strength Training | Utilizes a problem-based learning approach to facilitate an understanding of the neurological and physiological mechanisms underlying muscular and performance-based adaptations to resistance training. Covers and applies peer-reviewed research to solve practical resistance training-focused questions. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; KIN 340 with C or better OR Visiting University Student |
| KIN | 465 | Muscle Physiology | Discusses the cellular and systems physiology of the skeletal and cardiac muscle systems, as well as presents research on the effects of exercise on skeletal muscle function and adaptation. Describes and recognizes the detailed structure, composition and biochemical properties of skeletal muscle. Applies knowledge of ultrastructure, microanatomy and biochemical properties of skeletal muscle to factors influencing its form and function. Describes the factors that affect muscle adaptation. Applies knowledge of muscle gene expression to the heterogeneity of metabolic and molecular responses to skeletal muscle. Compares and contrasts differences among skeletal, smooth and cardiac muscle fiber types. Interprets and analyzes current research findings and applies these concepts to endurance and strength training adaptations. Develops an understanding of many of the molecular signaling pathways regulating muscle adaptation. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 315 or KIN 340 with C or better; Credit is allowed for only KIN 465 or KIN 494 (Muscle Physiology) or KIN 598 (Muscle Physiology) OR Visiting University Student |
| KIN | 466 | Cardiovascular Exercise Physiology | Examines varying concepts related to cardiovascular exercise physiology. Covers the basics of the cardiovascular system, how the system works both at rest and during exercise, and how it responds to exercise training. Evaluates research and utilizes the findings to enhance learning of course topics. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 340; Credit is allowed for only KIN 466 or KIN 494 (Cardiovascular Exercise Physiology) OR Visiting University Student |
| KIN | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): minimum 2.00 GPA; Corequisite(s): junior or senior standing |
| KIN | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): Barrett Honors student |
| KIN | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| KIN | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): minimum 25 hours OR Visiting University Student |
| KIN | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-3 | | |
| KIN | 512 | Biomechanics of the Skeletal System | Biomechanics of tissues, structures, and major joints of the musculoskeletal system. Discusses injury mechanisms. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student; Credit is allowed for only KIN 412 or 512 |

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| KIN | 515 | Theory of Corrective Exercise | The philosophic approach of assessing whole body movement. Expands the student's understanding of the basic movement patterns needed to reduce injury and how the body compensates for movement impairments. Students gain practice screening movement to identify imbalances and dysfunction and learn how to apply corrective exercise techniques. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only KIN 415 or KIN 515 |
| KIN | 520 | Applied Sport Psychology | Psychological theories and techniques applied to a sport to enhance the performance and personal growth of athletes and coaches. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate OR undergraduate postbaccalaureate student; Credit is allowed for only KIN 448 or KIN 520 |
| KIN | 522 | Exercise Psychology | Analyzes existing scientific evidence to critically assess the use of exercise to maintain mental health and treat mental illness. Addresses a variety of topics from stress to clinical depression along with research methods to enable students to critically assess the evidence and determine the best applied exercise-based recommendations. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate OR undergraduate postbaccalaureate; Credit is allowed for only KIN 452 or KIN 522 |
| KIN | 523 | Motor Control and Aging | Focuses on the functional and behavioral changes to the motor system as humans age and how specifically it impacts motor control and learning. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| KIN | 530 | Exercise and Sport Physiology | Covers both acute and chronic adaptation to physical activity with emphasis placed on exercise prescribed to enhance performance in sport and occupational fields relying on maximal or near-maximal efforts. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate or undergraduate postbaccalaureate student |
| KIN | 531 | Physiology of Women in Sport | Physiological aspects of women engaging in physical activity. Emphasizes factors affecting performance and health throughout life. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student; Credit is allowed for only KIN 441 or 531 |
| KIN | 532 | Exercise Biochemistry | Understanding the basic biochemical principles and enzyme pathways involved in energy transduction during exercise. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student; Credit is allowed for only KIN 440 or 532 |
| KIN | 533 | Exercise Endocrinology | Discusses current research and theory concerning hormonal changes during exercise. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student; Credit is allowed for only KIN 443 or 533 |
| KIN | 536 | Fuel Metabolism | Discusses current research concerning the metabolism of carbohydrate, fat, and protein during exercise. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student; Credit is allowed for only KIN 442 or 536 |
| KIN | 540 | Sport Biomechanics | Includes instruction and practical experience in the detailed analysis of sport movements designed to both reduce injury potential and maximize performance. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate or undergraduate postbaccalaureate student |
| KIN | 545 | Movement Assessment and Evaluation | Students perform different laboratory and clinical techniques to analyze human movement for biomechanical applications. Delivered as two components: lecture and laboratory. The lecture component serves to discuss the theory behind quantitative analysis techniques, proper equipment usage, data processing techniques and the connection to biomechanical principles. During the laboratory component students gain hands-on experience with the equipment by performing assigned experiments and clinical assessments. Follows with practice in analyzing, reporting, interpreting and presenting data. Additionally, students make recommendations and assign exercises to correct impaired movement when appropriate. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 515 |
| KIN | 547 | ECG Interpretation | Comprehensive investigation of the heart rhythm disturbances that occur within the chambers and conducting tissue of the heart. Partitioned into three sections allowing the systematic review of arrhythmias that occur in the atria, AV junction and ventricles of the heart. The material is designed to maximize understanding by analyzing electrocardiogram rhythm strips to reinforce applying the theoretical component of the course. Also uses the application of these theories through laboratory experiences allowing hands-on experience with electrode placement and 12 lead ECG interpretations. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Clinical Exercise Physiology MS or Physical Activity and Health MS student; Credit is allowed for only KIN 447 or KIN 547 |

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| KIN | 550 | Clinical Applications in Biomechanics | Hands-on experience utilizing clinical techniques and equipment to analyze human movement for biomechanical applications. Uses the student biomechanics laboratory as a simulated clinic environment where volunteers may participate as clients for students to gain experience with clinically relevant biomechanical assessments. Additionally, requires students to showcase successful interpersonal skills to be able to work with a variety of individuals (clients, peers and supervisors) and show an ability to think critically and pay attention to details. | N | LAB | Y | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 515; KIN 540; KIN 545 |
| KIN | 552 | Applied Research Methods in Biomechanics | Develops research skills and gains further experience working in a biomechanics research environment. Assigns a variety of projects to facilitate the student's skill development for biomechanics research such as utilizing modeling applications with related computer processes, inverse kinematics calculations and motion tracking techniques. | N | LEC | Y | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 500; EXW 501; KIN 540; KIN 545 |
| KIN | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| KIN | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Undergraduate Postbaccalaureate student |
| KIN | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| KIN | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Health Solutions | College of Health Solutions | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| KOR | 101 | First-Year Korean I | Pronunciation, grammar, elementary conversation, and development of basic reading and writing skills, including Han'gul. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | |
| KOR | 102 | First-Year Korean II | Continuation of KOR 101. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): KOR 101 with C or better OR Visiting University Student |
| KOR | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| KOR | 201 | Second-Year Korean I | Continual development of communication skills. Increased emphasis on reading and writing, vocabulary building, and review of fundamentals. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): KOR 102 with C or better OR Visiting University Student |
| KOR | 202 | Second-Year Korean II | Fourth semester of a four-year sequence for Korean language learning. Target proficiency level is ACTFL Intermediate Mid (IM) in listening, speaking, reading and writing along with increasing cultural awareness and knowledge. Focuses on speaking and writing skills. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): KOR 201 with C or better OR Visiting University Student |
| KOR | 250 | Korean Culture and Society | Surveys Korean culture and society, covering history, religious traditions, gender, and popular culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | |
| KOR | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| KOR | 313 | Third-Year Korean I | Continued development of ability to communicate orally and in writing. Exposure to a variety of Korean written styles. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): KOR 202 OR Visiting University Student |
| KOR | 314 | Third-Year Korean II | Continuation of KOR 313. | N | REC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Pre-requisites: KOR 313 |
| KOR | 321 | Modern Korean Literature | Introduces various genres of Korean literature written from the seventeenth century to the present in English translation. Aims to help students to understand the history of modern Korean literature in transnational and transdisciplinary contexts. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only KOR 321 or SLC 321 |

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|---------|-------------|--------------------------------------|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| KOR | 347 | Korean Film and Literature | Examines representations of history, memory and ethics in South Korean contemporary cinema and modern literature. Explores a variety of film genres such as thriller, action and horror in order to understand the nation's preoccupation with unsatisfying or unhappy endings. Korea, much like our recent experiences within the United States, has gone through a whirlwind of political, societal and historical change within the past few decades. What we previously considered normal and safe is now threatened and disordered. The study of film narratives and themes encourages students to re-evaluate their understanding of identity, narrative and ethics. Equips students to critically engage with film, literature and theoretical texts to produce a personalized and analytical perspective on the current representative culture of South Korea. All texts and films are provided; all films will have English subtitles; and all readings are in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR minimum 45 hours OR Visiting University Student |
| KOR | 350 | Women of Korea | Examines the changing role and status of women in modern Korea in relation to political and cultural changes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | H | |
| KOR | 354 | Religions of Korea | Explores major religious traditions and folk religions in Korea. Covers diverse topics such as mythology, indigenous practices, doctrinal and meditation Buddhism, early and Neo-Confucianism and Christianity as well as the new religions of modern times. Discusses the development of religious ideas and practices in light of the political, cultural and social milieus. Focuses on cultural importation and adaptation as well as interaction and conflict among the different religious traditions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 102 or 105 or 108 with C or better; minimum 24 hours; Credit is allowed for only KOR 354 or REL 354 |
| KOR | 375 | Intercultural Communication in Korea | Focuses on the fundamental knowledge of Korean intercultural values and communication. Explores and analyzes Korean communication styles and patterns in regard to the relationship between language use in cross-cultural communication, social meaning and cultural motivations. While the main focus is on Korean language, course is conducted in a comparative and interdisciplinary manner on how communicative strategies differ between Korea and other countries (such as China, Japan and the U.S.) due to underlying differences in their cultural values. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & G | Prerequisite(s): minimum 30 hours; Credit is allowed for only KOR 375 or KOR 394 (Intercultural Communication in Korea) or SLC 375 or SLC 394 (Intercultural Communication in Korea) |
| KOR | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| KOR | 401 | Advanced Korean I | Offers students the opportunity to acquire advanced levels of vocabulary, reading proficiency and writing ability for an academic or professional purpose. Also helps students prepare for the TOPIK (Test of Proficiency in Korean). Course materials, ranging from literary works, scholarly articles, journalistic pieces, TV news clips, film scripts and other expository writings, encompass a variety of topics relevant to understanding Korean society and culture. Requires students to master a certain number of basic Sino-Korean characters and to use them in their essays. Throughout the course, students build vocabulary and reading proficiency toward the level expected at college in Korea. All discussions are held in Korean. Students can take this course in conjunction with other Korean three-hundred level language courses upon instructor approval. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): KOR 314 with C or better; Credit is allowed for only KOR 401 or KOR 494 (Korean for Professional Purposes I) |
| KOR | 402 | Advanced Korean II | Constitutes the second of two semesters of study of fourth-year Korean. Offers the opportunity to acquire advanced levels of vocabulary, reading proficiency, and writing ability for an academic or professional purpose. Course materials, ranging from literary works, scholarly articles, journalistic pieces, TV news clips, film scripts and other expository writings, encompass a variety of topics relevant to understanding Korean society and culture. Requires students to master a certain number of basic Sino-Korean characters and to use them in their essays. Throughout the course, students build vocabulary and reading proficiency toward the level expected at college in Korea. All discussions are held in Korean. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): KOR 401 with C or better; Credit is allowed for only KOR 401 or KOR 494 (Korean for Professional Purposes II) |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|---|--|-------|-----------------|---|
| KOR | 415 | Korean Popular Culture | Explores representations of Korean culture and society with special attention to the Korean Wave, the cultural phenomenon known as hallyu. Focuses on how K-pop circulates, negotiates and translates Korean culture as these products participate in the transnational culture market and attract global audience and fandom. Examines the meanings of various politics and how Korean popular culture alters, enhances or intervenes in politics. Looks at how K-pop is not a fixed and unchanging entity, but rather a set of representations that are constantly adapting and shifting to reflect economic and political conditions. Requires no Korean language ability; assumes no background knowledge in Korean culture or history; all course materials are in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better OR minimum 45 hours; Credit is allowed for only KOR 415 or SLC 415 OR Visiting University Student |
| KOR | 420 | Emotions Across Languages, Cultures and History | Presents the main academic approaches to emotions that have been developed in the humanities and social sciences. Explores, among other topics: the different notions and constructions of emotions in various languages, societies and time periods; the cross-linguistic and cross-cultural use of metaphorical expressions of emotions; the social functions of emotions; the use of emotions in the formation of identities. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only KOR 420 or SLC 420 or HEB 494/HEB 598/KOR 494/KOR 598/SLC 494/SLC 598 (Emotions Across Language, Culture, & History) OR Visiting University Student |
| KOR | 457 | Premodern Korea in a Global Context | Offers a comprehensive outline of the literary and cultural traditions of premodern Korea from historical and crosscultural perspectives. Targets both undergraduate and graduate students. Gives students an opportunity to read a variety of texts ranging from literary works, historical, philosophical and religious documents, diaries and travelogues, to important recent scholarly works in the field. Identifies representative literary works and terms. Discusses important topics and issues on premodern Korean literature and the cultural exchange between Korea and Japan, and Korea and China, bringing to bear students' own thoughts and ideas which are articulated in their final research papers. All readings are available in English translation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): minimum 45 hours; Credit is allowed for only KOR 457 or SLC 457 or KOR 494 (Pre-modern Korean Literature and Cultural Exchange) or SLC 494 (Pre-modern Korean Literature and Cultural Exchange) OR Visiting University Student |
| KOR | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| KOR | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| KOR | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| KOR | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| KOR | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| KOR | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| KOR | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LAP | 231 | Introduction to Digital Applications for Designers | Fundamentals of professional computer operation for designers including basic system usage, introduction of software packages focused on the design of sustainable environments, and utilizing computers to assist in environmental analysis and analytic decision making. Software packages include Microsoft Office, Adobe multimedia and creativity products, Esri ArcGIS geographic information systems (GIS), Autodesk AutoCAD computer aided design/drafting (CAD), and Trimble SketchUp 3D modeling software. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | CS | Prerequisite(s): Landscape Architecture BSLA major; Corequisite(s): LDE 261 OR non-Landscape Architecture major; minimum sophomore standing OR Visiting University Student |
| LAP | 251 | Plant Materials for Sustainable Landscapes | Plants as landscape architectural elements. Emphasizes plant identification and the uses of particular plants in landscape architecture. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Design Studies minor; ALA 102 OR Environmental Design BS major; EDS 223 OR Landscape Studies minor; ALA 102 OR Corequisite(s): Landscape Architecture BSLA major; LDE 262 OR Visiting University Student |
| LAP | 311 | History of Landscape Architecture | Physical record of human attitudes toward the land. Ancient through contemporary landscape planning and design. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU & H | Prerequisite(s): minimum sophomore standing OR Visiting University Student |

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| LAP | 312 | 20th-Century Landscape Architecture | Explores concerns, projects, and movements in landscape architecture of late 20th-century understanding; social, ecological, regional, and historical influences. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | HU | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| LAP | 332 | GIS Applications in Environmental Design | Addresses fundamentals of geographic information systems (GIS), especially as they relate to applications by environmental planners and designers (including architects, landscape architects, urban designers and related professionals). Focuses on using GIS as tools. Explores the techniques and procedures for acquiring, displaying, editing, analyzing and modeling spatial information. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | CS | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| LAP | 341 | Landscape Construction I | Landscape constructions focusing on landform transformations. Topics include landform analysis, grading, and earthwork. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Corequisite(s): LDE 361 OR Visiting University Student |
| LAP | 342 | Landscape Construction II | Covers characteristics of materials and methods used in landscape architectural design and construction. An overview into the design and construction document process and professional standards required to deliver a final product that is organized, complete and ready to begin construction services. An examination and understanding of hardscape, landscape, landscape structures, irrigation and lighting materials and methods for design and details. Goals include application and implementation of the design vision into tangible-built environments via bid-ready documents for construction. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Landscape Architecture BSLA major OR Visiting University Student |
| LAP | 352 | Ecosystems and Sustainable Design | Increases awareness and understanding of the biotic and abiotic systems, processes and factors of our biosphere in order to facilitate sustainable landscape architectural design and applications. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Environmental Design major; LAP 254 OR Landscape Studies minor; LAP 254 OR Design Studies minor; LAP 254 OR Corequisite(s): Landscape Architecture major; LDE 361 OR Visiting University Student |
| LAP | 353 | Planting Design for Sustainable Landscapes | Functional and aesthetic use of plants in arid-region landscape design. Explores design philosophies through planting design problems. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Landscape Architecture BSLA major; Corequisite(s): LAP 341 (LTC 343); LDE 361 OR Visiting University Student |
| LAP | 371 | Professional Practice | Landscape architecture practice including contracts, project and office management, liability, licensing, and professional development. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): Landscape Architecture BSLA major OR Visiting University Student |
| LAP | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| LAP | 413 | Landscape Architecture Theory and Criticism | Critically analyzes landscape architecture theories and projects to evaluate validity of design and contribution to society. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | L | Prereq(s): Lndscp Arch maj; ENG 101,105, 107 w/C; LDE 362 w/C; Coreq(s): LDE 461 OR Envirmntl Dsgn maj or Lndscp Studies min; ENG 101,105,107 w/C OR Dsgn Studies minr; ENG 101,105,107 w/C; LAP 311 (LPH310); LAP 312 (LPH311) OR Visiting University Student |
| LAP | 443 | Sustainable Landscape Construction | Landscape construction focusing on low-technology, biotechnical, regional, and experimental techniques or systems. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | The Design School | 3 | | Prerequisite(s): Landscape Architecture BSLA major; LAP 342 (LTC 344) with C or better OR Visiting University Student |
| LAP | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): Landscape Architecture BSLA major; Pre- or corequisite(s): LDE 361 |
| LAP | 485 | International Field Studies | Organized field study, culture and language in specified international locations. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-6 | G | Pre-requisite: Junior standing; Credit is allowed for only GCU 485 or GPH 485 or LAP 485 or POR 485 or PUP 485 or 585 |
| LAP | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | | Prerequisite(s): Barrett Honors student |
| LAP | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| LAP | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| LAP | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis | Y | IND | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-3 | | Prerequisite(s): Landscape Architecture BSLA major or Landscape Studies minor; minimum junior standing |

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| LAP | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LAP | 585 | International Field Studies | Organized field study in specified international locations. | N | SEM | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GCU 485 or GPH 485 or LAP 485 or LAP 585 or PUP 485 or PUP 585 |
| LAP | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | REC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LAP | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LAP | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LAP | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| LAS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| LAS | 205 | Deep Roots: Latin America | Introduces the diversity of Latin-American traditions through its cultural production. The approach is interdisciplinary (art, architecture, literature, film, theater, business and anthropology). Studies the history and culture of Latin America and its concept of identity and nation through a variety of genres. Focuses on aspects that reveal the complexity of Latin America and in turn provides insights into Latin American culture. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & G | |
| LAS | 206 | Locating Latin America: Interdisciplinary Methods | Methodologies course designed to provide exposure to academic fields and research approaches that intersect in Latin American studies. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | |
| LAS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| LAS | 324 | Food in Latin America | Uses food as a critical lens for studying Latin American culture and history and looks at how the evolution of human development, and especially the food that we eat, is influenced by social, political and economic context. Studies the production and commodification of food in Latin America, and its globalization. Also covers how Latin American cuisine sheds light on the formation of cultural identity and perceptions of nationalism. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 305 (Food) or HST 324 or LAS 324 OR Visiting University Student |
| LAS | 330 | From the Inside: The Latin American Journey | Journeys through a wide variety of genres and critical scholarship. Provides a broad exposure to different types of reading and writing. Prepares students to engage with many types of Latin American texts across disciplines. Covers Latin American cultural history from pre-Colombian to the postmodern by exploring different formats and genres around major central themes. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| LAS | 340 | Latin American Women Writers | In the 20th and 21st centuries, Latin America has seen a proliferation of literature published by women authors. While this explosion of the written word owes in part to changing socioeconomic factors and the opening of the international markets, Latin American women's literary history is often ignored in the canon. Examines the concepts of feminism through a Mexican framework, starting from the point of view of Mexican women theorizing about their own. This is not a history of feminism, but it does aim to highlight certain fundamental texts and key concepts of Mexico's history from the position of women writers, including feminism's critique of social structures beyond the bounds of gender relations. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only LAS 340 or WST 341 |

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| LAS | 350 | The Construction of a Nation: Chile in the 20th/21st Century | Examines Chilean history, politics and cultural production through its historical development and explores a multiplicity of cultural issues. Develops knowledge and appreciation of cultural and visual production of Chile and Latin America as well as acquired skills for critically analyzing texts in their applicability to modern-day society. Considers the variety of cultural and artistic productions (novel, poetry, short story, film, music, pop culture, presidential speeches) as sources of social commentary in which observations of national identities are constructed. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102 (or ENG 105 or 108) with C or better; Credit is allowed for only LAS 350, ENG 494 (Construction/Nation:Chile in the 20th/21st Cen) or SPA 494 (Construction/Nation:Chile in the 20th/21st Cen) |
| LAS | 351 | Cityscapes: Urban Mexican Literature and Culture | Examines major developments in contemporary Mexican literature. Begins at mid-20th century as the novel turns away from the rural novel of the Revolution, toward a more urban setting. Mexico City serves as a cultural and political center, and the novels mark social and political changes across different literary currents. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| LAS | 355 | Contemporary Mexican Cinema: Changing Cartographies | Examines major themes and auteurs in contemporary film as their work intersects with larger cultural phenomena, expanding students' cultural knowledge as well as critical communication skills. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| LAS | 375 | Colonial Latin America | Ancient civilization, exploration and conquerors, and colonial institutions. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 375 or LAS 375 |
| LAS | 376 | Modern Latin America | In-depth examination of the development of independent Latin American republics since 1821. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 376 or LAS 376 OR Visiting University Student |
| LAS | 378 | Poverty, Inequality and Social Justice in Latin America | With persistently high levels of poverty and inequality, Latin America is often considered the most unequal region in the world. This course explores the economic, political, social and geographic origins of poverty and inequality in Latin American countries since independence. It also studies efforts to address the problem by governments, non-governmental organizations, the international community, religious groups and activists. Explores these themes in more detail through a case study of one Latin American country and a global intensive experience at the end of the course. By reflecting on the Latin American experience, students gain insights for wealthy countries like the United States where inequality is on the rise. | N | LEC | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | G | Prerequisite(s): minimum 45 hours; Credit is allowed for only HST 378 or JHR 378 or JUS 378 or LAS 378 OR Visiting University Student |
| LAS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| LAS | 404 | Conquest and Encounters in Colonial Latin America | How did Hernan Cortés and Francisco Pizarro defeat the Aztec and Inca Empires? Despite numeric inferiority, limited provisions, and little knowledge about the Americas, Cortés and Pizarro defeated advanced civilizations that had experienced warriors and millions of inhabitants. Possible explanations include the conquistador's valor, advanced weaponry, superior military strategy, Indian allies, and biological attacks. In their encounters with native peoples of the Americas, Europeans were not always conquerors. Álvaro Núñez Cabeza de Vaca and Lope de Aguirre failed both in their attempt to conquer a large Indian civilization and in their effort to find mineral wealth. A few Europeans such as Bartolomé de Las Casas spoke out against the abuses committed against the Indians during the conquest. Explores these issues from the perspective of both Europeans and native peoples and looks at the long-term impact for Latin America and its peoples. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours; Credit is allowed for only HST 404 or LAS 404 OR Visiting University Student |
| LAS | 419 | 20th Century Chicano/a History | Historical development of the Chicano community in the 20th century. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only HST 419 or LAS 419 |
| LAS | 428 | Peoples and Cultures of the American West, to 1848 | Provides an integrated understanding of change over time within and between the native, Mexican, Anglo, Asian and African American communities of the region by looking into the major formative historical forces affecting these populations individually and collectively. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only AMS 428 or ETH 428 or LAS 428 or MAS 598 (Chicano Cultures in Southwest) OR Visiting University Student |

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| LAS | 430 | Gender on the Borderlands | Examines women's status in the U.S.-Mexico borderlands through key issues such as migration, labor, violence, education, and culture. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR WST 100 or 300 with C or better; Credit is allowed for only ETH 430 or LAS 430 or WST 430 or JHR 598 (Gender on the Borderlands) OR Visiting University Student |
| LAS | 441 | Latin America and the World Economy | Globalization did not begin in the late twentieth century, but rather global trade has linked Latin America with the rest of the world for over five hundred years. The region has been an active and important participant in the world economy since Columbus's first voyage in 1492. This course explores the social, cultural, economic, and environmental impact of such participation on both Latin America and the rest of the world. It is organized both chronologically and thematically. We will study both colonial and post-colonial trade. The commodities studied include sugar, rubber, bananas, and cocaine. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L & G & H | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only HST 441 or JHR 441 or LAS 441 OR Visiting University Student |
| LAS | 449 | Latin American Cinema: The Dead and the Disappeared | Studies Latin American politics and culture through film with particular focus on recent periods of Latin American history in which there have been social upheavals, dictatorships and state repression, and dirty wars. Discusses film as an art form with specific aesthetic goals, a tool to effect change within society, a mode of cultural and social expression, and a vehicle for reconciling collective trauma and preserving memory. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | G & H | Prerequisite(s): ENG 102, 105, or 108 w/C or better; Credit allowed for only FOR 449, LAS 449, SPA 449, FOR 494 (Lat Am Cinema: Dead & Disap), LAS 494 (Lat Am Cinema: Dead & Disap), SPA 494 (Lat Am Cinema: Dead & Disap) OR Visiting University Student |
| LAS | 450 | Latina/os, Schooling and Social Inequality | Advanced interdisciplinary understanding of the issues facing Chicano, Mexican American and Latino communities in relation to K-16 schooling in the southwestern United States. Examines various schools of thought that have shaped social discourse and policies, develops a critical perspective on the social and political issues affecting education, and identifies issues--both historical and contemporary--affecting Chicanos in public education. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | C | Prerequisite(s): minimum 45 hours; Credit is allowed for only AMS 450 or ETH 450 or LAS 450 or AMS 429 (Latino/a School & Social Inequity) |
| LAS | 471 | Treaties and Cultural Production in Spain and the Americas | Emphasizes sociocultural values associated with national, transborder and transatlantic identities providing a panoramic view of treaties, agreements, constitutions and cultural production by Americans and Spaniards from 1812 to 2012 with particular focus on the themes of nations, borders, citizenship and identity. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| LAS | 473 | Indigenous and Latina/Chicana Representation | Examines from an interdisciplinary perspective contemporary issues experienced by Indigenous and Chicana/Latina women in the U.S. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only ETH 473 or LAS 473 or WST 473 |
| LAS | 480 | Current Trends in Theatre and New Media in Latin America and Spain | Overview of the transatlantic cultural interrelationships between Latin American and Spanish theatre and performance in the 20th and 21st centuries. Explores topics such as cyber-theatre, Internet theatre and multimedia theatre. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| LAS | 481 | Dictatorships and Dirty Wars: Latin American Cinema from Resistance to Reconciliation | Examines aspects of Latin American politics and culture of and through the optic of social unrest. Examines films focusing on the period(s) of recent Latin American history in which there have been social upheavals, dictatorships and state repression, "dirty wars": understood as clandestine wars waged on the citizenry by the government, social movements from below. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only LAS 481 or SPA 481 or ENG 494 (Dictatorships/Dirty Wars:Lat Am Cinema) or SPA 494 (Dictatorships/Dirty Wars:Lat Am Cinema) |
| LAS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | |
| LAS | 485 | Latin American Studies Capstone | Students select and prepare for their capstone project, which represents the culmination of their study. | N | RSC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): Latin American Studies BA major; LAS 205 with C or better; LAS 206 with C or better; LAS 330 with C or better |
| LAS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| LAS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| LAS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| LAS | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-6 | | Prerequisite(s): Barrett Honors student |

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| LAS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | IND | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| LAS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-3 | | |
| LAT | 101 | Elementary Latin | Basic Latin grammar with an emphasis on developing reading skills. For beginning students only. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | |
| LAT | 102 | Elementary Latin | Continuation of LAT 101. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Pre-requisites: LAT 101 |
| LAT | 140 | Greek and Latin Roots in Bioscientific Terminology | Introduces students to the ancient Greek and Latin root words most commonly used in biological, medical, and other scientific terminology, and gives practice identifying them in context. The knowledge of these root words enables students to memorize with greater ease and increased retention the bioscientific terminology they encounter in other coursework as well as in their medical or scientific profession. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Credit is allowed for only BIO 140 or GRK 140 or LAT 140 or SLC 140 OR Visiting University Student |
| LAT | 143 | Roman Civilization | Introduces ancient Roman civilization from the earliest times (ca. 1200 BCE) through the fall of the Western Empire (CE 476) and the reign of the Byzantine Emperor Justinian (6th c. CE). Examines ancient Roman society, history, art, architecture, literature, mythology and legends. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Credit is allowed for only LAT 143 or LAT 194 (Roman Civilization) or SLC 143 or SLC 194 (Roman Civilization) |
| LAT | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| LAT | 201 | Intermediate Latin I | Final semester of grammar. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | HU & G | Prerequisite(s): LAT 102 OR Visiting University Student |
| LAT | 202 | Intermediate Latin II | Beginning reading of Latin authors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | HU & G | Prerequisite(s): LAT 201 OR Visiting University Student |
| LAT | 222 | Survey of Roman Literature | Introductory survey of Roman literature. Familiarizes students with the literary genres, texts and authors of the Romans from the origins of the Latin language to the Silver age. All readings in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Credit is allowed for only LAT 222, SLC 222, LAT 294 (Roman Literature in Translation) or SLC 294 (Roman Literature in Translation) |
| LAT | 223 | Introduction to Greek and Roman Mythology | Familiarizes students with the characters and events of ancient Greek and Roman myths through their literary manifestations, and moves beyond mere narrative to consider the possible interpretations and functions of these myths, thus revealing the central concerns of ancient society and giving insights into the working of our own society and its literary and artistic traditions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Credit is allowed for only GRK 223 or LAT 223 or SLC 223 |
| LAT | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| LAT | 301 | Roman Authors | Intermediate Latin reading class that introduces Roman prose authors such as Livy, Cicero and Pliny and explores the variety of genres within Latin prose, such as historical accounts, personal letters and political oratory. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): LAT 201 with C or better; Credit is allowed for only LAT 301 or LAT 394 (Introduction to Latin Authors) |
| LAT | 322 | Medieval Latin | Surveys Late Antique and medieval Latin authors and texts, both prose and poetry. Some review of grammar. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): LAT 201 with C or better |
| LAT | 344 | Classics and Comics | Explores the connections between the classical tradition of Ancient Greek and Roman literature and the modern American superhero comic book tradition. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 101 or 105 or 107 with C or better; Credit is allowed for only GRK 344 or LAT 344 or SLC 344 or GRK/LAT/SLC 394 (Classics and Comics) or SLC 494 (Classics and Comics) |
| LAT | 356 | Rome from Village to Empire | Provides an in-depth exploration of Republican Roman literature and explores how these primary sources shaped and were shaped by ancient Rome's history and culture during its formative Republican period. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only LAT 356 or LAT 394 (Rome Before the Empire) or SLC 356 or SLC 394 (Rome Before the Empire) OR Visiting University Student |
| LAT | 357 | Rome's First Emperor | Provides an in-depth exploration of Roman literature during the Augustan period, and explores how these primary sources shaped and were shaped by ancient Rome's history, literature and culture during its formative Republican period. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only LAT 357 or LAT 394 (Augustus and the Creation of the Roman Empire) or SLC 357 or SLC 394 (Augustus and the Creation of the Roman Empire) OR Visiting University Student |

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| LAT | 358 | Saving the Roman Empire | In his autobiographical epitaph, the Res Gestae, Augustus, founder of the Roman Empire, claimed to have restored Rome to her former glory. His moral, social and political reforms solidified Roman control of the world and the imperial family's hold on ruling her. Through the next five hundred years, as the power of the empire waned and waxed, Augustus's successors turned time and again to reforming the empire and restoring her to her former glory - to saving the Roman Empire. In doing so they had to deal with problems both external and internal; sometimes their ideas worked, often they did not. Ultimately they failed, and Rome and the western empire fell in CE 476. Examines the rise, decline and fall of the Roman Empire from the perspective of internal and external problems the Empire faced, and asks which reforms worked, which did not work, and why. What could have been done differently? Should anything have been done differently, or was the western Roman Empire always doomed? | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GRK 294/HST 294/LAT 294/SLC 294 (Saving the Roman Empire) or LAT 358 or LAT 394/SLC 394 (Saving the Roman Empire) or SLC 358 OR Visiting University Student |
| LAT | 360 | Greece and Rome at War | Covers ancient Greek and Roman warfare and features military historical staples like strategy, tactics, logistics, battles and leadership. Other topics that intersect this exploration of ancient warfare include ethnolinguistic identity, state formation, religion, gender, imperialism, military theory, medicine, monumental building and slavery. Students acquire wide knowledge of the relevant history and are encouraged to critically think about essential themes in historical studies. Also features a strong interactive component, including group discussions, theory-crafting and presentations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only GRK 360 or HST 397 or LAT 360 or SLC 360 OR Visiting University Student |
| LAT | 361 | Roman Religion | Roman religion was never static, despite the best efforts of the Roman state to make it so. Understands the artifacts and procedures of Roman state cult from its earliest origins to the late empire, using ancient literary sources, archaeology throughout the ages and modern scholarly theories. Clarifies the forces that influenced development and change in Roman religion, both internal and external. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only LAT 361 or REL 361 or SLC 361 or SLC 394 (Roman Religion) OR Visiting University Student |
| LAT | 363 | Ancient Magic and Witchcraft | Examines magical spells, curses, amulets and other materials from ancient Greece and Rome. Students read anthropological discussions of magic worldwide to understand how ancient magic operated, what its function was within Greco-Roman society, and how it developed over the centuries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GRK 363 or LAT 363 or SLC 363 or GRK 394/LAT 394/REL 394/SLC 394 (Magic and Witchcraft in Antiquity) OR Visiting University Student |
| LAT | 373 | Roman History I: Foundations and Republic | Traces the growth of Roman power from Rome's humble beginnings in the eighth century B.C. to its domination of the Mediterranean and the transformation of the Roman Republic into the Roman Empire after the Battle of Actium (31 B.C.). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 373 or LAT 373 or SLC 373 |
| LAT | 374 | Roman History II: The Roman Empire | The Roman Empire from the reign of the first emperor, Augustus (27 B.C.-A.D. 14), to that of Justinian (A.D. 527-565), focusing on the lives of the Roman emperors, the society and culture of the empire, and the profound changes that eventually contributed to the empire's collapse. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 374 or LAT 374 or SLC 374 |
| LAT | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| LAT | 421 | Roman Literature | Readings in the Latin masterpieces. Authors read change each year in accordance with needs of the class. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): LAT 202 OR Visiting University Student |
| LAT | 444 | Heroes, Ancient and Modern | Explores the heroic literature of the ancient Greeks and Romans, then traces the classical tradition and reception of the classical hero in medieval and modern texts. Incorporates history, art history and material culture from the relevant societies to supplement study of the texts involved. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only GRK 444, LAT 444, SLC 444 or SLC 494 (Heroes: Ancient and Modern) |
| LAT | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| LAT | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| LAT | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| LAT | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| LAT | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|------------------------------------|------------------------------------|-------|-----------------|--|
| LAW | 210 | Introduction to American Legal System and Business Law | Introduces the American legal system and an overview of laws that impact business in the United States. Initially examines the questions: What is law? What is the source, nature, and scope of laws; and how is law shaped by our culture and political institutions? How is the American legal system structured and operated? The majority of substantive content examines the role of law in business. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Prerequisite(s): minimum sophomore standing OR Visiting University Student |
| LAW | 310 | The Global Legal Community | Introduces the building blocks of the developing "global legal community," global governance institutions, both public and private, international law and transnational legal regimes. Examines how dynamic area of law is influenced by, and influences the conduct of the international and domestic relations. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Pre-requisite: Junior or Senior standing; Credit is allowed for only LAW 310 or 394 (The Global Legal Community) |
| LAW | 315 | Foundations in American Business Law | Explores the foundations of American business law. Topics covered include: the structure and processes of the U.S. legal system, a comparison of transactional law and business litigation concepts and processes, and the role of regulation in the free market. Students read law cases and other legal texts such as legislation, professional and academic legal writing. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Prerequisite(s): minimum 45 hours |
| LAW | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | |
| LAW | 480 | Business Law | Surveys business law across the spectrum from Main Street to Wall Street. Begins with a hypothetical business established by an entrepreneur in her garage, the evolution of the formation and operation of this business as a sole proprietorship, and a transition of the business to a partnership, LLC and corporation. Follows this venture through the typical legal requirements of picking a name, seeking a trademark, defining ownership, appointing officers and directors, hiring staff, navigating the fiduciary duties owed to owners of the business, protecting intellectual property, raising capital, government regulations, and ultimately the structure of a successful exit for the owners by "going public" or sale of the company. Topics included are taxation, creditors rights, technology transfer, contracts, contemporary issues and current events. Capstone course is designed to assess students' recognition of the intersection of law and business, develop critical thinking skills by use of the case method, encourage speaking and class participation and emphasize writing skills. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Prerequisite(s): Business (Law) BA major; LAW 210; LES 305 or any 300- or 400-level LAW course; minimum junior standing OR Visiting University Student |
| LAW | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | |
| LAW | 515 | Contracts | Explores common law legal method and the structure of Article 2 of the U.C.C. in the context of issues of contract formation. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3-5 | | |
| LAW | 516 | Criminal Law | Substantive law of crimes. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | |
| LAW | 517 | Torts | Legal protections of personality, property, and relational interests against physical, economic, and emotional harms. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | |
| LAW | 518 | Civil Procedure | Explores the structure of a lawsuit and techniques of alternative dispute resolution. Specific topics include commencement of suit, joinder of parties, discovery, pretrial motions, subject matter and personal jurisdiction, res judicata, collateral estoppel, and choice of law under the Erie doctrine. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3-5 | | |
| LAW | 519 | Legal Method and Writing | Examines methods used to analyze legal problems. Reviews precedent statutory construction and basic res judicata problems. Use of basic legal writing formats. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 522 | Constitutional Law | Role of courts in the federal system, distribution of powers between state and federal governments, and the role of procedure in litigation of constitutional questions. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | |
| LAW | 523 | Property | Indicia of ownership, found property, estates in land, landlord tenant, nonpossessory interests in property, nuisance, land use planning, and transfers of interests in property. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | |
| LAW | 524 | Legal Advocacy | Continuation of LAW 519. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2 | | |
| LAW | 530 | Fundamentals of Contract Law | Explores the fundamental principles of contract law under the common-law and Uniform Commercial Code statutory provisions. Focuses on issues of contract formation and interpretation, defenses to enforcement, warranties and conditions, and remedies for breach of contract. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Prerequisite(s): Master of Legal Studies major; Credit is allowed for only LAW 530 or LAW 598, Fundamentals of Contract Law |
| LAW | 540 | Legal Analysis | Enhances study and exam skills and facility with legal analysis. Helps students perform their best in all courses throughout law school, providing tools with which they can continue to build skills. Enables students to effectively prepare for the bar exam after graduation with the aim of passing it on first sitting. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 540 or LAW 598 (Legal Analysis) |

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| LAW | 581 | U.S. Law and Legal Analysis | Introduces non-JD students to the U.S. legal system and to the types of legal reasoning used by U.S. lawyers and judges. Provides the necessary instruction to use legal reasoning in work, including reading and understanding cases and statutes and applying existing law to the issue presented. Extensive written legal analysis exercises. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Prerequisite(s): Laws (Global Legal Studies) or Legal Studies or Master of Sports Law and Business student |
| LAW | 582 | Patent Drafting | Prepares students to draft patent applications on behalf of clients. Additionally, students learn the techniques and language necessary to reply to Offices Actions issued by the United States Patent and Trademark Office (USPTO). Provides significant drafting experience, requiring three separate writing submissions and revisions based on instructor feedback throughout the course. Students create work product examples that can be shared with potential employers and/or prospective clients. | N | LEL | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; LAW 585 |
| LAW | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LAW | 585 | Comprehensive Patent Practice | Prepares students for the patent prosecution process, as administered by the United States Patent and Trademark Office (USPTO). Uses a "cradle to grave" approach, beginning with the earliest steps taken when preparing to draft a patent application for a client and ending with post-decision options and activities available to those awarded with an issued patent or denied an issued patent. | N | LEL | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-5 | | Prerequisite(s): College of Law student |
| LAW | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | |
| LAW | 596 | Professional Legal Writing | Teaches non-JD students how to organize a legal research project by analyzing the facts and identifying the issues involved, determining the research tools needed to correctly investigate the legal problem, and systematically using these tools to strengthen and support the desired legal argument. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisites: Laws (USLaw&Global Legal Pract) or Legal Studies students |
| LAW | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | |
| LAW | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | |
| LAW | 600 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Pre-requisite: College of Law student |
| LAW | 601 | Antitrust Law | Legislation and its implementation to prevent monopoly and business practices in restraint of trade, including restrictive agreements involving price-fixing, trade association activities, and resale price maintenance. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisites: College of Law student |
| LAW | 602 | Civil Procedure II | Focuses on the Rules of Civil Procedure and how lawyers use the Rules in litigating civil cases from initiation through the pre-trial stages. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3-4 | | |
| LAW | 603 | Conflict of Laws | Problems arising when the operative facts of a case are connected with more than one state or nation. Choice of law, bases of jurisdiction, effect of foreign judgments, and underlying federal and constitutional issues. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LAW | 604 | Criminal Procedure | Nature of the criminal procedural system with special focus on constitutional protections for the accused. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Pre-requisites: College of Law student |
| LAW | 605 | Evidence | Principles and practice governing the competency of witnesses and presentation of evidence, including the rules of exclusion and roles of lawyer, judge, and jury under the adversary system. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3-4 | | Pre-requisites: College of Law student |
| LAW | 606 | Federal Income Taxation | Federal income tax in relation to concepts of income, property arrangement, business activity, and current tax problems, with focus on the process of tax legislation and administration. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3-4 | | Pre-requisites: College of Law student |
| LAW | 607 | Nanotechnology Law and Policy | Provides an overview of the legal and policy issues relating to nanotechnology, including risk management, national and international regulations, intellectual property, privacy issues, and liability issues. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |

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| LAW | 608 | Taxation of Business Entities | Key concepts and issues in the taxation of business entities, including C corporations, S corporations, LL.C.s and partnerships. Considers the tax issues that arise when forming a business entity, how to treat income earned by the entity and distributions from the entity to its owners, and consequences of dissolving or selling business entities. Coursework includes review of specific code provisions, administrative materials and important cases. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; LAW 606; Credit is allowed for only LAW 608 or LAW 691 (Tax Business Entities) |
| LAW | 609 | Administrative Law | A large portion of federal law comes from administrative agencies such as the Environmental Protection Agency, the National Labor Relations Board and the Department of Defense. Examines the institutional role and legitimacy of these federal administrative agencies. Topics include the source of administrative authority; the rationale for delegation of authority to administrative agencies; constitutional constraints on agency power; the different forms of agency rulemaking; agency adjudication of facts and law; the scope and purpose of judicial review of agency action; and the degree to which administrative agencies exercise executive, legislative and judicial powers. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 609 or LAW 600 (Administrative Law) |
| LAW | 610 | Advanced Criminal Procedure | Topics in criminal procedure, with emphasis on legal constraints on grand jury investigations, police practices, pretrial release, preliminary hearings, prosecutorial discretion, and plea bargaining. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 611 | Estate and Gift Tax | Tax laws relating to transfer of wealth both at death and during lifetime, including federal estate tax, gift tax, and income taxation of estates and trusts. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student; LAW 606 |
| LAW | 612 | Family Law | Legal and nonlegal problems that an individual may encounter because of a situation as a family member. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Pre-requisite: College of Law student |
| LAW | 613 | Federal Courts | Federal judicial system; relationship of federal and state law; jurisdiction of federal courts and their relation to state courts. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 614 | International Contracts | Explores the laws applicable to international contractual relations, focusing heavily on the United Nations Convention on Contracts for the International Sale of Goods. One of several offerings in the field of International Business Transactions, touches on choice of law rules and a comparison of selected UCC with CISG provisions; a comparison of the contract law of selected foreign nations with the UCC; and the law of contracts in the United States. The casebook is heavily oriented toward a problem method of study. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 615 | Public International Law | Role of law in international disputes. Considers drafting and interpretation of treaties and multilateral conventions. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Pre-requisite: College of Law student |
| LAW | 616 | Jurisprudence | Introduces legal philosophy, with readings on the nature of law and legal reasoning, the relationship between law and morality and equality and social justice. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Pre-requisite: College of Law student |
| LAW | 617 | Genetics and the Law | Provides background on genetics and recent genetic advances; addresses the legal consequences and issues associated with such advances. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Prerequisite(s): College of Law student or College of Health Solutions graduate student; Credit is allowed for only BMD 617 or LAW 617 |
| LAW | 618 | Decedent's Estates | Substantive concepts involved in transmitting wealth, including interstate succession, wills and will substitutes, the modern trust as a family protective device, creation of future interests in a planned estate, social restrictions of a nontax nature, and methods of devoting property to charitable purposes. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Pre-requisite: College of Law student |
| LAW | 619 | Energy Law and Policy | Examines laws relating to the ownership, consumption and conservation of energy resources, including coal, petroleum, natural gas, sunlight and wind. Explores and analyzes laws that allocate interests in energy resources and that regulate energy production and delivery strategies so as to promote economic efficiency and to mitigate adverse impacts on the natural environment. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Prerequisite(s): College of Law student; Credit is allowed for LAW 619 or LAW 691 (Energy Law & Policy) |
| LAW | 620 | Civil Rights Legislation | Coverage of the rights and remedies provided by federal civil rights legislation, principally, the key provisions of the Reconstruction Era Civil Rights Acts, portions of the employment discrimination legislation, and voting rights legislation. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 621 | Sales | Advanced issues involving the formation and interpretation of sales and lease contracts. Focuses primarily on Articles 2 and 2A of the Uniform Commercial Code. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 622 | Secured Transactions | Secured transactions under Article 9 of the Uniform Commercial Code and other relevant sections. Overview of the creation, perfection, and priority effects of security interests. Financing of business enterprise and consumer credit. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|------------------------------------|------------------------------------|-------|-----------------|--|
| LAW | 623 | Fourteenth Amendment | Divided into three unequal parts, first explores the antebellum antecedents that are relevant to understanding the Fourteenth Amendment. In the second part, studies the early interpretations of the Fourteenth Amendment, from about 1873 to about 1955. In the third, longest part of the course, explores modern interpretations of the Fourteenth Amendment, and particularly the application of "equal protection" to race and sex discrimination; the application of "substantive due process" and fundamental rights adjudication to sexual intimacy, abortion rights and same-sex marriage; and the debate over the incorporation of the bill of rights against the states. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 623 or LAW 691 (14th Amendment) |
| LAW | 624 | Community Property | Property rights of husband and wife; the Arizona community property system; homestead. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-2 | | Pre-requisite: College of Law student |
| LAW | 625 | Survey of Individual Rights in Constitutional Law | Fundamental protection for person, property, political, and social rights. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3-4 | | Prerequisite(s): College of Law student |
| LAW | 626 | Writing for Law Practice | Helps students attain an advanced level of writing proficiency by exposing them to a broad range of legal documents. | N | SEM | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Pre-requisites: Juris Doctor Candidate; Credit is allowed for only LAW 626 or 665 |
| LAW | 627 | Corporate Taxation | Problems in taxability of the corporation, corporate distributions, and corporate reorganizations. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Prerequisite(s): College of Law student; LAW 606 with C or better |
| LAW | 628 | First Amendment | Offers a comprehensive and in-depth examination of the rights of freedom of speech and the press secured by the First Amendment of the United States Constitution. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed only for LAW 628 or LAW 791 (First Amendment) |
| LAW | 629 | Employment Law | Employment law topics including testing, privacy, OSHA, FLSA, benefits, worker's compensation, rights to compensation, workplace emotional injuries, termination, and sexual harassment. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Pre-requisite: College of Law student |
| LAW | 630 | Employment Discrimination | Focuses primarily on Title VII of the Civil Rights Act of 1964, the Age Discrimination in Employment Act, and the Americans with Disabilities Act. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 631 | Environmental Law | Litigation, administrative law, and legislation relating to problems of environmental quality. Topics covered may include air and water pollution, toxic substances, pesticides, and radiation. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Pre-requisite: College of Law student |
| LAW | 632 | Federal Indian Law I | Inquiry into legal problems special to American Indians and tribes. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Pre-requisite: College of Law student |
| LAW | 633 | Law, Litigation, and Science | Fills a gap in the education of most lawyers, namely, how to effectively think about and use empirical evidence. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 634 | Election Law | Explores the law governing politics and elections in the United States. Examines a variety of topics, including: the Constitution and its protection of the right to vote; reapportionment; the Voting Rights Act; gerrymandering; the constitutional rights of political parties; campaign finance regulation; and election administration (e.g., the use of electronic voting equipment, provisional and early voting). Also considers the relationship between these topics and partisanship. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 634 or LAW 691 (Election Law) |
| LAW | 635 | Juvenile Law | Special problems in the juvenile system. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 636 | Land Use Regulation | Legal problems in the regulation and control of land development by state and local governments. Administration of zoning, subdivision, and other planning controls; issues of fairness and procedure in the utilization of such controls. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 637 | The Litigation Experience | Offers the opportunity to serve as trial lawyers in a simulated case. Using a "learning by doing" format, students take a hypothetical civil or criminal lawsuit from the pleading stage through discovery, pretrial motion practice, ADR and trial. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): Juris Doctor of Law student; Pre- or corequisite(s): LAW 605 |
| LAW | 638 | Professional Responsibility | Emphasizes the Model Rules and Model Code that govern the professional responsibility of lawyers and their interpretation and application. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Pre-requisite: College of Law student |
| LAW | 639 | Natural Resource Law | Examines the constitutional basis for federal land management and the different kinds of public lands management schemes (e.g., parks, forests, wildlife refuges), emphasizing acquisition of right to, and regulation of, the different uses of public lands and resources (e.g., mining, grazing, timber, wildlife habitat, recreation). | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Prerequisite(s): College of Law student |
| LAW | 640 | Securities Regulation | Selected problems arising under the major statutes concerned with regulating the securities market. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Prerequisite(s): College of Law student; LAW 654 |
| LAW | 641 | Foreign Relations Law | Examines the constitutional and statutory doctrines related to the foreign relations of the United States. Analyzes the distribution of foreign relations powers between the Executive, the Congress and the Courts. Also covers topics including the status of treaties and other types of international agreements, the role of the states in foreign relations, and recent developments in foreign relations law. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 641 or LAW 791 (Foreign Relations Law) |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|------------------------------------|------------------------------------|-------|-----------------|---|
| LAW | 642 | White Collar Crime | Examines the ways in which white collar crime is prosecuted, principally in the federal system. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 643 | Water Law | Acquisition of water rights; water use controls; interstate conflicts. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Pre-requisite: College of Law student |
| LAW | 644 | Trademark and Unfair Competition Law | In-depth examination of substantive trademark and unfair competition law with focus on both policy and practical considerations. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 644 or LAW 691 (Trademark and Unfair Competition Law) |
| LAW | 645 | Patent Law | In-depth examination of substantive patent law as it applies to the commercialization and enforcement of patent rights. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Pre-requisite: College of Law student |
| LAW | 646 | Copyright Law | Legal rights in original forms of human expression. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3 | | Pre-requisite: College of Law student |
| LAW | 647 | Mass Tort Litigation | Examines unique procedural and substantive issues that arise in mass tort litigation. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 648 | Law, Accounting and Finance | Presents the fundamentals of accounting as well as the accounting principles that form the foundation for current day accounting. Students gain an understanding of financial statements, financial statement and auditing reporting requirements and a general overview of the entities that set the rules, ethics and standards for the accounting profession. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 648 or LAW 691 (Law, Accounting, and Finance) |
| LAW | 649 | Scientific Evidence | Examines the use of scientists and scientific tests or studies in criminal and civil litigation. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 650 | Health Law | Introduces health law. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 651 | Public Health Law | Addresses the relationship between the state and the population's health. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 652 | Bioethics and the Law | Covers a range of issues relating primarily to human reproduction and life and death decisions. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 653 | Bankruptcy | Covers basic bankruptcy law and practices. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Pre-requisite: College of Law student |
| LAW | 654 | Business Organizations | Covers the primary forms of business organizations: partnerships, limited partnerships, limited liability companies, and corporations. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 3-4 | | Pre-requisite: College of Law student |
| LAW | 655 | Chapter 11 | Covers the law and practice of reorganizing business entities under Chapter 11 of the United States Bankruptcy Code. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Pre-requisite: College of Law student |
| LAW | 656 | Valuing Real Estate and Closely-Held Businesses | Focuses on the valuation of interests in real property and closely-held businesses. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 657 | Private Property Rights | Explores the conflict between property rights and the right of the government to acquire private property for public use. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 658 | Arizona Constitutional Law | Examines the basic provisions of the Arizona Constitution and the judicial decisions interpreting those provisions. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Prerequisite(s): College of Law student |
| LAW | 659 | Mergers and Acquisitions | Focuses on mergers and acquisitions law with an emphasis on the practical aspects of structuring, negotiating and documenting transactions. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; LAW 515; Pre- or corequisite(s): LAW 654; Credit is allowed for only LAW 659 or LAW 691 (Mergers and Acquisitions) |
| LAW | 660 | Advanced Estate Planning | Covers advanced estate planning and estate administration issues. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 661 | Advanced Bankruptcy Law | Explores advanced topics in bankruptcy law, theory and practice. Highly recommend course in secured transactions or bankruptcy. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 661 or LAW 791 (Advanced Bankruptcy) |
| LAW | 662 | Alternative Dispute Resolution and Employment Law | The use of alternative dispute resolution has been most extensive in the area of employment law. Mediation and arbitration are widely used not only in the collective bargaining setting, but also in virtually every aspect of the employment relationship. Offers a comprehensive review of the subject with special emphasis on the extensive body of law that has developed in regulating employer-imposed arbitration. Discussion of mediation includes use of simulations to enable the students to understand how mediation can effectively resolve employment disputes. Opportunities to observe real mediations of employment disputes. Experienced attorneys discuss the "real world" use of employment ADR from a plaintiff's and a defendant's perspective. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 663 | Prosecuting Trademark Applications | Focuses on the application process before the United States Patent and Trademark Office ("USPTO") for trademark registrations. Includes considerations to be evaluated prior to commencing the application process, including pre-application trademark searches and evaluating marks for registrability, bases for seeking registration, priority of use, priority of application, use in interstate commerce, and specimens of use. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 663 or LAW 791 (Prosecuting Trademark Applications) |

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| LAW | 664 | Intellectual Property | Surveys the laws conventionally grouped as intellectual property, with a focus on patents, copyrights, and trademarks. Explores the policy rationales for each body of law. Particularly relevant for two types of students: (a) those who are unsure they want to specialize in IP and want a general introduction, and (b) those who do not have room in the schedules to take all of the upper-level offerings here at ASU. Not appropriate for students who have already taken the upper-level courses in copyright, trademark, and patents; students who have taken these offerings may be withdrawn. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | |
| LAW | 665 | Race and the Law | Examines issues of race within American law through a historical and modern context. Discusses how race and ethnicity affect legislatures, court rooms and communities. Also examines the use of the law both to perpetuate and to reduce and eliminate racial injustice in the United States from the formulation of the Declaration of Independence, the Articles of Confederation and the Constitution through slavery, Jim Crow, segregation, desegregation, the war on drugs, and up through the present day. Explores the biases and prejudices shared by judges, juries, parties, clients and lawyers, as well as our own biases and how those shape the way we view the law. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 665 or LAW 691 (Race and the Law) |
| LAW | 666 | Corporate Governance | Explores current issues in the corporate governance of publicly traded business corporations under both state and federal law. Also addresses the ethical dilemmas with respect to governance issues that lawyers face when advising corporate clients. | N | SEM | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; LAW 654; Credit is allowed for only LAW 666 or LAW 691 (Corp Governance) |
| LAW | 667 | FDA Regulation | Examines the regulation of drugs, medical devices, and biologics (e.g. vaccines) by the Food and Drug Administration. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Prerequisite(s): degree- or nondegree-seeking graduate |
| LAW | 668 | Trade Secrets and Restrictive Covenants | Considers the law of trade secrets, focusing on the principles set forth in the Uniform Trade Secrets Act, the Restatement of Torts, the Restatement (Third) of Unfair Competition, and the Defend Trade Secrets Act. The second portion of the class focuses on the law of restrictive covenants, with an emphasis on Arizona case law and principles. Students learn principles of drafting effective restrictive covenants, non-disclosure and confidentiality agreements, as well as an overview of litigation strategies and techniques. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 668 or LAW 691 (Trade Secrets and Restrictive Covenants) |
| LAW | 669 | Bar Exam Preparation | This two-credit course prepares students to take (and pass) the bar exam. The principal focuses of this course are: (1) writing and analysis for bar exam essays, (2) the MBE (multiple choice section of the bar exam), and (3) the MPT (Multi-state Performance Test) as they pertain to the Arizona bar exam. Although this course primarily focuses on the Arizona bar exam, the skills and strategies learned are applicable for any state's bar exam. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Juris Doctor, JD student; Credit is allowed for only LAW 669 or LAW 791 (Bar Prep) |
| LAW | 670 | Pro Sport Team Operations and Legal Issues | Deals with various legal issues confronted by the Team Counsel of a professional sports team. Reviews the business, risk management, intellectual property and financial issues that raise in connection with the operation of a team. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 670 or LAW 691 (Business Operations for Team Sports) or SLB 519 |
| LAW | 671 | Sports Venue Construction: Legal and Financial Issues | Studies the structure and issues related to stadium financing in professional and collegiate sports. Covers issues related to professional league expansion and team relocation. Discusses carefully read assigned materials. | N | SEM | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 671 or SLB 520 |
| LAW | 672 | MLB's Impact on Law and Society | Examines how MLB served as a catalyst for change in American law and society post WWII, and the legal and business developments that have shaped modern professional baseball. Addresses such diverse topics as the integration of African-American players into MLB and diversity in MLB; labor relations (collective bargaining, free agency, labor stoppages and drug testing); league operations; franchise relocation; expansion; globalization of the game; the business and marketing of the game in the digital age and the resulting legal implications; and the state of the game in the 21st century. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 672 or SLB 523 |
| LAW | 673 | Risk Management for Venues | American tort law, particularly the foundational elements of duty-breach-causation-harm, as well as causation and reasonableness, as a means of understanding the nature of risk and the tools available to address it in the many circumstances that arise during live sports and entertainment events. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 673 or SLB 521 |

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| LAW | 674 | NCAA Compliance, Infractions and Enforcement | Provides a real-world view of a Division I Power 5 Conference Compliance Office and the manner in which such an office directs its institution's efforts to maintain compliance with National Collegiate Athletic Association and member conference legislation governing intercollegiate athletics. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 674 or LAW 791 (Infractions/Compliance - Intercollegiate Athletics) or SLB 522 or SLB 598 (Infractions/Compliance-Intercollegiate Athletics) |
| LAW | 675 | Professional Sports Law | Studies law, revenue, branding and problem solving in the professional sports context, focusing primarily on professional sports league governance and regulation, labor relations, representing and marketing players and coaches, and issues of equity and race. Also examines international issues related to professional sports. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 675 or LAW 691 (Non-Amateur Sports Law) or LAW 691 (Professional Sports Law) or SLB 512 |
| LAW | 676 | Amateur Sports Law | Studies law, policy and problem solving in the amateur sports context, focusing primarily on interscholastic and intercollegiate athletics. Title IX and racial equality in sports. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 676 or SLB 510 or LAW 791 (Amateur Sports Law) or LAW 791 (Non-Professional Sports Law) |
| LAW | 677 | Law and Business of Sports Branding | Examines legal and business issues associated with personal and business branding, particularly in the context of professional and collegiate sports. Discusses and analyzes issues relating to: (1) what constitutes a "brand" and how a "brand" is developed; (2) the recent surge in personal branding by athletes, entertainers and other celebrity personalities; (3) athletes and other celebrities who have transformed their fame into personal branding platforms that support large business enterprises; (4) the basic principles of trademark law and how those principles apply to business and personal brands; (5) regulation and control of brands in professional and collegiate sports, and the Olympics; (6) licensing and corporate sponsorship; and (7) ambush marketing. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 677 or SLB 524 |
| LAW | 678 | The Moral Leader | Successful lawyers are presented with moral and ethical choices throughout their professional careers. This innovative course encourages students to confront those fundamental moral challenges, to develop skills in moral analysis and judgment, and to come to terms with their own definition of moral leadership and how it can be translated into action. Content is based on the leadership course, The Moral Leader, brought by Professor Robert Coles, an educator and psychiatrist, to Harvard Business School in the 1980s. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 678 or LAW 691 (The Moral Leader) |
| LAW | 679 | Trust Law | Provides an overview and in-depth coverage of the law of trusts. Topics include: the creation of trusts; duties of the trustee; enforcement of trusts; modifications of trusts; use of trusts in estate planning, including aspects of the federal estate tax and federal gift tax; drafting issues concerning trusts; powers of appointment; and the rule against perpetuities. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; LAW 618; Credit is allowed for only LAW 679 or LAW 691 (Trust Law) |
| LAW | 681 | Construction Law | The construction of an actual project serves as the "laboratory" for the course. Many of the problems presented in class each week are based on "real time" events occurring on that project and the class visits the actual construction site during one of the classes. Focuses on practical construction law issues taught by an experienced practicing lawyer. Topics include: types of construction contracts; the basic relationships among the owners, architects/engineers, general contractors, subcontractors and material suppliers on a project; express and implied warranties; the role of the schedule and claims related to scheduling; change orders and concealed site condition claims; the Economic Loss Doctrine; mechanics' liens, stop notices and other payment remedies; proving damages; and the trial of a construction case and the use of expert witnesses. Expects extensive student participation during class. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 681 or LAW 691 (Construction Law) |
| LAW | 682 | Persuasive Speech | This performance-based course focuses on persuasive communication skills. Borrowing proficiencies typically developed for the theatre and applying them in a legal context, students gain increased confidence in communicating and advocating in the courtroom or ADR setting by developing such skills as: pacing, use of gestures, voice projection, voice modulation, and body positioning. Students are on their feet speaking to an audience (the class) each day of class. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): Juris Doctor of Law student; Credit is allowed for only LAW 682 or LAW 791 (Persuasive Speech) |
| LAW | 685 | Separation of Powers | Studies the separation of powers in our federal government by examining the impact of key historical events on constitutional law. Topics include the election of 1800, the Civil War, the Great Depression and World War II, presidential impeachments, and the war on terror. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 685 or LAW 691 (Separation of Powers) |

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| LAW | 686 | Victims in Criminal Procedure | Considers the emerging field of crime victims' rights and the tensions victims' rights create with traditional prosecution and defense interests. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 686 or LAW 791 (Victims in Criminal Proceed) |
| LAW | 687 | Civil Pretrial Practice | Identifies the skills needed for civil pretrial practice and to appreciate what is involved in developing and applying these skills. In addition to discussion of the rules and their application, class focuses on custom and practice with the goal of preparing students for the practice of law in Arizona. There is insufficient time in this class, or frankly any class, to develop the skills to a point where students can feel comfortable that they have sufficient expertise to competently apply these skills. However, by participating in class activities that involve implementing these skills in the context of a specific case, students should leave with sufficient understanding of these skills that they can move quickly into and through the learning process that comes with practice experience. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 687 or LAW 691 (Civil Pretrial Practice) |
| LAW | 688 | Jury Selection | Provides a firm foundation for selecting juries in both civil and criminal cases. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): Juris Doctor, JD student; Credit is allowed for only LAW 688 or LAW 791 (Jury Selection) |
| LAW | 689 | Health Technologies, Innovation and the Law | Provides an overview of the technologies that are transforming health care today and tomorrow, and the novel legal, policy and ethical issues these new technologies present. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 689 or LAW 791 (Health Technologies, Innovation & the Law) |
| LAW | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): College of Law student |
| LAW | 696 | Privacy, Big Data and Emerging Technologies | Provides expertise in how big data and emerging technologies are changing privacy and security, and the legal responses to these changes. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 696 or LAW 791 (Privacy, Big Data & Emerging Technology) |
| LAW | 697 | Neuroscience, Ethics and the Law | Brain science has become part of our lives. This interactive seminar introduces the normative and practical dimensions of both law and ethics in regard to advances in the neurosciences. Covers techniques and technologies including: neuroimaging, neurostimulation, neurosurgery, neural stem cell research, neurogenetics and neurogenomics and psychiatry. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 697 or LAW 791 (Neuroscience, Ethics & the Law) |
| LAW | 701 | Arbitration | Examines the Federal Arbitration Act and the Uniform Arbitration Act as it has been adopted in Arizona. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 702 | Alternative Dispute Resolution | Broad exposure to methods of settling disputes in our society such as mediation, arbitration/conciliation, and negotiation, including examination of the current litigation model. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 703 | Law, Science, and Technology | Legal mechanisms used in dealing with various issues raised by contemporary science and technology. Explores current legal responses to science and technology. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 704 | Federal Indian Law II | Surveys the federal legal doctrines surrounding Indian ownership and exploration of resources. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 705 | Media Law | Examines First Amendment principles and statutory and regulatory requirements with respect to the conventional print and broadcast media, as well as recent technologies such as cable. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 706 | Immigration Law | Explores political, economic, social, and legal issues concerning immigration. Specific topics covered include citizenship and naturalization, denaturalization, deportation, and refugee rights and asylum. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 707 | Elder Law | Looks at legal and policy questions related to aging individuals and an older society. | N | SEM | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 708 | Mediation and Settlement Advocacy | Mediation and judicial settlement conferences are now the mainstream form of dispute resolution. Every attorney participates in some form of settlement process. This highly interactive seminar offers students practical and theoretical training in the mediation and settlement of civil disputes. Taught through a case study in which actors play the role of parties to a dispute. Students interview the clients, draft a mediation memorandum, meet with the clients to prepare for a mediation, and then actually represent the clients during a mediation. In addition, students study mediation and settlement advocacy theory as well as legal issues relevant to mediation and settlement. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 708 or LAW 791 (Mediation Advocacy) |
| LAW | 709 | International Human Rights | International rules and procedures governing the protection of human rights. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |

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| LAW | 710 | Artificial Intelligence, Law, Ethics and Policy | Explores the growing applications of artificial intelligence and studies the legal, ethical and policy implications of these applications. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 710 or LAW 791 (Artificial Intelligence:Law,Ethics & Policy) |
| LAW | 711 | Blockchain and Cryptocurrencies | Blockchain and cryptocurrencies are rapidly evolving technologies that are already disrupting the practice and substance of law. The first blockchain, Bitcoin, has become an international sensation as its value skyrockets and plummets, but Bitcoin and other cryptocurrencies are just one small corner of blockchain applications. This course familiarizes students with the technology behind blockchain, explores the legal and policy applications and implications of blockchains and cryptocurrencies. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 691 (Blockchain & Cryptocurrencies) or LAW 711 |
| LAW | 712 | Sustainability Law Research Seminar | Enables students to work closely with a full-time professor and with peers on substantive legal academic research projects in the area of environmental sustainability. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 712 or LAW 791 (Sustainability Seminar) |
| LAW | 713 | Tribal Law and Government | Analyzes particular problems in tribal law. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 714 | Biotechnology: Science, Law and Policy | Examines the legal, regulatory, scientific, policy and ethical aspects of biotechnology, focusing on genetically engineered plants, animals, foods, drugs, vaccines and other products. Covers issues such as regulation, labeling, liability issues, intellectual property issues, antitrust, the role of the public in biotechnology decisions, international regulation, international trade, bioprospecting/biopiracy, xenotransplantation, animal cloning, synthetic biology, and bioterrorism. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 714 or LAW 691 (Biotechnology) |
| LAW | 715 | Sports Law | Unique legal problems relating to professional sports, including their relationship to antitrust laws, the nature of player contracts, and associated tax problems. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 716 | Contract Drafting | Provides the opportunity to learn the basic principles of contract drafting, interpretation and negotiation, including drafting contracts that: (1) effectuate the clients' needs; (2) anticipate, and hopefully avoid, potential legal disputes; and (3) are written in plain language. Students represent a particular client throughout the course, and are required to work independently and collaboratively to draft a series of written contracts on behalf of the client. Students also learn about the role of transactional lawyers, ethical considerations, and effective client communications. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): Juris Doctor of Law student; LAW 515; Credit is allowed for only LAW 716 or LAW 691 (Contract Drafting) |
| LAW | 717 | Reproduction, Reproductive Technologies and the Law | When it comes to the creation of human life, yesterday's science fiction has become today's reality. Stories about baby sellers, egg freezing, runaway surrogate mothers, genetic enhancement and ootomoms have exposed the lack of meaningful legal regulation of assisted reproductive technologies and have spurred calls for reform. But the extent to which the State should regulate who can reproduce and under what circumstances raises a host of difficult questions. This course searches for answers to those questions by considering the role the Constitution, tort, contract, property and criminal law have traditionally played in advancing the State's interest in reproduction and discussing how those doctrines should adapt to new technologies and family configurations. Topics covered include abortion, gamete donation, In Vitro Fertilization, surrogacy, genetic screening and enhancement, eugenics, medical ethics, and alternative family formation. | N | SEM | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 717 or LAW 791 (Reproduction and the Law) |
| LAW | 718 | Economic Development in Indian Country | Focuses on the unique legal, economic, and political issues confronting tribal governments in developing diversified reservation economies. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: Law major; Credit is allowed for only LAW 718 or PUP 718 |
| LAW | 719 | International Indigenous Rights | Examines the developments in recognizing indigenous rights in people's systems of international law. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 720 | Indian Gaming Law | Surveys the law surrounding the Indian gaming industry. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): College of Law student |
| LAW | 721 | Education and the Law | Current legal problems affecting institutions of higher education, faculty, students, and governing boards. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 722 | Law and Psychology | Provides an overview of classic and modern research in the field of law and psychology. Students obtain an understanding of how psychology has been and could be used to inform law and social policy in a variety of civil and criminal domains. Requires no background in statistics or experimental methodology. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 722 or LAW 791 (Law and Psychology) |
| LAW | 723 | Cultural Resources Law | Focuses on the protection of Native American cultural resources and religions. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |

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| LAW | 724 | Privacy | Traces the development of privacy law with special attention to contemporary challenges. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 725 | Critical Race Theory | Focuses on the idea of "race" as a social/political construct and examines the impact of American law on the construction of race. Provide historical and legal background necessary to understand the significance of race within American law and policy. Evaluate a number of legal frameworks that address issues of race and ethnicity in various contexts (e.g. segregation laws, civil rights law, federal Indian law, international human rights law). Assesses various jurisprudential accounts evaluating the ethical and moral underpinnings of the law. Critical race theory is known as a jurisprudential framework that is often critical of standard liberal approaches. Evaluates the critiques of liberalism and the scholarship of both liberal and critical theorists. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 726 | Indian Legal Research | Teaches students how to research Federal Indian law and tribal law issues. In addition to providing instruction about how to use particular research tools and sources, this course teaches students how to analyze research problems and how and why to use particular types of sources in their legal analysis. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 726 or LAW 691 (Indian Legal Research) |
| LAW | 727 | International Legal Research | Teaches students how to research international and foreign law. As a course project, students prepare a bibliography on an international law topic of their choice. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 727 or LAW 691 (Research & International Law) |
| LAW | 728 | The State Attorneys General | The legal jurisdiction of attorneys general varies significantly from state to state. Course represents the instructor's best judgment as to how to teach in a way that gets to the realities of the operations of attorneys general. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 728 or LAW 691 (The State Attorneys General) |
| LAW | 730 | Appellate Advocacy | Covers the conventions of appellate practice while further developing analytical, drafting and oral communication skills. Tasks students both with drafting an appellate brief and with presenting a formal appellate oral argument. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Juris Doctor, JD student; Credit is allowed for only LAW 730 or LAW 691 (Appellate Advocacy) |
| LAW | 731 | High-Tech Licensing | Dedicated to learning the law, skills and strategies for licensing intellectual property rights relating to technology. Familiarizes students with licensing parties' objectives, intellectual property rights to be licensed, and writing contracts to achieve the client's goals. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 731 or LAW 791 (High Tech Licensing) |
| LAW | 732 | Patent Preparation and Prosecution | Dedicated to learning the mechanics and strategies for preparing, filing and prosecuting patent applications. Familiarize students with guiding an invention from conception to patent, both domestically and abroad. Considers strategies of patent drafting to provide broad patent scope and enforceable patent claims. Knowledge of intellectual property or patent law recommended prior to taking this course. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Credit is allowed for only LAW 732 or LAW 691 (Patent Preparation) |
| LAW | 733 | Negotiation | Explores alternative models of negotiated dispute resolution, as well as the roles of lawyer and client in the negotiation process. Extensive use of simulation exercises. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 734 | Products Liability | Traces the development of products liability law; analyzes the major issues currently confronting the courts in this area. | N | SEM | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | Pre-requisite: College of Law student |
| LAW | 735 | Teaching Assistant | Legal writing teaching assistants assist a writing professor with various tasks throughout the semester. | N | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | |
| LAW | 736 | Advanced Legal Research Seminar | Focuses on a rigorous review of basic print and electronic resources and strategies for conducting legal research, federal/state. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |
| LAW | 737 | Cults and Alternative Religions | Provides opportunity to study laws and policies governing cults. While the definition of a "cult" will be a topic of initial study in the seminar, it may be conceived of loosely as a group with a charismatic leader whose members are persuaded to relinquish their self-identities and material possessions in furtherance of the group's goals. In addition to analyzing the definition of a cult, the first part of the seminar discusses the various types of cults, studying particular cults, and learning about cultic activities. The remainder covers domestic and foreign legal and policy issues generated by cults, including the legal rights of cultic organizations, anti-cult organizations, cult members, and cult members' families. Covers conventional religions that are conceptually similar to cults, to the degree that religious movements fall outside the mainstream. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | |
| LAW | 738 | Trial Advocacy | Confronts issues of trial advocacy through simulation of a variety of aspects of trial practice in a mock court setting. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Pre-requisites: LAW 605 |
| LAW | 745 | The Supreme Court | Intensive examination of selected current decisions of the U.S. Supreme Court. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-3 | | |

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| LAW | 751 | Death Penalty | Surveys the major constitutional and operational issues relating to the death penalty in the United States. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 751 or LAW 691 (Death Penalty) |
| LAW | 768 | International Business Transactions | Introduction to U.S., foreign and international law regulating cross-border business transactions and to the structure of cross-border business deals. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; LAW 515; Pre- or corequisite(s): LAW 654 |
| LAW | 769 | International Intellectual Property | Examination of international protection of intellectual property, surveying various international agreements and treaties for copyrights, patents, trademarks and trade secrets, with focus on the agreement on Trade Related Aspects of Intellectual Property (TRIPs) of the World Trade Organization. Consideration of the basic concept of territoriality, national treatment, minimum standards and political and policy concerns related to efforts to secure and strengthen protection of intellectual property internationally. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 691 (International Intellectual Property) or LAW 769 |
| LAW | 770 | Law Journal | Academic credit for successful completion of editorial work by a member of the staff of Arizona State Law Journal. | N | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Pre-requisite: College of Law student |
| LAW | 771 | Jurimetrics Journal | Academic credit for successful completion of editorial work by a member of the staff of the Jurimetrics Journal of Law, Science, and Technology. | N | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Pre-requisite: College of Law student |
| LAW | 772 | Defender Clinic | Placement in the Public Defender Clinic and related classroom component. | N | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-6 | | Pre-requisite: College of Law student |
| LAW | 773 | Civil Litigation Clinic | Student attorneys in the Civil Litigation Clinic are certified by the Arizona Supreme Court to represent people who do not have adequate resources to hire an attorney in cases such as consumer fraud, employment discrimination and wage claims, benefits eligibility for people with disabilities, and tenant's rights. Student attorneys are involved in all aspects of civil and administrative practice including interviewing and counseling clients, fact investigation, drafting pleadings, motions and appellate briefs, conducting discovery such as taking depositions and propounding interrogatories, and representing clients in trials, arbitrations and mediation. Student attorneys may also present oral argument in appellate courts. | N | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-6 | | Prerequisite(s): College of Law student |
| LAW | 774 | Prosecution Clinic | Placement with various prosecutor offices in the Phoenix area and related classroom component. | N | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-6 | | Prerequisite(s): College of Law student; LAW 605 |
| LAW | 775 | Mediation Clinic | Study of the mediation process and experience as mediators in cases pending before the justice courts and administrative agencies. | N | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-6 | | |
| LAW | 776 | Indian Legal Clinic | Provides law students the opportunity to participate in cases dealing with native peoples and Indian issues. | N | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-6 | | |
| LAW | 777 | Entrepreneurship and Small Business Clinic | Teams of ASU Law students undertake a wide array of legal services that help early stage ventures navigate the mistakes and pitfalls often made when launching and growing companies. These services may include choice of entity advising, business entity formation, contract drafting and review, intellectual property advising, employment law advising, and/or commercial lease review. | N | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-6 | | Prerequisite(s): College of Law student |
| LAW | 778 | Immigration Clinic | The Immigration Clinic collaborates with local nonprofits, governmental agencies and community advocates to identify foster children in need of immigration services. The clinic also provides legal advice and referral at events organized by community agencies, nonprofits and elected officials. | N | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-6 | | Pre-requisite: College of Law student |
| LAW | 779 | Lisa Foundation Patent Law Clinic | Trains students to perform the legal skills necessary to practice transactional patent and trademark law. | N | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 779 or LAW 791 (Patent Litigation Clinic) |
| LAW | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | |
| LAW | 781 | Independent Study | With the approval of a faculty member, a student may research a legal subject of special interest and prepare a paper suitable for publication. | Y | IND | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Pre-requisite: College of Law student |
| LAW | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Pre-requisite: College of Law student |
| LAW | 785 | Externship | Supervised, practical lawyering in an external placement proposed by the student or established by a sponsoring agency and approved by the Sandra Day O'Connor College of Law. In addition, an associated academic component is established by the student with a member of the faculty. | Y | PRA | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | |

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| LAW | 786 | Post-Conviction Clinic | Investigates claims of wrongful conviction and manifest injustice from prisoners convicted of crimes in Arizona. Post-conviction work is a specialized practice area that delves into both fundamental and nuanced aspects of criminal law and criminal procedure--one that is becoming increasingly vital as over 400 prisoners nationwide have been exonerated either in full or in part by DNA testing, and over 1,500 people have been exonerated by other means. Arizona is home to more than 40,000 prisoners and more than 5,000 on community supervision. Arizona incarcerates more people per capita than any other state in the west and ranks sixth in the country. The clinic works in conjunction with the Arizona Justice Project and some of the case profiles. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-6 | | Prerequisite(s): College of Law student; Pre- or corequisite(s): LAW 516; LAW 518; LAW 605; LAW 638; Credit is allowed for only LAW 786 or LAW 791 (Post Conviction Clinic) |
| LAW | 787 | First Amendment Clinic | Teaches the practical skills that are part of a First Amendment legal practice through engagement with clients in real cases and controversies, and train students to be familiar with the topics and related precedent that arise in such a practice. | N | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-6 | | Prerequisite(s): College of Law student; Pre- or corequisite(s): LAW 516; LAW 518; LAW 605; LAW 638; Credit is allowed for only LAW 787 or LAW 791 (First Amendment Clinic) |
| LAW | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | |
| LAW | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-15 | | Prerequisite(s): College of Law student |
| LAW | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | LEC | Y | Z3 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1 | | |
| LAW | 797 | Visiting Student Program | - | N | LEC | Y | Z3 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 0-1 | | Prerequisite(s): College of Law student |
| LDE | 261 | Landscape Architecture Design Fundamentals III | Applies design fundamentals with an emphasis on landscape architectural issues. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 4 | | Prerequisite(s) with C or better: Landscape Architecture BSLA major; ALA 100; ALA 102; ALA 121; ALA 122; ALA 124; ENG 101, 105, or 107; MAT 170; minimum 3.00 GPA OR Visiting University Student |
| LDE | 262 | Landscape Architecture Design Fundamentals IV | Applies design fundamentals to landscape architectural design with emphasis given to human factors. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | The Design School | 4 | | Prerequisite(s): Landscape Architecture major; LDE 261 with C or better |
| LDE | 361 | Landscape Architecture I | Site planning: analysis of natural and cultural features; site systems and implications for plan making and design. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Landscape Architecture major; LDE 262 with C or better; Corequisite(s): LAP 352; LDE 363; LTC 343 OR Visiting University Student |
| LDE | 362 | Landscape Architecture II | Site design: site-specific design of configured space by the creative development of form. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Landscape Architecture BSLA major; LDE 361 with C or better; Corequisite(s): LAP 352 OR Visiting University Student |
| LDE | 461 | Landscape Architecture III | Landscape ecological planning: collection and application of ecological data relevant to planning and design at landscape scale. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Landscape Architecture major; LDE 362 with C or better; Corequisite(s): LPH 411 OR Visiting University Student |
| LDE | 462 | Landscape Architecture IV | Advanced landscape architecture: integrative capstone studio with multifaceted design problems. | N | STO | N | OPT | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Landscape Architecture major; LDE 461 with C or better; Corequisite(s): LTC 446 |
| LDE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| LDE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-3 | | |
| LDE | 521 | Advanced Landscape Architectural Studio I | Explores landscape architecture and design with emphasis on the urban landscape and the significance ecology plays in the design process. Studio-based course includes reading, presentations by faculty and students, discussion, design research, conceptual design practice, and the public exhibition/presentation of this work in multiple formats. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Master of Landscape Architecture student; Credit is allowed for only LDE 521 or LDE 590 (Advanced Landscape Architecture Studio I) or LDE 590 (Applied Landscape Architecture) |

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| LDE | 522 | Advanced Landscape Architectural Studio II | Explores landscape architecture and design with emphasis on urban landscapes and human health. Studio-based course includes reading, presentations by faculty and students, discussion, design research, conceptual design practice and the public exhibition/presentation of this work in multiple formats. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): LDE 521 with C or better; Credit is allowed for only LDE 522 or LDE 590 (Advanced Landscape Architecture Studio II) or LDE 590 (Advanced Landscape Studio II) |
| LDE | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LDE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LDE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LDE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LDE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LDE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LDE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LDE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LDE | 621 | Advanced Landscape Architectural Studio III | Structured around the Design School's "traveling studio" model and provides an opportunity for graduate-level students to refine their talents while also contributing to a better future. Challenges students to work in a multidisciplinary environment to identify new design concepts that improve society and the natural environment. For approximately one week during the semester, students travel to an off-campus location (either in the U.S. or abroad) to examine a local condition there for which new design solutions are needed. Students return to ASU and continue working on the project for the semester. Studio-based course includes reading, presentations by faculty and students, discussion, design research, conceptual design practice, and the public exhibition/presentation of this work in multiple formats. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): LDE 522 with C or better; Credit is allowed for only LDE 621 or LDE 690 (Advanced Landscape Architecture Studio III) |
| LDE | 622 | Advanced Landscape Architectural Studio IV | Capstone course. Students complete a design project that demonstrates mastery of landscape architecture skills and knowledge. Requires some independent direction. The instructor determines deadlines and expectations for deliverables. Requires cooperation and collaboration between students. Design performance is the themed topic and focus. Students develop a complex design project that addresses a significant professional issue. The project explores and demonstrates how advanced design resolves that issue in a performative manner using evidence-based practices and performance-based metrics. Studio-based course includes reading, presentations by faculty and students, discussion, design research, conceptual design practice, and the public exhibition/presentation of this work in multiple formats. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): LDE 621 with C or better; Credit is allowed for only LDE 622 or LDE 593 (Advanced Landscape Architectural Studio IV) |
| LDE | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LDE | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| LDE | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LDE | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LDE | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | LEC | Y | Z3 | Herberger Institute for Design and the Arts | The Design School | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LDT | 301 | Foundations of Instructional Design | Foundations and evolution of the field of instructional design; examines accomplishments and issues in the field and explores possible career paths. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| LDT | 320 | Digital Learning Theories | Centers on learning theories and applied learning principles for the design of digital learning environments in a multitude of contexts, including professional and educational settings. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): LDT 301 OR Visiting University Student |
| LDT | 330 | Design of Digital Learning | Focuses on the design, development and implementation of digital learning objects that can be used in hybrid, blended and online learning environments in a variety of academic or organizational contexts. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): LDT 301; LDT 320 OR Visiting University Student |
| LDT | 410 | Assessment and Evaluation for Digital Learning | Covers concepts of conducting evaluation for educational and training episodes in online, hybrid, blended and other digital contexts. Provides learning opportunities for developing evaluation goals, designing instruments and tools for collecting and analyzing data, and interpreting data and reporting results. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): LDT 301; LDT 320; LDT 330 OR Visiting University Student |
| LDT | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | PRA | N | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): LDT 301; LDT 320; LDT 330; LDT 410 |
| LDT | 501 | Foundations of Learning Design and Technologies | Foundations and evolution of the field of learning design and technology; examines accomplishments and issues in the field and explores possible career paths. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| LDT | 502 | Design and Development of Instruction | Centers on the design and development of competency-based instructional materials, based on a variety of instructional design models, for learning in a multitude of settings. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| LDT | 503 | Design of Effective Communications | Explores the theory, research and practice of computer-mediated communication including principles of graphic design for the purposes of creating effective presentations, job aids/infographics and video/audio for educational purposes. Includes a focus on accessibility and Section 508 compliance. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate OR Instructional Design and Performance Improvement graduate certificate student; LDT 501 (EDT 501); LDT 502 (EDT 502) |
| LDT | 504 | Modalities of Learning | Focuses on the development, design and creation of various forms of Web-based instruction including blended, hybrid and online learning. Examines the characteristics of interactive media, synchronous and asynchronous forms of distance/online learning, eLearning software and project management. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate student; LDT 501; LDT 502 |
| LDT | 506 | Evaluation of Learning Systems | Examines procedures for evaluating educational programs, training systems and new-technology applications. Focuses on basic evaluation concepts, steps in conducting a systematic evaluation project, the preparation of an evaluation report, as well as ethical issues. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate; EDP 540, LDT 501 (EDT 501) or LDT 502 (EDT 502); Credit is allowed for only CED 525 or LDT 506 (EDT 506) |
| LDT | 507 | Performance Improvement and Leadership | Introduces the field of human performance technology. Emphasizes the analysis of performance problems, their causes, and interventions. | N | SEM | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| LDT | 508 | Design of Accessible and Inclusive Digital Learning | Focuses on the creation of accessible and inclusive learning environments through the implementation of principles of Universal Design for Learning (UDL) and the application of the Web Content Accessibility Guidelines (WCAG 2.1). | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate; Credit is allowed for only LDT 508 or LDT 598 (Design of Accessible & Inclusive Digital Learning) |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|---|
| LDT | 511 | Emerging Trends and Technologies for Learning Design | Identifies current and future trends in the field of educational technology. Examines key trends, developing technologies and the affordances these technologies might offer, as well as the challenges with implementation that might be faced. Prepares students to embrace the ever-evolving nature of teaching and learning with technology, and how this may impact the process of design. Our awareness and openness to change influences our practice, and staying current with trends is an important characteristic of any future role related to educational technology that one may have. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student OR undergraduate postbaccalaureate student |
| LDT | 523 | Issues in Online and Distance Education | Investigates current issues and trends specific to the implementation of web-based teaching and learning as well as practices for effective online instruction. Examines online learning principles, practices and their effectiveness by exploring the use of related systems and applications. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate; EDP 540; EDT 501; EDT 502 |
| LDT | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | N | LEC | N | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate post-baccalaureate; EDP 540; LDT 501 (EDT 501); LDT 502 (EDT 502) |
| LDT | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| LES | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-4 | | |
| LES | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-4 | | |
| LES | 305 | Business Law and Ethics for Managers | Legal theories, ethical issues, and regulatory climate affecting business policies and decisions. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W. P. Carey major OR non-business major; minimum 2.00 GPA; minimum 56 hours OR non-degree student; minimum 2.00 GPA OR graduate student OR Visiting University Student |
| LES | 380 | Consumer Perspective of Business Law | Role of law as it affects society. Uses case studies to present principles that govern business and consumers. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): minimum 2.00 GPA ; minimum 56 hours, OR non-degree student with minimum 2.0 GPA, OR graduate student OR Visiting University Student |
| LES | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-4 | | Pre-requisites: Minimum 2.00 GPA; Minimum 56 hours OR Non-degree seeking student |
| LES | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-4 | | |
| LES | 582 | Ethical Issues for Managers | Studies ethical decisions; the role of business in society. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1.5-3 | | Prerequisite(s): W. P. Carey MBA student |
| LES | 586 | Fundamentals of Ethical Issues for Managers | Studies ethical decisions, the role of business in society. Designed for students with limited business experience and without an undergraduate business degree. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1.5 | | Prerequisite(s): degree-seeking graduate student |
| LIA | 101 | Student Success in The College of Liberal Arts and Sciences | Introduces students to resources that help them succeed in The College of Liberal Arts and Sciences. | N | SEM | N | GNA | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 1 | | Credit is allowed for only LIA 101 or LIA 194 (Introduction to Liberal Arts and Sciences) |
| LIA | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 1-4 | | |
| LIA | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 1-4 | | |
| LIA | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 1-4 | | |
| LIA | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 1-12 | | |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| LIA | 485 | REES Certificate Capstone | The Russian and East European Studies (REES) certificate capstone offers students the opportunity to deepen their knowledge of the region through a reading course or independent research project. The project or reading should represent an extended, research-based focus on some dimension of the region's languages, cultures, religions, histories and/or politics. Students first meet with the capstone supervisor to determine the focus of their readings or project and decide on a meeting schedule. Projects may take a wide range of forms, including an extended research paper, honors thesis, translation project, creative work, graduate school and career materials, research assistantship or internship. While the finished product depends on the nature of the reading course or project, all students work out a timeline, regularly submit drafts or other materials in progress and receive detailed feedback. | N | PRO | N | OPT | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 1-3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only LIA 485 or LIA 494 (REES Certificate Capstone) |
| LIA | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Dean, College of Liberal Arts and Sciences | 1-4 | | |
| LIN | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 501 | Approaches to Research | Theories, methods and/or methodologies as well as qualitative and/or quantitative approaches to the specific discipline. Also serves as an introduction to the profession. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ENG 501 or LIN 501 |
| LIN | 510 | Linguistics | Overview of linguistics, its subfields, and some of its applications. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BLE 537 or LIN 510 |
| LIN | 511 | Phonetics and Phonology | Current trends in phonological theory and its basis in acoustic and articulatory phonetics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 513 | Semantics | Current approaches to linguistic meaning with particular attention to English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 514 | Syntax | Analyzes syntactic structures using a generative theoretical model with a focus on English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 515 | American English | Development of the English language in America, including regional and social varieties, and its relationship to other immigrant and native languages. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 516 | Pragmatics and Discourse Analysis | Studies language use in context and language structures in spoken and written texts. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 517 | History of the English Language | Surveys the development of the English language, with an emphasis on major linguistic transformations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ENG 413 or ENG 517 or LIN 517 |
| LIN | 520 | Second-Language Acquisition Theories | Theories of second-language acquisition, including the linguistic, cognitive, and sociocultural aspects. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 521 | Methods of Teaching English as a Second Language | Methods of teaching English as a second language, language teaching trends, practical applications, and the teaching of different skills. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 522 | Grammar for TESL | Surveys major grammatical structures in English and how they can be taught to ESL speakers. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 523 | Language Testing and Assessment | Introduces the theory and practice of language test construction. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 524 | Curriculum Design and Materials Development | Practical guide to curriculum and materials development. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 525 | Teaching Second Language Writing | Provides a critical introduction to the field of second language writing as well as issues and strategies in the teaching of second language writing in a wide variety of contexts. After exploring various instructional contexts as well as the characteristics of different types of students and their texts, considers various instructional practices and strategies, focusing on course and assignment designs, reading-writing connection, teacher and peer feedback, grammar instruction, classroom assessment, plagiarism and text borrowing strategies, and negotiating language differences. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only LIN 525, 591 (Teaching 2nd Language Writing) or ENG 525 |
| LIN | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|-----------------------|-------|-----------------|--|
| LIN | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | Department of English | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 597 | MTESOL Capstone | Provides MTESOL students with a culminating experience in which they bring together the knowledge learned in prior courses in the program in a way that is meaningful and relevant to their professional goals. Focuses on projects that the students carry out to demonstrate their ability to apply scholarly and professional knowledge in TESOL practice. Provides opportunities to engage in some professional activities. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): Teaching English to Speakers of Other Languages MTESOL student; Credit is allowed for only ENG 597 or LIN 597 |
| LIN | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 610 | Advanced Studies in Linguistics | Different topics such as morphology, semantics, typology, history of linguistics. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 614 | Advanced Studies in Syntax | Focuses on morphosyntactic feature checking, movement, phrase structure, and their crosslinguistic differences. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 615 | Advanced Studies in Sociolinguistics | Language in its social setting, e.g., social variation among native speakers, sociolinguistics aspects of second-language acquisition, and language policy. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 616 | Advanced Studies in Discourse Analysis | Advanced analysis of spoken and written discourse emphasizing different methodological and theoretical issues. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 617 | Advanced Studies in Historical Linguistics | Overview of theories on language change, the history of languages, and of methods in historical linguistics. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 620 | Advanced Studies in Second-Language Acquisition | Selected topics in second-language acquisition, such as phonetics and phonology, morphology, syntax, and discourse. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 625 | Advanced Studies in Second Language Writing | Provides opportunities to explore advanced research topics as well as current issues and controversies in the field of second language writing--an interdisciplinary field of inquiry simultaneously situated in applied linguistics, rhetoric and composition, and teachers of English to Speakers of Other Languages. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ENG 625 or LIN 625 |
| LIN | 655 | Advanced Disciplinary Discourses in Linguistics and Applied Linguistics | Advanced investigation of professional and disciplinary issues related to linguistics and applied linguistics. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of English | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Department of English | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LIN | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | Department of English | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| LIN | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Liberal Arts and Sciences | Department of English | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LPH | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| LPH | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-3 | | |
| LPH | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LPH | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSC | 145 | Introduction to Marine Biology | Introduces non-majors to the basic concepts of marine biology, the study of the ocean and the diverse life forms that reside in the diverse habitats found there. Includes an extensive discussion on ocean conservation, including threats facing marine life and policy solutions to those threats. | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | SG | Prerequisite(s): minimum 25 hours; Credit is allowed for only BIO 145 or LSC 145 or LSC 294 (Introduction to Marine Biology) OR Visiting University Student |
| LSC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | |
| LSC | 322 | Fundamentals of Ecology Laboratory | Investigational field course on fundamental concepts in ecology. | N | LAB | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Pre- or corequisite(s): LSC 320 or BIO 320 with C or better if completed OR Visiting University Student |
| LSC | 325 | Physiological Psychology | Relationships of physiological processes to behavior. Emphasizes nervous system functioning. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): PSY 290 with C or better or two of the following courses with C or better: BIO 181 (or 188), 182 (or 187), 201, 202; Credit is allowed for only LSC 325 or PSY 325 or PTX 325 OR Visiting University Student |
| LSC | 347 | Fundamentals of Genetics | Science of genetics, gene flow, and genetic engineering in humans and other organisms. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): BIO 181 or 188 with C or better; BIO 182 or 187 with C or better; CHM 116 with C or better OR Visiting University Student |
| LSC | 348 | Fundamentals of Genetics Laboratory | Investigational activities using modern molecular techniques to analyze various genetic phenomena. | N | LAB | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Pre- or corequisite(s): LSC 347 with C or better if completed OR Visiting University Student |
| LSC | 359 | Animal Physiology Laboratory | Investigative lab experience using animals (including humans) and models. | N | LAB | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Pre- or corequisite(s): LSC 358 or BIO 360 with C or better if completed |
| LSC | 362 | The Human Environment | Evolution of humans' physiological, ecological, and behavioral interaction with their environment. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better OR Visiting University Student |
| LSC | 363 | Genes, Race, Gender, and Society | Examines biological events and theories on race and gender and their interface with societal views. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | L | Prerequisite(s): BIO 340 or LSC 347 with C or better; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| LSC | 365 | The Human Organism | Analyzes human anatomy, physiology, and behavior in an ecological and evolutionary context with the methods of comparative biology. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | SG | |
| LSC | 369 | Biology of Human Sexuality | Multilevel perspective on human sexuality and reproduction. Integrates psychological with evolutionary, physiological and neuroscientific approaches. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): PSY 101 with C or better; one semester of biology; Credit is allowed for only LSC 369 or PSY 369 or PTX 369 OR Visiting University Student |
| LSC | 380 | Analysis of Nonhuman Forensic DNA Evidence | Nonhuman biological materials are so pervasive in the environment that they often contaminate victims, perpetrators and crime scenes by means of direct deposit or secondary transfer. As the reliability, sensitivity and specificity of animal, plant and microbial DNA assays improve with the advent of new technologies, the potential probative value of DNA information from nonhuman biomaterials also increases, especially for establishing or refuting alibis, determining the chronology of a criminal event and for crime scene reconstruction. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Pre- or corequisite(s): LSC 347 with C or better if completed; Credit is allowed for only FOR 380 or LSC 380 OR Visiting University Student |
| LSC | 386 | STEAM Service Learning | Guided process in which students deepen their understanding of their STEAM content area through knowledge-based problem solving that provides a service to others in the community. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ACO 386 or ENV 386 or FOR 386 or LSC 386 or PTX 386 or LSC 494 (Service Learning in the Life Sciences) |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|--|
| LSC | 388 | STEM Research Fundamentals | Teaches research skills in the natural sciences. Topics covered include the basic research techniques of the study organism and system, experimental design, literature searches, statistical analysis and preparation of scientific papers and posters. | N | LEL | Y | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 320, BIO 182, or MAT 272 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only ENV 388 or FOR 388 or LSC 388 or PLB 388 or PTX 388 OR Visiting University Student |
| LSC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | |
| LSC | 425 | Analytical Chemistry for Life Sciences | Presents an analysis of chemicals, including the theoretical and practical considerations regarding the separation, detection and quantitative determination of chemicals. Illustrates the application of different analytical procedures using some of the common chemicals of concern in the forensics and environmental fields. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): CHM 234 with C or better; CHM 238 with C or better; Credit is allowed for only FOR 425 or LSC 425 OR Visiting University Student |
| LSC | 426 | Analytical Chemistry for Life Sciences Lab | Students learn basic principles of analytical chemistry and explore a wide range of common techniques and methods with applications to forensic science and life sciences. Places specific focus on techniques common in modern analytical laboratories, including gas chromatography, mass spectrometry, FTIR and NMR spectroscopic techniques. Other topics include interpretation of analytical data and evaluation of error and uncertainty in measurements. | N | LAB | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 2 | | Prerequisite(s): CHM 234 with C or better; CHM 238 with C or better; Corequisite(s): FOR 425 or LSC 425; Credit is allowed for only FOR 426 or LSC 426 OR Visiting University Student |
| LSC | 430 | Environmental and Human Toxicology | Lecture and fieldwork course investigating toxic substances in the environment and their effect on the health of organisms, including humans. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better; CHM 116 with C or better; Credit is allowed for only LSC 430 or PTX 430 OR Visiting University Student |
| LSC | 432 | Fundamentals of Pharmacology | Aspects of pharmacology using an integrated approach to familiarize students with natural and synthetic therapeutic agents used in medicine. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): BCH 361, BCH 371, or BIO 353 with C or better; BIO 340 or LSC 347 with C or better; CHM 231 or 234 with C or better; Credit is allowed for only LSC 432 or PTX 432 OR Visiting University Student |
| LSC | 434 | Marine Ecology | Examines ecological processes in oceans, seas, and estuaries that emphasizes species- and community-level phenomena. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better; LSC 320 or BIO 320 with C or better; Credit is allowed for only BIO 438 or BIO 494 (Marine Biology) or LSC 434 OR Visiting University Student |
| LSC | 447 | Molecular Genetics Laboratory | Investigative lab involving DNA isolation, PCR, gel electrophoresis, enzyme digestion and ligation, transformation, and hybridization analysis. | N | LAB | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FOR 447 or LSC 447 |
| LSC | 475 | Principles of Toxicology | Presents the fundamental principles of toxicology and its application to both human and environmental situations. Starts with the means of defining and quantifying toxic effects through dose response curves (e.g. LD50, EC50, LOEL, NOEL). Then focuses on absorption pathways for toxicants as well as the degradation metabolism pathways for toxicants. Finally focuses on the mechanism of toxic action for common poisons and environmental pollutants. Emphasizes toxicants that students are likely to encounter in forensics and environmental fields. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): BCH 361 or 371 with C or better; Credit is allowed for only FOR 475 or LSC 475 or PTX 475 |
| LSC | 480 | Advanced Topics in Human Forensic DNA Typing | Examines the science of current forensic DNA typing methods by focusing on the technology behind STR, Y-STR and mtDNA typing, real-time PCR, serology tests, capillary electrophoresis, expert systems and statistics. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): LSC 347 with C or better; Credit is allowed for only FOR 480 or LSC 480 OR Visiting University Student |
| LSC | 482 | Design Thinking for National Security | Project-driven course teaches problem solving, creative thinking and solution development. Provides a menu of problems to solve, with each problem being sourced directly from a sponsor within the Department of Defense (DoD). Working directly with DoD personnel, class mentors and other experts, students spend the semester crafting and refining solutions that can be adopted in short order. Students' work and solutions have real-world impact. | N | PRO | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prereqs w/min C: App Comp or App Comp (Cybersec) BS; ACO 240; ACO 320; ACO 330; ACO 350; MAT 210; STP 226 OR non-App Comp BS major; sr stndg; Crdt for ACO 482 or LSC 482 or ACO/ENT/FSE/IVD/LSC/SES/STP 494/598(Hack for Dfns) OR Visiting University Student |
| LSC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | IND | Y | YGB | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | |
| LSC | 486 | Peer Mentoring in STEM | Advanced students learn and apply mentoring skills in science classes or teaching labs. | Y | SEM | Y | YGB | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ACO 486 or BIO 486 or LSC 486 or MAT 486 or PTX 486 or STP 486 OR Visiting University Student |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| LSC | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | IND | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| LSC | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | IND | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| LSC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | |
| LSC | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | IND | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| LSC | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | YGB | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-3 | | Prerequisite(s): minimum 45 hours |
| LSC | 519 | Applied Learning Lab | Workshop-style course where students develop and peer review graduate-level project proposals. Topics may include integrative writing skills for an interdisciplinary thesis, presentation skills and topics tailored to the appropriate lay or technical audience, writing for a wide range of journals. | Y | SEM | Y | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSC | 540 | Statistics for Biological Data Science I | Statistical concepts and fundamental methods applicable to biological data science. Emphasizes the practical application to biological contexts and communication of results, using data science software such as R and/or Python. Explores statistical concepts and methodologies including hypothesis testing, confidence intervals, correlation, probability, analysis of variance, chi-squared tests and linear regression within biological and life science contexts. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only LSC 540 or LSC 598 (Statistics for Biological Data Science I) |
| LSC | 541 | Statistics for Biological Data Science II | Covers both classical and modern statistical tools for biological data analyses. Divided into five modules: (1) one- and two-variable analyses, (2) multivariate analysis, (3) design of experiments, (4) introduction of longitudinal and survival analysis, (5) modern computer-intensive analysis methods. For each statistical method, students learn the rationale behind the method and how to implement the method using statistical software (primarily R and/or Python). | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only LSC 541 or LSC 598 (Statistics for Biological Data Science II) |
| LSC | 547 | Wet Laboratory Experience | Balances the need for bench work and in silico experience for students interested in pursuing a career with learning important statistical and computational tools to analyze biological data. Under the direct supervision of the PI and/or Laboratory Manager, students receive instruction and perform all experiments as specified in the performance objectives for the course. | N | LAB | Y | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSC | 555 | Integrative Biology I | Provides a comprehensive understanding of the human genome, recent developments, next generation sequencing techniques including the preparation of DNA samples as well as principles of the new generation sequencing assay formats. Describes, critically evaluates and applies theoretical perspectives within genetic/genomic studies, develops and uses computational and mathematical tools and of the invaluable lines of inquiry these biomedical investigations may portend. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSC | 556 | Integrative Biology II | Provides a survey of fundamental issues in organismal biology. Covers biological diversity, relationships between form and function, processes of growth and development in individuals and populations, biomes and organism-environment relationships, populations and ecosystem function. Weaves components of previous course work throughout this course where possible. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSC | 562 | Applied Mathematics Techniques in Biology | Population dynamics, molecular interactions, population genetics, and other biological applications motivate the discrete and continuous mathematics. Studies mathematical techniques and applications representative of a range of applied mathematics topics. Incorporates computer software to help with visualization and numerical solutions of some of the problems. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| LSC | 565 | Laboratory Leadership, Policy and Practice | Focuses on essential laboratory management functions, knowledge and skills required to successfully function as a laboratory manager and/or senior-level scientist in clinical, academic, research and applied science laboratories (e.g., forensic science laboratories). Topics include quality assurance and quality control; laboratory accreditation and audits; standards for specific accrediting bodies including but not limited to CLIA, CAP, ASCLD/LAB, OSHA; documentation and sample accessioning; laboratory safety and chemical hazard programs; validation studies and protocol development; certification of individual scientists; and overall laboratory management "best practices." | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only FOR 565 or LSC 565 or PTX 565 |
| LSC | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | SEM | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSC | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LAB | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSC | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSC | 585 | Capstone I in Biological Data Science | Students bring together knowledge learned in required degree courses via a digital portfolio in a way that is meaningful and relevant to their professional goals. Each student must summarize current knowledge as it relates to a specific group project in the biological data sciences. | N | PRO | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSC | 586 | Capstone II in Biological Data Science | Students use their previously developed digital portfolio and apply this acquired knowledge in a culminating group project. | N | PRO | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSC | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSC | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LAB | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSC | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | SEM | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSC | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | RSC | Y | Z3 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | |
| LSC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSC | 599 | Thesis | Supervised research focused on preparation of a thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 303 | Human Development: Addressing Learner Capabilities | Surveys major themes and recent findings in the area of human development across the lifespan, with emphasis on the physical, cognitive, social and emotional domains. Examines the impact of ethnic, gender and cultural factors on development. Applies theories of human development to various educational environments and learning activities. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| LSE | 305 | Conceptualizing Learning: Theories in Practice | Explores a variety of learning theories. Covers the role of the educator, the role of the student, and how tools and systems can help facilitate teaching and learning opportunities. Students design learning experiences for a specific need or opportunity using current research-based learning theories. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| LSE | 401 | Designing Learning Environments for Inclusion | Analyzes current education systems for their ability to meet the needs of diverse populations. Designs sustainable solutions to promote inclusivity in learning environments. Applies current research-based learning theories through a design process. Students advocate for education that changes communities and lives by developing educational solutions that address social concerns. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | SB | Prerequisite(s): minimum 45 hours |

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| LSE | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 540 | Theoretical Views of Learning in the Learning Sciences | Theoretical perspectives that inform learning scientists. Examines affordances and limitations of theories for designing productive learning environments. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EDP 540 or LSE 540 |
| LSE | 542 | Research Methods in the Learning Sciences | Develops a strong methodological toolkit for building, testing and advancing learning theory through innovations that achieve meaningful impact. The field of the learning sciences is interdisciplinary, drawing on multiple theoretical perspectives and research paradigms to build understandings of the nature and conditions of learning, cognition and development. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 570 | Case Exemplars of Learning Systems | Examines in-depth cases of learning systems in order to examine different ways of explaining learning, knowing and teaching and attendant strategies for generating data about these systems. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 571 | History of the Learning Sciences | Examines the history of the interdisciplinary field of the learning sciences in relation to the various disciplinary traditions from which it derives. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| LSE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| LSE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| LSE | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| LSE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1 | | |
| LSE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 600 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 683 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| LSE | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| LSE | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| LSE | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| LSE | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 783 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| LSE | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| LSE | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| LSE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LSE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| LST | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| LST | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| LST | 370 | Dimensions of Liberal Studies | Draws on the humanities and social sciences to engage diverse ideas and perspectives, develop resilient and productive habits of mind, and investigate the different dimensions of human meaning-making. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L or HU | Prerequisite(s): Liberal Studies BA major; ENG 102, 105, or 108 with C or better; minimum sophomore standing OR Visiting University Student |
| LST | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| LST | 470 | Liberal Studies Seminar | Applies creativity, reflection and diverse modes of inquiry from the humanities and social sciences to at least one topic/theme. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Liberal Studies BA major; ENG 102, 105, or 108 with C or better; LST 370 (BIS 370) with C or better; minimum senior standing OR Visiting University Student |
| LST | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | |

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| LST | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | | |
| LST | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| LST | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| LST | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-7 | | |
| LST | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-3 | | |
| LTC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| LTC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAE | 201 | Mechanics of Particles and Rigid Bodies I: Statics | Force vectors and force system resultants, equilibrium of particles and rigid bodies, friction, centroid and moments of inertia of an area. Required for aerospace engineering and mechanical engineering. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): MAT 266 or 271 with C or better; PHY 121 with C or better; Credit is allowed for only MAE 201 or MAE 212 OR Visiting University Student |
| MAE | 202 | Mechanics of Particles and Rigid Bodies II: Dynamics | Kinematics and kinetics of particles. Work, energy, and momentum principles for particles. Planar kinematics and kinetics of rigid bodies. Conservation of energy and momentum for rigid bodies. Equations of motion for particles and rigid bodies. Vibrations. Required for aerospace engineering and mechanical engineering. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prereq(s) w/ C or better: Aerospace or Mech Engr BSE major; MAE 201 OR non-Aerospace or non-Mech Engr major; CEE 210, CNE 210, or MAE 201; Pre- or coreq(s): MAT 274 or 275; Credit is allowed for only MAE 202 or 212 OR Visiting University Student |
| MAE | 213 | Mechanics of Materials | Equilibrium, strain-displacement relations, and stress-strain-temperature relations. Applications to force transmission and deformations in axial, torsional, and bending of bars. Combined loadings. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): MAE 201 with C or better; MAT 274 or 275 with C or better; PHY 122 with C or better OR Visiting University Student |
| MAE | 214 | Computer-Aided Engineering I | Introduces geometry and construction techniques in CAD, technical drawing conventions, generating drawings from CAD models. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1 | | Prerequisite(s): Mechanical & Aerospace Engineering major; Pre- or corequisite(s): MAE 201 or 212 with C or better if completed OR Visiting University Student |
| MAE | 215 | Introduction to Programming in MATLAB | Introduces basic topics and concepts of computer programming in MATLAB. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1 | | Prerequisite(s): Aerospace or Mechanical Engineering BSE major or Biomedical Engineering BSE major; MAT 265 or 270 with C or better OR Visiting University Student |
| MAE | 241 | Introduction to Thermodynamics | Concepts of equilibrium, properties, states, systems, energy and entropy; 1st and 2nd thermodynamic laws, analysis of open and closed systems, power and refrigeration cycles. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s) with C or better: Aerospace or Mech Engr BSE major; CHM 114 or 116; MAT 267 or 272; PHY 121 OR non-Aerospace or non-Mech Engr major; MAT 267 or 272; PHY 121; Credit is allowed for only MAE 240 or MAE 241 OR Visiting University Student |
| MAE | 242 | Introduction to Fluid Mechanics | Introductory survey course covering fundamental concepts relating to engineering fluids. Fluid statics. Integral methods. Differential methods. Dimensional analysis and similarity. Incompressible internal and external flow. Potential flow. Required for Aerospace Engineering and Mechanical Engineering majors. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prereqs w/C: MAT 267, 272; MAT 274, 275; MAE maj: MAE 201 OR non-MAE maj: CEE 210, CNE 210, MAE 201; Pre- or coreqs w/min C: MAE maj: MAE 202, 212 OR non-MAE maj: CEE 212, MAE 202, MAE 212; Credit allowed for MAE 240 or 242 OR Visiting University Student |
| MAE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-4 | | |
| MAE | 301 | Applied Experimental Statistics | Introduces key concepts in probability and statistics with engineering applications. Emphasizes modeling variation in observations, characterizing its distribution, and making inferences with regard to quality assurance and control. Develops critical skills such as fitting multivariate models, experimental design, and hypothesis testing, utilizing data from engineering projects, simulations, and laboratory experiences. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prereq(s): Aerospace or Mech Engr major; With C or better: CSE 100, CSE 110 or MAE 215; MAE 384; MAT 242, 342 or 343; MAT 274 or 275; MAT 267 or 272; Credit allowed for MAE 301 or MAE 394 (Applied Experimental Statistics) OR Visiting University Student |

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| MAE | 318 | System Dynamics and Control I | Dynamics of physical systems, models of mechanical, electrical and electromechanical systems, Laplace transform, transfer functions, time response and frequency response, poles and zeros, block diagrams, stability, introduction to feedback control: closed-loop response, PID compensation, steady-state characteristics, root-locus design and analysis of systems, frequency-domain design concepts, Bode-plots and analysis of systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 4 | | Prerequisite(s) with C or better: EEE 202; MAE 202 or 212; MAE 384; MAT 267 or 272; PHY 131; PHY 132; Aerospace or Mechanical Engineering BSE major; Pre- or corequisite(s): MAE 301 with C or better if completed OR Visiting University Student |
| MAE | 341 | Mechanism Analysis and Design | Positions, velocities, and accelerations of machine parts; cams, gears, flexible connectors, and rolling contact; introduces synthesis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; MAE 212 with C or better, or both MAE 201 and 202 with C or better |
| MAE | 384 | Advanced Mathematical Methods for Engineers | Methods for numerical solutions to engineering problems. Nonlinear equations, quadrature, ordinary differential equations. Analytical and numerical solutions to partial differential equations. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | CS | Prerequisite(s): Engineering major; CSE 100, CSE 110, or MAE 215 with C or better; MAT 242, 342, or 343 with C or better; MAT 274 or 275 with C or better; Pre- or corequisite(s): MAT 267 or 272 with C or better if completed OR Visiting University Student |
| MAE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-4 | | Prerequisite(s): Fulton Engineering undergraduate student OR Visiting University Student |
| MAE | 400 | Engineering Profession | Impact of mechanical and aerospace engineering in a global and societal context; effects of and on globalization, environment, sustainability, economy, politics; engineering ethics and business practices. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | L | Prerequisite(s): Aerospace Engineering BSE or Mechanical Engineering BSE major; AEE 325 or MEE 322 with C or better; ENG 101, 105, or 107 with C or better OR Visiting University Student |
| MAE | 404 | Finite Elements in Engineering | Formulation and application of the finite element method through integration of theory, code development and application to problems in heat transport and solid mechanics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; CEE 213 or MAE 213 with C or better; CEE 384 or MAE 384 with C or better |
| MAE | 417 | System Dynamics and Control II | Fundamentals of feedback control using linear transfer function system models. Analysis in time and frequency domains. Design in the s-plane (root locus) and in the frequency domain (loop shaping). State-space representation and state-feedback control, multivariable control with observers, discrete systems and z-transform, nonlinear systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Mechanical Engineering BSE or Aerospace Engineering BSE major; MAE 318 with C or better OR Visiting University Student |
| MAE | 436 | Combustion | Combustion of gaseous and condensed-phase fuels. Thermodynamics, mass transfer and chemical kinetics of combustion. Explosion and ignition theories. Structure, propagation and stability of flames. Pollutant formation. Applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; MEE 340 with C or better; Credit is allowed for only MAE 436 or MAE 536 OR Visiting University Student |
| MAE | 451 | Applied Machine Learning for Mechanical and Aerospace Engineers | Machine learning is impacting every aspect of our daily lives, from recognizing faces in a crowd to designing drugs to treat epidemic diseases. There is no doubt that, as a result of the impact, the job market for future engineers will be drastically different. Equips engineering students with a working understanding of machine learning and better prepares them for the future job market. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): MAE 301 with C or better; MAE 384 with C or better; Credit is allowed for only MAE 451 or MAE 551 or MAE 598 (Machine Learning for Engineers) or MSE 551 or MSE 598 (Machine Learning for Engineers) OR Visiting University Student |
| MAE | 455 | Polymers and Composites | Relationship among chemistry, structure, and properties of engineering polymers. Design, properties, and behavior of fiber composite systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prereq(s) w/ C or better: Fult Engrn undergrad or Materials minor; CEE 213, MAE 213, or MSE 211; MAT 242, 342, or 343; MSE 250 or Aerospace major w/ MAE 325; Credit allowed for only MAE 455 or MAE 513 or MSE 470 or MSE 513 OR Visiting University Student |
| MAE | 460 | Applied Computational Fluid Dynamics | Numerical techniques for solving incompressible and compressible flow equations using industrial solvers. Computer-aided analysis of thermofluid systems. Applications to fluid system engineering. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering Undergrad student; AEE 360 or MEE 340 w/ C or better; Credit allowed for only MAE 460 or MAE 494 (Applied Computational Fluid Dyn) or MAE 560 or MAE 598 (Applied Computational Fluid Dyn) OR Visiting University Student |
| MAE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-12 | | |
| MAE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-6 | | Prerequisite(s): Barrett Honors student |

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| MAE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MAE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-4 | | Prerequisite(s): Fulton Engineering undergraduate student OR Visiting University Student |
| MAE | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-7 | | Prerequisite(s): Fulton Engineering undergraduate student |
| MAE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-3 | | |
| MAE | 501 | Linear Algebra in Engineering | Development and solution of systems of linear algebraic equations. Applications from mechanical, structural, and electrical fields of engineering. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Non-Computer Engineering or Non-Electrical Engineering graduate student; Credit is allowed for only EGR 501 or EGR 598 (Applied Linear Algebra for Engineers) or MAE 501 or MSE 501 |
| MAE | 502 | Partial Differential Equations in Engineering | Development and solution of partial differential equations in engineering. Applications in solid mechanics, vibrations, and heat transfer. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only MAE 502 or MSE 502 |
| MAE | 503 | Finite Elements in Engineering | Ideas and methodology of finite element analysis. Applications to solid mechanics, heat transfer, fluid mechanics and vibrations. Knowledge of free-body diagrams and vector calculus operations is recommended. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only MAE 404 or MAE 503 or MAE 598 (Finite Elements in Engineering) |
| MAE | 504 | Experimental Methods for Thermal and Fluid Processes | Theory of analog and digital signal analysis as applied to fluid and thermal measurements; optical diagnostics and micro sensors for measuring fluid velocity, pressure and temperature in unsteady flows; particle image velocimetry and thermal anemometry. Applies experimental in a weekly laboratory. Students should have completed an intermediate-level course in fluid dynamics, familiarity with Matlab or some programming language, prior exposure to Fourier series and Fourier transforms, as well as probability and statistics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 4 | | Prerequisite(s): Ira A. Fulton graduate student; Pre- or corequisite(s): MAE 571 |
| MAE | 505 | Perturbation Methods | Nonlinear oscillations, strained coordinates, renormalization, multiple scales, boundary layers, matched asymptotic expansions, turning point problems, and WKBJ method. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering students; Credit is allowed for only APM 575 or MAE 505 |
| MAE | 506 | Advanced System Modeling, Dynamics, and Control | Lumped-parameter modeling of physical systems with examples. State variable representations and dynamic response. Introduces modern control. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Pre- or corequisite(s): APM 505 or MAE 501; Credit is allowed for only EGR 556 or EGR 598 (System Control & Optimization) or MAE 506 or RAS 556 |
| MAE | 507 | Advanced Modern Control and Estimation | System analysis, control, estimation and optimization. Stability, optimality, robustness, adaptation and safety considerations. Continuous-time, discrete-time and hybrid systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering student; MAE 506 with C or better |
| MAE | 508 | Digital Control: Design and Implementation | Analysis and design of control systems in which the digital computer plays a major role. Review of continuous control and introduction to the key effects of sampling. Elements of discrete system analysis; z-transform; sampled-data systems; sampling theorem and combined discrete and continuous system and the phenomenon of aliasing. Deterministic design methods for digital control systems (root-locus, frequency response, pole placement and estimators). Multivariable, optimal control and Kalman filtering, followed by nonlinear control and system identification. Emphasizes digital control implementation topics and a case study on robot control. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering major. Credit is allowed for only MAE 508 or MAE 598 (Digital Control: Design and Implementation) |
| MAE | 509 | Linear Matrix Inequality Methods in Optimal and Robust Control | The recent introduction of Linear Matrix Inequality (LMI) methods in control has dramatically expanded the types and complexity of the systems we can control. For example, consider the problems: gain scheduling for missile attitude control (a switched system); control of robots over noisy communication channels (a sampled-data system); remote control of spacecraft attitude (a delayed system); behavioral therapy (a system with binary inputs); or self-driving vehicles (a case of decentralized control). None of these systems can be studied using classical root-locus or PID control methods. Rather, advances in these fields have been made possible through the increased power and flexibility created by the LMI (optimization-based) approach to control. Background knowledge in controls and linear algebra is recommended to be successful in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; MAE 501 or MSE 501 with C or better; Credit is allowed for only MAE 509 or MAE 598 (LMI Methods in Optimal and Robust Control) |

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| MAE | 510 | Dynamics and Vibrations | Lagrange's and Hamilton's equations, rigid body dynamics, gyroscopic motion, and small oscillation theory. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Pre-requisites: Graduate Engineering students |
| MAE | 512 | Random Vibrations | Reviews probability theory, random processes, stationarity, power spectrum, white noise process, random response of single and multiple DOF systems, and Markov processes simulation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 2-3 | | Pre-requisite: Graduate Engineering major |
| MAE | 513 | Polymers and Composites | Relationship among chemistry, structure, and properties of engineering polymers. Design, properties, and behavior of fiber composite systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Pre-requisites: Graduate Engineering or Science & Engr of Materials student; Credit is allowed for only MAE or MSE 513 |
| MAE | 514 | Vibration Analysis | Free and forced response of single and multiple degree of freedom systems, continuous systems; applications in mechanical and aerospace systems numerical methods. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Mechanical or Aerospace Engineering graduate student; Credit is allowed for only AEE 415 or MAE 514 |
| MAE | 515 | Structural Dynamics | Free vibration and forced response of discrete multidegree of freedom and continuous systems, cyclosymmetric structures, introduction to rotordynamics, component mode synthesis, vibration of structures with moving mass/pipes with flow. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; MAE 514 with C or better |
| MAE | 518 | Fundamentals of Semiconductor Packaging | Multidisciplinary foundation course in addressing electrical, thermal, materials, chemical, manufacturing and reliability problems in semiconductor packaging. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only CHE 518 or EEE 518 or MAE 518 or MSE 548 |
| MAE | 519 | Mechanics of Micro/Nano Systems | Basic processes used for fabricating micro and nanoscale structures used in MEMS. Analyzes the processes and micro/nanoscale structures from a mechanics perspective. Covers the fundamentals of microfabrication, scaling of forces, thermal stresses and strains in thin beams, thermal oxidation and dynamics of MEMS. Optional topics include mechanics of thin films and nanostructured materials. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering student; Credit is allowed for only MAE 519 or MAE 598 (Mechanics of Micro/Nano Systems) |
| MAE | 520 | Stress Analysis | Introduces tensors: kinematics, stress analysis, and constitutive assumptions leading to elastic and plastic behavior. Strain energy and energy methods; applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only CEE 521 or MAE 520 |
| MAE | 521 | Structural Optimization | Linear and nonlinear programming. Problem formulation. Design sensitivity analysis. FEM-based optimal design of structural and mechanical systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; MAE 501 with C or better; Credit is allowed for only CEE 533 or EEE 589 or MAE 521 |
| MAE | 522 | Plasticity | Discusses theory of plastic (and inelastic) deformation in solids, e.g., metals and polymers, with emphasis on the fundamental foundations of the field derived from empirical observations and thermodynamic principles, all within a small strain framework. Assumes some knowledge of undergraduate-level thermodynamics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): MAE 520 or 529; Credit is allowed for only MAE 522 or MAE 598 (Plasticity) |
| MAE | 523 | Fracture Mechanics | Linear elastic fracture mechanics. Nonlinear problems. Fatigue fracture. Experimental methods in fracture. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; MAE 520 or MAE 598 (Continuum Mechanics) with C or better |
| MAE | 524 | Theory of Elasticity | Elastic behavior in two and three dimensions. Airy stress functions and displacement potentials. Elements of fracture. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering student; MAE 520 or MAE 598 (Continuum Mechanics) |
| MAE | 526 | Design of Aerospace Structures | Provides a fundamental understanding of the design of aerospace structures. Topics include flight vehicle loads, metallic and composite materials, manufacturing methods, buckling and crippling of aerospace structures, fatigue, damage tolerance, finite element structural analysis, and design of joint and fittings. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Mechanical or Aerospace Engineering graduate student; Credit is allowed for only AEE 426 (or MAE 426) or MAE 526 or MAE 598 (Design of Aerospace Structures) |
| MAE | 527 | Finite Elements for Engineers | Direct stiffness, method of weighted residuals, weak formulation, and variational techniques in the solution of engineering problems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; APM 505 or MAE 501 with C or better; Credit is allowed for only CEE 526 or MAE 527 |
| MAE | 528 | Advanced Computational Mechanics | Teaches methods for treating material and geometric nonlinearities by finite elements for transient and static simulations. Topics to be included are total and updated Lagrangian formulations, linearization and solution methods, stability analysis, nonlinear material models such as hyperelastic and plasticity, and recent research topics such as extended finite element methods. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): CEE 526 or MAE 527 or MAE 598 (Finite Elements in Engineering); MAE 529; Credit is allowed for only MAE 528 or MAE 598 (Advanced Computational Mechanics) |
| MAE | 529 | Continuum Mechanics | Tensors, Eulerian/Lagrangian strains, compatibility equations, Cauchy/nominal stresses, balance laws, Reynolds transport theorem, laws of thermodynamics for a continuum; equations of state, restrictions on constitutive laws, Newtonian fluids, inviscid flows, viscoelasticity. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Mechanical or Aerospace Engineering graduate student; MAE 501 with C or better |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| MAE | 530 | Dynamic Behavior of Materials | Focuses on material response under fast mechanical loading, with emphasis on plastic and elastic behavior as a function of pressure, temperature and strain rate, with and without effects of inertia. Starts with a treatment of elastic wave propagation, followed by a study of effects of strain rate and temperature on plastic behavior of metals, including a review of mechanisms and constitutive equations. Then, addresses the theory of shock waves including analysis of shocks using conservation principles as well as thermodynamics, followed by a discussion of dynamic failure. Finally, reviews experimental techniques for dynamic experiments, including drivers and diagnostics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton graduate student; MAE 520 or 529; Credit is allowed for only MAE 530 or MAE 598 (Dynamic Behavior of Materials) |
| MAE | 533 | Transport Processes I | Unified treatment of momentum, heat, and mass transfer from molecular theory, and continuum points of view. Continuum equations of microscopic and macroscopic systems and multicomponent and multiphase systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering major. Credit is allowed for only BME 533 or CHE 533 or MAE 533 |
| MAE | 536 | Combustion | Combustion of gaseous and condensed-phase fuels. Thermodynamics, mass transfer and chemical kinetics of combustion. Explosion and ignition theories. Structure, propagation and stability of flames. Pollutant formation. Applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton graduate student; Credit is allowed for only MAE 436 or MAE 536 |
| MAE | 540 | Advanced Product Design Methodology | Surveys research in engineering design process, artifact and design, knowledge, formal and informal logic, heuristic and numerical searches, theory of structure and complexity. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Pre-requisite: Mechanical or Aerospace Engineering graduate student |
| MAE | 541 | CADTools for Engineers | Elements of computer techniques required to develop CAD software. Data structures, including lists, trees, and graphs. Computer graphics, including 2- and 3-D algorithms and user interface techniques. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering student |
| MAE | 542 | Design Geometry and Kinematics | Selected topics in geometry related to current potential applications in CAD/CAM, design theory, kinematics, and robotics. Euclidean isometrics, transformations; 4-D geometry; screw theory and its applications to robotics and assemblies. Differential geometry; curvature and torsional properties of curves and surfaces. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| MAE | 544 | Mechanical Design and Failure Prevention | Modes of mechanical failure; applies principles of elasticity and plasticity in multiaxial state of stress to design synthesis; failure theories; fatigue; creep; impact. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering student |
| MAE | 545 | Modern Manufacturing Methods | Investigates the capabilities and equipment of both conventional manufacturing processes and modern manufacturing processes. Emphasizes the fundamental, development and application of casting, forming and sintering processes for conventional manufacturing processes. Emphasizes the emerging topics related to additive manufacturing, field-assisted manufacturing and nanomanufacturing for modern manufacturing processes. Also introduces engineering materials, structure of materials, property of materials and material characterizations in the manufacturing processes. Complements theoretical concepts presented in lectures with the presentation of relevant research topics and/or industrial applications. Develops an understanding of manufacturing process evolution and the capabilities of modern manufacturing processes and equipment. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton graduate student; Credit is allowed for only MAE 545 or MAE 598 (Modern Manufacturing Methods) or MFG 545 |
| MAE | 546 | Advanced CAE Simulation | Solution of advanced engineering problems with analysis software for structural, dynamic, nonlinear, contact and kinematic problems; selection of modeling parameters; reliability tests on software. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| MAE | 547 | Modeling and Control of Robots | Homogeneous transformations, workspace, forward and inverse kinematics, differential kinematics, statics and dynamics, motion planning, motion and force control. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Pre- or corequisite(s): APM 505 or MAE 501 |
| MAE | 548 | Probabilistic Methods for Mechanical Analysis | Fundamental probabilistic theory, engineering statistics, data analysis, reliability methods, Monte Carlo simulation with different sampling technique, mechanical and structural analysis under uncertainties, focusing on the application for mechanical, aerospace and civil engineering structures and materials. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only MAE 548 or MAE 598 (Probabilistic Methods for Eng Analysis and Design) |
| MAE | 551 | Applied Machine Learning for Mechanical Engineers | Machine learning impacts every aspect of our daily lives, from recognizing faces in a crowd to designing drugs to treat epidemic diseases. There is no doubt that, as a result of the impact, the job market for future engineers will be drastically different. This course equips engineering students with a working understanding of machine learning and better prepares them for the future job market. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only MAE 451 or MAE 551 or MAE 598 (Machine Learning for Engineers) or MSE 551 or MSE 598 (Machine Learning for Engineers) |

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| MAE | 557 | Mechanics of Composite Materials | Analysis, design, and applications of laminated and chopped fiber reinforced composites. Micro- and macromechanical analysis of elastic constants, failure, and environmental degradation. Design project. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; MAE 520 or MAE 529 |
| MAE | 560 | Applied Computational Fluid Dynamics | Numerical techniques for solving incompressible and compressible flow equations using industrial solvers. Computer-aided analysis of thermofluid systems. Applications to fluid system engineering. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering student; Credit is allowed for only MAE 460 or MAE 494 (Applied Computational Fluid Dynamics) or MAE 560 or MAE 598 (Applied Computational Fluid Dynamics) |
| MAE | 561 | Computational Fluid Dynamics | Finite-difference and finite-volume techniques for solving the subsonic, transonic, and supersonic flow equations. Method of characteristics. Numerical grid-generation techniques. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Graduate Engineering students; Credit is allowed for only AEE 471 or MAE 471, 561 |
| MAE | 562 | Advanced Computational Fluid Dynamics: Interfaces | Numerical methods for interfaces in low Mach number flows including level set methods, volume of fluid methods, Lagrangian interface tracking, ghost fluid methods, and immersed boundary methods. Includes coding of the covered numerical techniques and application to different physical interfaces, e.g., liquid/gas phase interfaces, premixed flames and flows in complex geometries. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): MAE 561; Corequisite(s): MAE 502, 529, or 571; Credit is allowed for only MAE 562 or MAE 598 (Advanced Computational Fluid Dynamics) |
| MAE | 563 | Aircraft Propulsion | Fundamentals of gas-turbine engines. Analysis and design of components. Alternative aircraft propulsion systems. Recommend a background in thermodynamics and high-speed aerodynamics. It is recommended that students have had a prior technical course on compressible flow before enrolling. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only AEE 463 or MAE 563 |
| MAE | 564 | Advanced Aerodynamics | Advanced topics in aerodynamics with application to design. Slender body theory. Thin airfoil theory. Transonic and supersonic effects. Sweep theory. Wave drag. Post-stall (vortex) flows. Supersonic and hypersonic flows. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Aerospace Engineering major |
| MAE | 565 | Rocket Propulsion | Rocket flight performance, nozzle design, combustion of liquid and solid propellants, component design, advanced propulsion systems, interplanetary missions, testing. It is recommended that students have had a prior technical course on compressible flow before enrolling. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Mechanical or Aerospace Engineering graduate student; Credit is allowed for only AEE 465 or MAE 565 |
| MAE | 566 | Rotary-Wing Aerodynamics | Introduces helicopter and propeller analysis techniques. Momentum and blade-element, helicopter trim. Hover and forward flight. Ground effect, autorotation and compressibility effects. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Engineering graduate student; Credit is allowed for only AEE 466 or MAE 566 |
| MAE | 570 | Intermediate Thermodynamics | Applied thermodynamics; gas mixtures, psychrometrics; property relationships, power and refrigeration cycles, and reactive systems. A basic knowledge of thermodynamics is required to be successful in this course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering major; Credit is allowed for only MAE 482 or MAE 570 or MEE 482 |
| MAE | 571 | Fluid Mechanics | Basic kinematic, dynamic, and thermodynamic equations of the fluid continuum and their application to basic fluid models. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Pre- or corequisite(s): MAE 502 |
| MAE | 573 | Advanced Fluid Mechanics | Mechanics of fluids flows where either the effects of inertia or viscosity are significant. Exact and approximate solutions of the Navier-Stokes equations, laminar flow and flow at low and high Reynolds numbers. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; MAE 571 with C or better |
| MAE | 574 | Multiphase Flow | Models for multiphase flows including dispersed and continuous phase flow models, particle-fluid and particle-particle interactions, droplet collision and coalescence, atomization, and numerical and experimental methods for analyzing multiphase flows. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): MAE 502; MAE 529; MAE 571; Credit is allowed for only MAE 574 or MAE 598 (Multiphase Flow) |
| MAE | 575 | Turbulence | Graduate-level introduction to turbulent flows covering the essential physical basis of turbulence, the statistical description of turbulent flows, dynamics of energy transfer and dissipation in such flows, inner- and outer-variable scaling of turbulent flows, and modern computational modeling and simulation of turbulence and turbulent flows. Requires undergraduate background in fluid mechanics and strong graduate-level mathematics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student |

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| MAE | 576 | Energy Efficiency | Provides a broad background in energy efficiency analysis and technologies. Applies fundamental concepts from thermodynamics, heat transfer and fluid mechanics to real-world applications including heating, ventilating, air conditioning (HVAC), refrigeration, compressed air systems, steam systems, combined heat and power (CHP). Complements other courses on conventional and renewable power generation by focusing on reducing energy consumption, thus making it easier to meet our energy needs from sustainable sources. To be successful in this course, students should have knowledge of thermodynamics principles. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton graduate student; Credit is allowed for only MAE 494 (Energy Management) or MAE 494 (Energy Efficiency) or MAE 576 or MAE 598 (Energy Management) |
| MAE | 577 | Advanced Turbulence | Reynolds equations and their closure. Modeling of simple and complex turbulent flows, calculations of internal and external flows, and application to engineering problems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; MAE 575 with C or better |
| MAE | 578 | Geophysical and Environmental Fluid Dynamics | Dynamics of large-scale flows under the influence of stratification and earth rotation. Thermally and mechanically driven flows in turbulent boundary layer. Waves and instability of geophysical flows. Global-scale circulation. Applications to environmental prediction. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student |
| MAE | 579 | Wind Energy | Wind energy systems convert kinetic energy in the wind into electrical energy. Focuses on flow machines, including for example, aerodynamics and fluid dynamics. Begins with wind resource assessment utilizing atmospheric boundary layer science and then proceeds to computational fluid dynamics to understand the tools of modern wind resource assessment. Includes applications of the Navier-Stokes equations and some basics from turbulence theory. Resource assessment also includes modern remote sensing techniques such as lidar, radar and in situ instrumentation. Also includes discussions from current events and policy. Requires a background in applied experimental statistics, thermodynamics or aerodynamics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering student; Credit is allowed for only MAE 494 (Wind Energy) or MAE 579 or MAE 598 (Wind Energy) or MEE 441 |
| MAE | 581 | Advanced Thermodynamics | Basic concepts and laws of classical equilibrium thermodynamics; applications to engineering systems; introduction and applications of statistical mechanics and kinetic theory; Boltzmann integro-differential equation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering student |
| MAE | 582 | Renewable Energy: Mechanical Systems | Renewable energy systems are energy conversion systems that rely on naturally replenishing flows of energy. Considers the foundational principles behind many renewable energy systems, and application of these principles to practical systems. Emphasizes covering the following energy systems, some only at an introductory level and some with significant depth: solar, wind, geothermal, biomass, hydropower, energy storage, electric power generation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering major; Credit is allowed for only MEE 440 or MAE 582 or MAE 494 (Renewable Energy Engineering) or MAE 598 (Renewable Energy Engineering) |
| MAE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z2 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-12 | | Prerequisite(s): Fulton Engineering graduate student |
| MAE | 585 | Solar Thermal Engineering | Solar energy availability, flat-plate and concentrating solar thermal collectors, solar heating and cooling, concentrating solar power (CSP). | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| MAE | 586 | Advanced Heat Transfer | Basic concepts and governing equations. Analysis of laminar and turbulent heat transfer for internal and external flows. Natural and mixed convection. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering student |
| MAE | 587 | Radiation Heat Transfer | Advanced concepts and solution methodologies for radiation heat transfer, including exchange of thermal radiation between surfaces, radiation in absorbing, emitting, and scattering media and radiation combined with conduction and convection. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): graduate Engineering student |
| MAE | 588 | Nanoscale Heat Transfer | Explores the fundamental micro and nanoscale origins of thermal transport. Uses energy transport formalism to explain the breakdown of macroscopic transport laws (e.g., Fourier's law) at the micro and nanoscale. Defines and explores the key carriers of heat: phonons, photons, electrons and molecules. Derives the energy states of these carriers and combines this knowledge with statistical thermodynamics to determine the population distribution of these carriers. Combining these distributions with scattering processes enables fundamental laws to be derived within the context of their microscopic/nanoscale underpinnings. Some of these phenomena include, Fourier's law, Ohm's law, thermopower, Wiedemann-Franz law, Dulong-Petit law, equation of radiative transfer. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton graduate student; Credit is allowed only for MAE 588 or MAE 598 (Nanoscale Heat Transfer) |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| MAE | 589 | Heat Transfer | Basic concepts; physical and mathematical models for heat and mass transfer. Applications to conductive, convective, radiative, and combined mode heat transfer. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Pre-requisites: Graduate Engineering student; Credit is allowed for only MAE 494 topic (Heat and Mass Transfer) or 589 |
| MAE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | SEM | Y | Z2 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-12 | | Prerequisite(s): graduate MAE major |
| MAE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | Z2 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-12 | | Pre-requisite(s): Mechanical or Aerospace Engineering graduate student |
| MAE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-12 | | Pre-requisites: Mechanical or Aerospace Master's degree student |
| MAE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-12 | | Pre-requisite(s): Mechanical or Aerospace Engineering graduate student |
| MAE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1 | | Prerequisite(s): Fulton Engineering graduate student |
| MAE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-4 | | Prerequisite(s): graduate Engineering student |
| MAE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-12 | | Prerequisite(s): Aerospace Engineering or Mechanical Engineering or Robotics and Autonomous Systems (Mechanical and Aerospace Engineering) MS student |
| MAE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-15 | | Prerequisite(s): Mechanical or Aerospace Doctoral student |
| MAE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1 | | Prerequisite(s): Fulton Engineering graduate student |
| MAE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-15 | | Prerequisite(s): Mechanical or Aerospace Doctoral student |
| MAS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| MAS | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | Prerequisite(s): Interdisciplinary Studies MA student |
| MAS | 501 | Methods for Interdisciplinary Inquiry | Critical survey of current models of inquiry, tools, processes, and methods in different fields. | N | SEM | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): Interdisciplinary Studies MA student |
| MAS | 502 | Perspectives in Interdisciplinary Studies | Introduces interdisciplinarity through explorations of epistemological and rhetorical practices that bridge traditional disciplines. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAS | 505 | Theories of Change, Culture, and Mind | Introduces graduate-level interdisciplinary study of key thinkers, movements, theories, and paradigms in 20th-century thought. | N | SEM | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAS | 510 | Science and Religion: Cosmologies and Worldviews | Examines science and religion, stressing modern scientific findings and philosophical and historical debates and dialogues. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IAS 430 or MAS 510 |
| MAS | 513 | Sociology of Everyday Life | Examines institutional ethnography, a way of exploring the particular and generalized social relations that shape people's everyday experiences. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| MAS | 514 | Continental Philosophy | Contemporary European thought emerges out of a crisis of the Enlightenment that unfolds throughout the nineteenth and twentieth centuries. Course dovetails with other fields like communication, cultural studies, law, political science, religious studies, literature and various social sciences. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only MAS 514 or MAS 598 (Studies in Critical Theory) or MAS 598 (Continental Philosophy and Religion) |
| MAS | 550 | Philosophical and Spiritual Issues in Death and Dying | From Plato to Maimonides to Heidegger to Kubler-Ross, scholars, clinicians, and spiritual writers have recognized that attitudes about death and dying contribute to understandings of human existence. Recalling the ancient Socratic, biblical, and other spiritual traditions of the cura animarum (care for and cure of the soul) and joining contemporary post/secular conversations relevant to integration of body-mind-spirit, this course introduces basic concepts and practices of care ethics and spirituality. Focuses on relations among existential (ontological), therapeutic (psychosomatic), and spiritual (religious) dimensions of care. Theoretically, the course is inter-faith in approach, holistic in scope, and specialized in content. Practically, students examine real-life issues in care ethics and spirituality from multiple perspectives. | N | SEM | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3-9 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IAS 450 or MAS 550 or PHI 450 or PHI 494 (Issues in Death & Dying) or REL 450 or REL 494 (Issues in Death & Dying) |
| MAS | 560 | Composition: Process, Technique, and Style | Advanced study of specific compositional theories and procedures; in-depth analysis of individual work. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IAP 421 or IAP 560 or MAS 560 or MAS 598 (Composition: Process, Technique, and Style II) |
| MAS | 569 | Digital Graphic Applications | Targeting, planning, design, authoring, development, and presentation of professional digital media graphics for Internet and print. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IAP 468 or IAP 569 or MAS 569 |
| MAS | 570 | Language, Culture and Performance | In-depth examination of language in myth, poetry, social and aesthetic performance genres. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only IAP 471 or IAP 570 or MAS 570 or MAS 598 (Language, Culture, and Performance) |
| MAS | 573 | Art and Politics | Explores issues and relationships between the arts and politics through historical examples, significant artists and works, key thinkers, and theoretical approaches. Considers topics such as: the arts and ideology, art and the politics of representation, propaganda, censorship, state-supported art, human rights, revolution and war, cultural change, and political aesthetics. Emphasizes interdisciplinary arts and period study, including the arts and The Russian Revolution, the art in the Weimar Republic and Nazi Germany, and, generally, the arts, art and social movements (e.g., U.S. Civil Rights era, Eastern Europe's solidarity movement and Velvet Revolutions), as well as the arts and politics in selected contemporary contexts (e.g., China, the Middle East). | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAS | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAS | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAS | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAS | 585 | Capstone Course | Assists students in preparing their capstone project, which represents the culmination of their study for the MA in Interdisciplinary Studies. | N | RSC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3-4 | | Prerequisite(s): Interdisciplinary Studies MA student |
| MAS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | Prerequisite(s): Interdisciplinary Studies MA student |
| MAS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | Prerequisite(s): Interdisciplinary Studies MA student |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| MAS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-12 | | Prerequisite(s): Interdisciplinary Studies MA student |
| MAS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1 | | Prerequisite(s): Interdisciplinary Studies MA student |
| MAS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 110 | Enhanced Freshman Mathematics | Individually paced, computer-mediated course designed to prepare students for college-level mathematics. Students work on various modules in an online adaptive learning technology platform created to help students progress through the course material based on individual needs in preparation for enrollment in the next level math course required by the student's major (pre-MAT 117 "Track 1" or pre-MAT 142 "Track 2"). Upon completion of this course, students should see improvement of basic math skills, an increase in the confidence in mathematical abilities, and advancement in ability to relate math to real-life applications. Credit for this course does not count towards university graduation requirements | N | LEL | N | ELG | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 0-3 | | Prerequisite(s): Mathematics Placement Test below 32% for majors that require MAT 142 OR Mathematics Placement Test 32-39.9% for majors that require MAT 117 or higher (consult your major map) |
| MAT | 117 | College Algebra | Linear functions, quadratic functions, general polynomial functions, rational functions, systems of linear equations, logarithmic and exponential functions. | N | LEL | N | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | MA | Prerequisite(s): ALEKS score of 0-60 or higher OR Visiting University Student |
| MAT | 117S | College Algebra Stretch | For students who have an in-progress (Z) grade for MAT 117. The grade earned in MAT 117S replaces the Z grade for MAT 117. Course content is the same as MAT 117, which is intended to develop skills in linear functions, quadratic functions, general polynomial functions, rational functions, exponential functions and logarithmic functions. Also studies systems of linear equations. Emphasizes problem-solving techniques, specifically by means of discussing concepts in each of these topics. | N | LEL | N | NOG | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 0 | | Prerequisite(s): MAT 117 with grade of Z OR Visiting University Student |
| MAT | 119 | Finite Mathematics | Topics from linear algebra, linear programming, combinatorics, probability, and mathematics of finance. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | MA | Prerequisite(s): MAT 117, 170, 210, or 270 with C or better or ALEKS score of 61 or higher OR Visiting University Student |
| MAT | 142 | College Mathematics | Applies basic college-level mathematics to real-life problems. Topics include numerical reasoning, sets, counting techniques, probability, basic statistics and finance. Appropriate for students whose major does not require MAT 117 or 170. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | MA | Prerequisite(s): MAT 110 with Y grade or ALEKS score of 0-60 or higher OR Visiting University Student |
| MAT | 170 | Precalculus | Intensive preparation for calculus. Topics include: functions, domain and range, properties of graphs, transformations of functions, composition and combinations of functions, inverse functions, polynomial functions, rational functions, exponential functions, logarithmic functions, roots of polynomial functions, trigonometric functions and their graphs, trigonometric identities, trigonometric equations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | MA | Prerequisite(s): MAT 117 with C or better or ALEKS score of 61 or higher; Credit is allowed for only MAT 170 or MAT 171 OR Visiting University Student |
| MAT | 171 | Precalculus: Science, Technology, Engineering and Mathematics (STEM) | Robust treatment of advanced algebraic skills and trigonometry that are vital in calculus. Algebra topics include functions, compositions, inverses, transformations, complex numbers, roots of polynomial functions, rational functions, exponential and logarithmic functions and their properties. Trigonometry is approached via the unit circle as well as the right triangle. Topics include the trigonometric functions, their graphs and identities, inverse trigonometry, the laws of sine and cosine, vectors and the dot product with an application toward work, and polar coordinates and roots of complex numbers (deMoivre's theorem). | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 4 | MA | Prerequisite(s): MAT 117 with C or better or ALEKS score of 61 or higher; Credit is allowed for only MAT 170 or MAT 171 OR Visiting University Student |
| MAT | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-3 | | Pre-requisites: Freshman standing; Maximum 25 hours |
| MAT | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 0-5 | | |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|--|
| MAT | 207 | Algebra and Geometry in the High School | Provides a conceptually rigorous treatment of the central ideas of algebra and geometry in high school. Explores and develops familiar mathematical content from a very different perspective. Focuses squarely on creating meaning for concepts and on building coherence of meaning across concepts and various representations of them. As such, course activities and assessments (class/lab activities, homework assignments, and exams) reflect these expectations, focusing on both doing high school mathematics with meaning and on expressing and communicating that meaning accurately and coherently in verbal and written form. Prior to enrolling in this course, students should have experience with algebra/geometry to at least the high school level. | N | LEL | N | GNA | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Corequisite(s): MTE 210 OR Visiting University Student |
| MAT | 208 | Discrete Mathematics for Secondary Teachers | Potential secondary teachers of mathematics should master the Math Standards proposed by the National Council of Teachers of Mathematics for college-intending students. Focuses on those aspects of these standards that apply to discrete mathematics with particular emphasis on: mathematical problem solving, mathematics as communication, mathematical reasoning, and discrete mathematics. Taking a broader view, introduces mathematics as a discipline that uses known methods to discover and verify new conclusions through the study of discrete mathematics. | N | LEL | N | GNA | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | |
| MAT | 210 | Brief Calculus | Differential and integral calculus of elementary functions with applications. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | MA | Prerequisite(s): MAT 117, 119, 170, or 171 with C or better or ALEKS score of 61 or higher; Credit is allowed for only MAT 210 or MAT 251 OR Visiting University Student |
| MAT | 211 | Mathematics for Business Analysis | Topics in business analysis, including: Lagrange multipliers, linear programming, linear algebra, intermediate probability, random variables, discrete distributions, and continuous distributions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 210, MAT 251, MAT 265 or MAT 270 with C or better OR Visiting University Student |
| MAT | 242 | Elementary Linear Algebra | Introduces matrices, systems of linear equations, determinants, vector spaces, linear transformations, and eigenvalues. Emphasizes development of computational skills. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 2 | | Prerequisite(s): MAT 210, MAT 251, MAT 265 or MAT 270 with C or better OR Visiting University Student |
| MAT | 243 | Discrete Mathematical Structures | Logic, sets, functions, elementary number theory and combinatorics, recursive algorithms, and mathematical reasoning, including induction. Emphasizes connections to computer science. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 210, 251, 265, or 270 with C or better; minimum sophomore standing OR Visiting University Student |
| MAT | 251 | Calculus for Life Sciences | Differential and integral calculus of elementary functions. Introduces differential and difference equations. Emphasizes applications to the life sciences. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | MA | Prerequisite(s): MAT 170 or 171 with C or better or ALEKS score of 61 or higher; Credit is allowed for only MAT 210 or MAT 251 OR Visiting University Student |
| MAT | 265 | Calculus for Engineers I | Limits and continuity, differential calculus of functions of one variable, introduction to integration. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | MA | Prerequisite(s): MAT 170 or 171 with C or better or ALEKS score of 76 or higher; Credit is allowed for only MAT 265 or MAT 270 OR Visiting University Student |
| MAT | 266 | Calculus for Engineers II | Methods of integration, applications of calculus, elements of analytic geometry, improper integrals, Taylor series. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | MA | Prerequisite(s): MAT 265 or 270 with C or better; Credit is allowed for only MAT 266 or MAT 271 OR Visiting University Student |
| MAT | 267 | Calculus for Engineers III | Vector-valued functions of several variables, partial derivatives, multiple integration. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | MA | Prerequisite(s): MAT 266 or 271 with C or better; Credit is allowed for only MAT 267 or 272 OR Visiting University Student |
| MAT | 270 | Calculus with Analytic Geometry I | Real numbers, limits and continuity, and differential and integral calculus of functions of 1 variable. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 4 | MA | Prerequisite(s): MAT 170 or 171 with C or better or ALEKS score of 76 or higher; Credit is allowed for only MAT 265 or MAT 270 OR Visiting University Student |
| MAT | 271 | Calculus with Analytic Geometry II | Methods of integration; applies calculus, elements of analytic geometry, improper integrals, sequences and series. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 4 | MA | Prerequisite(s): MAT 265 or 270 with C or better; Credit is allowed for only MAT 266 or MAT 271 OR Visiting University Student |
| MAT | 272 | Calculus with Analytic Geometry III | Vector-valued functions of several variables, multiple integration, and introduction to vector analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 4 | MA | Prerequisite(s): MAT 266 or MAT 271 with C or better; Credit is allowed for only MAT 267 or MAT 272 OR Visiting University Student |
| MAT | 274 | Elementary Differential Equations | Introduces ordinary differential equations, adapted to the needs of students in engineering and the sciences. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | MA | Prerequisite(s): MAT 266 or MAT 271 with C or better; Credit is allowed for only MAT 274 or 275 |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|--|
| MAT | 275 | Modern Differential Equations | Introduces differential equations, theoretical and practical solution techniques. Applications. Problem solving using MATLAB. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | MA | Prerequisite(s): MAT 266 or 271 with a C or better; Credit is allowed for only MAT 274 or 275 OR Visiting University Student |
| MAT | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| MAT | 298 | Honors Directed Study | Independent study or practicum under the supervision of a faculty member. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| MAT | 300 | Mathematical Structures | Logic and set theory, induction, functions, order and equivalence relations, cardinality. Emphasizes writing proofs. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; MAT 210, 251, 265, or 270 with C or better OR Visiting University Student |
| MAT | 310 | Introduction to Geometry | Congruence, area, parallelism, similarity and volume, and Euclidean and non-Euclidean geometry. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 267 or 272 with C or better OR Visiting University Student |
| MAT | 342 | Linear Algebra | Linear equations, matrices, determinants, vector spaces, bases, linear transformations and similarity, inner product spaces, eigenvectors, orthonormal bases, diagonalization, and principal axes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 267 or 272 with C or better; Credit is allowed for only MAT 342 or MAT 343 OR Visiting University Student |
| MAT | 343 | Applied Linear Algebra | Solving linear systems, matrices, determinants, vector spaces, bases, linear transformations, eigenvectors, norms, inner products, decompositions, applications. Problem solving using MATLAB. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 266 or 271 with C or better; Credit is allowed for only MAT 342 or MAT 343 OR Visiting University Student |
| MAT | 350 | Techniques and Applications of Applied Mathematics | Mathematical techniques and applications representative of the range of applied mathematics used in operations research, biology, economics, finance, and sociology. In depth exploration of these techniques in detail by focusing on selected applications. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): MAT 274 or 275 with C or better; Pre- or corequisite(s): MAT 342 or 343 with C or better if completed; STP 280 or 420 with C or better if completed OR Visiting University Student |
| MAT | 353 | Mathematics and Cancer | Addresses some of the mathematical questions regarding the dynamics of cancer growth and treatment. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 267 or 272 with C or better; MAT 275 with C or better; MAT 342 or 343 with C or better; Credit is allowed for only MAT 353 or MAT 394 (Mathematics and Cancer) OR Visiting University Student |
| MAT | 355 | Introduction to Computational Molecular Biology | Introduces the mathematical skills used in molecular biology, genomics, and bioinformatics. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | CS | Prerequisite(s): MAT 119, 210, 243, 251, 265, or 270 or STP 220, 226, or 231 with C or better; Credit is allowed for only BIO 355 or CPI 480 or MAT 355 or MBB 355 OR Visiting University Student |
| MAT | 370 | Intermediate Calculus | Theory behind basic 1-variable calculus: continuity, derivative, Riemann integral, sequences, and series. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 267 or 272 with C or better; MAT 300 with C or better; Credit is allowed for only MAT 370 or MAT 371 with C or better OR Visiting University Student |
| MAT | 371 | Advanced Calculus I | Real numbers, completeness, sequences/series, continuity, uniform theorems, derivative, Riemann integral, pointwise/uniform convergence, Taylor's theorem. Credit is allowed for only MAT 371 or 370 toward a mathematics degree. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 267 or 272 with C or better; MAT 300 with C or better OR Visiting University Student |
| MAT | 372 | Advanced Calculus II | Open, closed, compact sets in R^n continuity, differentiation, partial differentiation, integration in R^n Inverse/implicit function theorems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 371 with C or better; Pre- or corequisite(s): MAT 342 or 343 with C or better; Credit is allowed for only MAT 372 or 460 |
| MAT | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| MAT | 410 | Introduction to General Topology | Point set topology, topological spaces, metric spaces, continuity, compactness, connectedness and product spaces. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 300 with C or better; MAT 371 with C or better OR Visiting University Student |
| MAT | 411 | History and Philosophy of Mathematics | Examines nature of mathematics from origins to present, revealed by its history and philosophy. Strong background in mathematics not required. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | HU & H | |
| MAT | 412 | Differential Geometry | Rigorous treatment to the concepts and methods of differential geometry via the classical theory of curves and surfaces in Euclidean space, the Gauss-Bonnet theorem, and additional topics as time and interest permits. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 342 or 343 with C or better; MAT 371 with C or better OR Visiting University Student |
| MAT | 415 | Introduction to Combinatorics | Enumerating permutations and combinations of sets and multisets, inclusion-exclusion, recurrence relations, generating functions, Pólya theory and combinatorial structures. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 300 with C or better; MAT 242, 342, or 343 with C or better; Credit is allowed for only MAT 415 or MAT 512 OR Visiting University Student |
| MAT | 416 | Graph Theory | Trees, cycles, matchings, planarity, connectivity, hamiltonicity, chromatic number, Ramsey theory with emphasis on proof techniques. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 300 with C or better; MAT 242, 342, or 343 with C or better; Credit is allowed for only MAT 416 or MAT 513 |

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|---------|-------------|--------------------------------------|--|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| MAT | 419 | Introduction to Linear Optimization | Simplex method, duality, and network flows. Applications to game theory, geometry, combinatorics, graph theory, and posets. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | CS | Prerequisite(s): ACO 101, ACO 102, CSE 100, CSE 110, or CSE 205 with C or better; MAT 242, 342, or 343 with C or better; MAT 300 with C or better |
| MAT | 420 | Scientific Computing | Surveys and applies programming languages, libraries, and scientific visualization tools. Programming assignments emphasize software development skills. Completion of advanced calculus recommended prior to this course. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): CSE 205 with C or better; MAT 274 or 275 with C or better; MAT 342 or 343 with C or better OR Visiting University Student |
| MAT | 421 | Applied Computational Methods | Numerical methods for quadrature, differential equations, roots of nonlinear equations, interpolation, approximation, linear equations, floating-point arithmetic, and roundoff error. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | CS | Prerequisite(s): MAT 272 or 267 with C or better |
| MAT | 422 | Mathematical Methods in Data Science | Covers the theoretical and practical mathematical methods for data analysis and prediction. Reviews necessary elements needed from linear algebra and calculus. Major topics include matrix techniques for regression and data dimensionality reduction, optimization techniques for machine learning methods such as support vector machines and neural networks, graph techniques for clustering, and probability techniques for maximum likelihood estimation. While the emphasis is on mathematical concepts, students are expected to learn Python, MATLAB or R. Assumes no previous programming experience. Students use Python (or MATLAB, R) to produce predictions and visualize outcomes using machine learning methods. Encourages mathematical, computer, statistical and engineering students, providing an opportunity for students with various backgrounds to learn theoretical and practical aspects of data science. | N | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s) with C or better: ACO 320, MAT 342, or MAT 343; MAT 210, 265, or 270; Credit is allowed for only ACO 598/MAT 494 (Math Methods in Data Science) or DAT 300 or MAT 422 or STP 494 (Math Tools for Data Science) OR Visiting University Student |
| MAT | 423 | Numerical Analysis I | Solution of systems of linear and nonlinear equations, optimization, eigenvalues, round-off error, and floating point arithmetic. Fluency in computer programming is required for enrollment in this course. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | CS | Prerequisite(s): MAT 342 or 343 with C or better OR Visiting University Student |
| MAT | 425 | Numerical Analysis II | Analysis of and algorithms for numerical interpolation, integration, and differentiation. Numerical solution of ordinary and partial differential equations, introductory level. Applications. Fluency in computer programming is required for success in this course. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | CS | Prerequisite(s): MAT 274 or 275 with C or better; MAT 371 recommended |
| MAT | 429 | Optimization | A variety of optimization models and their applications to management, economics, engineering, and science. Topics include linear programming, integer programming, nonlinear programming, and stochastic programming. Stresses formulation and modeling as well as numerous applications and solving algorithms. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): MAT 343 with C or better; MAT 350 or 419 with C or better |
| MAT | 440 | Group Theory | Covers basic group theory. Students learn about the concept of a "group," related structures, their underlying theory and examples of how they arise in mathematics. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 300; MAT 342 or 343 OR Visiting University Student |
| MAT | 441 | Ring Theory | Covers basic ring theory. Students learn about the concept of a "ring," related structures, their underlying theory, and examples of how they arise in mathematics. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 300; MAT 342 or 343 |
| MAT | 442 | Advanced Linear Algebra | Fundamentals of linear algebra, dual spaces, invariant subspaces, canonical forms, bilinear and quadratic forms, and multilinear algebra. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 300 with C or better; MAT 342 or 343 with C or better OR Visiting University Student |
| MAT | 443 | Introduction to Abstract Algebra | Introduces concepts of abstract algebra. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 300 with C or better; MAT 342 or 343 with C or better; Credit is allowed for only MAT 443 or MAT 444 |
| MAT | 444 | Intermediate Abstract Algebra | Basic theory of groups, rings, and fields, including an introduction to Galois theory. Appropriate as preparation for MAT 543. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 440, 441, or 442 with C or better |
| MAT | 445 | Theory of Numbers | Prime numbers, unique factorization theorem, congruences, Diophantine equations, primitive roots, and quadratic reciprocity theorem. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 300 with C or better; MAT 342 or 343 with C or better |
| MAT | 447 | Cryptography I | Block ciphers, stream ciphers, congruence arithmetic, information theory, public key cryptosystems, key exchange, electronic signatures. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): CSE 100, 110, or 205 with C or better; MAT 242, 342, or 343 with C or better; MAT 300 with C or better OR Visiting University Student |
| MAT | 448 | Cryptography II | Mathematical underpinnings of contemporary cryptosystems, electronic signatures, key exchange, primality testing and factorization algorithms. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 447. Credit is allowed for only MAT 448 or MAT 494. Cryptography II |
| MAT | 450 | Mathematical Models in Biology | Introduces mathematical models in biological systems. Applications range from the cellular level to systems level and may include applications from areas such as physiology, ecology, epidemiology, population biology, computational and systems biology. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): MAT 342 or 343 with C or better; MAT 274 or 275 with C or better |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| MAT | 451 | Mathematical Modeling | Detailed study of one or more mathematical models that occur in the physical or biological sciences. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | CS | Prerequisite(s): MAT 274 or 275 with C or better; MAT 242 or 342 or 343 with C or better OR Visiting University Student |
| MAT | 452 | Introduction to Chaos and Nonlinear Dynamics | Properties of nonlinear dynamical systems; dependence on initial conditions; strange attractors; period doubling; bifurcations; symbolic dynamics; Smale-Birkhoff theorem; and applications. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 274 or 275 with C or better; MAT 242, 342, or 343 with C or better; MAT 371 is recommended OR Visiting University Student |
| MAT | 460 | Vector Calculus | Vectors, curvilinear coordinates, Jacobians, implicit function theorem, line and surface integrals, Green's, Stokes', and divergence theorems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Pre-requisite(s): MAT 274 or 275 with C or better; MAT 242, 342 or 343 with C or better; MAT 371 is recommended; Credit is allowed for only MAT 372 or 460 |
| MAT | 461 | Applied Complex Analysis | Analytic functions, complex integration, Taylor and Laurent series, residue theorem, conformal mapping, and harmonic functions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 267 or 272 with C or better |
| MAT | 462 | Applied Partial Differential Equations | Second-order partial differential equations, emphasizing Laplace, wave, and diffusion equations. Solutions by the methods of characteristics, separation of variables, and integral transforms. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Pre-requisite(s): MAT 274 or 275 with C or better; MAT 242, 342 or 343 with C or better OR Visiting University Student |
| MAT | 472 | Intermediate Real Analysis I | Introduces analysis in metric spaces with emphasis on the real line. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 371 with C or better OR Visiting University Student |
| MAT | 473 | Intermediate Real Analysis II | Analysis in R^n : implicit function theorem, introduction to manifolds, Lebesgue integration, change of variables formula, convergence theorems for integrals. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 342 or 343 with C or better; MAT 472 with C or better |
| MAT | 475 | Differential Equations | Linear and nonlinear ordinary differential equations, asymptotic behavior of solutions, stability, existence and uniqueness, limit sets, Poincar-Bendixson theorem. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 242, 342, or 343 with C or better; MAT 274 or 275 with C or better; MAT 371 with C or better OR Visiting University Student |
| MAT | 476 | Partial Differential Equations | First-order quasilinear, method of characteristics, second-order linear (hyperbolic, parabolic, elliptic), Green's functions, integral representations, eigenfunction expansions, maximum principles, harmonic functions, and additional topics as time permits. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 242, 342, or 343 with C or better; MAT 274, 275, or 475 with C or better; MAT 371 with C or better |
| MAT | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z2 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): minimum 45 hours |
| MAT | 485 | History of Mathematics | Topics from the history of the origin and development of mathematical ideas. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Pre-requisite(s): MAT 267 or 272 with C or better OR Visiting University Student |
| MAT | 486 | Peer Mentoring in STEM | Advanced students learn and apply mentoring skills in science classes or teaching labs. | Y | SEM | Y | YGB | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ACO 486 or BIO 486 or LSC 486 or MAT 486 or PTX 486 or STP 486 OR Visiting University Student |
| MAT | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| MAT | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MAT | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| MAT | 495 | Undergraduate Research | Supervised research in mathematical sciences. | N | RSC | Y | GNA | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| MAT | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-3 | | Prerequisite(s): minimum 45 hours |
| MAT | 500 | Research Methods | Course on research methods in a specific discipline. | Y | RSC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 501 | Geometry and Topology of Manifolds I | Brief review of general topology, cell complexes, topological manifolds, fundamental groups, covering spaces, homology. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only MAT 501 or MAT 598 (Geometry and Topology of Manifolds) |
| MAT | 502 | Geometry and Topology of Manifolds II | Differentiable manifolds, vector and tensor fields, differential forms, flows, Lie groups, homogeneous spaces, de Rham cohomology, Riemannian metrics and curvature. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 501; Credit is allowed for only MAT 502 or MAT 598 (Geometry Topology of Manifolds II) |

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|---------|-------------|-------------------------------|--|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| MAT | 512 | Introduction to Combinatorics | Enumerating permutations and combinations of sets and multisets, inclusion-exclusion, recurrence relations, generating functions, Polya theory and combinatorial structures. Same topics as MAT 415; mastery at much higher level required. Students with MAT 415 (even as undergraduates) may not enroll. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Pre-requisites: Graduate student; Credit is allowed for only MAT 415 or 512 |
| MAT | 513 | Graph Theory | Rigorous introduction to graph theory. High-level mastery in topics such as trees, cycles, matchings, planarity, connectivity, hamiltonicity, chromatic number, Ramsey theory with emphasis on proof techniques. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only MAT 416 or 513 |
| MAT | 514 | Enumerative Combinatorics I | First semester of a systematic development of enumerative combinatorics, including elementary counting techniques, sieve methods, and partially ordered sets. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 515 | Enumerative Combinatorics II | Second semester of a systematic development of enumerative combinatorics, including lattices, exponential structures, symmetric functions, and selected special topics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 516 | Graph Theory I | First semester of a systematic development of graph theory, including matchings, connectivity, arboricity, planarity, coloring, network flows. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 517 | Graph Theory II | Second semester of a systematic development of graph theory, including dense and sparse graphs, Ramsey theory, hamiltonicity, random graphs, minors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 541 | "p"-Adic Numbers | Introduces "p"-Adic numbers and analysis. Topics include valuations, completions of number fields, extensions of the field of "p"-adic numbers and "p"-adic analysis. Students should have previously taken courses in analysis and algebra. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 542 | Elliptic Curves | Geometry and arithmetic of elliptic curves, points of finite order, the group of rational points, curves over finite fields, complex multiplication. Students should have previously taken a senior-level course in abstract algebra. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 543 | Abstract Algebra I | Groups, modules, rings and fields, Galois theory, homological algebra, and the representation theory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 544 | Abstract Algebra II | Continuation of groups, modules, rings and fields, Galois theory, homological algebra, and the representation theory | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 543 |
| MAT | 545 | Abstract Algebra III | Covers modules, Galois theory, and preparation for advanced study in algebraic parts of mathematics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Pre-requisite: MAT 544 |
| MAT | 547 | Algebraic Number Theory | Algebraic properties of number fields and their completions. Topics include rings of integers, ramification, finiteness of the class group, and Dirichlet's unit theorem. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Pre-requisite: MAT 544 |
| MAT | 570 | Real Analysis I | Lebesgue integration, selected function spaces, differentiation, abstract measure theory, and elements of functional analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 571 | Real Analysis II | Continuation of Lebesgue integration, selected function spaces, differentiation, abstract measure theory, and elements of functional analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 570 |
| MAT | 572 | Complex Analysis I | Analytic functions, series and product representations, entire and meromorphic functions, normal families, Riemann mapping theorem, harmonic functions, and Riemann surfaces. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 573 | Complex Analysis II | Continuation of analytic functions, series and product representations, entire and meromorphic functions, normal families, Riemann mapping theorem, harmonic functions, and Riemann surfaces. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 572 |
| MAT | 578 | Functional Analysis I | Locally convex, normed, and Hilbert spaces. Linear operators, spectral theory, and application to classical analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 579 | Functional Analysis II | Continuation of locally convex, normed, and Hilbert spaces. Linear operators, spectral theory, and application to classical analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Pre-requisite: MAT 578 |
| MAT | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| MAT | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MAT | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MBB | 343 | Genetic Engineering and Society | Introduces genetic engineering, with emphasis on applications (transgenic plants and animals, cloning, vaccines, therapeutics, and diagnostics). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | L | Prerequisite(s): BIO 340 or MBB 347 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only BIO 343 or MBB 343 OR Visiting University Student |
| MBB | 347 | Molecular Genetics: From Genes to Proteins | Emphasizes molecular and cell biology and gene technology, both at the basic and applied research levels, in the growing areas of biotechnology and the molecular biosciences; focuses on molecular processes that allow genetic information to be expressed and regulated and by introducing applications to real-world situations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): BIO 181 and 182 both with C or better or BIO 282 with C or better; CHM 116 with C or better; Credit is allowed for only BIO 340 or BIO 342 or MBB 347 OR Visiting University Student |
| MBB | 350 | Applied Genetics | Introduces molecular genetics with emphasis on application of genetics to solve biological questions and to engineer organisms for biotechnology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): BIO 340 or MBB 347 with C or better; Credit is allowed for only MBB 350 or PLB 350 OR Visiting University Student |
| MBB | 355 | Introduction to Computational Molecular Biology | Introduces the mathematical skills used in molecular biology, genomics, and bioinformatics. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | CS | Prerequisite(s): MAT 119, 210, 243, 251, 265, or 270 or STP 220, 226, or 231 with C or better; Credit is allowed for only BIO 355 or CPI 480 or MAT 355 or MBB 355 OR Visiting University Student |
| MBB | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| MBB | 440 | Functional Genomics | Covers emerging fields of genomics and proteomics. Discusses key technologies and their applications to the study of genomes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 340 or LSC 347 or MBB 347 with C or better; Credit is allowed for only BIO 440 or MBB 440 or MCB 540 |
| MBB | 445 | Techniques in Molecular Biology/Genetics | Molecular genetic principles: plasmid construction, purification and characterization; PCR; mutagenesis; DNA sequence analysis; protein quantitation, hybridization, immunologic detection and electrophoresis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 340 or MBB 347 with C or better; Credit is allowed for only MBB 445 or MIC 445 OR Visiting University Student |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|-------------------------|-------|-----------------|---|
| MBB | 446 | Techniques in Molecular Biology/Genetics Lab | Molecular genetic techniques; plasmid construction, purification, and characterization; PCR; mutageneses; hybridization and sequence analysis; protein quantitation; immunologic detection, and electrophoresis. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 2 | | Pre- or corequisite(s): MBB 445 or MIC 445 with C or better if completed; Credit is allowed for only MBB 446 or MIC 446 OR Visiting University Student |
| MBB | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): Molecular Biosciences and Biotechnology BS major; minimum 2.75 GPA |
| MBB | 490 | Capstone: Issues in Biotechnology | Integrates science and biotechnology industry issues dealing with intellectual property, regulatory issues, business practices, and commercialization. Both MBB 490 and MBB 491 must be taken to secure L General Studies credit. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 2 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; MBB 343 with C or better |
| MBB | 491 | Capstone: Issues in Molecular Biosciences | Integrates molecular science and societal issues dealing with ethics, regulatory issues, and societal needs that pertain to molecular biosciences. Both MBB 490 and MBB 491 must be taken to secure L General Studies credit. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 2 | L | Prerequisite(s): BIO 340 or MBB 347 with C or better; ENG 101, 105, or 107 with C or better |
| MBB | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| MBB | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MBB | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| MBB | 495 | Undergraduate Research | Supervised research in biology/microbiology/molecular biosciences and biotechnology/or plant biology. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-3 | | Prerequisite(s): minimum junior standing OR Visiting University Student |
| MBB | 496 | Undergraduate Thesis | Guided research culminating in the preparation of an undergraduate thesis based on supervised research done in this and previous semesters. | N | RSC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): junior or senior standing; Credit is allowed for only BIO 496 or HPS 496 or MBB 496 or MIC 496 OR Visiting University Student |
| MBB | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-3 | | Prerequisite(s): Molecular Biosciences and Biotechnology BS major; minimum 3.0 GPA |
| MBB | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| MCB | 500 | Research Methods | Course on research methods in a specific discipline. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 501 | Seminar: Molecular and Cellular Biology Colloquium | Presentation of current research by noted researchers in the field. | N | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 539 | Computing for Research | Works mainly with command-line programs, focusing on sequence-based analysis. An interactive flipped course, with required hands-on aspects both in class debugging and troubleshooting and for out-of-class assignments where students work on problem solving and implementation. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 439 or BIO 498 (Computing for Rsrch) or BIO 539 or BIO 598/EVO 598/MCB 598 (Computing for Rsrch) or EVO 539 or MCB 539 |
| MCB | 540 | Functional Genomics | Functional relevance of genomic sequences; DNA arrays, proteomics, analysis of genomic information for metabolic physiology of organisms. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 440 or MBB 440 or MCB 540 |
| MCB | 555 | Advanced Molecular and Cellular Sciences | Study of structural and functional organization of biomolecules and cells, based on current literature. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 556 | Advanced Molecular and Cellular Biology II | Continuation of MCB 555. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|--|
| MCB | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 701 | Seminar: Molecular and Cellular Biology Colloquium | Presentation of current research by noted researchers in the field. | N | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCB | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCE | 447 | Diversity in Families and Communities in Multicultural Settings | Diversity and the changing role of schools in a multiethnic society. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| MCE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| MCO | 101 | Everyday Grammar | Helps students master the elements of English grammar. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Prerequisite(s): non-Journalism and Mass Communication majors or non-Sports Journalism majors; Credit is allowed for only JMC 101 or JMC 194 (Grammar for Journalists) or MCO 101 or MCO 194 (Everyday Grammar) OR Visiting University Student |
| MCO | 102 | Fundamentals of Coding | Provides a basic understanding of how the Internet works, knowledge of how to create and upload Web pages, and a basic introduction to programming with JavaScript. Assumes no previous knowledge of any of the topics, although requires basic knowledge of how to use a Web browser and navigate the Web. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Credit is allowed for only JMC 102 or JMC 194 (Coding for Journalists) or MCO 102 or MCO 194 (Fundamentals of Coding) OR Visiting University Student |
| MCO | 120 | Media and Society | Covers the role of newspapers, magazines, radio, television and motion pictures in American society. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | SB | Prerequisite(s): non-Journalism and Mass Communication major or non-Sports Journalism major; Credit is allowed for only JMC 110 or MCO 120 OR Visiting University Student |
| MCO | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-4 | | |
| MCO | 240 | Media Issues in American Pop Culture | Explores how pop culture is created, shared and controlled in American society. What is pop culture? Who controls and manipulates pop culture trends and phenomena? Examines pop culture in advertising, film, video, music and social media. Challenges students to think about different aspects of pop culture across society and its role in modern America. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | |
| MCO | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-4 | | |
| MCO | 302 | Media Research Methods | Surveys research methods used in the social sciences, with a focus on mass communication. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |

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|---------|-------------|--------------------------------|---|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|--|
| MCO | 307 | The Digital Audience | Introduces students to the foundations of digital strategy, including audience research, social media campaigns, SEO, analytics, audience targeting, goal setting and more. Through hands-on exercises with real brands, students learn how audiences differ across industries and platforms, approaches for engaging users, and how organizations use audience data to create growth strategies. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): minimum 45 hours; minimum 2.00 GPA OR Visiting University Student |
| MCO | 335 | Social Media Foundations | Discover the social media landscape: What are social media platforms, who uses them and how are they transforming society? Explores the basics of virtual social networks and critically analyzes the social, cultural, legal, ethical, economic and technological dimensions of social media platforms and the communities who use them. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): minimum 2.00 GPA; Credit is allowed for only JMC 305 or JMC 306 or MCO 335 OR Visiting University Student |
| MCO | 366 | Media Ethics and Diversity | Explores contemporary news media ethical problems in a seminar setting. Uses journalism and mass communication ethical perspectives to obtain keys to unlock contemporary dilemmas surrounding the news media. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): minimum 2.00 GPA; Credit is allowed for only JMC 366 or JMC 367 or MCO 366 or MCO 494 (Media Ethics and Diversity) OR Visiting University Student |
| MCO | 375 | Podcasting | Explores what it takes to start a podcast from the ground up. Students devise a proof of concept for a podcast while fortifying their knowledge of the industry. The podcast projects are based on a unique value proposition that fulfills a specific need for their audience. In creating a show, students implement interviewing skills, audio engineering and nonlinear editing to develop a podcast with intention and longevity. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): minimum 56 hours; minimum 2.00 GPA; Credit is allowed for only JMC 355 or JMC 394 (Audio Storytell & Prod) or JMC 394 (Podcast & Audio Storytell) or MCO 375 or MCO 494 (Podcasting) or MCO 598 (Podcasting) OR Visiting University Student |
| MCO | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-4 | | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| MCO | 403 | Media Law | Provides a grounding in the laws and regulations that govern various aspects of the media with a focus on First Amendment guarantees and privileges and the extent to which those have been limited by courts and lawmakers. Topics include freedom of expression, libel, privacy and obscenity. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): minimum 2.00 GPA; Credit is allowed for only JMC 402 or MCO 403 or MCO 503 OR Visiting University Student |
| MCO | 418 | History of Mass Communication | Explores the history of American media from its English and colonial origins to the present day, including the development and influence of newspapers, magazines, radio, television and news-gathering agencies. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | SB & H | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| MCO | 420 | Strategic Sports Communication | Covers the wide-ranging field of strategic sports communication. Prepares students for an entry-level position in the strategic sports communication field. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Communication or Sports Journalism or Business (Sports and Media Studies) major; minimum 45 hours OR Visiting University Student |
| MCO | 425 | Digital Media Literacy I | Helps students begin to navigate the 21st-century media, starting by becoming active users of media, not just passive consumers. The Internet-fueled democratization of media creation has enabled anyone to be a publisher, and given audiences' almost infinite choices, with both great and questionable effects. In a world of information abundance, it can be difficult to discern fact from opinion and truth from fiction. We need to know how to wade through this barrage of information with a critical eye, to be better informed, and ultimately become creators of media ourselves. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): minimum 2.00 GPA; Credit is allowed for only MCO 425 or MCO 494 (Digital Media Literacy) OR Visiting University Student |
| MCO | 426 | Digital Media Literacy II | Discusses digital media consumption to some degree, but focuses more on media creation and the many issues we need to understand for best practices. Students learn the importance of understanding the tools and techniques of media creation, and how media are used to persuade, the ethical and legal issues in creating media, policy issues that can (or will) affect media creation, and an assortment of media-creation techniques. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): minimum 2.00 GPA; Credit is allowed for only MCO 426 or MCO 494 (Digital Media Literacy II) OR Visiting University Student |

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| MCO | 427 | Misinformation and Society | Develops strategies and tactics to recognize misinformation, and inoculates students--and helps them join the battle--against it. Misinformation in our context is false information purposefully created to deceive and cause harm. It runs rampant in today's digital information ecosystem, and is becoming more and more sophisticated and difficult to spot. Bad actors are using powerful tools and techniques to infect our information supply, sowing confusion and discord. While there are laudable efforts to staunch the flow of misinformation, media users need help in deciding what information to trust. Examines the evolution of misinformation and the range of content types that fall under its umbrella. Explores tools, techniques and tactics that individuals can employ to identify misinformation, and gives them a head start on making informed decisions on what, and whom, they can trust. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): minimum 2.00 GPA |
| MCO | 428 | Digital Media and Freedom of Expression in the 21st Century | Covers the extraordinary nature of media in this century. Examines how the media and communications tools of the past 100+ years-- telephones, print publications and broadcasting outlets--gave way to the Internet, a radically centralized network of networks that is rapidly re-centralizing. Also explores how the ability to exercise freedom of expression became radically easier in the early days of the Internet, but how that freedom, among others, may be in jeopardy--and, if so, what can be done about that, as individuals and members of communities. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): minimum 2.00 GPA; Credit is allowed for only MCO 428 or MCO 494 (Media and Free Expression in the 21st Century) or MCO 598 (Media and Free Expression in the 21st Century) |
| MCO | 430 | International Mass Communication | Compares international communication and media and explores how audiences, information gathering and dissemination differ across global political and cultural systems. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | G | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| MCO | 431 | Media Entrepreneurship | Familiarizes students with media entrepreneurship and innovation in a quickly changing digital media environment. Students study the principles of entrepreneurship and innovation, assess their own tolerance for risk, evaluate opportunity and market conditions, and learn about various revenue models for entrepreneurial enterprises. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): minimum 2.00 GPA; Credit is allowed for only MCO 431 or MCO 494 (Media Entrepreneurship) or MCO 556 OR Visiting University Student |
| MCO | 433 | Social Media Campaigns, Engagement and Research | Learn how to attract, engage and grow audiences on social media platforms through both organic and paid social media campaigns, and research social media behavior and performance. Includes evaluating organizations' existing social media audiences, identifying opportunities for audience growth, creating content and campaigns for specific social platforms, measuring the impact of social media content, and developing an organizational strategy for managing social media across an enterprise. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Journalism and Mass Comm undergraduate major or minor or Interdisciplinary Studies BIS major; MCO 307 w/ C or better; minimum 2.00 GPA; Credit is allowed for only MCO 433, MCO 436, MCO 437 or MCO 563 OR Visiting University Student |
| MCO | 434 | Search Engine Research and Strategy | Learn how to research, attract and grow audiences through the strategic use of search engine optimization and search engine marketing. Includes search trend research, keyword research, user behavior, SEO (search engine optimization), tagging and coding for on-page SEO, SEM (search engine marketing), competitive analysis, domain authority and pay-per-click advertising. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School undergraduate major or minor, or Interdisciplinary Studies BIS major; MCO 307 with C or better; minimum 2.00 GPA; Credit is allowed for only MCO 434 or MCO 436 or MCO 437 or MCO 562 OR Visiting University Student |
| MCO | 436 | Audience Research and Behavior | Prepares students to undertake or manage research on customers, employees, readers, viewers, influencers and others with whom an organization seeks to communicate or build relationships. Digital data have profoundly reshaped how organizations mine and interpret audience data, so the course introduces new techniques and tools for developing audience insights, as well as traditional qualitative and quantitative research methods. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School undergraduate major or minor, or Interdisciplinary Studies BIS major; MCO 307 with C or better; minimum 2.00 GPA; Credit is allowed for only MCO 433 or MCO 434 or MCO 436 or MCO 564 OR Visiting University Student |
| MCO | 437 | Audience Acquisition and Engagement | Students learn how to attract and grow audiences on established and emerging digital platforms. Students discover tactics and strategies for targeting, obtaining and engaging audiences by leveraging social media, search marketing and SEO, digital content, ecommerce, digital advertising and others. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School undergraduate major or minor, or Interdisciplinary Studies BIS major; MCO 307 with C or better; minimum 2.00 GPA; Credit allowed for only MCO 433 or MCO 434 or MCO 437 or MCO 562 or MCO 563 OR Visiting University Student |

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| MCO | 438 | Digital Audience Analysis | Students discover how to access, manipulate and translate audience data. Students learn how to mine data from Web sites, social networks, apps, email campaigns and video platforms, and how to use analysis tools and techniques to translate metrics into valuable, actionable insights that drive engagement strategies and business decisions. By working with real audience data, students receive hands-on analysis and reporting experience. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School undergraduate major or minor, or Interdisciplinary Studies BIS major; MCO 307 with C or better; minimum 2.00 GPA; Credit is allowed for only MCO 438 or MCO 565 OR Visiting University Student |
| MCO | 439 | Digital Audience Growth | Capstone challenges students to synthesize their digital audience knowledge and skills acquired in the previous courses through an applied project. Working with a real client and live, ever-changing data, students work to increase and engage the client's digital audience, executing a growth campaign from audience identification, targeting and strategy development to implementation, engagement and measurement. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s) with C or better: Digital Audience BS major or minor; MCO 307; (MCO 433 and 434) or (MCO 436 and 437); MCO 438; minimum 2.00 GPA; Credit is allowed for only MCO 439 or MCO 566 OR Visiting University Student |
| MCO | 450 | Visual Communication | Theory and tradition of communication through the visual media with emphasis on the continuity of traditions common to modern visual media. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | HU | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| MCO | 456 | Political Communication | Explores the intersection of media and politics and examines how the political system works and how journalists cover politics, political campaigns and elections. Students gain knowledge of opinion polling, debates, campaign finance, the party system, political communication, issues coverage, fact checking, crowd sourcing and more. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | SB | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| MCO | 460 | Race, Gender, and Media | Readings seminar designed to give students a probing examination of the interface between AHANA Americans and the mass media in the United States. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | C | Prerequisite(s): minimum 2.00 GPA; Credit is allowed for only AFR 460 or MCO 460 OR Visiting University Student |
| MCO | 465 | Sports and Media | Designed for aspiring journalists and media users, explores why great sports journalism is essential to our society. Establishes the goals, dreams, and expectations for sports journalism and introduces ethical philosophy and popular ethical models and decision-making tools. Students then apply these tools to sports journalism. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| MCO | 470 | Exploring the Business of Journalism | Exposes students to broad media management problems. Focuses on how essential the bottom-line and quality journalism are to the entire journalistic and mass communication enterprise; helps students think about how to balance those two concerns. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): minimum 2.00 GPA; Credit is allowed for only JMC 473 or JMC 474 or MCO 470 OR Visiting University Student |
| MCO | 473 | Sex, Love, and Romance in the Mass Media | The role of the mass media in constructing and/or reinforcing unrealistic mythic and stereotypic images of sex, love, and romance. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | SB | Prerequisite(s): minimum cumulative 2.00 GPA |
| MCO | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-12 | | |
| MCO | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-6 | | Prerequisite(s): Barrett Honors student |
| MCO | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MCO | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-4 | | Prerequisite(s): minimum 2.00 GPA OR Visiting University Student |
| MCO | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-7 | | |
| MCO | 502 | Journalism Skills | Basic journalism skills for print, digital and broadcast. Significant hands-on practice writing and reporting stories on deadline as well as an immersion in the principles and practices of good journalism. | Y | LEL | Y | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 2-8 | | Prerequisite(s): Cronkite School masters or PhD student |
| MCO | 503 | Media Law | Examines the philosophical and legal aspects of press freedom with an emphasis on the First Amendment from 1791 to present. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School master's student; Credit is allowed for only JMC 402 or MCO 403 or MCO 503 |
| MCO | 504 | Cronkite Master's Seminar | Provides an introduction to the Cronkite School as well as challenges and opportunities in media leadership today. Students develop strategies and tactics for establishing themselves as leaders now and into the future, with a focus on driving change and innovation in media. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Prerequisite(s): Cronkite School of Journalism and Mass Communication master's student; Credit is allowed for only MCO 504 or MCO 598 (Journalism Skills Lab) |

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| MCO | 505 | Depth Reporting | Covers in-depth and investigative reporting and writing techniques. Students produce long-form, deeply sourced articles and produce multimedia with the goal of publication. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School of Journalism and Mass Communication on-campus master's student |
| MCO | 506 | Media Law for Strategic Communication | The 24-hour news cycle routinely starts in 280 characters or less followed by a single click. This democratization of information provides anyone and everyone an opportunity to control the narrative, leaving individuals and entities sharing or reliant on such information more prone to missteps. Such missteps impact professional reputations as well as companies and their stakeholders. Therefore, the professional communicator must be well versed in the fundamentals of the applicable law when a defining moment presents itself. This course requires students to engage in issues concerning the First Amendment, commercial advertising, copyright, trademarks, Section 230 and defamation. Such information is intended to help its recipients understand their rights (or lack thereof) to publish certain information, steer clear of lawsuits and increase their value in the workplace. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCO | 510 | Data Journalism | Students use data to tell stories, employing computer spreadsheets, database software, mapping programs and statistical techniques and learn how these tools can be used across a wide variety of beats and stories. Students negotiate with government officials for public records and use the internet and other online sources to find information and sources for stories. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School of Journalism and Mass Communication on-campus master's student |
| MCO | 512 | Humphrey Seminar | Identifies, examines and exports role models of leadership in the field of global communications. Explores leadership issues in journalism, strategic communications and management under different cultural and political systems. | N | SEM | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Master of Mass Communication or Sports Journalism MA student; minimum 2.50 GPA; Credit is allowed for only JMC 406 or JMC 494 (Humphrey Seminar) or MCO 512 or MCO 598 (Humphrey Seminar) |
| MCO | 515 | Advanced Online Media | Builds on and expands basic multimedia knowledge. Students leave with heightened Web-language literacy and visual sophistication; fluency with multiple digital tools that create, publish and distribute content; and the requisite storytelling skills to produce works of a professional level on diverse online and mobile platforms. Draws on Adobe Creative Cloud software and other current tools. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Master of Mass Communication or Sports Journalism MA student; MCO 502 with C or better; Credit is allowed for only JMC 460 or MCO 515 |
| MCO | 517 | Public Relations Campaigns | Enables students to synthesize and apply the theories, principles and techniques of public relations. This body of knowledge includes research, planning techniques, types of budgets, organizational systems, management styles, campaign components, types of campaigns, technology, ethics, diverse channels of communication and target audiences. The student develops an in-depth understanding of a client's needs; conducts primary and secondary research; works with a client in a team-based approach to prepare a comprehensive campaign proposal to address the client's problem or issue; designs and develops media products for client; formally presents the proposal to the client and the class and analyzes, discusses then responds to public relations case studies. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Sports Journalism MA or Master of Mass Communication student; Credit is allowed for only MCO 517 or MCO 598 (Public Relations Campaigns) |
| MCO | 519 | Strategic Communications Leadership and Ethics | Communications and the ability to tell an organization's story to a variety of audiences and stakeholders is a key part of corporate strategy. Provides a broad understanding of ethical communications practices in agency and corporate settings, and includes instruction in reputation management, corporate communications, brand management, and stakeholder engagement in a digital context. Especially useful for future communications professionals and those who will work with them such as journalists and business leaders. | N | SEM | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite master's student; Credit is allowed for only JMC 419 or MCO 519 |
| MCO | 521 | News Producing | Principles of broadcast news producing, delivered via a combined lecture/lab experience. Students complete assignments based on editorial judgment, technical skills and industry awareness and develop strategies for total newsroom management. In the process, students build confidence in producing news content and newscasts under deadline pressure and are prepared for a variety of producer-related roles in professional newsroom environments. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School of Journalism and Mass Communication on-campus master's student; Credit is allowed for only MCO 521 or MCO 598 (News Producing) |

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| MCO | 525 | 21st-Century Media Organization and Entrepreneurship | Focuses on the future of journalism, the future of journalism business organizations and entrepreneurship, new media experiences, online solutions to popular media problems, financial realities of the media, and media innovation. | N | SEM | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Master of Mass Communication or Investigative Journalism MA student; Credit is allowed for only JMC 473 or MCO 525 or MCO 526 |
| MCO | 526 | Advanced Issues in 21st-Century Sports and Media | Through critical analyses of major contemporary issues in sports and media, provides tools and information needed to more fully engage in and become fluent with the main conversations about the business, technology and the future of sports journalism. | N | SEM | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Sports Journalism MA student; Credit is allowed for only JMC 474 or MCO 525 or MCO 526 |
| MCO | 529 | Ethics and Diversity in Sports Journalism | Explores the connection among sports media, journalism and society in an ethical and issue-oriented context. Students gain an understanding of the issues and ethics of the sports journalism profession while becoming better and more informed consumers of sports media. At the end of the course students have a better understanding of the importance of sports in our society and how that is reflected in coverage by local and national media outlets. | N | SEM | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Sports Journalism MA student |
| MCO | 530 | History, Philosophy, and Ethics of Journalism | Explores contemporary news media issues in a seminar setting. Critically analyzes historical and contemporary dilemmas in journalism ethics using a case study approach. | N | SEM | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Investigative Journalism MA or Mass Communication MMC student |
| MCO | 531 | Advanced Broadcast Reporting | Teaches news and information practices of networks and local television stations. Students report, write and edit broadcast packages with an emphasis on video. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School of Journalism and Mass Communication on-campus master's student |
| MCO | 533 | Advanced Spanish-Language Broadcast Reporting | Students produce bilingual television packages on a wide range of issues of interest to Latino audiences. Students also report and produce an occasional Spanish-language newscast. Opportunity to develop and master advanced reporting, interviewing, visual storytelling and writing skills in English and Spanish needed to obtain an entry-level position in a small/medium market local television newsroom. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Master of Mass Communication or Sports Journalism MA student; MCO 502 with C or better; Credit is allowed for only MCO 533 or MCO 598 (Advanced Bilingual Broadcast Reporting) |
| MCO | 534 | Advanced Spanish-Language Reporting | Students get experience reporting and writing stories on topics related to Latinos in the U.S. Requires ability to write and report in Spanish, although students do not have to be proficient. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Master of Mass Communication or Sports Journalism MA student; MCO 502 with C or better; Credit is allowed for only JMC 434 or JMC 494 (Advanced Bilingual Reporting) or MCO 534 or MCO 598 (Advanced Bilingual Reporting) |
| MCO | 535 | Latino and Transnational Issues | Focuses on some of the most pressing and controversial issues of the day that are taking place in the Southwest borderlands. Successful students move on to the Borderlands Initiative depth reporting project in the spring semester that includes an international reporting experience. | N | SEM | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Investigative Journalism MA, Master of Mass Communication or Sports Journalism MA student |
| MCO | 536 | Public Relations Research | Teaches the importance and practice of research in a public relations context. Students conduct research using qualitative and quantitative methods and analyze data to understand implications within a specific communications context. They also critically evaluate published academic and professional research. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Master of Mass Communication student; Credit is allowed for only MCO 536 or MCO 598 (PR Research) |
| MCO | 537 | Strategic Communications Writing | Focuses on content creation, with students producing content in digital formats in addition to text. Emphasizes storytelling across different platforms. Students work in groups of 2-3 to produce content for a client based both on research they conduct in class, as well as information provided by the instructor. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): MCO 502 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 415 or MCO 537 or MCO 598 (Writing for Public Relations) |
| MCO | 540 | Sports Reporting | Hands-on experience reporting, writing, script writing and video producing sports stories. Students report, write and produce professional-level, clear, well-reported, accurate stories and video packages about athletes and sports stories newsworthy in the Valley and beyond. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Sports Journalism MA student; MCO 502 |
| MCO | 541 | Narrative Writing and Reporting | Students learn the elements of narrative journalism--structure and narrative arc, the use of character, description, dialogue and quotes, context and background, and pacing--and apply them to a long-form story they report and write during the semester. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School masters student; MCO 502 with C or better; Credit is allowed for only JMC 441 or JMC 494 (Narrative Writing) or MCO 541 or MCO 598 (Narrative Writing) |
| MCO | 542 | Sports and Culture Commentary | Students learn how to craft informed opinion in both news and sports across a variety of platforms, including written columns and video and audio commentaries. | N | LEL | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Investigative Journalism MA, Master of Mass Communication, or Sports Journalism MA student; MCO 502 with C or better; minimum 2.50 GPA; Credit is allowed for only JMC 442 or MCO 542 or JMC 494/MCO 598 (Opinion in the Digital Age) |

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| MCO | 544 | Accountability in Journalism | Seminar about accountability journalism in the digital age: its history, mission, values, techniques, ethics and future. Students research and analyze notable recent examples of accountability journalism and produce accountability story ideas about water quality and supply in Arizona. | N | SEM | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Prerequisite(s): Cronkite School masters or PhD student; Credit is allowed for only JMC 444 or JMC 494 (Accountability Journalism) or MCO 544 or MCO 598 (Accountability Journalism) |
| MCO | 545 | Techniques of Investigative Reporting | Student teams work under the direction of a veteran investigative journalist, learning how to do research and reporting on projects to expose wrongdoing, focusing on public records, databases, in-depth interviews and how to conceptualize, organize and tell these stories on multiple platforms. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): MCO 502 with C or better; Credit is allowed for only MCO 502 or MCO 545 |
| MCO | 546 | News 21 Seminar | Prepares students for the Carnegie-Knight News21 investigative journalism summer fellowship. Immerses students in the selected topic for the annual investigation, conducting deep research, generating data and public records, interviewing experts, developing sources and producing initial reports and multimedia elements. Considers students who perform well in the seminar for paid summer fellowships during which they travel the country to complete their reporting and produce the annual project on an issue of national import. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School of Journalism and Mass Communication on-campus master's student; MCO 502 with C or better; Credit is allowed for only JMC 446 or JMC 494 (News 21) or MCO 546 or MCO 598 (News 21 Seminar) |
| MCO | 548 | Non-Narrative Video Storytelling | Teach students how to create video pieces that effectively communicate a story, information or concept to your audience in non-narrative form that is engaging, interesting and intelligent. Focuses on the various forms of non-narrative storytelling to gain experience creating both longer and shorter pieces with DSLR cameras, advanced editing and graphics that are appropriate to the intended platform. Students learn how to shoot video and stills with a DSLR camera and when to use each in video creation, while advancing skills as a video editor and graphic designer. Students broaden their creativity and range as a video producer in the areas of journalism and mass communication. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Master of Mass Communication or Sports Journalism MA student; MCO 502 w/ C or better; Credit is allowed for only JMC 448 or MCO 548 |
| MCO | 550 | Issues in Coverage of Business and the Economy | Teaches the basics of business and economics reporting, one of the fastest-growing areas of journalism. Students learn what skills are needed to cover business and economic stories as well as how private companies operate and the factors that drive the economy. They also learn about opportunities in the field and hear from leaders in business journalism. | N | SEM | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School of Journalism and Mass Communication master's or PhD student |
| MCO | 551 | Better Business Reporting | Provides training and practice in reporting and writing stories related to business and the economy. Students learn tools and techniques to enhance their coverage of various kinds of business stories, from profiles to financial reports. They learn best practices for pitching stories, cultivating sources, conducting effective interviews, structuring stories, using appropriate narrative elements and translating complex information for a general audience. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Business Journalism MS student; MCO 550 with C or better |
| MCO | 552 | Data in Business Journalism | Students learn how to find powerful business and economic data from U.S. sources such as the Census Bureau, the Bureau of Labor Statistics, the Securities and Exchange Commission and the Federal Reserve. Examines international data sources of the United Nations, the World Bank, the European Union and the statistics offices of various countries. Covers basic mathematical and statistical formulas for working with business data, how to find stories in data using tools such as Microsoft Excel and Google Fusion Tables and how to create basic data visualizations that are useful for understanding business and economic trends. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Business Journalism MS student; MCO 550 with C or better |
| MCO | 553 | Reporting on Business and the Economy | Trains students in the basics of reporting about business and the economy. They learn to tell the stories behind companies, people and money, while improving their competency in using numbers in stories. Students have the opportunity to have stories appear in print, online or broadcast. | N | LEL | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Master of Mass Communication or Sports Journalism MA student; MCO 502 OR Business Journalism MS student |
| MCO | 555 | Digital Media Entrepreneurship | Students identify a marketable idea and transform it into a product and/or company. In the process, they learn about key concepts of entrepreneurship and practice skills that they can employ as entrepreneurs themselves. Students are exposed to a range of national and regional entrepreneurs and emerge with a deeper understanding of entrepreneurship's importance within the media and communications landscape. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Master of Mass Communication or Sports Journalism MA student; Credit is allowed for only JMC 455 or JMC 494 (Digital Media Entrepreneurship) or MCO 555 or MCO 598 (Digital Media Entrepreneurship) |

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| MCO | 556 | Media Entrepreneurship | Familiarizes students with media entrepreneurship and innovation in a quickly changing digital environment. Students study the principles of entrepreneurship and innovation, assess their own tolerance for risk, evaluate opportunity and market conditions, and learn about various revenue models for entrepreneurial enterprises. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School graduate student; Credit is allowed for only MCO 431 or MCO 494 (Media Entrepreneurship) or MCO 556 |
| MCO | 557 | Advanced Radio Reporting | Students report and produce long-form radio stories in commercial and public radio formats. They develop planning, writing, voicing and detailed editing skills in a variety of radio broadcast formats, including general news and business as well as hard news and feature reporting. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Master of Mass Communication or Sports Journalism MA student; MCO 502 with C or better; Credit is allowed for only JMC 457 or JMC 494 (Advanced Radio Reporting) or MCO 557 or MCO 598 (Advanced Radio Reporting) |
| MCO | 560 | Arizona Media Law | Case study approach to first amendment issues, media access, libel, confidentiality, and invasion of privacy as applied to media organizations in Arizona. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Master of Mass Communication or Sports Journalism MA student |
| MCO | 561 | Defining the Digital Audience | Who are the people who make up digital audiences? How do digital audiences behave? And why is it important to research, identify and monitor digital audiences and their engagement with your organization? Covers the very essence of the digital audience, exploring how community, consumer, social psychology and theory converge on digital platforms and social networks. Through case-study analyses, teaches how audiences differ across industries and platforms, the elements that engage or dissuade users, and how organizations use audience data to manipulate growth strategies. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCO | 562 | Search Engine Strategy for Digital Audience Acquisition | How to attract and grow audiences through strategic use of search engine marketing. Includes user search behavior, SEO (search engine optimization), tagging and coding for on-page SEO, SEM (search engine marketing), keyword research, competitive analysis, domain authority and pay-per-click advertising. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prereq(s): Bus Journ MS, Dig Aud Strat MS; Dig Aud cert, Investigative Journ MA, Journ & Mass Comm PhD, Global Mgt (Dig Aud Strat) MGM, Mass Comm MMC or Sports Journ MA stdnt; MCO 561 w/B or better; Credit allowed for only MCO 434 or MCO 437 or MCO 562 |
| MCO | 563 | Social Media Campaigns and Engagement | How to attract, engage and grow audiences on social media platforms through both organic and paid social media campaigns. Includes evaluating an organization's existing social media audience, identifying opportunities for audience growth across social media platforms, designing and generating content for specific platforms, measuring the impact of social media content, and developing an organizational strategy for managing social media across an enterprise. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School graduate student or Global Management (Digital Audience Strategy) MGM student; MCO 561 with B or better; Credit is allowed for only MCO 433 or MCO 437 or MCO 563 |
| MCO | 564 | Digital Audience Research and Behavior | Provides skills to undertake research on digital audiences, customers, viewers, influencers and others with whom an organization seeks to communicate or build relationships. Digital data have profoundly reshaped how organizations mine and interpret audience data. Digital audience research as a subset of social research. Overviews both traditional and newer research methods for developing audience insights. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Cronkite School graduate student or Global Management (Digital Audience Strategy) MGM student; MCO 561 with B or better; Credit is allowed for only MCO 436 or MCO 564 |
| MCO | 565 | Digital Audience Analytics | Provides skills to access, manipulate and translate audience data. How to mine data from websites, social networks, apps, email campaigns and video platforms, and how to use analysis tools and techniques to translate metrics into valuable, actionable insights that drive engagement strategies and business decisions. Works with real audience data to receive hands-on analysis and reporting experience. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prereq(s): Bus Journ MS, Digtl Aud Strategy MS; Digtl Aud cert, Investigative Journ MA, Journ&Mass Comm PhD, Mstr Global Mgt (Digtl Aud Strategy), Mstr Mass Comm or Sports Journ MA stdnt; MCO 561 w/B or better; Credit allowed for only MCO 438 or MCO 565 |
| MCO | 566 | Digital Audience Management | Challenges students to synthesize their digital audience knowledge and skills acquired in previous courses through a culminating experience. Working with a real client and live, ever-changing data, students work to increase and engage the client's digital audience, executing a growth campaign from audience identification, targeting and strategy development to implementation, engagement and measurement. | N | LEC | N | GNA | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): Digital Audience Strategy MS student; MCO 561 with B or better; MCO 562 with C or better; MCO 563 with C or better; MCO 564 with C or better; MCO 565 with C or better; minimum 3.00 GPA; Credit is allowed for only MCO 439 or MCO 566 |

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| MCO | 567 | Diversity in Digital Audiences | Examines diversity in digital communities and conversations through many lenses--race, ethnicity, age, gender, sexual orientation, religion, education, culture, ability, geography, economics, politics and experience among them. Through examining representation and inequality, power and privilege, harassment and discrimination, and how our own identities and biases affect our communication, students learn how to critically think about diversity in digital spaces and engage diverse communities both accurately and fairly. Students also learn how to apply the core principles and tenets of identity, diversity, equity and inclusion to the practice of professional communication, from developing audience-specific digital content to targeting diverse audiences in strategic communication campaigns. | N | LEC | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Prerequisite(s): MCO 561 with C or better; Credit is allowed for only MCO 567 or MCO 598 (Diversity in Digital Audiences) |
| MCO | 570 | Master of Mass Communication Capstone | Students synthesize and apply their knowledge and skills in these full-day immersive programs that are powered by students and led by faculty. Students may choose from among several programs, including newsroom environments, sports bureaus, strategic communications agencies, special projects labs and more. Students emerge with real professional experience, portfolio work and preparedness for careers across the media industry. Programs are available in Phoenix, Los Angeles and Washington, D.C. | Y | LEL | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3-9 | | Prerequisite(s): Investigative Journalism MA, Master of Mass Communication or Sports Journalism MA student |
| MCO | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCO | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-12 | | Prerequisite(s): Cronkite School master's student |
| MCO | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCO | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-12 | | Prerequisite(s): Investigative Journalism MA, Sports Journalism MA, Master of Mass Communication, Business Journalism MS, Digital Audience Strategy MS, Journalism and Mass Communication PhD, or Digital Audiences certificate student |
| MCO | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCO | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-4 | | Prerequisite(s): Cronkite School of Journalism and Mass Communication graduate student |
| MCO | 710 | Research Methodology in Mass Communication | Identifies research problems in mass communication and provides an overview of questionnaire construction as well as attention to survey, historical, content analysis, experimental and legal research methods. | N | SEM | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Pre-requisites: Journalism Mass Communication PHD students |
| MCO | 711 | Critical, Historical, Legal Research Methods in Mass Communication | Critical, legal and historical methods necessary to conduct qualitative mass communication research. | N | SEM | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Pre-requisite: Journalism Mass Communication PhD student |
| MCO | 712 | Freedom of Expression Theory | Examines philosophical and legal aspects of press freedom; emphasizes First Amendment theory evolution from 1791 to present. | N | SEM | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Pre-requisite: Journalism Mass Communication PhD student |
| MCO | 720 | Mass Communication Theory | Analyzes various theoretic models of mass communication with emphasis on the applications of these theories to professional communication. | N | SEM | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Pre-requisites: Journalism and Mass Communication PhD student |
| MCO | 722 | Philosophy of Mass Communication | Mass media as social institutions, particularly interaction with government and public; emphasizes criticism and normative statements. Seminar. Prerequisite: Journalism and Mass Communication PhD student. | N | SEM | N | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 3 | | Pre-requisites: Journalism and Mass Communication PhD student |
| MCO | 755 | Research Apprenticeship | Students and faculty work on a research project with the expected outcome of a scholarly publication. | N | RSC | Y | OPT | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Pre-requisite: Journalism and Mass Communication PhD student |
| MCO | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| MCO | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCO | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | IND | Y | Z3 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MCO | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Walter Cronkite School of Journalism and Mass Communication | Walter Cronkite School of Journalism and Mass Communication | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MDC | 211 | Introduction to Digital Sound | Examines how technology is used as listeners, creators, critics, remixers, and a wide variety of other roles to participate in and gain a deeper understanding of music and its role in our lives. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Credit is allowed for MDC 211 or MUE 294 Open Minds, Digital Ears |
| MDC | 311 | Composing and Performing for Hybrid Ensembles | Provides opportunities to perform music in a variety of digital and hybrid contexts using both physical and digital instruments. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only MDC 311 or MUE 394 (Performing in Digital and Hybrid Music Groups) |
| MDC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MDC | 411 | Advanced Interactive Sound | Explores the development of interactive music systems. Covers a variety of sound synthesis methods with particular emphasis as to how they can be used in real-time sound creation. Covers techniques for sensing such as computer vision, sound analysis, tangible interfaces and 3D sensing. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AME 411 or AME 511 or MDC 411 or MDC 511 OR Visiting University Student |
| MDC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | |
| MDC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MDC | 511 | Advanced Interactive Sound | Explores the development of interactive music systems. Covers a variety of sound synthesis methods with particular emphasis as to how they can be used in real-time sound creation. Covers techniques for sensing such as computer vision, sound analysis, tangible interfaces and 3D sensing. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AME 411 or AME 511 or MDC 411 or MDC 511 |
| MDC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MDL | 410 | Laboratory Leadership | Clinical lab leadership and management. Applies the principles of personnel management and supervision, allocation of resources, and staff communication. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite: Admission to Medical Laboratory Science program |
| MDL | 420 | Advanced Clinical Urinalysis and Body Fluids | Theory and applications of principles in urinalysis with emphasis on the etiology, pathophysiology, and clinical manifestations of renal and other metabolic defects as reflected by the analysis of urine and other body fluids. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 2 | | Pre-requisites: BIO 182; Admission to Medical Laboratory Science program |
| MDL | 421 | Advanced Practicum in Clinical Urinalysis and Body Fluids | Correlation and application of theory in a supervised clinical laboratory. Processing, analysis, and evaluation of urine and body fluids, emphasizing manual and automated techniques of specimen analysis. | N | PRA | N | OPT | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): Medical Laboratory Sciences BAS major; MDL 420 with C or better |
| MDL | 430 | Advanced Hematology and Hemostasis | Theory and application of principles in hematology, with emphasis on techniques to evaluate blood dyscrasias and analyze body fluids. Etiology, pathophysiology, clinical manifestations, and treatment of blood dyscrasias/hemostatic defects. | N | LEL | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Pre-requisites: BIO 182; Admission to Medical Laboratory Science program |
| MDL | 431 | Advanced Practicum in Hematology and Hemostasis | Correlation and application of theory in a supervised clinical laboratory. Processing, analysis, and evaluation of blood samples, emphasizing manual and automated techniques of specimen analysis. | N | PRA | N | OPT | College of Health Solutions | College of Health Solutions | 1 | | |
| MDL | 440 | Advanced Immunohematology and Immunology | Theoretical and practical application of clinical immunology and immunohematology. Emphasizes serological techniques that aid disease diagnosis and blood donor selection. | N | LEL | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Pre-requisites: BIO 182; MIC 205; Admission to Medical Laboratory Science program |
| MDL | 441 | Advanced Practicum in Immunohematology and Immunology | Correlation and application of theory in a supervised clinical laboratory. Processing, analysis, and evaluation of samples, emphasizing manual and automated techniques of specimen analysis. | N | PRA | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): Medical Laboratory Sciences BAS major; MDL 440 with C or better |
| MDL | 450 | Advanced Clinical Microbiology | Theoretical and practical application of clinical microbiology. Emphasizes identification of pathogenic organisms, molecular techniques, mycology, virology, and parasitology. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): MDL 410; MDL 420; MDL 421; MDL 430; MDL 431; MDL 440; MDL 441 OR Visiting University Student |

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| MDL | 451 | Advanced Practicum: Clinical Microbiology | Correlation and application of theory in a supervised clinical laboratory. Processing, analysis, and evaluation of samples, emphasizing manual and automated techniques of specimen analysis routinely used in microbiology testing. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): MDL 450 with C or better OR Visiting University Student |
| MDL | 460 | Advanced Clinical Chemistry | Theoretical and practical applications of clinical chemistry with particular emphasis on correlation of test results to disease status, statistical analysis, pre-analytical testing, critical values, calibration, and trending and tracking of quality control results. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): MDL 410; MDL 420; MDL 421; MDL 430; MDL 431; MDL 440; MDL 441 OR Visiting University Student |
| MDL | 461 | Advanced Practicum: Clinical Chemistry | Correlation and application of theory in a supervised clinical laboratory. Processing, analysis, and evaluation of samples, emphasizing manual and automated techniques of specimen analysis routinely used in clinical chemistry testing. | N | LAB | N | GNA | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): MDL 460 with C or better |
| MED | 100 | Introduction to Medical Studies | Presents basic concepts related to sciences, social sciences, humanities, statistics and other topics related to medical and health studies. Solidifies concepts through the use of assignments, exams and discussions. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 1 | | |
| MED | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| MED | 300 | Historical and Contemporary Issues in Health | History of medicine in the modern world and its relationship to contemporary issues in medicine with emphasis on the broader context of ways in which technology, personalized medicine, genomics, ethical issues and shared decision making between patients and providers have evolved. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 30 hours OR Visiting University Student |
| MED | 320 | Applied Medical/Health Care Ethics | Integrates the theory and practice of ethics within health-related disciplines and the application of bioethics by health science professionals, including health disparities. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | HU | Prerequisite(s): minimum 30 hours OR Visiting University Student |
| MED | 325 | Elements of Hospice and Palliative Care | Introduces hospice and palliative care through direct experience communicating and working with persons on hospice and the nurses, physicians, social workers and chaplains who provide care. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 30 hours |
| MED | 350 | Health Care and Humanities | Explores the evolution of health care, major health care events in history, and impact on culture and society through a narrative lens. Develops an understanding of how the health care system became established over time, knowledge of often unknown individuals behind medical breakthroughs, and insight of root-causes of current systematic and cultural issues in health care. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 30 hours; Credit is allowed for only MED 350 or MED 394 (Healthcare and Humanities) OR Visiting University Student |
| MED | 375 | Alzheimer's and Other Dementias | Covers Alzheimer's disease and related dementias through discussions with health care professionals and direct experience working with persons with Alzheimer's disease and their caregivers. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only MED 375 or MED 394 (Intro Dementia & Alzheimer's Disease) OR Visiting University Student |
| MED | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| MED | 417 | Impact of Violence on Health | Approaches violence from a public health perspective, using the Centers for Disease Control, National Center for Injury Prevention and Control, as a benchmark. Applies an interprofessional approach to violence, to include medicine, nursing, law, law enforcement, social work, psychology, economics and education, among others. Discusses principles of epidemiology, underlying etiologies and sequelae and evidence-based strategies for prevention throughout the course. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |
| MED | 445 | Prevention and Management of Chronic Disease | The United States spends more on health care than any other developed country in the world, yet our health care outcomes are not superior. We face an epidemic of chronic diseases which are the leading causes of mortality and disability in the U.S., despite being highly preventable. Examines chronic disease in the U.S. and provides an overview of prevention and management with a focus on population health and social determinants of health. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| MED | 450 | Leadership and Professionalism | Leadership, leadership theory and inter-professionalism in practice. Applies didactic content to case studies and activities designed to promote critical thinking and effective teamwork. Solidifies concepts through the use of assignments, exams and discussions. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only HCD 401 or MED 450 OR Visiting University Student |
| MED | 475 | Palliative Care: Managing Complex Serious Illness | Includes reading, discussion and study on palliative care including national trends, international models, ethics, mental health issues, business and workforce issues, boundaries between patients and caregivers, the intersection between humanities and palliative care, and the future of the field. Honors contracts are available. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 25 hours; Credit is allowed for only MED 475 or MED 494 (Advances in Palliative Care) or MED 494 (Palliative Care Managing Complex Serious Illness) OR Visiting University Student |
| MED | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | LEC | Y | YGB | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): minimum 3.00 GPA |

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| MED | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): Barrett Honors student |
| MED | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | PRA | N | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MED | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| MED | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| MED | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-3 | | |
| MEE | 322 | Structural Mechanics | Three-dimensional stress and strain analysis, generalized Hooke's Law, failure theories for ductile and brittle materials, combined loading, stress concentrations, energy methods, mechanical vibrations and structural dynamics, fatigue. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s) with C or better: Mechanical Engineering BSE major; MAE 213; MAE 384; MAT 267 or 272; Pre- or corequisite(s): MSE 250 with C or better if completed; Credit is allowed for only AEE 325 or MEE 322 OR Visiting University Student |
| MEE | 323 | Computer-Aided Engineering II | Introduces finite-element analysis, pre- and postprocessing, solving problems with FEA. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 2 | | Prerequisite(s) with C or better: Aerospace Engineering BSE major: AEE 325 (or MAE 325 or 394 - Aerospace Structures and Materials); MAE 214 or Mechanical Engineering BSE major: MAE 214; MEE 322 (or MAE 322) OR Visiting University Student |
| MEE | 324 | Structural Mechanics Laboratory | Lab companion where students perform supervised experiments to analyze stress and strain for materials loaded in bending, torsion, combined and torsion, tensile tests of materials until failure, stress concentrations, and structural dynamics. Required for mechanical engineering | N | LAB | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1 | | Pre- or corequisite(s): MEE 322 with C or better if completed OR Visiting University Student |
| MEE | 340 | Heat Transfer | Conduction, convection, radiation and phase change heat transfer processes. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Aerospace or Mechanical Engineering BSE major; MAE 241 with C or better; MAE 242 with C or better; MAE 384 with C or better OR Visiting University Student |
| MEE | 342 | Principles of Mechanical Design | The design process; conceptual and embodiment design of mechanical elements; form synthesis; material selection, failure modes, manufacturability tolerances, common mechanisms and machine elements. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Mechanical Engineering BSE major; MAE 202 with C or better; MEE 322 with C or better; MSE 250 with C or better; Pre- or corequisite(s): MEE 323 with C or better if completed OR Visiting University Student |
| MEE | 351 | Manufacturing Processes | Production technique and equipment. Casting and molding, forming, machining, joining and assembly, computer-integrated manufacturing, rapid prototyping, and electronics manufacturing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; MAE 213 with C or better; MSE 250 with C or better OR Visiting University Student |
| MEE | 434 | Internal Combustion Engines | Performance characteristics, combustion, carburetion and fuel-injection, and the cooling and control of internal combustion engines. Computer modeling. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; MEE 340 or MEE 482 with C or better; Credit is allowed for only MEE 434 or MAE 598 (Internal Combustion Engines) OR Visiting University Student |
| MEE | 440 | Renewable Energy: Mechanical Systems | Renewable energy systems are energy conversion systems that rely on naturally replenishing flows of energy. Considers the foundational principles behind many renewable energy systems and application of these principles to practical systems. Emphasizes covering the following energy systems, some only at an introductory level and some with significant depth: solar, wind, geothermal, biomass, hydropower, energy storage, electric power generation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering BSE major; MEE 340 with C or better; Credit is allowed for only MEE 440 or MAE 582 or MAE 494 (Renewable Energy Engineering) or MAE 598 (Renewable Energy Engineering) |

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| MEE | 441 | Wind Energy | Wind energy systems convert kinetic energy in the wind into electrical energy. Focuses on flow machines, including for example, aerodynamics and fluid dynamics. Begins with wind resource assessment utilizing atmospheric boundary layer science and then proceeds to computational fluid dynamics to understand the tools of modern wind resource assessment. Includes applications of the Navier-Stokes equations and some basics from turbulence theory. Resource assessment also includes modern remote sensing techniques such as lidar, radar and in situ instrumentation. Also includes discussions from current events and policy. Requires a background in applied experimental statistics, thermodynamics or aerodynamics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Engineering BSE major; AEE 360 or MEE 340 with C or better; MAE 301 with C or better; Credit is allowed for only MAE 494 (Wind Energy) or MAE 579 or MAE 598 (Wind Energy) or MEE 441 OR Visiting University Student |
| MEE | 445 | Energy Systems Design I | Applies mechanical engineering principles and techniques to modeling, analysis and synthesis of energy systems and components. Design and optimization. Capstone design project. First part of an energy systems design course focusing on the design of compact heat exchangers and fluid flow systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1 | | Prerequisite(s) with C or better: Mechanical Engr (Energy & Environment) BSE major; MAE 301; MEE 324; MEE 340; Pre- or corequisite(s) with C or better if completed: MAE 400; MEE 482; Credit is allowed for only MEE 445 or MEE 494 (Energy Systems Design I) |
| MEE | 446 | Energy Systems Design II | Applies mechanical engineering principles and techniques to modeling, analysis, and synthesis of energy systems and components. Design optimization. Design project. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 2 | | Prerequisite(s): Mechanical Engineering (Energy and Environment) BSE major; MAE 400 with C or better; MEE 342 with C or better; MEE 445 with C or better; MEE 482 with C or better; Credit is allowed for only MEE 446 or MEE 494 (Energy Systems Design II) |
| MEE | 472 | Intermediate Fluid Mechanics | Second course covering fundamental concepts relating to engineering fluids. Flow meters, airfoil and wing aerodynamics; pipe flow; normal and oblique shock waves. Nozzles. Open Channel Flow. Turbomachinery flows including performance curves and maps, scaling and affinity laws. Elective for Aerospace Engineering and Mechanical Engineering. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; senior standing; MAE 242 with C or better; MAE 384 with C or better |
| MEE | 482 | Intermediate Thermodynamics | Applied thermodynamics; gas mixtures, psychrometrics, property relationships, power and refrigeration cycles, and reactive systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; MAE 240 or 241 with C or better; Credit is allowed for only MAE 382 or MAE 570 or MAE 598 (Thermodynamics) or MEE 482 OR Visiting University Student |
| MEE | 488 | Mechanical Engineering Design I | Conceptual and embodiment design; modeling; rapid prototyping. Team project. MEE 488 and 489 must be taken in consecutive semesters. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s) with C or better: Mechanical Engineering BSE major; MAE 301; MAE 318; MAE 384; MEE 323; MEE 324; MEE 340; MEE 342; Pre- or corequisite(s): MAE 400 with C or better if completed |
| MEE | 489 | Mechanical Engineering Design II | Detail design; fabrication and testing. Team project. MAE 488 and 489 must be taken in consecutive semesters. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; MEE 488 with C or better |
| MEE | 491 | Experimental Mechanical Engineering | Experimental and analytical studies of phenomena and performance of fluid flow, heat transfer, thermodynamics, refrigeration, and mechanical power systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 3 | L | Prerequisite(s) with C or better: Mechanical Engineering BSE major; ENG 101, 105, or 107; MAE 301; MAE 318; MEE 324; MEE 340; Pre- or corequisite(s): MEE 342 with C or better if completed OR Visiting University Student |
| MEE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Mechanical and Aerospace Engineering Program | 1-4 | | |
| MET | 212 | Applied Engineering Mechanics: Dynamics | Masses; motion kinematics; dynamics of machinery. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 211 (or CON 221 or MAE 212); MAT 266 (or MAT 271) |
| MET | 213 | Applied Mechanics of Materials | Stress, strain, stress-strain relations. Axial, shear, bending, torsional and combined loads and deflections. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisite: MET 211 or CEE 210, or MAE 212 |
| MET | 214 | Applied Mechanics of Materials Laboratory | Measurements of loads and deformations relating stress and strain in axial, shear, bending, torsional, and combined loading configurations. | N | LAB | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1 | | Pre-requisites: MET 213, MAE 213, MSE 211, CON 223, CEE 213 OR be co-enrolled in MET 213 |
| MET | 230 | Introduction to Engineering Materials | Introduces materials and their properties, emphasizing basic concepts and structures and how these properties relate to manufacturing and design. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 2 | | |

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| MET | 300 | Applied Material Science | Principles of materials science emphasizing concepts relevant to design, manufacturing, and use. Covers metals, polymers, ceramics, and composites. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: EGR 218 OR EGR 294 (Engineering Materials & Manufacturing) OR MET 231 OR MSE 250 OR Applied Science (Manufacturing Technology & Management) major; MET 230 |
| MET | 309 | Nondestructive Testing and Quality Assurance | Part and material inspection using metrology and nondestructive inspection tools and techniques. Theory and application with use of pertinent standards. | N | LAB | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1 | | Prerequisite(s): EGR 218 OR EGR 294 (Engineering Materials & Manufacturing) OR MET 231 OR Applied Science (Manufacturing Technology & Management) major |
| MET | 321 | Introduction to Automotive Engineering | Engineering principles and the design of ground vehicles. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): MET 212. Pre- or corequisite(s): MET 213, 340 |
| MET | 331 | Machine Design I | Applies mechanics to design of machine elements and structures. Stress analysis, failure modes, tolerances, cylindrical fits, and shaft design. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 213 (or CON 223 or MAE 213) |
| MET | 344 | Casting and Forming Processes | Analyzes various forming processes to determine load requirements necessary for a particular metal-forming operation. Information used to select equipment and design tooling. Metal casting processes and design of castings. Introduces powder metallurgy. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 218 OR EGR 294 (Engineering Materials & Manufacturing) OR MET 231 OR Applied Science (Manufacturing Technology & Management) major |
| MET | 345 | Advanced Manufacturing Processes | Material removal processes emphasizing advanced turning, milling, and machinability studies using cutting tools. CNC programming for machining and turning centers. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: EGR 218 OR EGR 294 (Engineering Materials & Manufacturing) OR MET 231 OR Applied Science (Manufacturing Technology & Management) major |
| MET | 351 | Introduction to Automation | Introduces automation. Topics include assembly techniques, fixed and flexible automation systems, robots, material-handling systems, sensors, and controls. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisite: EST 210 |
| MET | 396 | Professional Orientation | Topics related to a successful career in engineering technology industry. Includes safety, life-long learning, ethics, and career planning. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1 | | Pre-requisite: Junior or Senior standing |
| MET | 401 | Quality Assurance | Statistical quality control methods, design of experiments, sampling, gauge requirements and specifications, use of quality assurance tools. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: STP 420 (or APM 301); Credit is allowed for only MET 401 or 501 |
| MET | 409 | Applied Engineering Economics | Fundamentals of engineering economics in a practical, industry-based approach. Includes effects of depreciation, taxes, inflation, and replacement analysis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: Junior or Senior standing; Credit is allowed for only MET 409 or 509 |
| MET | 410 | Manufacturing Resource Management | Measures like cycle time, throughput, capacity, work-in-process, inventory, variability, and how they drive operating relationships in a factory. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisite: MET 341; Credit is allowed for only MET 410 or 510 |
| MET | 415 | Manufacturing Simulation | Computer simulation of manufacturing operations. Discrete event simulation models range from individual processes to whole factories. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 341; STP 420; Credit is allowed for only MET 415 or 515 |
| MET | 416 | Applied Computer-Integrated Manufacturing | Techniques and practices of computer-integrated manufacturing as applied in a broad range of industry. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | CS | Pre-requisite: MET 341; Credit is allowed for only MET 416 or 516 |
| MET | 418 | Composites Materials Manufacturing | Introduces composite materials and associated manufacturing issues, including tooling, processes, and quality control. Related issues, including testing and joining. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 300 or MSE 250. Credit is allowed for only MET 418 or 518 |
| MET | 421 | Vehicle Powertrains | Internal combustion engine design, performance and operation, and power transmission systems within vehicles. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 321 |
| MET | 423 | Vehicle Chassis and Running Gear Design | Design and manufacture of chassis, structures, steering and braking systems and components, wheels and tires, suspension systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 321; MET 331 |
| MET | 424 | Vehicle Electrical Systems | Vehicle electrical power and signal systems, computer control and analog control systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: EST 210; MET 321; MET 421 |
| MET | 426 | Vehicle Thermal Design | Heat management in vehicle systems, including thermal design of engine and transmission cooling systems, cabin heating, and air conditioning. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 421; Pre/Co-requisite: MET 434 |
| MET | 427 | Vehicle System Integration and Testing | Systems engineering principles. Design of the interfaces between vehicle subsystems. Testing of integrated systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 423; MET 424 |
| MET | 432 | Engineering Thermo-Fluids II | Thermodynamic analysis of mixtures and power cycles. Design and analysis of fluid systems, conduction heat transfer, and introduction to convection and radiation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 340 with C or better; Credit is allowed for only EGR 432 or MET 432 OR Visiting University Student |
| MET | 434 | Engineering Thermo-Fluids III | Transient conduction, convection and radiation heat transfer, heat exchangers, thermo-fluid systems engineering. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 340 |
| MET | 438 | Machine Design II | Applies mechanics to the design of machine elements and structures. Emphasizes basics of gears, springs, brakes, clutches, and bearings. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisites: MET 331 OR Fulton Schools of Engineering graduate student |
| MET | 440 | Finite Element Analysis | Analyzes machine elements, frames, and aerospace structures employing finite element analysis and software. Includes sensitivity analysis and estimating accuracy. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 331 |

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| MET | 442 | Specialized Production Processes | Nontraditional manufacturing processes, emphasizing EDM, ECM, ECG, CM, PM, HERF, EBW, and LBW. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): EGR 218 (or EGR 294 [Engineering Materials & Manufacturing] or MET 231). Credit is allowed for only MET 442 or MET 502 |
| MET | 444 | Production Tooling | Design and fabrication of jigs, fixtures, and special industrial tooling related to manufacturing methods. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre- or corequisite(s): MET 309. Credit is allowed for only MET 444 or MET 504 |
| MET | 455 | Automation Systems Integration | Applies sensors and devices and their integration with PLCs and computers into automated devices and systems. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 351 |
| MET | 460 | Capstone Project I | Group project designing, evaluating, and analyzing components, assemblies, and systems. Develop products/manufacturing techniques demonstrating state-of-the-art technology. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: MET 300; 331; 340; 345 |
| MET | 461 | Capstone Project II | Small-group projects applying manufacturing techniques, with emphasis on demonstrating state-of-the-art technology. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): MET 460 |
| MET | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-12 | | |
| MET | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-3 | | |
| MET | 501 | Statistical Quality Control Applications | SPC problem-solving techniques for implementation in industrial setting; design and analysis of experiments. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only MET 401 or 501 |
| MET | 504 | Applications of Production Tooling | Design and fabrication of fixtures, jigs, templates, and specialized industrial tooling for manufacturing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only MET 444 or 504 |
| MET | 509 | Applied Engineering Economics | Fundamentals of engineering economics in a practical, industry-based approach. Includes effects of depreciation, taxes, inflation, and replacement analysis. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; credit is allowed for only MET 409 or 509 |
| MET | 510 | Manufacturing Resource Management | Measures like cycle time, throughput, capacity, work-in-process, inventory, variability, and how they drive operating relationships in a factory. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only MET 410 or 510 |
| MET | 515 | Manufacturing Simulation | Computer simulation of manufacturing operations. Discrete event simulation models range from individual processes to whole factories. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only MET 415 or 515 |
| MET | 516 | Applied Computer-Integrated Manufacturing | Techniques and practices of computer-integrated manufacturing as applied in a broad range of industry. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only MET 416 or 516 |
| MET | 518 | Composites Materials Manufacturing | Introduces composite materials and associated manufacturing issues, including tooling, processes, and quality control. Related issues, including testing and joining. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only MET 418 or 518 |
| MET | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Engineering Programs | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MET | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MFG | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 0.25-4 | | |
| MFG | 308 | Manufacturing System Project I | Focuses on design for product realization in a manufacturing environment. Projects are industry driven and applicable to low-volume product development. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 202 with C or better; EGR 217 with C or better; EGR 218 with C or better OR Visiting University Student |
| MFG | 318 | Manufacturing Systems Project II | Focuses on process development for high-volume manufacturing in the competitive global economy. Uses discrete event simulation software to model and study the manufacturing environments. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 219 with C or better; MFG 308 with C or better OR Visiting University Student |
| MFG | 381 | Manufacturing Processes and Validation Lab | Theory of basic manufacturing processes accompanied by the fundamental skills; safety practices while working with engineering drawings, machine tools and metrology equipment related to manufacturing. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 217 with C or better; EGR 218 with C or better OR Visiting University Student |

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| MFG | 382 | Modeling of Manufacturing Systems I | Modeling of manufacturing systems using discrete event simulation. Introduces basic manufacturing-related data and system configurations. Uses commercial simulation software to build and analyze model output data. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 219 with C or better; EGR 280 with C or better OR Visiting University Student |
| MFG | 383 | Communications in a Production Environment | Effective communication is essential in all production environments for efficiency, yield and safety. Covers the major applications within a company and the expectations for the individual's capabilities. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): minimum junior standing OR Visiting University Student |
| MFG | 385 | Design for Manufacturing | Introduces the methods employed to design and produce products that can compete in the global marketplace. Topics include design for manufacturability and assembly, product life-cycle, economics of design and reliability. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 218 with C or better OR Visiting University Student |
| MFG | 387 | Industrial Automation | Introduces concepts and application of industrial automation systems. Topics include PLC control systems, embedded control systems, sensing technologies, robotics and material-handling systems. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 216 with C or better; EGR 219 with C or better OR Visiting University Student |
| MFG | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 0.25-4 | | |
| MFG | 461 | Engineering Economics | Covers the role of engineers in the manufacturing environment. Aspects of this role include troubleshooting, performance control, risk mitigation and financial planning. Provides tools and approaches for understanding and representing costs and making decisions based on these costs. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): MAT 266 with C or better; Credit is allowed for only EGR 598 (Engineering Economics) or MFG 461 or MFG 494 (Engineering Economics) OR Visiting University Student |
| MFG | 472 | Additive Manufacturing | Additive Manufacturing (AM) is driving a paradigm shift in design and manufacturing. Provides hands-on exposure across a wide range of commercial 3D printers. Topics include fundamentals of polymer, metal and composite AM processes and process capabilities such as rate and resolution. Introduces material properties and their dependence on raw material properties and process parameters; existing and new applications of AM; and a perspective on current and future technical challenges in AM. Provides a foundation for a more in-depth study of design for AM, and AM materials and structures. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 218 with C or better OR Visiting University Student |
| MFG | 480 | Advanced Statistical Approaches for Manufacturing | Applies experimental design and statistical process control in the manufacturing environment. Uses engineering statistical software to formulate and solve problems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 280 with C or better OR Visiting University Student |
| MFG | 481 | Enterprise Economics | All manufacturing is about cost. Considers the components of these costs and presents a number of mathematical tools and approaches for representing, understanding and making decisions based on them. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 280 with C or better OR Visiting University Student |
| MFG | 482 | Materials Science in Manufacturing | High-technology manufacturing combines and exploits the properties of a wide range of materials. Provides a science-based view of materials selection and optimization for product manufacturability and reliability. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): CHM 116 with C or better; EGR 218 with C or better OR Visiting University Student |
| MFG | 485 | Engineering Internship | Experiential education. Local company oversees a student project experience at their facility. | N | PRA | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-3 | | Prerequisite(s): minimum junior standing |
| MFG | 486 | CNC Computer Programming | Theory and applications of NC languages using CAM software and CNC machine tools. Overview of advanced manufacturing processes including production CNC part programming ranging from current design to inspection standards. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): MFG 381 with C or better OR Visiting University Student |
| MFG | 487 | Casting and Forming Processes | Theory and practice of metal casting processes and design of castings. Analysis of various forming processes to determine load requirements. Theory and practice of tooling design for stamping operations. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 218 with C or better OR Visiting University Student |
| MFG | 488 | Integrated Circuit Manufacturing | Integrated circuit manufacturing combines judicious selection of materials with nano-meter features to create complex digital and analog circuits. The process demonstrates extreme applications of design, control and resource organization. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 216 with C or better; EGR 280 with C or better; Credit is allowed for only MFG 488 (MFG 386) or MFG 598 (Integrated Circuit Manufacturing) OR Visiting University Student |
| MFG | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-6 | | Prerequisite(s): Barrett Honors student |
| MFG | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MFG | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-4 | | |
| MFG | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-3 | | |

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| MFG | 522 | Intermediate Engineering Statistics | General statistics course for graduate students with an engineering background. Equips students with the essential knowledge of statistics, either for analyzing the uncertainty quantitatively or risk in research or for a knowledge preparation for learning specific statistical models. Emphasizes real-world applications to engineering problems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MFG | 523 | Artificial Intelligence for Smart Manufacturing | Covers the use of data and machine learning to develops Artificial Intelligence (AI) solutions for decision-making challenges in manufacturing. Includes (1) common data types in manufacturing, e.g., images, time series; (2) fundamental data processing and analytical techniques; (3) machine-learning models applicable to the data types; and (4) decision-making activities in manufacturing applications that those data, techniques and model support. Incorporates programming as a critical part of the course to give students hands-on experience to implement these methods on real data. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MFG | 545 | Modern Manufacturing Methods | Investigates the capabilities and equipment of both conventional manufacturing processes and modern manufacturing processes. Emphasizes the fundamental, development and application of casting, forming and sintering processes for conventional manufacturing processes. Emphasizes the emerging topics related to additive manufacturing, field-assisted manufacturing and nanomanufacturing for modern manufacturing processes. Also introduces engineering materials, structure of materials, property of materials and material characterizations in the manufacturing processes. Complements theoretical concepts presented in lectures with the presentation of relevant research topics and/or industrial applications. Develops an understanding of manufacturing process evolution and the capabilities of modern manufacturing processes and equipment. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): Ira A. Fulton graduate student; Credit is allowed for only MAE 545 or MAE 598 (Modern Manufacturing Methods) or MFG 545 |
| MFG | 574 | Polymer Science and Additive Manufacturing | Presents the mechanical, thermal and electrical properties of polymers concerning the underlying physics and physical chemistry of polymers in the melt, solution and solid-state used in traditional processing or additive manufacturing. Topics include conformation and molecular dimensions of polymer chains in solutions, melts, blends and block copolymers; an examination of the structure of glassy, crystalline and rubbery elastic states of polymers; thermodynamics of polymer solutions, blends, crystallization; nanocomposites; mechanical, thermal and electrical properties in polymeric materials; lab or simulation sessions in 3d printing. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only MFG 574 or MFG 598 (Polymer Science & Additive Manufacturing) |
| MFG | 575 | Design for Additive Manufacturing | Focuses on the design aspects of Additive Manufacturing (AM), or 3D printing. Contrary to popular opinion, AM processes do have their constraints and limitations--not everything can be manufactured with AM, and even when it is feasible, not everything should. Even if a part can and should be manufactured with AM, it is important to truly appreciate the design possibilities enabled by AM to maximize the performance, life-cycle cost and sustainability benefits the technology has to offer. Examines these possibilities in the context of three key design capabilities: topology optimization, architected cellular materials and bio-inspired design. Combines fundamental understanding of the relevant design principles with hands-on time through projects that leverage commercial design for AM tools. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only MFG 575 or MFG 598 (Design for Additive Manufacturing) |
| MFG | 581 | Simulating Manufacturing Systems | Specific modeling and simulation tools used to understand and optimize manufacturing systems operations, with an emphasis on both model building and statistical interpretation of model output. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only EGR 581 or EGR 598 (Simulating Manufacturing Systems) or MFG 581 |

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| MFG | 582 | Metal Additive Manufacturing | Within the rapidly growing field of Additive Manufacturing (AM), the ability to print fully dense metal parts has had a significant impact on the aerospace and biomedical industries, with growing influence in the automotive and other industry sectors. Provides an overview of different metal 3D printing processes, and an in-depth look at the most widely used one: the laser powder bed fusion process. For this process, the course is divided into 4 main modules: process development (hands-on metal 3D printing); properties (characterization and testing); design for metal AM (use of design and build preparation software); and process simulation (use of simulation software). Familiarity with ANSYS is preferred, but due to the very specific and applied nature of this class, it is not required. Students need access to ANSYS either from their own laptops or by using shared computing resources in labs, and they also need to spend time in the Innovation Hub on the Polytechnic campus building and characterizing 3D printed parts. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only MFG 582 or MFG 598 (Metal Additive Manufacturing) |
| MFG | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | IND | Y | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MFG | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MFG | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRO | Y | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-12 | | |
| MFG | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | IND | Y | Z3 | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1 | | |
| MFG | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MFG | 599 | Thesis | Supervised research focused on preparation of a thesis, including literature review, research, data collection and analysis, and writing. | Y | IND | Y | Z2 | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-12 | | |
| MFG | 691 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | LEC | Y | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-12 | | Prerequisite(s): Manufacturing Engineering PhD student |
| MFG | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MFG | 799 | Dissertation | Supervised research focused on preparation of a dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MGE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 0.25-4 | | |
| MGE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 0.25-4 | | |
| MGE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-12 | | |
| MGE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 0.25-4 | | |
| MGE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-3 | | |
| MGT | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-4 | | |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------|---|-------|-----------------|---|
| MGT | 300 | Principles of Management and Leadership | Covers a broad range of concepts, theories and practices important for a basic understanding of the field of management with a special emphasis on leadership. Increases the students' understanding of and ability to apply contemporary management and leadership knowledge in both work and personal situations. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s) w/C or better: W. P. Carey or Engr Mgmt BSE major; ACC 231, 232 or 261; ECN 221, ECN 231, IEE 380 or STP 280; MAT 210, 251, 265 or 270; Pre- or corequisite(s): ACC 241, 242 or 271 w/C or better if completed OR Visiting University Student |
| MGT | 302 | Principles of International Business | Multidisciplinary analysis of international economic and financial environment. Operations of multinational firms and their interaction with home and host societies. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | G | Prerequisite(s): W. P. Carey major; ECN 211, 212, 213, or 214 with C or better OR non-Business major; ECN 211, 212, 213, or 214 with C or better; minimum 56 hours; minimum 2.50 GPA OR Visiting University Student |
| MGT | 303 | Honors Organizational Strategies, Leadership, and Behavior | Overview of business strategy principles, management processes, motivation, and leadership. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey School of Business Honors student; PSY 101 or 304 or SOC 101 or 301 with C or better; ECN 221 or 231 with C or better; Pre- or corequisite(s): ACC 241, 242, or 271 with C or better if completed |
| MGT | 310 | Collaborative Team Skills | Development of skills in managing and working in collaborative environments. Theories and applications in small group dynamics and team facilitation. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey BA or BS major OR non-business student; minimum 3.00 GPA; minimum 56 hours OR Visiting University Student |
| MGT | 320 | Organizational Behavior | Management processes, fundamentals of business-level strategy, individual difference issues, motivation and leadership of people in organizations. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s) with C or better: Business Entrepreneurship BS or Management BS major; ACC 241, 242, or 271; ECN 221 or 231; MAT 211, 266, or 271; MGT 300 or 303; PSY 101 or PSY 304 or SOC 101 or 301 OR Visiting University Student |
| MGT | 380 | Management and Strategy | Introduces the functions and applications of management in organizations, including controlling, decision making, leadership, motivation, planning, and social responsibility. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): Applied Business & Tech Solutions BA, Entrepreneurial Ldshp BA, or non-Business major; min 2.00 GPA; min 30 hours OR nondegree-seeking undergrad stdt; min 2.00 GPA OR degree- or nondegree-seeking grad stdt OR Visiting University Student |
| MGT | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-4 | | Prerequisite(s): W. P. Carey BS or BA student; Pre- or corequisite(s): ACC 240, 241, 242, or 271 with C or better |
| MGT | 400 | Cross-Cultural Management | Cultural role in international business relations; applied principles of cross-cultural communications, negotiations, and management; regional approaches to business relations. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | C & G | Prerequisite(s): WP Carey BS or BA student OR non-business student with minimum 2.50 GPA and minimum 56 hours; MGT 300 or 303 or 320 or 380 with C or better OR Visiting University Student |
| MGT | 404 | Chinese Language and Global Business Communication | Capstone course designed to synthesize the knowledge acquired from business, language and cultural coursework in the BA in Business: concentration in Chinese Language and Culture. Analyzes case studies in which Chinese language and cultural skills are used to develop communication strategies in doing business in China. Learn new tools and techniques of analysis to enhance communication with Chinese business counterparts. Applies language and cultural skills to a major project in which students demonstrate complex and integrated knowledge of negotiating with the Chinese and using global business skills. Integrates international business knowledge into presentations, research and the use of sophisticated tools of analysis to provide practical training for the global business environment. Students are proficient in communicating in Chinese prior to taking this course. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey BA or BS major; CHI 302 with C or better; LES 305 with C or better; MGT 300 with C or better; SCM 300 with C or better |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
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| MGT | 405 | Spanish Language and Global Business Communication | Synthesizes the knowledge acquired from business, language and cultural coursework in the BA in Business: concentration in Spanish Language and Culture. Students proficient in communicating in Spanish analyze case studies in which Spanish language and cultural skills are used to develop communication strategies in doing business in Spanish-speaking countries. Students learn new tools and techniques of analysis to enhance communication with their Spanish-speaking business counterparts. Applies language and cultural skills to a major project in which students demonstrate complex and integrated knowledge of negotiating with Spanish speakers and using global business skills. Integrates international business knowledge into presentations, research and the use of sophisticated tools of analysis to provide practical training for the global business environment. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey BA or BS major; LES 305 with C or better; MGT 300 with C or better; SCM 300 with C or better; SPA 314 with C or better |
| MGT | 411 | Leading Organizations | Comprehensive overview of leadership in organizations. Provides students with understanding of leadership research and its applications to global organizations and the development of leaders. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey BA or BS major; MGT 300, 303, 320, or 380 with C or better OR Non-Business majors; MGT 300, 303, 320, or 380 with C or better; minimum 2.50 GPA; minimum 56 hours OR Visiting University Student |
| MGT | 420 | Human Resource Management | Development of skills and knowledge to lead associates effectively: hiring, developing, evaluating, retaining, and rewarding employees. Preparation for leadership roles. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W. P. Carey Business major; MGT 300, 303, 320, or 380 with C or better OR non-Business major; MGT 300, 303, 320, or 380 with C or better; minimum 2.50 GPA; minimum 56 hours OR Visiting University Student |
| MGT | 421 | Compensation in Organizations | Develops knowledge of theory and research in motivation, compensation and rewards, and skill in applying such knowledge to important compensation and reward decisions. Discusses strategic compensation and reward systems issues. Explores in detail a variety of monetary and nonmonetary reward systems; the motivational impact these systems have on employees, teams, and CEOs; and the performance impact they have on organizations. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey major; Pre- or corequisite(s): MGT 420 with C or better if completed OR Visiting University Student |
| MGT | 422 | Staffing | Focuses on the effective management of the flow of talent into and through organizations. Covers human resource planning, recruiting and selection, career transitions and other workforce movement. Provides opportunities to develop hands-on skills that are relevant to effectively managing talent flow. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey major; Pre- or corequisite(s): MGT 420 with C or better if completed OR Visiting University Student |
| MGT | 423 | Training and Development in Organizations | Familiarizes students with the training and development function in organizations. Although tailored to students interested in human resources management, the course may also be relevant to students who may at some point be involved in training and development within an organizational context. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey major; Pre- or corequisite(s): MGT 420 with C or better if completed OR Visiting University Student |
| MGT | 424 | Employment Law | Provides an overview of U.S. employment law at both the federal and state levels. Reviews employment at will and wrongful discharge, employment torts, privacy, discrimination law, worker's compensation, occupational safety and health, unemployment, federal compensation laws, and the law of noncompetition and trade secrets. Designed for individuals preparing for careers in human resource management, labor relations or dispute resolution. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey BA or BS major; MGT 420 with C or better OR Visiting University Student |
| MGT | 425 | Global Human Resources | Explores the importance of international business management in the context of international human resource management, including topics on culture, compensation and benefits, international organizations and their structures, international assignment management and the legal and regulatory considerations that global organizations face. Identifies differences in operating a domestic versus international business and how business practices need to be adapted to operate successfully in foreign markets. Covers global strategy and structure; understanding and managing cultural differences; design and alignment of global HRM practices; and the global HR function. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey major; Pre- or corequisite(s): MGT 420 with C or better if completed OR Visiting University Student |
| MGT | 426 | HR Consulting Projects | Provides an opportunity to practice business management, relationship building, and HR technical skills in a real-world environment. Students complete human resource consulting projects with external outside organizations, allowing them to learn about the consultative nature common in corporate relationships, discuss real-world problems and solutions, and navigate technical processes related to the HR discipline. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): W.P. Carey major; Pre- or corequisite(s): MGT 420 with C or better if completed; Credit is allowed for only MGT 426 or MGT 494 (HR Consulting Projects) OR Visiting University Student |

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| MGT | 430 | Negotiations | Improves student's understanding of and skills in the art of negotiation. For most managers, negotiation is a significant aspect of their day-to-day jobs, not to mention a major element of everyday life. Give students experience in bargaining and negotiation, as well as provide a foundation in the essential knowledge bases crucial to being an effective negotiator. Emphasizes experiential learning--students spend most of their time participating in exercises and negotiation simulations, as well as discussing negotiation-based cases involving issues that often arise in the workplace. Provides a fundamental understanding of what it takes to be an effective negotiator, as well as several experiences to draw upon in future negotiation situations. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s) w/C or better: Entrepreneurial Leadership BA maj; MGT 380 OR non-Entrepreneurial Leadership W. P. Carey maj, or non-Business maj w/min 3.00 GPA and min 56 hours; MGT 300, MGT 303, MGT 310, or TMC 330 OR Visiting University Student |
| MGT | 450 | Consulting Projects | Describes and analyzes business processes. Generates and evaluates alternatives. Creates improvement and implementation plans. | N | PRA | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | L | Prerequisite(s) with C or better: W.P. Carey BS or BA major; ENG 101, 105, or 107; ENG 301 or 302; MGT 300 or 303; MGT 411; MKT 300, 302 or 303; Pre- or corequisite(s): FIN 300, 302 or 303 with C or better if completed |
| MGT | 459 | International Management | Concepts and practices of multinational and foreign firms. Objectives, strategies, policies, and organizational structures for operating in various environments. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | G | Prerequisite(s): W.P. Carey BA or BS major, OR non-Business student; MGT 302 or ECN 306 with C or better; minimum 2.50 GPA; minimum 56 hours OR Visiting University Student |
| MGT | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | PRA | Y | Z1 | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-12 | | Prerequisite(s): W.P. Carey BA Human Resources or BS Business Entrepreneurship or BS Management major |
| MGT | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-6 | | Prerequisite(s): Barrett Honors student |
| MGT | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MGT | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-4 | | Prerequisite(s): W.P. Carey BA or BS major; MGT 300, 302, 303, or 310 with C or better OR non-business major; MGT 300, 302, 303, or 310 with C or better; minimum 2.50 GPA; minimum 56 hours OR Visiting University Student |
| MGT | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-3 | | Pre-requisites: W. P. Carey BS or BA student OR non Business students with a minimum GPA of 2.50 and either at least 56 earned hours or non degree students OR Graduate students |
| MGT | 501 | Fundamentals of Organizational Behavior | Allows students to understand the human side of organizations through management theories and applications. Develops knowledge and skills for successful management of self and others. Designed for students with limited business experience and without an undergraduate business degree. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): degree-seeking graduate student |
| MGT | 502 | Organizational Behavior | Understands human side of organizations through management theories and applications. Develops knowledge and skills for successful management of self and others. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 2-4 | | Prerequisite(s): W. P. Carey MBA students |
| MGT | 513 | Mindful Leadership | Provides a transformative experience that aids in developing skills associated with being a mindful leader. Focuses on introducing the concept of mindful leadership and explaining how to use it to achieve personal and professional goals. Then concentrates on using mindful leadership to lead individuals and teams. Specific learning goals include: (1) to enhance understanding of mindful leadership; (2) to improve skills in using mindful leadership to achieve personal goals; (3) to improve skills in using mindful leadership to lead individuals and teams; and (4) to propose a transformative plan aimed at increasing use of mindful leadership. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-3 | | Prerequisite(s): W.P. Carey graduate student |

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| MGT | 520 | High-Impact Leadership | Addresses the inherent ambiguity surrounding effective leadership by providing a toolkit of tangible behaviors to ensure leaders create "high impact" in all areas of their professional and personal lives. Emphasizes what high-impact leaders do differently and uniquely to achieve results while also inspiring loyalty in relationships. Covers core topics including building executive maturity and presence, developing and delivering compelling messages, inspiring those around you, building a strong relationship network, establishing credibility, and managing upward relationships. Includes peer dialogue, extensive presentation skills training, and assignments based on students' real-life leadership experiences. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-3 | | Prerequisite(s): W. P. Carey graduate student |
| MGT | 525 | Leadership and Teamwork | A key objective of the W. P. Carey Full-Time MBA program is to develop each student's leadership competencies, which are essential competencies as the individual enters the workforce and advances through organizations. During the FT MBA program, each student participates in the Executive Connections program. This program gives each student an opportunity to enhance his or her understanding of key leadership competencies, apply an experiential process of leadership development, and meet one-on-one with an executive coach to deeply explore and reflect on personal leadership competencies and goals for development. | N | LEL | Y | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 0.5-3 | | Prerequisite(s): WPC MBA degree student |
| MGT | 526 | Executive Connections | An intensive mentorship and leadership development program that provides feedback as students progress along their leadership journey through the program. A key objective of the W. P. Carey Full-Time MBA program is to develop leadership competencies. The purpose of this course and the Executive Connections program is to serve as a pathway to master soft skills not easily attainable in other "regular-content" classes. Exposes students to challenging situations that call to re-evaluate typical "ways of being" which may function well in some circumstances but less so in others, assess and experiment with new ways of interacting with others to create higher levels of collaboration and distinguish team-level qualities that students can work to build with their peers. | Y | LEL | Y | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 0.5-3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MGT | 528 | Basics of Mastering the Art of Influence and Negotiations | Contemporary management issues, including environmental, project and supply chain management; new product development; quality control; TQM. Designed for students with limited business experience and without an undergraduate business degree. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 3 | | Prerequisite(s): degree-seeking graduate student |
| MGT | 530 | Mastering the Art of Influence and Negotiation | Improves students' understanding of and skills in the art of negotiation. For most managers, negotiation is a significant aspect of their day-to-day jobs, not to mention a major element of everyday life. Gives students experience in bargaining and negotiation, as well as provides a foundation in the essential knowledge bases crucial to being an effective negotiator. Emphasizes experiential learning--students spend most of their time participating in exercises and negotiation simulations (including negotiating job offers), as well as discussing negotiation-based cases involving issues that often arise in the workplace. The goal is to provide students with a fundamental understanding of what it takes to be an effective negotiator, as well as several experiences to draw upon in future negotiation situations. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-3 | | Prerequisite(s): W.P. Carey School of Business graduate student; Credit is allowed for only MGT 530 or MGT 591 (Negotiations) |
| MGT | 540 | Going Out on Your Own: Entrepreneurship | Capstone case-based course covering all aspects of starting a business: opportunity identification, evaluation, concept development, identifying required resources, acquiring those resources, launching the entity, managing growth, and ultimately, harvesting the enterprise. Revolves around a series of cases, readings and class discussions designed to build a comfort level with understanding and solving problems faced every day, in real life, by a broad spectrum of entrepreneurs at various phases of venture development. Significant emphasis on understanding the valuation and financing of entrepreneurial ventures interwoven through discussions. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-3 | | Prerequisite(s): W.P. Carey School of Business graduate student; ACC 502 with C or better; FIN 502 with C or better; Credit is allowed for only MGT 540 or MGT 591 (Entrepreneurship) |

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| MGT | 545 | Becoming Leaders Who Matter | Addresses core questions: What does it mean to be a leader who really matters? How can you become such a leader? Today's competitive and complex environment requires leaders who are equipped with not just the functional and technical skills necessary to run a business but, more significantly, the leadership skills that allow the business and the people involved in it to thrive. Provides an opportunity to reexamine thinking about leadership and assess current skills and competencies in this area. Highly interactive learning environment with case analyses, exercises, discussion, guided reflection activities, assessments and group work. Covers topics such as self awareness (motivations, values, and leadership style), developing perspective as leaders, the social context of leadership, the role of emotions in the workplace, using life experiences to extract leadership lessons. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-3 | | Prerequisite(s): W. P. Carey graduate student |
| MGT | 552 | Professional Development and Engagement Program | Deeply explores and develops professional skills. By identifying and building managerial competencies, facilitates the acceleration of career goals. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-3 | | Prerequisite(s): W. P. Carey MBA student; Credit is allowed for only MGT 552 or MGT 591 (Professional Development & Engagement Program). |
| MGT | 565 | Business Strategy and Public Policy | Takes a managerial perspective to examine the interface between businesses and their external political environments. Potential changes in public policy can affect current operations and future opportunities. Examines how managers can anticipate and affect the formation, modification and enforcement of public policy in various institutional environments. | N | LEL | Y | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-4 | | Prerequisite(s): W.P. Carey MBA Executive Program or W.P. Carey School of Business graduate student; Credit is allowed for only MGT 565 or MGT 591 (Business and Public Policy) |
| MGT | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MGT | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | W. P. Carey School of Business | Department of Management and Entrepreneurship | 0-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MGT | 586 | Fundamentals of Strategic Management | Explores the general manager as organizational leader. Focuses on competitive advantage and how each functional area contributes to it. Designed for students with limited business experience and without an undergraduate business degree. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1.5 | | Prerequisite(s): degree-seeking graduate student |
| MGT | 588 | Sources of Competitive Advantage | Explores the general manager as organizational leader. Focuses on competitive advantage and how each functional area contributes to it. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-4 | | Prerequisite(s): MBA degree student |
| MGT | 589 | Strategic Management | Formulation of strategy and policy in the organization, emphasizing the integration of decisions in the functional areas. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Management and Entrepreneurship | 2-4 | | Prerequisite(s): W. P. Carey MBA student |
| MGT | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MGT | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 0-12 | | Prerequisite(s): W. P. Carey graduate student |
| MGT | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-12 | | Pre-requisites: MBA degree student |
| MGT | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 0-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MGT | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MGT | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MGT | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-12 | | Prerequisite(s): W. P. Carey degree-seeking graduate student |

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| MGT | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MGT | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | W. P. Carey School of Business | Department of Management and Entrepreneurship | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MHL | 140 | Sounds and Cultures | Introduces a range of practical and intellectual challenges presented by encounters with various kinds of music. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & G | Prerequisite(s): Music or Performance and Movement major OR Visiting University Student |
| MHL | 201 | Media Literacy for Musicians | Instruction in basic Macintosh computer literacy, including generic applications and music-specific programs with hands-on experience. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | CS | |
| MHL | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MHL | 339 | Undergraduate Bibliography I | Research tools and methods in musicology, concentrating on resources pertinent to the study of music from Antiquity to the Baroque. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): MHL 140; Corequisite(s): MHL 300- or 400-level course OR Visiting University Student |
| MHL | 340 | Undergraduate Bibliography II | Research tools and methods in musicology, concentrating on resources pertinent to the period 1750-present. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): MHL 140; Corequisite(s): MHL 300- or 400-level course |
| MHL | 341 | Music History I | Western European art music from Antiquity through Baroque. Identification/analysis through listening; application of historical and analytical concepts; research project comprising fresh thesis, detailed musical research, personal reflection, fluent English writing, correct citation. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s) w/ C or better: Performance BM or Theory & Composition BM major; MHL 140; MTC 223 OR Music Learning & Teaching BM, Music Therapy BM, or Music BA major; MHL 140; MTC 221 OR Visiting University Student |
| MHL | 342 | Music History II | Western European, American art music from Classical period to present. Identification/analysis through listening; transfer/application of music/analytical concepts; research project comprising fresh thesis, insightful musical research/reflection, fluent English writing, correct citation. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s) w/ C or better: Performance BM or Theory & Composition BM major; MHL 140; MTC 223 OR Music Learning & Teaching BM, Music Therapy BM, or Music BA major; MHL 140; MTC 221 OR Visiting University Student |
| MHL | 344 | Music in World Cultures | Examines the relations among music, dance, theatre, religion, and social status in Asia, Africa, Oceania, Europe, and the United States. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & G | Prerequisite(s): minimum 42 hours OR Visiting University Student |
| MHL | 345 | Music in Renaissance Cities | Examines the civic contexts for music from 15th-16th century Europe through analysis and discussion of style, composition, civic histories and broader sociocultural concepts. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s): Music major or minor; Credit is allowed for only MHL 345 or MHL 394 (Music in Renaissance Cities) OR Visiting University Student |
| MHL | 363 | Survey of Russian Music | Examines music and musical life in Russia, the Soviet Union, and the post-Soviet C.I.S. from the Middle Ages to the present. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s): Music major; MHL 140 with C or better |
| MHL | 365 | Popular Music and Race | Examines popular music in the United States with emphasis on historical, sociocultural, economic and aesthetic concerns as they intersect with issues of race and race relations. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | (L or HU) & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; MTC 221 with C or better; Credit is allowed for only MHL 365 or MHL 394 (Pop Music and Race) or MHL 494 (Pop Music and Race) OR Visiting University Student |
| MHL | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): Music major |
| MHL | 437 | Music in the Baroque Era | Examines music, culture and aesthetics in the 17th and early 18th centuries. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music major or minor; MHL 140 with C or better; MTC 221 with C or better; minimum 45 hours OR Visiting University Student |
| MHL | 438 | Topics in 18th-Century Music | Selected topics exploring the musical styles of the 18th century and their cultural contexts. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | L & H | Prerequisite(s): Music major; ENG 101, 105, or 107 with C or better; MHL 140 with C or better; MTC 223 with C or better OR Visiting University Student |
| MHL | 439 | Topics in 19th-Century Music | Selected topics exploring the musical styles of the 19th century and their cultural contexts. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music major; ENG 101, 105, or 107 with C or better; MHL 140 with C or better; MTC 223 with C or better OR Visiting University Student |
| MHL | 440 | Topics in 20th-Century Music | Selected topics exploring the musical styles of the 20th century and their cultural contexts. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | L or HU | Prerequisite(s): Music major; ENG 101, 105, or 107 with C or better; MHL 140 with C or better; MTC 223 with C or better OR Visiting University Student |

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| MHL | 441 | Concerts in the 20th Century | Presents a concert-centered approach to 20th-century music history, investigating important concerts that emphasized artistic collaboration, interaction between "high" and "low" genres, and other major issues affecting the changing means of creating, disseminating, and receiving music in the twentieth century. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s): MHL 140 with C or better; MTC 223 with C or better; Credit is allowed for only MHL 441 or MHL 494 (Concerts in the 20th Century) or MHL 598 (Concerts in the 20th Century) OR Visiting University Student |
| MHL | 445 | Music of the Silk Road | Provides an overview of music across the territories historically traversed by the silk roads, emphasizing the social contexts of music-making, and of a variety of musical practices found in this region. Studies the dynamics of musical exchange and change, the relationship of music to ecology within this varied geography, and how political interventions into the realm of culture have informed musical meaning, often by obscuring or highlighting long-standing social interconnections that have structured musical sound. Further studies the relationship of belief systems, economic patterns and gender ideologies to music. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & G | Prerequisite(s): Music major who has passed audition; MHL 140 with C or better; MTC 125 with C or better; Credit is allowed for only MHL 445 or MHL 494 (Music of the Silk Road) or MHL 545 or MHL 598 (Music of the Silk Road) |
| MHL | 447 | Music and Healing | Combines elements of musicology, philosophy, anthropology, music therapy, neuroscience, psychology; investigates ways music has been proven to positively affect the "human condition"; focuses on what music means to humans. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & H & G | Prerequisite(s): Music major who has passed audition; MHL 140 with C or better; MTC 222 with C or better; Credit is allowed for only MHL 447 or MHL 494 (Music and Healing) or MHL 547 or MHL 598 (Music and Healing) |
| MHL | 456 | History of Opera | Development of opera from its creation ca. 1600 to present. Emphasis placed on major stylistic developments and representative works. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music major; MHL 140 with C or better; MTC 222 with C or better |
| MHL | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | |
| MHL | 490 | Capstone Project I: Undergraduate Thesis Research | Selection of topic and research toward the completion of an undergraduate thesis of no fewer than 50 pages. | N | RSC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MHL 339 |
| MHL | 491 | Capstone Project II: Undergraduate Thesis | Completion of an undergraduate thesis in musicology or ethnomusicology of no fewer than 50 pages. | N | RSC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MHL 490 |
| MHL | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | | Prerequisite(s): Barrett Honors student |
| MHL | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MHL | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): Music major; MHL 140 with C or better; MTC 222 with C or better OR Visiting University Student |
| MHL | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | |
| MHL | 532 | Music Bibliography | Major historical and analytical writings; systematic and historical collections of music. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Graduate Music student |
| MHL | 545 | Music of the Silk Road | Provides an overview of music across the territories historically traversed by the silk roads, emphasizing the social contexts of music making, and of a variety of musical practices found in this region. Studies the dynamics of musical exchange and change, the relationship of music to ecology within this varied geography, and how political interventions into the realm of culture have informed musical meaning, often by obscuring or highlighting long-standing social interconnections that have structured musical sound. Further studies the relationship of belief systems, economic patterns and gender ideologies to music. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music graduate student; Credit is allowed for only MHL 445 or MHL 494 (Music of the Silk Road) or MHL 545 or MHL 598 (Music of the Silk Road) |
| MHL | 547 | Music and Healing | Combines elements of musicology, philosophy anthropology music therapy, neuroscience, psychology; investigates ways music has been proven to positively affect the "human condition"; focuses on what music means to humans. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music graduate student; Credit is allowed for only MHL 447 or MHL 494 (Music and Healing) or MHL 547 or MHL 598 (Music and Healing) |
| MHL | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MHL | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre-requisites: Graduate Music student |
| MHL | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre-requisites: Graduate Music student |

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| MHL | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre-requisites: Graduate Music student |
| MHL | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | |
| MHL | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): Music graduate student who has passed audition |
| MHL | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre-requisites: Graduate Music student |
| MHL | 632 | Applied Musicology | Explores practice-oriented entrepreneurial opportunities and methods in musicology, acquires knowledge and develops skills in community engagement and outreach, explores pathways of professional publication and network building, and participates in organizing curated concert series and scholarly conferences. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MHL 532 |
| MHL | 657 | Topics in Symphonic Literature | Examines the evolution of the symphony and symphonic poem from the early classic era through the 19th century, with emphasis on the analysis of selected works. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MHL | 668 | Introduction to Ethnomusicology | Experiencing theory and methodology by being ethnomusicologists through musical performance, primary writings on fieldwork, career structuring, the history of the discipline, its relationship with historical musicology, and the cultural theories which ethnomusicologists draw on. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MHL | 670 | Area Studies in Ethnomusicology | Study of the music of a particular culture, country, or area (e.g., music of Mexico, Latin America, China, Africa). | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MHL | 675 | History of Choral Music and Institutions | Examines the history of choral music through the lens of choral institutions: patronage, education, ritual, performing forces, status (professional vs. amateur), and locale. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MHL | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MHL | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | N | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MHL | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MHL | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MHL | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | N | Z3 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MHL | 798 | Research Colloquium | Interactive research forum featuring research presentations and discussion among musicology students, faculty and guest speakers from across campus and other institutions. Encourages students to engage in constructive dialogue with their peers as well as with faculty and guest speakers in a collegial environment conducive to exchange and collaboration. Supervised by a faculty panel from the musicology division. | N | RSC | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MSI 601 or 602 |
| MHL | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MIC | 205 | Microbiology | Introductory microbiology, emphasizing basic principles of microorganisms (bacteria, protozoa, algae, fungi, and viruses) and the role they play in health, ecology, and applied fields. May not be used for Microbiology credit unless a diagnostic test is passed. Both MIC 205 and MIC 206 required for SG General Studies credit. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | SG | Prerequisite(s): CHM 101 or 113 OR Visiting University Student |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|--|
| MIC | 206 | Microbiology Laboratory | Principles and lab techniques used in identifying and handling microorganisms. Both MIC 205 and 206 must be taken to secure SG General Studies credit. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | SG | Pre- or corequisite(s): MIC 205 or 220 with C or better if completed OR Visiting University Student |
| MIC | 220 | Biology of Microorganisms | Introductory microbiology for students majoring in the life sciences. Detailed study of microbial cells, their structure, genetics, physiology, and taxonomy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 181 or 281 with C or better; CHM 112, 116, or 118 OR Visiting University Student |
| MIC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| MIC | 302 | Advanced Bacteriology Laboratory | Advanced lab techniques in bacterial growth, physiology, and genetics, with an emphasis on quantitative data and formal lab reports. Both MIC 302 and 401 must be taken to secure L General Studies credit. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 2 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; MIC 206 with C or better; MIC 220 with C or better OR Visiting University Student |
| MIC | 314 | HIV/AIDS: Science, Behavior, and Society | Overview of the basic biological, behavioral, and psychosocial aspects of HIV disease and AIDS. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only MIC 314 or SSH 314 OR Visiting University Student |
| MIC | 360 | Bacterial Physiology | Mechanisms and control of cell metabolism, structures, and functions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): MIC 220 with C or better OR Visiting University Student |
| MIC | 379 | Medical Bacteriology | Principles of medical bacteriology with emphasis on bacterial infections, diagnostic testing, clinical symptoms, pathogenesis, and treatments. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): MIC 220 with C or better OR Visiting University Student |
| MIC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| MIC | 401 | Research Paper | Paper of 15 or more pages based on library or lab research in collaboration with a faculty member. Required of all Microbiology majors. Both MIC 302 and 401 must be taken to secure L General Studies credit. | N | RSC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; MIC 206 with C or better; MIC 220 with C or better; senior standing OR Visiting University Student |
| MIC | 420 | Immunology: Molecular and Cellular Foundations | Antibody/antigen interactions, cellular response, cytokines, immunogenetics, immunoregulation, autoimmunity, psychoneuroimmunology research/medical perspectives. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 353, BIO 360, or MIC 220 with C or better; Credit is allowed for only BIO 420 or MIC 420 OR Visiting University Student |
| MIC | 421 | Experimental Immunology | Introduces the basic techniques, methods, and assays used in immunology. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 2 | | Prerequisite(s): BIO 353, BIO 360, or MIC 220 with C or better OR Visiting University Student |
| MIC | 425 | Advanced Immunology | Surveys recent advances in immunology, including lymphocyte membranes, lymphokines/biochemistry, molecular genetics, theoretical immunology, immunoregulation, neuroimmunology, and immunologic diseases. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): MIC 420 with C or better |
| MIC | 441 | Bacterial Genetics | Surveys genetic exchange and regulatory processes in bacteria and their viruses. Bacteria and viruses as tools in genetic engineering. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 340 or MBB 347 with C or better; MIC 220 with C or better OR Visiting University Student |
| MIC | 442 | Bacterial Genetics Laboratory | Techniques of mutagenesis, mapping, and strain and genetic library construction. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Pre/Co-requisite: MIC 441 |
| MIC | 443 | The Microbial Universe | Diversity and physiology of microorganisms with emphasis on recent advances in the biology of microorganisms of environmental and medical importance. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): BIO 182 or 282 with C or better; Pre- or corequisite(s): MIC 444 with C or better if completed OR Visiting University Student |
| MIC | 444 | The Microbial Universe Laboratory | Techniques used to explore the microbial universe with emphasis on structural, metabolic, genetic, and growth characteristics relevant to the identification and characterization of microorganisms of environmental and medical importance. Not open to students with credit in MIC 206. | N | LAB | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Pre- or corequisite(s): MIC 443 with C or better OR Visiting University Student |
| MIC | 445 | Techniques in Molecular Biology/Genetics | Molecular genetic principles: plasmid construction, purification and characterization; PCR; mutagenesis; DNA sequence analysis; protein quantitation, hybridization, immunologic detection and electrophoresis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): BIO 340 or MBB 347 with C or better; Credit is allowed for only MBB 445 or MIC 445 OR Visiting University Student |
| MIC | 446 | Techniques in Molecular Biology/Genetics Lab | Molecular genetic techniques; plasmid construction, purification, and characterization; PCR; mutageneses; hybridization and sequence analysis; protein quantitation; immunologic detection, and electrophoresis. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 2 | | Pre- or corequisite(s): MBB 445 or MIC 445 with C or better if completed; Credit is allowed for only MBB 446 or MIC 446 OR Visiting University Student |
| MIC | 461 | Geomicrobiology | Past and present interactions among microbial life, geological materials, and biogeochemical cycles involving carbon, sulfur, phosphate, nitrogen, and metals. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Credit is allowed for only GLG 461 or MIC 461 |
| MIC | 470 | Bacterial Diversity and Systematics | Biology, classification, and enrichment culture of the nonpathogenic bacteria. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): MIC 302 with C or better |
| MIC | 481 | Bacterial Pathogenesis | Human host-bacterial interactions in infectious diseases with emphasis on pathogenesis and molecular mechanisms of bacterial virulence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): MIC 220 with C or better; MIC 360 or 441 with C or better |
| MIC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | |

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|---------|-------------|-----------------------------|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|-------------------------|-------|-----------------|--|
| MIC | 485 | General Virology | Fundamental principles of viruses, their molecular biology, replication, genetics, and pathogenesis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): MIC 206 with C or better; MIC 220 with C or better OR Visiting University Student |
| MIC | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| MIC | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MIC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| MIC | 495 | Undergraduate Research | Supervised research in biology/microbiology/molecular biosciences and biotechnology/or plant biology. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-3 | | Prerequisite(s): junior or senior standing OR Visiting University Student |
| MIC | 496 | Undergraduate Thesis | Guided research culminating in the preparation of an undergraduate thesis based on supervised research done in this and previous semesters. | N | RSC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): junior or senior standing; Credit is allowed for only BIO 496 or HPS 496 or MBB 496 or MIC 496 OR Visiting University Student |
| MIC | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-7 | | |
| MIC | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-3 | | |
| MIC | 501 | Foundations in Microbiology | Provides overview of the field of microbiology including: bacterial genetics and physiology, virology and host/pathogen interactions through lectures, reading, presentations and discussion of papers in the field of microbiology and immunology. Students read all papers, participate in class discussions and present papers during the semester. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only MIC 501 or MIC 591 (Milestones in Microbiology) |
| MIC | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MIC | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MIC | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MIC | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MIC | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MIC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MIC | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MIC | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MIC | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MIC | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| MIC | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MIC | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MIS | 101 | Introduction to the United States Army | Introduces the personal challenges and competencies that are critical for effective leadership and communication. Students learn how the personal development of life skills such as cultural understanding, goal setting, time management, stress management and comprehensive fitness relate to leadership, officership and the Army profession. Focuses on developing basic knowledge and comprehension of Army leadership dimensions, attributes and core leader competencies while gaining an understanding of the Army ROTC program, its purpose in the Army, and its advantages for the student. Includes physical training assessments, tactical training, as well as lecture-based instruction. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Military Science | 4 | | |
| MIS | 102 | Foundation of Agile and Adaptive Leadership | Introduces the professional challenges and competencies that are needed for effective execution of the profession of arms and Army communication. Through this course, students learn how ethics and values shape the Army and the specific ways that these ethics are inculcated into Army culture. Explores the seven Army values and the warrior ethos, investigate the profession of arms and Army leadership as well as an overview of the Army, and gains practical experience using critical communication skills. Includes physical training assessments, tactical training, as well as lecture-based instruction. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Military Science | 4 | | |
| MIS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Military Science | 1-4 | | |
| MIS | 201 | Army Leadership and Decision Making | Academically challenging course where students study, practice and apply the fundamentals of Army leadership, officership, Army values and ethics, personal development and small-unit tactics at the platoon level. Requires the student to demonstrate writing skills and present information briefings as preparation for development in becoming a successful future officer. Includes reading assignments, homework assignments, small group assignments, briefings, case studies, practical exercises, a mid-term exam and final exam. Also includes physical training assessments, tactical training, as well as lecture-based instruction. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Military Science | 4 | | Prerequisite(s): MIS 101; MIS 102 OR Visiting University Student |
| MIS | 202 | Army Doctrine and Team Development | Academically challenging course where students study, practice and apply the fundamentals of the leadership, officer skills, Army values and ethics, personal development and tactics at the small-unit level. Focuses on cross-cultural competencies as they relate to Army doctrine and how they apply in a combatant commander's engagement strategies. Stresses Army values, teamwork and warrior ethos and their relationship to the law of land warfare and philosophy of military service. Covers the ability to lead and follow through team building exercises in small units up to squad level. Requires the student to demonstrate writing skills and present information briefings as preparation for development in becoming a successful future officer. Also includes physical training assessment, tactical training, as well as lecture-based instruction. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Military Science | 4 | | Prerequisite(s): MIS 101; MIS 102; MIS 201 |
| MIS | 205 | Leader's Training Course | 6-week training program emphasizing practical hands-on skills and leadership development. Taken in lieu of MIS 101, 102, 201, 202. Conducted at Fort Knox, Kentucky. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Military Science | 4 | | |
| MIS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Military Science | 1-4 | | |

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| MIS | 301 | Training Management and the Warfighting Functions | Academically and physically challenging course where students study, practice and apply the fundamentals of Army leadership, officership, Army values and ethics, personal development and small-unit tactics at the platoon level. At the conclusion of this course, the student is capable of planning, coordinating, navigating, motivating and leading a squad and platoon in the execution of a mission during a classroom PE, a leadership lab or during a Leader Training Exercise (LTX). Requires the student to write peer evaluations and receive feedback on abilities as a leader and how to improve those leader skills that can further develop into a successful officer. Students receive systematic and specific feedback on their leader attributes, values and core leader competencies from the instructor, other ROTC cadre and MSL IV Cadets who evaluate the students using the Cadet Officer Evaluation System (OES). | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Military Science | 4 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; MIS 101; MIS 102; MIS 201; MIS 202 |
| MIS | 302 | Applied Leadership in Small-Unit Operations | Academically and physically challenging course where students study, practice and apply the fundamentals of Army leadership, officership, Army values and ethics, personal development and small-unit tactics at the platoon level. At the conclusion of this course, the student is capable of planning, coordinating, navigating, motivating and leading a squad and platoon in the execution of a mission during a classroom PE, a leadership lab, or during a Leader Training Exercise (LTX). Students receive systematic and specific feedback on their leader attributes, values and core leader competencies from the instructor, other ROTC cadre and MSL IV cadets who evaluate the students using the Cadet Officer Evaluation System (OES). Teaches the student the necessary skills to be successful at the USACC Advance Camp. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Military Science | 4 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; MIS 101; MIS 102; MIS 201; MIS 202; MIS 301 |
| MIS | 303 | National Advanced Leadership Camp | 6-week training program emphasizing leadership development and advanced military skills, including tactics, land navigation, and physical training. Conducted at Fort Lewis, Washington. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Military Science | 4 | | |
| MIS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Military Science | 1-4 | | |
| MIS | 401 | The Army Officer | Academically and physically challenging course where students study, practice, develop and apply critical thinking skills pertaining to Army leadership, officer skills, Army values and ethics, personal development and small-unit tactics at platoon level. Includes reading assignments, homework assignments, small group assignments, briefings, case studies, practical exercises, a mid-term exam, and final exam. Assesses students on the execution of a mission during a classroom PE, leadership lab or during a Leader Training Exercise (LTX). Students receive systematic and specific feedback on their leader attributes, values and core leader competencies from the cadre, PMS and other MSL IV cadets. At the conclusion of this course, students plan, coordinate, navigate, motivate and lead a platoon in future operational environment. Successful completion of this course assists in preparing for the BOLC and is mandatory for commissioning. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Military Science | 4 | | Prerequisite(s): MIS 101; MIS 102; MIS 201; MIS 202; MIS 301; MIS 302 OR Visiting University Student |
| MIS | 402 | Company Grade Leadership | Academically and physically challenging course where students study, practice, develop and apply critical thinking skills pertaining to Army leadership, officer skills, Army values and ethics, personal development and small-unit tactics at platoon level. For the capstone exercise, requires students to complete an oral practicum that is evaluated on their knowledge of the 20 Army warfighting challenges. Assesses students on leadership abilities during classroom PE, leadership labs or Leader Training Exercises (LTXs). Students receive systematic and specific feedback on their leader attributes, values and core leader competencies from the cadre, PMS and other MSL IV cadets. At the conclusion of this course, students plan, coordinate, navigate, motivate and lead a platoon in future operational environment. Successful completion of this course assists in preparing for the BOLC and is a mandatory requirement. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Military Science | 4 | | Prerequisite(s): MIS 101; MIS 102; MIS 201; MIS 202; MIS 301; MIS 302; MIS 401 |
| MIS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of Military Science | 1-3 | | |
| MKT | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Marketing | 1-4 | | |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------|-------------------------|-------|-----------------|---|
| MKT | 280 | Fashion Merchandising | Examines the business side of the fashion industry with a focus on fashion marketing and the fundamentals of merchandising and retailing. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Credit is allowed for only FSH 280 or MKT 280 |
| MKT | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | |
| MKT | 300 | Marketing and Business Performance | The dynamic role of marketing within society and organizations. Emphasizes frameworks and analytical tools that ensure customer focus and drive organizational performance. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey major, or non-business major with minimum 2.50 GPA and minimum 56 hours; ECN 211, 212, 213, or 214 with C or better OR Visiting University Student |
| MKT | 302 | Applied Marketing Management and Leadership | Market planning, execution, and assessment. Emphasizes decision and communication skills related to market opportunity analyses and marketing program development as a core business function. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | L | Prerequisite(s) w/ C or better: W. P. Carey Marketing BS major; ECN 221 or 231; ENG 101, 105, or 107; MAT 211, 266, or 271; Pre- or corequisite(s): ACC 241, 242, or 271 w/ C or better if completed OR Visiting University Student |
| MKT | 303 | Honors Marketing Theory and Practice | Covers basic applications of marketing concepts to problems that are common to marketing managers. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | L | Prerequisite(s) w/ C or better: W.P. Carey Honors student; ECN 221 or 231; ENG 101, 105, or 107; MAT 211; Pre- or corequisite(s): ACC 241, 242, or 271 w/ C or better if completed; Credit is allowed for only MKT 300 or MKT 302 or MKT 303 |
| MKT | 311 | Sports Business | Focuses attention on components ranging from professional sports to collegiate sports, as well as sports-related products. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey Business (Sports Business) BA major or BS major obtaining Sports Business certificate; minimum 56 hours; Pre- or corequisite(s): MKT 300, 302, or 303 with C or better if completed OR Visiting University Student |
| MKT | 352 | Marketing Research | Knowledge and skills to make intelligent decisions in the design, evaluation and application of marketing research and market data. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | L | Prerequisite(s): W. P. Carey Marketing student; ENG 101, 105, or 107 with C or better; MKT 302 or 303 with C or better OR Visiting University Student |
| MKT | 355 | Designing Brand Identity: Methods and Digital Tools | Creates brand identity initiatives by beginning with a focus on research and strategy. Covers how the support system of design principles, color, imagery, typography and composition makes an entire brand identity program cohesive, yet differentiated. Explores major media development tools (e.g., Adobe Creative Cloud) in a way that can help students select the right approach for a brand, and also to make good choices for working across media. Differentiates between critical digital literacy as opposed to functional digital literacy, which focuses predominately on how to operate software applications. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): MKT 302 or 303; Credit is allowed for only MKT 355 or MKT 494 (Digital Tools for Building Brands) |
| MKT | 365 | Advertising and Beyond: Customer-Centric Brand Development | Advertising and brand development as means to marketing and business success. Consideration of market research, segmentation, objective, creative strategy, digital and integrated media tactics, media management, and metrics of effectiveness. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W.P. Carey BS student; MKT 300, 302 or 303 with C or better OR Visiting University Student |
| MKT | 370 | Professional Sales and Relationship Management | Investigate the vital role of sales, its relationship to other functions within the firm, and its impact on customers. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W.P. Carey BA or BS major, or non-business major with minimum 2.50 GPA and minimum 56 hours; MKT 300, 302, or 303 with C or better OR Visiting University Student |
| MKT | 385 | Data-Driven Marketing | Investigates the increasingly important relationship between marketing and data, looking both at the collection of qualitative and quantitative inputs and the analysis of that data to make informed decisions. It's big (and small) data meets big ideas. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey major; MKT 300, 302, or 303 with C or better; Credit is allowed for only MKT 385 or MKT 494 (Data-Driven Marketing) OR Visiting University Student |
| MKT | 390 | Essentials of Marketing | Focuses on the nature and processes of marketing with an emphasis on practical application. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prereq(s): Appl Bus & Tech Sol BA or Entrepreneurial Ldrship BA major; min 2.00 GPA; min 30 hours OR non-Bus major; min 2.00 GPA; min 56 hours OR nondegree-seeking undergrad stdnt OR degree- or nondegree-seeking grad stdnt OR Visiting University Student |

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| MKT | 391 | Essentials of Selling | Focuses on the selling process and its practical applications within consumer and business markets. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): Applied Business & Technology Solutions BA or non-Business major; min 2.00 GPA; min 56 hours OR nondegree-seeking undergraduate student; min 2.00 GPA OR degree- or nondegree-seeking graduate student OR Visiting University Student |
| MKT | 392 | Essentials of Business Marketing | Provides the tools and specialized knowledge for developing and executing marketing strategy in the business-to-business market. Covers how to identify forces that drive buying behavior in organizations, measure market opportunity, identify profitable segments and develop strategy, particularly for turbulent, high-technology markets. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): Applied Business & Technology Solutions BA or non-Business major; MKT 390 with C or better; min 2.00 GPA; min 56 hours OR nondegree-seeking undergrad student OR degree- or nondegree-seeking grad student OR Visiting University Student |
| MKT | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): Non-business student, and minimum cumulative GPA of 2.00, and minimum 56 hours OR be a Non-degree student with minimum 2.0 ASU cum GPA OR be a graduate student |
| MKT | 395 | Essentials of Advertising and Marketing Communication | Covers topics of immediate or special interest to a faculty member and students. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W.P. Carey BA major or non-business major; minimum 2.00 GPA; minimum 56 hours, OR non-degree student with minimum 2.0 GPA OR graduate student; Credit is allowed for only BUA 382 or MKT 395 OR Visiting University Student |
| MKT | 396 | Essentials of Services Marketing | Focuses on challenges of managing service brands and delivering quality service to customers across industry sectors. Emphasizes skills and knowledge needed to implement quality service and service strategies, frameworks for customer-focused management, and how to increase customer satisfaction and retention through service strategies. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): Appl Bus & Tech Sol BA or non-Business major; MKT 390 with C or better; min 2.00 GPA; min 56 hours OR Business (Retail Mgmt) BA major OR nondegree-seeking undergrad OR degree- or nondegree-seeking grad OR Visiting University Student |
| MKT | 397 | Essentials of Global Marketing | Introduces the concepts of globalization in markets and gives an appreciation and understanding of the differences between marketing in the student's home country and marketing globally. The rapid adoption of technology has fundamentally changed the dynamics of marketing and created new competitive paradigms that must be understood for firms to be successful. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): Applied Business & Technology Solutions BA or non-Business major; MKT 390 with C or better; min 2.00 GPA; min 56 hours OR nondegree-seeking undergrad student OR degree- or nondegree-seeking grad student OR Visiting University Student |
| MKT | 398 | Essentials of Sports Business | Introduces the concepts of sports business. Builds knowledge, skills and understanding of the fundamentals of sports business. Develops an appreciation for and understanding of the multiple stakeholders and diverse interests in and around sports business, and how they impact sports business practice and performance. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): Applied Business & Technology Solutions BA or non-Business major; MKT 390 with C or better; min 2.00 GPA; min 56 hours OR nondegree-seeking undergrad student OR degree- or nondegree-seeking grad student OR Visiting University Student |
| MKT | 402 | Consumer Behavior | Applies behavioral concepts in the analysis of consumer behavior and the use of behavioral analysis in marketing strategy formulation. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey Marketing student; MKT 352 with C or better OR Visiting University Student |
| MKT | 410 | Sales Management | Constructive investigation of selling processes, their application in business and consumer contexts, and management of the sales function. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey BA or BS major; MKT 300, 302, or 303 with C or better OR Visiting University Student |
| MKT | 420 | Retail Management | The role of marketing in retailing and retail performance. Challenges and processes of retail management across various institutions. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey Business (Retail Management) BA or Marketing BS major; MKT 300, 302, or 303 with C or better OR Visiting University Student |
| MKT | 421 | Fan Behavior and Sports Marketing | Focuses on what it means to be a consumer in a sports marketing context society and what, as a marketer, you need to know to develop, evaluate and implement effective marketing strategies for fans. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey Business (Sports Business) BA major; MKT 300, 302, or 303 with C or better; MKT 311 with C or better OR Visiting University Student |

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| MKT | 425 | Global Marketing Management | Analyzes marketing strategies and practices developed by firms to compete in global markets and adapt to changing international environments. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | G | Prerequisite(s): W.P. Carey BA or BS major or non-business major with minimum 2.50 ASU cum GPA and minimum 2.50 ASU business GPA and 56 earned hours; MKT 300 or 302 or 303 with C or better OR Visiting University Student |
| MKT | 430 | Sports Business | Builds knowledge, skills, and understanding of sports business; exposure to leading-edge thought, methods, and practices in sports business. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey BS student; must have completed MKT 300, MKT 302 or MKT 303 with a grade of C or better. |
| MKT | 431 | Sports Experiences | Explores the utilization of sports properties and highlights the evolution from traditional facilities and events to more modern experiences that increasingly include digital and emerging technologies. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey Business (Sports Business) BA major or BS major obtaining Sports Business certificate; MKT 300, 302, or 303 with C or better; MKT 311 with C or better OR Visiting University Student |
| MKT | 435 | Entrepreneurial Marketing | Identifies and evaluates marketing opportunities; motivates an appreciation of entrepreneurial marketing and its different environmental contexts for general marketing principles. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey BA or BS major; MKT 300, 302, or 303 with C or better OR Visiting University Student |
| MKT | 438 | Advanced Selling Using Data and Technology | Focuses on the use of technology to advance sales. Students explore how technology is leveraged in the sales process. Hands-on and interactive course leverages case studies, role plays, team projects, presentations, and in-class application of CRM technology. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey BA or BS major; MKT 300, 302, or 303 with C or better; MKT 370 or 410 with C or better; Credit is allowed for only MKT 438 or MKT 494 (Strategic Selling Using Data and Technology) OR Visiting University Student |
| MKT | 440 | Creating Digital Experiences | Marketing is about creating meaningful experiences between brands and the people they serve. Designed to jump start learning for any student interested in marketing goods and services in contemporary society, this course covers digital ideation and planning as well as digital media, all with a focus on practical application. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 1-3 | | Prerequisite(s): W. P. Carey Marketing major; MKT 302 or 303 with C or better; Credit is allowed for only MKT 440 or MKT 494 (Digital Marketing in Practice) OR Visiting University Student |
| MKT | 441 | Sports Revenue Generation | Focuses on selling and how to create, maintain and build relationships within the sports context. Students gain knowledge and develop skills in choosing a sales career including attributes of a sales person, sales call preparation, value propositions, creating value for the client, team selling, questioning and listening techniques, negotiating, persuasion and closing techniques. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey Business (Sports Business) BA major or BS major obtaining Sports Business certificate; MKT 300, 302, or 303 with C or better; MKT 311 with C or better OR Visiting University Student |
| MKT | 442 | Services Marketing Strategy | Concepts, skills, and strategies for addressing the imperative marketing challenges and opportunities involving service. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey Marketing BS major; MKT 302 or 303 with C or better; MKT 352 with C or better; minimum 56 hours; Pre- or corequisite(s): MKT 402 with C or better if completed OR Visiting University Student |
| MKT | 450 | Social Media and Content Marketing | Centers on how to effectively use social media and content marketing to build relationships between a company and its customers. Students learn to create content, how to deliver content through social media and community management, as well as how to optimize content for maximum effectiveness. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 1-3 | | Prerequisite(s): W. P. Carey Marketing BS major; MKT 302 or 303 with C or better; Credit is allowed for only MKT 450 or MKT 494 (Social Media Mktg and Com Mgmt) OR Visiting University Student |
| MKT | 451 | Sports Business Analytics | Develops and applies critical and creative thinking skills through the lens of a sports context with the goal of making data-driven decisions. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey Business (Sports Business) BA major or BS major obtaining Sports Business cert; MKT 300, 302 or 303 with C or better; MKT 311 with C or better OR Visiting University Student |
| MKT | 452 | Business-to-Business Marketing Strategy | Concepts, skills, and strategies for performing competitively in the business market where organizations rather than households are the customers. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey Marketing BS major; MKT 302 or 303 with C or better; MKT 352 with C or better; minimum 56 hours; Pre- or corequisite(s): MKT 402 with C or better if completed OR Visiting University Student |

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| MKT | 455 | Brand Management | Focuses on understanding brand management and the concepts associated with building brand equity and managing brand identity and positioning. Students learn how firms create a competitive advantage by incorporating consumer insight into an effective branding strategy. In addition, students gain an understanding of the role of branding on product portfolio management. Heavily features case discussion, projects and real brands. Applies brand management knowledge to an actual branding strategy project for a small firm. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey Marketing major; MKT 302 or 303 with C or better; Credit is allowed for only MKT 455 or MKT 494 (Brand Management) OR Visiting University Student |
| MKT | 460 | Sports Revenue Generation | Focuses on providing a sophisticated understanding of revenue generation in the context of sports. Students gain knowledge of key marketing, management and administrative functions that play a critical role in revenue-generation strategies. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W.P. Carey BS major; MKT 300, 302 or 303 with C or better |
| MKT | 462 | Competitive Marketing Strategy | Strategy formulation and decision making by the marketing executive. Integrates marketing programs and considers competitive marketing issues. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W.P. Carey Marketing student; MKT 302, 303 or 352 with C or better; Pre- or corequisite: MKT 402 with C or better if completed OR Visiting University Student |
| MKT | 465 | Projects in Sports Business | Focuses on providing students with an innovative opportunity to work directly with sports business industry professionals to address real-world and real-time issues faced by these organizations. Students develop an appreciation for and understanding of the multiple stakeholders and diverse interests in and around sports business, and of their constantly changing and interactive impact on sports business practice and performance. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W. P. Carey Business (Sports Business) BA major or BS major obtaining Sports Business certificate; MKT 300, 302, or 303 with C or better; MKT 311 with C or better OR Visiting University Student |
| MKT | 472 | Immersive Brand Experience I: Intelligence, Insights and Strategy | Provides in-depth, hands-on experience creating complete branding initiatives (campaigns, projects, products/services) for business or nonprofit organizations. Functioning as a real working branding firm, each student provides both an individual effort, as well as works within teams. Focuses on customer and brand market research, strategic planning and foundations of the creative process. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s) w/ C or better: W.P. Carey Marketing major; MKT 302 or 303; MKT 352; min 56 hours; Pre- or corequisite(s): MKT 402 w/ C or better if completed; Credit allowed for only MKT 472 or MKT 494 (Proj in Advertising) OR Visiting University Student |
| MKT | 473 | Immersive Brand Experience II: Creative, Media and Measures | Provides in-depth, hands-on experience creating complete branding initiatives (campaigns, projects, products/services) for business or nonprofit organizations. Functioning as a real working branding firm, each student provides both an individual effort, as well as works within teams. Applies previously acquired marketing knowledge and best practices in creative direction, writing and art direction, media development and strategy to deliver completed brand development initiatives for clients. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): W.P. Carey Marketing major; MKT 302 or 303 with C or better; MKT 352 with C or better; min 56 hours; Pre- or corequisite(s): MKT 402 with C or better if completed; Credit is allowed for only MKT 473 or MKT 494 (Projects in Advertising) |
| MKT | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | W. P. Carey School of Business | Department of Marketing | 1-12 | | Prerequisite(s): W.P. Carey BA or BS major; MKT 300, 302, or 303 with B- or better; minimum 3.00 GPA |
| MKT | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | IND | Y | Z1 | W. P. Carey School of Business | Department of Marketing | 1-6 | | Prerequisite(s): Barrett Honors student |
| MKT | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | IND | N | Z1 | W. P. Carey School of Business | Department of Marketing | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MKT | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): W.P. Carey BA or BS major; MKT 300, 302, or 303 with C or better OR Visiting University Student |
| MKT | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | W. P. Carey School of Business | Department of Marketing | 1-3 | | Prerequisite(s): Business major with professional status OR non-Business student; minimum 2.50 GPA; minimum 56 hours |
| MKT | 501 | Fundamentals of Marketing Management | Manages the marketing function; market and environmental analysis; marketing planning, strategy and control concepts. Development and management of marketing programs. Designed for students with limited business experience and without an undergraduate business degree. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): degree-seeking graduate student |
| MKT | 502 | Marketing Management | Managing the marketing function; market and environmental analysis; marketing planning, strategy, and control concepts. Development and management of marketing programs. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): W. P. Carey MBA students |
| MKT | 520 | Delivering Outstanding CX Through Service and Digital Experiences | Explores how to develop long-term, loyal relationships with customers by optimizing the experiences they have with the firm across a variety of touchpoints. Students learn several frameworks to help them to create and document quality experiences. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): MKT 502 |

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| MKT | 525 | Excel in Services | Focuses on challenges of managing services and delivering quality service to customers. The attraction, retention, and building of strong customer relationships through quality service (and services) are at the heart of the course content. The course is equally applicable to organizations whose core product is service and to organizations that depend on services for competitive. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MKT | 530 | Creativity and Innovation | Multidisciplinary approaches to theories and practices of inspiring and managing innovation and change for sustainable competitive advantage. Focuses on both the student's individual creativity and the planning and implementation of innovations, technologies, processes, or systems that pose significant uncertainty. Places special attention on the processes surrounding understanding the consumer, ideation and implementation. Inclusive in this are methods such as environmental scanning, scenario planning, contextual research, storytelling, concept testing and prototyping. Also includes the many aspects of the organization's structure and culture regarding innovation and creativity. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MKT | 535 | Global Marketing Strategy | Introduces the concepts of globalization in markets and gives an appreciation and understanding of the differences between marketing in a home country and marketing globally. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MKT | 540 | Strategic Brand Management | Some of a firm's most valuable assets are its brands. Building and effectively maintaining brand equity is one of a firm's top priorities. This course provides an understanding of strategic brand management and provides students with insights into how sustainable and customer-centric brand strategies can be created and leveraged over time. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MKT | 545 | Entrepreneurial Marketing | Introduces the process of developing a plan for starting a business and presenting that plan to potential investors in order to obtain financing. Covers the purposes of a business plan, the varying objectives of different types of investors or financial institutions, and how they complement or conflict with the interests of an entrepreneur. Topics include proprietary positioning, types of organization, and differing management objectives. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MKT | 550 | Product Management and Innovation | Develops student proficiency in product management skills to guide products and services through their product lifecycle. In particular, explores effective ways to coordinate customer needs, ensure accurate product development, and how to develop and use the appropriate tools needed to successfully sell products and services to customers from the perspective of the product manager. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): MKT 502 |
| MKT | 555 | B2B: Capturing Value Through Products, Services and Customer Solutions | Provides the tools and specialized knowledge for developing and executing marketing strategy in the business-to-business market. Covers how to identify forces that drive buying behavior in organizations, measure market opportunity, identify profitable segments, and develop strategy, particularly for turbulent, high-technology markets. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): MKT 502 |
| MKT | 560 | Customer Relationship Management | Focuses on the tools, metrics, and systems used to measure and manage customer relationships. Key to the development and use of sound customer metrics are market research skills including competencies in research design, sampling, measurement, data collection, and data analysis. Covers how to use types of data such as surveys, purchased data, transactional data, the Web, and social media to measure and manage customer relationships. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MKT | 561 | Customer-Centric Research and Analytics | Covers three major components: (1) a consideration of what it means to be "customer centric"; (2) development of qualitative and quantitative market research techniques; and (3) application of this material to project situations. | N | LEL | N | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only MKT 561 or MKT 591 (Customer Centric Research Analytics) |
| MKT | 562 | Advanced Analytics for Marketing Decisions | Involves formulating critical marketing problems, developing relevant testable hypotheses, collecting and analyzing data and, most importantly, drawing inferences and suggesting actionable implications. | N | LEL | N | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only MKT 562 or MKT 591 (Marketing Analytics) |
| MKT | 571 | Digital Marketing Applications and Analytics | Gives the applied understanding of the internet marketplace that allows students to adapt to its many changes, while also equipping them with the practical skills needed to perform vital daily functions. Covers Web experience, SEO, search ads, social media marketing, content marketing, email marketing, mobile marketing. Through this process, students learn how digital marketing has revolutionized the interactions between firms and consumers. | N | LEL | N | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Prerequisite(s): MKT 502; Credit is allowed for only MKT 571 or MKT 591 (Digital Marketing) |

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| MKT | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | GNA | W. P. Carey School of Business | Department of Marketing | 1-12 | | Pre-requisites: W. P. Carey MBA Full Time student. |
| MKT | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | W. P. Carey School of Business | Department of Marketing | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MKT | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | W. P. Carey School of Business | Department of Marketing | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MKT | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Marketing | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MKT | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | W. P. Carey School of Business | Department of Marketing | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MKT | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Marketing | 1-4 | | Pre-requisites: W.P. Carey degree seeking Graduate student |
| MKT | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | IND | Y | Z2 | W. P. Carey School of Business | Department of Marketing | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MKT | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | W. P. Carey School of Business | Department of Marketing | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MKT | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | W. P. Carey School of Business | Department of Marketing | 1-12 | | Pre-requisites: W.P. Carey degree seeking Graduate student |
| MKT | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | W. P. Carey School of Business | Department of Marketing | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MKT | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | W. P. Carey School of Business | Department of Marketing | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MKT | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | W. P. Carey School of Business | Department of Marketing | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MLS | 501 | Writing About Social Issues | Reading, discussion and creation of nonfiction writing on diverse societal issues. Investigates diverse forms and genres of writing. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MLS | 502 | Religion, Culture, and Health: Where Cultures Intersect | Focuses on how cultural and religious notions may come into conflict around issues of health. Contrasts two societies, not necessarily contemporary, from different continents. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MLS | 503 | Ethics, Science and Culture | Introduces ethics related to the practice of art, science and medical practice in modern and premodern society. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MLS | 504 | Film Analysis | Introduce formal and cultural issues important to understanding movies. | N | REC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only FMS 504 or MLS 504 |
| MLS | 505 | The Research Process | Contemporary scholarly writing and research processes that adult learners, new to graduate study, can use in all MLS classes and for years ahead. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only MLS 505 or MLS 598 (The Research Process) or MLS 598 (Research Methods) |
| MLS | 510 | Communicating in Complex Cultural Environments | Explores the complexity of communication as it functions across contrasting social and cultural contexts. Students study how we interact and communicate with those around us through our individual and collective cultures. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MLS | 511 | Advanced Liberal Studies and Worlds of Possibility | Explores the construction of knowledge and know-how from a variety of cultural and historical perspectives. Analyzes and applies the assumptions that inform various worldviews in real-world contexts. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| MLS | 512 | Exploring and Expressing Ideas | Guides students through the exploration and expression of ideas related to contemporary social and cultural problems. Emphasizes perspective taking from multiple points of view. Features questions related to the construction and collection of evidence and terms of analysis. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MLS | 520 | Ecologies of Possibility: Creative and Critical Approaches | Provides a foundation of experiential, creative and critical exploration into ways of knowing that are reflexive and justice oriented. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MLS | 525 | Creative and Critical Research Design | Emphasizes that research, as an open-ended process, is a creative act that can help solve problems, generate possibilities, destabilize oppressive systems and promote justice. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MLS | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): Liberal Studies MLSt or Liberal Studies (Film and Media Studies) MLSt student |
| MLS | 582 | Applied Project Plan | Students employ select research methodologies, creative/critical thinking, reflexive practices and peer feedback to devise an applied project plan and an annotated literature review. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MLS | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | PRA | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): Liberal Studies MLSt or Liberal Studies (Film and Media Studies) MLSt student |
| MLS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): Liberal Studies MLSt or Liberal Studies (Film and Media Studies) MLSt student |
| MLS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | Prerequisite(s): Liberal Studies MLSt or Liberal Studies (Film and Media Studies) MLSt student; MLS 510; MLS 511; MLS 512; minimum 18 hours completed at the 500, 600, or 700 level |
| MLS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MLS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MND | 101 | First-Year Chinese I | Beginning course in Modern Standard Chinese designed for students who have little or no previous background in the language. Adopts different pedagogical approaches such as group practice, role play and situational dialogues to help students acquire basic skills in listening, speaking, reading and writing in Modern Standard Chinese. While linguistic elements are the focus of this course, also includes cultural information that go along with language use. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 5 | | Credit is allowed for only CHI 101 or CHI 110 or MND 101 |
| MND | 102 | First-Year Chinese II | Beginning course in Modern Standard Chinese designed for students who have completed MND 101. Different pedagogical approaches such as group practice, role play and situational dialogues are designed to help students acquire basic skills in listening, speaking, reading and writing in Modern Standard Chinese. While linguistic elements are the focus of this course, also includes cultural information with application to global business communication. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 5 | | Prerequisite(s): MND 101; Credit is allowed for only CHI 102 or CHI 110 or MND 102 |
| MND | 201 | Second-Year Chinese I | First part of a two-semester course of intermediate Modern Standard Chinese for students who have successfully completed First-Year Chinese I and II. Adopts different pedagogical approaches such as group practice, role play and situational dialogues to help students acquire basic skills in listening, speaking, reading and writing. While linguistic elements are the focus of this course, also includes cultural information that accompanies language use along with a deep emphasis on global work situations. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 5 | | Prerequisite(s): MND 101; MND 102; Credit is allowed for only CHI 201 or CHI 210 or MND 201 OR Visiting University Student |

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| MND | 202 | Second-Year Chinese II | Second part of a two-semester course of intermediate Modern Standard Chinese for students who have successfully completed three semesters of Modern Standard Chinese at the college level or equivalent. Builds on the vocabulary introduced in the first three courses, with deeper emphasis on global work situations. Adopts different pedagogical approaches such as group practice, role play and situational dialogues to help students acquire basic skills in listening, speaking, reading and writing Modern Standard Chinese. While oral proficiency is the focus of this course, also includes cultural information that accompanies language use in the teaching as well. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 5 | | Prerequisite(s): MND 101; MND 102; MND 201; Credit is allowed for only CHI 202 or CHI 210 or MND 202 |
| MSA | 101 | Elementary Arabic I | Introductory Arabic language focuses on pronunciation of Arabic sounds and basic writing skills. Students learn Arabic culture through standard greetings, common phrases, vocabulary and performance of appropriate social behaviors common in the Arab world which prepares students for work in global organizations. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 4 | | Credit is allowed for only ARB 101 or MSA 101 |
| MSA | 102 | Elementary Arabic II | Continuation of Elementary Arabic I, adopts different pedagogical approaches such as group practice, role play and situational dialogues to help increase listening, speaking, reading and writing skills. While linguistic elements are the focus, cultural and intellectual contexts provide a medium for understanding the Arab-Islamic world and the global business setting. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 4 | | Prerequisite(s): MSA 101; Credit is allowed for only ARB 102 or MSA 102 |
| MSA | 201 | Intermediate Arabic I | Directed to students who have completed the first two courses of college-level Arabic. Students reach an advanced level of oral proficiency through concentrating on new verbs, vocabulary and unique structures of sentences which enable them to master a highly sophisticated usage of the language. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 4 | | Prerequisite(s): MSA 101; MSA 102; Credit is allowed for only ARB 201 or MSA 201 |
| MSA | 202 | Intermediate Arabic II | Provides advanced ability to understand, read, write and communicate in Arabic and is directed to students who have completed the first two Arabic elementary courses and the first intermediate course. Focuses on transitive, intransitive and passive and active verbs which enable students to express themselves in highly sophisticated Arabic styles and discourse. Students study how Arabic people perceive and communicate important cultural, historical and economic themes as well as major historical figures and their contributions to Arabic society. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 4 | | Prerequisite(s): MSA 101; MSA 102; MSA 201; Credit is allowed for only ARB 202 or MSA 202 |
| MSC | 115 | Music Production Fundamentals | Introduces the basic tools and techniques of the "in the box" music production. Students begin to hone their production chops and create their own original and collaborative work in the process. Course is broken down into 4 modules: writing in the DAW, producing in the DAW, collaborating in the DAW and working in the DAW. Students experience a series of lectures to cover weekly topic(s); participate in in-class exercises and demos; and write, arrange and produce original material to be workshopped in class, both individually and collaboratively. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | CS | Credit is allowed only for MSC 115 or MSC 194 (Music Production Fundamentals) |
| MSC | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MSC | 211 | Songwriting Fundamentals | Introductory course presenting the basic elements of the songwriting craft. Students experience a series of lectures that cover weekly topics, participate in class writing exercises and analysis of visiting artists and the student material being work shopped. Through in-class writing assignments, analysis and by recording and notating songs, students begin to hone their craft and create their own original and collaborative work. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre- or corequisite(s): MTC 125 with C or better if completed; Credit is allowed for only MSC 211 or MSC 294 (Songwriting Fundamentals) or MSC 294 (Songwriting I) OR Visiting University Student |
| MSC | 212 | Intermediate Music Production | Building upon previous coursework, dives deeper into the tools and techniques of music production, both in a home and professional studio setting. Students create their own original and collaborative work through the execution of four main projects. Students experience a series of lectures to cover weekly topic(s), participate in in-class exercises and demos and write, arrange and produce four original tracks through both individual and collaborative work, which are workshopped in class. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MSC 115 with C or better; Credit is allowed for only MSC 212 or MSC 294 (Intermediate Music Production) or MSC 294 (Music Production II) OR Visiting University Student |

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| MSC | 213 | Sound Design Fundamentals | Centers on the basic elements of sound design as well as the acoustics and physics of sound. Students explore and learn about synthesizers, samplers, standard audio processors, creative effects processing and digital signal processing techniques, both in hardware and software form. Presents historical context for the development and evolution of the associated technology. Students generate several pieces of work which represent a diverse set of applications of tools presented in class. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MSC 115 with C or better; Credit is allowed for only MSC 213 or MSC 294 (Sound Design Fundamentals) OR Visiting University Student |
| MSC | 216 | Popular Music Foundations | Menu of courses designed to lay the foundational knowledge in various areas of study. | Y | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre- or corequisite(s): MSC 115 OR Visiting University Student |
| MSC | 221 | Popular Music Lab | Menu of courses designed to build popular music-specific musicianship skills. Respective course topics serve as complements to the fields of study available in the popular music foundation series. | Y | LAB | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | |
| MSC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MSC | 314 | Critical Listening | Focuses on developing critical listening and ear training skills with an emphasis on analyzing recording and mix techniques in the context of popular music. Topics include acoustics and spatial considerations, mix elements such as balances, panning, depth, EQ, reverb, compression, delay and time-based effects, instrument identification, stylistic comparisons of recording and mix techniques, being able to aurally discern and verbalize changes to frequency, dynamics and timbre. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MSC 115 with C or better; Pre- or corequisite(s): MSC 212 with C or better if completed; Credit is allowed for only MSC 314 or MSC 394 (Critical Listening) or MSC 474 (Mixing and Critical Listening 1) OR Visiting University Student |
| MSC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| MSC | 441 | Live Sound and Stage Technology I | Presents the basic elements of running sound for live music performances and other associated stage technology such as microphones, lighting and video. Students experience a series of lectures to cover weekly topic(s), participate in hands-on class exercises and run sound for student ensembles and recitals. | Y | LAB | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only MSC 441 or MSC 494 (Live Sound and Stage Technology I) or MUP 441 (Live Sound and Stage Technology) OR Visiting University Student |
| MSC | 442 | Live Sound and Stage Technology II | Continues the study of live sound reinforcement and concert technology, presenting advanced elements and techniques of running sound for live music performances and other associated stage technology such as microphones, lighting and video. Students experience a series of lectures to cover weekly topic(s), participate in hands-on class exercises and run sound for student ensembles and recitals. | N | LAB | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): MSC 441 with C or better; Credit is allowed for only MSC 442 or MSC 494 (Live Sound and Stage Technology 2) OR Visiting University Student |
| MSC | 443 | Popular Music Forum | Studio class that functions as a collaborative lab for all popular music students regardless of their musicianship specializations. Investigates various topics in popular music performance, composition and production. Students cultivate skills related to their musicianship specializations and develop aural skills and knowledge of music through participation in collaborative and solo projects, the study of recordings, and compositions. | N | LAB | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major or non-Music major who has passed audition |
| MSC | 444 | Popular Music Senior Forum | Studio class that functions as a collaborative lab for all popular music seniors who are preparing to graduate from the program, regardless of their musicianship specializations. Topics include but are not limited to: financial literacy and preparedness for the music industry, personal branding and presentation, management of personal digital profiles and external facing touchpoints, short- and long-term planning. Invites several industry professionals to speak to students. Concludes with a portfolio presentation which is a culmination of work done throughout the program. | N | LAB | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): two completions of MSC 443; Corequisite(s): MSC 489 OR Visiting University Student |
| MSC | 451 | Popular Music Industry Studies I | Familiarizes students with an overview of the popular music industry, business, law and operations while contextualizing and including aspects of its history and development. Study of the production of various popular and traditional music styles, specifically in the United States. Additionally, students study the music and the musicians of popular music throughout history and learn to recognize and apply aspects of creativity and innovation when developing a new product or business venture. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): minimum 45 hours |
| MSC | 452 | Popular Music Industry Studies II | Familiarizes students with aspects of starting and operating a business in the music industry. Students learn how to start a music production label, how to market new talent and how to release and promote their own music using up-to-date on and offline promotion and marketing tools. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MSC 451 with C or better |

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| MSC | 470 | Sound Designer/Producer | A menu of courses for students in the popular music program who are interested in pursuing a career in sound design and production as one of their specializations. | Y | LEL | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MSC 115 with C or better; MSC 212 with C or better; MSC 213 with C or better; Pre- or corequisite(s): MSC 314 OR Visiting University Student |
| MSC | 471 | Contemporary Composer/Producer Specialization | A menu of courses for students in the popular music program who are interested in pursuing a career in contemporary writing and production as one of their specializations. | Y | LEL | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MSC 115 with C or better; MSC 212 with C or better; MTC 224 with C or better; Pre- or corequisite(s): MSC 213 OR Visiting University Student |
| MSC | 472 | Songwriter/Producer Specialization | A menu of courses for students in the popular music program who are interested in pursuing a career in songwriting and production as one of their specializations. | Y | LEL | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MSC 115 with C or better; MSC 211 with C or better; Pre- or corequisite(s): MTC 224 OR Visiting University Student |
| MSC | 473 | Engineer/Producer Specialization | A menu of courses for students in the popular music program who are interested in pursuing studio multi-track engineering, mix engineering and/or record production as one of their specializations. | Y | LEL | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MSC 115 with C or better; MSC 212 with C or better; MSC 314 with C or better OR Visiting University Student |
| MSC | 474 | Music Business Specialization | A menu of courses for students in the popular music program who are interested in pursuing music business as one of their popular music specializations. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MSC 451 with C or better; Pre- or corequisite(s): MSC 452 with C or better if completed OR Visiting University Student |
| MSC | 475 | DIY Creative Careers | A menu of courses for students in the popular music program who are interested in pursuing a career as an independent writer, producer, artist or any other type of freelance creative, and have chosen DIY creative careers as one of their specializations. | Y | LEL | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MSC 115 with C or better; MSC 451 with C or better OR Visiting University Student |
| MSC | 477 | Live Experience Design Specialization | A menu of courses for students in the popular music program who are interested in pursuing a career in live music concert and experience design, and have chosen live experience design as one of their specializations. | Y | LEL | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MSC 441 with C or better; MSC 442 with C or better OR Visiting University Student |
| MSC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): minimum 45 hours |
| MSC | 489 | Popular Music Capstone Project | Summative presentation of the student's interests which demonstrates mastery of the student's chosen area of focus. This may include but is not limited to a creative project or experience with a focus in music industry studies; performing, songwriting, composing, film scoring, recording, producing, or promoting. Students gain a more advanced level of knowledge and understanding of the practice and philosophy of the music industry in order to launch or further their career as a professional popular musician. | N | RSC | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): complete six credit hours from MSC 470, MSC 471, MSC 472, MSC 473, MSC 474, MSC 475, or MSC 477 |
| MSC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| MSC | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | |
| MSC | 551 | Popular Music Industry Studies I | Familiarizes students in the popular music industry, business, law and operations while contextualizing and including aspects of its history and development. This is accomplished through the study of the production of various popular and traditional music styles, specifically in the United States. Additionally, students study the music and the musicians of popular music throughout history and learn to recognize and apply aspects of creativity and innovation when developing a new product or business venture. | Y | LEC | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music graduate student |
| MSC | 552 | Popular Music Industry Studies II | Familiarize students with aspects of starting and operating a business in the music industry. Students learn how to start a music production label, how to market new talent and how to release and promote their own music using up-to-date on- and offline promotion and marketing tools. | N | LEC | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music graduate student |
| MSC | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): Music graduate student |
| MSC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MSE | 208 | Patterns in Nature | Examines topics from optics to analytical techniques. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 4 | SQ | Credit is allowed for only MSE 208 or PHS 208 |
| MSE | 211 | Introduction to Mechanics of Materials | Topics include stress, strain, elasticity, axial loading, torsion, bending, yield criteria, fracture, general energy methods and Castigliano's Theorem. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): PHY 121; PHY 122; MSE 250 with a C or better |

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| MSE | 212 | Microstructure and Properties Lab | Lab experiments introducing optical and electron microscopy techniques, metallography and microstructure of metals, effects of composition and processing, and compositional identification. | N | LAB | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1 | | Prerequisite(s): MSE 215; MSE 250 OR Visiting University Student |
| MSE | 215 | Materials Synthesis | Introduces contemporary techniques for synthesizing both traditional and novel materials and the corresponding correlation to synthesized materials properties. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Pre- or corequisite(s): MSE 250 with C or better if completed OR Visiting University Student |
| MSE | 250 | Structure and Properties of Materials | Basic concepts of material structure and its relation to properties. Application to engineering problems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): CHM 114 or 113 with Pre- or corequisite(s): CHM 116 OR Visiting University Student |
| MSE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-4 | | |
| MSE | 301 | Materials and Civilization | Focuses on exploring how materials technology can change people's lives. Traces how societies evolved based on the access to materials and the ability to exploit them and trade them among nations. Studies the role of materials in a variety of contexts such as food, art, warfare, transportation, medicine, information and energy from the Stone Age through the industrial revolution to the modern world. Analyzes the connection between the dramatic developments in civilization and advances in materials through the lens of structure, properties and processing of materials. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): minimum junior standing OR Visiting University Student |
| MSE | 308 | Sensing the World | Project-oriented science course develops critical thinking and technical skill using Internet modules on the five senses. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 4 | SQ | Prerequisite(s): MSE 208 OR Visiting University Student |
| MSE | 330 | Thermodynamics of Materials | Principles of statistical mechanics, statistical thermodynamics of single crystals, solutions, phase equilibrium, free energy of reactions, free electron theory, and thermodynamics of defects. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student or Materials Science and Engineering minor; MSE 250 with C or better; Pre- or corequisite(s): MAT 274 or 275 with C or better if completed OR Visiting University Student |
| MSE | 335 | Materials Kinetics | Introduces kinetics in processing of materials as illustrated through real-world materials processing examples. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student or students with approved Materials minor; MSE 330 |
| MSE | 355 | Structure and Defects | Intermediate-level grounding in crystallography, crystal defects, surfaces and interfaces. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prereq(s): Fulton Engineering undergrad stdnt or Material Scie & Engineering minor; MSE 250 w/ C or better; Pre- or coreq(s): MAT 267 or 272 w/ C or better if completed; MAT 242, 342, or 343 OR Fulton Engineering grad stdnt OR Visiting University Student |
| MSE | 356 | Thin Film and Microelectronic Devices Lab | Lab experiments correlating atomic structure, defects and microstructure of processed metals, ceramics polymers and composites to their mechanical and thermal properties. | N | LAB | N | GNA | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1 | | Prerequisite(s): MSE 212; Pre- or corequisite(s): MSE 355 OR Visiting University Student |
| MSE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-4 | | |
| MSE | 415 | Mathematical and Computer Methods in Materials | Mathematical, computational, and statistical methods and computer programming used to model materials science phenomena and materials engineering applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | CS | Prerequisite(s) w/ C or better: Fulton Engr undergrad stdnt or Materials Scie & Engr minor; MAT 267 or 272; MAT 274 or 275; MSE 250; Credit is allowed for only MSE 415 or MSE 511 or MSE 598 (Math & Comp Methods in Materials) OR Visiting University Student |
| MSE | 420 | Advanced Metallurgical Alloys and Processes | Phase diagrams, structural alloys, additive manufacturing and metallurgy processing, materials selection and high entropy alloys. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student; MSE 355 with C or better; Credit is allowed for only MSE 420 or MSE 514 |
| MSE | 421 | Physical Metallurgy Laboratory | Focuses on analysis of microstructure of metals and alloys and includes correlation with mechanical properties to some extent. | N | LAB | N | GNA | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1 | | Prerequisite(s): Materials Science and Engineering Program BSE major or minor; MSE 355 with C or better |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|---|
| MSE | 435 | Computational Materials Science and Engineering | Computer simulation has become a tool for the advancement of our understanding of fundamental material physics and practical material applications. Provides an introductory understanding of concepts and techniques for the modeling and simulations of materials on a wide spectrum of length scales, ranging from atomic to macroscopic. Accordingly, discusses a variety of computational modeling: particle-based simulations (Monte-Carlo and molecular dynamics); mesoscale methods (cellular automaton and phase-field modeling); and continuum models (finite-element analysis, stochastic microstructure reconstruction). Recommend a background in or working knowledge of a computer programming language (C/ C++ /FORTRAN /MATLAB) linear algebra, differential equations, thermodynamics and statistical mechanics. Reviews the essence of the C/C++ programming language and explains example codes to make the course accessible to students with minimal programming experience. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): MSE 250 with C or better; PHY 121 with C or better; Credit is allowed for only MSE 435 or MSE 494 (Introduction to Computational Materials) or MSE 535 or MSE 598 (Introduction to Computational Materials) OR Visiting University Student |
| MSE | 440 | Mechanical Behavior of Materials | Effects of environmental and microstructural variables of mechanical properties, including plastic deformation, fatigue, creep and brittle fracture. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Materials Science and Engineering BSE major or minor; MSE 335; MSE 355 with C or better; Credit is allowed for only MSE 440 or MSE 516 OR Visiting University Student |
| MSE | 442 | Fatigue, Fracture, and Creep of Materials | Relationship between microstructure and fracture; fatigue and creep properties of materials. Environmental effects and recent developments. Current theories and experimental results. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student or Materials minor; MSE 250 with C or better; Credit is allowed for only MSE 442 or MSE 494 (Fatigue, Fracture, Creep) or MSE 540 |
| MSE | 450 | Introduction to Materials Characterization | Introduces materials characterization techniques for analysis of thin films and bulk materials by TEM, SEM, XRD, XPS, and AES. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student or Materials minor; PHY 131; MSE 355; Credit is allowed for only MSE 450 or MSE 510 |
| MSE | 451 | Nanomaterials and Electronics Characterization Lab | Lab for materials characterization techniques for analysis of thin films and bulk materials by TEM, SEM, XRD, XPS, and AES. | N | LAB | N | GNA | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1 | | Prerequisite(s): MSE 356; Pre- or corequisite(s): MSE 450 OR Visiting University Student |
| MSE | 457 | Quantum Mechanics for Understanding Properties of Atoms and Solids | The effect on quantum mechanics on the electronic structure and properties of atoms and solid materials. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering student or Materials Science and Engineering minor; MAT 275 with C or better; MSE 250 with C or better; PHY 131 with C or better OR Visiting University Student |
| MSE | 458 | Electronic, Magnetic, and Optical Properties | Electrical, optical, and magnetic properties of solids and microstructure effects as examined through materials-based examples. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Materials Science and Engineering student; MSE 457; Credit is allowed for only MSE 458 or MSE 515 |
| MSE | 460 | Nanomaterials in Energy Production and Storage | Emphasizes the relationship among fundamental materials properties, chemical and energy transformation, as well as energy storage. Applications include the role of materials for photovoltaics, nanocatalysts, batteries, and fuel cells. Stresses fundamental principles and charge transfer processes in nanostructured materials in addressing energy needs. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student or Materials minor; MSE 250; Credit is allowed for only MSE 460 or MSE 494 (Nanomat. In Energy Production) or MSE 560 or MSE 598 (Nanomat. In Energy Production) |
| MSE | 466 | Electrochemical Energy Storage and Conversion | Electrochemical concepts relevant to real-world devices. Discusses basic electrochemical principles with an emphasis on solid-state electrochemistry and the nature of the solid-electrolyte interface in order to give students the background knowledge needed for understanding and analyzing real device performance of, e.g., batteries, solar hydrogen generation, photoelectrochemical cells, electrocatalysts, electrochemical capacitors, fuel cells. Critically evaluates media reports and journal publications describing electrochemical energy conversion and storage devices. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prereq(s): CHM 114 or 116; PHY 121; PHY 131; MSE 250; Pre- or coreq(s): CHE 342, MAE 241 or MSE 330; Credit for only CHE 494, CHE 598, MAE 494, MAE 598, MSE 494, MSE 598, or NAN 598 (Electrochemistry Energy Conversion & Storage) or MSE 466 or MSE 566 |
| MSE | 470 | Polymers and Composites | Relationship among chemistry, structure, and properties of engineering polymers. Design, properties, and behavior of fiber composite systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prereq(s) w/ C or better: Fult Engrn undergrad or Materials minor; CEE 213, MAE 213, or MSE 211; MAT 242, 342, or 343; MSE 250 or Aerospace major w/ MAE 325; Credit allowed for only MAE 455 or MAE 513 or MSE 470 or MSE 513 OR Visiting University Student |
| MSE | 471 | Introduction to Ceramics | Principles of structure and property relations in ceramic materials. Processing techniques. Applications in mechanical, electronic, and superconducting systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering undergraduate student or Materials minor; MSE 355 OR Visiting University Student |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|--|
| MSE | 476 | Growth and Processing of Semiconductors | Briefly introduces semiconducting materials and emphasizes the characteristics of defects in semiconductors and their influence on electronic properties. Covers principles of growth of bulk crystals, epitaxial growth, oxidation, diffusion, ion implantation, and metallization. Discusses the introduction of defects during growth and processing of semiconductors and their influence on device behavior. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering major or Materials minor; MSE 250 with C or better; Credit is allowed for only MSE 476 or MSE 519 |
| MSE | 482 | Materials Engineering Design | Principles of the design process. Feasibility and optimization. Manufacturing processes, materials selection, failure analysis, and economics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | L | Prerequisite(s): Materials Science and Engineering BSE major; ENG 101, 105, or 107 with C or better; MSE 211 with C or better; MSE 355 with C or better OR Visiting University Student |
| MSE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-12 | | |
| MSE | 489 | Capstone Design Project I | Covers how to plan an open-ended design project, including experience with technical writing and technical presentations. Both MSE 489 & 490 must be taken to secure L General Studies designation. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1 | L | Prerequisite(s): Materials Science and Engineering BSE major; ENG 101, 105, or 107 with C or better; MSE 451; Pre- or corequisite(s): MSE 482 |
| MSE | 490 | Capstone Design Project II | Students learn how to conduct an open-ended design project, including experience with technical writing and technical presentations. Both MSE 489 and 490 must be taken to secure L General Studies designation. | N | RSC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 2 | L | Prerequisite(s): Materials Science and Engineering Program BSE major; ENG 101, 105, or 107 with C or better; MSE 482; MSE 489 |
| MSE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-6 | | Prerequisite(s): Barrett Honors student |
| MSE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MSE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-4 | | Prerequisite(s): Fulton Engineering undergraduate student OR Visiting University Student |
| MSE | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-7 | | Prerequisite(s): Fulton Engineering undergraduate or graduate student |
| MSE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | GNA | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-3 | | |
| MSE | 501 | Linear Algebra in Engineering | Development and solution of systems of linear algebraic equations. Applications from mechanical, structural, and electrical fields of engineering. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Non-Computer Engineering or Non-Electrical Engineering graduate student; Credit is allowed for only EGR 501 or EGR 598 (Applied Linear Algebra for Engineers) or MAE 501 or MSE 501 |
| MSE | 502 | Partial Differential Equations in Engineering | Development and solution of partial differential equations in engineering. Applications in solid mechanics, vibrations, and heat transfer. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only MAE 502 or MSE 502 |
| MSE | 503 | Concepts in Materials Science | Familiarizes students with fundamental concepts and terms used in MSE. Introduces the relationship between structure-processing-property-performance-characterization. From this point, explores crystal structure, symmetry and defects. After which, introduces fundamental theory of diffusion, kinetic and phase transformation and gives examples of their impact on the material. Next, presents the correlation between structure-processing-property on performance. Throughout the course, exposes concepts of materials characterization. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Engineering graduate students; Credit is allowed for only MSE 503 or MSE 598 (Concepts in Materials Science) |
| MSE | 510 | Introduction to Materials Characterization | Introduces materials characterization techniques for analysis of thin films and bulk materials by TEM, SEM, XRD, XPS, and AES. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Pre-requisite: Graduate Engineering student; Credit is allowed for only MSE 450 or 510 |
| MSE | 511 | Mathematical and Computer Methods in Materials | Mathematical, computational and statistical methods and computer programming used to model materials science phenomena and materials engineering applications. Prior completion of undergraduate-level calculus, differential equations, and linear algebra needed for success in the course. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only MSE 415 or MSE 511 or MSE 598 (Mathematical and Computer Methods in Materials) |
| MSE | 513 | Polymers and Composites | Relationship among chemistry, structure, and properties of engineering polymers. Design, properties, and behavior of fiber composite systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Pre-requisite: Graduate Engineering or Science & Engr of Materials student; Credit is allowed for only MAE or MSE 513 |
| MSE | 514 | Advanced Metallurgical Alloys and Processes | Phase diagrams, structural alloys, additive manufacturing and metallurgy processing, materials selection and high entropy alloys. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton graduate student; Credit is allowed for only MSE 420 or MSE 514 |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|---|
| MSE | 515 | Introduction to Electronic, Magnetic, and Optical Properties | Electrical, optical and magnetic properties of solids and microstructure effects as examined through materials-based examples. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only MSE 458 or MSE 515 |
| MSE | 516 | Mechanical Behavior of Materials | Effects of environmental and microstructural variables of mechanical properties, including plastic deformation, fatigue, creep and brittle fracture. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only MSE 440 or MSE 516 |
| MSE | 517 | Introduction to Ceramics | Principles of structure, property relations in ceramic materials. Processing techniques. Applications in mechanical, electronic, and superconducting systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Pre-requisite: Graduate Engineering OR Science and Engineering of Materials student |
| MSE | 519 | Growth and Processing of Semiconductors | Briefly introduces semiconducting materials and emphasizes the characteristics of defects in semiconductors and their influence on electronic properties. Covers principles of growth of bulk crystals, epitaxial growth, oxidation, diffusion, ion implantation, and metallization. Discusses the introduction of defects during growth and processing of semiconductors and their influence on device behavior. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Pre-requisite: Graduate Engineering student; Credit is allowed for only MSE 476 or 519 |
| MSE | 523 | Structural and Mechanical Properties of Materials | Designed for first-year PhD students in the School of Materials. Topics include crystallography theory, tensor properties of materials, elasticity, crystal defects, dislocation theory, plasticity, fracture, fatigue, and creep. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| MSE | 524 | Advanced Thermodynamics | Equilibrium thermodynamics. Chemical reactions, phase equilibria, and stability in multicomponent systems. Aqueous solutions and electrochemistry. Introduces statistical thermodynamics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only CHM 541 or MSE 524 |
| MSE | 525 | Fundamentals of Electrical, Optical, and Magnetic Materials and Device Applications | Behavior of materials; electronic band structure, electronic and ionic conduction, electronic processes in semiconductors, dielectric, optical and magnetic properties. Emphasizes the fundamental understanding of material properties while establishing structure-property relations. Aims to link these properties to applications in optoelectronics, photonics and optics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only MSE 525 or MSE 527 or MSE 598 (Fund of Elec, Optical, & Mag Matls & Device Apps) or NAN 512 or PHY 482 or PHY 512 |
| MSE | 526 | Materials Physics I | Fundamentals of materials physics: crystal structure, diffraction, elasticity, point defects, dislocations, lattice vibrations, thermal properties, periodic potential, band structure. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only MSE 526 or NAN 511 or PHY 511 |
| MSE | 527 | Materials Physics II | Electronic behavior of materials: energy bands, electronic properties, metals, semiconductors, insulators, optical properties, magnetic properties, superconductivity, biophysics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; MSE 526; Credit is allowed for only MSE 525 or MSE 527 or MSE 598 (Fund of Elec, Optical, & Mag Matls & Device Apps) or NAN 512 or PHY 482 or PHY 512 |
| MSE | 535 | Computational Materials Science and Engineering | Computer simulation has become a tool for the advancement of our understanding of fundamental material physics and practical material applications. Provides an understanding of concepts and techniques for the modeling and simulations of materials on a wide spectrum of length scales, ranging from atomic to macroscopic. Accordingly, discusses a variety of computational modeling: particle-based simulations (Monte-Carlo and molecular dynamics), mesoscale methods (cellular automaton and phase-field modeling), and continuum models (finite-element analysis, stochastic microstructure reconstruction). Recommend a background in/working knowledge of a computer programming language (C/C++/ FORTRAN/ MATLAB), linear algebra, differential equations, thermodynamics and statistical mechanics. Reviews the essence of the C/C++ programming language and explains example codes to make the course accessible to students with minimal programming experience. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only MSE 435 or MSE 494 (Introduction to Computational Materials) or MSE 535 or MSE 598 (Introduction to Computational Materials) |
| MSE | 540 | Fracture, Fatigue, and Creep | Relationship between microstructure and fracture; fatigue and creep properties of materials. Environmental effects and recent developments. Current theories and experimental results. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Pre-requisites: Graduate Engineering student; Credit is allowed for only MSE 442, 494 (Fatigue, Fracture, Creep) or 540 |
| MSE | 546 | Surfaces and Thin Films | Thermodynamics and kinetics of surface structures and thin film processes. Ultra-high vacuum techniques for examining surfaces. Case studies of physics, chemistry and nanoscience applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only NAN 546 or MSE 546 or PHY 546 |
| MSE | 548 | Fundamentals of Semiconductor Packaging | Multidisciplinary foundation course in addressing electrical, thermal, materials, chemical, manufacturing and reliability problems in semiconductor packaging. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only CHE 518 or EEE 518 or MAE 518 or MSE 548 |
| MSE | 550 | Advanced Materials Characterization | Analytical instrumentation for characterization of materials; SEM, SIMS, Auger, analytical TEM, and other advanced research techniques. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|--|
| MSE | 551 | Applied Machine Learning for Mechanical Engineers | Machine learning impacts every aspect of our daily lives, from recognizing faces in a crowd to designing drugs to treat epidemic diseases. There is no doubt that, as a result of the impact, the job market for future engineers will be drastically different. This course equips engineering students with a working understanding of machine learning and better prepares them for the future job market. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only MAE 451 or MAE 551 or MAE 598 (Machine Learning for Engineers) or MSE 551 or MSE 598 (Machine Learning for Engineers) |
| MSE | 552 | Electron Microscopy I | Kinematical and dynamical electron diffraction and microscopy. Defect structure and composition using STEM imaging, x-ray and electron-energy-loss spectroscopy. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only MSE 552 or NAN 552 or PHY 552 or SEM 552 |
| MSE | 553 | Electron Microscopy Laboratory I | Lab support for MSE 552. | N | LAB | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Corequisite(s): MSE 552 or PHY 552; Credit is allowed for only MSE 553 or PHY 553 |
| MSE | 554 | Electron Microscopy II | Determination of structure and composition of materials using high-resolution imaging, convergent-beam diffraction, and electron holography. Novel developments and applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only MSE 554 or PHY 554 |
| MSE | 555 | Electron Microscopy Laboratory II | Lab support for MSE 554. | N | LAB | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only MSE 555 or PHY 555 |
| MSE | 560 | Nanomaterials in Energy Production and Storage | Emphasizes the relationship among fundamental materials properties, chemical and energy transformation, as well as energy storage. Applications include the role of materials for photovoltaics, nanocatalysts, batteries, and fuel cells. Stresses fundamental principles and charge transfer processes in nanostructured materials in addressing energy needs. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): graduate Chemistry, Engineering or Physics major. Credit is allowed for only MSE 460 or MSE 494 (Nanomaterials In Energy Production and Storage) or MSE 560 or MSE 598 (Nanomaterials In Energy Production and Storage) or NAN 560 |
| MSE | 561 | Phase Transformations, Kinetics, and Diffusion in Solids | Hetero/homogeneous diffusion-controlled transformations, order-disorder transformations, and shear martensitic) athermal transformations in solids. Courses in advanced thermodynamics and structure and properties of materials are strongly recommended in preparation for this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| MSE | 566 | Electrochemical Energy Storage and Conversion | Electrochemical concepts relevant to real-world devices. Discusses basic electrochemical principles with an emphasis on solid-state electrochemistry and the nature of the solid-electrolyte interface in order to give students the background knowledge needed for understanding and analyzing real device performance of, e.g., batteries, solar hydrogen generation, photoelectrochemical cells, electrocatalysts, electrochemical capacitors, fuel cells. Critically evaluates media reports and journal publications describing electrochemical energy conversion and storage devices. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Materials Scie, Chem Engineering, Mech Engineering, Chem or Physics graduate stdnt; Credit for only CHE 494, CHE 598, MAE 494, MAE 598, MSE 494, MSE 598, or NAN 598 (Electrochemistry Energy Conversion & Storage) or MSE 466 or MSE 566 |
| MSE | 571 | Quantum Physics | Review modern physics, chemistry, math. Differential equation, operator, matrix formulations. Free particle, bound state problems. Examples from physics, chemistry and nanoscience. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only MSE 571 or NAN 571 or PHY 571 |
| MSE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z2 | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-12 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| MSE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | SEM | Y | Z2 | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-12 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| MSE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | Z2 | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-12 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| MSE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-12 | | Pre-requisite: Materials & Science Engineering Masters student |
| MSE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-12 | | Prerequisite(s): Ira A. Fulton Engineering graduate student |
| MSE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1 | | Prerequisite(s): Fulton Engineering graduate student |
| MSE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-4 | | Prerequisite(s): Fulton Engineering graduate student |

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|---------|-------------|---------------------------------------|---|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|---|
| MSE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-12 | | Pre-requisite: Materials & Science Engineering Masters student |
| MSE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-15 | | Pre-requisite: Materials Science and Engineering Program PhD student |
| MSE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1 | | Prerequisite(s): Fulton Engineering graduate student |
| MSE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Materials Science and Engineering Program | 1-15 | | Pre-requisite: Materials Science and Engineering Program PhD student |
| MSI | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): Music graduate student |
| MSI | 601 | Contemporary Topics in Music Research | Required for all PhD in Music students. Content includes readings and discussions of topics drawn from the arts and other disciplines that impact and interact with music, music practices, and music research. Requires literature review or research paper. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): doctoral Music students |
| MSI | 602 | Current Issues in Music Research | Required for all PhD in Music students. Content includes readings and discussions of topics drawn from current public policies, events, and popular culture that impact and interact with music, music practices, and music research. Requires literature review or research paper. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): doctoral Music students |
| MSI | 755 | Historical Research in Music | Required for all PhD in Music students. Knowledge and insights related to conducting historical research in music. Includes development of a mini-proposal for a dissertation on the history of music education, or draft of a historical research paper suitable for presentation or publication. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): doctoral Music students |
| MTC | 123 | Beginning Composition | Intended for freshmen and sophomores in the composition concentration. Introduces composing. May be repeated for credit. | N | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Theory and Composition (Composition) BMUS major OR Visiting University Student |
| MTC | 125 | Music Theory I | Notation, scales, keys, modes, intervals, chords, basic part writing and composition. Development of related aural skills through sightsinging and dictation. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Media Arts and Sciences (Music) BA major, Music major who has passed audition, Performance and Movement BA major, Music Performance minor, or Music Theatre minor |
| MTC | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MTC | 221 | Music Theory II | Focuses on essential elements of Western European and American 18th-century art music including rhythm, meter, pitch and form. Begins with a review of basic components of musical structure. The following units focus on harmonic progressions, meter and flow in music with words as well as phrase-level forms. Engages with two primary repertoires--common practice music (i.e., Western European "classical" music ca. 1650-1850) and popular music (i.e., vernacular genres, ca. 1950-present). | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music major who has passed audition; MTC 125 with C or better |
| MTC | 222 | Music Theory III | Styles, techniques and idioms of 19th-century music; emphasizes analysis, composition (part writing) and related aural skills, with applications for performance. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music major who has passed audition; MTC 221 with C or better |
| MTC | 223 | Music Theory: 20th Century | Styles, techniques, and idioms of 20th-century music; emphasizes innovative treatments of musical elements, analysis, and composition; related aural skills. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music major who has passed audition; MTC 222 with C or better; Credit is allowed for only MTC 223 or MTC 226 |
| MTC | 224 | Arranging for Popular Musicians | Explores the contemporary practice of composition, arrangement and notation for popular music ensembles and productions. Through the study of scores, recordings and transcriptions, students gain an understanding of contemporary techniques. From this study, they develop their own ideas and apply understanding through original work. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MSC 115 with C or better; MTC 125 with C or better; MTC 221 with C or better; Credit is allowed for only MTC 224 or MSC 294 (Arranging) OR Visiting University Student |
| MTC | 225 | Popular Music Theory | Builds upon the broad foundation of music theory built in previous courses, shifting focus toward engaging with music theory through the lens of contemporary popular music and specific styles/genres. Explores concepts of harmony, melody, rhythm, form and arrangement as it pertains to a popular music repertoire and deepens understanding of the tools in context of students' own musicianship. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MTC 125 with C or better; MTC 221 with C or better; MTC 222 or 224 with C or better OR Visiting University Student |

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| MTC | 226 | Theory and Analysis of 20th- and 21st-Century Music | Explores the materials, techniques, textures and sounds of 20th- and 21st-century music, broadly conceived. Critically examines the musical constructs and concepts learned in previous semesters with the aim of developing a deeper theoretical understanding of what these concepts entail. Broken down into five main topics: notation, pitch structures, timbre, rhythm and form. Examines and explores within each of these topics the nature of these components; how they are organized, created and used by composers; and how they are perceived, understood and interpreted by listeners and performers. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MTC 125 with C or better; MTC 221 with C or better; MTC 222 with C or better; Credit is allowed for only MTC 223 or MTC 226 OR Visiting University Student |
| MTC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MTC | 320 | Modal Counterpoint | Counterpoint based on 16th-century vocal polyphonic style. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music student; MTC 221 with C or better |
| MTC | 321 | Tonal Counterpoint | Counterpoint based on 18th-century polyphonic style. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music major; MTC 222 with C or better OR Visiting University Student |
| MTC | 323 | Composition | Writing music compositions, with emphasis on basic techniques and smaller structures. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MTC 123 with C or better OR Theory and Composition (Composition) BMUS or Theory and Composition (Theory) BMUS major; minimum 55 hours OR Visiting University Student |
| MTC | 327 | Intermediate Form and Analysis | Organizing elements in the most important contrapuntal and homophonic musical forms from the Renaissance through the 19th century. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music student; MTC 222 with C or better OR Visiting University Student |
| MTC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MTC | 415 | Scoring for Instrumental Jazz Ensembles I | Analyzes scores and recordings, application of orchestration and four and five-part harmonization techniques frequently used in arranging for the contemporary jazz ensembles and studio orchestra. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music major who has passed audition; MUP 236 with C or better |
| MTC | 416 | Scoring for Instrumental Jazz Ensembles II | Analyzes scores and recordings, application and creation of new arrangements for contemporary jazz ensembles and/or studio orchestra. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music major who has passed audition; MTC 415 (MTC 315) with C or better |
| MTC | 422 | Musical Acoustics | Properties of sound and tone. Harmonic series, instruments, the ear, auditorium acoustics, and the reproduction of sound. Assumes a thorough knowledge of musical notation, intervals, scales, and harmony, or 2 years of music theory. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Music student; Passed audition |
| MTC | 425 | Studies in 20th- and 21st-Century Theory | Continued development of analytical techniques and aural skill, with an examination of theoretical systems applicable to 20th- and 21st-century music. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music student who has passed audition; MTC 223 with C or better |
| MTC | 428 | Advanced Form and Analysis | Organizing principles of the large forms of musical composition in the 19th and 20th centuries. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Music student; MTC 223 with C or better |
| MTC | 429 | Canon and Fugue | Writing of canons and fugues in tonal style. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music student; MTC 321 with C or better OR Visiting University Student |
| MTC | 430 | 20th- and 21st-Century Counterpoint | Counterpoint studies utilizing 20th- and 21st-century idioms. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music student; MTC 223 with C or better OR Visiting University Student |
| MTC | 433 | Orchestration | Studies scoring music for full and chamber orchestras; examines individual orchestral instruments (characteristics and performance techniques). Requires a working knowledge of a computer music notation program. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music major |
| MTC | 436 | Electronic Studio Techniques I | The study of computer music systems emphasizing advanced audio synthesis and resynthesis as well as their application to professional compositional environments. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Digital Culture (Music) major or MTC 223 OR Visiting University Student |
| MTC | 437 | Electronic Studio Techniques II | Principles of digital electronic music systems and their applications in the composition of electronic music. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| MTC | 440 | Jazz Theory and Ear Training | Advanced study of jazz harmonic systems. Daily oral drills. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| MTC | 441 | Jazz Composition | Creative writing in the smaller forms and in the idiom of jazz. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2-3 | | Prerequisite(s): Music student; MTC 440; MUP 236 with C or better |
| MTC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | |
| MTC | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | | Prerequisite(s): Barrett Honors student |
| MTC | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MTC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |

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| MTC | 495 | Final Project | Half recital of compositions or approval of a large-scale composition or a research paper. | N | RSC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 0 | | |
| MTC | 496 | Theory Project | Supervised individual writing project dealing with music theory. | N | RSC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | |
| MTC | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | |
| MTC | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): Music graduate student |
| MTC | 516 | Baroque Music | Detailed analysis of selected examples of music from the Baroque period. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Graduate Music student |
| MTC | 517 | Classic Music | Detailed analysis of selected examples of music from the Classic period. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Graduate Music student |
| MTC | 518 | Romantic Music | Detailed analysis of selected examples of music from the Romantic period. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Graduate Music student |
| MTC | 519 | Late 19th-Early 20th Century Music | Detailed analysis of selected examples of music from the late 19th and early 20th centuries. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Graduate Music student |
| MTC | 520 | Analytical Techniques | Analytical techniques systematically applied to music. Concentration on structural and compositional procedures. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Graduate Music student |
| MTC | 523 | Advanced Composition | Advanced music composition, including complex techniques and larger structure. May be repeated for credit. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2-3 | | Pre-requisite: Graduate Music student |
| MTC | 525 | Pedagogy of Theory | Practices and principles of teaching music theory. Emphasizes most desirable and practical offerings possible. Comparative studies of existing practices. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Graduate Music student |
| MTC | 535 | Survey of Rhythm and Meter Studies | Exposes students to seminal research in rhythm and meter studies with the aim of introducing a range of methodologies and common issues found in this area of research. Reading assignments include music theory and music cognition literature relating to questions of rhythm and meter in diverse repertoires, including classical, post-tonal, world, and popular music genres. Students reflect on the strengths and weaknesses of various approaches, analytical techniques, and the implications that theories of rhythm and meter have for performance practice and write and present a final research paper on a topic relating to rhythm and meter studies. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music graduate student; Credit is allowed for only MTC 535 or MTC 591 (Survey of Rhythm and Meter Studies) |
| MTC | 540 | Jazz Theory and Ear Training | Surveys some of the most influential trends in the jazz tradition with in-depth analysis of harmonic systems, linear elements, and compositional strategies. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Graduate Music student |
| MTC | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): Music graduate student |
| MTC | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre-requisite: Graduate Music student |
| MTC | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): Music graduate student |
| MTC | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre-requisite: Graduate Music student |
| MTC | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | |
| MTC | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | |
| MTC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): Music graduate student |
| MTC | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre-requisite: Graduate Music student |
| MTC | 723 | Advanced Composition | Special problems in writing in complex forms and textures. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): doctoral Music student |

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| MTC | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): doctoral Music student |
| MTC | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-15 | | Prerequisite(s): doctoral Music student |
| MTC | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | |
| MTC | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-15 | | Prerequisite(s): doctoral Music student |
| MTE | 210 | Mentored Tutoring Internship | Introduces math education students to issues of balancing the content of precalculus mathematics with the needs of someone learning it. Addresses core issues, including articulating what is involved in learning the mathematical idea(s); interpreting students' questions; analyzing student thinking and inferring their underlying rationale from a learner-centered perspective; techniques of question-posing, problem-posing, and instructional scaffolding. | N | LEL | N | GNA | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1 | | Co-requisite: MAT 207 |
| MTE | 250 | Technology and Mathematical Visualization | Uses several software packages for exploring mathematics and for preparing mathematical materials, starting from introductory skills and leading to advanced techniques. Places particular emphasis on using computer software with the aim of visualizing mathematical relationships, structures, and processes. | N | LEL | N | GNA | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 207 with C or better; MAT 270 with C or better; MTE 210 with C or better OR Visiting University Student |
| MTE | 280 | Numbers, Operations and Proportional Reasoning for K-8 Teaching | Investigation of mathematical principles and processes regarding the real number system and its properties develop number sense and qualitative reasoning abilities. Designed to meet the requirements for preservice elementary school teachers. | N | LEC | N | Z1 | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): General Studies MA course with C or better OR Visiting University Student |
| MTE | 281 | Investigating Space: Geometry, Measurement, and Visualization | Explores three aspects of geometry: spatial visualization, measurement, and proof. Uses visualization, spatial reasoning, and geometric modeling to solve problems. Provides opportunities for participants (1) to use physical models, technology, and pattern-finding strategies to identify properties of and develop formulas for measuring two- and three-dimensional shapes; and (2) to develop powerful ways of thinking to justify geometric relationships | N | PRA | N | Z1 | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): General Studies MA course with C or better OR Visiting University Student |
| MTE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| MTE | 298 | Honors Directed Study | Independent study or practicum under the supervision of a faculty member. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| MTE | 301 | Investigating Change: Patterns, Functions, and Modeling | Examines different conceptions of algebra as the study of (1) generalized arithmetic, (2) reasoning with symbols, (3) reasoning with patterns and functions, (4) structure in the number system, and (5) modeling. Distinguishes arithmetic from algebraic reasoning, and develops an appreciation for the pervasiveness of the function concept in the K-8 school mathematics curriculum. Features algebraic thinking and representation using algebra tiles and other concrete models, realistic problems, dynamic geometry software, graphing calculators, and a variety of virtual tools and Web sites. Topics include, but are not limited to: patterns, relations, functions and covariational thinking; multiple conceptions of quantity, variables, constants, and unknowns; inductive, deductive, and analogical reasoning; rate of change and proportional thinking; algebra learning trajectories; and comparisons of additive vs. multiplicative, absolute vs. relational, and arithmetic vs. algebraic thinking. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| MTE | 310 | Number Sense, Spatial Relationships, and Measurement and Data for Early Childhood Education Teaching | Focuses on key concepts in counting, number operations, spatial relations, measurement and data in early childhood education. Prospective teachers acquire content knowledge by using physical models, technology and pattern-finding strategies to explore the progressions of these concepts from birth to grade 3. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MAT 117 or 142 or higher; MTE 280 OR Visiting University Student |

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| MTE | 311 | Geometry, Algebra, Statistics and Probability for K-8 Teaching | Focuses on key concepts needed to prepare K-8 teacher candidates to teach in algebra, geometry, measurement, data, probability and statistics. Prospective teachers will (1) use physical models, technology, and pattern-finding strategies to explore the trajectories of these concepts; and (2) develop strategies to predict, generalize, and justify decisions based on data, statistics and probability. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MTE 280 OR Visiting University Student |
| MTE | 320 | Conceptual Foundations of 7-12 Mathematics Curricula and Assessment | Focuses on concepts of mathematics curricula and their relationships to perspectives on learning, instruction, and assessment. Using a variety of participation formats (e.g., individual and small group work, and whole group discussions) and directed activities, participants examine curricular principles underlying the historical development of mathematics curricula and assessment, and current curricula and curricular recommendations and controversies surrounding them. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 207 with C or better; MTE 210 with C or better; MTE 250 with C or better |
| MTE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| MTE | 412 | Mathematics in Elementary Schools | Methods of teaching mathematics to all students at the K-8 level, instructional planning and assessment. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours; Credit is allowed for only EED 412 or MTE 412 or SPE 410 |
| MTE | 430 | The Development of Mathematical Thinking | This capstone course requires students' sustained engagement with, and analysis of, artifacts from research on learning mathematics from instruction. The artifacts include: curricular/instructional task sequences, samples of student work, video-cases showcasing students' involvement in instruction, problem-solving interviews, and teaching experiments. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MTE 320 with C or better OR Visiting University Student |
| MTE | 482 | Methods of Teaching Mathematics in Secondary School | Examines secondary school curricular material and analyzes instructional devices. Teaching strategies, evaluative techniques, diagnosis, and remediation and problem solving. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 310 with C or better; admission to the Professional Program |
| MTE | 483 | Mathematics in the Secondary School | Topics in geometry, number theory, algebra, and analysis. Emphasizes unifying principles. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 310 with C or better |
| MTE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | |
| MTE | 485 | Methods of Teaching Standards-Based Middle Grades and Early Secondary Mathematics | Experiential introduction to standards-based teaching in middle and early secondary mathematics grades 6-9. Targets five aspects of a mathematics teacher's work, including knowledge of (1) mathematics content; (2) learning; (3) learners; (4) teaching; and (5) curriculum and assessment. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; MAT 271; minimum 56 hours |
| MTE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| MTE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MTE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| MTE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-3 | | |
| MTE | 501 | Research in Undergraduate Mathematics Education I | Research in Undergraduate Mathematics Education I (RUME I) covers academic research in (undergraduate) mathematics education. Develops the ability to read, discuss, criticize and draw practical conclusions from research in (undergraduate) mathematics education, all with the overarching aim of broadening perspective on areas of past and current mathematics education research. Research on the learning and teaching of undergraduate mathematics is one of the foci of the course. Students read research literature drawn from a variety of content areas and grade bands: quantitative reasoning, early learning of algebra, proportional reasoning, algebra and functions, calculus, statistics and probability. Prepares for Part 1 of the qualifying exam in mathematics education | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only MTE 501 or MTE 598 (Research in Undergraduate Mathematics I) |

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| MTE | 502 | Research in Undergraduate Mathematics Education II | RUME II is the second course in a core four-course sequence in the mathematics education doctoral program. Explores research on problems in the teaching and learning of algebra, geometry, calculus and probability as seen from multiple theoretical perspectives. Develops ability to read, discuss, criticize and draw practical conclusions from research in mathematics education, all with the overarching aim of broadening perspectives on areas of past and current mathematics education research. RUME II builds on its prerequisite in a subtle but important way. Increased emphasis and focus on theory in mathematics education research--a consideration of various types of theories and the roles they may play in the research endeavor. Also prepares for the required qualifying exam | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MTE 501; Credit is allowed for only MTE 502 or MTE 598 (Research in Undergraduate Mathematics II) |
| MTE | 503 | Research in Undergraduate Mathematics Education III | RUME III is the third course in a series of mathematics education courses designed to prepare students to conduct independent mathematics education research. Students learn different methods for implementing data collection and analysis, reporting results; and continue to conduct a pilot study with the goal of developing a dissertation proposal from their research. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MTE 502; Credit is allowed for only MTE 503 or MTE 598 (Research in Undergraduate Mathematics III) |
| MTE | 504 | Research in Undergraduate Mathematics Education IV | RUME IV is the fourth and final course in a series of mathematics education courses designed to prepare students to conduct independent mathematics education research. Students continue to conduct a pilot study with the goal of developing a dissertation proposal from their research. Continues developing the student's ability to: synthesize research literature in a specific area of mathematics education, refine research statement and question(s) to advance knowledge in a specific area of mathematics education, refine design and methods for conducting a study, analyze research data using theoretical constructs, describe results of analysis, report findings using theoretical constructs and submit a paper for publication. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MTE 503; Credit is allowed for only MTE 504 or MTE 598 (Research in Undergraduate Mathematics IV) |
| MTE | 585 | Modern Geometry for Teachers | Euclidean, projective, and non-Euclidean geometries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | |
| MTE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | |
| MTE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | |
| MTE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | |
| MTE | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | |
| MTE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1 | | |
| MTE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MTE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | |
| MTE | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | |
| MTE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-15 | | |

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| MTE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1 | | |
| MTE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-15 | | |
| MUD | 521 | Advanced Urban Design Studio I | Explores urban design with emphasis on the nexus of urban systems and the significance ecology plays in the design process. Studio-based course includes reading, presentations by faculty and students, discussion, design research, conceptual design practice, and the public exhibition/presentation of this work in multiple formats. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): Urban Design MUD student; Credit is allowed for only MUD 521 or MUD 590 (Advanced Urban Design Studio I) |
| MUD | 522 | Advanced Urban Design Studio II | Explores urban design with emphasis on urban design and human health. Studio-based course includes reading, presentations by faculty and students, discussion, design research, conceptual design practice and the public exhibition/presentation of this work in multiple formats. | N | STO | N | GNA | Herberger Institute for Design and the Arts | The Design School | 5 | | Prerequisite(s): MUD 521 with C or better; Credit is allowed for only MUD 522 or MUD 590 (Advanced Urban Design Studio II) |
| MUD | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | |
| MUD | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUD | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | |
| MUD | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | |
| MUD | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | |
| MUD | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | |
| MUD | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | Y | Z3 | Herberger Institute for Design and the Arts | The Design School | 1 | | |
| MUD | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-4 | | |
| MUD | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | |
| MUD | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | |
| MUD | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Design School | 1-12 | | |
| MUD | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | |
| MUD | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Design School | 1-12 | | |

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| MUD | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | LEC | Y | Z3 | Herberger Institute for Design and the Arts | The Design School | 1 | | |
| MUE | 101 | The ASU School of Music Experience | Introduces all new first-time ASU students to the unique elements, culture, challenges and opportunities of their university, the School of Music and the Herberger Institute for Design and the Arts. Covers the music education and music therapy programs in the School of Music. | N | REC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Credit is allowed for only MUE 101 or MUE 194 (ASU School of Music Experience for Music Education) OR Visiting University Student |
| MUE | 110 | Introduction to Music Education | Overview of music education and career options. Orientation to student characteristics, teacher roles, teaching qualities, and philosophical and historical foundations. Requires school observations. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisites: Music major |
| MUE | 154 | Gesture and Sound | Covers fundamentals of musical leadership through gestures associated with sounds in the performance of music. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | |
| MUE | 161 | Introduction to Music Therapy | Overview of the profession of music therapy and its applications in mental health, rehabilitation, and special education. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| MUE | 162 | Introduction to Music Therapy Lab | Develops skills needed to lead music experiences in a variety of settings. | N | LAB | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): MTC 221 with C or better; MUE 335 with C or better; MUP 132 with C or better OR Visiting University Student |
| MUE | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MUE | 211 | Music in Recreation | Materials, methods, and organizational structures appropriate for recreational music. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| MUE | 260 | Repertoire for Music Therapy | Music skills repertoire for music therapy, including units on brass, strings, woodwinds, electronic instruments, computer music, and improvisation techniques. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music Therapy major |
| MUE | 261 | Music Therapy Treatment Process | Orientation to preclinical experience with emphasis on observation skills, assessment, goal setting, and professional ethics. Requires off-campus observations. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music student; MUE 161 with C or better |
| MUE | 262 | Music Therapy as a Behavioral Science Lab | Develops skills needed to lead music experiences in a variety of settings. | N | LAB | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Corequisite(s): MUE 261 |
| MUE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MUE | 310 | Music in Early Childhood | Examines music through the lens of the culture(s) of young children, which (though they intersect with adult cultures) are unique, different from adult experiences, and particular to them. Emphasizes the musical content of children's songs as well as the music they hear, and the kinds of musical engagements that are particular to young children. Also emphasizes the uses, functions, and meanings of music for children. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s): ENG 102 with C or better; minimum 30 hours |
| MUE | 311 | Music in the Lives of Children and Youth | Examines the role of music in the lives of young people with particular attention to child and youth learning and development (cognitive, social, emotional, personal/identity, musical). Includes examination and critique of music intended for children and youth (e.g., social and gendered meanings), as well as consideration of how music is related to individual and social identity. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s): BLE 220, RDG 291, SPE 222 or TEL 215, or minimum 30 hours OR Visiting University Student |
| MUE | 317 | Strings Lab | Students apply educational theory to the development and refinement of specialized skills in string teaching. 3 hours per week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisite: Music major; Passed music education interview |
| MUE | 319 | Digital and Hybrid Lab | Provides a foundation for integrating a range of technologies and digital media in music teaching and learning. Encourages critical and creative thinking while considering the possibilities for innovative applications of technology and digital media based upon contemporary curricular, theoretical and pedagogical frameworks. Students demonstrate skills and understanding related to using technology and digital media in the context of musicianship, music teaching and learning. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUE | 321 | Jazz Lab | Jazz rehearsal and performance techniques and repertoire appropriate for rehearsing jazz ensembles in K-12 schools. | N | LEC | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music Education major; Credit is allowed for only MUE 321 or MUE 394 (Jazz Lab) |
| MUE | 323 | Keyboard Lab | Piano keyboard skills appropriate for music educators. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MUP 132 with C or better; minimum 45 hours; Credit is allowed for only MUE 323 or MUE 394 (Keyboard Lab) OR Visiting University Student |

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| MUE | 325 | Voice/Choral Lab | Skills for developing voices and rehearsing choral ensembles. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MUE 110; Credit is allowed for only MUE 325 or MUE 394 (Voice/Choral Lab) OR Visiting University Student |
| MUE | 327 | Brass Lab | Students apply educational theory to the development and refinement of specialized skills in brass teaching. 3 hours per week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisite: Music major; Passed music education interview |
| MUE | 334 | Guitar Lab | Guitar skills for teaching guitar classes in K-12 schools. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music Education major; Credit is allowed for only MUE 334 or MUE 394 (Guitar Lab) OR Visiting University Student |
| MUE | 335 | Educational Methods for Guitar | Students apply educational theory to the development and refinement of specialized skills in guitar teaching. 3 hours per week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre-requisite: Music major; Passed music education or therapy interview |
| MUE | 336 | Percussion Lab | Students apply educational theory to the development and refinement of specialized skills in percussion teaching. 3 hours per week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisite: Music major; Passed music education interview |
| MUE | 337 | Woodwinds Lab | Students apply educational theory to the development and refinement of specialized skills in woodwind teaching. 3 hours per week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisite: Music major; Passed music education interview |
| MUE | 381 | Music Therapy Research | Statistics and research design appropriate for investigations in music therapy. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; MUE 384 with C or better; MUE 467 with C or better OR Visiting University Student |
| MUE | 384 | Therapy Practicum I | Practicum students provide music therapy to members of the community for a minimum of ten clock hours. | N | PRA | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music Therapy major; MUE 261 with C or better |
| MUE | 385 | Therapy Practicum II | Practicum students provide music therapy to members of the community. | N | PRA | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music Therapy major or Music Therapy postbaccalaureate student; MUE 384 with C or better OR Visiting University Student |
| MUE | 386 | Therapy Practicum III | Practicum students provide music therapy to members of the community. | N | PRA | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music Therapy major; MUE 385 with C or better OR Visiting University Student |
| MUE | 387 | Therapy Practicum IV | Practicum students provide music therapy to members of the community. | N | PRA | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music Therapy major; MUE 386 with C or better OR Visiting University Student |
| MUE | 388 | Therapy Practicum V | Individual clinical work in a community mental health facility. | N | PRA | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music Therapy major; MUE 261 with C or better |
| MUE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisites: Music Education or Music Therapy student |
| MUE | 413 | The Art of Teaching Children Music | Methods of instruction, planning, and presentation of appropriate contents in music. For music educators and music therapists. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 4 | | Prerequisite(s): Music student OR Visiting University Student |
| MUE | 415 | The Art of Teaching Contemporary Musicians | Curriculum, student characteristics, and teaching strategies for general music. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 4 | | Prerequisite(s): Music major who has passed audition |
| MUE | 434 | Health Rhythms Drum Facilitation | Hand drumming and facilitation for group leaders in music therapy, music education, community music and related disciplines. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s);Music Therapy major; Credit is allowed for only MUE 434 or MUE 494 (Health Rhythms Drum Facilitation) or MUE 534 or MUE 598 (Health Rhythms Drum Facilitation) OR Visiting University Student |
| MUE | 436 | Percussion Methods for Music Therapy | Provides knowledge and practical performance skills on percussion instruments, further improving the effectiveness of the student in the practice of music therapy. 3 hours per week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre-requisites: Music Therapy student |
| MUE | 441 | Psychology of Music | Psychological and physiological aspects of music emphasizing musical behavior, function, perception and learning. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music Therapy major; MUE 381 with C or better; MUE 463 with C or better OR Visiting University Student |
| MUE | 463 | Music Therapy Theory and Practice II | Organization, administration, and use of music in rehabilitation with various client populations. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music Therapy student; MUE 467 with C or better |
| MUE | 465 | Children's Music for Music Therapy | Methods of music therapy instruction, planning, and presentation of appropriate contents in music for children ages 2-12. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Music Therapy student; Minimum Junior standing |
| MUE | 467 | Music Therapy Theory and Practice I | Influence of music on behavior; principles and practices of music therapy and psychiatric clients. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music Therapy major; MUE 261 with C or better |
| MUE | 475 | Group Process and Music Therapy | Principles of group process, verbal counseling, professional writing, as related to music therapy practice. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | Prerequisite(s): MUE 385; MUE 463 OR Music Therapy 3-year master's student OR Visiting University Student |
| MUE | 476 | Internship in Music Therapy | Full-time, 6-month, off-campus residency in an approved clinical institution. | N | PRA | N | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music Therapy major |
| MUE | 480 | The Art of Teaching Choral Musicians | Methods of instruction, organization, and presentation of appropriate content in choral music classes. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 4 | | Prerequisite(s): Music major who has passed audition; minimum 55 hours |
| MUE | 481 | The Art of Teaching Beginning Instrumentalists | Instrumental music as a means of developing music skills, understandings, and attitudes in elementary and secondary school students. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 4 | | Prerequisite(s): Music major who has passed audition; minimum 55 hours |

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| MUE | 482 | The Art of Teaching Advanced Instrumentalists | Advanced instrumental music as a means of developing music skills, understandings, and attitudes in elementary and secondary school students. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 4 | | Prerequisite(s): Music major who has passed audition; minimum 55 hours |
| MUE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | |
| MUE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | | Prerequisite(s): Barrett Honors student |
| MUE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MUE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MUE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | |
| MUE | 501 | Introduction to Professional Music Therapy | Introduces the profession of music therapy through lecture, active discussion, and observations of clinical sessions. Experiential learning is achieved through music making in peer groups. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music Therapy graduate student |
| MUE | 534 | Health Rhythms Drum Facilitation | Hand drumming and facilitation for group leaders in music therapy, music education, community music and related disciplines. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music graduate student; Credit is allowed for only MUE 434 or MUE 494 (Health Rhythms Drum Facilitation) or MUE 534 or MUE 598 (Health Rhythms Drum Facilitation) |
| MUE | 536 | Percussion Methods for Music Therapy | Designed to provide knowledge and practical performance skills on percussion instruments, further improving the effectiveness of the student in the practice of music therapy. 3 hours per week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre-requisites: Music Therapy MM Student |
| MUE | 548 | Introduction to Research in Music Education | Survey of research methods and literature in music education. Focuses on interpretation and evaluation. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music graduate student |
| MUE | 549 | Foundations of Music Education | A treatment of historical perspectives, philosophy-aesthetics identified with music education, and learning theories applied to music teaching/learning. Basic research and writing skills appropriate to graduate studies in music education. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music graduate student |
| MUE | 550 | Studies in Music Curricula | Scope and sequence of musical experiences. Develops criteria for the evaluation of music curricula. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music graduate student |
| MUE | 551 | Listening and Creating | Studies the nature of music listening and music creating and their relationship. Reviews research and pedagogical practices. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUE | 555 | String Pedagogy and Rehearsal Techniques | String pedagogy and orchestral rehearsal skills for teachers who work with K-12 string classes. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only MUE 555 or MUE 598 (String Pedagogy and Rehearsal Techniques) |
| MUE | 559 | Social and Cultural Studies in Music Education | Considers how music education is shaped by social and cultural concepts. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): graduate Music student; Credit is allowed for only MUE 559 or MUE 598 (Social and Cultural Studies in Music Ed) |
| MUE | 560 | Jazz Pedagogy | Study of pedagogy, repertoire, and technique of instruction in jazz styles, ensemble techniques, and performance practice for school ensembles. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music graduate student |
| MUE | 563 | Theory and Practice in Music Therapy I | Organization, administration, and use of music in rehabilitation with children and adolescents with special needs. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music Therapy MM student |
| MUE | 564 | Instrumental Music, Advanced Rehearsal Techniques | In-depth analysis of instrumental techniques in preparation for a thorough discussion of band tuning problems and solutions. Discussion of productive conducting and rehearsal techniques for school music teachers. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music graduate student |
| MUE | 565 | Children's Music for Music Therapy | Methods of music therapy instruction, planning, and presentation of appropriate contents in music for children ages 2-12. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Music Therapy Graduate student |
| MUE | 566 | Instrumental Literature and Pedagogy for Schools | Provides an in-depth examination of ensemble music and teaching techniques to instrumental music teachers. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music graduate student |
| MUE | 567 | Professional Practicum | Students provide music therapy for small groups at a community agency providing services to people who are intellectually disabled, physically disabled, and the elderly. | N | PRA | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): graduate Music Therapy student |
| MUE | 568 | Choral Music, Advanced Rehearsal Techniques | Musical and vocal techniques necessary for presentation of choral literature. Analysis and experimentation with psychological, acoustical, and other problems of rehearsal and performance. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music graduate student |

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| MUE | 569 | Professional Practicum II | Students continue to provide music therapy for small groups at a community agency providing services to people who are intellectually disabled, physically disabled, and the elderly. | N | PRA | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music Therapy graduate student; MUE 567 with C or better |
| MUE | 570 | Choral Literature for Schools | Comprehensive study and analysis of choral music for the high school with special emphasis on octavo literature. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music graduate student |
| MUE | 571 | Music Therapy Seminar I: Supervision and Administration | Covers health care administrative skills pertinent to music therapy practice, including budgeting, resource allocation, and staff supervision. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music graduate student |
| MUE | 572 | Music Therapy Seminar II with Lab: Advanced Practice in Music | Deepens and broadens knowledge and skills in music therapy clinical practice. Students implement a community project through a multicultural lens of practice. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music graduate student |
| MUE | 573 | Music Therapy Theory and Philosophy | Explores current theory in music therapy and develops the theoretical basis for the profession. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music Therapy MM student |
| MUE | 574 | Special Topics in Music Therapy | Introduces graduate students to advanced music therapy topics related to clinical practice. | N | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music Therapy MM student; MUE 584 |
| MUE | 575 | Music Therapy Music Skills: Accompaniment | Teaches new forms of musical accompaniment pertinent to music therapy practice, broadening and deepening existing skills. | N | PRA | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre-requisites: Music Therapy MM student |
| MUE | 579 | Psychology of Music | Nature of musicality and its evaluation. Review of recent research. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music graduate student |
| MUE | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): Music graduate student |
| MUE | 581 | Theory and Practice in Music Therapy II | Influence of music on behavior; principles and practices of music therapy and psychiatric clients. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music Therapy graduate student |
| MUE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): Music graduate student |
| MUE | 586 | Music Therapy Graduate Clinical Project | Develops clinical- and research-based music therapy skills in selected cognate area. | N | PRA | Y | Z2 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2-6 | | Prerequisite(s): MUE 584 |
| MUE | 589 | Repertoire for Music Therapy | Music skills repertoire for music therapy, including units on brass, strings, woodwinds, electronic instruments, computer music, and improvisation techniques. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisites: Music Therapy MM Student |
| MUE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): Music graduate student |
| MUE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): Music graduate student |
| MUE | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUE | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | |
| MUE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): Music graduate student |
| MUE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): Music graduate student |
| MUE | 754 | Teacher Education Research and Policy | Reading and discussion of research and policy documents in teacher education with a focus on arts and music teacher preparation. Includes development of a research project or essay suitable for publication or presentation, an abbreviated prospectus for a dissertation, or literature review. | N | LEC | N | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Doctoral Student in Music Education |
| MUE | 756 | Qualitative Research in Music Teaching and Learning | Studies qualitative research and methods in music education, including readings and discussion, data collection and data analysis. Includes development of an abbreviated prospectus for a qualitative dissertation, or a draft of a qualitative research paper suitable for presentation or publication. Prerequisite: doctoral student in music education. | N | LEC | N | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Doctoral Student in Music Education |
| MUE | 757 | Quantitative Research in Music Teaching and Learning | Studies quantitative research and methods in music education, including readings and discussion, data collection, and analysis. Includes development of an abbreviated prospectus for a quantitative dissertation or a draft of a quantitative research paper suitable for presentation or publication. | N | LEC | N | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Doctoral Student in Music Education |

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| MUE | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): doctoral Music student |
| MUE | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): doctoral Music student |
| MUE | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): doctoral Music student |
| MUE | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): doctoral Music student |
| MUE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-15 | | Prerequisite(s): doctoral Music student |
| MUE | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): doctoral Music student |
| MUE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-15 | | Prerequisite(s): doctoral Music student |
| MUP | 101 | The ASU School of Music Experience | Orientation to university and School of Music resources and procedures as well as career planning and guidance. Through various course discussions and assignments, music students examine the concept of academic integrity and its potential impact on their future and learn about taking an interdisciplinary perspective. Required for all music majors. | N | REC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Credit is allowed for only MUP 101 or MUP 194 (ASU School of Music Experience) |
| MUP | 111 | Studio Instruction | Bassoon, cello, clarinet, contrabass, cornet, euphonium, flute, guitar, harp, harpsichord, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, voice. Minimum contact of 1 hour plus studio class weekly. May not be taken for audit. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 117 | Applied Jazz Improvisation | Principles, methods, and theory of jazz performance and pedagogy. | N | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major who has passed a jazz studies audition |
| MUP | 121 | Studio Instruction | Secondary or minor instrument instruction. Bassoon, cello, clarinet, contrabass, cornet, euphonium, flute, guitar, harp, harpsichord, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, voice. Minimum contact of 1/2 hour per week. May not be taken for audit. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 127 | Studio Instruction | Bassoon, cello, clarinet, contrabass, cornet, euphonium, flute, guitar, harp, harpsichord, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, voice. Minimum contact of 1 hour plus studio class weekly. May not be taken for audit. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 4 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 131 | Class Piano | 4-semester sequence (with MUP 132, 231, and 232) designed for those with little or no piano experience. Emphasizes keyboard technique, sight reading, simple accompaniments, and improvisation. 2 hours per week. May not be taken for audit. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre-requisite: Music student |
| MUP | 132 | Class Piano | 4-semester sequence designed for those with little or no piano experience. Emphasizes keyboard technique, simple accompaniments, and improvisation. 2 hours per week. May not be taken for audit. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music student; MUP 131 with C or better |
| MUP | 133 | Class Voice | 4-semester sequence (with MUP 134, 233, and 234) open to all students. 2 hours per week. May not be taken for audit. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 134 | Class Voice | See MUP 133. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre-requisite: Music student |
| MUP | 170 | Music Theatre I | Develops introductory performance skills for opera and music theater emphasizing the portrayals of simple and complex relationships, character development, solo and ensemble performance, music and dialogue analysis, body awareness, and freedom of the vocal and breath mechanisms. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | |
| MUP | 172 | Music Theatre II | Further develops introductory performance skills for opera and music theater emphasizing the portrayals of simple and complex relationships, character development, solo and ensemble performance, music and dialogue analysis, body awareness, and freedom of the vocal and breath mechanisms. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MUP 170 |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|---|------------------------------------|-------|-----------------|---|
| MUP | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 209 | Beginning Choral Conducting | Essentials of choral conducting techniques. 2 hours per week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 210 | Beginning Instrumental Conducting | Essentials of instrumental conducting techniques. 2 hours per week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 217 | Applied Jazz Improvisation | Emphasizes basic jazz literature, chord symbol reading, melodic patterns and concepts, ear training, analysis of improvised solos, and pedagogical issues. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MUP 117 with C or better OR Visiting University Student |
| MUP | 231 | Class Piano | See MUP 131. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music student; MUP132 with C or better |
| MUP | 232 | Class Piano | See MUP 131. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music student; MUP231 with C or better |
| MUP | 235 | Jazz Piano | 2-semester sequence (with MUP 236) designed for jazz keyboard experience. Emphasizes chord symbol reading, simple improvisation, and voicing. 2 hours per week. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre-requisite: Music student |
| MUP | 236 | Jazz Piano | See MUP 235. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 250 | Diction for Singers | Use of phonetics in the study of song and opera literature. Language emphasis differs each semester. May be repeated for credit. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 270 | Music Theatre III | Develops intermediate performance skills for opera and music theater emphasizing the portrayals of simple and complex relationships, character development, solo and ensemble performance, music and dialogue analysis, body awareness, and freedom of the vocal and breath mechanisms. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MUP 172 OR Visiting University Student |
| MUP | 272 | Music Theatre IV | Further develops intermediate performance skills for opera and music theater emphasizing the portrayals of simple and complex relationships, character development, solo and ensemble performance, music and dialogue analysis, body awareness, and freedom of the vocal and breath mechanisms. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Performance and Movement BA major, Performance (Music Theatre) BMUS major, or Music Theatre minor; MUP 270 with C or better OR Visiting University Student |
| MUP | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 311 | Studio Instruction | Bassoon, cello, clarinet, contrabass, cornet, euphonium, flute, guitar, harp, harpsichord, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, voice. Minimum contact of 1 hour plus studio class weekly. May not be taken for audit. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 319 | Advanced Audio Engineering in the Arts | Synthesis and application of analog and digital recording methods (voices and instruments), mixing and the advanced skills needed to create professional recordings (CDs, DVDs, internet sound files, etc.). Further emphasis on electronic music production, computer based applications, MIDI, and contemporary studio hardware. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisite: Minimum Junior standing in the Herberger Institute for Design in the Arts |
| MUP | 321 | Studio Instruction | Secondary or minor instrument instruction. Bassoon, cello, clarinet, contrabass, cornet, euphonium, flute, guitar, harp, harpsichord, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, voice. Minimum contact of 1/2 hour per week. May not be taken for audit. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 327 | Studio Instruction | Bassoon, cello, clarinet, contrabass, cornet, euphonium, flute, guitar, harp, harpsichord, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, voice. Minimum contact of 1 hour plus studio class weekly. May not be taken for audit. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2-4 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 337 | Studio Instruction: Collaborative Piano | Repertoire to be selected from vocal and instrumental literature. 1 hour lesson per week. May be repeated for credit. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 340 | Intermediate Conducting | Further study in conducting of instrumental and choral music, including score reading, gesture and interpretation. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MUE 154 or MUP 210 with C or better |

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| MUP | 360 | Musicianship for Singers | Covers reading in the treble and bass clefs (other clefs may be covered time permitting), conducting, intervallic patterns, harmonic outlining, rhythm, dictation, sight reading melodies, musical preparation of repertoire, score scanning and score marking. Additional topics may be addressed as specific student skills and goals are assessed. Assignments are sung and drilled with movable do solfeggio and the takadimi rhythm solmization system. All of the repertoire studied and performed are vocal literature, including: art song, opera, oratorio, musical theatre, jazz, popular. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Performance (Music Theatre) BMUS, Performance (Voice) BMUS major, or MTC 125 with C or better OR Visiting University Student |
| MUP | 370 | Music Theatre V | Interpretational study of advanced acting and musical theatre performance techniques. Includes exploration of several historical and contemporary music styles in musical theatre, applying best practices for research, solo and ensemble performance. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music major or Music Theatre minor who has passed audition; MUP 272 with C or better |
| MUP | 373 | Music Theatre Performance and Production | Participation in music theatre and opera productions, including auditioning for productions, adhering to departmental policies and completing assigned technical hours. | Y | STO | Y | YGB | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major or Music Theatre minor who has passed audition |
| MUP | 374 | Music Theatre Technical Production | In-depth study of approaches to technical music theatre. Classroom study of costumes, sets and lighting (Section 1 Topic: Foundations) is followed by practical experience on a technical running crew for a music theatre and opera production (Section 2 Topic: Practicum). The two sections should be taken in consecutive semesters. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major or Music Theatre minor who has passed audition |
| MUP | 388 | Collaborative Piano | Performance class for collaborative piano majors. Repertoire includes vocal and instrumental selections. Advanced analysis of ensemble techniques, style and performance practice in preparation for graduate study or professional application. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): 4 completions of MUP 127 with C or better OR Visiting University Student |
| MUP | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MUP | 402 | Anatomy and Physiology of Singing | Detailed study of the anatomy, physiology, neurology and acoustics of the singing voice. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music major or Vocal Pedagogy certificate student; junior or senior standing; Credit is allowed for only MUP 402 or MUP 582 OR Visiting University Student |
| MUP | 403 | Literature for Teaching Voice | Equips students with knowledge of repertoire for teaching applied voice and cultivates skills in mindfully assigning said repertoire. Topics and activities include learning about the types of repertoire across many styles, pedagogical implications of repertoire, benefits and pitfalls in assigning repertoire to the developing singer, and assignment of repertoire to true and hypothetical students. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major or Vocal Pedagogy certificate student; junior or senior standing; Credit is allowed for only MUP 403 or MUP 503 OR Visiting University Student |
| MUP | 404 | Voice Teaching Practicum | Provides opportunities to develop practical teaching skills through experiential learning for voice and/or music education students who have a strong interest in teaching applied voice lessons. Topics and activities include teaching, teaching observations, guided teaching activities, and the creation of a teaching portfolio. | N | PRA | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major or Vocal Pedagogy certificate student; junior or senior standing; Credit is allowed for only MUP 404 or MUP 504 |
| MUP | 417 | Applied Jazz Improvisation | Emphasizes listening, analysis, and performance of advanced jazz literature and composition in contemporary styles. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MUP 217; Music student who has passed audition |
| MUP | 418 | Bassoon Reed Making | Develops and refines skills for making bassoon reeds. | Y | LAB | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major or nonmajor who has passed audition; Credit is allowed for only MUP 418 or MUP 494 (Bassoon Reed Making) |
| MUP | 438 | The Enterprising Musician | Familiarizes students with concepts of entrepreneurship and explores good business practices. The broad objectives of the course are to understand the importance of entrepreneurial thinking and opportunity recognition in the music industry; and to provide to the students the concepts, capabilities and information to achieve a desired career in music. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music major, The Arts BA major, or Music Entrepreneurship certificate; Credit is allowed for only MUP 438 or MUP 538 or MUP 494 (The Enterprising Musician) or MUP 598 (The Enterprising Musician) OR Visiting University Student |
| MUP | 439 | Performing Arts Product Creation and Development | Covers the processes and proven methodologies of product creation and development in context of the performing arts. Students learn how to assess and evaluate the quality of different models and techniques through case studies and by talking to potential customers. Students develop a business model canvas for a new product idea or project. Taught in conjunction with experiential learning in and out of the classroom. Students should have a basic idea for a startup product or service they will pursue throughout the duration of the course. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): HDA 252 or MUP 438; Credit is allowed for only MUP 439 or MUP 539 OR Visiting University Student |
| MUP | 440 | Keyboard Harmony | Performance-oriented class emphasizing chord progressions, harmonization, figured bass realization, stylistic improvisation, transposition, open score reading, and sight reading. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |

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| MUP | 441 | Popular Music Ensemble | Focuses on one or several popular music styles involving in-depth study and application of specialized, professional skills in performing with two or more players of like or unlike instruments and/or voice. | Y | LAB | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major or non-Music major who has passed audition |
| MUP | 442 | Instrumental Ensembles | Students enhance musical diversity and artistic depth by participating in numerous ensembles as well as other artistic and educational projects. Each project focuses on specific pedagogical and/or musical learning outcomes. Together they comprise a rich assortment of musical experiences and promote the primary course objective. The curriculum accommodates the distinctive needs of each student and is tailor-made to each individual's career aspirations. Consequently, learning outcomes are highly individualized and student driven. This ensemble is available to both music majors and non-majors, and may require an audition. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): Music major or nonmajor who has passed audition |
| MUP | 443 | Choral Ensembles | Active, thoughtful participation in music ensembles can provide for development beyond the possibilities of individual study alone. The ensemble setting is, in part, a forum for the synthesis of component parts of a complete music education. Includes the study and performance of diverse musical expressions that represent a variety of historical and cultural perspectives. These ensembles provide the opportunity to prepare and present varied music composed for the mixed choir from the major stylistic periods with the intent of serving composers, performers and listeners by performing choral music of the highest possible quality. This ensemble is available to both music majors and non-majors, and may require an audition. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): Music major or nonmajor who has passed audition |
| MUP | 444 | Maroon and Gold Concert Band | Open to all ASU students. Composed of students who are music majors, as well as those pursuing other fields of study, the group rehearses and performs mainly traditional band literature, giving one or two major performances per semester. Students must audition with the band staff for seating placement. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): Music major or nonmajor who has passed an audition |
| MUP | 448 | Classical Style: Performance and Analysis | Integrates historical and theoretical analysis with performance, examining classical period repertoire. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisites: Music major who has passed audition; Junior standing; Credit is allowed for only MUP 448 or 494 (Classical Style: Performance and Analysis) |
| MUP | 449 | The Unaccompanied Music of JS Bach: Performance and Analysis | Integrates historical and theoretical analysis with performance, examining the unaccompanied works of J.S. Bach. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisites: Music major who has passed audition; Junior standing; Credit is allowed for only MUP 449 or 494 (Unaccompanied Bach: Performance & Analysis) |
| MUP | 450 | Choral Union | Large mixed ensemble focuses on the study, synthesis and performance of major choral masterworks while gaining in-depth understanding of significant choral repertoire and historical ramifications. This ensemble is available to both music majors and non-majors, and may require an audition. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): Music major or Non-Music majors who have passed audition |
| MUP | 451 | Repertoire | In-depth study of music for performing, involving advanced interpretive and technical concepts from historical, stylistic, and performance-related perspectives. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Completed 4 semesters of 100-level studio instruction |
| MUP | 453 | Art Song Repertoire | A survey of repertoire for one voice and piano beginning with Haydn and continuing through the present day. Focuses on the core Art Song Repertoire of Germany and France, but also explores a variety of composers, eras and regions, including Italy, Spain, England and America. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 454 | Song Literature | American, Russian, Spanish, Scandinavian, and contemporary song. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 455 | Canticum Bassum | Membership in this ensemble involves the in-depth study and application of specialized musical skills in the performance of a variety of historically and musically standard male repertoire, within historical context. This ensemble is available to both music majors and non-majors, and may require an audition. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): Music major or Non-Music majors who have passed audition |
| MUP | 457 | Sol Singers | Membership in this ensemble involves the in-depth study and application of specialized musical skills in the performance of historically and musically important repertoire for treble voices. This ensemble is available to both music majors and nonmajors, and may require an audition. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): Music major or non-Music major who has passed audition |

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| MUP | 458 | ASU Gospel Choir | The ASU Gospel Choir is a vocal ensemble open to students and community members regardless of their faith. The ensemble performs a variety of song forms drawn from the African American religious tradition, including traditional and contemporary gospel, anthems, hymns and spirituals. The Gospel Choir maintains an active performance schedule both on and off campus. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): undergraduate music major or nonmajor by audition |
| MUP | 459 | Barrett Choir | The Barrett Choir is an opportunity for students from all over the university, but primarily from Barrett, The Honors College, to participate in a high-quality choral ensemble. The group seeks to harness the creativity and intellect of honors students to create a collaborative ensemble that operates on a unique model of student-centered learning. The repertory, mostly chosen by the members, is highly varied, ranging from world music to pieces in the great choral tradition to newer music and popular music. There are normally two major concerts per semester, with some occasional smaller performances. This ensemble is available to both music majors and non-majors, and may require an audition. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): Music major or Non-Music majors who have passed audition |
| MUP | 460 | The Visiting Quartet Residency Program | Develops skills as a chamber musician and provides opportunities to work with members of the visiting string quartet in residence. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Pre-requisite: Music major (bass, cello, viola, violin) who has passed audition |
| MUP | 461 | Marching and Athletic Bands | Development of specific professional performing skills through staging of formations and drills for football games and other events. Explores a wide variety of musical repertoire from current top 40 hits to classical. These ensembles are available to both music majors and nonmajors, and may require an audition. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): Music major or nonmajor who has passed an audition |
| MUP | 465 | Music Theatre VI | Further interpretational study of advanced acting and musical theatre performance techniques. Includes exploration of historical and contemporary styles in musical theatre, applying best practices for research, solo and ensemble performance. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Performance and Movement BA or Performance (Music Theatre) BMUS major; MUP 370 with C or better OR Visiting University Student |
| MUP | 466 | Broadway Dance | Designed for students in the collaborative performance areas of musical theatre (music, theater and dance). Examines the development of landmark styles and theories specifically in musical theater and Broadway dance. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): two completions of MUP 467 OR Visiting University Student |
| MUP | 467 | Music Theatre Dance Technique | Students gain a basic understanding of body awareness and alignment, strength and technique with a focus on musical theatre vocabulary as well as basic turns and leaps. The first semester students focus on the individual dancer, spatial awareness, development of character and intention. The second semester students work on basic partnering skills and partner dances. Intended to be a full-year course. | N | LAB | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major, Performance (Music Theatre) major, or Music Theatre minor who has passed audition |
| MUP | 470 | Music Theatre VII | Development and practice of professional music theatre skills in solo and ensemble performance with an emphasis on applied skills and industry immersion. | N | STO | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): MUP 465; Credit is allowed for only MUP 470 or MUP 494 (Musical Theatre Dance) or MUP 566 OR Visiting University Student |
| MUP | 471 | Music Theatre: Workshops | The development of specific skills for musical-dramatic interpretation. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Performance (Music Theatre) or Performance (Voice) major; minimum 45 hours OR Visiting University Student |
| MUP | 472 | Music Theatre VIII | Further development and practice of professional music theatre skills in solo and ensemble performance with an emphasis on applied skills and industry immersion. | N | LEL | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Performance and Movement BA or Performance (Music Theatre) BMUS major; MUP 470 with C or better OR Visiting University Student |
| MUP | 476 | New Music Ensemble | In-depth study, synthesis, and performance of classical works written within the last twenty years for small ensemble and for instruments with electronics. Involves discussion and realization of advanced interpretive and technical concepts related to contemporary music. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 479 | Chamber Music Ensembles | Faculty-coached ensembles involving in-depth study and application of specialized, professional skills in performing with two or more players of like or unlike instruments and/or voice. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 481 | Performance Pedagogy and Materials | Principles and methods of performance techniques for each performance field. May be repeated for credit. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisites: Music students who have passed audition |
| MUP | 482 | Piano Pedagogy | Continuation of MUP 481 (Piano). Problems and techniques of teaching intermediate to advanced piano students. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |

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| MUP | 485 | Percussion Ensemble | Rehearsal and performance of standard and original repertoire for the percussion ensemble and related instruments. 2 hours per week. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 486 | Jazz Band | Analysis, rehearsal and performance of new, traditional, and Latin literature for jazz ensembles. Development of advanced sight-reading and instrumental doubling skills. 4 hours per week. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | |
| MUP | 487 | Collaborative Piano | Piano accompaniments found in vocal and instrumental literature; discussion of styles and performance practices; experience in public performance. 2 hours per week. May not be taken for audit. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 489 | Ethnomusicology Ensembles | Students apply indigenous music theories to actual practice, contextualized in background reading and listening, as they refine their ability to perform orally generated music and sometimes dance traditions. This ensemble is available to both music majors and nonmajors, and may require an audition. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| MUP | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | | Pre-requisites: Barrett Honors Music students who have passed audition |
| MUP | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | L | Prerequisite(s): Barrett Honors Music students who have passed audition; ENG 101, 105, or 107 with C or better |
| MUP | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MUP | 495 | Performance | For candidates of a BM degree in which 1/2 recital is a requirement. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 0 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 496 | Performance | For candidates of a BM degree in which a full recital is a requirement. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 0 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | STO | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | Prerequisite(s): Music major, Music Performance minor, or Music Theatre minor who has passed audition |
| MUP | 503 | Literature for Teaching Voice | Equips students with knowledge of repertoire for teaching applied voice, and to cultivate skills in mindfully assigning said repertoire. Topics and activities include learning about the types of repertoire across many styles, pedagogical implications of repertoire, benefits and pitfalls in assigning repertoire to the developing singer, and assignment of repertoire to true and hypothetical students. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music graduate student; Credit is allowed for only MUP 403 or MUP 503 |
| MUP | 504 | Voice Teaching Practicum | Provides opportunities to develop practical teaching skills through experiential learning for voice and/or music education graduate students who have a strong interest in teaching applied voice lessons. Topics and activities include teaching, teaching observations, guided teaching activities, and the creation of a teaching portfolio. | N | PRA | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music graduate student; Credit is allowed for only MUP 404 or MUP 504 |
| MUP | 507 | Group Piano Practicum | Curricula, materials, and teaching techniques for group teaching at the university and community college levels. Observation/supervised teaching in group piano. | N | PRA | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 508 | Studio Observation | Weekly observation of studio teaching by various piano faculty. Paper as final requirement. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 509 | Jazz Keyboard Harmony | Emphasizes jazz chords and chord progressions, harmonization, voicing, and analysis of transcriptions. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 510 | Jazz Keyboard Harmony | Continuation of emphasis on jazz chords and chord progressions, harmonization, voicing, and analysis of transcriptions. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 511 | Studio Instruction | Bassoon, cello, clarinet, contrabass, cornet, euphonium, flute, guitar, harp, harpsichord, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, voice. Minimum contact of 1 hour plus studio class weekly. May not be taken for audit. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Music graduate student who has passed audition |
| MUP | 517 | Advanced Improvisation | Improvisation techniques within the context of advanced jazz literature. Must be taken in sequence with MUP 518. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 518 | Bassoon Reed Making | Students develop and refine skills for making bassoon reeds. | Y | LAB | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only MUP 518 or MUP 598 (Bassoon Reed Making) |

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| MUP | 521 | Studio Instruction | Secondary or minor instrument instruction. Bassoon, cello, clarinet, contrabass, cornet, euphonium, flute, guitar, harp, harpsichord, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, voice. Minimum contact of 1/2 hour per week. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music graduate student who has passed audition |
| MUP | 527 | Studio Instruction | Bassoon, cello, clarinet, contrabass, cornet, euphonium, flute, guitar, harp, harpsichord, horn, oboe, organ, percussion, piano, saxophone, trombone, trumpet, tuba, viola, violin, voice. Minimum contact of 1 hour per week. May be repeated for credit. May not be taken for audit. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2-4 | | Prerequisite(s): Music graduate student who has passed audition |
| MUP | 538 | The Enterprising Musician | Familiarizes students with concepts of entrepreneurship and explores good business practices. The broad objectives of the course are to understand the importance of entrepreneurial thinking and opportunity recognition in the music industry; and to provide to the students the concepts, capabilities and information to achieve a desired career in music. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): graduate Herberger Institute student; Credit is allowed for only MUP 438 or MUP 538 or MUP 494 (The Enterprising Musician) or MUP 598 (The Enterprising Musician) |
| MUP | 539 | Music Product Creation and Development | Processes and proven methodologies of new music product creation and development. Assesses and evaluates the quality of different models and techniques through case studies and by talking to potential customers. Develops a business model canvas for a personal new music product idea or project. Taught in conjunction with the online Udacity course How to Build a Start Up, combined with experiential learning in and out of the classroom. Students should have a basic idea of a business model for a startup or project they will pursue throughout the duration of the course. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MUP 538 or 598 (The Enterprising Musician); Credit is allowed for only MUP 439 or MUP 539 |
| MUP | 540 | Principles of Integrated Conducting | Score preparation and conducting techniques for instrumental music. Concentration on study of historical styles. Required of DMA students in Instrumental Music. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisite: DMA Conducting major |
| MUP | 541 | Song | Seminar on solo song from its beginning to the present day. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 542 | Instrumental Ensembles | Students participate in numerous ensembles and artistic and educational projects that together, comprise a rich assortment of musical experiences. Graduate students especially need opportunities to hone their skills in a great variety of performance opportunities. During the academic year, each student participates in a variety of projects that present a wide range of musical experiences. The curriculum is designed to accommodate the distinctive needs of each student in that artistic-educational experiences are, to a large extent, tailor made to each individual's career aspirations. Consequently, learning outcomes are highly individualized and student driven, rather than institutionally convenient. Each artistic-educational project focuses on specific pedagogical and/or musical learning outcomes that, in various ways, promote the primary course objective: the enhancement of musical diversity and artistic depth in every student. Audition required during the first week of classes. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): Music graduate student |
| MUP | 543 | Choral Ensembles | Active, thoughtful participation in music ensembles can provide for development beyond the possibilities of individual study alone. The ensemble setting is, in part, a forum for the synthesis of component parts of a complete music education. Includes the study and performance of diverse musical expressions that represent a variety of historical and cultural perspectives. These ensembles provide the opportunity to prepare and present varied music composed for the mixed choir from the major stylistic periods with the intent of serving composers, performers and listeners by performing choral music of the highest possible quality. | Y | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUP | 548 | Classical Style: Performance and Analysis | Integrates historical and theoretical analysis with performance, examining classical period repertoire. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisite: Graduate Music major who has passed audition; Credit is allowed for only MUP 548 or 598 (Classical Style: Perf. & Anlys) |
| MUP | 549 | The Unaccompanied Music of JS Bach: Performance and Analysis | Integrates historical and theoretical analysis with performance, examining the unaccompanied works of J.S. Bach. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre-requisite: Graduate Music major who has passed audition; Credit is allowed for only MUP 549 or 598 (Unaccomp Bach Perf & Analysis) |
| MUP | 550 | Choral Union | Open to all students in the university and to interested singers in the community by audition. Preparation and performance of the larger choral works. 2 hours per week. An audition is required to participate in the ensemble. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUP | 551 | Repertoire | Literature available for performance in all performing media. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre- or corequisite(s): Graduate Music major who has passed audition |

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| MUP | 554 | Major Repertoire, Score Study, and Performance Practice | Conducting course comprising a survey of significant repertoire (encompassing, over multiple semesters, literature from choral, musical theater/opera, orchestral, and wind band genres); an introduction to historical performance practice; and a range of score study techniques. Conducting majors are required to enroll each semester (or as advised) and, subsequently: display a comprehensive historical knowledge of the repertoire and development of ensembles over the past 500 years, demonstrate command of standard performance practices with respect to each historical era, and exhibit a clear understanding of varied methods of score study. | Y | SEM | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Music (Conducting) DMA student |
| MUP | 555 | Arizona Statesmen | Rehearsal and performance of music for mixed voices. 3 hours per week. An audition is required to participate in the ensemble. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUP | 557 | Sol Singers | Rehearsal and performance of music for mixed voices. 2 hours per week. An audition is required to participate in the ensemble. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUP | 558 | ASU Gospel Choir | The ASU Gospel Choir is a vocal ensemble open to students and community members regardless of their faith. The ensemble performs a variety of song forms drawn from the African American religious tradition, including traditional and contemporary gospel, anthems, hymns and spirituals. The Gospel Choir maintains an active performance schedule both on and off campus. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUP | 560 | The Visiting Quartet Residency Program | Develops skills as a chamber musician and provides opportunities to work with members of the visiting string quartet in residence. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-2 | | Prerequisite(s): Music graduate student who has passed audition |
| MUP | 561 | Marching and Concert Bands | Staging of formations and drills for football games and other events (fall); masterpieces of symphonic band literature (spring). Meets MWF. An audition may be required to participate in the ensemble. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUP | 565 | Acting and Movement | Process class with exercises specifically developed to assist the student actor to learn the fundamental techniques of acting with an emphasis on the actor's approach to characterization. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): graduate Music major who has passed an audition; Credit is allowed for only MUP 565 or MUP 598 (Acting for Singers) |
| MUP | 566 | Broadway Dance | Designed for students in the collaborative performance areas of musical theatre (music, theater and dance). Examines the development of landmark styles and theories specifically in musical theater and Broadway dance. | N | STO | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): graduate Music major who has passed an audition; Credit is allowed for only MUP 566 or MUP 598 (Musical Theatre: Dance) |
| MUP | 567 | Music Theatre Dance Technique | Students gain a basic understanding of body awareness and alignment, strength and technique with a focus on musical theatre vocabulary as well as basic turns and leaps. The first semester focuses on the individual dancer, spatial awareness, development of character and intention. The second semester works on basic partnering skills and partner dances. Intended to be a full year. | N | LAB | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music graduate student who has passed audition |
| MUP | 570 | Music Theatre: Techniques | Exercises and improvisations for the singing actor emphasizing body awareness, isolations, and freedom of the vocal and breath mechanisms. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music graduate student who has passed audition |
| MUP | 571 | Music Theatre: Workshops | Develops specific skills for the musical-dramatic interpretation. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Music graduate student who has passed audition |
| MUP | 573 | Music Theatre: Performance | Participation in Lyric Opera Theatre productions. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 574 | Music Theatre Technical Production | Introduces technical music theatre. Classroom study of costumes, sets and lighting (Section 1, Topic: Tech) followed by practical experience on a technical running crew for a Lyric Opera Theatre production (Section 2 Topic: Problems). The two sections should be taken in consecutive semesters. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 576 | New Music Ensemble | Rehearsal and performance of music written in the last 20 years. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUP | 579 | Chamber Music Ensembles | String, brass, woodwind, percussion, keyboard, vocal, and mixed ensembles. 2 hours per week. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUP | 581 | Performance Pedagogy and Materials | Principles and methods of performance techniques for each performance field. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 582 | Anatomy and Physiology of Singing | Detailed study of the anatomy, physiology, neurology and acoustics of the singing voice. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2-3 | | Prerequisite(s): Music graduate student; Credit is allowed for only MUP 402 or MUP 582 |
| MUP | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUP | 585 | Percussion Ensemble | Rehearsal and performance of standard and original repertoire for the percussion ensemble and related instruments. 2 hours per week. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| MUP | 586 | Jazz Band | Rehearsal and performance of new, traditional, and Latin literature for jazz bands. 4 hours per week. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUP | 587 | Ethnomusicology Ensembles | Performance learning experience for the music of various cultures of the world. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUP | 588 | Collaborative Piano | Piano accompaniments found in vocal and instrumental literature; discussion of styles and performance practices; experience in public performance. 2 hours per week. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 596 | Solo Performance | May be full recital, major operatic role, solo performance with orchestra, ensemble, or lecture recital. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 597 | Solo Performance | See MUP 596. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| MUP | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre- or corequisite(s): Graduate Music major who has passed audition |
| MUP | 727 | Studio Instruction | Minimum contact of 1 hour per week. May be repeated for credit. Conducting students register for 2 semester hours; all other students register for 4 semester hours. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2-4 | | Prerequisite(s): Doctoral Music major who has passed audition |
| MUP | 751 | Seminar in Piano Literature | In-depth study of selected topics related to the standard piano literature. Requires research paper, bibliography, class presentation. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Pre- or corequisite(s): Doctoral Music major who has passed audition |
| MUP | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre- or corequisite(s): Doctoral Music major who has passed audition |
| MUP | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre- or corequisite(s): Doctoral Music major who has passed audition |
| MUP | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre- or corequisite(s): Doctoral Music major who has passed audition |
| MUP | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-15 | | Pre- or corequisite(s): Doctoral Music major who has passed audition |
| MUP | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre- or corequisite(s): Doctoral Music major who has passed audition |
| MUP | 796 | Solo Performance | May be full recital, major operatic role, solo performance with orchestra, ensemble, or lecture recital. | N | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-15 | | Pre- or corequisite(s): Doctoral Music major who has passed audition |
| MUP | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-15 | | Pre- or corequisite(s): Doctoral Music major who has passed audition |
| MUS | 100 | Fundamentals of Music Notation | Provides nonmusic majors with sufficient symbol literacy to begin work in the field of musical learning. Credit not applicable toward any music degree. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | |

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| MUS | 131 | Bach to Bebop | Develops an understanding of the repertoire for the various musical instruments and ensembles throughout the five eras being studied and discernment through listening different genres of music. For the lectures regarding instruments, introduces students to the respective repertoire for the instrument from c. 1700-present with special emphasis on how the use of the instrument developed throughout history or during each era. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | |
| MUS | 145 | Nonmajors Class Piano: Beginner | For students with little or no previous music experience. Students learn beginning piano skills. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Credit is allowed for only MUS 145 or MUS 194 (Non-Majors Beginning Class Piano I) OR Visiting University Student |
| MUS | 146 | Singing for Nonmajors I | Introduces the basics of singing in many styles, from classical to popular. Topics and activities include learning about the mechanics of singing, music reading, critical listening, learning and performing in a group, and learning and performing alone. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Credit is allowed for only MUS 146 or MUS 194 (Beginning Class Voice for Non-Majors) |
| MUS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MUS | 210 | The Arts Around Us | Develops the ability to think and create from an arts-rich perspective. In particular, focuses on the arts in the lives of children and youth, arts experiences for children and youth in the community, and one's personal experiences with the arts. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | |
| MUS | 211 | Dance, Music and Meaning | Explores the fundamental nature of human experience across time and culture through the medium of dance and music using a variety of dance and musical materials including folk dance and music, popular dance and music, and such theatrical forms as ballet and modern dance and the music connected with them. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | |
| MUS | 212 | Music, Meaning and Imagination | Explores how music provides ways to make meaning of the world around us and music as a medium for creative thinking and doing. Develops understanding by trying on roles ranging from critics to creators in both individual and group projects. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Credit is allowed for only MUS 212 or 294 (Music, Meaning and Imagination) |
| MUS | 213 | Critical Thinking in the Arts | Fosters critical thinking abilities in relationship to performing and visual arts. Students learn how to listen to music and view art analytically. Develops and applies knowledge of common elements (within and across art forms) such as form, texture, balance and contrast in order to enhance understanding both of arts processes and products. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | |
| MUS | 214 | Art, Music and Learning | Offers an integrated introduction to, and examination of, the core structural and formal elements of visual art and music in the context of contemporary experiences and learning process. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | |
| MUS | 215 | Children, Creativity, Arts | Interdisciplinary exploration of children's creative processes through critical analysis, hands-on participation and personal reflection. Specifically focuses on creative processes in the arts. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | |
| MUS | 231 | Laughing to Music | Modern-day comedies like Spamalot, Avenue Q, and Glee are part of a comic tradition extending back to the Renaissance. Looks at funny in music from commedia dell'arte to the present. Studies works including the comedies of Mozart, Gilbert and Sullivan, the Marx Brothers, Monty Python, Mel Brooks and many others. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Credit is allowed for only MUS 231 or MUS 294 (Laughing to Music) OR Visiting University Student |
| MUS | 240 | Listening to Music | Surveys the historical periods of music making in western civilization, the study of which will hopefully create within the student a listener with an appreciation for art music of many periods and provide more enjoyment in the process. Through lectures, presentations, readings, listening examples and video/DVDs, studies music identified as strong examples of the major periods, composers and compositions in the history of music. Students learn and adopt a minimum new language to help express the elements of music they experience and listen to and develop strategies for writing and communicating about what they hear and put words to how they respond to it. Because experiencing music performed live is an integral part of the learning process, students are required to attend concerts outside of class and submit critical reviews of what they hear. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | |
| MUS | 245 | Nonmajors Class Piano: Intermediate | For students who have completed 1-3 years of piano study. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MUS 145 or MUS 194 (Non-Majors Beginning Class Piano I) with C or better; Credit is allowed for only MUS 245 or MUS 294 (Non-Majors Class Piano II) OR Visiting University Student |

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| MUS | 246 | Singing for Nonmajors II | Continues to cultivate the basics of singing in many styles, from classical to popular. Topics and activities include gaining a deeper understanding of the mechanics of singing, sharpening music reading skills and critical listening, learning and performing in a group, and learning and performing alone. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MUS 146; Credit is allowed for only MUS 246 or MUS 294 (Non-Majors Class Voice II) or MUS 294 (Singing 2 for Non-majors) OR Visiting University Student |
| MUS | 254 | Blues to Heavy Metal | Covers important musicians and trends from the 1930s through the 1970s. Topics include blues, rhythm and blues, rockabilly, doo wop, teen idols, girl groups, dance craze, surf, novelty, soul, Motown, British invasion, art rock, psychedelic rock, hard rock, heavy metal, and early '70s styles. Emphasizes musical instruments and stylistic traits with historical information provided as background. Features listening examples drawn from selected artists and bands including popular songs and rarities, and demonstrations using various musical instruments and techniques. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Credit is allowed for only MUS 254 or 354 (Blues to Heavy Metal) |
| MUS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MUS | 340 | Music for the Concert Hall, Stage, and Screen | In-depth study of examples from Western art music. Emphasizes aural analysis and synthesis of historical data with musical phenomena. Critiques the canon and its limits in specific instances. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & H | Prerequisite(s): minimum 42 hours |
| MUS | 345 | Nonmajors Class Piano: Advanced | For students who have completed 4 of more years of piano experience. | N | LEC | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): MUS 245 or MUS 294 (Non-Majors Class Piano II) with C or better OR Visiting University Student |
| MUS | 347 | Jazz in America | In-depth study, analysis and synthesis of examples from the jazz tradition. Includes the application of advanced aural analytic techniques to exemplary jazz musical works. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & C | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| MUS | 349 | Music in America | Current styles of American music including jazz, popular, and folk music. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & H | |
| MUS | 354 | Popular Music | In-depth study of a specific topic in the history of popular music. Emphasizes aural analysis and synthesis of historical data with musical phenomena to create new perspectives. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): minimum 42 hours OR Visiting University Student |
| MUS | 355 | American Music | In-depth study of current research topics in American music. Engages students in current scholarly debates. Charts the limits of current scholarly methodologies and historical research programs. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & C & H | Prerequisite(s): minimum 42 hours OR Visiting University Student |
| MUS | 356 | Broadway and the American Musical | In-depth chronological study of American musical theatre on Broadway, including origin and development, historical references, global and cultural influences. By way of critical analysis, emphasizes comprehensive stylistic understanding of minstrelsy, operetta, revues, book musicals, film musicals, rock musicals, mega-musicals, and Broadway revivals. Engages students in current scholarly debates on American musical theatre. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| MUS | 362 | Rap Music and Hip Hop Culture | Examines the history of rap music and hip hop culture from their origins to about 1995, including most, but not all, of the major artists from this period. Explores connections between rap music and other elements of hip hop culture, and challenges students to think critically about rap music and its place in society. Uses listening exercises, demonstrations, and conversations with artists to examine how rappers create meaning in their musical works. Drawing on secondary articles by rap critics and scholars, considers in detail such controversial subjects as censorship, sexism, obscenity, and race politics in America as they relate to rap music. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & C | Prerequisite(s): minimum 42 hours; Credit is allowed for only MUS 354 (Hip Hop) or MUS 362 OR Visiting University Student |
| MUS | 371 | World Music | Provides an introduction to world music, including traditional and popular styles. Examines specific music genres from Africa, Asia, Europe, and the Americas and explores their historical development, cultural contexts, communicative functions, forms, styles, instruments and musical philosophies. Throughout the semester, considers the interrelationships among musical genres and other art forms (dance, theater, visual arts, and literature) and analyzes how these musics have intersected with the issues of race, class, gender, religion, ritual, politics, social movements and cultural identity. Students learn to hear and discuss significant stylistic elements of selected genres through listening assignments. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & G | Pre-requisite: Minimum 45 hours; Credit is allowed for only MUS 371 or 394 (World Music) |
| MUS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MUS | 410 | History of Women in Music | Surveys musical achievements of women as well as the historical contexts that shaped and defined their artistic development. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & C & H | |

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| MUS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | | Prerequisite(s): Barrett Honors student |
| MUS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| MUS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| MUS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | |
| MUS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| NAN | 505 | Nanoscience and Society | Integrates nanoscience and nanotechnology with potential societal issues involved in the students' NAN 593 Applied Projects. Coordinated by the faculty and research staff at the Center for Nanotechnology in Society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 2 | | |
| NAN | 506 | Innovation and IP Management | Intellectual Property (IP) Management in the context of innovation (research, regulations, manufacture, access to markets, and trade) with emphasis on strategies, public-private interface, licensing, and technology transfer. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 2 | | |
| NAN | 511 | Materials Physics I | Fundamentals of materials physics: crystal structure, diffraction, elasticity, point defects, dislocations, lattice vibrations, thermal properties, periodic potential, band structure. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Pre-requisites: Degree- or nondegree-seeking graduate; Credit is allowed for only MSE 526, NAN 511, PHY 511, or PHY 481 |
| NAN | 512 | Materials Physics II | Electronic behavior of materials: energy bands, electronic properties, metals, semiconductors, insulators, optical properties, magnetic properties, superconductivity, biophysics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Credit is allowed for only MSE 525 or MSE 527 or MSE 598 (Fund of Elec, Optical, & Mag Matls & Device Apps) or NAN 512 or PHY 482 or PHY 512 |
| NAN | 542 | Topics in Biophysics | Overview of modern biology, length scales: emphasizes molecular and cellular biology. Nonequilibrium systems: compare and contrast stochastic processes in biological and physical systems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Credit is allowed for only NAN 542 or PHY 542 |
| NAN | 544 | Introduction to Nanoscience | Survey of nanoscience: quantum/ statistical mechanics/kinetics; measurement and fabrication methods; applications to materials, nano-electronics, molecular electronics and nano-biology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only CHM 544, NAN 544, PHY 444 or PHY 544 |
| NAN | 546 | Surfaces and Thin Films | Thermodynamics and kinetics of surface structures and thin film processes. Ultra-high vacuum techniques for examining surfaces. Case studies of physics, chemistry and nanoscience applications. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Credit is allowed for only MSE 546, NAN 546 or PHY 546 |
| NAN | 552 | Electron Microscopy I | Kinematical and dynamical electron diffraction and microscopy. Defect structure and composition using STEM imaging, x-ray and electron-energy-loss spectroscopy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Credit is allowed for only MSE 552, NAN 552, PHY552 or SEM 552 |
| NAN | 560 | Nanomaterials in Energy Production and Storage | Emphasizes the relationship among fundamental materials properties, chemical and energy transformation, as well as energy storage. Applications include the role of materials for photovoltaics, nanocatalysts, batteries, and fuel cells. Stresses fundamental principles and charge transfer processes in nanostructured materials in addressing energy needs. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): graduate Chemistry, Engineering or Physics major. Credit is allowed for only MSE 460 or MSE 494 (Nanomaterials In Energy Production and Storage) or MSE 560 or MSE 598 (Nanomaterials In Energy Production and Storage) or NAN 560 |
| NAN | 564 | Bionanotechnology | The use of biomolecules, bioelectronics, and biomedicine for applications in nanotechnology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Credit is allowed for only BCH 564 or NAN 564 |
| NAN | 571 | Quantum Physics | Review modern physics, chemistry, math. Differential equation, operator, matrix formulations. Free particle, bound state problems. Examples from physics, chemistry and nanoscience. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Credit is allowed for only MSE 571, NAN 571 or PHY 571 |
| NAN | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |
| NAN | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |
| NAN | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Physics | 1-4 | | |

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|---------|-------------|----------------------------------|---|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|---|
| NAV | 101 | Introduction to Naval Science | Introduces the customs, traditions, missions and regulations of the Department of Defense, United States Navy and United States Marine Corps. Introductory course for the Naval Reserve Officer Training Corps (NROTC) by laying the basic foundation of knowledge about the Navy and Marine Corps required to progress through the NROTC program. Also provides the requisite knowledge to allow follow-on shipboard summer training to be safely and effectively conducted. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Naval Science | 3 | | |
| NAV | 102 | Sea Power and Maritime Affairs | Informs the participants of the historical evolution of sea power for the U.S. Navy and world history. Also covers the evolution of international terrorism and the effects on U.S. strategies and policies regarding potential adversaries. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Naval Science | 3 | | Credit is allowed for only NAV 102 or NAV 194 (Sea Power and Maritime Affairs) |
| NAV | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Naval Science | 1-4 | | |
| NAV | 202 | Navigation | Basic principles, procedures and analytic processes of marine navigation. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Naval Science | 3 | | Credit is allowed for only NAV 202 or NAV 294 (Navigation) |
| NAV | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Naval Science | 1-4 | | |
| NAV | 301 | Naval Ship Systems I | Provides detailed knowledge of naval engineering systems and principles of ship construction. Topics covered include ship design, hydrodynamic forces, stability, conventional and nuclear propulsion, electrical theory and systems, hydraulics and ship control. Concepts of the theory and design of steam, gas turbine and diesel propulsion. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Naval Science | 3 | | Prerequisite(s): minimum 30 hours; Credit is allowed for only NAV 301 or NAV 394 (Navy Ship Systems I - Engineering) OR Visiting University Student |
| NAV | 302 | Naval Ship Systems: Weapons | Overview of the theory and concepts underlying modern weapon systems used aboard naval warships. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Naval Science | 3 | | Prerequisite(s): minimum 30 hours. Credit is allowed for only NAV 302 or NAV 394 Naval Ship Systems II: Weapons |
| NAV | 303 | Evolution of Warfare | Provides marine option students with a basic understanding of the art, science and concepts of war from the beginning of recorded history to the present day. Addresses the interrelationships among technology, politics, culture and society to better understand warfare today and in the future. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Naval Science | 3 | | Prerequisite(s): minimum 30 hours. Credit is allowed for only NAV 303 or NAV 394 Evolution of Warfare |
| NAV | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Naval Science | 1-4 | | |
| NAV | 401 | Naval Operations and Seamanship | In-depth study of numerous aspects relating to the efficient and professional manner of U.S. Navy ships' operations. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Naval Science | 3 | | Prerequisite(s): minimum 30 hours; Credit is allowed for only NAV 401 or NAV 494 (Naval Operations and Seamanship) OR Visiting University Student |
| NAV | 402 | Leadership and Ethics | Applies leadership and ethical theories discussed to an actual leadership or ethical dilemma or issue that Junior Officers in the Fleet or FMF are currently facing or have faced in the recent past. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Naval Science | 3 | | Prerequisite(s): minimum 30 hours; Credit is allowed for only NAV 402 or NAV 494 (Leadership and Ethics) |
| NAV | 403 | Fundamentals of Maneuver Warfare | Focuses on the historical aspect of amphibious operations. Emphasizes how the development of this war fighting discipline played a key role throughout much of the early history of the Marine Corps. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Naval Science | 3 | | Prerequisite(s): minimum 30 hours OR Visiting University Student |
| NAV | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | Department of Naval Science | 1-3 | | |
| NEM | 500 | Research Methods | Course on research methods in a specific discipline. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEM | 501 | Emerging Media | Driven by contemporary case studies, this seminar course overviews the current emerging media markets by exploring latest developments in short-form video, AR/VR, extended reality, documentaries, live digital immersive theatre, virtual production and more. Reviews the history of these emerging media markets and considers the influences of various genres--gaming, theatre, film, TV and art--that inform content created in these new formats. Also looks ahead to the future of emerging media, examining development best practices, funding models including crowdsourcing and grant-funding, audience development as well as client-based commissioned productions that may be critical to their own practice. | N | SEM | N | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Narrative and Emerging Media MA student |

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| NEM | 510 | Narrative Development and Pre-Production | Why are some stories more engaging than others? What are the narrative tools that pull in audiences--to touch, teach and inspire? What are the kinds of stories that move you? Students learn the foundations of good storytelling and pre-production, particularly for short form and emerging media. Assesses the potential interest and impact of different storylines; conducts background research and interviews; develops compelling story arcs and characters; writes voiceover and narrative scripts; explores multiple emerging storytelling modes, including animation and immersive; and applies best practices for pitching and accepting/implementing critique. While primarily focused on nonfiction storytelling, also considers fiction. | N | LEL | N | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Cronkite School of Journalism and Mass Communication graduate student or Herberger Institute for Design and the Arts graduate student |
| NEM | 515 | Emerging Media Production | Immersive storytelling breaks through the fourth wall, bringing audiences into the heart of the story. Viewers are no longer bystanders peering through a screen or a window. Explores the XR techniques artists, filmmakers and producers can use to ensure their audiences are immersed in the narrative. Deepens familiarity with the techniques required to produce emerging media, including exploration of game engine and other technologies for AR/VR/XR and successful short form video techniques. Explorations also include in-class experiments, readings, discussions and viewings. Students become familiar with theoretical understanding of spatial and embodied experience, in contrast to two-dimensional approaches and the development of how that might inform a personal approach for advanced artistic and professional production practices. | N | LEL | N | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | |
| NEM | 520 | AR/VR/XR for Storytelling | Applies game engine technology and techniques to create original and compelling AR/VR/XR work. Students gain advanced skills in game engine workflows and development mechanics to gain an understanding of how 3D programs can create fully immersive narratives. Using techniques previously applied to video games, this course deepens understanding how narrative, interactive and linear, can be powerfully employed using these new technologies. Students learn the strengths and limitations of game engine tools available to ensure immersion, exploring audience interaction techniques as well as 3D environment creation, to create agency for audiences or viewers and to center the story using embodiment. | N | LEL | N | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Narrative and Emerging Media MA student |
| NEM | 525 | Virtual Production for Storytelling | Taught directly on the Planar virtual production stage at the California Center's Hearst Building, provides professional skills necessary for working in virtual production. Techniques used in virtual production are derived from techniques devised for live action production, cinematography, animation and video games, but merge them in using real-time technologies to produce cinematic content. With major Hollywood film and television productions turning to virtual production to capture scenes once reliant on costly visual effects, this course familiarizes students with the crucial workflows to successfully manage and produce narrative using the virtual production pipeline with a focus on the core underlying technologies used in virtual production, including motion capture, performance capture, virtual cinematography, "simulcam" and others. Upon completion of this course, students produce cinematic content captured fully in a game engine that can be directly edited into the professional-level film or television content. | N | STO | N | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Narrative and Emerging Media MA student |
| NEM | 530 | Emerging Media Project Management | Students master advanced skills in emerging media project management, including conceptualization and production workflows for AR/VR/XR, 360 and short-form film and the agile process. Focuses on essential project management techniques from pre-production, a topline budget, production tracking and delivery onto current potential distribution platforms as well as roll out/transmission on those platforms. Students become familiar with project timeline creation, tools for milestone tracking, licensing, audience insight/testing and the key emerging distribution channels such as new social media platforms and social virtual reality spaces. At the end of the course, students complete a fully formed pitch-deck, including concept, project overview narrative summary, budget, schedule, distribution goals and how to assemble a team. | N | LEL | N | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Narrative and Emerging Media MA student |

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| NEM | 550 | Diversity and Ethics in Emerging Media | What is the dominant narrative in emerging media and how can we make sure diverse voices and viewpoints are ethically represented? Students explore these questions and evaluate current ethical and inclusive practices in narrative development, artistic practice and collaboration frameworks. Also focuses on a critical understanding of the importance of and best practices for ethically and diversely sourcing/portraying subjects in projects, particularly children and vulnerable characters; applying ethical decision-making models; analyzing diversity in storytelling; respecting privacy of subjects; as well as exploring content co-creation and collaboration with nonfiction characters. Using one or more forms of emerging media, students create a piece of storytelling anchored in a diverse community and/or subject matter. | N | SEM | N | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Narrative and Emerging Media MA student |
| NEM | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEM | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEM | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEM | 585 | Portfolio | Centers the relationship of artists and journalists to their own work by documenting process and progress through professional asset development and display. Students learn how to craft portfolios representing conceptual and developmental processes, critical thinking, creative ideation and evaluation with strong technical, production and communication skills. During this course, students have access to visiting professionals, specialized professional development opportunities and industry networking, and they build material for both assessment and evaluation of their progress as well as culminating materials for immediate transfer into professional portfolio platforms. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1 | | Prerequisite(s): Narrative and Emerging Media MA student |
| NEM | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEM | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEM | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEM | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEM | 601 | Short Form and 360 Video Production | Students debate, critique and contextualize approaches to short form emerging media and immersive narrative against traditions in film, television, games and interactive media. With a focus on producing short form and 360 filmmaking, students develop an enhanced understanding of writing, developing and storyboarding for short form and immersive productions. Besides learning advanced approaches to implementing best practices and latest techniques for filming, lighting and audio, this course also gives an in-depth understanding of assembling and shooting with 360 cameras and associated audio equipment. Students work toward producing a short emerging media or 360 film using the learned techniques. | N | LEL | N | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Narrative and Emerging Media MA student |
| NEM | 630 | Emerging Media for Clients | Gives students a unique opportunity to work with a leading emerging media industry client to gain invaluable experience developing and producing an emerging media project. Students work to a real-world brief set out by the emerging media company for a live project. The briefs varies according to the needs/project of the emerging media company, but could include projects such as background research, market insight and user testing, writing pitches and R&D experimental work. By the end of the course, students have developed a professional-level understanding of how creative productions are conceived, produced and delivered within emerging media industries. | N | STO | N | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 3 | | Prerequisite(s): Narrative and Emerging Media MA student |
| NEM | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | The Sidney Poitier New American Film School | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| NEU | 101 | Introduction to Neuroscience | Provides an overview of fundamental concepts in the study of brain organization and function. Discusses key principles regarding cellular and molecular mechanisms of neuron function, organization and information processing in sensory and motor systems, endocrine and emotional components of behavior, and cognitive consequences of diseases of the brain. Introduces methods by which these features of brain function are established. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Psychology | 3 | | |
| NEU | 290 | Data Science for Neuroscience Majors | Builds a foundation for understanding and implementing basic research methodology, scientific programming in R, modeling using regression and statistical inference for neuroscience data. A strong foundation in these topics facilitates academic and professional careers in neuroscience. Beyond a career in neuroscience, develops computer programming and statistical literacy skills that are broadly applicable to day-to-day life. Delivered as a blend of lectures, R coding workshops and laboratory assignments where students plot, model and make inferences about data from molecular, systems, behavioral and cognitive neuroscience. These four branches of neuroscience are the four fundamental areas of the neuroscience major. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Psychology | 3 | CS | Pre- or corequisite(s): NEU 101; Credit is allowed for only NEU 290 or NEU 294 (Design and Statistics for Neuroscience) OR Visiting University Student |
| NEU | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-4 | | |
| NEU | 307 | Your Brain on Drugs | Provides an overview of the effects of addictive drugs on the brain from a psychobiology and neuroscience perspective. Covers all classes of addictive drugs, from alcohol to nicotine to heroin to crystal meth. Also discusses topics related to many popular questions about addiction, such as: Is addiction really a disease? Is marijuana a gateway to harder drug use? Do drugs really kill brain cells? Which drug is the most addictive? | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): BIO 181 or PSY 101; minimum 45 hours OR Visiting University Student |
| NEU | 310 | Fundamentals of Cognitive Neuroscience | Provides an overview of major theories, methods and topics of inquiry in the field of cognitive neuroscience. Covers the neural underpinnings of everyday cognitive activities such as attention, memory, decision making, emotion, social interaction and language. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): NEU 101; Credit is allowed for only NEU 310 or NEU 394 (Fundamentals of Cognitive Neuroscience) or PSY 224 or PSY 294 (Introduction to Cognitive Neuroscience) OR Visiting University Student |
| NEU | 323 | Neuroscience of Perception | Designed to understand neural mechanisms underlying our visual experiences from seeing spots of light to recognizing complex visual objects. Includes hands-on experiences on visual illusions, in-class demonstration of neuroimaging techniques (e.g., EEG) and introduction of advanced analysis methods (e.g., neural decoding). | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): NEU 101 with C or better; minimum 30 hours; Credit is allowed for only NEU 323 or NEU 394 (Neuroscience of Perception) or PSY 323 OR Visiting University Student |
| NEU | 325 | Biopsychology | Explores the biological basis of behavior. Covers the basic components and functioning of neurons, the various ways that bodily functions are regulated, how the central nervous system contributes to higher-level cognitive processing, and how malfunctions in the nervous system lead to various psychological disorders. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): NEU 101; BIO 181, BIO 182, BIO 282, CHM 113 or CHM 116 OR PSY 290 OR complete two of the following: BIO 181, BIO 182, BIO 282, CHM 113, CHM 116; Credit is allowed for only NEU 325 or NEU 394 (Biopsychology) OR Visiting University Student |
| NEU | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | College of Liberal Arts and Sciences | Department of Psychology | 1-4 | | |
| NEU | 426 | Neuroanatomy | Structure and function of mammalian brain, including sheep brain dissection. | N | LEL | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 4 | | Prerequisite(s): BIO 181 with C or better; BIO 467, NEU 310, or PSY 325 with C or better; Credit is allowed for only NEU 426 (PSY 426) or PSY 526 OR Visiting University Student |
| NEU | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | |
| NEU | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 1-6 | | Prerequisite(s): Barrett Honors student |
| NEU | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 1-6 | | Prerequisite(s): Barrett Honors student |
| NEU | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| NEU | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 1-3 | | |

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| NEU | 556 | Human Systems Neuroscience | Systems-level neuroscience course focusing on human diseases. Classes involve lectures and/or other activities such as observations of clinical procedures and tours of clinical facilities (e.g., the neurosurgical suite, imaging facilities). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 4 | | Prerequisite(s): BME PhD student or Neuroscience PhD student; Credit is allowed for only BIO 598 (Human Sys Neuroscience) or BME 556 or NEU 556 |
| NEU | 558 | Neuroscience Journal Club | Small class emphasizing discussion, presentation by students, and written research papers. | N | SEM | Y | GNA | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) |
| NEU | 576 | Advanced Cellular and Molecular Neuroscience | Explores the basic neurobiology of the central nervous system across genetic, molecular, cellular, synaptic and circuit levels. Focuses on the principles underlying the function of individual neurons and glia how they give rise to integrated networks during normal behavior and in pathological states | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEU | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): Interdisciplinary Graduate Program in Neuroscience PhD students |
| NEU | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEU | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEU | 599 | Thesis | Supervised research focused on preparation of a thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEU | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEU | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEU | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEU | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NEW | 100 | Introduction to Conflict Resolution | Introduces students to theory, research and practice of communication and language skills which are useful in conflict management, negotiation, transformation, reconciliation and forgiveness. Gives students access to practical exercises and role-playing opportunities. Critical thinking and critical decision-making are embedded in both the theory and the practice in this course and apply to the personal, professional and cross-cultural levels of interaction. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 3 | | |
| NEW | 101 | The ASU New College Experience | Students learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. Required for all first-time, first-year students in the New College of Interdisciplinary Arts and Sciences. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1 | | Prerequisite(s): New College of Interdisciplinary Arts and Sciences major; Credit is allowed only for ASU 101 or NEW 101 OR Visiting University Student |

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| NEW | 101-H | The ASU New College Experience | Students learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. Required for all first-time, first-year students in the New College of Interdisciplinary Arts and Sciences. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1 | | Prerequisite(s): New College School of Humanities, Arts, and Cultural Studies major; Credit is allowed only for ASU 101 or NEW 101 |
| NEW | 101-M | The ASU New College Experience | Students learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. Required for all first-time, first-year students in the New College of Interdisciplinary Arts and Sciences. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1 | | Prerequisite(s): New College School of Mathematical and Natural Sciences major; Credit is allowed only for ASU 101 or NEW 101 |
| NEW | 101-S | The ASU New College Experience | Students learn about ASU's mission as the New American University, the importance and benefits of an entrepreneurial approach to problem solving, solutions to sustainability challenges, and the importance of social embeddedness. Additionally, through various course discussions and assignments, students examine the concept of academic integrity and its potential impact on their future, gain awareness of the value of engaging in research activities, and learn about taking an interdisciplinary perspective. Required for all first-time, first-year students in the New College of Interdisciplinary Arts and Sciences. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1 | | Prerequisite(s): New College School of Social and Behavioral Sciences major; Credit is allowed only for ASU 101 or NEW 101 |
| NEW | 102 | Global Transformations | Focuses on the various economic, historical, cultural, environmental, technological and political forces that have transformed our world into an increasingly interconnected global community. To be a responsible and engaged global citizen necessitates understanding globalization and its implications for our future. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1 | | Credit is allowed for only NEW 102 or NEW 194 (Global Transformations) |
| NEW | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1-3 | | Prerequisite(s): freshman standing with 25 or fewer hours |
| NEW | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1-4 | | |
| NEW | 200 | Innovation Challenge, Service Learning and Leadership | Integrates academic coursework with lessons in leadership, community engagement and service learning in order to cultivate students' civic mindedness, knowledge and sensibility to issues of social justice and community engagement. Students develop solutions to real-life challenges and participate in implementing a community-based service learning project. Applying multicultural engagement and interdisciplinary knowledge and critical thinking skills to civic responsibility, course provides students with skills and knowledge applicable to the mission and goals of ASU and the New College. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 3 | | Credit is allowed for only NEW 200 or IAS 294 (Innovation Challenge, Service Learning, Leadership) |
| NEW | 202 | Interdisciplinary Transformations | Examines how interdisciplinary approaches to knowledge can successfully address topics that are too broad or complex to be dealt with adequately by a single discipline. Exposes students to interdisciplinary research and problem solving, in oral and written communication, and in the synthesis of diverse perspectives. Familiarity and understanding of interdisciplinarity prepares students to engage in the type of complex thinking necessary for success in life and career, no matter the major or job path, and for better understanding our complex world. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1 | | Prerequisite(s): NEW 102 or 194 (Global Transformations); Credit is allowed for only NEW 202 or NEW 294 (Social Transformations) OR Visiting University Student |
| NEW | 210 | From Passion to Practice: Charting Your Path | Part self-discovery, part professional boot camp, this highly interactive course allows students to explore their strengths and passions and utilize them most effectively in their careers. Drawing upon the expertise of successful leaders and organizations from diverse professions as they are presented in text, video and in person, students learn skills and methodology that prepare them for entry into a fulfilling profession. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 3 | | Credit is allowed for only IAS 294 (Passion to Practice: Charting Your Path) or NEW 210 OR Visiting University Student |

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| NEW | 225 | Building a Better You | Equips students to manage their lives effectively and integrate beliefs, values and skills into fulfilling careers. Students develop a focused career path based upon their learning profile, interests and self-knowledge. Develops critical thinking and reading skills needed for effective decision making and communication. Uses the Let Me Learn Advanced Learning System® to enhance self-awareness and growth. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 3 | | |
| NEW | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1-4 | | |
| NEW | 300 | International Cities | Expands the global awareness of students through intensive study of a major international city. Students study such areas as the history, political system, economy, geography, architecture, science, technology, arts and/or culture of the city before visiting it physically during a break. While abroad, students build on what they have learned in class by exploring the city and experiencing it firsthand. | N | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| NEW | 302 | Personal Transformations | Provides a structured approach as to how students can synthesize and reflect upon their general studies experience via the completion of an ethical will. Through an iterative writing process, students compose a document which outlines how their thoughts have developed and evolved over their course of study. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1 | | Prerequisite(s): NEW 102 or 194 (Global Transformations); NEW 202 or 294 (Social Transformations) OR Visiting University Student |
| NEW | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1-4 | | Prerequisite(s): minimum 45 hours |
| NEW | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1-12 | | Prerequisite(s): minimum 45 hours |
| NEW | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| NEW | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| NEW | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| NEW | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | New College of Interdisciplinary Arts and Sciences | Dean, New College of Interdisciplinary Arts and Sciences | 1-3 | | |
| NLM | 160 | Voluntary Action and Community Leadership | Introduction to voluntary behavior in American society for students interested in volunteerism, community service, and civic engagement. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | SB | |
| NLM | 203 | Program Planning | Overview of the conceptual foundations and professional competencies necessary to effectively assess, plan, implement and evaluate programs. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Credit is allowed for only CSM 203 or NLM 203 or PRM 203 OR Visiting University Student |
| NLM | 220 | Introduction to Nonprofit Organizations | Introduces the nonprofit sector and its role in developing the cultural, economic, and social impact in U.S. society. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | |
| NLM | 235 | Leadership and Ethics | Examines ethical questions faced by emerging leaders. Focuses on helping students develop emotional intelligence, current professional issues, and the refinement of a professional philosophy and comprehensive set of competences that enable transition from student to professional. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Credit is allowed for only CRD 235 or NLM 235 |
| NLM | 300 | Fund Raising and Resource Development | Theory and practice of philanthropy, resource acquisition methods through ethical fund raising, and earned income approaches for nonprofit organizations. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | |
| NLM | 310 | Volunteer Management | Studies volunteer engagement practices integral to community organizations introducing management techniques such as program organization, recruitment, interviewing, placement, supervision, recognition and evaluation. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only NLM 310 or PRM 310 OR Visiting University Student |
| NLM | 320 | Professional Development Seminar | Professional seminar featuring nonprofit executives; variable topics on leadership and management concerns. Forum for exchange between students and professionals. | N | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 2 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| NLM | 380 | Financial Management for Nonprofit Organizations | Instructs students about nonprofit financial, management, and social accounting; accounting issues specific to nonprofits; budgeting; reporting; and nonprofit analysis. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): NLM 220 with C or better OR Visiting University Student |
| NLM | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |

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| NLM | 402 | Assessment and Evaluation of Community Services | Introduces applied leisure research with emphasis on program evaluation, research design, data collection techniques, and data analysis. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 210 or PRM 210; Credit is allowed for only CRD 402 or CSM 402 or NLM 402 or PRM 402 or TDM 402 OR Visiting University Student |
| NLM | 410 | Social Entrepreneurship | In-depth study of social entrepreneurship, including how ideas are formulated, constructed, and implemented; experiential learning in developing a social enterprise plan. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only NLM 410 or PAF 415 (CPP 410) OR Visiting University Student |
| NLM | 420 | Nonprofit Leadership Alliance Institute | Nonprofit Leadership Alliance Institute for preparation of nonprofit professionals. Requires out-of-state conference. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| NLM | 430 | Managing Nonprofit Organizations | Analyzes administrative structures, decision making, and program delivery within nonprofit organizations. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; NLM 220 with C or better OR Visiting University Student |
| NLM | 435 | Service Learning for Community Development | Applies community development and service-based learning applications. Students develop a professional relationship with an agency/organization management-level representative. Through this professional relationship, a service-learning plan is developed in a partnership with an agency/organization related to the student's degree program. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CRD 435 or NLM 435 OR Visiting University Student |
| NLM | 440 | Nonprofit Professional Certification | Prepares students to sit for the Certified Nonprofit Professional national credentialing examination. | N | LEC | N | Z2 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1 | | Prerequisite(s): NLM 320; Pre- or corequisite(s): NLM 420; Credit is allowed for only NLM 440 or NLM 494 (CNP Certification) or NLM 598 (CNP Certification) OR Visiting University Student |
| NLM | 451 | Grant Writing | How to increase grant funding: creating fundable ideas, identifying sponsors, following guidelines, writing effectively, constructing budgets, responding to reviewers. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Credit is allowed for only NLM 451, 565 or PRM 451 |
| NLM | 463 | Senior Internship | Supervised guided experience in selected agencies. | N | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3-12 | | Prerequisite(s): CRD 403 or RTH 413 (PRM 413) with C or better; Credit is allowed for only CRD 463 or CSM 463 or NLM 463 or PRM 463 or RTH 463 or TDM 463 |
| NLM | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | Prerequisite(s): minimum 45 hours |
| NLM | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-6 | | Prerequisite(s): Barrett Honors student |
| NLM | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| NLM | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |
| NLM | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| NLM | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-3 | | |
| NLM | 510 | The Nonprofit Sector | Provides grounding in scope, function and philosophical foundations of the nonprofit sector in American society, including civic engagement, service delivery, reproduction of values and entrepreneurship. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 515 | Nonprofit Organizational Behavior and Principles of Management | Organizational behavior theories and effective management practices for nonprofits. Focuses on designing systems and developing habits to optimize the performance of individual employees and teams, in the context of the organization's goals, culture and capacity. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only NLM 515 or NLM 598 (Nonprofit Organizational Behavior) |
| NLM | 520 | Financial and Resource Management | Baseline understanding of key and critical financial management issues and practices for nonprofit organizations. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 525 | Fundraising and Resource Development | Examines fundraising and resource development in philanthropy from the perspective of the nonprofit practitioner. Also examines issues confronting nonprofit organizations related to fundraising and philanthropic purposes in society. Increases students' knowledge and understanding of charitable giving and fundraising--who gives to what, why, and how to raise funds for a cause. Examines a wide range of fundraising methods and tools. Focuses on critical thinking, reflection on practice, collaboration, discussion and writing. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| NLM | 530 | Program Evaluation and Information Management | Develops skills in several areas, including evaluation, needs assessment, information and data collection, data management and analysis, computer applications, and report writing. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 540 | Strategic Human Resources Management | Managing human resources in nonprofit organizations; practices and theories. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 545 | Volunteer Resource Management | Core topics in effective management of volunteers in carrying out the mission of organizations and ensuring volunteers have good experience with community organizations. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 550 | Philanthropy | Examines the role of philanthropy and charitable giving in contemporary American society from perspectives of the nonprofit practitioner, the philanthropist and the general public. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 560 | Leadership and Ethics in the Nonprofit Sector | Examines leadership and ethical questions encountered by managers and leaders in the nonprofit organizations. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 562 | Social Entrepreneurship | Introduces social entrepreneurship, including how ideas are formulated, constructed, and implemented; experiential learning in developing a social enterprise plan. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 565 | Grant Writing Nonprofit Organizations | Provides practical, experiential instruction identifying grant makers, writing proposals, developing budgets and evaluating grant proposals for the nonprofit sector. Develops proposals with a partner nonprofit organization. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only NLM 451 or NLM 565 or PRM 451 |
| NLM | 570 | International Non-Governmental Organizations | Increases knowledge and understanding of international non-governmental organizations by examining what these organizations do and how they operate in a cross-cultural context. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 572 | Community and Social Innovations | Considers community innovation and development from the perspective of achieving balance among economic, environmental, social, physical and political realms as a framework of sustainability. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CRD 572 or NLM 572 |
| NLM | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 585 | Social Marketing | Covers a wide spectrum of topics associated with marketing and strategic communications for socially oriented organizations wanting to influence behavior for social change. Students gain a broad understanding of the principles and practices of marketing through theoretical and practical perspectives and have an opportunity for "hands-on" application. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only NLM 585 or NLM 598 (Nonprofit Marketing and Communications) |
| NLM | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | IND | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| NLM | 605 | Nonprofits, Law and Society | Enhances the legal sensibilities of nonprofit leaders and engaged stakeholders. This necessitates critical in-depth understanding of: (1) legal needs common to all nonprofit organizations, regardless of mission or area of focus such as nonprofit corporation law, tax-exempt status, fiduciary duties and fundraising and lobbying ethics and parameters; (2) commonalities among nonprofit, for-profit and governmental enterprises operating within similar spheres of society, especially the importance of nonprofit organizations' compliance with laws generally applicable to specific subsectors such as contracts, labor and employment, volunteer and premises liability, and intellectual property; and (3) the overall importance and impact of legal structures on nonprofit organizations' abilities to successfully pursue their missions for the benefit of society. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 610 | Executive Leadership and Governance | Examines the multiplicity of roles for executives and board of directors in providing strategic leadership for nonprofits. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NLM | 620 | Capstone: Integrative Seminar | Synthesizes learning across MNLN program; analyzes emergent nonprofit and philanthropic sector trends; develops leadership approaches to enact social impact; develops and defends Capstone Solutions Project. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): Nonprofit Leadership and Management MNLN student; NLM 510; NLM 520; NLM 530; NLM 540 or 545; NLM 550 |
| NTR | 100 | Introduction to Nutrition Science | Introduces the science of food and nutrition as well as food systems. Focuses on personal dietary behavior change and sustainable dietary recommendations targeting human and environmental health to minimize risk of chronic disease. Overview of healthy dietary patterns, nutrients and energy balance and the digestive system. Addresses food systems issues, cultural aspects of food, and methods for evaluating credibility of nutrition information in the media as well as nutrition science. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |
| NTR | 142 | Applied Food Principles | Applied scientific principles of food preparation and production. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |
| NTR | 150 | Introduction to the Professions in Nutrition and Dietetics | Introduces the professions of nutrition and dietetics. Emphasizes the scope of dietetics practice, the role and functions of registered dietitian nutritionists and the education requirements for entry into practice. Includes guest presentations by various nutrition professionals. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 1 | | |
| NTR | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| NTR | 241 | Human Nutrition | Introduces nutritional concepts with an emphasis on evidenced-based guidelines and practices. Students explore the macronutrients and micronutrients in food, how these nutrients are utilized by the body and their effect on overall health and disease. Also discusses what makes a 'healthy diet,' dietary eating patterns, energy balance and body weight. Students learn techniques to assess the credibility of nutrition information in the media, on the Internet and in scientific journals. Additional topics also include cultural aspect of food, food sustainability and food safety. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): CHM 101, 113, or 114 OR Visiting University Student |
| NTR | 290 | Introduction to Evidence-Based Research in Nutrition | Introduces best practices for gathering, interpreting, analyzing, synthesizing and evaluating research within the nutrition field. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s) w/ C or better: College of Health Solutions major; ENG 101, 105, or 107; ECN 221, HCD 300, JUS 302, PBH 300, POS 401, PSY 230, SOC 390, STP 226, STP 231 or SWU 321; Credit allowed for only KIN 290 or NTR 290 OR Visiting University Student |
| NTR | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| NTR | 300 | Computer Applications in Food Service | Introduces common uses of software and technology in the food service environment, including dietary assessment and analysis, point of sale, and food inventory and control. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): NTR 100 or 241 OR Visiting University Student |
| NTR | 302 | Digital Technologies in Nutrition | Students will learn to leverage existing digital technologies ethically and efficiently to solve problems, complete tasks, and accomplish goals related to nutrition. Students will learn effective adaptability to new and emerging technologies. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): NTR 100 or 241; Credit is allowed for only NTR 302 or NTR 394 (Digital Technologies in Nutrition Communication) OR Visiting University Student |
| NTR | 320 | History of Human Nutrition | Origins of human nutrition; evolving theories of nutrition and disease; historical role of nutrition in social, military, cultural events. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | H | Prerequisite(s): NTR 100 or 241 OR Visiting University Student |

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| NTR | 341 | Medical Nutrition Therapy I | Studies medical nutrition therapy and evidence-based practice for health promotion and prevention and treatment of disease. Covers nutrition care planning and therapeutic diets for a variety of conditions including diabetes, cardiovascular disease and neurological conditions. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): CHS 260 with C or better; NTR 100 or 241 with C or better OR Visiting University Student |
| NTR | 343 | Food Service Purchasing | Introduces purchasing systems, bid processes, receiving and storage procedures, and regulatory agencies involved in the food service industry. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): NTR 100 or 241 OR Visiting University Student |
| NTR | 344 | Nutrition Management and Leadership | Students gain a greater understanding of organizational structure, culture, administration, traits, values, diversity, marketing, budget development, unions, and more, all through the lens of management and leadership. Students also utilize their research and writing skills to investigate a variety of management topics. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; NTR 100 or 241 OR Visiting University Student |
| NTR | 345 | Development of Healthy Cuisines | Principles and applications of nutrition, food selection, food preparation and mindful eating in the development of healthy cuisine for wellness, prevention and disease states. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): NTR 100 or 241 OR Visiting University Student |
| NTR | 348 | Cultural Aspects of Food | Explores origins, development and diversity of food preferences and dietary habits. Also addresses food patterns and attitudes of global populations and the role of U.S. immigrants in shaping food culture. Requires students to prepare and try new cultural and ethnic foods in this course. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | SB & C & G | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| NTR | 350 | Nutrition Counseling | Counseling techniques in nutrition; interpersonal and communication skills in clinical and community sites; nutrition education for individuals and populations. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): NTR 341 or 345 with C or better OR Visiting University Student |
| NTR | 351 | Nutrition Communication | Explores how to best communicate evidence-based nutrition messages to help promote change. Covers written and oral communication approaches for health professionals or lay audiences. Course concepts include health literacy, tailoring messages to a target audience and simplifying the language. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; NTR 100 or 241 with C or better; NTR 290 with C or better or Applied Science (Food and Nutrition Entrepreneurship) BAS major OR Visiting University Student |
| NTR | 353 | The Western Diet | Covers political, ethical, social and cultural issues inherent in the U.S. food system. Topics include examination of U.S. food guidance; the food system and food environment; the history of food and farm policy; food security and aspects of sustainability in relation to food system impacts on the health of humans, society and the environment. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only NTR 353 or SOS 353 OR Visiting University Student |
| NTR | 360 | Nutrition Entrepreneurship | Explores entrepreneurial opportunities in nutrition, food service, wellness and health communications. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| NTR | 390 | Current Nutrition Research | Covers nutrition research concepts that help prepare students for beginning an undergraduate experiential learning or research project. Teaches the basics of undergraduate research focusing on identifying research topics and potential research mentors/faculty, performing literature reviews, critiquing scientific articles, evaluating ethics and participant safety, and proposal writing. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 290 or NTR 290 with C or better; NTR 100 or 241 with C or better; minimum 56 hours OR Visiting University Student |
| NTR | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| NTR | 400 | Preprofessional Preparation in Dietetics | Assists the senior dietetics student in navigating the process of selecting potential internships and applying for internships through DICAS. Focuses on each student's unique professional development needs with projects designed to explore career paths, network, and/or to develop career development skills. Provides an overview of the dietetics profession. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): Dietetics BS major; NTR 341 with C or better; minimum senior standing OR Visiting University Student |
| NTR | 401 | Preprofessional Fieldwork Experience in Nutrition | Students complete 45 hours of fieldwork experience within their area(s) of professional interest to develop practical skills in planning, development, production and collaboration. Course also includes resume and LinkedIn profile development. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prereq(s): Applied Sci (Food & Nutrition Entrep) BAS, Food & Nutrition Entrep BS, Nutrition BS, Nutrition (Human Nutrition) BS, or School Nutrition cert student; senior standing; Pre- or corequisite(s): NTR 343, 351, or 444 OR Visiting University Student |
| NTR | 402 | Preprofessional Prep in Nutrition Careers | Prepares students for nutrition-related career opportunities in their final year. Focuses on each student's unique professional development needs with projects designed to explore career paths, network and/or develop career development skills. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): Applied Science (Food and Nutrition Entrepreneurship) BAS, Food and Nutrition Entrepreneurship BS, or School Nutrition certificate student; senior standing; Pre- or corequisite(s): NTR 343, 351, or 444 with C or better if completed |

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| NTR | 440 | Advanced Human Nutrition I | Explores the metabolic reactions in humans that involve vitamins and minerals. Students learn how these micronutrients and phytochemicals interact with one another to influence health and disease, explore how genetic variability alters the metabolism of vitamins and minerals, and integrate micronutrient nutrition with physiology and biochemistry to optimize health and prevent metabolic disease. Students immerse themselves in a content-rich learning environment, engage with one another in lectures and in-class discussions, and apply information they have learned in team projects. They also enhance their skills in evidence-based approaches to nutrition science and dietetics by critiquing scientific articles with a micronutrient focus. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BIO 202 with C or better; NTR 241 with C or better; NTR 341 with C or better; Pre- or corequisite(s): BCH 361 with C or better if completed; Credit is allowed for only NTR 440 or NTR 540 OR Visiting University Student |
| NTR | 441 | Advanced Human Nutrition II | Metabolic reactions and interrelationships of carbohydrate, lipid, alcohol and protein. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BCH 361 with C or better; BIO 202; NTR 241; Credit is allowed for only NTR 441 or NTR 541 OR Visiting University Student |
| NTR | 442 | Experimental Functional Foods | Food product development techniques, food evaluation and testing, and investigation of current research into food composition. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Pre-requisite: CHM 101 or CHM 113; NTR 142; NTR 100 or NTR 241 |
| NTR | 444 | Medical Nutrition Therapy II | Covers the principles of medical nutrition therapy for prevention and treatment of disease and health promotion. Emphasizes medical nutrition therapy for pediatrics, critical care, nutrition support, renal, liver, cancer and HIV/AIDS patients. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BIO 202 with C or better; NTR 341 with C or better; Credit is allowed for only NTR 444 or NTR 544 OR Visiting University Student |
| NTR | 445 | Management of Food Service Systems | Reviews standardized methods of quantity food preparation, operation of institutional equipment, and institutional menu planning. Includes practical experience with menu creation, food preparation, and management of all aspects necessary to produce menu items in a commercial kitchen or large food service production environment. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): NTR 100 or 241 with C or better; NTR 142 with C or better; NTR 343 with C or better; Credit is allowed for only NTR 445 or NTR 545 OR Visiting University Student |
| NTR | 446 | Medical Nutrition Therapy III | Nutrition therapy for advanced practice including critical care, advanced wound care and failure/compromise of organ systems. Develops critical thinking skills to perform and evaluate nutrition assessment techniques including the NFPE and interpretation of malnutrition, laboratory data and nutrition support therapy in relation to disease process and progression. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): NTR 444 with C or better; Pre- or corequisite(s): BCH 361 with C or better if completed; Credit is allowed for only NTR 446 or NTR 546 OR Visiting University Student |
| NTR | 448 | Community Nutrition | Includes content related to community nutrition screening and assessment, nutritional epidemiology, nutrition monitoring and food assistance programs, public policy, nutrition interventions for vulnerable populations, planning effective community nutrition programs, grant writing, nutrition marketing and designing nutrition education programs. Students work in teams to analyze a specific community and population, conduct a literature review on nutrition concerns with their group, then design a community intervention and nutrition education lesson. Students also complete 10 hours of fieldwork in a community nutrition field outside of the classroom. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; NTR 100 or 241; Credit is allowed for only NTR 448 or NTR 548 OR Visiting University Student |
| NTR | 450 | Nutrition in the Life Cycle | Reviews nutritional needs and nutrition-related conditions in different stages of the life cycle. Course topics include pregnancy, lactation, infancy, childhood, adolescence and older adulthood. Reviews how developmental changes at each life stage contribute to specific diet characteristics and nutritional needs. Also covers how cultural, environmental, behavioral, psychosocial, physical and socioeconomic factors affect nutritional status through the life span. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | SB | Prerequisite(s): NTR 100 or 241; Credit is allowed for only NTR 450 or NTR 550 OR Visiting University Student |
| NTR | 453 | Nutrition and the Media | Examines various aspects of nutrition and the media, including how food and nutrition professionals use the media in their career, how the media constructs our cultural views of food and body image, and how to frame nutrition messages to make them more newsworthy. Also explores the fields of food writing and food journalism. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| NTR | 455 | Retail Food Service Operations | Development, evaluation and management of retail food service operations; legal and ethical issues in food and beverage management. Capstone course for food management degrees. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): NTR 100 or 241; minimum junior standing OR Visiting University Student |
| NTR | 457 | Sports Nutrition | Provides a foundation in sports nutrition and addresses the nutritional needs of various types of athletes. Topics include energy and nutrient metabolism during activity, fluid and electrolyte regulation, the evaluation of sports supplements, and travel nutrition. Students also gain experience in developing and providing educational sports nutrition materials outside of the classroom. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BIO 160 or 201; NTR 241 OR Visiting University Student |

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| NTR | 480 | Integrative and Functional Nutrition | Emphasizes use of food as medicine for improving health and treating disease while integrating complementary evidence-based therapies. Develops critical thinking and communication skills to perform assessments and develop care plans that account for the biological, genetic, social, emotional, cultural and spiritual needs of individual patients and clients. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): NTR 100 or 241 with C or better; minimum 56 hours OR Visiting University Student |
| NTR | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): minimum 2.00 GPA; minimum junior standing |
| NTR | 490 | Undergraduate Research Methods in Nutrition | Engages students in research methods in the field of nutrition. Provides an overview of common measurements and study designs that are used in health and nutrition research. Applies knowledge to conducting mini-studies and a class-based research project. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 290 or NTR 290 with C or better; NTR 100 or 241 with C or better; minimum 56 hours OR Visiting University Student |
| NTR | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): Barrett Honors student |
| NTR | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| NTR | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| NTR | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-7 | | |
| NTR | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-3 | | |
| NTR | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Dietetics MS, Medical Nutrition MS, or Nutritional Science MS student |
| NTR | 501 | Research Methods in Nutrition | Reviews survey, focus group, and epidemiologic research; develops questionnaires; analyzes large data sets. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Nutritional Science MS or Nutritional Science (Dietetics) MS student; EXW 501 or NTR 502 with C or better; NTR 500 with C or better |
| NTR | 502 | Statistics in Research | Covers the fundamental principles of the scientific process. Critically reviews scientific articles including review articles. In particular, students understand study limitations and how they impact data interpretation and generalizability. Basic training in statistical analyses using the statistics program SPSS. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Dietetics MS or Medical Nutrition MS student; Credit is allowed for only NTR 502 or NTR 598 (Statistics in Research) |
| NTR | 503 | Designing Health Behavior Change Interventions | Project-based course focuses on the process of health behavior change interventions using design process and behavioral science. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Nutritional Science MS, Nutritional Science (Dietetics) MS, or Exercise and Nutritional Sciences PhD student |
| NTR | 510 | Food and Nutrition Across the Lifespan | Examines the nutritional needs of humans as they move through the lifespan from pre-conception through elder years. Highlights conditions that may alter or substantially impact nutrition at these stages using case studies and medical reviews. Reviews programs that provide support for food or nutrition education at various life stages including changes in needs for specific macronutrients and micronutrients. Diet assessment techniques and diet prescription strategies to meet needs during various life stages. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Medical Nutrition MS student |
| NTR | 511 | Medical Nutrition in the Care and Prevention of Disease | Provides an overview of the role of nutrition in medical practice and disease prevention. Includes an introduction to nutrition-based approaches in the prevention and treatment of chronic diseases such as obesity, cardiovascular disease, diabetes, cancer and gastrointestinal diseases. Discusses integrative aspects of nutrition along with review of normal digestion and absorption and a discussion of disorders arising from abnormalities in these processes. An introduction to clinical nutrition assessment and the basics of nutrition support will also be provided. Utilizes relevant clinical case discussions along with review of the literature and current authoritative guidelines to reinforce the content. Students learn how to individualize nutrition recommendations and utilize motivational interviewing for patients with the various above-listed needs. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Medical Nutrition MS student |
| NTR | 519 | Nutrition Therapies for Eating Disorders and Addictions | Critical review of the specialized role that dietitians play in the treatment of eating disorders, disordered eating, and substance use disorders as they relate to medical nutrition therapy, dietary interventions and long-term recovery in an individualized and treatment team approach. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only NTR 519 or NTR 598 (Nutrition Therapy for Eating Disorders and Addictions) |

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| NTR | 520 | Nutrition-Focused Physical Assessment | Covers evidence-based information on how to perform a comprehensive Nutrition-Focused Physical Examination. Develops skills needed to accurately identify and determine proper nutrition diagnosis for patients with malnutrition. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only NTR 520 or NTR 598 (Nutrition-Focused Physical Assessment) |
| NTR | 523 | Vegetarian Nutrition | Health benefits, nutritional characteristics, potential risks of vegetarian diets. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 524 | Chronic Inflammation and Metabolic Syndrome: The Common Pathway for Cardiovascular Disease, Diabetes | Examines how diet and lifestyle contribute to the development of metabolic syndrome. Reviews and discusses various risk factors that comprise metabolic syndrome through lectures and readings. Reviews chronic inflammation as a common etiology for chronic disease. Highlights nutrition interventions to treat and to prevent chronic inflammation using case studies and medical reviews. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Medical Nutrition MS student, Nutritional Science MS student, or Nutritional Science (Dietetics) MS student |
| NTR | 525 | Complementary Nutrition | Critical review of functional foods, phytochemicals, nutrient supplements in health promotion. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Medical Nutrition MS student, Nutritional Science MS student, or Nutritional Science (Dietetics) MS student |
| NTR | 527 | Policies, Environment, and Obesity Prevention | Enhances students' understanding of the role policies and environments play in health promotion and disease prevention with a special focus on obesity prevention. Looks at a variety of examples to see how policies and environments related to food, nutrition and physical activity affect individual and community health. Also explores how "non-health" policies can be used as an effective tool to promote healthy behaviors. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 529 | Pediatric Nutrition | Critical review of pediatric disease states and current nutritional therapies. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Nutritional Science MS or Nutritional Science (Dietetics) MS student |
| NTR | 530 | Techniques of Health Coaching | Health coaching techniques and skills for medical, allied health and health promotion professionals. The content illustrates the theory, principles and practices of evidence-based coaching psychology. Aligns with the training programs affiliated with Wellcoaches® (endorsed by the American College of Sports Medicine). Designed in three parts: (1) building of core coaching skills; (2) establishing generative moments with clients; and (3) developing coaching presence and positive psychology. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HSC 440 or NTR 530 or HSC 598 (Health Coaching Concepts and Skills) |
| NTR | 532 | Endocrine Pathophysiology and Nutrition | Explores the etiology of various endocrine pathophysiological conditions. Throughout the course, students learn the etiology of common conditions and are responsible for finding and presenting evidence for nutrition-based treatments for these conditions. At the conclusion of the course, students gain an appreciation and understanding of current research in nutrition-based approaches to treat endocrine disorders. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 533 | Food Systems, Ethics and the American Diet | Focuses on health-related, political and ethical issues inherent in the U.S. food system. Topics include food systems models, dietary recommendations and regulations, food environment, food politics, ethical questions of food choice, sustainability and more. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 535 | Nutrigenomics | Provides a sound foundation for promoting personalized nutrition by integrating and applying molecular nutrition and nutritional biochemistry to clinical settings. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Medical Nutrition MS student, Nutritional Science MS student, or Nutritional Science (Dietetics) MS student |
| NTR | 537 | Evidenced-Based Nutrition | Reviews current evidence of the role of diet on disease prevention, development, and management. | N | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Nutritional Science MS or Nutritional Science (Dietetics) MS student |
| NTR | 539 | Global Nutrition | Provides an overview of global nutrition issues, including the epidemiology, etiology, sociocultural and economic context, and program and policy responses to nutrition-related topics. Areas to be covered include childhood malnutrition, growth stunting, micronutrient deficiencies, parasites and nutrition, sanitation, and obesity and chronic disease incidence in developing countries. Course is participatory; students engage in a series of class activities, discussions, and presentations. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 540 | Advanced Micronutrient Metabolism | Metabolism of vitamins and minerals, primarily as applied to humans, with research literature emphasized. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only NTR 440 or 540 |
| NTR | 541 | Advanced Macronutrient Metabolism | Metabolism of protein, fat, and carbohydrate, primarily as applied to humans, with research literature emphasized. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only NTR 441 or 541 |
| NTR | 544 | Therapeutic Nutrition | Current theories of the nutritional prevention or treatment of various diseases. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only NTR 444 or 544 |
| NTR | 545 | Management of Institutional Food Service Systems | Standardizes methods of quantity food preparation, operation of institutional equipment, institutional menu planning, quantity food experiences. May require field trips. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only NTR 445 or 545 |

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| NTR | 546 | Assessment Techniques in Nutrition | Clinical and biochemical evaluation of nutritional status. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only NTR 446 or NTR 546 |
| NTR | 548 | Advanced Community Nutrition | Planning, development, implementation, and evaluation of community nutrition programs, including the process of grant applications. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only NTR 448 or 548 |
| NTR | 550 | Advanced Nutrition in the Life Cycle | In-depth review of metabolic characteristics and nutritional needs during pregnancy and lactation, infancy, childhood, adolescence, adults and older adults. Analysis of cultural, environmental, behavioral, psychosocial, physical and socio-economic factors affecting nutritional status through the life span. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 551 | Geriatric Nutrition | Explores the impact of nutrition on the aging process and how the aging process influences nutritional needs. Examines the physiology, demographics and economics of aging as well as issues such as end-of-life care. Addresses health promotion, disease prevention and disease management within the context of geriatric nutrition. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Nutritional Science MS or Nutritional Science (Dietetics) MS student |
| NTR | 553 | Nutrition and Cardiovascular Disease | Reviews current evidence of the role of diet on cardiovascular disease prevention, development and management. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): NTR 541. Credit is allowed for only NTR 553 or NTR 598 (Nutrition and Cardiovascular Disease) or NTR 537 (Cardiovascular Nutrition) |
| NTR | 555 | Nutrition and the Athlete | In-depth study of current practices in sports nutrition and review of scientific literature. Also investigates the application of sports nutrition methodologies. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Clinical Exercise Physiology MS, Exercise and Nutritional Sciences PhD, Nutritional Science MS, Nutritional Science (Dietetics) MS, Physical Activity and Health MS, or Strength and Conditioning MS student |
| NTR | 556 | Hydration for Health and Performance | Comprehensive overview of human thermoregulatory responses and fluid balance to exercise in the heat. Provides students with the opportunity to learn the in-depth thermoregulatory responses to heat and the complication related to exercise-induced hyperthermia as well as water and electrolyte imbalances. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only NTR 556 or NTR 598 (Thermoregulation and Fluid Balance) |
| NTR | 557 | Nutritional Epidemiology | Designed for graduate students interested in conducting epidemiologic studies, or learning how to interpret and evaluate evidence from epidemiologic studies relating diet and nutritional status to disease risk and health. Familiarizes students with concepts and methodologies used in nutritional epidemiologic studies, and current state of knowledge on diet in etiology of chronic diseases. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only NTR 557 or NTR 598 (Nutritional Epidemiology) |
| NTR | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree-seeking graduate student |
| NTR | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| NTR | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | GNA | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): Exercise and Nutritional Sciences PhD student |
| NTR | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NTR | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Health Solutions | College of Health Solutions | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NUR | 300 | Professional Nurse Concepts I | Introduces students to professional nursing attributes. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): enrollment into upper-division Nursing program; Pre- or corequisite(s): NUR 325; NUR 336; NUR 352 |
| NUR | 310 | Health and Illness Concepts: Beginning | Applies physiologic and psychosocial health and illness concepts in the client domain with exemplars from across the lifespan. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): Nursing BSN major in clinical program |
| NUR | 311 | Pharmacology in Nursing | Applications of pharmacologic interventions. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Nursing major in clinical program OR postbaccalaureate Clinical Nursing Program major |
| NUR | 312 | Psychomotor Skills for Professional Nursing Practice | Theoretical foundation for application of psychomotor nursing skills to professional nursing practice. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): Nursing major in clinical program |
| NUR | 313 | Nursing Concepts for Adult Health | Nursing concepts related to selected alterations in health with focus on adult populations. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): NUR 310 and NUR 311 and NUR 330 all with C or better if completed; NUR 320 with Y passing grade; Corequisite(s): NUR 323 |
| NUR | 315 | Nursing Research and Application to Practice | Provides scientific and clinical inquiry and research methodology along with concepts needed for integration of evidence into practice. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | L | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program; ENG 101, 105, or 107 with C or better |
| NUR | 316 | Nursing Concepts for Psychiatric/Mental Health | Theoretical concepts related to select psychiatric/neurobiological disorders as they affect nursing practice, with focus on individuals, families, and groups. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): NUR 310 with C or better if completed; NUR 311 with C or better if completed; NUR 330 with C or better if completed |
| NUR | 317 | Nursing Concepts for Psychiatric/Mental Health Nursing | Theoretical concepts related to select and/or prevalent psychiatric/neurobiological disorders as they affect nursing practice, with focus on individuals, families and groups. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): NUR 311 with C or better; NUR 330 with C or better; NUR 356 with C or better; NUR 366 with Y grade; Corequisite(s): NUR 367 |
| NUR | 318 | Nursing Research and Evidence Translation | Explores the process of scientific and clinical inquiry, research methodology, critical appraisal of research findings, and the translation of current evidence into nursing practice. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | L | Prerequisite(s): ECN 221, PSY 230, SOC 390, STP 226, STP 231, or SWU 321 with C or better; ENG 101, 105, or 107 with C or better; NUR 391 with C or better |
| NUR | 320 | Clinical Practice: Beginning | Students have an opportunity to practice beginning nursing skills and provide evidence-based care for adults, children and/or families experiencing both wellness and acute and chronic alterations in health across multiple settings. | N | LAB | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Nursing Accelerated BSN major |
| NUR | 321 | Clinical Practice: Developing | Provides an opportunity to practice nursing skills and evidence-based care for clients across the lifespan experiencing both wellness and acute and chronic alterations in health across multiple settings. | N | LAB | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Nursing Accelerated BSN major |
| NUR | 322 | Clinical Practice: Accomplished | Advanced nursing students develop and practice application of nursing process and skills essential to support health maintenance during wellness and to support healing in clients with selected alterations in health in multiple settings. | N | LAB | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): Nursing Accelerated BSN major |

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| NUR | 323 | Nursing Practice Adult Health | Applies nursing process with selected alterations in health with focus on adult populations in the acute care setting. | N | LAB | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): NUR 310 with C or better; NUR 311 with C or better; NUR 330 with C or better; NUR 320 or NUR 484 (Nursing Practice) with Y Grade; Corequisite(s): NUR 313 or NUR 394 (Nursing Concepts Adult Health) |
| NUR | 324 | Nursing Practice: Psychiatric/Mental Health | Application of nursing process, critical thinking, clinical decision making with individuals, families, and groups experiencing acute/chronic alterations in mental health and/or psychiatric disorders. | N | SEM | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s) with C or better if completed: NUR 310; NUR 311; NUR 330; Corequisite(s): NUR 316 |
| NUR | 325 | Health and Illness Concepts I | Applies physiologic and psychosocial concepts in the client domain. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the traditional BSN |
| NUR | 326 | Health and Illness Concepts: Adults and Psychiatric/Mental Health | Applies concepts related to health and illness and evidence-based principles in the care of clients experiencing alterations in health. The physiologic and psychosocial concepts focus on the leading causes of morbidity and mortality with emphasis on safe, competent and compassionate nursing care. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 327 | Health and Illness Concepts: Developing | Developing nursing students apply concepts of health and illness to populations with exemplars from across the lifespan. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): Nursing Accelerated BSN major |
| NUR | 328 | Concepts of Health and Illness: Accomplished | Advanced theoretical knowledge and interprofessional collaborative care required for the delivery of safe and competent care of the clients experiencing acute and complex alterations in health. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): Nursing Accelerated BSN major |
| NUR | 330 | Professional Nurse Attributes | Professional nursing roles and responsibilities. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | HU | Prerequisite(s): Nursing major in clinical program OR postbaccalaureate Clinical Nursing Program major |
| NUR | 331 | Experiential Learning: Beginning | Using fundamental knowledge, skills and attitudes of best evidence, clinical judgement and client personal preferences, learners deliver quality care across spheres of care and client developmental level. | N | LAB | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): Nursing Accelerated BSN major |
| NUR | 332 | Experiential Learning: Developing | Using developing knowledge, skills and attitudes of best evidence, clinical judgement and client personal preferences, learners deliver quality care across spheres of care and client developmental level. | N | LAB | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): Nursing Accelerated BSN major |
| NUR | 333 | Experiential Learning: Accomplished | Using competent nursing knowledge, skills and attitudes of best evidence, clinical judgement and client personal preferences, learners deliver and evaluate quality care across spheres of care and client developmental level. | N | LAB | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): Nursing Accelerated BSN major |
| NUR | 336 | Experiential Learning | Applies assessment and care concepts in the nursing domain. | N | LAB | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 337 | Experiential Learning: Intermediate | Practices professional nursing interventions including medication administration, bio-psycho-social care of the adult and childbearing family, and basic developmental assessment of the child. | N | LAB | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 346 | Nursing Practice: Geriatric and Adult Health | Practices skills for professional nursing focusing on providing care for adult clients experiencing acute and chronic physiologic and/or psychiatric alterations in health in multiple acute and community clinical settings. Emphasizes providing safe, competent, compassionate and evidence-based care to individuals and their families. | N | LAB | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 347 | Nursing Practice: Psychiatric/Mental Health and Childbearing Family | Applies concepts learned in previous courses to assist with developing plans, providing care and implementing teaching strategies to obstetric, gynecological and psychiatric/mental health clients and their families. | N | LAB | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 348 | Intermediate Nursing Practice: Adults | Practices skills for professional nursing focusing on providing care for adult clients experiencing acute and chronic physiologic and/or psychiatric alterations in health in multiple acute and community clinical settings. Emphasizes providing safe, competent, compassionate and evidence-based care to individuals and their families. | N | LAB | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): NUR 311; NUR 325; NUR 330; NUR 336; NUR 352 all with a C or better if completed; NUR 346 with a Y if completed |
| NUR | 349 | Nursing Practice: Psychiatric Mental Health--Prelicensure BSN | Applies concepts related to bio-psycho-social care of adults experiencing psychiatric alterations in the nursing domain. | N | LAB | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Prerequisite(s): NUR 311; NUR 325; NUR 330; NUR 336; NUR 352 all with a C or better if completed; NUR 346 with a Y if completed |
| NUR | 350 | Professional Nurse Attributes: Accomplished | Focuses on the process of transition to the role of a professional nurse. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Nursing Accelerated BSN major |
| NUR | 352 | Fundamental Concepts in Nursing | Applies care concepts in the client and nursing domain. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |

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| NUR | 353 | Integration of Concepts Across the Lifespan: Conception to End of Life | Focuses on the physical, cognitive and socio-emotional development of individuals and families using a life cycle approach. Concepts reside in the client domain of health and wellness and include development, reproduction, family roles, spirituality and end-of-life/palliative care. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 356 | Nursing Concepts: Fundamentals and Adult Health | Focuses on the knowledge and skills essential to maintaining the health and wellness of clients across the lifespan and the concepts related to selected alterations in health in the adult population. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 5 | | Prerequisite(s): Nursing major - Postbaccalaureate Clinical Nursing program; Pre- or corequisite(s): NUR 311 with C or better if completed |
| NUR | 366 | Nursing Practice: Adults and Elders | Applies knowledge and skills essential to maintaining health and wellness in clients across the lifespan. | N | PRA | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 6 | | Prerequisite(s): Nursing major - Postbaccalaureate Clinical Nursing Program student; Pre- or corequisite(s): NUR 311 with C or better if completed; NUR 356 with C or better if completed |
| NUR | 367 | Nursing Practice: Psychiatric Mental Health-- Postbaccalaureate BSN | Applies nursing process, critical thinking, clinical decision-making with individuals, families, and groups experiencing acute and/or chronic alterations in mental health and/or psychiatric disorders. | N | PRA | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): NUR 311 with C or better; NUR 330 with C or better; NUR 356 with C or better; NUR 366 with Y grade; Corequisite(s): NUR 317 |
| NUR | 384 | Gerontological Nursing | Focuses on optimizing the health of older adults and the management geriatric syndromes and chronic conditions. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Prerequisite(s): NUR 311 with C or better; NUR 330 with C or better; NUR 356 with C or better; NUR 366 with Y grade |
| NUR | 391 | Professional Nursing Theory | Analyzes the multiple dimensions of contemporary professional nursing. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | L | Prerequisite(s): ENG 101 with C or better; ENG 102 with C or better; Pre- or corequisite(s): General Studies Literacy (L) course with C or better if completed |
| NUR | 392 | Health Promotion Across the Life Span | Examines concepts and theories involved in health promotion across the lifespan and their application for nurses. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): ENG 101 with C or better; ENG 102 with C or better; Pre- or corequisite(s): General Studies Literacy (L) course with C or better if completed |
| NUR | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-4 | | Prerequisite(s): Upper Division Nursing Program students |
| NUR | 400 | Concept Integration Across the Lifespan: Beginning | Students gain an understanding of health care systems and nursing concepts, as well as nursing care throughout the lifespan. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Nursing Accelerated BSN major |
| NUR | 401 | Concept Integration Across the Lifespan: Developing | Students gain an understanding of nursing concepts focusing on development and reproduction, as well as nursing care throughout the lifespan. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Nursing Accelerated BSN major |
| NUR | 402 | Concept Integration Across the Lifespan: Accomplished | Prepares students to practice culturally competent, evidence-based health care in community, population and global settings. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Nursing Accelerated BSN major |
| NUR | 404 | Professional Nurse Concepts: Intermediate | Explores concepts related to quality of care, quality improvement, safety, innovation and communication within health care. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 405 | Professional Nurse Concepts: Advanced | Focuses on preparing to become active members of the nursing profession, including developing strategies for successful transition into professional practice. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 410 | Nursing Concepts for Community and Public Health | Examines concepts related to health promotion, disease prevention, and health maintenance within the global community. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): NUR 313 and 315 and 316 all with C or better if completed; NUR 323 and 324 with Y grade if completed; Corequisite(s): NUR 420 or 484 (Nur Pract: Comm/Pub Hlth); Credit allowed for only NUR 410 or 494 (Nur Concepts Comm & Pub Hlth) |
| NUR | 411 | Nursing Concepts for Child bearing and Pediatric Clients | Concepts related to care of individuals and families within the childbearing and pediatric populations. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): NUR 313 and 315 and 316 all with C or better if completed; NUR 323 and 324 with Y passing grade if completed; Corequisite(s): NUR 421; Credit is allowed for only NUR 411 or 494 (Nursing Concepts Childbearing Individ & Families) |
| NUR | 412 | Nursing Concepts for Pediatric Patients and their Families | Examines essential concepts related to the nursing care of pediatric patients and their families. Provides a nursing care approach for the pediatric patient and family across the healthcare continuum. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): NUR 313 with C or better; NUR 315 with C or better; NUR 316 with C or better; NUR 323 with Y grade; NUR 324 with Y grade; Corequisite(s): NUR 422; Credit is allowed for only NUR 412 or NUR 394 (Nursing Concepts: Pediatrics) |

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| NUR | 413 | Nursing for Complex Care | Advanced theoretical knowledge and interprofessional collaborative care required for the delivery of safe and competent care of the adult client experiencing acute and complex alterations in health. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Pre- or corequisite(s): NUR 410 and NUR 411 and NUR 412 all with C or better if completed; NUR 420 and NUR 421 and NUR 422 all with Y passing grade if completed; Corequisite(s): NUR 423 |
| NUR | 415 | Nursing Concepts for Childbearing Family | Examines the care of childbearing clients and their families. Embedded content focuses on providing care to clients along the healthcare continuum. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Corequisite(s): NUR 475; Pre- or corequisite(s): NUR 311 with C or better if completed; NUR 330 with C or better if completed; NUR 356 with C or better if completed; NUR 366 with Y grade if completed |
| NUR | 416 | Nursing Concepts: Community/Public Health | Examines selected concepts, theories, and applications of epidemiology, community assessment, and population-centered health education for community and public health nursing locally and globally. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 315 with C or better; NUR 317 with C or better; NUR 415 with C or better; NUR 417 with C or better; NUR 367 with Y grade; NUR 475 with Y grade; NUR 477 with Y grade; Corequisite(s): NUR 476 |
| NUR | 417 | Nursing Concepts: Pediatric Clients | Concepts related to care of individuals and families within pediatric populations. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): NUR 311 with C or better; NUR 330 with C or better; NUR 356 with C or better; NUR 366 with Y grade; Corequisite(s): NUR 477 |
| NUR | 418 | Nursing Concepts: Complex Care | Advanced theoretical knowledge and interprofessional collaborative care required for the delivery of safe and competent care of the adult client experiencing acute and complex alterations in health. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 315 with C or better; NUR 317 with C or better; NUR 415 with C or better; NUR 417 with C or better; NUR 367 with Y grade; NUR 475 with Y grade; NUR 477 with Y grade; Corequisite(s): NUR 478 |
| NUR | 419 | Leading and Managing Nursing in Organizational Systems | Analyzes selected concepts and theories related to leading and managing nursing in organizational systems. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): NUR 315 with C or better; NUR 317 with C or better; NUR 415 with C or better; NUR 417 with C or better; NUR 367 with Y grade; NUR 475 with Y grade; NUR 477 with Y grade; Corequisite(s): NUR 478 |
| NUR | 420 | Nursing Practice: Community/Public Health | Applies community/public health nursing concepts in the delivery of primary, secondary, and tertiary care in a variety of community settings. | N | PRA | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s) with C or better if completed: NUR 313; NUR 315; NUR 316; Corequisite(s): NUR 410 |
| NUR | 421 | Nursing Practice: Child Bearing/Family Nursing | Applies nursing care concepts related to the child-bearing woman and family. | N | PRA | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Pre- or corequisite(s): NUR 313 and NUR 315 and NUR 316 all with C or better if completed; NUR 323 and NUR 324 with Y grade if completed; Corequisite(s): NUR 411 |
| NUR | 422 | Nursing Practice: Pediatrics | Focuses on clinical care of the pediatric client and family. | N | PRA | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Pre- or corequisite(s): NUR 313 and NUR 315 and NUR 316 all with C or better if completed; NUR 323 and NUR 324 with Y passing grade if completed; Corequisite(s): NUR 412 |
| NUR | 423 | Nursing Practice: Complex Care & Clinical Immersion | Students perform nursing practice in a variety of clinical settings, laboratory and simulated patient care environments. Students provide nursing care to patients who are physiologically unstable in advanced medical-surgical, and critical care clinical environments. Students perform advanced psychomotor skills in the clinical, laboratory and simulation environments. Students also complete a clinical immersion experience in a selected clinical setting. During the clinical immersion experience, students have the opportunity to apply leadership and management principles, and work in interprofessional healthcare teams to provide nursing care to clients experiencing health alterations across the lifespan. | N | PRA | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 5 | | Pre- or corequisite(s): NUR 410 with C or better; NUR 411 with C or better; NUR 412 with C or better; NUR 420 with Y grade ; NUR 421 with Y grade ; NUR 422 with Y grade; Corequisite(s): NUR 413 |
| NUR | 425 | Health and Illness Concepts: Adults and Pediatrics | Applies and integrates interrelated concepts related to health and illness concepts. Integrates evidence-based principles into the care of clients experiencing acute alterations in health. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 426 | Health and Illness Concepts Advanced | Applies and integrates interrelated concepts related to advanced health and illness concepts. Integrates evidence-based principles into the care of clients experiencing acute alterations in health. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 430 | Professional Nurse Attributes: Leadership and Management | Applications of theories and concepts of organizations, management, and leadership with focus on nursing management and leadership in healthcare organizations. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre- or corequisite(s): NUR 410 and NUR 411 and NUR 412 all with C or better if completed; NUR 420 and NUR 421 and NUR 422 all with Y passing grade if completed; Corequisite(s): NUR 431 |

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| NUR | 431 | Professional Nurse Attributes Innovative Professional | Focuses on the process of transition to the professional nursing role, and the gathering, interpretation, and evaluation of evidence that serves as a basis for improving client outcomes and professional satisfaction. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 315 with C or better; NUR 317 with C or better; NUR 415 with C or better; NUR 417 with C or better; NUR 367 with Y grade; NUR 475 with Y grade; NUR 477 with Y grade |
| NUR | 436 | Experiential Learning: Advanced | Students practice skills for professional nursing including advanced medication administration and bio-psycho-social care of the child and acutely ill adult. | N | LAB | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 437 | Experiential Learning: Readiness to Practice | Students demonstrate readiness for interprofessional nursing practice including coordination of nursing care of multiple patients. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 440 | Community and Public Health Nursing in the United States | Examines selected concepts, theories and applications of epidemiology, community assessment, and population-centered health education for community and public health nursing in the United States. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): NUR 315 or 318 with C or better; NUR 391 with C or better |
| NUR | 444 | Innovation in Nursing | Examines the role and behaviors of an innovator in the nursing profession. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): NUR 315 or 318 with C or better; NUR 391 with C or better |
| NUR | 445 | Nursing Management in Health Care | Examines selected theories and concepts of organizational behavior and the management of people and resources. Focuses on the application of selected management theories and concepts to nursing practice and health care systems. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): NUR 315 or 318 with C or better; NUR 391 with C or better; NUR 392 with C or better; NUR 444 with C or better; NUR 495 with C or better; Pre- or corequisite(s): NUR 440 with C or better if completed; NUR 460 with C or better if completed |
| NUR | 446 | Nursing Practice: Pediatrics and Complex Care of Adults | Prepares learners in the application and demonstration of advanced theoretical knowledge, professional nursing practice, and interprofessional collaboration and referral in the management and delivery of safe, competent care of pediatric and adult clients experiencing serious health alterations. | N | PRA | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 447 | Nursing Practice: Pediatrics | Applies previous nursing knowledge to develop plans of care and implement teaching strategies to pediatric clients and their families. | N | LAB | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Prerequisite(s): NUR 315 with C or better; NUR 326 with C or better; NUR 337 with C or better; NUR 353 with C or better; NUR 347 with Y grade; NUR 348 with Y grade; NUR 349 with Y grade |
| NUR | 448 | Nursing Practice Readiness | Prepares the learner for the practice of professional nursing in diverse settings. | N | PRA | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 452 | Concepts in Population-Based Health | Assesses and examines the management of health and disease in the community. Focuses on health promotion, disease prevention and identification of barriers that prevent populations from maintaining optimal health. Discusses public health theories and models including epidemiology, health education and health behavior theory. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 453 | Integration Concepts in the Health Care | Explores the impact of health care policy, systems, economics, law and informatics on the delivery of health care today and in the future. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | L | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program; ENG 101, 105, or 107 with C or better |
| NUR | 458 | Community Care and Collaboration | Focuses on the assessment and analysis of health and disease in the community and population. Provides the data for the IPE Seminar in Senior 2 where an Interprofessional Team of students utilizes the information to plan and implement interventions to improve the health status of communities and populations. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): advancement into the upper-division traditional BSN Nursing program |
| NUR | 459 | Interprofessional Education and Collaboration Seminar: Advanced | Focuses on the development, implementation and evaluation of a community action project. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 404 with C or better; NUR 425 with C or better; NUR 436 with C or better; NUR 446 with Y grade; NUR 447 with Y grade; NUR 452 with C or better; NUR 458 with C or better |
| NUR | 460 | The Art of Nursing | Explores the aesthetic, ethical, and personal patterns of knowing in nursing for the practicing RN. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | HU | Prerequisite(s): ENG 101 with C or better; ENG 102 with C or better; Pre- or corequisite(s): General Studies Literacy (L) course with C or better if completed |
| NUR | 464 | Capstone: The Synthesis of Professional Nursing | Synthesizes theories and concepts for professional nursing practice with a focus on role transition. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s) with C or better: General Studies MA course; NUR 315 or 318; NUR 391; NUR 392; NUR 440; NUR 444; NUR 445; NUR 460; NUR 495 |
| NUR | 475 | Nursing Practice: Care of the Childbearing Family - Post Baccalaureate | Applies nursing care concepts related to the childbearing woman and family. | N | PRA | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): NUR 311 with C or better; NUR 330 with C or better; NUR 356 with C or better; NUR 366 with Y grade; Corequisite(s): NUR 415 |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| NUR | 476 | Nursing Practice: Community and Public Health | Applies community and public health nursing concepts in the delivery of primary, secondary, and tertiary prevention from a population-centered perspective. | N | PRA | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): NUR 315 with C or better; NUR 317 with C or better; NUR 415 with C or better; NUR 417 with C or better; NUR 367 with Y grade; NUR 475 with Y grade; NUR 477 with Y grade; Pre- or corequisite(s): NUR 416 |
| NUR | 477 | Nursing Practice: Pediatric Clients | Focuses on clinical care of the pediatric client and family. | N | PRA | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): NUR 311 with C or better; NUR 330 with C or better; NUR 356 with C or better; NUR 366 with Y grade; Corequisite(s): NUR 417 |
| NUR | 478 | Nursing Practice: Complex Care | Applies advanced psychomotor and leadership skills, nursing care delivery management, and interprofessional referral and collaboration for clients experiencing health alterations across the lifespan in advanced care settings. | N | PRA | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): NUR 315 with C or better; NUR 317 with C or better; NUR 415 with C or better; NUR 417 with C or better; NUR 367 with Y grade; NUR 475 with Y grade; NUR 477 with Y grade; Corequisite(s): NUR 418 |
| NUR | 479 | Nursing Practice: Clinical Immersion | Builds on the knowledge and skills obtained in the nursing curriculum and integrates the curriculum concepts in varied and diverse practice settings. Supports the student's transition into the role of the professional registered nurse. | N | PRA | N | YGB | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): NUR 315 with C or better; NUR 317 with C or better; NUR 415 with C or better; NUR 417 with C or better; NUR 367 with Y grade; NUR 475 with Y grade; NUR 477 with Y grade; Corequisite(s): NUR 419 |
| NUR | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-6 | | Prerequisite(s): Barrett Honors student |
| NUR | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| NUR | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-4 | | Prerequisite(s): Upper Division Nursing Program students |
| NUR | 495 | Public and Global Health in Nursing | Analyzes public health concepts, theories, and practice with a focus on the health of all clients in a global environment. Includes core public health functions, domestic and international health care delivery systems, public health and health policy, conceptual and scientific frameworks for community/public health nursing practice, epidemiology, and global health issues. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | G | Prerequisite(s): NUR 315 or 318 with C or better; NUR 391 with C or better; General Studies Literacy (L) course with C or better |
| NUR | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-7 | L | Prerequisite(s): Upper Division Nursing Program students; ENG 101, 105, or 107 with C or better |
| NUR | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-3 | | |
| NUR | 501 | Individual and Innovation Leadership in Health Care | Examines the role and behaviors of an innovator in nursing and the interprofessional role. Explores the skills required to create a compelling vision to influence others through innovation and ethical leadership. Examines and correlates different situational challenges utilizing principles of complexity and emotional intelligence to advance innovation in nursing and the interprofessional health care roles. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree-seeking graduate student |
| NUR | 502 | Advanced Health Assessment and Health Promotion | Uses lifespan developmental and social determinates frameworks to integrate advanced nursing concepts applied to health assessment and promotion. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): Edson College graduate student |
| NUR | 503 | Advanced Health Assessment, Pathophysiology and Pharmacotherapeutics for Health Promotion II | Uses an at-risk population framework to present, integrate and interrelate advanced concepts, practices and principles applied to the biological, cognitive and psychosocial domains of pathophysiology, pharmacotherapeutics and health assessment for health promotion among vulnerable populations appropriate to master's-level nursing practice and roles. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 502 with C or better |
| NUR | 508 | Interprofessional Care Coordination Practicum | Care coordination practicum (90 approved contact hours) preceptored by a practitioner and/or faculty member. Practicum builds on care coordination and interprofessional collaborative practice core competencies, and theories, with an emphasis on the design, delivery and evaluation of culturally relevant and linguistically appropriate clinical prevention interventions, population health strategies and/or services that incorporate broad ecological, global and social determinants of health. Includes principles of epidemiological data; communication, quality improvement and health information technologies appropriate to master's level practice and roles within the context of team-based interprofessional clinical prevention and population health care and/or services. | N | PRA | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): Interprofessional Care Coordination MS student |

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| NUR | 509 | Clinical Prevention and Population Health Practicum | Preceptored practicum appropriate to master's-level nursing practice and roles within the context of team-based interprofessional clinical prevention and population health care and/or services. | N | PRA | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Pre- or corequisite(s): NUR 502 with C or better if completed |
| NUR | 510 | Foundations of Care Coordination Practice | Focuses on the theoretical concepts of care coordination and case management, including current models, intervention components, evaluation methods and financing. Provides the foundation for understanding care coordination and the roles nurses have played in the evolution and implementation of the care coordination models. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): admission to Nursing (Care Coordination) MS degree or certificate program |
| NUR | 511 | Concepts of Care Coordination and the Interprofessional Team | Focuses on developing skills and strategies for interprofessional collaboration, team leadership, care coordination, communication and project management to improve patient safety and health care quality outcomes in an interprofessional health-related setting. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 501; NUR 510 |
| NUR | 512 | Improving Quality and Safety Outcomes Through Effective Care Coordination | Focuses on the nurse's role in care coordination, and how care coordination programs are used to provide cost-effective and patient-centered care, improve quality and safety outcomes for patients and families, and use health information technology to advance the goals of care coordination. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 510 with B- or better; NUR 511 with B- or better |
| NUR | 513 | Interprofessional Collaborative Practice and Transforming Health Care Policy | Examines the nurse's role in communicating, collaborating and leading interprofessional teams to advance innovative care coordination models. Prepares nurses to influencing health policy through care coordination research and leadership. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 510 with B- or better; NUR 511 with B- or better |
| NUR | 514 | Nursing Theory: Nursing Fundamentals | Focuses on the knowledge and skills essential to maintaining the health and wellness of clients across the lifespan and the concepts related to selected alterations in health in the adult population. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 5 | | Prerequisite(s): Nursing (Entry to Nursing Practice) MS student |
| NUR | 515 | Nursing Concepts for Psychiatric Mental Health | Theoretical concepts related to select psychiatric/neurobiological disorders as they affect nursing practice, with focus on individuals, families and groups. Applies knowledge and skills essential to maintaining health and wellness in Psychiatric Mental Health clients. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): Nursing (Entry to Nursing Practice) MS student |
| NUR | 516 | Nursing Practice: Psychiatric Mental Health | Applies nursing process and critical thinking/clinical decision-making with individuals, families and groups experiencing acute/chronic alterations in mental health and/or psychiatric disorders. | N | LAB | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): Nursing (Entry to Nursing Practice) MS student |
| NUR | 517 | Nursing Practice: Pediatrics | Focuses on clinical knowledge and skills essential to maintaining health and wellness in pediatric clients and their family unit. | N | LAB | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): Nursing (Entry to Nursing Practice) MS student |
| NUR | 518 | Nursing Practice:Adults | Maximizes knowledge and skills essential to maintaining health and wellness in adult and geriatric clients. | N | LAB | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 4 | | Prerequisite(s): Nursing (Entry to Nursing Practice) MS student |
| NUR | 519 | Role-Focused Practicum: Care Coordination for the Nurse Leader | This mentored practicum provides the learner with opportunities to apply care coordination (CC) concepts and principles in a practice environment at the unit, organization or systems levels. Tailored to the prior experiences and level of the learner and may include working in intra- and interprofessional teams to address care coordination initiatives at the unit, organizational or systems levels. | N | PRA | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-3 | | Prerequisite(s): Nursing (Entry to Nursing Practice) MS student |
| NUR | 520 | Patient Safety and Health Care Quality Principles, Assessment and Methods | Focuses on the application of core principles of patient safety and health care quality to patients. Explores current and historical factors that contribute to quality health care outcomes. Examines the influence of financial, legal and regulatory factors on patient safety and health care quality. Applies various theories, concepts and tools to promote patient safety and health care quality. Describes the principles of just culture and the relationship to analyzing errors. Discusses the nurse's role in advancing patient safety and health care quality. Infuses the Quality Safety Education in Nursing (QSEN) competencies into course activities. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Health Care Simulation MS, Nursing MS, or Nursing (Entry to Nursing Practice) MS student |
| NUR | 521 | Health Care Evidence, Informatics and Analysis | Focuses on applying information technology and research methodology to safety and quality initiatives. Students learn the role of technology related to select human factors engineering concepts and related clinical application (e.g., medication administration, clinical decision making). Focuses on determination of outcome measures related to evidence-based practice (EBP) and quality improvement (QI). Discusses survey methods including construction, data collection methods, and data analysis. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Edson College graduate student |
| NUR | 522 | Designing Systems for Patient Safety and Health Care Quality | Focuses on the design, implementation, evaluation and sustainability of patient safety and health care quality initiatives. Uses innovation and change theories, as well as high reliability and just culture principles, to support data collection, analysis and reporting within complex health care systems. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 520 with B- or better; NUR 521 with B- or better |

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| NUR | 523 | Interprofessional Collaboration for Designing Systems to Improve Patient Safety & HealthCare Quality | Focuses on developing skills and strategies for interprofessional collaboration, team leadership, communication, and project management to improve patient safety and health care quality outcomes in an interprofessional health-related setting. Theory and evidence-based strategy for team building, maintenance and conflict resolution for improved team-based practice and performance. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 520 with B- or better; NUR 521 with B- or better |
| NUR | 524 | Nursing Practice:Childbearing Family | Applies nursing care concepts essential to maintaining health and wellness in the childbearing woman and family. | N | LAB | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): Nursing (Entry to Nursing Practice) MS student |
| NUR | 529 | Role-Focused Practicum: Patient Safety and Health Care Quality for the Nurse Leader | Mentored practicum provides opportunities to apply patient safety and health care quality (PSHQ) concepts and principles in a practice environment at the unit, organization or systems levels. Tailored to the prior experiences and level of the learner. | N | PRA | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3-7 | | Prerequisite(s) with C or better: DNP 602; NUR 501; NUR 502; NUR 503; NUR 509; NUR 521; NUR 544; NUR 547; NUR 548 |
| NUR | 530 | Foundational Concepts for Nursing Informatics | Focuses on the foundational concepts of nursing informatics. Analyzes the scope and standards of practice; ethical and privacy principles; relationships amongst biomedical, health and nursing informatics; and models, concepts and theories that support nursing informatics practice. Appraises accreditation and legal and regulatory requirements for health and nursing informatics practice. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): BMI 601 with B- or better; BMI 603 with B- or better |
| NUR | 531 | Advanced Concepts in Nursing Informatics | Focuses on advanced concepts in nursing and health informatics practice. Analyzes the health informatics metastructures, relationships between nursing and multidisciplinary standardized terminologies, trends in nursing and health informatics, ethical, privacy and legal issues, and the emerging role for the nurse informaticist. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 530 |
| NUR | 533 | Nursing Concepts:Childbearing Family | Concepts related to care of individuals and families within the childbearing populations. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): Nursing (Entry to Nursing Practice) MS student; Corequisite(s): NUR 524 |
| NUR | 539 | Role-Focused Practicum: Nursing Informatics | Learners complete 135 hours of mentored clinical practice during this practicum applying nursing informatics (NI) concepts and principles in a practice environment at the unit, organization or systems levels. Tailored to the prior experiences and level of the learner and may include working in intra- and interprofessional teams to address informatics initiatives at the unit, organizational or systems levels. | N | PRA | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 530 with B- or better; NUR 531 with B- or better |
| NUR | 542 | Readiness to Practice | Applies concepts that prepare nurses to deliver innovative, safe and quality client care in a dynamic health care paradigm. Prepares learners for their roles in professional nursing. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2-3 | | Prerequisite(s): Nursing (Entry to Nursing Practice) MS student |
| NUR | 544 | Theoretical Foundations for Nursing | Analyzes the multiple dimensions of contemporary professional nursing and the interrelationships among theory, philosophy and practice | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Edson College graduate student |
| NUR | 545 | Advanced Pharmacology | Provides advanced knowledge of pharmacology with an emphasis on the professional nurse's role in medication therapy and administration. Presents medication classifications within the framework of the patient's psychological and physiological function. Applies pharmacological principles to treatment of specific diseases and symptoms. Examines legal, cultural and ethical aspects of medication theory. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Nursing (Entry to Nursing Practice) MS student |
| NUR | 546 | Nursing Concepts for Complex Care | Advanced theoretical knowledge and interprofessional collaborative care required for the delivery of safe and competent care of the adult client experiencing acute and complex alterations in health. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Nursing (Entry to Nursing Practice) MS student |
| NUR | 547 | Community, Global and Population Health | Provides an opportunity to apply community health nursing concepts, disaster principles, population-level determinants of health, social determinants of health, and the nursing process from a global perspective. The development of a plan of care allows the student the opportunity to implement indirect nursing care in assessment, analysis, planning, implementation (planned) and evaluation (planned) for a global/international population/community. Exposure to a variety of communities, local, state, national and international, contribute to an understanding of community health nursing in today's global world. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Nursing MS or Nursing (Entry to Nursing Practice) MS student; Credit is allowed for only NUR 547 or NUR 591 (Community, Global and Population Health) |

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| NUR | 548 | Patient Safety, Health Care Quality & Informatics | Focuses on the application of core principles of patient safety and health care quality to patients. Explores current and historical factors that contribute to quality health care outcomes. Examines the influence of financial, legal and regulatory factors on patient safety and health care quality. Students apply various theories, concepts and tools to promote patient safety and health care quality. Students describe the tools used to prevent errors, such as human factors, care coordination, informatics and patient engagement. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Edson College graduate student |
| NUR | 550 | Health Assessment | Provides knowledge and skills basic to health assessment in nursing. Emphasizes critical thinking skills required for accurate collection and analysis of client health information and provides opportunities for enhancement of physical assessment skills. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 2 | | Prerequisite(s): Nursing (Entry to Nursing Practice) MS student |
| NUR | 552 | Dynamics of Professional Nursing I | Builds on the foundation of prior learning and competency development related to four interrelated concepts: communication; compassionate care; diversity, equity, and inclusivity; and ethics. These hubs for transferable knowledge, values, skills/strategies, and performance are associated with and essential to graduate-level professional nursing practice and bridge within and across multiple competency domain areas that frame and distinguish the practice of nursing and relate to other health professions. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Edson College graduate student |
| NUR | 553 | Dynamics of Professional Nursing II | Builds on the foundation of prior learning and competency development related to four interrelated concepts: clinical judgment, evidence-based practice, health policy and social determinants of health. These hubs for transferable knowledge, values, skills/strategies and performance are associated with and essential to graduate-level professional nursing practice and bridge within and across multiple competency domain areas that frame and distinguish the practice of nursing and relate to other health professions. | N | LEC | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Edson College graduate student |
| NUR | 579 | Role-Focused Practicum: Nurse Educator | Mentored teaching practicum includes application of teaching/learning principles in a specialized area of interest. Tailored to the teaching experience and level of the student. May include classroom, online or clinical teaching, attendance at approved conferences, relevant meetings or other activities that provide opportunity for the learner to gain expertise in the selected area of interest. | N | PRA | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 670 with C or better; NUR 671 with C or better; NUR 672 with C or better; NUR 673 with C or better |
| NUR | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | SEM | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Pre-requisites: Nursing student |
| NUR | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Pre-requisites: Nursing Graduate student |
| NUR | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | |
| NUR | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | |
| NUR | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | IND | Y | Z3 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Pre-requisites: Nursing Graduate student |
| NUR | 601 | Scientific Role Development I: Engaging and Committing | First in a series that focuses on the development of a scientific role identity in nursing and health care innovation, including the areas of education, policy and research. Analyzes current trends in the development of innovative scientists and leadership characteristics needed for future roles. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Prerequisite(s): Edson College of Nursing and Health Innovation PhD student |
| NUR | 602 | State of the Science in Nursing and Healthcare Innovation | Focuses on research synthesis and critiques of the scientific literature as a basis for knowledge generation related to a focal area of research interest. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Edson College of Nursing and Health Innovation PhD student; Corequisite(s): NUR 605 |
| NUR | 603 | Social and Contextual Issues in Nursing and Healthcare | Analyzes nursing practice and the healthcare system for an identified population using social-ecological approaches. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | |
| NUR | 604 | Philosophy of Science Perspectives in Nursing and Healthcare Innovation | Analyzes the history and philosophy of science as a basis for knowledge and academic scholarship in nursing and healthcare innovation. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | |

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| NUR | 605 | Theory Analysis | Examines theoretical perspectives and approaches guiding research in nursing and healthcare innovation across the lifespan. Includes the historical evaluation, social contextual factors, implicit assumptions, and bias that influence nursing and healthcare innovation knowledge generation. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Edson College of Nursing and Health Innovation PhD student |
| NUR | 606 | Scientific Role Development II: Validating and Demonstrating | Second in a series that focuses on the development of a scientific role identity in nursing and health care innovation, including the areas of education, policy and research. Posits the knowledge, skills and resources needed to expand one's career as an educator and scientist in a health-related leadership role in the context of a future health care environment. Explores strategies for progressive and creative approaches in preparing leaders for innovative change in education, research and health care policy affecting healthcare delivery. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Prerequisite(s): Edson College of Nursing and Health Innovation PhD student |
| NUR | 607 | Scientific Role Development III: Bridging | Focuses on the development of a scientific role identity in nursing and health care innovation, including the areas of education, policy and research. Students study the career trajectories of key leaders in nursing and health care innovation as a basis for development of their own personal plans for success, including research trajectories and marketing. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1 | | Prerequisite(s): NUR 606 |
| NUR | 608 | Qualitative Research Design and Methods | Explores and critiques selected qualitative research approaches. Includes fieldwork exercises as an integral part of course expectations. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | |
| NUR | 609 | Quantitative Research Design and Methods | Examines multiple research approaches in clinical and health policy research from a quantitative perspective. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | |
| NUR | 610 | Genomics and Population Health | Covers genetics and genomics, diverging into two tracks of subject matter interest. Emphasizes the effects of social determinants on population health and genetic expression, ethical, social and legal implications in the doctoral track; and emphasizes the planning and operational aspects of clinical trials and precision health care in the master's degree track. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 605; Credit is allowed for only HCR 610 or NUR 610 |
| NUR | 612 | Advanced Analysis of Variance: Design and Analysis of Experiment | Introduces theory, methods, and practice of analysis of variance. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | |
| NUR | 613 | Principles of Regression and Correlation | Introduces theory, methods, and practice of regression analysis. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | |
| NUR | 614 | Design and Implementation of Theory-Based Interventions | Focuses on the knowledge related to advanced methods for intervention research. Examines methodological, ethical, and practical issues in the design and implementation of theory-based intervention studies. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | |
| NUR | 615 | Qualitative Data Management Seminar | Qualitative research methods applied to thesis, dissertation or qualitative research reports, focusing on data reduction, analysis, interpretation, credibility, ethics and dissemination. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): COE 503 or CRJ 613 or EDP 503 or NUR 608 or PAF 610 |
| NUR | 616 | Community-Based Participatory Research | Overview of Community-Based Participatory Research (CBPR). Familiarizes participants with key historical underpinnings of CBPR, principles of CBPR practice, as well as methodological CBPR considerations in building community partnerships, issue analysis, research planning, data gathering and data sharing. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only NUR 616 or NUR 691 (Community-Based Research) |
| NUR | 617 | Foundational Concepts in Science and Statistics | Provides basic skills necessary for health-related research specifically geared toward (1) understanding concepts of widely used statistical methods with examples from health care; (2) ethical knowledge of human subjects research; and (3) processes of research including research design, interpretation and presentation of results and critiquing research articles. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): COE 502 or EDP 502 or EXW 501; Credit is allowed for only NUR 617 or NUR 691 (Foundational Concepts in Science and Statistics) |
| NUR | 618 | Advancing Research-Based Health Policy Through Leadership and Innovation Science | Integrative synthesis course in which students apply values and knowledge from previous PhD core courses in philosophy of science, theory analysis, state of the science, quantitative and qualitative methods, and the art and science of teaching. Examines the role of scholars and scientists in health policy reform. Using tools from leadership and innovation science, advances strategies to accelerate the use of interprofessional research in policy decisions and advances the national agenda for improving health and the quality and affordability of health care. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 602, 603, 604, 605, and 609 |
| NUR | 620 | Mixed Methods for Health Science Research and Practice | Provides approaches, theory, methods and skills development for designing and conducting mixed-methods research for the health sciences. The mixed methods approach has been described as a third paradigm in research, building on and extending the qualitative (QUAL) and quantitative (QUAN) paradigms. The mixed methods approach integrates the positive aspects of these paradigms to create a new more potent research paradigm. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree-seeking graduate student; Credit is allowed for only NUR 620 or NUR 691 (Mixed Methods for Health Science Resrch & Practice) |

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| NUR | 628 | Research, Theory and Principles for Palliative Care in the Older Adult | Focuses on theory and research underlying end of life and palliative care for the older adult utilizing current practice guidelines and research. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NUR | 629 | Research for Geriatric Practice | Gaining knowledge and skills in critical appraisal and synthesis of evidence to guide best practice in gerontology. | N | LEC | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| NUR | 630 | Mechanisms of Disparities | Analyzes and applies the complex issues underpinning culture and health disparities related to a specific health outcome to research with a selected cultural group. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Edson College of Nursing and Health Innovation PhD student; Credit is allowed for only NUR 598 (Mechanisms of Culture), 598 (Mechanisms of Disparities) or 630 |
| NUR | 631 | Leveraging Culture in Intervention Development | Analyzes the complex issues underpinning the development of evidence-based interventions among various cultural groups. Also analyzes methods of leveraging culture to optimize the development, delivery, effect and evaluation of health interventions for various cultural groups. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 630 (or NUR 598 Mechanisms of Disparities); Edson College of Nursing and Health Innovation PhD student; Credit is allowed for only NUR 598 (Leveraging Culture in Intervention Development) or 631 |
| NUR | 640 | Integrative Theories of Innovation in Health Care | Analyzes cross-disciplinary theories of innovation for improving health and quality of health care. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Advanced Nursing Practice DNP student, Advanced Nursing Practice (Innovation Leadership) DNP student, or NUR 605 |
| NUR | 641 | Theories of Emergent Leadership in Healthcare Innovation | Analyzes cross-disciplinary theories of leadership. Emphasizes leadership frameworks that describe, explain and predict the relationships among leadership and healthcare innovation and outcomes. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 640. Credit is allowed for only NUR 641 or 691 (Theories of Emergent Leadership in Healthcare Innovation) |
| NUR | 650 | Human Lactation in the Post-Modern World | In-depth exploration of the complex and multifaceted social, cultural and environmental contexts that affect the public health goal of improving successful breastfeeding during the first years of life. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Pre-requisite: Degree- or Nondegree-seeking graduate; Credit is allowed for only NUR 650 or 691 (Human Lactation in the Post Modern World) |
| NUR | 670 | Curriculum Development in Academic and Practice Settings | Includes analyses of historical, philosophical, societal, environmental, cultural, technological, and educational factors of curriculum development in academic and practice settings. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Edson College graduate student; Pre- or corequisite(s): NUR 671 with C or better if completed |
| NUR | 671 | Teaching in Academic and Practice Settings | Analyzes theories, issues, research related to teaching in nursing and educational leadership. Focuses on the process of teaching and learning. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Edson College graduate student |
| NUR | 672 | Design and Delivery of Mediated Instruction | Addresses instructional design issues, theory, and practices related to online and electronically mediated learning. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): Edson College graduate student |
| NUR | 673 | Producing and Evaluating Programs for Academic and Practice Settings | Critical examination of standards, regulatory environment, administrative systems, leadership requirements, technological infrastructure, human factors, future trends regarding mediated education planning, production, and evaluation. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 671 with C or better; Pre- or corequisite(s): NUR 670 with C or better if completed |
| NUR | 677 | Scholarly Citizenship: Teaching Intensive | Designed as a mentored teaching experience in nursing and a mentored exploration of the concept of scholarly citizenship as applied in the educator role in interdisciplinary, university-level education. Includes opportunities for students to examine different philosophies and theories of traditional and mediated teaching and learning; design content and learning experiences for selected topics; compare and contrast various culturally relevant, learner-centered strategies, technologies, media and Web-based tools for classroom and clinical use and analyze evaluation methods. Includes opportunity for exploring educational policy and translation of policy into best practices. | N | SEM | N | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): NUR 670; NUR 671; Credit is allowed for only NUR 677 or NUR 691 (Scholarly Citizenship: Teaching Intensive) |
| NUR | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | |
| NUR | 688 | Management of Complex Diseases and Syndromes in Geriatric Population | Focuses on diagnosis and management of complex diseases and syndromes in the geriatric population. | N | SEM | N | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only DNP 688 or NUR 688 |
| NUR | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | N | IND | N | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | |
| NUR | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Pre-requisites: Nursing Graduate student |

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| NUR | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | |
| NUR | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-15 | | |
| OBS | 501 | Obesity Prevention and Management: An Introduction | Helps students understand the complex etiology of obesity and enhances their ability to work with individuals and populations at risk of obesity to develop effective behavior change-based strategies for prevention and management of the condition across the lifespan. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Obesity Prevention and Management MS major; Credit is allowed for only OBS 501 or OBS 598 (Obesity Prevention and Management) |
| OBS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | REC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| OBS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| OBS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | |
| OBS | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| OBS | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| OGL | 10 | Leadership Development | Trains and manages the student team leads for the Jump Start Program. Students learn ways to effectively manage, facilitate and lead group discussions and activities. | N | LEC | Y | YGB | College of Integrative Sciences and Arts | School of Applied Professional Studies | 0 | | |
| OGL | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | SEM | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-3 | | |
| OGL | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-4 | | |
| OGL | 200 | Introduction to Organizational Leadership | Basic introduction to leadership by focusing on what it means to be a good leader. Examines topics such as the nature of leadership, recognizing leadership traits, developing leadership skills, creating a vision, setting the tone, listening to out-group members, handling conflict, overcoming obstacles, and addressing ethics in leadership. Gives attention to helping students understand and improve their own leadership performance. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | SB | |
| OGL | 220 | Behavioral Dynamics in Organizations | Explores the different theories, strategies and skills in the fields of organizational behavior and interpersonal relationships. Covers critical skills and perspectives associated with cross-cultural relationships, personality and values-driven behaviors, empathy, perspective-taking, learning and motivation, conflict resolution, stress management, effective communication, group dynamics, and diagnosis of performance-related issues in organizations. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | SB | |
| OGL | 260 | Resource Allocation in Organizations | Introduces the decision-making framework of resource allocation within the broader context of organizations and society. Students learn that resource allocation decisions are regularly guided by values, organizational purpose, and fundamental principles of value creation and sustainability. Primarily focuses on the development, management, and allocation of tangible and intangible resources; accounting statements; profit and loss drivers; risk, return and tradeoffs; and stakeholder accountability. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Organizational Leadership AA student or minimum 45 hours OR Visiting University Student |
| OGL | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-4 | | |
| OGL | 298 | Honors Directed Study | Independent study or practicum under the supervision of a faculty member. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| OGL | 300 | Theory and Practice of Leadership | Students perform an in-depth study of leadership theories and their practical applications in formal organizations. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Organizational Leadership AA student or minimum 45 hours OR Visiting University Student |

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| OGL | 340 | Organizational Skills | Develops and enhances skills needed in effective organizations such as communication and the use of technology. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| OGL | 343 | Social Processes in Organizations | Examines social processes and human interactions within different organizational contexts and engages in experiential learning through team-based projects. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | SB | Prerequisite(s): minimum junior standing or minimum 56 hours; Credit is allowed for only BIS 343 or OGL 343 OR Visiting University Student |
| OGL | 345 | Organizational Ethics | Explores and considers normative and applied ethics within a variety of organizations. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | HU | Prerequisite(s): Organizational Leadership AA student or minimum 45 hours; Credit is allowed for only BIS 345 or OGL 345 OR Visiting University Student |
| OGL | 350 | Diversity and Organizations | Students engage in a critical analysis of individual, cultural and organizational diversity. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | L & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 56 hours; Credit is allowed for only BIS 350 or OGL 350 OR Visiting University Student |
| OGL | 355 | Leading Organizational Innovation and Change | Processes and methods to ensure current organizational success and sustainable relevance in changing domestic and global environments. Presents an introduction of strategic management with primary emphasis on situation analysis, strategy formulation, and long-term strategy evaluation. Covers the strategic leadership context using external and internal analysis to inform functional and competitive strategies that can be applied across multiple sectors and industries. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Organizational Leadership AA student or minimum 45 hours OR Visiting University Student |
| OGL | 357 | Assessment in Organizations | Considers the role and function of assessment in effective organizations. Provides the knowledge and tools required to identify, collect and analyze information to assess organizations. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): minimum junior standing or minimum 56 hours; Credit is allowed for only BIS 357 or OGL 357 OR Visiting University Student |
| OGL | 360 | Assessment of Leadership Effectiveness | An analysis of effective leadership and a guide for developing the competencies most likely to produce effective leaders. Utilizes examples from contemporary and historical sources and peer-mentoring sessions to enhance leadership development with self-reflection, creative and critical thinking, effective teamwork, and achievable future visions. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): minimum 56 hours OR Visiting University Student |
| OGL | 365 | Organizational Contexts | Explores how organizations function by analyzing in depth a specific organizational context such as: health care, technological innovation, family, education, government, community, religion, nongovernmental organizations, the economy, or country/country groups. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| OGL | 375 | Corporate Leadership: Starbucks | Examines leadership from the perspectives of the leaders of one of the most trusted and respected companies in the world, Starbucks. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Starbucks College Achievement Plan student; Credit is allowed for only OGL 375 or OGL 394 (Corporate Leadership: Starbucks) |
| OGL | 381 | Organizational Leadership Capstone | Students draw on their experiences in previous organizational leadership courses, employing learned key concepts, theories and skills toward the strategic analysis of organizations. Using Bolman & Deal's organizational frames concept, students synthesize key learnings across their education and explore organizations through four unique perspectives. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | L | Prerequisite(s): Organizational Leadership AA major; ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only OGL 381 or OGL 481 |
| OGL | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-4 | | |
| OGL | 481 | Organizational Leadership Pro-Seminar I | In part one of their pro-seminar experience, students reflect on their experiences in the organizational leadership program, focusing on the key competencies they have learned. Applying the organizational frames concept, students synthesize key learnings across their education and explore organizational leadership through multiple perspectives such as: structural, human resources, political, symbolic or ethical. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): BIS 345 or OGL 345; BIS 350 or OGL 350; OGL 300; OGL 340 (BIS 340); PMG 240 (OGL 240) or PMG 320 (OGL 320); minimum 90 hours; Credit is allowed for only OGL 381 or OGL 481 |
| OGL | 482 | Organizational Leadership Pro-Seminar II | In part two of their pro-seminar series, students explore how their personal background experiences, individual characteristics, knowledge, skills and abilities can inform career choices that maximize their strengths, values and passions. Students explore strategies for career management and work/life integration from a variety of perspectives. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; OGL 481 with C or better |
| OGL | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | |
| OGL | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-6 | | Prerequisite(s): Barrett Honors student |

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| OGL | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| OGL | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-4 | | |
| OGL | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| OGL | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-7 | L | Prerequisite(s): Organizational Leadership major; minimum 90 hours; ENG 102 or 105 or 108 with C or better; BIS 343 and 345; OGL 200, 220, 240, 260, 300, 321, and 350 |
| OGL | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | N | LEC | N | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-3 | | |
| OGL | 510 | Advanced Theories of Organizational Leadership | Explores advanced theoretical frameworks and models within the field of leadership studies. Students read scholarly work and examine foundational theories, frameworks and models within the field of leadership studies. Emphasizes a survey of the leadership literature, developing a thorough understanding of theory and conceptualizing organizational leadership questions/problems through discussions, written work and oral presentations. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Master of Project Management, Organizational Leadership MS, or Organizational Leadership graduate certificate student |
| OGL | 520 | Organizational Leadership: Social Psychological Perspectives | Social psychology is defined by the social influence that all people have on the beliefs, feelings and behavior of others. Studies social influences, the behavioral ramifications associated with the psychology of social processes and the ramifications for organizations and organizational leadership. The foundations of the field of social psychology, methodological approaches, interdisciplinary perspectives and application-oriented ideas and innovations form the basis for this course that integrates scholarship and applied social psychology to gain an enhanced perspective on the social influences associated with organizational and interpersonal behavior. From a leadership perspective, explores ideas as diverse as interpersonal influence, attitude formation and differentiation, stereotyping and prejudice, attraction, persuasion, obedience and aggression. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Organizational Leadership MS student; Credit is allowed for only OGL 520 or PMG 504 |
| OGL | 530 | Critical Perspectives in Leadership Theory | Engages the normative and epistemological underpinnings of many of the theories of organizational leadership studies. This critical engagement explores how assumptions about leadership and leadership theories may challenge or reinforce, overtly or not, oppressive social relations. Places leadership studies as an academic field in a broader social, political, cultural and ethical context to best address the embedded assumptions in leadership relations. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 540 | Evidence-Based Inquiry in Organizational Leadership | Provides a broad understanding of the methodological issues involved in leadership research. As such, exposes students to the assumptions, principles and applications of a selected set of research methods, whether inductive, deductive or abductive. Largely hands on with a focus on discussion and exercises. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 550 | Leading Organizational Change | Organizations are a combination of structures, processes and relationships that bring people together to achieve a common goal. However, organizations do not operate in isolation--they are embedded in complex social, political and financial contexts. Leadership requires individuals to discern and balance competing demands and tensions inherent in organizations. Provides an overview of organizational theories to help leaders understand and be effective in these contexts. By looking at organizations through metaphorical lenses such as machines, brains and organisms, students learn how to create new options for organizational success in ever-changing operating environments. Applies theories to case studies to develop insights and innovative approaches to organizational change. A student deliverable is the creation of a plan to map out the student's capstone project in preparation for the applied project. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Organizational Leadership MS student; OGL 520; OGL 530; OGL 540 |

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| OGL | 551 | Developing Leadership Through Emotional Intelligence | Encourages greater knowledge of self through personal reflection, participation in experiential activities and numerous opportunities to make sense of discoveries. All of this occurs within the context of expanding knowledge of leadership skills and abilities. Encourages students to take every opportunity to learn about and bring insights to bear in classroom discussions. Shapes the leader within so that students are best positioned to lead in all areas of life. Over the next few weeks, explores the essential knowledge, abilities and values relevant to effective leadership. By the end of this course students have a greater understanding of their own leadership style and developmental plan for acquiring new leadership-related knowledge and abilities throughout their careers. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Master of Liberal Studies, Master of Project Management, or Organizational Leadership MS student |
| OGL | 552 | Leading Diverse Teams | Designed for students who want to increase their understanding of diversity and of interpersonal and group dynamics. Helps students to develop more effective working relationships and to improve their ability to lead, influence, cooperate and work effectively with others in today's diverse team-oriented organizations. At the center of this experiential-based course is an intensive group learning experience. Emphasizes learning about oneself in the context of others based on the here-and-now experience of the group. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Master of Liberal Studies, Master of Project Management, or Organizational Leadership MS student |
| OGL | 553 | Intercultural Leadership | In today's increasingly global and interconnected world it is important for leaders to understand the role that culture plays in one's leadership and communication style. Students obtain the knowledge and skills necessary to lead in culturally diverse environments. Through readings, discussions, video and interactive simulations, students gain a concrete understanding of a variety of leadership and communication styles that are found throughout the world. Students also increase their intercultural competencies and global awareness. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Master of Liberal Studies, Master of Project Management, or Organizational Leadership MS student |
| OGL | 554 | Learning and Development in Organizations | Focuses on adult learning interventions and professional development within the context of a learning organizational setting. Integrates motivation and adult learning, current neuroscience, Bohm dialogue and instructional design. Develops the knowledge and skills needed to plan, design, develop, implement and evaluate adult learning interventions (materials, courses, curricula, programs) within different forms of organizations. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Master of Liberal Studies, Master of Project Management, or Organizational Leadership MS student |
| OGL | 555 | Leading Beyond Conflict | Today's leaders are increasingly confronted with conflicts that escalate into issues that could result in costly litigation. Comprises a review and analysis of contemporary methods of alternative dispute resolution, including arbitration, negotiation and mediation, with a strong focus on mediation. Students learn about the alternatives to costly litigation and develop working strategies to take advantage of these alternatives. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Master of Liberal Studies, Master of Project Management, or Organizational Leadership MS student |
| OGL | 556 | Leadership for Wicked Environmental Problems | Environmental leadership promotes a societal change such that we move away from the perspective where economic growth is valued and takes precedence above all to one that both recognizes the limits and value of natural resources in our environment and embraces just conservation practice. The environmental challenges we are faced with today (e.g., climate change, renewable energy) are described as "wicked." Wicked problems are difficult to explain, plainly define, have no one solution, and are often the result of other indefinable problems. Environmental leadership focuses on engaging followers to jointly and creatively confront wicked challenges and promotes environmental justice addressing the relationship between social inequality and environmental quality among various stakeholders. Course critically evaluates these leadership dimensions. This examination is not limited to Western ideals found in corporate organizations but also extends to conservation practice in the developing world. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Master of Liberal Studies, Master of Project Management, or Organizational Leadership MS student |
| OGL | 558 | Leading Organizational Innovation | Every modern organization, regardless of sector or mission, needs leaders who understand the impacts of continuing innovation on organizational success and sustainability. Examines how leadership can facilitate innovative activities within every level of an organization. Students conduct independent research for integration into a collaborative team project in the development of a graphical conceptual model that includes factors such as culture, structure and collaborative activities that enhance organizational innovation. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Master of Project Management student or Organizational Leadership MS student |

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| OGL | 559 | Modeling Systems and Stakeholders | Studies how leaders can use systems theory and stakeholder theory to assess the inputs from external stakeholders and their impacts on internal organizational systems. Using current literature, students work independently and in teams to build and apply a conceptual model of the significant relationships among organizational systems and stakeholders. Results highlight relationships among variables that can be tested using quantitative and/or qualitative research methods. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 561 | Collaborative Governance: NGOs and Private-Public Partnerships | Exposes students to the opportunities and challenges of the non-market, non-state realm of nongovernmental organizations and how they facilitate private-public partnerships. Assesses the realm of action, appropriateness of their missions and where they find their limitations. Requires students to think globally and consider the roles of various actors of civil society with a critical eye. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Master of Liberal Studies, Master of Project Management, or Organizational Leadership MS student |
| OGL | 562 | Resource Development in Organizations: A Multiple Capitals Approach | Many types of resources are needed for organizations to achieve long-term sustainability. Surveys various capital resources firms need to succeed. Covers tools such as the International Integrated Reporting Council's six capitals framework (financial, manufactured, intellectual, human, social, natural) and theories that undergird these models. Through readings, case studies, and assignments, students learn about the process of value creation; the relationship between resources and an organization's business model; how the various forms of capital can be measured and reported; and what leaders can do to intentionally develop multiple forms of capital in a way that creates financial returns for the organization. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Master of Liberal Studies, Master of Project Management, or Organizational Leadership MS student |
| OGL | 563 | Leading Social Change: Community Activism | Focuses on methods used to reform social, cultural or political norms, beginning at the local level and connecting with movements for broader social change. Grassroots movements arise on all sides of the political spectrum, and local movements can unite activists around common goals despite larger ideological differences. The term "grassroots" is a misnomer, however, in that it implies the lack of leaders or of institutional support, whereas in reality, leaders attempting to change society must learn to network with a variety of stakeholders, from the level of individual neighbors to political leaders and large institutions. Students look critically and creatively at the ways local leaders have worked on a daily basis to promote community-based causes, in order to become more effective local activists, organizers, and civic and community leaders. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Master of Liberal Studies, Master of Project Management, or Organizational Leadership MS student |
| OGL | 565 | The Future of Work and Organizations | Focuses on the dynamic nature of work, labor and occupations related to social and technological change; the impacts on workers, management and society. Also addresses new and changing occupations and leadership roles related to new economies of scale. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Master of Liberal Studies, Master of Project Management, or Organizational Leadership MS student |
| OGL | 568 | Women and Leadership | Investigates how gender is produced, operationalized and reified in the workplace. Course content is specific to the role of women at work and in leadership. Emphasizes understanding the reproduction of gender inequality with a focus on how commonly shared beliefs about gender and other social categories operate through interaction to differentially affect the experiences of men and women in ways that often disadvantage women. Despite majority representation across a range of public and private sectors, women continue to be visibly absent from leadership roles. Although, some purport that progress has been made to narrow the existing leadership gap for women, more men than women achieve leadership roles and assume these positions at a faster pace than their female counterparts. What contributes to this ongoing phenomenon? What are the results of the underrepresentation of women in leadership? How might organizations intervene and cultivate equity in the workplace? | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Master of Liberal Studies, Master of Project Management, or Organizational Leadership MS student |
| OGL | 569 | Indigenous Leadership and Diplomacy | Offers critical insights into how indigenous peoples around the world have responded to challenging issues in both historical and contemporary contexts by drawing from case studies, primary source materials, and emerging scholarship on indigenous leadership and diplomacy. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Organizational Leadership MS student |

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| OGL | 570 | Analyzing Organizations | Focuses on the qualitative and quantitative research methods that are commonly used to assess organizations. Explores how best to frame organizational assessments and explore possible methodological choices for assessment design. Discusses both quantitative designs and qualitative approaches to organizational assessment. Focuses on planning assessments, making informed research decisions, understanding the ethical implications of organizational assessment, carrying out research and reporting finding. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Organizational Leadership MS student; OGL 550; minimum 21 hours completed at the 500, 600, or 700 level |
| OGL | 571 | Advanced Leadership Assessment | Students reflect on and assess their advancement as leaders while also critiquing and assisting with the development of leadership abilities in colleagues. Leadership effectiveness and social dynamics are analyzed in contexts ranging from students' own experiences to narratives in historical, literary, anthropological, political and sociological contexts. Hands-on practice with leadership assessment surveys is central to the course, and students are trained in creating their own versions of qualitative and quantitative questions on 360-degree surveys. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 574 | Qualitative Data Analysis in Leadership Research | Research design and research methods in leadership using qualitative approaches. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Master of Project Management student or Organizational Leadership MS student; OGL 540 |
| OGL | 575 | Quantitative Data Analysis in Leadership Research | Provides a broad understanding of the theoretical and methodological issues involved in basic data analysis in leadership research. Exposes students to the assumptions, principles and applications of basic quantitative research methods and analytical techniques, such as t-test, ANOVA and simple regression. Uses the SPSS statistical software. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Master of Project Management student or Organizational Leadership MS student; OGL 540 |
| OGL | 576 | Advanced Multivariate Data Analysis | Provides a broad understanding of the theoretical and methodological issues involved in applied multivariate data analysis in leadership research. As such, exposes students to the assumptions, principles and applications of a selected set of multivariate techniques, from multiple regression to mediation, moderation and conditional process analysis. Uses the SPSS statistical software. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 577 | Structural Equation Modeling in Organizational Leadership Research | Provides a broad understanding of the theoretical and methodological issues involved in structural equation modeling in leadership research. As such, exposes students to the assumptions, principles and applications of structural equation modeling. Uses SPSS and AMOS statistical packages. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 578 | Agent-Based Modeling to Address Complexity in Leadership Research | Leadership is a complex process that involves multiple stakeholders, including followers, organizations and communities. Students learn to think about leadership processes systematically and learn to use NetLogo to build agent-based models capturing phenomena of interest. Also examines how the interactions among individual agents in the system create dynamics and emergent collective outcomes. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | Prerequisite(s): Organizational Leadership MS student; OGL 540; OGL 550; OGL 570 |
| OGL | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | RSC | Y | Z3 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1 | | Prerequisite(s): Organizational Leadership MS student |

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| OGL | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-4 | | Prerequisite(s): Organizational Leadership MS student |
| OGL | 599 | Thesis | Supervised research focused on preparation of a thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | Prerequisite(s): Organizational Leadership MS student; OGL 540; OGL 574; OGL 575 |
| OMT | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-4 | | |
| OMT | 230 | Creativity and Business Innovation | Introduces concepts, models and techniques of creativity and innovation. Exposes processes related to developing creative skills and habits with an emphasis on problem solving and design. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only OMT 230 or TEM 230 OR Visiting University Student |
| OMT | 311 | Opportunity Analysis | The key to making sound business decisions involves the careful analysis of the situation, intelligent use of research, and successful practice. Entails the research and implementation of strategy to determine consumer expectations utilizing the skills especially important in today's competitive and turbulent market. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): TEM 200 or TMC 110 with C or better; Credit is allowed for only OMT 311 or TEM 311 OR Visiting University Student |
| OMT | 330 | Systems Innovation | Systems thinking course that investigates how innovators can incorporate the knowledge of complex systems into the processes of technology development, product/service innovation and venture development. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only OMT 330 or TEM 330 OR Visiting University Student |
| OMT | 343 | Occupational Safety and Ergonomics | Health and safety movement, accident theories and effects, OSHA standards and liability, safeguarding, hazards, workers' compensation, ergonomics, and safety. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): minimum 56 hours OR Visiting University Student |
| OMT | 402 | Legal Issues for Technologists | American legal system and impact on technology management issues: contracts, torts, intellectual property, white collar crime, antitrust, environmental, and employment. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): MGT 300 or TMC 330 with C or better; minimum 56 hours OR Visiting University Student |
| OMT | 430 | Ethical Issues in Technology | Topics in social responsibility for industrial technology and engineering. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): MGT 300 or TMC 330 with C or better; minimum 56 hours; Credit is allowed for only OMT 430 or OMT 504 OR Visiting University Student |
| OMT | 431 | Innovation Management | Focuses on execution challenges that innovation initiatives face, including: (a) Resources: Where do the resources for innovation initiatives come from? (b) Organization: How should innovation initiatives be organized? (c) Planning: How should plans for innovation initiatives be written and through what kind of process should they be revised? Explores the processes of innovation management for various sizes of companies utilizing smaller scale, local processes to large scale, globally dispersed innovation processes and teams. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; TMC 110 with C or better or non-Technological Entrepreneurship and Management BS major; Credit is allowed for only OMT 431 or TEM 431 or TEM 531 OR Visiting University Student |
| OMT | 440 | International Business | International business principles and operations, including partnerships, trade agreements, currency issues, international sales, and cultural differences between countries. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | G | Prerequisite(s): MGT 300 or TMC 110 with C or better OR Visiting University Student |
| OMT | 452 | Industrial Human Resource Management | Explores the management of workplace issues and contemporary events as it relates to human capital within an organization. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; MGT 300 or TMC 110 with C or better or senior standing OR Visiting University Student |
| OMT | 480 | Organizational Effectiveness | Explores the interaction of individual and group behavior with organizational efficiencies, strategies, structure and culture so organizations can work more effectively. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): MGT 300 or TMC 330 with C or better OR Visiting University Student |
| OMT | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-12 | | |
| OMT | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-4 | | Pre-requisites: Minimum Junior standing; Minimum 2.25 GPA |
| OMT | 503 | Marketing Management | Modern methods and industrial case studies of planning, pricing, promoting, and distributing goods and services in the global marketplace. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| OMT | 504 | Ethical Issues in Technology | Analyzes legal and ethical framework for making managerial decisions in the corporate environment of engineering- and technology-related industries. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only OMT 430 or OMT 504 |
| OMT | 520 | Strategic Management of Technology | Analyzes entrepreneurial dynamics and technology development, methods of research and development management, new technology implementation, and start-up organization. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| OMT | 548 | Statistical Methods for Research | Multivariate statistical techniques to analyze research data. Uses statistical software and applications. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| OMT | 549 | Research Techniques and Applications | Selection of research problems, analysis of literature, individual investigations, preparing reports, and proposal writing. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| OMT | 560 | Managerial Decision Making | Focuses on structural thinking to make informed and optimal managerial decisions. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| OMT | 570 | Advanced Project Management | Planning, organizing, coordinating, and controlling staff and project groups to accomplish the project objective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only OMT 570 or TMC 470 |
| OMT | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| OMT | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 112 | Identity, Service and American Democracy | Introduces the history of American democracy and civic engagement, while developing civic identity through hands-on democracy-in-action assignments. Examines the rich history of civic engagement as it applies to different races, sexes, genders and religions to unpack the what, why and how of getting involved and making a difference in public service. Examines cultural identity, including diversity of race, sex, gender and religion, as it contributes to social, civic, political and democratic life. Understanding how to participate in civic society culminates in the creation of a plan to contribute to the ongoing mission of sustaining a vibrant, healthy and unifying American democracy. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | SB & C | |
| PAF | 115 | Foundations of Cross Sector Leadership | Prepares NGSC track members for success in their four-year journey while also sparking opportunities to develop as a leader throughout their Sun Devil careers. Provides a baseline for ethical decision making which is the cornerstone of effective leadership. This is accomplished through the lens of the public, private and nonprofit sectors. Also explores complex challenges we face and examples of successful cross-sector collaboration that have led to sustainable solutions. Additionally, students develop teamwork, time management, professionalism and respect for fellow NGSC team members. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 1 | | |
| PAF | 160 | Fundamentals of Disaster Governance, Politics and Policy | Introduces the topic of hazards and disasters and the politics and policies surrounding the management of disaster-related challenges in the United States. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | |
| PAF | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-4 | | |
| PAF | 200 | Public Service and Policy in the 21st Century | Provides a broad introduction to the field of public service and leadership. Topics include an overview of management, policy, urban studies, and leadership in the public sector. Covers the history and development of the public sector, as well as how it serves contemporary society. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | |
| PAF | 201 | Economics and Public Policy | Introduces the terminology and methods of analysis in microeconomics. In particular, examines the behavior of individual consumers and firms, with a focus on market failures and the role of government policy in correcting those failures. Applies microeconomic principles to the distribution of income, policies for eliminating poverty and discrimination, the problems of environmental pollution and the impact of different market structures on economic activity. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | SB | |
| PAF | 215 | NGSC Community Impact Lab | Behind every challenge is an opportunity to innovate. Course offers hands-on, service learning opportunities for students within the ASU Public Service Academy--Next Generation Service Corp (NGSC). Using a problem-solving method called human-centered design, student teams work closely with a nonprofit organization, small business, government office or community organization to develop a solution to a critical issue within their organization that is based in research and empathy for the organization and their stakeholders. Beyond learning and applying the design thinking process, students also develop skills in team management, conflict management and reflection. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | |
| PAF | 220 | Introduction to Urban America | Investigates traditional and evolving forms of civic engagement and management. Examines leadership and organizational models to urban development and decision making. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | |

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| PAF | 240 | Urban Policy | Examines major theories about the purposes and processes of urban policy formulation, adoption, and implementation. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | C | |
| PAF | 261 | Hazards and Risk Management | Overview of natural and technological hazards and disasters, including core concepts and evidence in the field. Introduces concepts of risk and risk management and how they are used in emergency and disaster preparedness, response and mitigation operations. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | |
| PAF | 300 | Public Management and Administration | Examines the context and role of the public manager and the development of the field of public administration. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FIS 351 or PAF 300 OR Visiting University Student |
| PAF | 301 | Applied Statistics | Focuses on statistical techniques used in social science research. Applies concepts such as measures of central tendency and dispersion as well as statistical techniques, including the following: one-sample z and t tests, two-sample t tests, chi-square, and correlation. Goals include helping students understand the mathematical and statistical concepts presented and assisting them in using these concepts in everyday life and in the study of social sciences. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | CS | Prerequisite(s): MAT 142 or higher OR Visiting University Student |
| PAF | 302 | Public Service Research Methods | The philosophy, scope, and methods of public sector research. Examines quantitative and qualitative research methods and research design. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): Urban and Metropolitan Studies BA or BS major OR PAF 301 with C or better OR Visiting University Student |
| PAF | 305 | Urban Governance | Examines major shifts and trends in urban America. Concentrates on the changing approaches to governance and policies of urban areas. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PAF | 311 | Leadership and Change | The leader's role in bringing about significant organizational and societal change with special attention to group and organizational behavior dynamics, establishing a vision, mobilizing and empowering individuals and groups, and assessing outcomes of the change process in a variety of settings. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | SB | Prerequisite(s): minimum 30 hours OR Visiting University Student |
| PAF | 315 | Cross-Sector Collaboration | Examines how public, private and nonprofit organizations seek to address social challenges and explores how the three sectors work together and in isolation to tackle social problems. Students learn about the motivation of employees in the public, private and nonprofit sectors and the ways in which organizational structure, environment and legal contexts differently constrain or facilitate action within and across these organizations. Explores effective strategies for collaboration among the public, private and nonprofit sectors and identifies organizational similarities and points of contrast that could enhance or create barriers to such collaboration. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): Public Service Academy student; minimum 45 hours OR Visiting University Student |
| PAF | 340 | Contemporary Policy Challenges | Develops conceptual, critical, and practical understanding of public policy, the policy process, and policy analysis. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 30 hours OR Visiting University Student |
| PAF | 350 | Introduction to Science & Technology Policy | Explores the variety of ways in which governments make policies, how the policies shape the development of science and technology and their applications, and how policy may be shaped to create better futures. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 30 hours |
| PAF | 351 | Urban and Metropolitan Studies | Examines the city using a multidisciplinary approach drawing from different historical, cultural, social, philosophical, and economic issues and concepts. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PAF | 352 | Urban Theory | Examines the sociological, economic, and political theoretical positions underlying the development and evolution of metropolitan areas. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours |
| PAF | 360 | Emergency Management I | Emergency management, including basic issues of all-hazards management, phases of emergency management and basic operational systems of incident command and the broader incident management system in the United States. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PAF | 362 | Biosecurity and Biodefense | Covers key concepts in the interrelated areas of biosecurity and biodefense, key policy and administrative issues and challenges at present and in the foreseeable future, and tools and techniques for assessing policy effectiveness with regard to risk reduction efforts aimed at biological hazards. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PAF | 363 | Technology in Emergency Management | Explores latest apps, software and social media used in planning (e.g., GIS for hazard mitigation), public crisis communications (via apps or social media platforms) and incident response platforms (for resource and operations coordination). Emphasizes hands-on experience with such tools. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PAF | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-4 | | |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|---|--------------------------|-------|-----------------|--|
| PAF | 400 | Senior Capstone Project | Teaches students to solve problems related to the public sector by applying theory, knowledge, and methods from previous courses to a hands-on project in the community. Seminars include guest speakers and discussions on professional development. Students work as individuals and as a team to prepare research papers and a professional report that is presented to the community. | N | LEC | Y | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): PAF 201 with C or better; PAF 301 with C or better; PAF 302 with C or better; PAF 311 with C or better; PAF 460 with C or better OR Urban and Metropolitan Studies BA or BS major |
| PAF | 405 | Citizen Engagement and Community Building | Develops a conceptual, critical, and practical understanding of urban dwellers' involvement in community affairs as citizens and as builders of vital neighborhoods and vibrant cities. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 30 hours |
| PAF | 406 | Public Administration and Community Development | Critically examines the concepts community and development and considers how important forces such as diversity, civic life, changes in social space, and globalization, affect our understandings about these concepts and influence our actions. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 30 hours |
| PAF | 410 | Building Leadership Skills | Introduces understanding and developing leadership skills, including an examination of leadership theories and models from multidisciplinary and crosscultural points of view, an assessment of the student's leadership capabilities, and practical applications to improve individual leadership capabilities. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | SB | Prerequisite(s): minimum 30 hours; Credit is allowed for only PAF 410 or URB 410 OR Visiting University Student |
| PAF | 415 | Social Entrepreneurship | In-depth study of social entrepreneurship, including how ideas are formulated, constructed, and implemented; experiential learning in developing a social enterprise plan. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only NLM 410 or PAF 415 (CPP 410) OR Visiting University Student |
| PAF | 420 | Managing Across Boundaries | Within the U.S. system of federalism, thousands of governments interact at different levels on issues ranging from taxation and education to zoning and water. Further, governments at all levels interact with nonprofit and industry sectors to provide public services and collaboratively address complex regional and, increasingly, global challenges. Finally, governments and other service providers interact across local, state, regional and national boundaries. Examines how to manage across boundaries (e.g., governmental, nongovernmental, stakeholders, communities, sectors). Emphasizes intergovernmental relations from the perspective of local and state governments; also exposes students to interstate and international forms of intergovernmental relations. Exposes contemporary public management frameworks and applies these frameworks to understand how leaders manage increasingly complex public challenges. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PAF | 421 | Leadership Capstone | Builds upon leadership courses in the Leadership and Ethics certificate program by applying concepts and examples from the readings as well as individual experiences. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): CPP 301 or PAF 410; PAF 311 |
| PAF | 424 | Emergency Management II | Accidents and emergency situations have plagued man since the beginning of history and will undoubtedly occur during our conceivable future. Armed with knowledge and skills for managing such occurrences can lessen their impact on society. Presents the theories, principles and approaches to emergency management. Discusses the philosophy of comprehensive emergency management with the four attendant steps which include mitigation, preparedness, response and recovery. Presents an analysis of past disasters along with their impacts on policy formation leading to the current FEMA all-hazards approach. Discusses the role, duties and importance of the emergency manager throughout the course. Reviews contemporary threats such terrorism. Finally, presents legal issues involving emergency management. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): PAF 360 with C or better |
| PAF | 425 | National Incident Management System (NIMS) | Covers concepts, terminology, players, compliance requirements, including doctrine of National Incident Management System per HSPD-5. Discussion of National Response Plan. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours |
| PAF | 426 | Intelligence Analysis and Homeland Security | Covers the role of intelligence in the United States with an emphasis on its application across homeland security and related agencies in the public sector and parallel private-sector organizations. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |

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| PAF | 450 | Ending Homelessness Through Public Policy | Examines the multifaceted issues surrounding homelessness in an urban environment with a special focus on downtown Phoenix. Examines how public policy decisions have shaped the issue in our community; explores the impact of federal, state and local policy formulation on our population of persons experiencing homelessness. Investigates multiple ways in which homelessness can be mitigated through research, service intervention analysis, services system design, and reframe many long-held assumptions about homelessness. Empowers students to think about solving homelessness in innovative and creative ways and through the lens of multiple stakeholders. Service learning opportunities are available. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only PAF 450 or PAF 494 (Ending Homelessness through Public Policy) or PAF 550 or PAF 591 (Ending Homelessness through Public Policy) OR Visiting University Student |
| PAF | 460 | Public Service Ethics | Role, values, and issues of public management in democratic governance, citizen participation, power structures, and professional codes of conduct. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | |
| PAF | 461 | Homeland Security | In-depth analysis of policies, procedures, and organizational structure for effective homeland security program. Covers all hazard/all risk philosophy. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only PAF 461 or CRJ 554 OR Visiting University Student |
| PAF | 468 | Planning and Exercises | Requirements, planning, conduct, and critique of exercises related to emergency planning. Emphasizes realism using moulage and props. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PAF | 469 | Terrorism Defense | Explores the background and evolution of terrorism. Presents specific tactics for preparation for and response to acts of terrorism. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ABS 598 (Terrorism Defense) or PAF 469 OR Visiting University Student |
| PAF | 470 | Topics in Public Economics and Financial Management | Provides an analysis of public economic practices and problems in a federal system. Presents detailed descriptions, where appropriate, of significant institutions and applies modern economic theory to the ways that these institutions finance and deliver services. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): ECN 212 or PAF 201 with C or better |
| PAF | 471 | Public Policy Analysis | Provides further study in the concepts, models, and operational methods used in public policy decisions and analysis. Enables students to develop higher skills needed for defining policy issues, identifying alternative solutions, and predicting the potential impact of policy alternatives. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): PAF 301 with C or better; PAF 340 with C or better |
| PAF | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-12 | | |
| PAF | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-6 | | Prerequisite(s): Barrett Honors student |
| PAF | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| PAF | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-4 | | |
| PAF | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-7 | | |
| PAF | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-3 | | |
| PAF | 501 | Public Service Research I | Covers research-based concepts and tools that can be used to diagnose and improve public programs and initiatives. Emphasizes understanding a program's logic and objectives; framing questions in a manner that facilitates investigation and collecting, analyzing and presenting quantitative and qualitative data from a variety of sources relevant to the practice of public administration and policy. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 502 | Public Service Research II | Application of quantitative methods for inferring cause and effect relationships in public administration and policy. Interpretation, critique and execution of statistical analysis of data for effective evaluations, particularly multiple regression analysis. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; PAF 501 with C or better |
| PAF | 503 | Public Affairs | Development and context of American public administration and policy, role of administration in governance, and values and ethics in administration. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 504 | Microeconomics of Public Policy I | Provides key principles of microeconomics. Places particular emphasis on developing the analytic tools of economic reasoning and using these tools to examine policy interventions of interest to public managers. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| PAF | 505 | Public Policy Analysis | Institutional and formal analysis of policy processes, decision making, and problem solving; values, ethics, and the uses of policy analysis. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 506 | Public Budgeting and Finance | Legal, social, economic, political, institutional, and ethical foundations of governmental finance, budgets, and budgeting. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 507 | Public Human Resource Management | Personnel systems, behavior and management of people in public organizations, collective behavior, unionism, conflict management, motivation, productivity, and ethics. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 508 | Organization Behavior | Theory and application in the management of organizational behavior with emphasis on leadership and the public service. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 509 | Public Affairs Capstone | Capstone application of core course knowledge, skills, and abilities required for public service. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s) with C or better: degree- or nondegree-seeking graduate student; PAF 501; PAF 502; PAF 503; PAF 504; PAF 505; PAF 506; PAF 507; PAF 508 |
| PAF | 510 | Foundations of Program Evaluation I: Multiple Regression | Regression serves as the foundation for modern quantitative program evaluation techniques. Regression analysis is not a single thing--it is a powerful set of tools used to examine relationships in data and test hypotheses concerning the significance of these relationships. Regression can be used to analyze observational data, in which case it can be used to identify important correlations that help us predict when events will occur together. In the program evaluation context we are specifically interested in causal analysis, which allows us to determine whether a management practice, a nonprofit or government program, or a specific public policy has a positive impact. When certain conditions are met we can use regression analysis to estimate the impact of a policy or program. This course builds a foundational understanding of the mechanics of multiple regression, the proper interpretation of regression models, and the circumstances in which we can use regression results for causal reasoning. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 511 | Foundations of Program Evaluation II: Research Design | Covers important concepts in research design and common quasi-experimental tools for causal analysis. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): PAF 510 (CPP 523) |
| PAF | 512 | Foundations of Program Evaluation III: Advanced Regression Tools | Extends previous course by translating each specific form of the counterfactual--pre-post with comparisons, reflexive design, and the post-test only design--into specific regression models that leverage each counterfactual. Helps expand program evaluation toolkit by demonstrating how to estimate several common regression models that leverage unique data and counterfactual specifications and teaches how to estimate program effects using a given research design. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): PAF 511 (CPP 524) |
| PAF | 513 | Foundations of Data Science I: Introduction to Data Programming in R | Data is an essential ingredient of any program evaluation or performance management system. Organizations that want to embrace an evidence-based approach to management need to develop processes for gathering data; linking multiple datasets; running analysis; and sharing results with stakeholders through reports, dashboards or Web applications. The ability to collect, organize and analyze data is a desirable skill set for professional knowledge workers, high-level management and evaluators. Introduces the R data programming language, an open source platform that has become an industry standard because of its flexibility and power. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 514 | Foundations of Data Science II: Data Wrangling | The data preparation cycle: gather, clean, tidy and wrangle the data to produce a custom research database. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): PAF 513 (CPP 526) |
| PAF | 515 | Foundations of Data Science III: Project Management | The main tools and practices of managing large or complex data projects, typically involving teams. Students learn about project management tools used by open source software developers, useful tools for creating client reports, important considerations. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): PAF 514 (CPP 527) |
| PAF | 516 | Community Analytics | Applies knowledge and tools from previous courses in program evaluation and data analytics in order to get practice building and analyzing custom research databases. Students are given a collection of raw data that needs to be linked together in order to conduct analysis, and guidance on how to implement a specific research question. Students merge the data, wrangle it into the proper format for analysis, apply the prescribed regression techniques, interpret results and create a report with key findings. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): PAF 510 (CPP 523); PAF 513 (CPP 526) |

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| PAF | 520 | Public Management | Management process in government and public agencies, with emphasis on the executive leadership within the public sector. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | |
| PAF | 521 | Managing Public Money | Overview of public financial management, including budget planning and execution; capital budgeting, debt management and administration; funds management and investment; and financial control. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): PAF 506 |
| PAF | 522 | Advanced Governmental Financial Management: Capital Budgeting and Infrastructure Financing | Focuses on capital budgeting and infrastructure financing. Covers information required to finance a capital improvement plan, specifically for infrastructure items such as streets, parks, public utilities, airports, highways, bridges and tunnels, and other public works. Combining strategy as well as process, examines financial management from different perspectives. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): Public Administration MPA student |
| PAF | 523 | The City and County Manager | Provides an overview of the profession of local government manager including roles and responsibilities, the forms of government and administration, and review of management techniques and styles. Includes case study analysis of real-life manager issues, examination of current events about local government, and discussion of ethical issues. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | |
| PAF | 525 | Public Entrepreneurship | Explores public and social entrepreneurship; students create solutions in cooperation with community partners to help address complex social challenges. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | |
| PAF | 529 | Organization Change and Development | Explores the nature and management of change and development as a tool to achieve organizational goals; effecting planned change. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | |
| PAF | 530 | Management of Urban Government | Examines the environment in which public administrators work and the major management challenges and functions for local government. Includes information on relationships between administrators and elected officials, and between officials and citizens. Focuses on effective and responsive service delivery by government, and the need for cooperation and coordination with other levels of government, including regional partners. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 531 | Community Conflict Resolution | Interdisciplinary approach to understanding the dynamics of community conflict. Strategic considerations in policy design and advocacy; potential reaction to conflict. Relevant models and research findings generated by both case studies and comparative methods. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | |
| PAF | 534 | Urban Services Infrastructure | Provides an overview of the services provided by local government with a focus on coordination, cooperation and overlap of services by cities, towns, counties, special districts, county, regional and state. Overview of how services are managed, evaluated, funded, including use of intergovernmental agreements, nonprofits and private businesses. Includes examination of leadership and management strategies, how to promote and establish cultural innovation, and to manage local priorities and expectations. Examines the context of regional issues and demands for cooperation, collaboration and coordination. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 540 | Adv Policy Analysis | Covers data analytics and modeling methods for public policy analysis and management beyond those used for program evaluation. Topics include optimizing the allocation of resources; using machine learning to predict outcomes, target resources and detect outliers; and developing computational and social network models of policy and innovation diffusion and implementation. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; PAF 505 with C or better |
| PAF | 541 | Program Evaluation | Provides foundational and related methodological tools for the evaluation of public policies and programs. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; PAF 501 with C or better |
| PAF | 544 | Urban Policy | Understands major theoretical frameworks, methodological approaches and substantive issues emphasized in urban policy research. Hones skills in policy analysis. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 545 | Creating Sustainable Organizations | Sustainability is a strategic concern for managers in all types of organizations: private, public and nonprofit. Forward-thinking managers are redefining their operational strategies to balance economic development, environmental quality and social justice needs. By drawing on practical cases and a real-time project with a local client, students explore these connections through multiple lenses. Topics covered include creating organization change, involving stakeholders, transformational vs. incremental sustainability, sustainability market strategies, strategic alliances, enhancing the organization value from sustainability initiatives, and assessing organization sustainability. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): Degree- or Nondegree-seeking graduate; Credit is allowed for only PAF or SOS 545 |

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| PAF | 546 | Environmental Policy and Management | Systems-level approach to environmental policy and management, emphasizing the societal, economic and political forces that influence the development and implementation of environmental policy. Topics include: defining environmental problems; environmental policy in congress; environmental policy in the courts; the Environmental Protection Agency; market principles in environmental policy; sustainable production, sustainable cities; global climate change; population and the developing world; energy policy; air pollution; water pollution; hazardous waste; ecosystem-based management and market-based solutions. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 547 | Science, Technology and Public Affairs | Explores the political, economic, cultural, and moral foundations of science and technology policy and governance in democratic society. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only BIO 515 or GLG 547 or HSD 515 or PAF 547 or SOS 516 |
| PAF | 548 | Women/Politics/Public Policy | Explores how political philosophy, politics, and public policy affect and are affected by women. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | |
| PAF | 550 | Ending Homelessness Through Public Policy | Examines the multifaceted issues surrounding homelessness in an urban environment with a special focus on downtown Phoenix. Examines how public policy decisions have shaped the issue in our community; explores the impact of federal, state and local policy formulation on our population of person's experiencing homelessness. Investigates multiple ways in which homelessness can be mitigated through research, service intervention analysis, services system design, and reframe many long-held assumptions about homelessness. Empowers students to think about solving homelessness in innovative and creative ways and through the lens of multiple stakeholders. Service learning opportunities are available. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PAF 450 or PAF 494 (Ending Homelessness through Public Policy) or PAF 550 or PAF 591 (Ending Homelessness through Public Policy) |
| PAF | 551 | Hazards Governance | Examines how hazards are managed by both community- and national-level policymaking and administrative systems, with a particular focus on understanding how policies and management practices are related to risk reduction and resilience capacity promotion. Explores what governance means in practice and presents existing research, including policy reports, case studies and quantitative analyses of community-level and national-level hazards management programs and related public policies--and how their integration is relevant to hazards governance. Emphasizes understanding the nature of public goods production processes, including how inter-sector integration (i.e., between, public, private and nonprofit organizations) and extant community vulnerability profiles matter to the specific risk reduction efforts, and what those same efforts yield in terms of aggregate community resilience outcomes. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 552 | Integrated Emergency Management | Theory and practice of comprehensive emergency management. Explores scope and function of Department of Homeland Security. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 553 | Hazard Mitigation Planning | Examines policies, methodologies and guidance for state and local hazard mitigation planning. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CON 511 or PAF 553 (CPP 511) |
| PAF | 554 | Exercises and Planning for Emergency Management and Homeland Security | Comprehensively explains the processes of emergency planning exercises in the domains of natural and technological hazards and homeland security, as well as other related domains such as public health or emergency medical services. Explores processes of emergency exercises within the Homeland Security Exercise & Evaluation Program (HSEEP) context and its standard guidelines that shape appropriate exercise practices. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 555 | Information Technology in Emergency Management | Provides theory and application of computer-based programs in emergency management and the use of various emergency modeling programs. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| PAF | 556 | Public Private Partnerships for Emergency Management and Homeland Security | Focuses on how public private partnerships (P3s) offer alternative mechanisms for supporting community emergency preparedness efforts, hazard and risk management practices, and community resilience promotion. The traditional form of a P3 model is typically a build-operate-maintain arrangement (with various permutations of those element combinations) around physical infrastructure. However, more complex public-private relationships related to emergency and disaster management issues, public health issues and other social welfare concerns have emerged over the past several decades. Investigating how these arrangements might affect emergency management, homeland security and the management of hazards and risk in general is critical to understanding how public sector operations are likely to function in the future in the United States. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 557 | Interagency and Intersector Coordination for Emergencies and Disasters | Examines the nature of intersector and interagency coordination and collaboration efforts in the domain of emergency management and homeland security. Three core substantive area of focus: (1) covers the nature of inter-sector, inter-agency coordination and collaboration activities as a chief feature of the general emergency management function any community must address; (2) focuses on issues related to the required interaction between the local, county, state and federal government emergency management functions and the private sector; (3) focuses on the functional roles and the specific types of contributions made by public, private and nonprofit sector organizations in community preparedness for emergencies and disasters. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 558 | Program Evaluation for Emergency Management and Homeland Security | Examines core concepts and techniques of program evaluation and policy analysis and applies them to specific challenges in the domains of emergency management and homeland security. Develops knowledge and expertise in the practice of evaluating public sector programs, policies and other agency actions related to hazards issues-both natural and human-made. Develops students' knowledge, skill and ability in identifying appropriate research designs for particular evaluation and policy analysis problems; in managing data and focusing reports based on project objectives; and in appropriately characterizing and presenting empirical those data gathered for program evaluation and policy research projects. Provides an opportunity to learn about conducting evaluation and policy research in a way that is relevant to solving policy and management challenges germane to emergency management and homeland security agencies. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): CRJ 511 |
| PAF | 559 | GIS for Hazards Analysis | Provides a basic level of familiarity with several aspects of geographic information science such as key geographic concepts and techniques related to the theory and application of geographic information systems (GIS). Covers topics such as data models, geographic coordinate system and map projections, data entry and editing, and various types of spatial analysis in both conceptual terms as well as practical application. Additionally, outlines a range of GIS-related activities in emergency management and homeland security. Exposes students to the current and potential roles of GIS in support of emergency management activities in each of the four stages of the emergency management cycle. Gives students a basic understanding of GIS and its possibilities along with the capabilities as they apply to emergency management and homeland security. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 560 | Community Resilience | Examines community resilience from a systems perspective, embracing governments, private, nonprofit and civic roles. Presents research, case studies, and strategies for policy planning and implementation. Provides an understanding of how community members respond to the need to prepare for, endure and recover from disasters and the ability to utilize multiple communication methods to help community members before, during and after these emergencies. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 561 | Interoperability for Emergency Managers | Enables understanding of the multiple technologies and skills utilized by emergency managers to enhance successful coordination and communication between all levels of emergency managers and responders during emergency mitigation, prevention, preparedness, response and recovery operations. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| PAF | 562 | Higher Education Policy | Broad overview of higher education policy. As used here, the term "policy" in higher education refers to government-produced policies (e.g., federal grants policy, state policies for university budgets) but also university-produced policies (e.g., strategic alliances, policies for faculty or student conduct). Despite the breadth of coverage, there is one theme permeating the course: universities as "public values-based institutions," including social impact, social engagement, outreach and economic impact. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PAF 562 or PAF 591 (Higher Education Policy) |
| PAF | 563 | U.S. Cyber and Information Security Policy | Prepares students to understand and manage human and technical resources within the increasingly important cyber and information security domains. As high-profile data breaches and cyberattacks--that result in physical losses, disruptions and disasters--impose greater risks and costs on our public and private sector--as well as military and intelligence--networks, the policy and management aspects of these challenges have come to the fore. Compounding the technical and operational challenges arising from the protection of operating systems, networking and systems administration, managers and Chief Technology/Risk/Security/Data/Information Officers face a multidimensional set of political risks, including how to effectively manage data content and evaluation, information veracity and information sharing and distribution. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 564 | Health Aspects of Crises, Emergencies, Disasters | The aim of the course is to build learners' capacity to operate as public health professionals and managers within the context of local or international crises, emergencies and disasters. It will develop their knowledge of the healthcare aspects of these events, prepare them to assess and respond to such events from the perspective of healthcare services and providers, and assist them to develop the skills required to work within disaster and complex emergency settings. | N | LEC | Y | NSW | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-3 | | Prerequisite(s): Emergency Management and Homeland Security (Biosecurity and Threat Management) MA student |
| PAF | 565 | Theories and Practices of Democracy | Critically explores the wide range of ideas, issues, challenges, and promises related to democracy in theory and practice. Intended for all students interested in democratic leadership, public service, civic engagement, and participatory governance. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 566 | Participatory Governance & Civic Engagement | Examines classic and current theoretical debates on participatory governance and civic engagement, discusses theoretical and practical implications, and analyzes different models of participatory governance. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 568 | Disasters as Opportunity for Sustainability | Explores how disasters can give rise to sustainability transitions and sustainability solutions. Disasters are revealing crisis. As hazards roll into disasters they lay bare the underlying conditions of socio-ecological vulnerability and inequities that affect almost all aspects of daily life. They also affect the infrastructures and institutions supporting daily life. This realization stimulates improvisation and ideas for just, green, inclusive and resilient futures. Investigates case studies to reconstruct how people, affected by and surviving a disaster, advanced sustainability transitions and reduced disaster risk. Uses an interdisciplinary perspective to analyze these transitions, drawing on theories of change from sustainability transitions and transformation as well as disaster management research. Moreover, students ground the literature in concrete experiences as shared through guest speakers, professional experiences, documentaries and an applied project. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | Watts College of Public Service and Community Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PAF 568 (CPP 537) or SOS 494 (Disasters as Opportunities for Change Towards Sust) or SOS 537 or SOS 598 (Disasters as Opportunities for Change Towards Sust) |
| PAF | 570 | Microeconomics of Public Policy II | Provides the policy tools to solve economic problems such as market concentrations, market failures and externalities, and asymmetric information. Increasingly, government interventions are moving away from a command-and-control-style of direct provision of goods and services and toward a large menu of indirect approaches implemented through a complex system of third-party actors. Government intervention in private markets now entails loans and loan guarantees, grants-in-aid, contracts, vouchers, social and economic regulation, and many other policy tools. Each of these instruments involves vastly different behavioral distortions, policy technologies, political considerations and technical sophistication. Analyzes the economics of four policy interventions: grants, tax expenditures, social regulation and vouchers. Provides an overview of each tool (including its key design features) and combines economic theory with background information on how public policies actually operate. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; PAF 504 with C or better |

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| PAF | 571 | Geographic Information Systems (GIS) and Analysis | Provides foundational information related to application of GIS technology to meet various needs within governmental operations, administration, and public policy. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | |
| PAF | 572 | Infectious Disease Intelligence | This course aims to give you the skills to critically evaluate, analyse and interpret important information and issues in infectious diseases intelligence as it applies to human health. | N | LEC | Y | NSW | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-3 | | Prerequisite(s): Emergency Management and Homeland Security (Biosecurity and Threat Management) MA student |
| PAF | 573 | Applied Econometrics | Applied treatment of the most important modern econometric methods used to evaluate public policies. Help students become savvy consumers of econometric methodology and develops the methodological skills necessary for implementing quantitative evaluations of public policies. Accordingly, course stresses critical thinking and creativity. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; PAF 502 with C or better |
| PAF | 574 | Diversity, Ethics, and Leading Public Change | Focuses on leading public change with a strong ethical foundation and commitment to engaging a diverse and inclusive workforce. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 576 | Information Assurance Principles | The aim of this course is to provide insights into on modern cyber security threats and defensive controls and explore effective computer security and risk management strategies, Information Assurance (IA) practices and techniques. The course provides a graduate level foundation in IA for a diverse audience, from middle level managers to executives with non-technical and technical backgrounds and from variety of government, commercial and non-for-profit organisations. This course will explore concepts such as layered defense mechanisms, using different technologies and multiples thereof (true defense in depth), threat/risk identification and mitigation and incident response techniques. It will enable executive level managers to properly understand the real world challenges faced by their Cyber Security teams today. It will also assist in developing the frameworks, policies and the evidence-based decisions required to allow teams to protect their environments efficiently and to understand the resulting costs and benefits. | N | LEC | Y | NSW | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-3 | | Prerequisite(s): Emergency Management and Homeland Security (Cybersecurity Policy and Management) MA student |
| PAF | 577 | Cybersecurity and Critical Infrastructure Protection | Critical Infrastructure (CI) refers to the diverse, complex, inter-dependent delivery and support systems as well as the distributed networks for all large-scale services that are essential to a nation. These services include emergency response, law enforcement databases, supervisory control and data acquisition (SCADA) systems, power control networks, military support services, financial applications and mobile communications. Some national services are provided directly by government, but most are provided by commercial organisations and groups such as Internet service providers, airlines and banks. Systems that operate in national critical infrastructure run everything from electricity power plants to gas pipelines, hospitals and highways. | N | LEC | Y | NSW | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-3 | | Prerequisite(s): Emergency Management and Homeland Security (Cybersecurity Policy and Management) MA student |
| PAF | 578 | Cyber Defense | Designed to provide students with knowledge on how to defend organisations and their systems. It is designed to provide a deep understanding of cyber defense within organisations and the necessary skills to examine the operational aspects of cyberspace, information assurance and cybersecurity. The emphasis of this course is to provide a contextual link between the management and governance of an organisation and its rapidly evolving cybersecurity and cyber-defense requirements. This course also provides insight into cyber governance in the Defense context, focusing on the management and acquisition of mission-critical systems and ensuring that these systems are resilient to internal faults and external cyber disruptions. | N | LEC | Y | NSW | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-3 | | Prerequisite(s): Emergency Management and Homeland Security (Cybersecurity Policy and Management) MA student |
| PAF | 579 | Public Policy Capstone | Integrative, client-based project course. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | |
| PAF | 581 | Bioterrorism and Health Intelligence | This course is for professionals involved in any aspect of bioterrorism preparedness and response, who wish to be intellectually challenged, to think outside the square, to gain insight into quantum changes in science which pose a biosecurity risk, to understand the different perspectives of sectors involved in response, and to gain new critical skills which can be applied in their professional practice. | N | LEC | Y | NSW | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-3 | | Prerequisite(s): Emergency Management and Homeland Security (Biosecurity and Threat Management) MA student |

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| PAF | 582 | E-Public Administration | Explores how new techniques and technologies for using, processing and managing information are changing how we interact, work and serve. As an example of this very concept, this course is offered online. During the semester, managers explore current trends, use a wide variety of information and communication tools, and have manager-created content consistent with new trends of online participation. By the end of the course, managers have experience with tools (including Wikis, Blogs, search engines, collaboration tools, reputation systems, social networks, virtual worlds); are familiar with current information issues (transparency, privacy, equal access, governance); and explore how they are relevant to a variety of contexts (local government, non-profits, public service). | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-12 | | |
| PAF | 585 | Strategic Planning for Public Sector Leaders | In an age of diminishing resources, the tools of strategic planning have become crucial for every public sector and non-profit manager. How can a public sector agency (or non-governmental organization) achieve its goals and advance its mission? How can it motivate its people given the absence of the sorts of incentives often found in the private sector? How can these organizations respond to a rapidly changing political, economic and social environment? These are among the questions that are addressed. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 586 | Data Analytics for the Public Good | Explores techniques used for data extraction, analysis and visualization. In particular, students engage with social media data, devise solutions to address data-poor scenarios, and explore the potential of sentiment analyses to elucidate opinion trends and predict future attitude shifts. Discusses data visualization techniques and engages students with Tableau software. Also explores the social, political and ethical considerations associated with building and managing data analytics programs in the public sphere. Explores issues-critical dilemmas when it comes to issues such as data privacy, data protection, predictive analytics, personalized service delivery and resource provision, algorithmic regulation, and large-scale data analytics for administrative efficiencies and resource management optimization, among others. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 587 | Federal Budgeting and Tax Policy | Provides a broad understanding of federal budget and tax policy issues. The knowledge acquired in this class enable students to act as competent parties in the formulation of public policy within the federal budget and tax policy domains. Approximately one half of the class is devoted to federal budget processes and concepts including purposes, coverage, scoring, performance evaluation and proposed options for reform. The second half covers tax policy issues. Throughout the course, focuses on those budget and tax policy issues that are the current subject of political attention. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 588 | Global Public Policy | The study of public policy has traditionally focused on the operations of government agencies within national borders. Increasingly, however, public officials at all levels of government must confront challenges and opportunities that exist across borders. Whether the issue is immigration, national security, trade and finance, or the environment, public managers must be aware of global pressures and, in many cases, respond to them. This course gives managers the analytical tools to understand how global issues are currently being managed and what they might do to make the most of global opportunities. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 589 | Leadership in Public Organizations | Provides the foundation of theory and practice of administrative leadership. While students learn about all the major theoretical frameworks, focuses on an applied action research model that is useful in analyzing and developing oneself and others in organizational settings. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-12 | | |
| PAF | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-12 | | |

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| PAF | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-12 | | |
| PAF | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-4 | | |
| PAF | 601 | Advanced Public Policy Seminar | This advanced seminar in public policy has a single objective: to develop a critical thinking of theoretical perspectives developed to analyze several dimensions of public policy. Focuses on theories and perspectives across specific policy areas since the objective is to get used to analytical lenses, not a specific policy area. This objective is achieved by reading required books each week. This class requires the ability to critically analyze a body of literature as a prerequisite for advancing that literature. The general format of this course includes reviews of class material and discussion. Prior to each class, students are expected to read the required books listed in the syllabus. Students are responsible for contents included in the readings, even if it is not explicitly reviewed in class. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PAF | 602 | Advanced Research Design for Public Policy and Management | The logic, design and conduct of applied social research for students interested in public management and policy. Traditional scientific explanatory research is a necessary prerequisite for any prescriptive research. The primary orientation of this course is to focus on development of social science explanations for public administrative phenomena and the development of research designs which permit testing of hypotheses derived from these explanations. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): admission to a doctoral program |
| PAF | 603 | Advanced Economics for Public Administration and Public Policy | Theory of utility and demand, theory of the producer, organization, operation of product and factor markets, market equilibrium, regulation, risk and uncertainty, general equilibrium and welfare policy, market failure, public goods and taxation, and game theory. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): PAF 504 with C or better; doctoral major |
| PAF | 604 | Intellectual Foundations of Public Administration | Explores significant developments and themes in the theory of public administration, especially American public administration. Major foci in this seminar include the historical development of public administration as a body of thought and as a theory of politics; the enduring theme of public administration and democracy; various possible unifying themes, theories, and criteria; and prospects for future theory and research. Aimed at encouraging advanced students to refine their abilities to identify, analyze, interpret, critique, evaluate, and contribute to the literature and intellectual developments of this field of scholarship, as well as to place current and emerging trends in broader context. Builds on more basic courses in public administration and is intended in part to assist students in preparation for doctoral preliminary examinations in public administration. Assumes that students have a solid understanding of American government and bureaucracy. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): admission to a doctoral program |
| PAF | 605 | Organization Theory and Behavior Seminar | Advanced survey of organization theory (OT) and organization behavior (OB) literatures for doctoral students. The seminar pursues multiple goals. It examines the intellectual foundations and historical progression of OT/OB research and explores the craft of conducting social science research related to OT/OB. Specifically analyzes how current literature in public management and administration applies organization theory for research. Develops a research-based understanding of main schools of organization theory so that students gain skills to enable them to engage OT/OB theories in their own research. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): admission to doctoral program |
| PAF | 609 | Advanced Quantitative Methods Seminar | Provides opportunity to learn the tools necessary for carrying out empirical work through hands-on data work and analysis. Students learn how to specify and estimate linear regression models and test hypotheses about model parameters under different statistical assumptions. Students become proficient in programming statistical routines. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Prerequisite(s): admission to doctoral program |
| PAF | 610 | Advanced Qualitative Methods for Public Affairs Research | Explores a number of qualitative research approaches and methods, including ethnography, ethnomethodology, participant observation, interviews, focus groups, content analysis, discourse analysis, and some comparative/historical methods. Also exploreS the important theoretical and ethical issues that bear on these approaches. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Pre-requisites: PhD student |

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| PAF | 620 | Public Administration Professional Development Workshop | Prepares doctoral students to become productive and effective public administration scholars, teachers, and researchers. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 3 | | Pre-requisites: Doctoral PAF student |
| PAF | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-12 | | |
| PAF | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-12 | | |
| PAF | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-15 | | |
| PAF | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Watts College of Public Service and Community Solutions | School of Public Affairs | 1 | | |
| PAF | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-15 | | |
| PAX | 230 | Introduction to Peace Studies | Intensive, one-semester introductory course. Explores multidisciplinary approaches to the study of peace, conflict and human rights as well as the historical background of peace studies (trans)disciplinary orientation. Knowledge gained in peace studies can be applied toward education, policy, law, cross-cultural communication, community-based organizations, nongovernmental organizations and ethics. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | G | |
| PAX | 310 | War and Peace: The Evolution of Conflict and Cooperation | Examines the evolutionary foundations of conflict and cooperation using theories and evidence spanning humans and other animals. Covers mechanisms of nonviolent conflict in nature, strategies for violent conflict and mechanisms to reduce the cost of conflict. Additionally, examines how cooperation evolved in humans and other animals. Topics include nepotism, reciprocity, cultural group selection and the evolution of moral sentiments. Also examines the interaction between cooperation and warfare. Topics include the relation between violence and morality, and how warfare shapes cultural evolution. The course ends examining combat-induced Post Traumatic Stress Disorder and Moral Injury, and how it relates to the evolution of cooperation and warfare. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASM 310 or ASM 394 (War & Peace: Origins of Conflict & Cooperation) or PAX 310 OR Visiting University Student |
| PAX | 456 | Studies in Forensic Linguistics | Focuses on the three main aspects of that branch of applied linguistics, namely language and the law, court cases where language is the central dispute, and linguistic evidence. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 456 or FOR 456 or PAX 456 or SBS 456 |
| PBH | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| PBH | 201 | Economics for Health Majors | Introduces economics and demonstrates the relevance of economic principles to the study of health care delivery systems and public health. Combines elements of a traditional introductory economics curriculum with broad coverage of microeconomics and specific application to current issues in health care delivery and public health policy. Prepares students for further study of health economics. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only HCD 201 or PBH 201 OR Visiting University Student |
| PBH | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| PBH | 300 | Biostatistics | Biostatistics and its use in health and health services research. Familiarizes students with statistical concepts and methods to analyze and interpret data and conceptually addresses statistical theory. Introduces Excel software to manage data and perform statistical tests. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | CS | Prerequisite(s): completion of General Studies MA requirement with C or better; minimum 30 hours; Credit is allowed for only HCD 300 or PBH 300 |
| PBH | 310 | Epidemiology in Public Health | Essential principles and practices of public health epidemiology. Increases an undergraduate student's ability to analyze problems and make decisions based on application of epidemiologic concepts and methods in a variety of settings. Students gain experience communicating epidemiologic findings in both written and oral formats. Includes applied hands-on exercises in analysis of epidemiologic data, case studies and critical review of epidemiologic methods used in scientific literature. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): PBH 300; not open to Exercise and Wellness or Health Education and Health Promotion majors |

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| PBH | 355 | Research Methods for Public Health | Society incurs high opportunity costs when public health interventions which yield a high health return on investment are not implemented, or when resources are expended on interventions with low health returns. Public health practitioners should, therefore, incorporate the best scientific evidence in planning, implementing and evaluating public health policies and programs. Covers concepts and tools of public health research where the research objective is to provide evidence that informs and improves decisions regarding the allocation of public health resources. Covers basic components that inform evidence-based decision making, namely: accessing the best available scientific evidence; developing research questions, collecting and analyzing qualitative and quantitative data; using data and information systems methodically; and adhering to standards of ethical research. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): PBH 310; not open to Exercise and Wellness or Health Education and Health Promotion majors |
| PBH | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| PBH | 402 | Health Economics | Examines decisions made by patients, practitioners, health care administrators, and public policy makers using economic tools and models. Gives particular emphasis to using economic models to understand and predict decision making under scarcity and imperfect information, which provides insight into the successes and pitfalls of a health care system. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): ECN 212, HCD 201, or PBH 201 with C or better; minimum 45 hours; Credit is allowed for only HCD 402 or PBH 402 OR Visiting University Student |
| PBH | 410 | Public Mental Health | Explores public mental health research and practice. Considers social determinants, social theory, population assessment methods, ecological models, risk, resiliency, and behavioral health systems of treatment and prevention. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |
| PBH | 422 | Health Disparities and Access to Health | Racial and ethnic health disparities in the United States. Explores disparities in healthcare seen at the provider and system level and their effects on health in the community. Also considers the historical context of racial and ethnic health disparities and the demographic and conceptual issues surrounding health disparities research. Reflects on the effects of behavior, socioeconomic status and group-specific disparities on community health status. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only HCD 422 or PBH 422 OR Visiting University Student |
| PBH | 435 | Environmental and Occupational Health | Provides an understanding of the relationship between environment and health, risk management choices and resulting effects on health and physical well-being for the individual, communities and vulnerable populations. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 56 hours OR Visiting University Student |
| PBH | 455 | Public Health Program Evaluation | Federal, state and local policies shape the nature of the public health programs implemented in communities. Public health professionals are often responsible for evaluating, at multiple levels, the programs that result from such policies. Provides public health students with the analytical tools necessary to manage the implementation and evaluation of public health programs. Program evaluation serves many important functions. It supplies information to managers who are charged with implementing public health programs and to policymakers who face decisions about which programs to fund, scale back, expand, modify or eliminate. Evaluation is an accountability tool: when a public health agency decides to finance a program, they have a right to ask what their funds bought. Evaluation is also a vehicle for improving public health programs. By identifying what works and what does not--and how new programs fare relative to existing practice--policymakers and managers can improve program designs. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): PBH 355 |
| PBH | 482 | Capstone I | First course in capstone sequence wherein a student identifies a project to complete in Capstone II and conducts background research. Projects are related to broad topics explored during prior coursework in the student's program. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 1-3 | | Prerequisite(s): minimum 45 hours |
| PBH | 483 | Capstone II | Independent study in which a student, under the supervision of capstone coordinator, conducts research that is expected to lead to a specific project such as a thesis, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. Capstone II projects can be done in conjunction with a health care organization or health agency. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): PBH 482 (or HCD 482) |
| PBH | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): Barrett Honors student |
| PBH | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): Barrett Honors student |

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| PBH | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| PHI | 101 | Introduction to Philosophy | Explores issues that philosophers have traditionally considered, including morality, reality, and knowledge. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | |
| PHI | 103 | Principles of Sound Reasoning | Fallacies, validity, and soundness of arguments. May include syllogistic, elementary symbolic, inductive logic, and scientific method. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105 or 107 with C or better OR Visiting University Student |
| PHI | 105 | Intro to Ethics | Philosophical examination of such questions as, How should we live? Is morality a social invention? Does anything matter? | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | |
| PHI | 107 | Introduction to Philosophy of Sex and Love | Examines philosophical views of the nature of sex and love, their relation to gender and sexual ethics. Focuses on the historical development of these concepts and contemporary moral and political debates over issues such as same-sex marriage, polyamory, pornography and free speech, objectification, cybersex, and consent to sex. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): Credit is allowed for only PHI 107 or PHI 394 (Philosophy of Sex and Love) |
| PHI | 120 | Introduction to Medical and Bioethics | Philosophical examination of moral problems that arise in medicine and biology, e.g., end-of-life, reproduction, and patient's rights. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | |
| PHI | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-3 | | Pre-requisites: Freshman student; Maximum 25 hours |
| PHI | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |
| PHI | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |
| PHI | 300 | Philosophical Argument and Exposition | Develops techniques of philosophical argument and exposition. Frequent written exercises. Course content may vary with instructor. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L | Prerequisite(s): Philosophy major; ENG 102 with C or better; minimum 25 hours OR Visiting University Student |
| PHI | 303 | The Future of Religions | Critical theorists of modern religious and secular beliefs argued that both theism and atheism have had their martyrs and tyrants. Nietzsche proclaimed "God" of the West dead, Marx unmasked religion as opium for the oppressed masses, and Freud analyzed religious future as an unconscious illusion. The future of secular progress has become equally suspect in the wake of the Holocaust, Hiroshima, the gulags, the killing fields of Cambodia, Rwanda. Globally motivated terror revealed itself as capable of religious as much secular justifications. The future of faith and reason has become a doubly open theoretical and practical question in philosophy, religious studies, literary study, critical theory, cultural and gender studies, and all sciences. Applies theoretical and methodological tools to critically exam beliefs, practices, and communities and their role in both generating and transforming the ethical and spiritual discontents of the global age. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Pre-requisites: ENG 102, 105 or 108 with C or better; Credit is allowed for only HON 394 (The Future of Religions), PHI 303 or REL 300 |
| PHI | 304 | Existentialism | Covers such topics as absurdity, authenticity, the meaning of life and death, responsibility, and subjectivity. May include readings in phenomenology. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PHI | 306 | Applied Ethics | Philosophical discussion of contemporary moral and political issues, such as abortion, euthanasia, animal rights, affirmative action, and sexual rights. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | |
| PHI | 307 | Philosophy of Law | Nature and source of law and its relation to morality. Legal rights, legal enforcement of morals, civil disobedience, liability and responsibility, punishment, judicial reasoning, justice, property, and differences between theories of natural and positive law. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PHI | 310 | Environmental Ethics | Examines a full range of philosophical positions pertaining to our moral relationship to the natural world; anthropocentrism, individualism, biocentrism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Credit is allowed for only BIO 324 or PHI 310 OR Visiting University Student |
| PHI | 311 | Philosophy and Literature | In-depth study of selected literary and philosophic texts. Addresses philosophical problems such as the nature of moral goodness and human relations; the purpose of life; or the relations among beauty, truth and justice. Also addresses whether literary aspects of philosophical texts such as myth, image, metaphor or rhetorical devices contribute to meaning or promote ethical insight as well as interdisciplinary tensions and bridges between rhetoric and philosophy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): minimum 45 hours |
| PHI | 313 | Probability, Evidence, and Decision | Philosophical topics in epistemology and practical reasoning; probability and its use in representing and reasoning about belief, evidence, and rational choice. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): MAT 117 or 142 or higher; minimum 30 hours; Credit is allowed for only HPS 313 or PHI 313 |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| PHI | 314 | Philosophy of Science | Structure and justification of scientific theories, explanation, and theory change. Roles of observation and laws, theoretical concepts and entities, reduction, probability, confirmation, space and time, and causation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Credit is allowed for only HPS 314 or PHI 314 OR Visiting University Student |
| PHI | 318 | Philosophy of Religion | Classical arguments for the existence of God. Argument from evil against the existence of God. Justification of religious belief. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | |
| PHI | 319 | Philosophy, Computing and Artificial Intelligence | Philosophical problems surrounding artificial intelligence (AI). Thinking as computation and AI; the ethics, epistemology and metaphysics of computing. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | CS | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 25 hours OR Visiting University Student |
| PHI | 320 | Bioethics | Critical examination of moral questions arising in biomedical contexts, particularly due to new technologies and scientific discoveries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): minimum 45 hours; Credit is allowed for only BIO 312 or IAS 340 or PHI 320 OR Visiting University Student |
| PHI | 322 | History and Philosophy of Sustainability | Examines sustainability issues in a broadly interdisciplinary way, but with a special emphasis on humanities perspectives, focusing on human ideas, values and institutions as they have evolved over time. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102 or 105 or 108 with C or better; minimum 25 hours; Credit is allowed for only HST 308 or PHI 322 or SOS 309 or BIO/HST/PHI/SOS 394 (History & Philosophy of Sustainability) |
| PHI | 324 | Existential Ethics | Ethical aspects of theistic and atheistic accounts of existentialist philosophy. Freedom and responsibility and their significance in human experiences. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | |
| PHI | 325 | Philosophy of Social Science | Philosophical problems surrounding the aims, structure, and methods of the social sciences. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU or SB | |
| PHI | 326 | Philosophy of Happiness | Examines ancient and contemporary philosophical models of happiness and consideration of criteria for living a life of human flourishing. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| PHI | 328 | History of Ancient Philosophy | History of Western philosophy from its beginnings through the Hellenistic period. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 25 hours OR Visiting University Student |
| PHI | 329 | History of Modern Philosophy | History of Western philosophy from the Renaissance through Kant. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 25 hours OR Visiting University Student |
| PHI | 330 | Theory of Knowledge | Nature, sources, and limits of human knowledge. Topics may include truth, a priori knowledge, empirical knowledge, perception, induction, and skepticism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 25 hours OR Visiting University Student |
| PHI | 331 | Philosophy of Language | Problems pertaining to the nature of language, including meaning, reference, truth, definition, analyticity, translatability, synonymy, and contributions of contemporary linguistics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102 or 105 or 108 with C or better; minimum 25 hours |
| PHI | 332 | Metaphysics | Problems pertaining to the nature of reality. Topics may include nature of person, minds, substance, universals, space, time, causation, and modality. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 25 hours OR Visiting University Student |
| PHI | 333 | Symbolic Logic | Studies symbolic techniques to represent knowledge, deductive arguments, refutation by counter-example, and model-theoretic representation. Covers propositional and first-order predicate logic and provides a deeper understanding of theories about the world and of reasoning in life generally. Students gain a valuable tool for any field or discipline in which rigorous thinking is necessary such as science, medicine, business and the legal profession. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; MAT 243 or MAT 300 or PHI 103 with C or better; minimum 25 hours OR Visiting University Student |
| PHI | 334 | Philosophy of Mind | Nature of consciousness. Common sense view of mind, behaviorism, materialism, dualism, functionalism, self-knowledge, and knowledge of other minds. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 25 hours OR Visiting University Student |
| PHI | 335 | History of Ethics | Major works of moral philosophy, both ancient and modern, such as those by Plato, Aristotle, Hobbes, Hume, Kant, and Mill. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 25 hours OR Visiting University Student |
| PHI | 336 | Social and Political Philosophy | Alternative principles and methods relevant to problems of human association and conflict; discusses justice and power, freedom and equality, and autonomy and order. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 25 hours OR Visiting University Student |
| PHI | 337 | Ethical Theory | Theories in normative ethics about the nature of what is right and wrong, good and bad, virtuous and vicious. May include issues in metaethics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 25 hours OR Visiting University Student |
| PHI | 338 | Metaethics | Concerns questions about the nature of value, morality, and normativity in general, such as "Is morality objective, subjective, or relative?" | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102 (or ENG 105 or 108) with C or better; minimum 25 hours. Credit is allowed for only PHI 338 or PHI 420 (Metaethics) |
| PHI | 339 | Philosophy of Art | Central problems in philosophy of art, e.g., the nature of a work of art, modern and traditional theories of art, aesthetic perception and experience, and objectivity and relativity in art criticism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): minimum 45 hours |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| PHI | 347 | Philosophical Theories of Constitutional Law | In-depth study of the philosophical theories surrounding constitutional rights and interpretation. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 25 hours OR Visiting University Student |
| PHI | 360 | Business and Professional Ethics | Examines moral theories applied to cases of corporate responsibility, property rights, environment, fairness, profit, employee rights, and responsibilities. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PHI | 370 | Sports Ethics | Studies moral issues in sports, including but not limited to the nature and application of sportsmanship, the prohibition of performance enhancing drugs, ethical issues in the economics of sports, the role of violence, and fandom. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 25 hours OR Visiting University Student |
| PHI | 371 | Philosophy of Sport | An inquiry into philosophical issues in sport. Topics and readings vary, but may include: the nature and definition of sport, an examination of the main theories of sport, metaphysical and epistemological issues, and the aesthetics of sport. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 25 hours; Credit is allowed for only PHI 371 or PHI 394 (Philosophy of Sport) OR Visiting University Student |
| PHI | 390 | Jewish Philosophy | The history of Jewish philosophy from its origins in the Hebrew Scriptures to postmodern expressions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105 or 108 with a C or better; Minimum 30 hours; Credit is allowed for only HST 390, JST 314, PHI 390 or REL 314 |
| PHI | 391 | Historical Perspectives on Philosophy and Religion | Comprehensive, advanced study of central concepts in the philosophy of religion in the history of Western philosophy. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105 or 108 with C or better; Minimum 30 hours; Credit is allowed for only HST 357, PHI 391 or REL 391 |
| PHI | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |
| PHI | 401 | Rationalism | Examines classical philosophical rationalism, as in Descartes, Spinoza, Malebranche, or Leibniz. Contemporary rationalist thought may also be examined. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): undergraduate Philosophy major; minimum 56 hours |
| PHI | 402 | Empiricism | Examines representatives of either classical or contemporary philosophical empiricism, e.g., Bacon, Hobbes, Locke, Butler, Berkeley, Reid, Hume, Mill, Carnap, and Ayer. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): Philosophy student; minimum 56 hours |
| PHI | 403 | Contemporary Analytic Philosophy | Aims and methods of such 20th-century philosophers as Frege, Moore, Russell, Wittgenstein, Carnap, Ayer, Wisdom, Ryle, Austin, Strawson, Quine, and Sellars, with application to metaphysics and epistemology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): Philosophy BA or Philosophy (Morality, Politics and Law) BA or Philosophy (Science, Nature and Mind) BA major; minimum 56 hours OR Visiting University Student |
| PHI | 405 | Moral Psychology | Advanced study of key, contemporary authors and issues in moral psychology as a subfield of philosophy. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy undergraduate major; minimum 56 hours; Credit is allowed for only PHI 405 or PHI 420 (Moral Psychology) or PHI 530 |
| PHI | 406 | Moral Dilemmas | Philosophical analysis of moral dilemmas arising in professional and public settings. Ethical decision making in business, educational, human service, and scientific communities. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only FOR 406 or IAS 406 or PHI 406 OR Visiting University Student |
| PHI | 407 | Environmental Philosophy and Policy | Ethical concepts and theories applied to environmental issues: biotic community, biodiversity, degradation, ecofeminism, ecology, economics, population, property rights, and wilderness. Not open to students with credit in PHI 310. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101 or 105 with C or better; Credit is allowed for only IAS 407 or PHI 407 |
| PHI | 408 | Feminist Ethics | Philosophical exploration of the theoretical and practical aspects of ethical issues affecting women from diverse feminist viewpoints. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PHI | 409 | Eco-Community Ethics | Traces human interaction with the Earth from hunters and gatherers to the present day, examining groups who have lived within ecological constraints and limits. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Credit is allowed for only IAS 409 or PHI 409 |
| PHI | 411 | Continental Philosophy | Contemporary European thought emerges out of a crisis of the Enlightenment that unfolds throughout the 19th and 20th centuries. Kant's critique of the theoretical, practical, aesthetic and religious foundations articulates this crisis in Western philosophy, society and culture. Explores Continental thinkers and schools of thought in light of Kant's understanding of this crisis. Figures might be Nietzsche, Marx, Freud, Kierkegaard, Husserl, Heidegger, Benjamin, Adorno, Marcuse, Sartre, de Beauvoir, Irigaray, Kristeva, Spivak, Habermas, Lévinas, Marion, Derrida and others. Schools of thought considered may include existentialism, phenomenology, hermeneutics, critical theory, poststructuralism, deconstruction, feminist theory, critical race theory, postcolonial theory, and comparative philosophy. Continental philosophy dovetails with other fields like communication, cultural studies, law, political science, religious studies, literature and various social sciences. | N | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): ENG 102 or 105 or 108 with C or better; minimum 30 hours. Credit is allowed for only PHI 411 or PHI 494 (Continental Philosophy & Religion) or PHI 494 (Studies in Continental Philosophy) |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| PHI | 412 | Philosophy and Literary Criticism | Explores dynamic tensions between philosophical and literary critical approaches to texts. Aims to identify distinct ways that literature and critical practices "philosophize" about truth, moral dilemmas or existential struggles. Probes the challenges that each form of inquiry, philosophical and critical, poses for the other. Seeks to enhance understanding of the philosophical underpinnings of key literary works. May address poetry, novels and other media. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 30 hours; Credit is allowed for only PHI 412 or PHI 494 (Philosophy and Literature) or ENG 401 (Philosophy and Literary Criticism) OR Visiting University Student |
| PHI | 413 | Advanced Symbolic Logic | Properties of formal systems axiomatizing propositional and 1st-order predicate logic. May also include modal logic, number theory, and limits of logicism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): undergraduate Philosophy student; minimum 56 hours; Credit is allowed for only PHI 413 or PHI 556 |
| PHI | 415 | Philosophy and Film | Introduces philosophical themes via the medium of film. Students read classical and contemporary literature in philosophy, view films that portray philosophical concepts, and demonstrate their understanding through writing assignments and class presentations. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only PHI 415 or PHI 294 (Philosophy and Film) |
| PHI | 417 | Philosophy of Censorship | Investigates philosophical concepts underlying instances of censorship, both in historical and in contemporary settings. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 30 hours; Credit is allowed for only IAS 417 or PHI 417 or PHI 494 (Censorship: Philoso/Relig/Soc Perspectives) or REL 494 (Censorship: Philoso/Relig/Soc Perspectives) |
| PHI | 420 | Topics in Philosophy | Advanced seminar featuring in-depth examination of some philosophical topic or area. Topics vary widely and draw from major subfields of philosophy such as metaphysics, epistemology and ethics. Many seminars emphasize the social relevance of philosophy. Format may include peer discussion, class presentations and/or term papers. Intended for students with prior background in relevant subfield of philosophy. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): undergraduate Philosophy major; minimum 56 hours OR Visiting University Student |
| PHI | 421 | Philosophical Topics | Focuses on important issues within the discipline. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| PHI | 422 | God and the Problem of Suffering | Examines whether a Western theistic conception of God (that is, an omniscient, omnibenevolent, omnipotent being--the God of the three main Western religions) is compatible with the existence of what appears to be an abundance of pointless suffering in the world. Addresses the logical and evidential problem of (moral and natural) evil, as well as a variety of proposed theodicies through the study of philosophical texts, literature and film. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only PHI 422 or REL 459 or PHI 494 (God and the Problem of Suffering) or REL 494 (God and the Problem of Suffering) |
| PHI | 439 | Philosophy of Love and Sex | Advanced introduction to historical and contemporary philosophical writings and sociological case studies on the philosophy of sex and love. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): ENG 102 or 105 or 108 with C or better; Credit is allowed for only PHI 439 or PHI 494 (Philosophy of Love and Sex) |
| PHI | 448 | Justice and Reparations | Advanced study of the moral basis of reparations and reparative justice. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy undergraduate major; minimum 56 hours; Credit is allowed for only PHI 420 (Jus/Reparations) or PHI 448 or PHI 527 |
| PHI | 450 | Philosophical and Spiritual Issues in Death and Dying | From Plato to Maimonides to Heidegger to Kubler-Ross, scholars, clinicians and spiritual writers have recognized that attitudes about death and dying contribute to understandings of human existence. Recalling the ancient Socratic, biblical and other spiritual traditions of the cura animarum (care for and cure of the soul) and joining contemporary post/secular conversations relevant to integration of body-mind-spirit, this course introduces basic concepts and practices of care ethics and spirituality. Focuses on relations among existential (ontological), therapeutic (psychosomatic), and spiritual (religious) dimensions of care. Theoretically, the course is inter-faith in approach, holistic in scope, and specialized in content. Practically, students examine real-life issues in care ethics and spirituality from multiple perspectives. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only IAS 450 or MAS 550 or PHI 450 or PHI 494 (Issues in Death & Dying) or REL 450 or REL 494 (Issues in Death & Dying) OR Visiting University Student |
| PHI | 452 | Philosophy of Biology and Medicine | Examines fundamental topics in the philosophy of biology and their implications for medicine. Examples include biological mechanisms and evidence-based medicine, species concepts and race, reductionism and the nature of individuality, and theories of function and health. Uses these topics throughout the semester to address two overarching questions about whether biology is fundamentally different from physics and whether medicine can be reduced to applications of biology. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): minimum 25 hours; Credit is allowed for only BIO 452 or HPS 452 or PHI 452 or BIO/HPS/PHI 394 (Philosophy of Biology and Medicine Introduction) or BIO/HPS/PHI 494 (Philosophy of Biology and Medicine) OR Visiting University Student |

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|---------|-------------|-------------------------------------|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|---|
| PHI | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | |
| PHI | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| PHI | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| PHI | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |
| PHI | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-3 | | |
| PHI | 520 | Topics in Applied Philosophy | Selected topics in applied philosophy. | Y | SEM | Y | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 521 | Bioethics | Addresses current controversies and major topics in bioethics and biosciences. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD major; Credit is allowed for only PHI 420 (Found-Bioethics) or PHI 521 |
| PHI | 522 | Ethics of Sustainability | Explores the normative framework of sustainability. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD major; Credit is allowed for only PHI 420 (Topics in the Ethics of Sustainability) or PHI 522 |
| PHI | 524 | Disaster Ethics | Investigates moral and political questions connected to disasters and emergencies such as obligations of aid workers, responsibilities for preparedness and rebuilding, and related social justice questions. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD major; Credit is allowed for only PHI 420 (Ethics and Disaster) or PHI 524 |
| PHI | 525 | Rational Choice | Recent philosophical work on rational decision making. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD major; Credit is allowed for only PHI 420 (Rational Choice) or PHI 525 |
| PHI | 526 | Evolution and Strategic Interaction | Recent work on the philosophical significance of evolutionary models of social interactions and social structures. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 529 | Feminist Philosophy | Examines contemporary feminist work in some of the subfields of philosophy, such as ethics, political philosophy, epistemology. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD major; Credit is allowed for only PHI 420 (Feminist Philosophy) or PHI 529 |
| PHI | 530 | Moral Psychology | Central issues and texts in moral psychology including the impact of psychological research on philosophical theorizing. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD major; Credit is allowed for only PHI 405 or PHI 420 (Moral Psychology) or PHI 530 |
| PHI | 532 | Experimental Philosophy | Examines experimental work taken to directly bear on important philosophical theories. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD major; Credit is allowed for only PHI 420 (Experimental Philosophy) or PHI 532 |
| PHI | 538 | Human Well-Being and Sustainability | Many of us take it for granted that human well-being is the ultimate end of sustainability or sustainable development. But what is a well-being, really? Social scientists collect empirical data and develop indices, indicators and other proxies to represent and measure well-being; but is it the kind of phenomenon that can be explained? In other words, is there a correct theory of human well-being? How does one measure well-being? Moreover, what are we to make of the relationship between well-being and sustainability? Where do these two concepts coincide? Where do they come apart? Does human well-being presuppose a commitment to sustainability? If the ultimate end of sustainability is human well-being, then is sustainability a redundant concept? This interdisciplinary course tackles such questions by critically examining the most prominent philosophical theories of well-being and by considering how they might be reconciled with relevant empirical evidence. Also spends considerable time reflecting on the problems that arise with respect to measuring well-being, particularly in the context of public policy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HPS/PHI/SOS 591 (Human Well-Being and Sustainability) or PHI 538 or SOS 494 (Human Well-Being and Sustainability) or SOS 539 |
| PHI | 540 | Topics in Value Theory | Selected topics in value theory. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 541 | Normative Ethics | Explores one or more leading normative ethical theories that inform the contemporary discussions in ethics, applied ethics, issues of justice and human rights, and public policy. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD major; Credit is allowed for only PHI 420 (Normative Ethics) or PHI 541 |

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| PHI | 545 | Studies in Philosophy of Law | Selected topics in the philosophy of law. | Y | SEM | Y | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 546 | Studies in Political Philosophy | Selected topics or figures in political philosophy. | Y | SEM | Y | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 555 | Topics in Formal Methods | Selected topics in formal methods. | Y | SEM | Y | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 556 | Advanced Symbolic Logic | Advanced topics in logic relevant to philosophical theorizing such as modal, deontic and temporal logic. | Y | SEM | Y | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 560 | Topics in Epistemology | Selected topics in epistemology. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 562 | Perception | Recent work on the nature and content of perception. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD major; Credit is allowed for only PHI 420 (Perception) or PHI 562 |
| PHI | 565 | Probabilism | Recent work on rational belief, evidence and belief change. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 566 | Studies in Philosophy of Science | Selected topics in philosophy of science. | Y | SEM | Y | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 570 | Topics in Metaphysics | Selected topics in metaphysics | Y | SEM | Y | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 571 | Studies in Philosophy of Mind | Selected recent philosophical work in philosophy of mind such as the nature of sensation and perception, theories of consciousness, and the unity of the self | Y | SEM | Y | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 572 | Studies in Philosophy of Language | Selected recent philosophical work in philosophy of mind language as theories of meanings, direct reference and vagueness. | Y | SEM | Y | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD major; Credit is allowed for only PHI 420 (Philosophy of Language) or PHI 572 |
| PHI | 576 | Realism | Recent work on realism and anti-realism, starting with Michael Dummett, and including philosophers such as Hilary Putnam, Donald Davidson, John McDowell and Kit Fine. Global realism and anti-realism and more specific realisms/antirealisms about the past, the mind, theoretical entities, mathematics and ethics. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 581 | Studies in Ancient Greek Philosophy | Selected topics in ancient philosophy from 585 BC to 529 AD. | Y | SEM | Y | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student; Credit is allowed for only PHI 420 (Studies in Ancient Greek Philosophy) or PHI 581 |
| PHI | 582 | Studies in Modern Philosophy | Selected topics and significant figures in the modern period. | Y | SEM | Y | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | |
| PHI | 587 | Topics in the History of Philosophy | Selected topics in the history of philosophy. | Y | SEM | Y | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Philosophy MA or PhD student |
| PHI | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PHI | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Prerequisite(s): Philosophy MA or Philosophy PhD student |
| PHI | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | |
| PHI | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1 | | |

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| PHI | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |
| PHI | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | |
| PHI | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PHI | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | |
| PHI | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-15 | | |
| PHI | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1 | | |
| PHI | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-15 | | |
| PHS | 110 | Fundamentals of Physical Science | One-semester survey of the principles of physics and chemistry. Presumes understanding of elementary algebra. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 4 | SQ | |
| PHS | 115 | The Science of Musical Instruments | Science class set in a musical context where students learn about music, musical instruments, and also about the underlying scientific and mathematical principles. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Physics | 4 | SQ | Credit is allowed for only PHS 115 or PHS 194 (Science of Musical Instruments) |
| PHS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Physics | 1-4 | | |
| PHS | 208 | Patterns in Nature | Examines topics from optics to analytical techniques. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 4 | SQ | Credit is allowed for only MSE 208 or PHS 208 |
| PHS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | |
| PHS | 505 | Energy and the Environment | Current problems in energy resources, production, consumption, and conservation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHS | 530 | Methods of Physics Teaching I | Inquiry approach to high school physics teaching. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHS | 531 | Methods of Physics Teaching II | Extension of modeling techniques introduced in PHY 580. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHS | 534 | Methods of Teaching Physical Science I, II, III | Design of curriculum and conduct of instruction for physical science courses. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHS | 540 | Integrated Physics and Chemistry | Collaborative inquiry methods for teaching and coordinating physics and chemistry. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only CHM 540 or PHS 540 |
| PHS | 542 | Integrated Mathematics and Physics | Mathematical models and modeling as an integrating theme for secondary mathematics and physics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHS | 550 | Physics and Astronomy | Astronomy curricula and projects for secondary school, with emphasis on the role of physics in astronomy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PHS | 556 | Astrophysics | Structure and evolution of stars, galaxies, and the universe. For secondary school teachers. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHS | 560 | Matter and Light | Interactions of light with matter. Lasers and spectroscopy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CHM 560 or PHS 560 |
| PHS | 570 | Spacetime Physics | Special and general theories of relativity with implications for space and time travel. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHS | 581 | Structure of Matter and its Properties | Models of matter and its properties. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CHM 581 or PHS 581 |
| PHS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |

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| PHS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |
| PHS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |
| PHS | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |
| PHS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Physics | 1-4 | | |
| PHY | 101 | Introduction to Physics | Emphasizes applications of physics to life in the modern world. Presumes understanding of elementary algebra. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 4 | SQ | |
| PHY | 105 | Basic Physics | One-semester survey of the principles of physics. Primarily for students who intend to take PHY 121, 131 but have not taken high school physics. | N | REC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHY | 111 | General Physics | Noncalculus treatment of the principles of physics for nonphysics majors. Students whose curricula require a lab course must also register for PHY 113. Both PHY 111 and PHY 113 must be taken to secure SQ General Studies credit. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | SQ | Prerequisite(s): MAT 170 or higher with C or better or ALEKS score of 61 or higher or Corequisite(s): MAT 210 or higher OR Visiting University Student |
| PHY | 112 | General Physics | Continuation of PHY 111. Students whose curricula require a lab course must also register for PHY 114. Both PHY 112 and PHY 114 must be taken to secure SQ General Studies credit. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | SQ | Prerequisite(s): PHY 111 with C or better OR Visiting University Student |
| PHY | 113 | General Physics Laboratory | Elementary experiments in physics. Requires outside preparation for experiments and report writing. May be taken concurrently with, or subsequent to PHY 111. Both PHY 111 and PHY 113 must be taken to secure SQ General Studies credit. | N | LAB | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 1 | SQ | Pre- or corequisite(s): PHY 111 with C or better if completed OR Visiting University Student |
| PHY | 114 | General Physics Laboratory | See PHY 113. May be taken concurrently with, or subsequent to, PHY 112. Both PHY 112 and PHY 114 must be taken to secure SQ General Studies credit. | N | LAB | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 1 | SQ | Pre- or corequisite(s): PHY 112 with C or better if completed OR Visiting University Student |
| PHY | 118 | Explorations in Science Teaching | Examines the field of physical science education via in-class meetings and classroom settings. Discusses the theory, pedagogy and practice of teaching physical science. Reviews various curricula available for the teaching of physical science with a focus on state and national standards. Students work with course instructor(s) to design three lessons that work toward some of the objectives of each cooperating teachers' class. Students are aided in developing materials, guided in planning to teach the lesson, and given time to prepare and practice the lesson. | N | SEM | N | GNA | College of Liberal Arts and Sciences | Department of Physics | 1 | | Pre-requisite: Mathematics or Physics or other science major |
| PHY | 121 | University Physics I: Mechanics | Kinematics; Newton's laws; work, energy, momentum, conservation laws; dynamics of particles, solids, and fluids. Both PHY 121 and PHY 122 must be taken to secure SQ General Studies credit. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | SQ | Prerequisite(s): MAT 265 or 270 with C or better; Pre- or corequisite(s): MAT 266 or 271 with C or better if completed OR Visiting University Student |
| PHY | 122 | University Physics Laboratory I | Lab accompanying PHY 121. Both PHY 121 and PHY 122 must be taken to secure SQ General Studies credit. | N | LAB | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 1 | SQ | Pre- or corequisite(s): PHY 121 with C or better if completed OR Visiting University Student |
| PHY | 131 | University Physics II: Electricity and Magnetism | Electric charge and current, electric and magnetic fields in vacuum and in materials, and induction. AC circuits, displacement current, and electromagnetic waves. Both PHY 131 and PHY 132 must be taken to secure SQ General Studies credit. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | SQ | Prerequisite(s): MAT 266 or 271 with C or better; PHY 121 or 150 with C or better; Pre- or corequisite(s): MAT 267 or 272 with C or better if completed OR Visiting University Student |
| PHY | 132 | University Physics Laboratory II | Lab accompanying PHY 131. Both PHY 131 and PHY 132 must be taken to secure SQ General Studies credit. | N | LAB | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 1 | SQ | Pre- or corequisite(s): PHY 131 with C or better if completed OR Visiting University Student |
| PHY | 150 | Physics I | Introductory physics for majors. Kinematics, Newton's Laws, basic forces, energy, momentum. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 4 | SQ | Prerequisite(s): MAT 265 or 270 with C or better; Pre- or corequisite(s): MAT 266 or 271 with C or better if completed OR Visiting University Student |
| PHY | 151 | Physics II | Continuation of PHY 150. Electromagnetic fields; Ampere's and Faraday's Laws; Maxwell's equations; basic circuit elements. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 4 | SQ | Prerequisite(s): MAT 266 or 271 with C or better; PHY 150 or PHY 121 and PHY 122 with C or better; Pre- or corequisite(s): MAT 267 or 272 with C or better if completed OR Visiting University Student |

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| PHY | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Department of Physics | 1-3 | | Prerequisite(s): freshman standing; maximum 25 hours OR Visiting University Student |
| PHY | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Physics | 1-4 | | |
| PHY | 201 | Mathematical Methods in Physics I | Differential equations, linear equations, vectors, matrices, Fourier series, and numerical methods. | N | LEL | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | CS | Prerequisite(s): MAT 267 or 272 with C or better; PHY 131 with C or better; PHY 132 with C or better OR MAT 267 or 272 with C or better; PHY 151 with C or better OR Visiting University Student |
| PHY | 202 | Programming for Physicists | Introduces programming in the Python programming language for physics majors. | N | LEL | N | GNA | College of Liberal Arts and Sciences | Department of Physics | 1 | | Prerequisite(s): MAT 267 or 272 with C or better; PHY 151 with a C or better or PHY 131 and PHY 132 with C or better OR Visiting University Student |
| PHY | 241 | University Physics III | Thermodynamics, kinetic theory, physical and wave optics, relativity, photons, matter waves, atomic physics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 131 or 151 OR Visiting University Student |
| PHY | 252 | Physics III | Thermodynamics, kinetic theory, physical optics and diffraction, modern physics, special relativity, quantum mechanics and Bohr atom. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 4 | SQ | Prerequisite(s): MAT 267 or 272 with C or better; PHY 151 or PHY 131 and 132 with C or better OR Visiting University Student |
| PHY | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Physics | 1-4 | | |
| PHY | 302 | Mathematical Methods in Physics II | Vector calculus, complex variables, partial differential equations, special functions, numerical methods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 201 with C or better OR Visiting University Student |
| PHY | 310 | Classical Particles, Fields, and Matter I | Particle kinematics, mechanics, conservation laws of single- and multi-particle systems, potentials, oscillations, Lagrangian dynamics, central force problems, dynamics in non-inertial reference frames, rigid body motion. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s) with C or better: (PHY 201; PHY 252) or (PHY 201; PHY 202; PHY 241); Corequisite(s): PHY 302 OR Visiting University Student |
| PHY | 311 | Classical Particles, Fields, and Matter II | Electrostatic and gravitational fields, Poisson and Laplace equations, dielectric materials, magnetic fields and materials, magnetic induction, Faraday's Law. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 302 with C or better; PHY 310 with C or better OR Visiting University Student |
| PHY | 312 | Mechanics and Electromagnetism | Covers two major topics in physics, both dealing with forms of energy and momentum and how they are transmitted in space. Covers mechanics and dynamics, describing how bodies with mass move under various types of forces. Also covers electromagnetism, which describes how electric charges and magnets, and their motions, generate fields of force. Also describes how time-varying electric and magnetic fields are associated with electromagnetic waves, which include light. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 201 with C or better; PHY 252 with C or better OR PHY 201 with C or better; PHY 202 with C or better; PHY 241 with C or better OR Visiting University Student |
| PHY | 314 | Quantum Physics I | Photons, models of the atom, wave properties of matter, introduction to wave mechanics, 1-D systems in quantum mechanics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 201 with C or better; PHY 252 with C or better, or both PHY 202 and 241 with C or better OR Visiting University Student |
| PHY | 315 | Quantum Physics II | General principles of quantum mechanics, 3-D problems, approximation methods, spin, relativity, introduction to many-particle systems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 302 with C or better; PHY 314 with C or better OR Visiting University Student |
| PHY | 321 | Vector Mechanics and Vibration | Vector-based formulation of Newtonian mechanics of particles and rigid bodies, including oscillatory systems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHY | 331 | Principles of Modern Electromagnetism | Studies the unified description of electromagnetic phenomena provided by Maxwell's equations in differential and integral form. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHY | 333 | Electronic Circuits and Measurements | Basic principles of electronic circuit analysis and measurement techniques using modern instrumentation and computer-aided analysis of data. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): MAT 267 or 272 with C or better; PHY 131 with C or better; PHY 132 with C or better OR MAT 267 or 272 with C or better; PHY 151 with C or better OR Visiting University Student |
| PHY | 334 | Advanced Laboratory I | Selected experiments from contemporary physics. Emphasizes modern instrumentation, computer-assisted acquisition and analysis of data, and report form writing. | N | LEL | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; MAT 267 or 272 with C or better; PHY 151 (or PHY 131 and 132) with C or better; Pre- or corequisite(s): PHY 314, 361, CHM 345, or EEE 434 with C or better if completed OR Visiting University Student |
| PHY | 361 | Introductory Modern Physics | Special relativity and introductory quantum theory with applications drawn from atomic, nuclear, and solid-state physics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 131 or 151 with C or better; MAT 267 or 272 with C or better OR Visiting University Student |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
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| PHY | 371 | Driving Forces in Biology | What are the stable states of biomolecules? How do molecules interact? What forces drive molecules to bond and associate, to adsorb, to permeate through membranes, to undergo chemical reactions, to undergo conformational changes? Why are some changes gradual, as in the weakening of a ligand interaction with temperature, and others sudden (cooperative) such as protein folding or the insolubility of oil in water? Addresses these questions by statistical thermodynamics, a collection of principles and models that when combined with thermodynamics, aim to explain molecular forces and flows. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): CHM 341 or 346 with C or better OR Visiting University Student |
| PHY | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Physics | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PHY | 412 | Classical Particles, Fields, and Matter III | Electromagnetic fields of moving charges, Maxwell's equations, harmonic phenomena, oscillations, waves, electromagnetic radiation, covariant electromagnetism, introduction to general relativity. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 311 with C or better OR Visiting University Student |
| PHY | 416 | Quantum Physics III | Introduces the quantum theory of atoms, molecules, solids and nuclei, Dirac's equation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 315 with C or better OR Visiting University Student |
| PHY | 432 | Computational Methods in Physics | Provides a practical introduction to using the computer as a tool to solve problems in physics. Students learn how to work in a scientific computing environment (including software engineering "best practices"), to analyze a physical problem, select appropriate numerical algorithms to solve the problem, and to implement them. Covers computer graphics and object-oriented design. Students work in teams, critically evaluate their approaches and results, and present them in a professional manner to their peers. | N | LEL | N | GNA | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): MAT 267 or 272 with C or better; PHY 202 with C or better; Pre- or corequisite(s): PHY 241 or 252 with C or better if completed; Credit allowed for only PHY 432 or PHY 494 (Computational Methods in Physics) OR Visiting University Student |
| PHY | 441 | Statistical and Thermal Physics | Statistical and experimental basis of heat, temperature, and entropy. Mechanical and statistical basis of the laws of thermodynamics. Applies macroscopic thermodynamics. Phase equilibrium. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 311 with C or better; PHY 315 with C or better OR Visiting University Student |
| PHY | 444 | Fundamentals of Nanoscience | For senior science majors and beginning graduate students teaching the cross-disciplinary subject of nanoscience. There is a strong emphasis on basics, so the course starts with a fairly rigorous introduction to quantum mechanics, statistical mechanics and chemical kinetics, though enough material is provided to allow nonphysics majors to come up to speed in these areas. This is followed by a survey of experimental techniques in nanoscience: microscopy, optical spectroscopy and scanning probe methods, and nanofabrication methods including "top down" and self assembly. Finally we survey applications: electrons in nanostructures, molecular electronics, nanomaterials and bio-nanoscience. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): junior or senior standing; Credit is allowed for only PHY 444 or PHY 494 (Intro to Nanoscience) |
| PHY | 452 | Physical Optics | Principles of reflection, refraction, diffraction. Additional topics from contemporary optics may include Fourier transform spectroscopy, linear systems theory, holography. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 302 with C or better; PHY 311 with C or better OR Visiting University Student |
| PHY | 456 | Laser Optics | Theoretical and experimental aspects of applied optics including basic concepts of lasers, properties of optical beams, resonators and interferometry. Course consists of two parts: preparatory labs and applied projects. Preparatory labs provide theoretical and technical background for understanding of general features of electromagnetic wave propagation and technical features of optical lasers including high-power laser systems. Applied projects give students the opportunity to use laser optical systems to solve real-world problems. | N | LEL | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 4 | | Prerequisite(s): PHY 361; Credit is allowed for only ABS 494 (Advanced Laser Laboratory), ABS 494 (Laser Optics) or PHY 456 |
| PHY | 460 | Numerical Methods in Modern Physics | Advanced numerical methods with an emphasis on electromagnetism, quantum mechanics and materials science with computer labs on a multiprocessor cluster. | N | LEL | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): PHY 315 |
| PHY | 462 | Particle and Nuclear Physics | Nuclear properties, models, decays and reactions; fundamental forces, field theories, symmetry principles; hadrons, quarks, and leptons; the Standard Model. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 311 with C or better; PHY 315 with C or better |
| PHY | 465 | Advanced Laboratory II | Continuation of PHY 334. Students may substitute a short laboratory research project for one of the elective experiments of the course, in consultation with a faculty sponsor and the course instructor. | N | LAB | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 334 with C or better OR Visiting University Student |
| PHY | 472 | Advanced Biophysics Lab | Offers selected experiments from contemporary biophysics. Emphasizes modern instrumentation, computer-assisted acquisition and analysis of data, and report writing. Emphasizes the importance of good notebook keeping. | N | LEL | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): CHM 341 or 346 with C or better OR Visiting University Student |

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| PHY | 473 | From Molecules to Cells | Offers selected subjects from biological physics covering the length scales from biomolecules to cells. Builds on knowledge acquired from thermodynamics and statistical mechanics to formulate basic principles behind the working of life systems. Free energy, entropic forces, chemical potentials and electrostatic interactions rule the "nanometer soup" of a living cell. Proton gradients across cell membranes are behind all the energy consumed by life. Random walks, dissipative dynamics, and hydrodynamic fluxes rule time-dependent phenomena. Covers systems including biomolecules, membranes, cells and nerves. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 371 with C or better; Pre- or corequisite(s): PHY 472 with C or better if completed OR Visiting University Student |
| PHY | 480 | Methods of Teaching Physics | Evaluates various approaches to the teaching of high school physics. Preparation of demonstrations and experiments. Organization of a lab. Designed for secondary school physics teachers. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHY | 481 | Materials Physics I | Fundamentals of materials physics: crystal structure, diffraction, elasticity, point defects, dislocations, lattice vibrations, thermal properties, periodic potential, band structure. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only MSE 526 or NAN 511 or PHY 481 or PHY 511 OR Visiting University Student |
| PHY | 482 | Materials Physics II | Electronic behavior of materials: energy bands, electronic properties, metals, semiconductors, insulators, optical properties, magnetic properties, superconductivity, biophysics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 481 with C or better; Credit is allowed for only MSE 525 or MSE 527 or MSE 598 (Fund of Elec, Optical, & Mag Matls & Device Apps) or NAN 512 or PHY 482 or PHY 512 OR Visiting University Student |
| PHY | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | Department of Physics | 1-12 | | Prerequisite(s): minimum 45 hours |
| PHY | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of Physics | 1-6 | | Prerequisite(s): Barrett Honors student |
| PHY | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | Department of Physics | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| PHY | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Physics | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PHY | 495 | Project Research | Supervised project in physics or astrophysics. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | Department of Physics | 1-3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PHY | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Department of Physics | 1-7 | | Prerequisite(s): minimum 45 hours |
| PHY | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of Physics | 1-3 | | Prerequisite(s): minimum 45 hours |
| PHY | 500 | Research Methods | Course on research methods in a specific discipline. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |
| PHY | 511 | Materials Physics I | Fundamentals of materials physics: crystal structure, diffraction, elasticity, point defects, dislocations, lattice vibrations, thermal properties, periodic potential, band structure. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Pre-requisite: Degree- or nondegree-seeking graduate; Credit is allowed for only MSE 526, NAN 511, PHY 511 |
| PHY | 512 | Materials Physics II | Electronic behavior of materials: energy bands, electronic properties, metals, semiconductors, insulators, optical properties, magnetic properties, superconductivity, biophysics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): PHY 511; Credit is allowed for only MSE 525 or MSE 527 or MSE 598 (Fund of Elec, Optical, & Mag Matls & Device Apps) or NAN 512 or PHY 482 or PHY 512 |
| PHY | 521 | Classical and Continuum Mechanics | Variational principles, Lagrange's and Hamilton's equations, canonical transformations, Hamilton-Jacobi theory, introduction to chaos and nonlinear dynamics, fundamentals of elasticity theory and fluid mechanics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHY | 523 | General Relativity | Special and general theories of relativity. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHY | 531 | Electrodynamics | Special theory of relativity, covariant formulation of electromagnetic interactions, Maxwell's equations, electrostatics and magnetostatics, dielectric media, inhomogeneous wave equations, Lienard-Wiechert potentials, interactions of charged particles and electromagnetic waves, scattering and diffraction. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHY | 541 | Statistical Physics | Postulates of statistical mechanics, equilibrium ensembles, Bose and Fermi statistics, density matrix, modern theory of phase transitions, fluctuations, and linear response theory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHY | 542 | Topics in Biophysics | Overview of modern biology, length scales: emphasizes molecular and cellular biology. Nonequilibrium systems: compare and contrast stochastic processes in biological and physical systems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Credit is allowed for only NAN 542 or PHY 542 |

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| PHY | 544 | Introduction to Nanoscience | Survey of nanoscience: quantum/ statistical mechanics/kinetics; measurement and fabrication methods; applications to materials, nano-electronics, molecular electronics and nano-biology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only CHM 544, NAN 544, PHY 444 or PHY 544 |
| PHY | 546 | Surfaces and Thin Films | Thermodynamics and kinetics of surface structures and thin film processes. Ultra-high vacuum techniques for examining surfaces. Case studies of physics, chemistry and nanoscience applications. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Credit is allowed for only MSE 546, NAN 546 or PHY 546 |
| PHY | 547 | Data Modeling for the Natural Sciences: Applications, Basics and Computation | This self-contained course covers data modeling tailored for students in the sciences. Starts from basic probabilistic concepts, models of dynamical systems, stochastic processes, likelihoods, frequentist and Bayesian inference, as well as Monte Carlo samplers and filtering. Develops modeling paradigms, including mixture models, regression models, Gaussian processes, hidden Markov models, state-space models and Kalman filtering. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prereq(s): degree- or nondegree-seeking grad stdnt; Credit for only CHM 494/CHM 598/PHY 598 (Data-Driv Inf&StochProc) or CHM 494/CHM 598 (StatMechII: Stoch proc&inf) or CHM 494/CHM 598/PHY 598 (Unravel the noise:data-driv model&ana) or CHM 547 or PHY 547 |
| PHY | 552 | Electron Microscopy I | Kinematical and dynamical electron diffraction and microscopy. Defect structure and composition using STEM imaging, x-ray and electron-energy-loss spectroscopy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Credit is allowed for only MSE 552, NAN 552, SEM 552, or PHY 552 |
| PHY | 553 | Electron Microscopy Laboratory I | Lab support for PHY 552. | N | LAB | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Corequisite(s): MSE 552 or PHY 552; Credit is allowed for only MSE 553 or PHY 553 |
| PHY | 554 | Electron Microscopy II | Determination of structure and composition of materials using high-resolution imaging, convergent beam diffraction, and electron holography. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Credit is allowed for only MSE or PHY 554 |
| PHY | 555 | Electron Microscopy Laboratory II | Lab support for PHY 554. | N | LAB | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Credit is allowed for only MSE 555 or PHY 555 |
| PHY | 571 | Quantum Physics | Review modern physics, chemistry, math. Differential equation, operator, matrix formulations. Free particle, bound state problems. Examples from physics, chemistry and nanoscience. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Credit is allowed for only MSE 571, NAN 571 or PHY 571 |
| PHY | 576 | Quantum Theory | Operator methods in quantum mechanics, time-independent perturbation theory, variational methods, angular momentum and group representation theory, identical particles; quantum dynamics, including time-ordered operators, time-dependent perturbation theory, and Fermi's golden rule. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | |
| PHY | 577 | Introduction to Quantum Field Theory | Explains necessity of generalizing quantum mechanics to a field theory viewpoint. Studies properties of scalar, spinor, and gauge fields; incorporates interactions; and learns to compute amplitudes, cross sections, and decay rates using formalism of Feynman diagrams. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PHY | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |
| PHY | 581 | Quantum Theory of Solids I | Crystal structures; electronic states; lattice dynamics; metals, insulators and semiconductors; and surface science. A brief introduction to optical properties, magnetism and superconductivity as time allows. Addresses the foundations of the subject, but time is devoted to modern and/or technologically important topics such as DFT modeling | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PHY | 582 | Quantum Theory of Solids II | Berry phase effects in solids, quantum Hall effect, topological insulators and semimetals, magnetism, superconductivity. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Physics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PHY | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |
| PHY | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |
| PHY | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |
| PHY | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |
| PHY | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Physics | 1-4 | | |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| PHY | 700 | Research Methods | Course on research methods in a specific discipline. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |
| PHY | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Physics | 1-12 | | |
| PHY | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Department of Physics | 1-15 | | |
| PHY | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | Department of Physics | 1 | | |
| PHY | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Liberal Arts and Sciences | Department of Physics | 1-15 | | |
| PIT | 501 | Principles of Public Interest Technology | Fundamentals of public interest technology. Identifies and analyzes stakeholders, value chains, societal dimensions, and legal and policy issues in the context of emerging technologies such as smart cities, the internet of things, robotics and autonomous systems, and artificial intelligence. Covers the importance of socio-technical change, responsible innovation, public values, accountability, oversight, corporate responsibility and other key concepts when considering technologies working for the public interest. Students work on critical issues such as data ownership, consent, governance, privacy, security, accessibility and the digital divide. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PIT | 502 | Co-Designing the Future | Explores how new technologies for using, processing and managing information are changing how we interact and work. This practical learning and mentoring program helps students design and implement solutions to public interest problems using civic technology. Explores current trends, uses a wide variety of information and communication tools, and develops content to help develop a project from idea to implementation. Takes advantage of the latest innovations in open and participatory problem solving, including the application of open data, crowdsourcing, expert networks and systems. Unlike traditional accelerators, focuses only on public interest projects that work with real-world institutions and partners such as nongovernment organizations. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PIT | 503 | Technology Impact Assessments | Trains students to conduct a technology assessment--a systematic effort to anticipate and understand the impact of a technology. Serves as an "early warning" for policymakers, forecasting technological change and its consequences, to facilitate the prudent procurement of technologies, to plan R&D more effectively, to create the basis for evidence-based regulatory approaches, and to achieve other purpose that serve the public interest. Covers the uses of technology assessment and practices various methods. Each student carries out an abbreviated technology assessment on a topic of his or her choice and communicates it to their colleagues. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PIT | 504 | Public Engagement Strategies | Covers the concepts, tools, institutions and strategies to appropriately and effectively engage with a variety of stakeholders, including scientific and technical experts, policymakers and advocates for responsible research and innovation, and general publics. Students learn how to elevate the societal discourse about emerging and contemporary issues in science and technology through inclusive, informed, equitable, sustainable and democratic engagement with the public. Explores real-world case studies and provides students the opportunity to design and develop a public engagement strategy for stakeholders. | N | SEM | N | OPT | College of Global Futures | School for the Future of Innovation in Society | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PIT | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PIT | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| PIT | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | LEC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PIT | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PIT | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | GNA | College of Global Futures | School for the Future of Innovation in Society | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PIT | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | College of Global Futures | School for the Future of Innovation in Society | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PIT | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Global Futures | School for the Future of Innovation in Society | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PLB | 300 | Plant Diversity and Evolution | An examination of the major groups of land plants, emphasizing evolutionary history, comparative data, and phylogenetic methods. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | L or SG | Prerequisite(s) with C or better: BIO 181; BIO 182; ENG 101, 105, or 107 OR BIO 281; BIO 282; ENG 101, 105, or 107; Credit allowed for only BIO 303 or ENV 300 or PLB 300 OR Visiting University Student |
| PLB | 302 | Plants and Civilization | Plants and plant products used by people throughout the world. Cultivation, processing, and uses in modern life (beverages, fibers, foods, medicinals, and perfumes). | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | L | Prerequisite(s) with C or better: BIO 181; BIO 182; ENG 101, 105, or 107 OR BIO 281; BIO 282; ENG 101, 105, or 107; Credit is allowed for only BIO 304 or ENV 302 or PLB 302 OR Visiting University Student |
| PLB | 308 | Plant Physiology | Concepts of plant function: carbon metabolism, energy acquisition, regulation of growth and development, stress responses, and water and nutrient uptake. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better; CHM 116 with C or better; Credit is allowed for only BIO 308 or PLB 308 OR Visiting University Student |
| PLB | 310 | The Flora of Arizona | Overview of Arizona's flora and plant communities; emphasizes identification, classification, and natural history of the state's native vascular species. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 4 | | Prerequisite(s) with C or better: BIO 181 (or BIO 188) and BIO 182 (or BIO 187 or both PLB 200 and 201) OR BIO 281 and 282; Credit is allowed for only BIO 313 or PLB 310 |
| PLB | 388 | STEM Research Fundamentals | Teaches research skills in the natural sciences. Topics covered include the basic research techniques of the study organism and system, experimental design, literature searches, statistical analysis and preparation of scientific papers and posters. | N | LEL | Y | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 320, BIO 182, or MAT 272 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only ENV 388 or FOR 388 or LSC 388 or PLB 388 or PTX 388 OR Visiting University Student |
| PLB | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | Prerequisite(s): minimum 45 hours |
| PLB | 412 | Carbon, Climate and Photosynthesis | Covers the history of planet Earth's climate, how the scientific community came to understand photosynthesis, and how recent discoveries in science have placed the responsibility for many of the changes in the prehistoric climate to evolutionary adaptations in photosynthesis metabolism. Uses a paleontological perspective to give a deeper insight into the current science of human-caused climate change by reviewing its origins in the modification of the carbon cycle. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): BIO 182 with C or better; Credit is allowed for only ENV 412 or ENV 494 (Carbon, Climate & Photosynthesis) or LSC 598 (Carbon, Climate & Photosynth) or PLB 412 or PLB 494 (Carbon, Climate & Photosynthesis) OR Visiting University Student |
| PLB | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | Prerequisite(s): minimum 45 hours |
| PLB | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-3 | | Prerequisite(s): minimum 45 hours |
| PLB | 502 | Perspectives in Plant Biology | Provides an overview of current topics and introduces some of the practical tools used in plant biology, ecology and conservation (e.g., field and lab methods, urban planning, federal land management, biodiversity bioinformatics, phylogenetics, and GIS). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PLB | 558 | Molecular Mechanisms of Photosynthesis | Structure and function of photosynthetic complexes; mechanism of energy conversion in plants, bacteria, and model systems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BCH 568 or PLB 558 |

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| PLB | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | |
| PLB | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | |
| PLB | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | |
| PLB | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | |
| PLB | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | |
| PLB | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | |
| PLB | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-4 | | |
| PLB | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | |
| PLB | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Life Sciences | 1-12 | | |
| PLB | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | |
| PLB | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Life Sciences | 1 | | |
| PLB | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Life Sciences | 1-15 | | |
| PLC | 101 | Elementary Polish | Structural grammar, basic vocabulary; introduction and reinforcement of aural/oral, reading, and writing skills. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | |
| PLC | 102 | Elementary Polish | Structural grammar, basic vocabulary; introduction and reinforcement of aural/oral, reading, and writing skills. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | |
| PLC | 201 | Intermediate Polish | Systematic review of grammar. Development of vocabulary through reading and writing. Drill in aural/oral skills. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | |
| PLC | 202 | Intermediate Polish | Systematic review of grammar. Development of vocabulary through reading and writing. Drill in aural/oral skills. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | Pre-requisites: PLC 201 |
| PLC | 311 | Advanced Polish I | Develops writing ability and oral expression. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): PLC 202 with C or better OR Visiting University Student |
| PLC | 312 | Advanced Polish II | Develops writing ability and oral expression. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): PLC 311 with C or better |
| PLC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| PMG | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 0.25-4 | | |
| PMG | 240 | Introduction to Project Management | Examines various theoretical project management approaches as well as gives hands-on experience of project management tools and steps. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | |
| PMG | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 0.25-4 | | |

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| PMG | 320 | Project Approaches | No project exists in a vacuum--projects of all sizes and degrees of complexity are imagined, executed and ultimately evaluated by stakeholders in the context of evolving environmental factors. Projects may fall along a spectrum of simple to complex, with some possessing known predictable requirements and implications while others involve a variety of known and unknown variables and implications. Addresses the primary project approaches used to accommodate differing projects along the continuum of project life cycles. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PMG | 321 | Project Leadership, Strategy and Scope | Explores how an organization's leaders are responsible for conceiving, designing, implementing and managing the overall objectives, culture, environment and processes as part of the project management process. Within this context, primarily focuses on understanding project management, aligning project management within an organization, project management oversight, projects as capital investments, globalization and resource optimization. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): PMG 240 (OGL 240) or PMG 320 (OGL 320); minimum 45 hours OR Visiting University Student |
| PMG | 322 | Project Schedule Management | Explores project scheduling and time management within the broader context of the planning effort. Students learn how important the determination of the timing and sequence of project activities is to the planning process--and ultimate project success. Primarily focuses on understanding bar charts, basic networks, the critical path network, precedence networks, resource allocation, schedule updating, schedule compression, scheduling and schedule risk management. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): PMG 240 or 320 (OGL 240 or 320); minimum 56 hours OR Visiting University Student |
| PMG | 323 | Project Cost Management | Concepts and complex processes of effective project cost management. Primarily focuses on project needs assessment, cost estimation, project cost control, project budgeting, cash flow management, financial management, value management, configuration management and supply chain management. Students also learn to appreciate the importance of integrating cost and value management processes. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): PMG 240 (OGL 240) or PMG 320 (OGL 320); minimum 56 hours OR Visiting University Student |
| PMG | 324 | Resources in Project Management | Major elements of project resource management as well as the broader context of this critical planning function. Students learn that sound resource management is an important part of developing a sustainable competitive advantage in the emerging global marketplace. Primarily focuses on operations and productivity, resources in project management, product design, process strategy, layout strategy, human resources and job design, supply chain, inventory management and scheduling. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): PMG 240 (OGL 240) or PMG 320 (OGL 320); minimum 56 hours OR Visiting University Student |
| PMG | 326 | Project Procurement Management | Concepts and processes of procurement management. Primarily focuses on sourcing management, supplier selection, contracts and legal requirements, risk management, negotiation, project management, quality, supplier management and financial decisions. Effective procurement requires the use of good business practices capable of maximizing value to the organization through the acquisition of goods and services. Students learn that procurement professionals control the entire sourcing and acquisition process. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): PMG 240 (OGL 240) or PMG 320 (OGL 320); minimum 56 hours OR Visiting University Student |
| PMG | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 0.25-4 | | |
| PMG | 401 | Applied Project Experience | Offers students the opportunity to apply their project management skills and knowledge through internships, directed projects or other experiential contexts. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Project Management BS major; PMG 423 with C or better; minimum 2.00 GPA OR Visiting University Student |
| PMG | 421 | Project Risk Management | Philosophy, principles, practices and techniques for managing risk in projects. Covers risk identification, qualitative risk management, risk treatment, monitoring and review, project processes, risk allocation, environmental risk and quantification of project risk. Students learn that risk management assists project managers in setting priorities, allocating resources and implementing actions and processes that reduce the risk of the project not achieving its objectives. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): PMG 321 (OGL 321); minimum 55 hours OR Visiting University Student |

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| PMG | 422 | Project Quality Management | Process and theory of total quality management with primary emphasis on the total quality approach, ethics and corporate responsibility, strategic alliances, quality culture, employee empowerment, leadership and change, team building, effective communication, and tools and techniques. Students understand how continual improvement of people, processes, products/services, and environments can enhance the process and outcomes of project management. Students have the opportunity to develop practical total quality management skills as they apply theory and practice to real-world cases. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): PMG 321 (OGL 321); minimum 55 hours OR Visiting University Student |
| PMG | 423 | Project Strategic Analysis | Focuses on the importance of strategically analyzing and understanding an organization. Combines quantitative and qualitative methods to provide analysis of internal and external factors using a variety of tools and methods that enable students to synthesize results into a coherent strategic picture of the organization, environment and industry. Through this analysis and synthesis emerge insights into project requirements, value and risk. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Project Management BS major OR Visiting University Student |
| PMG | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | |
| PMG | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 0.25-4 | | |
| PMG | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PMG | 501 | Project Management Theory | Provides an overview of theories that guide conceptual development and application of project management (PM). Topics include theory building; paradigms of knowledge creation; and constructs related to the three domains of project management (people, process and business environment). Using a critical analysis approach, examines conventional and emerging theories of project management and related tasks, including: identifying and empowering stakeholders; leading and governing projects; communicating and building shared understanding among stakeholders; managing human resources; budgeting and allocating resources; and assessing and managing risks. Students develop analytical, communicative and creative skills that enable them to interpret, synthesize and apply theories to solve complex project management problems. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Master of Project Management student |
| PMG | 502 | The Thoughtful Project: Aligning Purpose with Approach | Students hone their capacity to ask questions and critically evaluate different approaches to data collection, decision-making, communication and documentation. Using a graduate seminar-style approach to examine some of the most recent findings and trends among social scientists and project management scholars and practitioners, students tackle weekly case studies pulled from diverse organizational contexts that reflect the project management principles of value, systems thinking, leadership, complexity, adaptability, resiliency and change. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Master of Project Management student |
| PMG | 503 | Impact Analysis and Sustainability in Project Management | Sustainable development and project management are interconnected. This integrated engagement allows for the continual assessment and implementation of sustainable practices in the process of managing a project and addressing the following key concerns. What are the immediate and long-term environmental and social impacts of the project? What are the risks? Who are the stakeholders? Project managers have the capacity to affect the project cycle at each stage and apply models and techniques for planning, implementing, communicating, evaluating and completing projects through the lens of environmental and social sustainability. The project manager has the space to be a change agent in making a difference on each individual project and beyond as the world is increasingly focused on a more sustainable future. Critically evaluates the role of and methodology used by the project manager in implementing and evaluating sustainability in project life cycles. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Master of Project Management student |

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| PMG | 504 | Social Psychological Perspectives in Project Management | Social psychology is defined by the social influence that all people have on the beliefs, feelings and behavior of others. Studies social influences, the behavioral ramifications associated with the psychology of social processes and the ramifications for organizations and project managers. The foundations of the field of social psychology, methodological approaches, interdisciplinary perspectives, and application-oriented ideas and innovations form a basis that integrates scholarship and applied social psychology to gain an enhanced perspective on the social influences associated with organizational and interpersonal behavior. From a project management perspective, explores ideas as diverse as social cognition, interpersonal influence, attitude formation and differentiation, social dynamics of teams, and persuasion. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Master of Project Management student; Credit is allowed for only OGL 520 or PMG 504 |
| PMG | 510 | Interactive Learning: Scope, Schedule and Cost Management | Built around interactive learning technology to provide opportunities for learning about the knowledge, processes and vocabulary of project management focused on scope management, schedule management, cost management and performance measurement. Encourages integrative thinking toward effectively managing any type of project. Adaptive learning technology allows students to proceed at their own pace so that they may review key concepts, technical knowledge and processes as needed. As students proceed through the case study, periodic assessments help the system direct them to content that either initiates or reinforces course objectives. All content for this course is contained within the simulation, with culminating assessments determining whether students have successfully completed the course or need additional learning opportunities. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PMG | 511 | Interactive Learning: Risk and Procurement Management | Built around interactive learning technology to provide opportunities for learning about the knowledge, processes and vocabulary of project management focused on risk management and procurement management. Encourages integrative thinking toward effectively managing any type of project. Adaptive learning technology allows students to proceed at their own pace so that they may review key concepts, technical knowledge and processes as needed. As students proceed through the case study, periodic assessments help the system direct them to content that either initiates or reinforces course objectives. All content for this course is contained within the simulation, with culminating assessments determining whether students have successfully completed the course or need additional learning opportunities. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PMG | 512 | Interactive Learning: Quality, Resource and Communication Management | Built around interactive learning technology to provide opportunities for learning about the knowledge, processes and vocabulary of project management focused on quality management, resource management and communication management. Encourages integrative thinking toward effectively managing any type of project. Adaptive learning technology allows students to proceed at their own pace so that they may review key concepts, technical knowledge and processes as needed. As students proceed through the case study, periodic assessments help the system direct them to content that either initiates or reinforces course objectives. All content for this course is contained within the simulation, with culminating assessments determining whether students have successfully completed the course or need additional learning opportunities. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PMG | 531 | Leading Integrative Teams | Students read and analyze recent project management team research results. In a team setting, they design and propose strategies and approaches for tackling project team challenges within actual organizational contexts. The project team challenges may relate to the following concepts: facilitation, shared goals, alliance building, conflict management, negotiation, empathy, intellectual humility, intercultural respect, delegation, trust, commitment and mentoring. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Master of Liberal Studies, Master of Project Management, or Organizational Leadership MS student |
| PMG | 532 | Project and Program Assessment | Examines methods and techniques of projects to insure the adoption of best practices for more agile and effective projects. Includes an analysis and application of contemporary issues and tools impacting assessment in project management. Provides a comprehensive analysis of project practices compared with current best practice standards. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Master of Liberal Studies, Master of Project Management, or Organizational Leadership MS student |

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| PMG | 533 | Stakeholder Engagement | No project exists in a vacuum--projects of all sizes and degrees of complexity are imagined, executed and ultimately evaluated by stakeholders, and stakeholders are often the key to project success or failure. Focuses on the importance of project stakeholders: the initial stage of identifying all parties involved or affected by a proposed project, analyzing their degree of involvement and impact on the project, planning how best to engage and communicate with stakeholders throughout the project lifecycle, and how to do so in an ethical way. While stakeholder theory is incorporated, the aim is for students to develop this key soft skill for interacting with and managing the interests of diverse stakeholders in real-world project situations. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Master of Liberal Studies, Master of Project Management, or Organizational Leadership MS student |
| PMG | 534 | Master Class in Project Management: Wisdom from the Field | Creates a space for professional project practitioners across a diverse array of industries to bring their wisdom and experiences into the classroom. Supported by a fulltime faculty member, the master teacher focuses this seminar-style course on their firsthand experiences in utilizing advanced project management approaches, processes, structures and techniques to achieve organizational goals, solve problems and effect change around the globe. Framed around six of the degree program's competency areas and supported by weekly readings, class discussions and assignments encouraging students to consider how the approaches, techniques and processes presented by the master teacher can be transferable across industries. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Master of Liberal Studies, Master of Project Management, or Organizational Leadership MS student |
| PMG | 582 | Developing the Plan in Project Management | Builds upon the methods and techniques presented in the prior core project management curriculum. Students undertake project planning around a complex case study focused on a specific problem or opportunity area within an organization or business environment. Students use research, critical thinking, leadership and technical skills to frame analytical models and creative solutions within a predictive, agile or hybrid approach. Course outcomes are a series of original project plan documents. Expectations are quality business writing and presentations with appropriate graduate academic level in the research components. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): PMG 502; minimum 21 hours completed at the 500, 600, or 700 level |
| PMG | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PMG | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PMG | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PMG | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PMG | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | Prerequisite(s): PMG 582 |
| PMG | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PMG | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PMG | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| POP | 100 | Introduction to Population Health | Introduces population health in the United States. Familiarizes students with the broad discipline of population health and how it influences community and individual health status. Discusses the role of various agencies in population health, methods of measurement and evaluation, major population health issues in the United States, and factors that contribute to individual and community health. Solidifies concepts through the use of in-class discussion, group work and individual analysis. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only HCD 101 or POP 100 (or PBH 100) OR Visiting University Student |
| POP | 333 | Systems Thinking in Population Health | Covers systems science and its application to population health. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |
| POP | 444 | Population Health Field Experience | Provides opportunity to gain experience working in community and population health settings. Course meetings provide guidance during the field experience and an opportunity for students to share their projects. | N | LEC | Y | YGB | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 450; HCD 101 or POP 100 OR Visiting University Student |
| POP | 575 | Social Determinants of Population Health | Provides an understanding of health disparities and underlying social determinants. Develops an appreciation of social and environment factors that influence health outcomes and disparities in outcomes, for groups of people. Introduces techniques for conducting community health assessment, with an emphasis on equitable community partnerships and participatory approaches. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 599 | Thesis | Supervised research focused on preparation of a thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 605 | Population Health Systems Science and Theory | Systems science theory and methodology and its application to population health. Systems science is an interdisciplinary field of research that seeks to understand the general characteristics, dynamics and behaviors of systems. While the theory and methodology presented is applicable to a wide range of academic disciplines (e.g., physical systems, social systems, economic systems), this course focuses on population health systems. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 610 | Social Epidemiology | Social epidemiology considers how society's human activities and social interactions yield differential exposures that result in health disparities, including the identification of new disease-specific risk factors (e.g., social determinants of health) and how well-known exposures (e.g., cigarette smoking, lead paint, health insurance) emerge and are maintained by the social system. Considers dynamic social relationships and human activities that ultimately locate industries that pollute one neighborhood instead of another, make fresh foods available to some and not others, and permit some to enjoy resources such that they can purchase healthy environments and excellent health care. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 611 | Implementation Science in Population Health | Introduces Dissemination and Implementation (D&I) science, an interdisciplinary scientific field to address the sizable and persistent gap between research and practice. Covers conducting research to support the adoption, implementation, and sustainability of evidence-based interventions in public health, health care and other relevant settings. Topics include origins and theoretical frameworks of D&I science; organizational context; community engagement; implementation strategies; research designs, measures, and methods; selected tools for D&I practice; and emerging issues. | N | LEC | N | OP3 | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| POP | 615 | Organizational Behavior and Theory in Population Health | Covers important questions and perspectives relevant to understanding organizational behavior and theory (OBT) across the population health arena, including health care and public health sectors. Covers active paradigms in OBT, particularly perspectives important for understanding how health organizations and systems adapt, evolve and respond. Students analyze strengths and weaknesses of different theories and examine how they can be used as a foundation for research on health care and public health organizations and implications for health management and policy. Examines empirical research to clarify how important organizational constructs have been operationalized and to highlight the methodology-related challenges of studying organizations in health care/public health. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 633 | Population Health Ethics | Examines population health ethics and bioethics. Covers ethical analysis and research in health domains as driven by emerging health challenges, technological innovations and an ever-changing social and cultural landscape. Considers navigation and application of central issues to health ethics in disparate health fields. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only POP 633 or POP 598 (Population Health Ethics) |
| POP | 641 | Qualitative Research Methods | Covers conceptual foundations, methodological approaches and examples of effective qualitative research in health-related studies. Topics include selection of theory and research question formulation, practical guide to ethical approval, data collection strategies and analysis, qualitative coding, and report preparation/dissemination. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 644 | Epidemiology in Population Health | Introduces fundamental epidemiological concepts and prepares the student to read, comprehend, analyze, and synthesize epidemiological research and data. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | LEC | Y | OP2 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 691 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 700 | Research Methods | Course on research methods in a specific discipline. | Y | RSC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 791 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | RSC | Y | Z3 | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POP | 799 | Dissertation | Supervised research focused on preparation of a dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Health Solutions | College of Health Solutions | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| POR | 101 | Elementary Portuguese I | Introduces the Portuguese language. Encourages meaningful and contextualized use of the language through reading, writing, listening and speaking tasks based on authentic materials with a focus on Brazil. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Students who have credit for POR 102 or POR 201 or POR 202 or POR 301 (POR 320) or POR 302 (POR 321) or POR 313 or POR 314 may not enroll in POR 101 |
| POR | 102 | Elementary Portuguese II | Continues to develop students' abilities at the elementary level. Encourages meaningful and contextualized use of the language through reading, listening, writing and speaking tasks based on authentic materials with a focus on Brazil. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): POR 101; Students who have credit for POR 201 or POR 202 or POR 301 (POR 320) or POR 302 (POR 321) or POR 313 or POR 314 may not enroll in POR 102 OR Visiting University Student |
| POR | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| POR | 201 | Intermediate Portuguese I | Develops students' skills at the intermediate level of Portuguese language and culture through reading, listening, writing and speaking tasks based on authentic materials with a focus on Brazil. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): POR 102 with C or better; Students who have credit for POR 202 or POR 301 (POR 320) or POR 302 (POR 321) or POR 313 or POR 314 may not enroll in POR 201 OR Visiting University Student |
| POR | 202 | Intermediate Portuguese II | Continues to develop students' skills at the intermediate level. Encourages meaningful and contextualized use of the language through reading, listening, writing and speaking tasks based on authentic materials with a focus on Brazil. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): POR 201 with C or better; Students who have credit for POR 301 (POR 320) or POR 302 (POR 321) or POR 313 or POR 314 may not enroll in POR 202 OR Visiting University Student |
| POR | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| POR | 301 | Portuguese for Spanish Speakers I | Intensive introduction to the Portuguese language for Spanish speakers. Designed for students with an active competence in Spanish who wish to learn the essential elements of the Portuguese grammar at an accelerated pace, as well as acquire listening, speaking, reading and writing skills. Based upon the theory of "intercomprehension," which implies the speaker's ability to understand the speech of another speaker who communicates in a dialect of the same language or a related language. Due to the linguistic similarities with Spanish, students master the four basic skills of listening, speaking, reading and writing of in Portuguese at a faster pace. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): SPA 202 or 204; Students who have credit for POR 101 or POR 102 or POR 201 or POR 202 or POR 302 (POR 321) or POR 313 or POR 314 may not enroll in POR 301 (POR 320) OR Visiting University Student |
| POR | 302 | Portuguese for Spanish Speakers II | Intensive intermediate-level Portuguese language class designed for Spanish-speakers. Further develops the students' communication skills in Portuguese. Makes use of the many common elements between Spanish and Portuguese (particularly vocabulary and grammar) to achieve an accelerated learning of linguistic, sociolinguistic and pragmatic competences required for fluency. The class is mostly conducted in Portuguese: do not be afraid of making mistakes while speaking Portuguese because this is a natural part of the learning process. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): POR 102 or 301 (POR 320) with C or better; Students who have credit for POR 201 or POR 202 or POR 313 or POR 314 may not enroll in POR 302 (POR 321) OR Visiting University Student |
| POR | 313 | Portuguese Conversation and Culture | Develops students' linguistic skills in Portuguese, bridging the intermediate and advanced levels. Encourages meaningful and contextualized use of the Portuguese language with an emphasis on speaking and listening, and a focus on Brazilian culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): POR 202 or 302 (POR 321) OR Visiting University Student |
| POR | 314 | Portuguese Composition and Culture | Develops students' linguistic skills in Portuguese, bridging the intermediate and advanced levels. Encourages meaningful and contextualized use of the Portuguese language with an emphasis on reading and writing. Each class focuses on topics of personal and general interest, with a focus on Brazil. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): POR 202 or 302 (POR 321) OR Visiting University Student |
| POR | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| POR | 460 | Brazilian Society Through Music | Surveys Brazilian popular music in the 20th and 21st centuries, focusing on one main question: What images of Brazil have been imagined by Brazilian popular music in various socio-political contexts? Working with various genres, discusses how issues pertaining to race, social class, and citizenship have contributed to shape the Brazilian popular music scene and its representations of Brazil both at home and abroad. Taught in English. However, students who have completed POR 202 or POR 321 have the option of completing the assignments in Portuguese. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only POR 460 or POR 494 (Contemporary Brazilian Popular Music) or SLC 460 or SLC 494 (Contemporary Brazilian Popular Music) OR Visiting University Student |
| POR | 472 | Transatlantic Encounters: Brazil and Portugal | Lectures, readings and discussion of important aspects of history and cultural context of Portugal-Brazil relations. Topics from music, art, folklore, literature, history and politics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only POR 472 or SLC 472 OR Visiting University Student |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| POR | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| POR | 490 | Consumer Culture in Latin America | Provides an in-depth study of consumer culture in contemporary Latin America, including the analysis of television series, music, literary texts, commercials, ads and films produced in or about Latin America since the turn of the 21st century. Knowledge of Portuguese and Spanish is a plus, but not necessary. Taught in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only POR 490 or SLC 490 or SPA 490 or HON/POR/SLC/SPA 494 (Consumer Culture in Latin America) OR Visiting University Student |
| POR | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| POR | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| POR | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| POR | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| POR | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| POR | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POS | 110 | American Government and Politics | Major institutions of modern government and processes of individual and group political activity, with emphasis on the American experience. Meets the federal government requirement for teacher certification. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | Credit is allowed for only POS 110 or POS 310 OR Visiting University Student |
| POS | 112 | Foundations of Democracy | Introduces an interdisciplinary study of democracy with special attention to its historical development as a form of government. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | HU & H | Credit is allowed for only HST 112 or POS 112 |
| POS | 150 | Comparative Government | Political institutions and processes in selected foreign countries, including origins, strengths, and weaknesses of contemporary political systems and political development. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | |
| POS | 160 | Global Politics | Nature of contemporary world politics through the study of both general theoretical topics and specific geographical areas. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | Credit is allowed for only POL 160 or POS 160 or POS 360 or POS 362 OR Visiting University Student |
| POS | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-3 | | Pre-requisites: Freshman status; Maximum 25 hours |
| POS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-4 | | Prerequisite(s): maximum 25 hours OR Visiting University Student |
| POS | 210 | Political Ideologies | Leading political ideas and belief systems, e.g., Marxism, liberalism, conservatism, theories of democracy, and alternative futures. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |
| POS | 211 | Arizona Constitution and Government | Constitution and government of the State of Arizona. Meets the Arizona constitution requirement for teacher certification. May not be counted for the major or a teaching major or minor in Political Science. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 2 | | Credit is allowed for only POS 211 or POS 216 or POS 417 |
| POS | 216 | State and Local Government | Surveys the operations, problems, and policies of state and local governments in the United States. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | Credit is allowed for only POS 211 or POS 216 or POS 417 OR Visiting University Student |
| POS | 230 | Current Issues in National Politics | Major issues facing national governments in the domestic field. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| POS | 240 | Introduction to Southeast Asia | Interdisciplinary introduction to the cultures, religions, political systems, geography, and history of Southeast Asia. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | (HU or SB) & G | Credit is allowed for only ASB 240 or GCU 240 or HST 240 or POS 240 or REL240 or SGS 240 OR Visiting University Student |
| POS | 245 | Introduction to India and South Asia | Provides an introduction to the history and major contemporary political, economic, social, religious and cultural features of the South Asia region at large and of selected South Asian nations in particular. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | HU & H & G | Prerequisite(s): ENG 101 or 105 or 107 with C or better; Credit is allowed for only HST 245 or POS 245 or REL 245 or SGS 245 or SLC 245 |
| POS | 247 | Introduction to Latin American Politics | General introduction to the politics and socioeconomic structures of Latin America. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | |
| POS | 260 | Current Issues in International Politics | Analyzes major current problems in world politics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | (L or SB) & G | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| POS | 270 | American Legal System | Concepts, institutions, classifications, and functions of law. Role of the courts and impact of judicial decision making on social change. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |

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| POS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-4 | | |
| POS | 300 | Contemporary Global Controversies | Explores key controversies in global politics including security, economic stability, poverty, gender, race, and the environment. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | |
| POS | 301 | Empirical Political Inquiry | Logic of political inquiry, including research problems, concepts, hypotheses, theories, measurement, data collection, and analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only POS 301 or SGS 305 OR Visiting University Student |
| POS | 305 | Politics and Film | Examines portrayal of political events, ethnic groups, and sociopolitical situations in film, a major medium addressing questions of human values. May be repeated for credit when topics vary. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |
| POS | 310 | American National Government | Powers, functions, and agents of American political institutions. Meets the federal government requirement for teacher certification. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only POS 110 or POS 310 OR Visiting University Student |
| POS | 313 | The Congress | Lawmaking process in the U.S. Congress. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | Credit is allowed for only POL 313 or POS 313 OR Visiting University Student |
| POS | 314 | The American Presidency | Office, role, and power of the American presidency in the American political system. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |
| POS | 315 | The Supreme Court | Role of the Supreme Court in American society and politics; examines decision-making process and impact of decisions; restraint versus activism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |
| POS | 316 | American Political Institutions | Explores current issues involving American political institutions including electoral systems, legislative bodies, executive agencies, executive leadership, judicial bodies, political parties, interest groups, social movements, the media, and their interactions. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only POS 316 or POS 394 (American Political Institutions) OR Visiting University Student |
| POS | 317 | History of Postwar U.S. Conservatism | Traces the origins of U.S. conservatism as it developed in the work of U.S. and European thinkers, intellectuals and authors after WWII. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 317 or HST 294 (American Conservatism) or POS 317 OR Visiting University Student |
| POS | 325 | Public Policy Development | Examines one or more aspects of public policy development including agenda setting and policy formulation, implementation, and analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |
| POS | 331 | Public Opinion | Formation, expression, and influence of individual and organized opinion on political institutions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |
| POS | 332 | American Political Parties | Development of the American party system. Party organization and functions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |
| POS | 333 | Interest Groups | Examines how minority, corporate, labor, farm, consumer, environmental, health, education and public interest groups, and single-issue movements influence government. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |
| POS | 335 | Power and American Democracy | Explores how persistent patterns of marginalization and privilege impede the realization of democratic ideals in U.S. society. In particular, unpacks how, in practice, different forms of political power reinforce or challenge persistent patterns of marginalization and privilege. In combination with the study of power as the repression and control of others' actions, the course also explores power as exercised in the collective production of social boundaries. Students learn how to better analyze, critique and engage with different forms of power operating in U.S. society. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only POS 335 or SBS 335 or POS 394 (Power and American Democracy) or SBS 394 (Power and American Democracy) |
| POS | 336 | Voters in America | Voting behavior and the attitudes, perceptions, and activities of the citizenry in the political process. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |
| POS | 337 | Political Psychology | Political psychology is an interdisciplinary field that applies theories from the study of human psychology to the study of politics. Focuses on how psychological processes influence political thoughts and actions. Thus, the initial portion of the course discusses the structure of political attitudes and opinions and some of the primary ways that politicians and the media can influence public opinion. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only POS 337 or POS 394 (Political Psychology) OR Visiting University Student |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| POS | 338 | Fake News: How to Identify and Refute It | Critically analyzes the implications of fake news for our democracy and democratic way of life. Examines why we should care about whether or not citizens consume fake news and how it affects our individual lives and public policy. Looks at a variety of topics, rooted in social science research drawing from psychology and political science. Also examines students and how they process fake news, the origins of fake news, elected officials' reliance on false information, fake news and statistics, fact-checking, and fake news and political bias. Additionally, students analyze elected officials' communications, including U.S. Presidents' State of the Union addresses. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only POS 338 or POS 394 (Fake News) or POS 394 (Fake News: How to Identify and Refute it) |
| POS | 339 | Grassroots Social Movements | Explores how groups mobilize collectively to produce social, political, economic and cultural change, with an emphasis on the United States. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ASB 339 or POS 339 or SBS 339 or SOC 339 OR Visiting University Student |
| POS | 340 | History of Political Philosophy I | Western political philosophers and their theories to the 17th century. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | HU & H | |
| POS | 341 | History of Political Philosophy II | Western political philosophers and their theories from the 17th to the 20th centuries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | HU & H | |
| POS | 342 | Political Theory | Surveys ancient, modern, and contemporary political theorists and ideas in European and American contexts. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | HU or SB | |
| POS | 346 | Problems of Democracy | Issues and problems in democratic theory, e.g., the nature of democracy, majority rule, representation, equality, and the value of political participation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | HU | |
| POS | 348 | Do You Want to Build a Nation? | Requires students to critically assess their assumptions about nation-states through a series of debates and simulation games. Through in-class, interactive games, students answer: What are the sources of legitimacy and defining elements of statehood? How do those defining elements, such as democratic structures, support or challenge certain functions of the nation-state? How does a nation's purported moral basis affect its foreign policy decisions and negotiations with other nations? | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum junior standing or minimum 45 hours OR Visiting University Student |
| POS | 350 | Comparative Politics | Theoretical approaches and political institutions, such as parties, pressure groups, legislatures, and executives, from a cross-national perspective. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | |
| POS | 351 | Democratization | Examines the consolidation of democracies in postauthoritarian and postcommunist settings (e.g., Latin America, Eastern Europe, Asia). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | |
| POS | 352 | European Democracies | Addresses questions such as, How has the relationship between European citizens and the democratic process changed in the post-WWII period? How do domestic political institutions influence this process? Explores different approaches to some of the most important questions facing the study of comparative and European politics. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 25 hours OR Visiting University Student |
| POS | 353 | Comparative Politics of the Middle East | Examines the historical, social, and economic context of contemporary Middle East politics; explores political dynamics of selected Middle Eastern regimes; and offers a comparative examination of key political trends and themes. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum junior standing or minimum 45 hours OR Visiting University Student |
| POS | 354 | Central American Studies | Part of the summer ASU study abroad Costa Rica Program, which is a language and social sciences immersion program in the capital city, San Jose. A summer offering permits students to enroll in the program without conflicting with full course loads during the fall or spring semester. However, the course is proposed as a stand-alone course that can be offered in a regular semester as well. | N | REC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | Credit is allowed for only ASB 356 or GCU 356 or POS 354 or SBS 356 or SOC 356 |
| POS | 356 | European Union | History and workings of EU member states, including single market, Euro, legal system, ethnonationalism, immigration, expansion, trade wars, and defense. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | |
| POS | 357 | South Asia Politics | Political culture and systems of South Asia examined through study of political writings, novels, and poetry. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | Prerequisite(s): minimum 45 hours |
| POS | 358 | Southeast Asia | Political background, governmental institutions, political dynamics, and developmental problems of Southeast Asian nations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | |
| POS | 359 | African Politics and Society | Comparative analysis of socioeconomic forces, political processes, government institutions, and political novels in Sub-Saharan Africa. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | |
| POS | 360 | World Politics | Theory and practice of statecraft as applied to selected issues, regions, or eras. Emphasis may vary with instructor, but cannot be repeated for credit. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | Prerequisite(s): minimum 25 hours; Credit is allowed for only POS 160 or POS 360 OR Visiting University Student |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| POS | 361 | American Foreign Policy | United States in world affairs; foreign policy since World War I. Techniques in formulating American foreign policies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| POS | 362 | World Politics Theory | Theoretical examination of one or more aspects of international politics, e.g., foreign policy, negotiations, alliances, crises, wars, and international systems. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | Credit is allowed for only POL 160 or POS 160 or POS 362 |
| POS | 364 | National Security, Intelligence, and Terrorism | Theoretical and empirical assessment of U.S. national security policy in the post-cold war era. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |
| POS | 365 | Terrorism and Insurgency | Insurgency, civil war, revolution and terrorism are traditionally thought of as domestic events or "intrastate" conflicts between one violent domestic political group and the state. However, recent conflicts in Afghanistan, Libya and Syria, as well as the 9/11 attacks on the U.S. demonstrate that insurgencies often spill across borders and draw in actors far removed from the original conflict site. These conflicts also demonstrate that insurgencies and terror campaigns necessitate global policy responses. The international character of insurgency, therefore, requires students of political violence to consider a wide array of both international and domestic factors in order to better understand the origins, dynamics and resolution of modern insurgencies and terror campaigns. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only POS 365 or POS 394 (Terrorism and Insurgency) |
| POS | 367 | World Politics and Global Inequalities | Examines the topic of global inequality and the numerous challenges that arise from it, including perspectives and theories pertaining to third world development, the historical background to the political and economic relations between the wealthy countries of the world and the poorer countries, and policies and strategies designed to promote development and alleviate poverty. Studies some contemporary issues that are related to global inequality including ethics and third-world development, sweatshop labor, corporate responsibility, and the tension between globalization and the movement of people across sovereign borders. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | G | Prerequisite(s): minimum 25 hours OR Visiting University Student |
| POS | 368 | Ethics and Human Rights | Explores issues of ethics, morality, and human rights in the global community. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | |
| POS | 370 | Law and Society | Analyzes debates among social scientists and legal theorists concerning the relationship between law and society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| POS | 374 | Cultures and Politics of the Internet | Explores the culture and politics of the Internet in global perspective, including virtual communities, free software, copyleft, blogs, and hacktivism. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | Credit is allowed for only ASB 374, POS 374, SBS 374 or SOC 374 |
| POS | 377 | Arizona, Immigration, Latinos and Politics | Contemporary immigration and its related issues have generated significant debates, reforms and responses by government officials, businesses and private citizens, to name but a few in this country. This course provides a much-needed framework for understanding some of the immigration issues in Arizona and the country generally. It also focuses on some of the political responses by Latinos and their significant mobilization at the local, state and federal levels. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only JUS 377 or POS 377 or SGS 377 or TCL 377 or HST/JUS/POS/SGS/TCL 394 (Arizona, Immigration, Latinos and Politics) OR Visiting University Student |
| POS | 378 | Religion, War and Peace | In-depth study of the religious, political and ethical dimensions of violence and war. Compares perspectives of Christian, Jewish and Islamic traditions as well as secular viewpoints. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | L | Prerequisite(s): ENG 102, 105 or 108 with C or better; Minimum 24 hours; Credit is allowed for only POS 378, REL 378 or REL 394 (Religion, War and Peace) |
| POS | 379 | The Resource Curse | Explores the paradox known as the resource curse, examining the argument, its mechanisms for impeding development, and its effects. Examines successes and failures, and in doing so, examines the mechanisms of the resource curse and the potential to overcome the negative consequences of resource wealth for developing countries. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only POS 379 or POS 394 (The Resource Curse) or SGS 379 or SGS 394 (The Resource Curse) OR Visiting University Student |
| POS | 388 | Religion, Ethics, and International Politics | Religious and ethical dimensions of international politics. Addresses historical and contemporary ideas, movements, issues and events. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only POS 388 or REL 388 OR Visiting University Student |
| POS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-4 | | |
| POS | 401 | Political Statistics | Basic concepts in statistics as they facilitate the description, explanation, and prediction of social and political phenomena. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | CS | Prerequisite(s): DAT 401, POS 301 or SGS 305 with C or better; Credit is allowed for only POS 401 or SGS 401 OR Visiting University Student |
| POS | 410 | Governing American Cities | Reviews modern urban problems, their sources, and potential solutions, including structural and policy alternatives. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |
| POS | 414 | Political History and Leadership | Research seminar in political values and leadership. Combines lecture, readings and guest lectures by leaders in business, public affairs and the media. Culminates in a substantial written research effort. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 55 hours; Credit is allowed for only HST 414 or POS 414 |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| POS | 417 | Arizona Politics | Surveys the operations, problems, and policies of state and local governments in the United States. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | Prerequisite(s): minimum 25 hours; Credit is allowed for only POS 211 or POS 216 or POS 417 OR Visiting University Student |
| POS | 426 | Elements of Public Policy | Each section may cover one of the following topics: consumer protection, natural resources, criminal justice, environmental protection, science and technology, or theories of public policy. May be repeated for credit when topics vary. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum 45 hours |
| POS | 427 | Social Welfare and Health Policy | Examines the political conflicts and debates that underlie social welfare and health policy, and the provisions of major welfare-state programs in the U.S., with comparisons to other developed democracies. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for POS 427 or POS 394 (Social Welfare & Health Policy) |
| POS | 431 | Campaigns and Elections | Examines campaigns from a multitude of perspectives including the politician, reporter, campaign strategist, and voter. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |
| POS | 434 | Media and Politics | Studies mass media and politics in the United States, e.g., media and elections, media and government. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | |
| POS | 435 | Women and Politics | Focuses on the uniqueness of women in modern political systems and political thought. Emphasis may vary with instructor. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & C | |
| POS | 436 | Gender, Sexuality, Nation-States | Issues and problems related to the interface of gender, sexualities, nationalisms, and states in various world contexts. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | |
| POS | 437 | Women, Power, and Politics | The roles and treatment of women within various political contexts. Specific focus may vary with instructor. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | G | Prerequisite(s): minimum 45 hours; Credit is allowed for only POS 437 or SOC 437 OR Visiting University Student |
| POS | 438 | Latino Politics | Examines contemporary political issues in the diverse Latino community. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & C | Prerequisite(s): minimum 45 hours |
| POS | 439 | Minority Group Politics in America | Role of minority groups in American politics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & C | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| POS | 442 | American Political Thought | Political theories and movements from the colonial period to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | HU | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| POS | 443 | Topics in Contemporary Political Theory | Major problems and theories in contemporary political thought. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | HU | |
| POS | 446 | Democracy | Issues and problems in democratic theory, e.g., the nature of democracy, majority rule, representation, equality, and the value of political participation. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | HU | |
| POS | 447 | Citizenship, Nationalism and Identity | Critical examination of citizenship, national belonging and identities by examining contemporary social issues and discourses from global and comparative perspectives. Aims to understand complexities of national belonging that go beyond legal, formal citizenship, such as how cultural, racial/ethnic, class and gender differences challenge the limits of national citizenship. Explores case studies that show how members of different societies demonstrate their positions as legitimate national citizens in different and often conflicting ways, especially in order to defend social justice and human diversity. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & C & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 447 or POS 447 or SBS 447 OR Visiting University Student |
| POS | 452 | China | Background of the Communist revolution, political processes, and developmental problems in China from a comparative perspective. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | |
| POS | 453 | Latin America | Political institutions, process, and developmental problems of South American states examined through comparative analysis, novels and poetry. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | Prerequisite(s): minimum 25 hours |
| POS | 454 | Mexico | Politics, economy, institutions, and cultures in Mexico in historical and contemporary perspective. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| POS | 456 | Latin American Cities | Urban studies of Latin American world cities, e.g., Mexico City, Santiago, emphasizing integration with U.S. cities, including Los Angeles, Phoenix. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | |
| POS | 464 | Border Cities: Action Research on Globalization | Examines the effects of globalization on U.S.-Mexico border cities and towns with particular emphasis on Mexican border cities. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | |
| POS | 465 | International Organization and Law | History, practical political significance, and future of international institutions, transnational regimes, and international law. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | |

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| POS | 466 | Migration, Environment and Global Security | Human mobility within and across borders is on the rise with rapid globalization and infrastructural investments. National concerns over human security and resource allocation have prompted discussion over the drivers and consequences of emerging migration patterns related to environmental stressors. The objective is to gain perspective on the environmental refugee debate and learn how governments, donors, and international agencies are currently tackling the problem. Students are introduced to cross-disciplinary concepts of migration and environmental stressors (e.g., natural disasters, climate change, water scarcity, soil erosion) in order to understand and discuss recent scientific work, and investigate the challenges in documenting this phenomenon and its consequences on global security. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only POS 466 or SGS 466 or GCU/POS/PUP/SGS/SOS 494 (Migration, Environment, & Global Security) or GCU/GSC/PUP 598 (Migration, Environment, & Global Security) OR Visiting University Student |
| POS | 467 | International Security | Examines issues affecting the international security of states and peoples, e.g., military, economic, technological, environmental, and demographic. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | Prerequisite(s): minimum 45 hours |
| POS | 468 | Comparative Asian Foreign Policies | Foreign policies of the Asian states, emphasizing their security relations and movements toward regionalism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | |
| POS | 470 | Law and the Political Order | Investigates concepts of justice, political rights, adjudication and legislation, legal ordering, constitutional law, law as an instrument of change. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only POS 470 or CMN 598 (Law and the Political Order) or JHR 598 (Law and the Political Order) or MAS 598 (Law and the Political Order) |
| POS | 471 | Constitutional Law I | Development of the U.S. Constitution as reflected in decisions of the Supreme Court; jurisdiction and organization of the federal courts; judicial review; separation of powers; federalism; the commerce clause; national taxing and spending power; state police power. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| POS | 472 | Constitutional Law II | Development of the U.S. Constitution as reflected in decisions of the Supreme Court; due process; equal protection of laws; individual rights; civil liberties. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| POS | 475 | Morality and Politics | Should morality play a role in politics? Machiavelli gives us one sort of answer, urging politicians to be dishonest, deceptive and even cruel. Kant disagrees, arguing instead that politicians should adhere to their personal morality over political calculations. Explores this question in two ways. First, looks more at the disagreement between great thinkers in the Western political tradition. Second, investigates contemporary political actors who bring moral concerns to the fore, including dirty politicians and extremist citizens (for example, radical animal rights activists, militant environmentalists or global poverty zealots). Seminar course that incorporates in-class discussion and writing, options-based grading and creative assignments. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours. Credit is allowed for only POS 394 (Morality and Politics) or POS 475 |
| POS | 480 | Global Justice | Explores questions of justice that cross national borders, including delivery of foreign aid, immigration and military intervention. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | G | Prerequisite(s): minimum 45 hours; Credit is allowed for only JHR 494 (Global Justice) or JHR 550 or JHR 598 (Global Justice) or POS 480 or SBS 480 OR Visiting University Student |
| POS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | |
| POS | 485 | Political Economy | Problems, policies, and possibilities of various political-economic systems and the interrelationship of capitalism, socialism, and democracy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| POS | 486 | International Political Economy | Contending approaches to historical and contemporary issues of international political economy, including global welfare, equality, ecology, and peace. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | |
| POS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| POS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| POS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-4 | | |
| POS | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| POS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |

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|---------|-------------|-------------------------------|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------------|-------|-----------------|--|
| POS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-3 | | |
| POS | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | |
| POS | 503 | Empirical Political Inquiry | Research methods and techniques of the discipline, emphasizing empirical foundations and analytic methods employed in subfields. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Pre-requisites: Political Science student |
| POS | 530 | American Politics | Examines major debates in the study of American political processes and institutions. Covers parties, media, elections, public opinion, interest groups, and the three branches of government. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | |
| POS | 540 | Ancient Political Theory | Surveys the historical and philosophical developments in political thinking from the ancient Greeks up to the Renaissance. The world studied predominantly is one of profound political conflict and change. Moves from the Greek cities to the edge of modern political developments. The movement encompasses the political transformation from city-states to empires to the establishment of an overarching Christian world order that balances secular and sacred power, only to be challenged if not foundationally shaken by Machiavelli and realism. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Pre-requisites: Graduate Political Science major |
| POS | 541 | Modern Political Theory | Surveys the development of modern political thought from Machiavelli--through Hobbes, Locke, Hume, Rousseau, Burke, Kant, Montesquieu, Constant, Bentham, Mill, and Hegel--to Marx. Focuses on the primary writings of these thinkers as well as reading secondary literature. In addition to focusing on the distinctive contribution and relevance of individual thinkers, further explores certain recurring themes among which are the following: Are freedom and equality foes or friends? What allegiance do we owe the state and why? Do we have rights against the state? What is a just state? Is private property essential to individual liberty? Do laws enhance or threaten liberty? Is self-interest an adequate basis for political allegiance? Why should we pursue the common good, if at all? Are self-interest and the common good reconcilable? | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Pre-requisite: MA or PhD major; Credit is allowed for only POS 541 or 591 (Modern Political Thought) |
| POS | 550 | Comparative Politics | Surveys major approaches across topical areas such as revolutions, authoritarianism, policy processes, interest groups, and electoral politics. Focus varies with instructor. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | |
| POS | 552 | Women and Politics | Serve as an introduction to the comparative study of women and politics. Not a course on feminist theory; instead focuses on questions such as: Does the descriptive representation of women guarantee their substantive representation? Which electoral rules favor the election of women? Do the negative effects of gender quotas outweigh their impressive ability to increase the number of women in office? Have the news media helped or harmed female candidates? Once in power do women govern differently than men? Focuses on the obstacles that women face in obtaining positions of power. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POS | 560 | International Relations | Surveys major theoretical approaches and debates in international relations. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | |
| POS | 565 | Games, Strategy and Politics | Provides an overview of game theory for graduate students in political science. Covers classical game theory, extensive form games, games of incomplete information and non-cooperative games. Applies game theory to international relations, political economy, comparative politics and American politics. Gives special attention to bargaining games, voting in elections and deterrence. Basic mathematical knowledge is helpful; reviews basic algebra and calculus in the class as needed. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only POS 565 or POS 598 (Games, Strategy and Politics) |
| POS | 570 | The Politics of Public Policy | Examines the political dimensions of public policymaking. Emphasizes major theoretical explanations of the policy process--particularly elements such as agenda setting, implementation, and policy change--rather than on the substance of particular policies. Focuses primarily on U.S. domestic policy, with some comparative reference to other developed democracies. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POS | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | |

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|---------|-------------|---------------------------------|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------------|-------|-----------------|---|
| POS | 586 | International Political Economy | International political economy (IPE) focuses on the relationship between the pursuit of wealth and power during the development and evolution of the global political economy. Assigned readings take an analytical approach to the subject, drawing on methods and theories developed in political science, economics, history and sociology. In addition to an overview of the methods and theories employed in the study of IPE, also examines a variety of current empirical research programs in the subfield. This seminar should enable students to read the academic literature, conduct independent research in the subfield, and understand contemporary problems in the global political economy. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | |
| POS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | |
| POS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | |
| POS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | |
| POS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1 | | |
| POS | 596 | Professionalization Workshop | Serves as a professionalization workshop and is intended for new political science doctoral students. However, graduate students at all levels in the program are welcome to take the course. Introduces the professional side of political science. Surveys topics such as attending conferences, applying for grants, publishing an article or a book, and going on the job market. Jointly builds a professional resource bank on our course page that serves as a resource for all students. | N | SEM | N | OP2 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only POS 596 or POS 598 (Teaching and Writing Worksh) |
| POS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| POS | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | |
| POS | 601 | Advanced Experimental Research | Introduces experimental and quasi-experimental research designs in political research, including lab techniques and topics in the analysis of variance. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | |
| POS | 603 | Polimetrics I | Introduces theory and practice of linear regression analysis. Provides skills to read, understand, and evaluate professional literature using regression analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | |
| POS | 604 | Polimetrics II | Applies quantitative techniques to research topics producing publishable papers through exposure to time-series, logit and probit, and simultaneous equations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | |
| POS | 652 | Religion and Politics | Analyzes the complicated and often conflictual relationship among major religious faiths, religious activists, and the state in the 20th and 21st centuries. Cover topics: secularization theory and its problems; religion as a cultural or attitudinal variable in politics; the rationality of religion, organized religions and their activists; the bases for conflicts between religion and the state; religion's role in conflict; the terms of reconciliation and collaboration; the conditions under which religion is politicized and becomes the basis of a political movement or party; and the means by which organized religions and/or their adherents seek to maintain an influence in 20th- and 21st-century politics and society. Does not provide a survey of religion and politics for all major world religions, or other religions. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): MA or PhD student |

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| POS | 663 | Ethnic Conflict | Acquaints students with a variety of theoretical and empirical approaches to the study of conflict between nations and states, which is often called ethnic conflict. Aims to understand the nature of ethnic identity, the reasons it persists and changes over time, and the conditions under which it can be mobilized for political ends. Discussions are theoretical and comparative. Draws on empirical results and cases to support, qualify and refute propositions, and draw inferences. Prior social science course work preferred. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only POS 598 (Ethnic Conflict) or POS 598 (Deadly Ethnic Conflict) or POS 663 |
| POS | 664 | War, Peace, and Conflict Processes | Systematic analysis of the causes of war, the preconditions for peace, and approaches to the resolution of conflict. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | |
| POS | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1 | | |
| POS | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | |
| POS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-15 | | |
| POS | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1 | | |
| POS | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-15 | | |
| PPE | 215 | Teaching Team Sports | Practical application of biomechanical, physiological, psychological, and learning principles in the analysis of skill acquisition and performance. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2 | | |
| PPE | 220 | Teaching Lifetime Activity K-12 | Participating in and teaching sequenced activities K-12. | N | LEL | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2 | | |
| PPE | 230 | Teaching Group Exercise | Introduces instructional strategies appropriate for the teaching of group exercise classes in secondary school settings. | N | LEL | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2 | | |
| PPE | 235 | Teaching Strength and Conditioning for Health | Fundamental principles, strategies and assessments of strength training and conditioning methodologies that are necessary to effectively operate in a school-based setting. Most secondary schools offer some form of strength training in a physical education setting, either as a stand-alone course or as part of a traditional class structure. Therefore, new physical education teachers should be well informed on the scientific rationale for the use of strength and conditioning programs in schools, and be able to design and implement these programs safely. Provides prospective physical education teachers with the knowledge and skills needed to safely and effectively operate in a school-based strength training setting, whether it is for physical education or sport performance. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2 | | Credit is allowed for only PPE 235 or PPE 294 (Teaching Strength Conditioning for Health) |
| PPE | 240 | Physical Activity | Recognizing individual interests and abilities, the program provides courses covering a wide variety of physical activities. We make an effort to address contemporary trends and student, faculty and staff interests. Offerings may include but are not limited to classes in the areas of: aquatics, artistic and social dance, fitness development, martial arts, mind/body, outdoor recreation, resistance training, sports and games. | Y | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-2 | | |
| PPE | 300 | Introduction to Physical Education, Fitness and Sport | Introduces the fields of physical education, exercise science, sports medicine, and related fields. Discusses the history and trends of physical education as well as key concepts, programs, problems, and issues related to teaching physical education. Teaches essential background knowledge, better preparing for career success. The online (blackboard) component of this class provides practical experiential learning and assesses knowledge and comprehension of the key concepts presented in the course. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 60 hours; junior or senior standing; Credit is allowed for only PPE 300 or PPE 394 (Intro to Physical Education, Fitness & Sport) OR Visiting University Student |

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| PPE | 310 | Healthy Learning Communities | Prepares educators with the knowledge, skills and dispositions to support learners' overall health. Focuses on educator's roles in creating healthy and active learning communities and addresses a variety of educational settings and learner ages. | N | LEL | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours |
| PPE | 315 | Pediatric Movement Sciences for Physical Educators | Provides a general overview of the functional anatomy of the human body as it relates to movement and the biomechanical principles underlying the execution of a given motor skill. Also examines the influence of physical growth and maturation on the development of motor skills. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| PPE | 320 | Exercise Physiology Concepts for Physical Educators | Provides an introductory-level understanding of how the body responds prior to, during, and after participation in dynamic and static exercise. Examines the physiological basis of human movement, with emphasis on reviewing what exercise physiologists have learned about the diversity of physical activity, specifically in children. Although many physiological responses to activity are predictable, the magnitude and pattern of responses are unique depending on the age, gender, and previous experience of the individual. Also examines the role an active lifestyle plays in the overall health and well-being of school-aged children and adolescents. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): BIO 201; BIO 202 OR Visiting University Student |
| PPE | 335 | Movement and Physiology Principles of Children and Youth in Physical Activity Environments | Provides an introductory-level understanding of mechanical principles underlying human movement, the developmental patterns reflected in human movement birth through childhood and adolescence, basic principles of motor learning and the physiological basis of human movement. Covers how these principles directly affect the development of physical activity opportunities in in community-based sport and recreation settings with a specific eye toward the role an active lifestyle plays in the overall health and well-being of children and youth between the ages of 6 and 18. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): junior or senior standing |
| PPE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| PPE | 396 | Clinical Experience: Physical Education Elementary (Grades 1-8) | Applies course content in elementary physical education classrooms grades 1-8: emphasizes observation, pupil management, planning and delivery of instruction, and assessment. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2 | | Prerequisite(s): admission to the Professional Program |
| PPE | 397 | Clinical Experience: Physical Education Secondary (Grades 6-12) | Applies course content in secondary physical education classrooms grades 6-12; emphasizes observation, pupil management, planning and delivery of instruction, and assessment. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2 | | Prerequisite(s): admission to the Professional Program |
| PPE | 450 | Physical Education for the Elementary School | Scope and values of physical education in elementary schools. Methods, materials, and practices in teaching for primary through upper grades. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours; Credit is allowed for only PPE 450 or PPE 550 |
| PPE | 455 | Physical Education in the Secondary School | Current trends and theories such as elective programs, coed classes, legal issues, contract teaching, curriculum, and administration. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours; Credit is allowed for only PPE 455 or PPE 555 |
| PPE | 460 | Adapted and Inclusive Physical Education | Teaching individuals with disabilities physical skills and activities. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours; Credit is allowed for only PPE 460 or PPE 560 |
| PPE | 465 | Teaching Physical Activity Concepts | Focuses on teaching physical activity concepts in physical education settings and other settings such as fitness clubs or community health organizations. Analyzes and critiques state physical activity standards and national guidelines for promoting physical activity. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only PPE 465 or PPE 565 OR Visiting University Student |
| PPE | 477 | Student Teaching: Physical Education Elementary (Grades 1-8) | Student teaching in elementary physical education setting grades 1-8: synthesized experience in curriculum, instruction, assessment and classroom management. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 6 | | Prerequisite(s): admission to the Professional Program |
| PPE | 478 | Student Teaching: Physical Education Secondary (Grades 6-12) | Student teaching in middle/secondary physical education setting grades 6-12: synthesized experience in curriculum, instruction, assessment and classroom management. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 6 | | Prerequisite(s): admission to the Professional Program |
| PPE | 480 | Professional Seminar for Physical Education | Methods of instruction, organization, and presentation of appropriate content in elementary and secondary physical education. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| PPE | 485 | Physical Activity Leadership in Schools | Explores the development of school leadership skills for physical educators specific to promoting physical activity throughout the school day for all K-12 students. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours; Credit is allowed for only PPE 485 or PPE 586 |

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| PPE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| PPE | 501 | Introduction to Research and Evaluation in Education | Overview of educational inquiry from controlled, quantitative to qualitative, naturalistic. Emphasizes locating and critically interpreting published research. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only COE 501 or ECD 503 or PPE 501 or SPE 501 or TEL 501 |
| PPE | 531 | Analysis of Skill and Game Performance | Develops analytic skills for informal and formal assessment of student learning in physical activity settings; designs authentic practice activities linked to specific learning objectives. | N | IND | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PPE 531 or PPE 598 (Analysis in Skill & Game Performance) |
| PPE | 532 | Principles of Sport Coaching | Focuses on the key components of developing an athletic program in an interscholastic or community-based setting. Provides individuals with an understanding and skills to develop such a program. Students learn: how to develop a coaching philosophy and style as well as an appreciation for other coaching styles; effective coaching techniques to develop skills, tactics and fitness of athletes, including addressing the unique, diverse, needs of all individual athletes. They also learn how to administer and manage a team, including developing communication skills to work across all stakeholder groups as well as how to manage the risk of injury and liability. Students learn about participating in continued professional development and to reflect on their coaching practices. | N | IND | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PPE 494 (Principles of Sport Coaching) or PPE 532 or PPE 598 (Principles of Sport Coaching) |
| PPE | 533 | Health Methods | Teaches an understanding of elementary, middle and high school health curriculum and how to implement the curriculum in a physical education environment. Students learn effective teaching techniques, how to effectively manage students in a classroom setting, and how to design and deliver innovative lessons. | N | IND | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PPE 531 or PPE 598 (Health Methods) |
| PPE | 535 | Advanced Sport Education | Covers a grade 4-12 school physical education curriculum that focuses on providing more complete and more authentic sport experiences. | N | LEL | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPE | 550 | Physical Education for the Elementary School | Scope and values of physical education in elementary schools. Methods, materials, and practices in teaching for primary through upper grades. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; Credit is allowed for only PPE 450 or PPE 550 |
| PPE | 551 | Innovative Programming in Elementary Physical Education | Provides an understanding of current trends and issues in elementary school physical education curriculum and how to implement the curriculum in a school environment. Students become familiar with a variety of best practices in curriculum and instruction specific to elementary children in physical activity settings. Emphasizes incorporating methods of effective teaching and activity organization, enhancing student learning, and effectively managing student behavior and the learning environment. | N | LEL | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPE | 555 | Physical Education in the Secondary School | Current trends and theories such as elective programs, coed classes, legal issues, contract teaching, curriculum, and administration. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PPE 455 or PPE 555 |
| PPE | 560 | Adapted and Inclusive Physical Education | Teaching individuals with disabilities physical skills and activities. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Pre-requisites: Graduate students (Degree and Non-degree); Credit is allowed for only PPE 460 or PPE 560 |
| PPE | 565 | Teaching Physical Activity Concepts | Teaching physical activity concepts in PE settings. Analyzes and critiques state and national physical education standards. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Pre-requisites: Graduate (degree or non-degree) student; Credit is allowed for only PPE 465 or 565 |
| PPE | 567 | Clinical Experience: Physical Education Elementary (Grades 1-8) | Applies course content in elementary physical education classrooms grades 1-8: emphasizes observation, pupil management, planning and delivery of instruction, and assessment. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPE | 568 | Clinical Experience: Physical Education Secondary (Grades 6-12) | Applies course content in secondary physical education classrooms grades 6-12: emphasizes observation, pupil management, planning and delivery of instruction, and assessment. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPE | 586 | Physical Activity Leadership in Schools | Explores the development of school leadership skills for physical educators specific to promoting physical activity throughout the school day for all K-12 students. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PPE 485 or PPE 586 |

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| PPE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPE | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPE | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPE | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 501 | Fundamentals of Political Psychology | Core course focuses on the interdisciplinary study of political psychology and teaches the tools necessary to evaluate the application of political psychology to political marketing, campaigns and policy advocacy. Covers both the theoretical foundations underlying research in political psychology as well as foundational and contemporary applications. Examines topics including personality, emotions and genetic bases of behavior as well as approaches to the design and interpretation of experimental research. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 502 | Cognition and Emotions in Political Thinking | Focuses on key concepts in cognitive psychology and the scientific study of mental processes. Covers how people acquire, store, transform, use information. Topics may include perception, attention, language, memory, reasoning, problem solving, decision making and attributions. Also covers the relation between emotions and cognition. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 503 | Prejudices and Politics | Interrogates various theoretical approaches to intergroup conflict; why stereotypes and prejudice exist; the different forms these attitudes take (e.g., ethnocentrism, racial attitudes); and their implications for politics. Also introduces social identity theory and demonstrates how this theory can elucidate group processes. Moreover, covers theoretical arguments for and concrete examples of how prejudice can be reduced and tolerance increased. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 504 | Attitudes and Persuasion | Focuses on the individual and contextual factors responsible for changes in beliefs, attitudes and behaviors. First covers the concept of attitudes and their measurement before examining in depth various theoretical approaches that explain how people come to change their attitudes. Also covers meta-cognitive as well as implicit factors in persuasion. Ends with a more applied look at persuasion, focusing on how persuasive messages can be crafted. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 505 | Biopolitics | Builds a foundational understanding of biological, evolutionary, genetic and neurobiological perspectives in political psychology. Draws on these perspectives to explain political attitudes and behavior, considering literature on nonhuman animals, developmental psychology, personality, psychophysiology, neurobiology, genetics, hormones, disgust sensitivity and mating. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| PPS | 506 | Experimental Design | Focuses on the experimental paradigm that permeates political psychology. Introduces the logic of experimentation and how to design and evaluate experimental studies. Focuses on a variety of different experimental designs, highlighting the various benefits and drawbacks of laboratory experiments, survey experiments and field experiments. Readings combine both theoretical and methodological pieces on the design, analysis and interpretation of experiments with empirical applications. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 511 | Public Opinion | Provides an advanced examination of the political opinions of citizens. Covers how citizens structure their opinions and what factors can cause these opinions to change. In so doing, also evaluates various theoretical perspectives and methodological approaches used to study public opinion. Topics include political knowledge, ideology, partisanship and values. Moreover, provides insight into how these factors shape people's evaluation of government and how individual-level opinions are aggregated to produce public opinion. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 512 | Political Polarization | Advanced exploration of the concept of political polarization from a political psychology perspective. Introduces the concept of political polarization and provides an overview of recent trends in polarization in the U.S. while covering debates such as whether polarization has increased over time, whether Americans are polarized around issues or social identities, and how value divergence can culturally conflict. Also explores how the media and other external factors can affect citizens in ways that can either fuel or attenuate polarization. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 513 | Elite Decision Making | Provides a comprehensive examination of political psychology approaches to understanding and evaluating elite decision making. Introduces paradigms for analyzing elites' decisions that focus on the role of personality, leadership styles and prospect theory among others. Also focuses on covering frameworks that students can apply to systematically study how elite actors make decisions on the domestic and international stage. Combines conceptual readings explaining these approaches with applied readings that analyze the decision-making processes of elites through a range of case studies. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 514 | Campaigns and Elections | Provides a political psychology perspective on campaigns and elections. Topics include the effect of election rules, campaigns, social networks and the media on turnout and vote choice. Students engage with research that addresses these topics through psychological lenses focusing on the role of emotions, negativity, persuasion and learning. Combines theoretical literature with applied papers leveraging a variety of experiments conducted in campaign contexts. Also discusses implications for campaign organization and management. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 515 | Advances in Media Effects | Provides an advanced examination of contemporary research and debates on media effects. Covers the paradigms of agenda setting, priming and framing. Considers key issues in the field of media effects by paying particular attention to the underlying psychological mechanisms through which the media can affect citizens' attitudes and social judgment. Draws on a variety of examples to demonstrate both the power and limits of media to affect citizens. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 550 | Capstone | Serves as the culminating experience of the Masters in Political Psychology. Students apply the theories, frameworks and evidence encountered during the course to explore a novel question or contribute to a contemporary research debate. In the process, students apply a multitude of tools to which they were exposed during the course of the program. Develops final products individually or in a small group based on consultation with course faculty. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | Prerequisite(s): Political Psychology MA student |

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| PPS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PPS | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PRM | 120 | Leisure and the Quality of Life | Conceptual foundations for understanding the role of leisure in the quality of life. Social, historical, psychological, cultural, economic, and political foundations of play, recreation, and leisure. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | SB | |
| PRM | 145 | Special Events Management | Principles of programming and managing special events for diverse populations. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | |
| PRM | 201 | Introduction to Parks, Recreation and Sport Management | Examines the role of parks, recreation and community sports at the local, national and international levels. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Credit is allowed for only CSM 201 or PRM 201 OR Visiting University Student |
| PRM | 203 | Program Planning | Overview of the conceptual foundations and professional competencies necessary to effectively assess, plan, implement and evaluate programs. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Credit is allowed for only CSM 203 or NLM 203 or PRM 203 OR Visiting University Student |
| PRM | 210 | Leisure Delivery Systems | Introduces development, management and organization of the public, nonprofit and private sectors for the leisure services professions. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Pre- or corequisite(s): NLM 160 or PRM 120 with C or better if completed OR Visiting University Student |
| PRM | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |
| PRM | 304 | Recreation and Sport Planning and Facilities | Surveys development and management of public, private, and commercial recreation areas and facilities with a focus on meeting program needs. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | L | Prerequisite(s): CRD 210 with C or better; ENG 101, 105, or 107 with C or better; MAT 142 or higher with C or better; minimum 2.50 GPA; minimum 45 hours OR Visiting University Student |
| PRM | 306 | Advanced Programming and Facilitation | Provides an experiential learning experience where students implement and reflect upon all aspects of an ongoing recreation program including program facilitation, budgeting, marketing, risk management, experience engineering and evaluation. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CSM 203 or PRM 203; Credit is allowed for only CSM 306 or PRM 306 OR Visiting University Student |
| PRM | 310 | Volunteer Management | Studies volunteer engagement practices integral to community organizations introducing management techniques such as program organization, recruitment, interviewing, placement, supervision, recognition and evaluation. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only NLM 310 or PRM 310 OR Visiting University Student |
| PRM | 315 | Creating Community Through Park and Recreation Systems | Explores the nature of community building and attachment. Examines public, nonprofit and private sector services. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PRM | 335 | Sports and Recreation for Youth Development | Provides an overview of definitions, statistics, theories and models, and types of programs surrounding youth development in relation to sports, recreation and leisure services. Addresses current trends related to youth development and collaborative partnerships in sports, recreation and leisure services at various levels within local, state, national and/or international systems. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Pre-requisite: Minimum 45 hours. Credit is allowed for only CSM 335 or PRM 335 |
| PRM | 340 | Outdoor Survival | Interdisciplinary approach to outdoor survival, including attitudes, psychological stress, physiological stress, preparation, hypothermia, navigation, flora, and wildlife. | N | PRA | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | |
| PRM | 350 | Tourism, Recreation and Sports Marketing | Critical examination of marketing principles in leisure and related industries in diverse settings, including local, national, and international. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 210, CSM 201 or TDM 205; ENG 102, 105 or 108 with C or better; MAT 142 or higher with C or better; minimum 45 hours; Credit is allowed for only CRD 350 or CSM 350 or PRM 350 or TDM 350 OR Visiting University Student |
| PRM | 370 | Public Lands Management | Introduces outdoor recreation resource delivery systems; history of wilderness and outdoor recreation resources; the role of outdoor recreation in society; outdoor recreation agencies; related environmental issues. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PRM | 380 | Wilderness and Parks in America | Examines the American Conservation Movement and the relationships between the environment and recreation behavior. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | SB & H | |

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| PRM | 401 | Managing Tourism and Leisure Enterprises | Basic principles of administration and their application in successful administrative situations. Analyzes administrative function, structure, and policies. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 210 or PRM 210 with C or better; CSM 203, NLM 203, PRM 203, or TDM 372 with C or better; minimum 2.50 GPA; Credit is allowed for only CRD 401 or CSM 401 or PRM 401 or TDM 401 OR Visiting University Student |
| PRM | 402 | Assessment and Evaluation of Community Services | Introduces applied leisure research with emphasis on program evaluation, research design, data collection techniques, and data analysis. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 210 or PRM 210; Credit is allowed for only CRD 402 or CSM 402 or NLM 402 or PRM 402 or TDM 402 OR Visiting University Student |
| PRM | 422 | Special Event Technology and Production | In-depth analysis of the theoretical and philosophical aspects of special event management relative to talent and entertainment, protocol, etiquette, ethics, and programming. Requires some field work in event management. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): PRM 145 (PRM 486) with C or better OR Visiting University Student |
| PRM | 423 | Special Event Operations | Expands on the concepts of event programming with in-depth examination of the theoretical and philosophical aspects of event operations, festival site design, and working with subcontractors and vendors. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): PRM 145 (PRM 486) with C or better OR Visiting University Student |
| PRM | 427 | Where's the Money: Special Event Revenue Generation | Examines theoretical and philosophical aspects of revenue generation relative to special events through in-depth exploration of budgeting, accounting, and sponsorship opportunities. Requires field work at an event. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): PRM 145 (PRM 486) with C or better OR Visiting University Student |
| PRM | 451 | Grant Writing | How to increase grant funding: creating fundable ideas, identifying sponsors, following guidelines, writing effectively, constructing budgets, responding to reviewers. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Credit is allowed for only NLM 451, 565 or PRM 451 |
| PRM | 453 | Inclusive Community Sport | Examines historical and contemporary perspectives shaping the organization and delivery of competitive and cooperative sport and recreation at the local, regional, national and international levels. Emphasizes exploration of barriers to sport and recreation among diverse sociocultural groups (age, disability, gender, race, etc.) and strategies to facilitate access and participation through a continuum of program delivery options including adapted sport and therapeutic recreation. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CSM 453 or PRM 453 or RTH 453 OR Visiting University Student |
| PRM | 463 | Senior Internship | Supervised guided experience in selected agencies. | N | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3-12 | | Prerequisite(s): CRD 403 or RTH 413 (PRM 413) with C or better; Credit is allowed for only CRD 463 or CSM 463 or NLM 463 or PRM 463 or RTH 463 or TDM 463 |
| PRM | 470 | Environmental Communication | Park interpretation and environmental education that includes theories, principles and techniques. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 60 hours OR Visiting University Student |
| PRM | 475 | Entrepreneurial Recreation and Tourism | Explores basic business principles and innovative processes involved in starting a small business in the commercial recreation and tourism industry. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only PRM 475 or TDM 475 OR Visiting University Student |
| PRM | 483 | Sports Tourism | Examines the relationship between sports and tourism, and the role of recreation and amateur sports as an economic and community development strategy. Also considers the motives, behaviors and experiences of sport tourists; the impacts of sport tourism; and trends in sports tourism. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CSM 483 or PRM 483 or TDM 483 OR Visiting University Student |
| PRM | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | Prerequisite(s): CRD 210, CSM 201, NLM 220, or TDM 205; minimum 72 hours; minimum 2.50 GPA |
| PRM | 485 | Sports Events | Expands the basic concepts of recreation, leisure or tourism program planning and leadership as they are specifically related to sport events management. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CSM 485 or PRM 485 |
| PRM | 487 | Advanced Special Events Management | Advanced principles of special event sponsorship, public relations, marketing, contracting, risk management, and financial management. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): PRM 145 (PRM 486) with C or better |
| PRM | 488 | Event Marketing and Promotion | In-depth look at the influence and role of print and social media in special event management. Studies theory, strategies, and planning relative to experience marketing, including the use of promotions. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): PRM 145 (PRM 486) with C or better |
| PRM | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-6 | | Prerequisite(s): Barrett Honors student |
| PRM | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| PRM | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |

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| PRM | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| PRM | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-3 | | |
| PRM | 550 | Therapeutic Recreation and Community Health | Students gain an in-depth understanding of health and social needs among vulnerable populations. The interprofessional course combines field exposure and classroom instruction to maximize understanding and skill mastery assessing, planning and facilitating leisure education, and recreation therapy activities to promote community health. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PRM 550 or RTH 450 (PRM 450) |
| PRM | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OP2 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |
| PSB | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSB | 501 | Basic Principles of Applied Behavior Analysis | Fundamental principles of behavior including the history, theory, definitions, processes, concepts and characteristics of applied behavior analysis. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSB | 510 | Basic Principles of Experimental Analysis of Behavior | Practical applications of research methodology to examine the effects and evaluate the efficacy of behavioral interventions. Provides an empirical science approach to designing, conducting and critically evaluating research involving applications of the experimental analysis of behavior in the use of graphic displays, single-case, ABAB, multiple baselines, changing criterion and alternating treatment designs. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Psychology | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSB | 511 | Advanced Research Methods | Focuses on research techniques such as time-series methods for single-case assessment, behavior measurement and the effectiveness of treatment interventions on behavior. Topics include conducting component and parametric analyses and use of experimental designs such as withdrawal, reversal, criterion and multiple baselines. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Psychology | 2 | | Prerequisite(s): PSB 501; PSB 510 |
| PSB | 520 | Ethical Issues and Professional Standards in Applied Behavior Analysis | Ethical standards and legal responsibilities including regulatory requirements and Arizona licensing statutes for ABA professionals who provide services to individuals with special needs and their families. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSB | 530 | Behavioral Observation and Functional Assessment | Focuses on how to conduct behavioral observations and functional analyses using various methods for assessment and for data collection, organization and interpretation. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSB 501; PSB 510 |
| PSB | 540 | Development of Applied Behavioral Intervention Programs | Techniques for conducting task analyses; developing target intervention outcomes; determining alternative behaviors and environmental changes; use of behavior change procedures such as reinforcement, extinction, punishment, shaping, modeling, training and teaching. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSB 501; PSB 510; Corequisite(s): PSB 530 |
| PSB | 563 | Basic Principles of Organizational Behavior Management | Overview and the use of Behavioral Systems Analysis (BSA) and Performance Management (PM) as they relate to the identification and modification of environmental variables that can affect and improve individual and organizational performance as a system. Basic techniques include analysis of antecedents, behavior and consequences and development of interventions to support the desired performance improvements and increase system productivity. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Psychology | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSB | 573 | Advanced Principles of Learning and Analysis of Behavior | Provides an in-depth review of the philosophy and theory of behaviorism and its scientific application. Includes Skinner's conceptual framework plus fundamental elements of behavior change and procedures. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSB | 578 | Applied Behavior Analysis in Developmental Disorders | Provides an overview of the major theories and research related to the development of psychological disorders of childhood and adolescence including autism, attention deficit disorder, behavior disorders and intellectual disabilities. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): MS Applied Behavior Analysis major |
| PSB | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSB | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSB | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | |
| PSB | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | |

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| PSB | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSB | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | |
| PSB | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | |
| PSB | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | |
| PSB | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | Department of Psychology | 1 | | |
| PSB | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSB | 600 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSB | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSB | 683 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | |
| PSB | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | |
| PSB | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | |
| PSB | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | |
| PSB | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | |
| PSB | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | |
| PSB | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | Department of Psychology | 1 | | |
| PSY | 101 | Introduction to Psychology | Major areas of theory and research in psychology. Requires participation in department-sponsored research or an educationally equivalent alternative activity. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | SB | |
| PSY | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-3 | | Prerequisite(s): Freshman; maximum 25 earned hours |
| PSY | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-4 | | |
| PSY | 211 | The Criminal Mind | Introduces the field of forensic psychology--how psychology and behavioral science are used to understand individual criminal behavior, investigate crimes and prosecute offenders. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | SB | |
| PSY | 224 | Introduction to Cognitive Neuroscience | Surveys topics relating brain activity to cognitive processes and behavior. Begins with an overview of neurophysiology and techniques to measure brain activity. Discusses perceptual and motor processes before investigating neural responses related to attention, memory and cognitive control. Concludes with a discussion of brain processes related to reward, decision making and social cognition. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Credit is allowed for only NEU 310 or NEU 394 (Fundamentals of Cognitive Neuroscience) or PSY 224 or PSY 294 (Introduction to Cognitive Neuroscience) |

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| PSY | 230 | Introduction to Statistics | Basic concepts in descriptive and inferential statistics, emphasizing applications to psychology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | CS | Prerequisite(s): PSY 101 (PGS 101) with C or better; MAT 119, 170, 242, 243, 251, 260, 261, 262, 270, 271, 272, 274, 290 or 291 with C or better OR Visiting University Student |
| PSY | 231 | Honors Introduction to Statistics | Basic concepts in descriptive and inferential statistics, emphasizing applications to psychology for honors students. Lab includes learning to use statistical software packages. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 4 | CS | Prerequisite(s): Barrett Honors student; MAT 119, 170, 242, 251, or higher with C or better; PSY 101 with C or better |
| PSY | 244 | Introduction to Directed Child Study | Developmental theories and methods of social interaction with preschool children and supervised practicum in the Child Study Laboratory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | |
| PSY | 290 | Research Methods | Planning, execution, analysis, and reporting of experiments. Literature, procedures, and instruments in representative areas of psychological research. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 4 | L or SG | Prerequisite(s): ENG 102, 105 or 108 with C or better; PSY 101 (PGS 101) with C or better; ECN 221, JUS 302, POS 401, PSY 230, 231, QBA 221, SOC 390 or STP 226 with C or better OR Visiting University Student |
| PSY | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-4 | | |
| PSY | 302 | The Psychology of Positive Leadership | To thrive in the 21st century world requires innovation, collaboration and the ability to lead during times of change and complexity. There is increasing demand for leaders who can combine a high level of technical ability with the social skills that are necessary for groups of people to live and work productively and in harmony with each other. Focuses on helping students to understand and apply key psychological and social processes that create the conditions for leaders and teams to thrive in dynamic, collaborative environments. Students become familiar with foundational research insights through an "action learning" format that integrates theory with structured opportunities for self-reflection and individual- and group-level practice. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; PSY 101 OR Visiting University Student |
| PSY | 304 | Effective Thinking | Understanding and improving intellectual and behavioral skills; information analysis, inference, logic, problem solving, and decision making. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; MAT 119, 170 or higher or PSY 230 with C or better OR Visiting University Student |
| PSY | 306 | Environmental Psychology | Concepts and research strategies in the study of behavior in interaction with physical environment. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | SB | Prerequisite(s): PSY 101 (PGS 101) with C or better |
| PSY | 309 | Sleep and Dreaming | Explores something we usually take for granted: sleep--along with the party that occurs when the boss (rational thinking) is gone--dreaming! Our journey covers stages, physiology and genetics of sleep, myriad theories of dreaming, functions of both and dysfunctions (sleep disturbances and disorders). | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 101; minimum 30 hours; Credit is allowed for only PSY 309 or PSY 394 (Sleep and Dreaming) OR Visiting University Student |
| PSY | 310 | Consumer Psychology | Covers the whole range of consumer psychology on a fascinating journey: the psychology of desiring, acquiring, owning, consuming, reviewing (for other consumers), disposing, and saving (for future consumption). Overall goal is to raise awareness of marketing tactics and the psychology behind our desires, so that we can ultimately become wiser consumers! | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 101 with C or better; minimum 30 hours; Credit is allowed for only PSY 310 or PSY 394 (Consumer Psychology) OR Visiting University Student |
| PSY | 315 | Personality Theory and Research | Definition and description of personality in terms of theoretical and methodological approaches. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | SB | Prerequisite(s): PSY 101 with C or better; minimum 45 hours or PSY 290 with C or better OR Visiting University Student |
| PSY | 320 | Learning and Motivation | Principles of conditioning and motivation; approaches to learning, including acquisition of verbal materials, concepts, and motor skills; memory and transfer. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 290 with C or better OR Visiting University Student |
| PSY | 323 | Sensation and Perception | Underlying processes of vision, audition, and the other senses. Integrates theory, research, and application. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 290 with C or better; Credit is allowed for only NEU 323 or NEU 394 (Neuroscience of Perception) or PSY 323 OR Visiting University Student |
| PSY | 324 | Memory and Cognition | Processes underlying information storage and retrieval, including different kinds of memory, forgetting, depth of processing, and control processes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 290 with C or better OR Visiting University Student |
| PSY | 325 | Physiological Psychology | Relationships of physiological processes to behavior. Emphasizes nervous system functioning. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 290 with C or better or two of the following courses with C or better: BIO 181 (or 188), 182 (or 187), 201, 202; Credit is allowed for only LSC 325 or PSY 325 or PTX 325 OR Visiting University Student |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| PSY | 326 | Fundamentals of Brain Research | Introduces the study of the mind through brain research. Students acquire foundational knowledge in functional neuroanatomy, brain-mind relationships and brain research methodologies. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): PSY 290 with C or better; Credit is allowed only for PSY 326 or PSY 394 (Fundamentals of Brain Research) OR Visiting University Student |
| PSY | 330 | Statistical Methods | Advanced application of statistics to psychology. Highly recommended for students interested in attending graduate school. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | CS | Prerequisite(s): ECN 221, JUS 302, POS 401, PSY 230, PSY 231, SBS 304, SOC 390, or STP 226 with C or better OR Visiting University Student |
| PSY | 335 | Positive Psychology | Examines the theoretical foundations, empirical bases and practical applications of positive psychology. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 101 with C or better; minimum 45 hours or PSY 290 with C or better; Credit is allowed for only PSY 335 or PSY 394 (Positive Psychology: The Science of Happiness) OR Visiting University Student |
| PSY | 336 | Applications of Positive Psychology | Explores the circumstances under which humans tend to flourish and report the highest levels of well-being. These areas include: (1) leisure, flow and optimized experience; (2) optimal well-being and positive health; (3) aesthetics and creativity; and (4) spirituality or other sense of meaning in life. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): PSY 101 with C or better; minimum 45 hours or PSY 290 with C or better OR Visiting University Student |
| PSY | 338 | Emotional Intelligence | Emotions are important; emotions have meaning and utility. Students have the opportunity to enhance their knowledge of positive psychology and emotional intelligence and practice skills related to supporting and enhancing emotional intelligence--a key factor in sustainable happiness and well-being. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): PSY 101 with C or better; minimum 45 hours or PSY 290 with C or better; Credit is allowed for only PSY 338 or PSY 394 (Positive Psychology of Emotional Intelligence) OR Visiting University Student |
| PSY | 340 | Psychology of Academic Motivation and Growth | There is a large self-help market claiming to harbor psychological secrets of success, but how do these claims and theories hold up to the science? Is it true that you just need to "believe it to achieve it"? Can you really engage in simple "brain exercises" to become a smarter person overall? This course critically reviews the behavioral science literature on psychological strategies of success, and explores the role of social cognitive influences that help form our academic self-concepts and beliefs and how they influence behaviors and performance. Contains a review of the literature examining the significance of short cognitive and psycho-educational interventions that can increase achievement motivation and improve academic performance. Finally, reflects on the role of society in applying this psychological literature toward improving educational systems and social policies. Students become familiar with the works of psychologists such as Albert Bandura, Carol Dweck, Allan Wigfield, Jacquelynne Eccles, Claude Steele, Joshua Aronson, Geoffrey Cohen, Paul Sackett and Arthur Jensen. Students critically appraise and challenge the controversial works of noted psychologists who suggest intelligence is an innate, fixed trait, or that intelligence differs in individuals as a function of belonging to a certain group or class of people. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): PSY 101 with C or better; minimum 30 hours; Credit is allowed for only PSY 340 or PSY 394 (Psychology of Academic Success) OR Visiting University Student |
| PSY | 341 | Developmental Psychology | Analyzes behavior development in terms of psychological principles. Current research in human development. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | SB | Prerequisite(s): PSY 101 with C or better; minimum 45 hours or PSY 290 with C or better OR Visiting University Student |
| PSY | 344 | Directed Child Study | Theories and methods of intervention with preschool children and supervised practicum in the Child Study Laboratory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | SB | Prerequisite(s): CDE 232, ECD 211 or PSY 341 (PGS 341) with C or better OR Visiting University Student |
| PSY | 350 | Social Psychology | Human social behavior, including such concepts as aggression, attraction, attribution, conformity, groups, helping, person perception, and persuasion. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | SB | Prerequisite(s): PSY 101 with C or better; Credit is allowed for only PSY 350 or PSY 351 OR Visiting University Student |
| PSY | 351 | Honors Social Psychology | Critical analysis of human social behavior for honors students; topics include stereotyping, social influence, attraction, aggression, helping, groups, and attitudes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | L or SB | Prerequisite(s): Barrett Honors College student; ENG 101, 105, or 107 with C or better; PSY 101; Credit is allowed for only PSY 350 or PSY 351 |
| PSY | 360 | Cognitive Science | Examines cognition from the varied perspectives of philosophy, linguistics, psychology, computer science (artificial intelligence), and neuroscience. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 101 with C or better OR Visiting University Student |
| PSY | 365 | Community Psychology | Mental health and psychological well-being in the community, emphasizing current issues and related research. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | SB | Prerequisite(s): PSY 315 (PGS 315), PSY 350 (PGS 350) or PSY 351 (PGS 351) with C or better; PSY 290 with C or better |

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| PSY | 366 | Psychological Disorders | Covers historical and current etiological theories, assessment, prevention and treatment of mental, emotional and behavioral disorders. Discusses sociocultural and neurobiological influences. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | SB | Prerequisite(s): PSY 101 with C or better; minimum 45 hours or PSY 290 with C or better OR Visiting University Student |
| PSY | 368 | Forensic Psychology | Clinical practice of forensic psychology: the assessment and treatment of people who interact with the legal system. Focuses on the ways in which psychologists do clinical work (assessment and treatment) to help courts make informed decisions about cases. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): PSY 101; PSY 290 or minimum 45 hours OR Visiting University Student |
| PSY | 369 | Biology of Human Sexuality | Multilevel perspective on human sexuality and reproduction. Integrates psychological with evolutionary, physiological and neuroscientific approaches. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): PSY 101 with C or better; one semester of biology; Credit is allowed for only LSC 369 or PSY 369 or PTX 369 OR Visiting University Student |
| PSY | 370 | Interpersonal Relationships | Development of personal skills for competent functioning in interpersonal relationships across multiple social contexts. Principles of mental health adjustment. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | SB | Prerequisite(s): PSY 101 with C or better OR Visiting University Student |
| PSY | 375 | Psychology of Addictive Behavior | Offers a psychological perspective on addictions, including those related to drug use, gambling, sex, eating and Internet use. Specific topics include basic pharmacology, behavioral processes in addiction, behavioral economics, impulsiveness, delay discounting, self-control, self-regulation, and prevention and treatment of addictions. Some of the data presented in the course derive from animal models; an evolutionary perspective is assumed throughout. Encourages students to think critically about drug use and dependence and about addictions in general. Students achieve these objectives through assigned readings (primarily empirical research), writing assignments, and active participation in, and facilitation of, class discussions. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only PSY 375 or PSY 394 (Psychology of Addictive Behaviors) OR Visiting University Student |
| PSY | 384 | Psychology Undergraduate Teaching Assistant | The UTA experience allows students to work with the faculty to contribute to the effectiveness of a particular class and provide a unique educational benefit commensurate with receiving upper-division course credit. Provides students with experience in teaching and interacting with faculty and students. These experiences help students make a decision about whether to pursue a graduate degree in psychology and to develop a personal philosophy of learning and teaching. | Y | PRA | Y | YGB | College of Liberal Arts and Sciences | Department of Psychology | 1-3 | | Prerequisite(s): PSY 101 with C or better; minimum 30 hours OR Visiting University Student |
| PSY | 385 | Psychology of Gender | Examines, from a psychological perspective, multiple frameworks about gender to better understand the integral role that gender plays in the field of psychology and human development (e.g., physical/cognitive/social development, behaviors, experiences, attitudes). Relies on both scientific and anecdotal evidence to understand how biological and social forces interact to shape the construction, regulation, experience and expression of gender. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PSY | 390 | Experimental Psychology | Continuation of concepts in PSY 290, with emphasis on multifactor designs and programmatic sequence of experiments. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; PSY 290 with C or better OR Visiting University Student |
| PSY | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-4 | | Prerequisite(s): PSY 101 with C or better; minimum 30 hours OR Visiting University Student |
| PSY | 399 | Supervised Research | Experience within the context of current faculty research projects. Student is assigned responsibility depending on qualifications. | Y | RSC | Y | YGB | College of Liberal Arts and Sciences | Department of Psychology | 1-3 | | |
| PSY | 400 | Topics in Neuroscience | Covers in-depth important and emerging developments in neuroscience, emphasizing lectures that include readings of recent reviews and contemporary publications in peer-reviewed journals. Includes a significant writing component; students learn skills for writing scientific publications and grant applications. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): BIO 360 with C or better; Credit is allowed for only BIO 400 or KIN 400 or PSY 400 or SHS 400 |
| PSY | 414 | History of Psychology | Historical development of psychology from its philosophical beginnings to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; PSY 290 with C or better OR Visiting University Student |
| PSY | 420 | Analysis of Behavior | Research, applications, and philosophy of the analysis and control of human behavior. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; PSY 290 with C or better; PSY 320 with C or better OR Visiting University Student |
| PSY | 424 | Genetic Psychology | Introduces the concepts, methodologies, and findings of behavioral genetics for Psychology majors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better and PSY 290 with C or better OR Visiting University Student |
| PSY | 425 | Biological Bases of Behavior | Critical study of physiological psychology, e.g., brain mechanisms underlying motivation, learning. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; PSY 325 with C or better OR Visiting University Student |

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| PSY | 430 | Industrial Psychology | Organizations and management systems: motivation and work performance; human factors in systems design and evaluation; personnel selection and testing. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): MGT 301 or PSY 101 with C or better OR Visiting University Student |
| PSY | 432 | Embodied Cognition | Do left-handers think differently from right-handers? Do paraplegics perceive the world differently from those who can walk? If you say about a potential date, "He leaves me cold," do you literally feel cold? And does a Botox treatment to alleviate frown lines makes it difficult to understand sentences about sadness? The surprising answer to all of these questions is YES! Embodied cognition proposes that thinking is based on neural and bodily systems of perception, action and emotion. Explores this claim through readings, discussions, debates and embodied interactions, and considers implications of embodied cognition across areas of psychology and applications in education. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Psychology | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; PSY 290 with C or better; Credit is allowed for only PSY 432 or PSY 498 (Embodied Cognition) or PSY 529 OR Visiting University Student |
| PSY | 434 | Cognitive Psychology | Human organism as a processor of information, from perception to cognition. Abstract concepts, semantic memory, attention, and mental imagery. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; PSY 323 or 324 with C or better OR Visiting University Student |
| PSY | 437 | Human Factors | Emphasizes human factors in high-technology systems. Specific topics include systems development, systems analysis techniques, displays, and controls. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; PSY 290 with C or better OR Visiting University Student |
| PSY | 440 | Industrial and Organizational Psychology | Examines personnel selection, performance assessment, job and workplace design, job satisfaction, organizational behavior, management systems, and industrial safety. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): PSY 101 with C or better OR Visiting University Student |
| PSY | 441 | Cognitive Development | Experimental and theoretical literature in child development and behavior. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; PSY 341 with C or better; PSY 290 with C or better OR Visiting University Student |
| PSY | 443 | Child and Adolescent Psychological Disorders | Covers historical and current etiological theories, assessment, prevention and treatment of childhood and adolescent mental, emotional and behavioral disorders. Discusses sociocultural and neurobiological influences. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; PSY 290 with C or better; PSY 315, 341, or 366 with C or better OR Visiting University Student |
| PSY | 444 | Adolescent Psychology and Psychopathology | Advanced-level survey of normal adolescent psychological development and psychological disorders of this age period. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 290 with C or better; PSY 341 with C or better OR Visiting University Student |
| PSY | 446 | Social Development | Discusses theory, research, and issues regarding social development. Topics may include formation of attachments, prosocial development, and gender-role development. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; PSY 341 with C or better; PSY 290 with C or better OR Visiting University Student |
| PSY | 447 | Psychology of Aging | Analyzes loss, maintenance and gain associated with cognitive and affective aging. Individual differences in coping with normative life transitions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | SB | Prerequisite(s): Aging BS major or PSY 290 with C or better OR Visiting University Student |
| PSY | 451 | Stereotyping, Prejudice, and Discrimination | Critical investigation of the processes underlying, and the factors contributing to, stereotyping, prejudice, and discrimination. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; PSY 350, or 351 with C or better; PSY 290 with C or better OR Visiting University Student |
| PSY | 453 | Organizational Behavior | Surveys psychological theory and research as applied to the behavior of individuals in organizational settings. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | Prerequisite(s): PSY 350 with C or better; Credit is allowed for only PSY 453 or PSY 598 (Organizational Behavior) OR Visiting University Student |
| PSY | 458 | Group Dynamics | Theories and methods of group leadership, group effectiveness, communication within groups, and relations between groups and individual members. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 350 (PGS 350) or PSY 351 (PGS 351) with C or better; PSY 290 with C or better |
| PSY | 461 | Interpersonal Influence | Principles and procedures that affect the process of social influence; consideration of attitudinal, compliance-inducing, and perceptual influences. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | SB | Prerequisite(s): PSY 290 with C or better; PSY 350 (PGS 350) or 351 with C or better |
| PSY | 462 | Health Psychology | Contributions of psychology to health promotion and illness prevention, adaptation to acute and chronic illness, and to the healthcare system. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 290 with C or better OR Visiting University Student |
| PSY | 465 | Psychology of Stress and Coping | Readings in theory and research in the area of stress and coping. Lecture, discussion, class presentations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 315 (PGS 315), 350 or 351 with C or better; PSY 290 with C or better |
| PSY | 467 | Psychology of Criminal Investigation | Covers the techniques and processes of criminal investigation with a focus on understanding psychological factors that affect the reliability of criminal evidence and the accuracy of criminal justice outcomes. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): PSY 101 with C or better OR Visiting University Student |
| PSY | 468 | Psychology and Law | Theories, research, and practice in psychology as related to law, including criminal, civil, domestic relations, and professional issues. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): CRJ 302; Law and Human Behavior certificate student OR PSY 290 with C or better OR Visiting University Student |

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| PSY | 470 | Psychopharmacology | Basis of drug action at physiological and behavioral levels. Psychological and medical applications and limitations of drugs used in the treatment of mental illness. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): BIO 181, BIO 182, BIO 201, BIO 202, or PSY 325; Credit is allowed for only PSY 470 or PSY 570 OR Visiting University Student |
| PSY | 471 | Psychological Testing | Methods and theory of psychological testing; various types of psychological tests; consideration of ethical, social, and legal aspects of testing. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 290 with C or better |
| PSY | 472 | Clinical Psychology | Clinical psychology as a science and profession. Historical development, methods of interviewing, assessment, and therapeutic intervention. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 290 with C or better; PSY 366 or 443 with C or better OR Visiting University Student |
| PSY | 474 | Correctional Psychology | Covers the basic principles of correctional psychology, including psychologists' roles in prisons and jails, the unique challenges of working in these settings, establishing successful relationships with correctional staff and inmates, and the various career opportunities in correctional psychology. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): PSY 366; Credit is allowed for only CRJ 474 or PSY 474 OR Visiting University Student |
| PSY | 475 | Multicultural Issues in Clinical Psychology | Discussion-based course that focuses on cross-cultural conceptions of mental illness, diagnosis and treatment approaches, and beliefs and practices of specific ethnocultural groups in the United States. Encourage students to critically think about diversity issues in clinical psychology, one's own attitudes, and culture and psychology more broadly. Students achieve these objectives through reading empirical articles and chapters; taking quizzes and exams; completing hands-on exercises, essays and other writing assignments; and actively participating in and facilitating class discussions. | N | SEM | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Minimum 45 hours; Credit is allowed for only PSY 475 or 498 (Clinical Psychology: Multicultural Issues) |
| PSY | 482 | Social Influence and Consumer Behavior | Discusses social influence principles, emphasizing strategies employed by professionals that affect consumer behavior. Analyzes consumer defenses against manipulations. | N | LEC | N | OPT | College of Integrative Sciences and Arts | Counseling and Counseling Psychology | 3 | SB | Prerequisite(s): PSY 350 with C or better |
| PSY | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): minimum 45 hours |
| PSY | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 1-6 | | Prerequisite(s): Barrett Honors student |
| PSY | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| PSY | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-4 | | Prerequisite(s): PSY 290 with C or better OR Visiting University Student |
| PSY | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | N | SEM | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-6 | | Prerequisite(s): Barrett Honors student |
| PSY | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-7 | | Prerequisite(s): PSY 290 with C or better |
| PSY | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 1-3 | | Prerequisite(s): PSY 399 |
| PSY | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): Criminal Justice MA, Forensic Psychology MS, Law and Psychology PhD, Psychology MA, Psychology MS, or Psychology (Positive Psychology) MS student |
| PSY | 501 | Supervised Teaching | Experience in and examination of perspectives on teaching undergraduate psychology. | N | PRA | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 502 | Professional Issues in Psychology | Introduce graduate students to various aspects of the professional roles of psychology, as well as to the ethical standards of the profession. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree-seeking graduate student; Credit is allowed for only PSY 502 or PSY 598 (Seminar on Professional Issues in Psychology) |
| PSY | 503 | History and Scope of Psychological Science | Overviews the historical landmarks in the development of psychology as a scientific discipline. Explores the major research areas within psychological science through classic research studies and applications of research findings. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 505 | Cognitive Psychology: Theories and Applications | Covers the major research areas within cognitive psychology through classic theories, and highlights the overarching themes in the study of cognition. Students solidify conceptual knowledge by identifying opportunities where such knowledge is applied. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 506 | Advanced Cognitive Science | Examines cognition from the varied perspectives of philosophy, linguistics, psychology, computer science (artificial intelligence) and neuroscience. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree-seeking graduate student; Credit is allowed for only PSY 506 or PSY 598 (Advanced Cognitive Science) |

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| PSY | 508 | Choice and Decision Making | Examines traditional and contemporary models of choice and decision making. Considers both the intuitive and rational decision-making systems and the influences of context, experience, attention, memory, information and uncertainty on choice behaviors and decision making. Requires frequent analysis of specific scenarios in order to identify common errors of judgment and choice and determine "best" actions for error avoidance. In-depth exploration of choice and decision making involves the critical evaluation of research in cognitive and social psychology, and application of theory and research to real-world situations. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree-seeking graduate student; Credit is allowed for only PSY 508 or PSY 598 (Choice and Decision Making) |
| PSY | 512 | Advanced Learning | Principles and theories of learning, emphasizing research literature. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 513 | Fundamentals in Quantitative Methods | Fundamental concepts in quantitative research, with an emphasis on basic statistical knowledge and skills. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PSY 513 or PSY 598 (Fundamentals in Quantitative Methods) |
| PSY | 514 | Fundamentals of Forensic Psychology Research | Overview of analyses and methods of forensic psychology research. Focuses on literacy and skills in assessment and scale development, experimentation and RCT, prediction and modeling, and presentation and synthesis of data. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 515 | Quantitative Analysis I | Introduces advanced experimental and quasi-experimental analysis. Focuses on group-based design and analysis of variance. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Criminal Justice MA student, Forensic Psychology MA student, Psychology MA student, Law and Psychology MIP MSP student, or Law and Psychology PhD student |
| PSY | 516 | Quantitative Analysis II | Advanced experimental and quasi-experimental analysis. Focuses on principles underlying linear regression and related statistical techniques. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): PSY 515 with B or better; Credit is allowed for only PSY 516 or PSY 598 (Psychological Methods II) |
| PSY | 517 | Quantitative Analysis III | Covers basic multivariate statistical techniques currently utilized in psychology with a primary focus on factor analysis and structural equation modeling. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): PSY 516 with B or better; Credit is allowed for only PSY 517 or PSY 598 (Quantitative Research Methodology & Statistics III) |
| PSY | 526 | Neuroanatomy | Covers the structure and function of the mammalian brain, including sheep brain dissection. | N | LEL | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only NEU 426 (PSY 426) or PSY 526 |
| PSY | 528 | Sensation and Perception | Principles of sensory and perceptual processes, emphasizing research literature. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 529 | Embodied Cognition | Do left-handers think differently from right-handers? Do paraplegics perceive the world differently from those who can walk? If you say about a potential date, "He leaves me cold," do you literally feel cold? And does a Botox treatment to alleviate frown lines make it difficult to understand sentences about sadness? The surprising answer to all of these questions is YES! Embodied cognition proposes that thinking is based on neural and bodily systems of perception, action and emotion. Explores this claim through readings, discussions, debates and embodied interactions, and considers implications of embodied cognition across areas of psychology and applications in education. | N | SEM | N | GNA | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): graduate standing in Psychology; Credit is allowed for only PSY 432 or PSY 529 or PSY 591 (Embodied Cognition) |
| PSY | 530 | Intermed Statistics | One-way and factorial designs; contrasts; post-hoc tests; probing of interactions; mixed designs; power; computer applications; and statistical programming in SAS, R or SPSS. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HSE 530 or HSE 598 (Statistics for Human Systems Research III) or PSY 530 |
| PSY | 531 | Multiple Regression in Psychological Research | Multiple regression and correlation; hierarchical regression; interactions; curvilinear relationships; categorical predictors; ANOVA in regression; regression diagnostics; regression graphics; and statistical programming in SAS, R or SPSS. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 532 | Analysis of Multivariate Data | Matrix algebra for multivariate procedures, component and factor analysis, canonical and discriminant analysis, classification, MANOVA, logistic regression, hierarchical linear model. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 533 | Structural Equation Modeling | Path analysis; exploratory and confirmatory factor analysis; recursive and nonrecursive latent variable models; mean and covariance structures; latent growth models. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 534 | Psychometric Methods | Theory and practice of psychological measurement using classical and modern test theories. Reliability assessment, test validation, test construction, test usage. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| PSY | 535 | Cognitive Processes | Theoretical/empirical treatment of the human organism as a processor of information, including abstraction, memory structure, problem solving, and thinking. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 536 | Statistical Methods in Prevention Research | Statistical methods used in prevention research including epidemiological methods, logistic regression, program effect estimation, estimation, and mediation analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 537 | Longitudinal Growth Modeling | Growth modeling methodology to describe individual variation in development over time. Employs multilevel and structural equation modeling frameworks. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 538 | Advanced Structural Equation Modeling | Mean and covariance structure analysis. Includes multiple-group modeling, two-level hierarchical modeling, longitudinal growth modeling, analysis with categorical outcomes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 539 | Multilevel Models for Psychological Research | Multilevel (i.e., hierarchical linear) modeling, as described by Raudenbush and Bryk (2002) and others. Covers analytic strategies for analyzing a variety of different nested data structures (e.g., couples data, clients nested within group therapy settings, children nested within classrooms, longitudinal data). Covers two- and three-level models for cross-sectional and longitudinal data and also addresses related topics such as centering and estimation. Students perform and interpret the results of these models using a variety of statistical software packages. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Pre-requisite: PSY 531; Credit is allowed for only PSY 539 or 591 (Multilevel Modeling) |
| PSY | 540 | Missing Data Analysis | Covers analytic strategies for analyzing data with missing values, with a special emphasis on modern approaches for dealing with missing data, in particular maximum likelihood missing data handling and multiple imputation, maximum likelihood estimation and multiple imputation. Familiarizes students with missing data theory, traditional analysis methods (e.g., deleting incomplete cases, single imputation methods), maximum likelihood estimation, multiple imputation, planned missing data research designs, and the inclusion of auxiliary variables. Students learn how to perform and interpret the results of these models using a variety of statistical software packages. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Pre-requisite: PSY 532; Credit is allowed for only PSY 540 or 591 (Missing Data) |
| PSY | 541 | Research in Cognitive Development | Theoretical and empirical issues in the study of children's knowledge and cognitive processes. Comparison of research in Piagetian and other traditions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 542 | Social Development | Reviews and critiques major issues in the area of social development. Covers theory, research, and content. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 543 | Statistical Mediation Analysis | Specifically covers the substantive motivations for mediating variables and third-variable effects (interaction, confounder, covariate and mediator) in general. Mediation represents a chain such that one variable causes a mediating variable and the mediating variable causes a dependent variable. Describes the single mediator model in detail including assumptions, estimators and geometric interpretations. Once the details of the single mediator model are understood, analysis is extended to multiple mediator models, path analysis, and models with moderators and mediators. Discusses modern causal inference approaches for mediation along with latent variable models, multilevel models and special models for longitudinal data. Also describes research designs for investigating mediating variables. Students learn how to perform and interpret the results of analysis using a variety of statistical software packages. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 530; PSY 531; Credit is allowed for only PSY 543 or PSY 591 (Mediation) or PSY 591 (Statistical Mediation Analysis) |
| PSY | 544 | Advanced Psychology of Criminal Investigation | Reviews the different types of evidence that state and federal governments use to investigate crimes and incriminate suspected criminal offenders, with a focus on understanding psychological factors that affect the reliability of criminal evidence and the accuracy of criminal justice outcomes. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 545 | Advanced Legal Psychology | Surveys psychological theory and research as applied to the cognitions, feelings and behavior of individuals in the legal system. Explores the implications of several subfields of psychology (e.g., social, cognitive, clinical) for legal settings, such as police departments, courtrooms, jury rooms. Provides foundation for those who are considering a career in forensic psychology, law, social work, criminal justice and should also be interesting to those who want to know more about the social and psychological issues at play in the legal system. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 546 | Advanced Forensic Psychology | Advanced overview of the clinical practice of forensic psychology: the assessment and treatment of people who interact with the legal system. Focuses on the ways in which psychologists do clinical work (assessment and treatment) to help courts make informed decisions about cases. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| PSY | 547 | Advanced Correctional Psychology | Principles of correctional psychology, including psychologists' roles in prisons and jails, the unique challenges of working in these settings and with incarcerated populations, establishing successful relationships with correctional staff and inmates. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 549 | Capstone in Forensic Psychology | Culminating experience for students in the Master of Science in Forensic Psychology program. Students review and synthesize current literature in the field and make actionable research and policy recommendations through written exams. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Interdisciplinary Forensics | 3 | | Prerequisite(s): Forensic Psychology MS student |
| PSY | 550 | Advanced Social Psychology | Theory and research concerning interpersonal perception, decision making, attitude formation and change, group processes, social motivation, and interaction processes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 551 | Advanced Social Psychology | Continuation of PSY 550. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 553 | Capstone in General Psychology | Culminating experience for online students only in the Master of Science in Psychology program. Students review and synthesize current literature in the field and make actionable research and policy recommendations through written exams. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): Psychology MS student |
| PSY | 554 | Item Response Theory | A collection of measurement models based on item response theory (IRT). The models express the probabilities of responses to test or questionnaire items as a function of latent respondent characteristics and item properties. IRT models form the basis for measurement in standardized educational testing, but generally are also now used in clinical, social and personality measurement in psychology, medicine and the social sciences. Assumptions underlying IRT models, methods of parameter estimation and fit evaluation. Also covers important applications of the models in computerized adaptive testing, the detection of measurement bias and multidimensional IRT. Uses several software tools useful in IRT modeling. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): PSY 534; Credit is allowed for only PSY 554 or 591 (Item Response Theory) |
| PSY | 555 | Experimental and Quasi-Experimental Designs for Research | Reviews research techniques. Analyzes lab and field research; applications to specific topics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 560 | Advances in Theoretical Psychology | Covers new empirical and theoretical work in psychology with emphasis on its applicability. | N | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 562 | Advanced Human Factors | In-depth study of the issues, methods, and findings in industrial and organizational psychology. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PSY 562 or SMC 562 |
| PSY | 563 | Prevention Planning and Evaluation in Service Settings | Provides the foundational and theoretical knowledge necessary for prevention planning and evaluation in service settings. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 564 | Prevention Education, Communication and Service Delivery | Provides the foundational and theoretical knowledge necessary for aspiring professionals planning to serve as a resource to community members and organizations regarding prevention education, the promotion of programs, services and activities as well as maintaining good public relations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 565 | Psychology of Mindfulness | Mindfulness refers to the concept that we can observe our experiences without judgment. Examines the origins of mindfulness and its increasing presence in psychological research. Students learn to evaluate the methodological quality and conclusions of studies investigating the effects of mindfulness on several health outcomes such as stress management, sleep quality and anxiety. Explores how mindfulness is being applied to these clinical concerns and how it supports greater resilience. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree-seeking graduate student; Credit is allowed for only PSY 494 (Psychology of Mindfulness) or PSY 565 or PSY 598 (Psychology of Mindfulness) |
| PSY | 567 | Prevention Organization and Community Change | Provides the foundational and theoretical knowledge necessary for affecting organizational and community change to promote and engage in evidence-based prevention practices. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 568 | Stress and the Brain | Covers the fundamentals of stress and brain interactions. Presents a foundation from a historical perspective, then the basics of an organism's stress response, including the activation of the sympathetic nervous system and the hypothalamic-pituitary-adrenal axis. The stress response is highly conserved and allows organisms to respond and adapt to their environment. A highly effective and robust stress response facilitates adaptation and behavioral flexibility. However, a maladaptive stress response can produce detrimental outcomes. The ultimate goal is to understand the dynamic and reciprocal processes by which the stress response and brain interact to produce behavioral flexibility and resilience or detrimental outcomes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s) degree- or nondegree-seeking graduate student; Credit is allowed for either BIO 568 or PSY 568 |

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| PSY | 569 | Professional Ethics, Growth and Responsibility in Prevention | Provides the foundational knowledge necessary for engaging and maintaining practices in prevention that are ethical, culturally responsive and adhere to the beneficence and non-maleficence principles. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 570 | Psychopharmacology | Provides a broad overview of numerous classes of both psychotherapeutic and addictive drugs (which are sometimes overlapping). Focuses on the classification, mechanism of action, pharmacokinetics/pharmacodynamics, and clinical efficacy of medications that are currently used for the treatment of various psychiatric disorders including mood disorders, anxiety, schizophrenia, ADHD and other conditions. The latter portion of the class focuses on therapeutic drugs that also have abuse potential, including some psychostimulants, opiates, sedative/hypnotics, cannabinoids, steroids and hallucinogens. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PSY 470 or PSY 570 or PSY 591 (Psychopharmacology) |
| PSY | 573 | Psychopathology | Theory and research relating to the contribution of psychological, social, physiological, and genetic factors to the development and persistence of abnormal behavior. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 574 | Psychotherapy | Detailed survey of the theoretical and empirical literature relating to verbal psychotherapy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 576 | Dynamical Systems in Psychology | Analyzes patterns of behavior change in psychological systems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 577 | Advanced Developmental Psychology | Provides an advanced overview of development across the lifespan. Through a critical examination of theories and research, explores historical and contemporary issues of development from prenatal development to death and dying in old age. Course materials are designed to help deepen understanding of the nature and needs of individuals within varying societal and cultural contexts. Discusses typical as well as atypical developmental trajectories and associated outcomes. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree-seeking graduate student; Credit is allowed for only PSY 577 or PSY 598 (Advanced Developmental Psychology) |
| PSY | 578 | Developmental Psychopathology | Covers major theories and research related to the development of psychological disorders of childhood and adolescence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 579 | Cross-Cultural Psychology | Enables students to gain familiarity with findings, theories and research methods and challenges within cross-cultural psychology. Also explores the use of social psychological science in understanding interpersonal behavior in various cultural contexts. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree-seeking graduate student; Credit is allowed for only PSY 498 (Cross-Culture Psychology) or PSY 579 or PSY 598 (Cross-Culture Psychology) |
| PSY | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 585 | Advanced Positive Psychology | The field of positive psychology has exploded over the last two decades as researchers have discovered the power of positive psychology to reframe our perspectives on negative life events and transform lives. Examines the evolution of the field from concepts of hope and resilience to concepts of positive pessimism and post-traumatic growth. Critically analyzes research on positive psychology interventions in an effort to differentiate solid discoveries from the "hype" that has invaded the popular literature. In addition, students apply several interventions to their own lives in an effort to deepen understanding of positive psychology through enactment and self-reflection. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree-seeking graduate student; Credit is allowed for only PSY 494 (Advanced Positive Psychology) or PSY 585 or PSY 598 (Advanced Positive Psychology) |
| PSY | 586 | Emotion | Focuses on (1) defining emotion and emotion regulation; (2) considering sociocultural and biological perspectives on emotion; (3) applying an understanding of emotional processes to relationship contexts (e.g., couples and families) and clinical contexts; and (4) learning about cutting-edge topics in emotion research, as driven largely by student interests. Encourages students to think critically about emotion and emotion research. Students achieve these objectives through assigned readings, written assignments and active participation in discussions. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree-seeking graduate student; Credit is allowed for only PSY 586 or PSY 598 (Emotion) |
| PSY | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| PSY | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | Department of Psychology | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 600 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 601 | Addiction and Substance Abuse: Assessment and Diagnosis | Discusses scientifically informed approaches to assessment. Reviews research-based practical strategies for assessing the clinical symptoms, treatment needs and clinical outcomes of individuals who have problems with substance use. Students examine and explore how sociocultural views of substance use relate to patterns of use, and impacts individuals with substance use disorders, and their families. Uses a biopsychosocial approach to discuss the processes involved in addictive behaviors. Addresses how to weave assessment through the entire process of care, from initial screening, through treatment, to relapse prevention. Examines various screeners and assessments, and diagnostic interviews used to detect substance use disorders, along with the strengths and limitation of each. Also reviews how to communicate findings of assessments and diagnoses to individuals, parents and legal entities. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 602 | Comorbidity in Substance Use Related Problems | Reviews common co-occurring psychiatric, medical and legal problems with substance use related disorders. Discusses scientifically informed approaches to assessment and treatment. Examines and explores how mental illness in combination with chemical dependency and/or substance abuse plus other challenges, such as disabilities and legal problems, impacts individuals, families and society. Uses a biopsychosocial approach to explore and identify evidence-based practice and research in dual diagnoses. Addresses all of the DSM 5 major disorders, including mood, anxiety and psychotic disorders occurring with substance abuse. Examines various screeners and assessments used to detect the presence of and severity of co-occurring disorders. Students learn about the efficacy of psychopharmacology and psychosocial treatments in the treatment of dual diagnoses disorders. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 603 | Evidence-Based Interventions for Substance Use Related Problems | Provides a comprehensive review of the evidence-based psychosocial and pharmacological treatments for substance use related problems. Although the current evidence base for the effects of psychosocial interventions is sizable, subsequent steps in the process of bringing a psychosocial intervention into routine clinical care are less well defined. This course details the reasons for the gap between what is known to be effective and current practice and offers recommendations for how best to address this gap by applying a framework that can be used to establish standards for psychosocial interventions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| PSY | 604 | Multicultural Issues Related to Substance Use Related Problems | Cultural competence refers to an ability to interact effectively and respectfully with people of different cultural and socioeconomic backgrounds. Developing cultural competence results in an ability to understand, communicate with and effectively interact with people across cultures. Within the substance use field, programs with culturally responsive policies, assessments and treatment practices have been associated with higher retention of minorities in substance use treatment. Reviews the historical and cultural context of the most prominent cultures in the state of Arizona such as Hispanic Communities, Native Americans, African Americans, Asians and Pacific Islanders. Also reviews the historical and cultural context across sex, gender and sexual orientation as it relates to substance use. Spends the majority of the course time discussing the development of culture-centric approaches in practice, barriers to treatment and integrating diversity into treatment. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 605 | Group Therapy for Substance Use-Related Problems | Provides a comprehensive review of group dynamics and processes as they relate to addictions and substance use disorders. Reviews theories, research and evidence-based treatment interventions related to group therapy for addictions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 606 | Case Management for Substance Use Related Problems | Successful treatment of substance use disorders requires a comprehensive approach in order to be effective. Case management provides support for clients throughout the treatment process by assessing needs and then arranging, coordinating, monitoring, evaluating and advocating for a package of multiple services to meet the specific client's complex needs. Reviews the principles, knowledge, skills and attitudes necessary to provide evidence-based case management services. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): Addiction Psychology MS student |
| PSY | 607 | Family and Adolescent Treatment for Substance Use Related Problems | Surveys topics of treatment modalities, interventions, psychoeducation, crisis management, trauma-informed care and continuing care for families and adolescents. Covers empirically validated and evidence-based treatments. Students learn to implement interventions based on the assessment and guided by the treatment plan. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): Addiction Psychology MS student |
| PSY | 608 | Supervision of Addictions Counselors | Supervision provides a bridge between the classroom and the clinic, and it is necessary to improve client care, develop the professionalism of clinical personnel, and impart and maintain ethical standards in the field. Provides an overview of the fundamentals, principles, models and methods of clinical supervision. Examines the roles, functions, skills and competencies of clinical supervisors with consideration for the unique aspects of supervising addiction counselors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): Addiction Psychology MS student |
| PSY | 678 | Preventive Psychosocial Interventions that Work | Provides the foundational knowledge necessary for identifying evidence-based protocols. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of Psychology | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OP3 | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OP3 | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | College of Liberal Arts and Sciences | Department of Psychology | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Department of Psychology | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|--|
| PSY | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | Department of Psychology | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PSY | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | Department of Psychology | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PTX | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-3 | | |
| PTX | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | |
| PTX | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | |
| PTX | 301 | Basics of Pharmacology and Toxicology | Human pharmacology and toxicology focusing on mechanisms of drug action, clearance systems and dose response. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better; CHM 234 with C or better OR Visiting University Student |
| PTX | 325 | Physiological Psychology | Relationships of physiological processes to behavior. Emphasizes nervous system functioning. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): PSY 290 with C or better or two of the following courses with C or better: BIO 181 (or 188), 182 (or 187), 201, 202; Credit is allowed for only LSC 325 or PSY 325 or PTX 325 OR Visiting University Student |
| PTX | 369 | Biology of Human Sexuality | Multilevel perspective on human sexuality and reproduction. Integrates psychological with evolutionary, physiological and neuroscientific approaches. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): PSY 101 with C or better; one semester of biology; Credit is allowed for only LSC 369 or PSY 369 or PTX 369 OR Visiting University Student |
| PTX | 386 | STEAM Service Learning | Guided process in which students deepen their understanding of their STEAM content area through knowledge-based problem solving that provides a service to others in the community. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ACO 386 or ENV 386 or FOR 386 or LSC 386 or PTX 386 or LSC 494 (Service Learning in the Life Sciences) |
| PTX | 388 | STEM Research Fundamentals | Teaches research skills in the natural sciences. Topics covered include the basic research techniques of the study organism and system, experimental design, literature searches, statistical analysis and preparation of scientific papers and posters. | N | LEL | Y | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 320, BIO 182, or MAT 272 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only ENV 388 or FOR 388 or LSC 388 or PLB 388 or PTX 388 OR Visiting University Student |
| PTX | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | Prerequisite(s): minimum 45 hours |
| PTX | 401 | Forensic Toxicology | Focuses on toxicology as it pertains to forensic science. Topics include: the history of toxicology; the pharmacodynamics and pharmacokinetics of drugs and alcohol in the human body; as well as the legal applications of toxicology. Also discusses ethics, quality control and quality assurance, and courtroom testimony (as they relate to forensic toxicology). May address other topics such as environmental toxicology, poisons, and current topics related to forensic toxicology. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Pre- or corequisite(s): BIO 305 or FOR 286 with C or better if completed OR BIO 353 with C or better if completed; LSC 347 with C or better if completed; Credit is allowed for only FOR 401 or PTX 401 OR Visiting University Student |
| PTX | 430 | Environmental and Human Toxicology | Lecture and fieldwork course investigating toxic substances in the environment and their effect on the health of organisms, including humans. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): BIO 181 with C or better; BIO 182 with C or better; CHM 116 with C or better; Credit is allowed for only LSC 430 or PTX 430 OR Visiting University Student |
| PTX | 432 | Fundamentals of Pharmacology | Aspects of pharmacology using an integrated approach to familiarize students with natural and synthetic therapeutic agents used in medicine. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): BCH 361, BCH 371, or BIO 353 with C or better; BIO 340 or LSC 347 with C or better; CHM 231 or 234 with C or better; Credit is allowed for only LSC 432 or PTX 432 OR Visiting University Student |
| PTX | 450 | Pharmacology and Toxicology Laboratory | Introduces methods for determination of toxicological effects. Students learn to evaluate analytical techniques to determine the cytotoxic and genotoxic effects of chemicals. In silico methods will be used to calculate the effective dose (ED50) and lethal dose (LD50) of chemicals, and the roles of small animal models in pharmaceutical research will be introduced. | N | LAB | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Prerequisite(s): BCH 372 or BIO 354 with C or better; Pre- or corequisite(s): FOR 475, LSC 432, LSC 475, PTX 432, or PTX 475 with C or better if completed OR Visiting University Student |

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| PTX | 475 | Principles of Toxicology | Presents the fundamental principles of toxicology and its application to both human and environmental situations. Starts with the means of defining and quantifying toxic effects through dose response curves (e.g. LD50, EC50, LOEL, NOEL). Then focuses on absorption pathways for toxicants as well as the degradation metabolism pathways for toxicants. Finally focuses on the mechanism of toxic action for common poisons and environmental pollutants. Emphasizes toxicants that students are likely to encounter in forensics and environmental fields. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): BCH 361 or 371 with C or better; Credit is allowed for only FOR 475 or LSC 475 or PTX 475 |
| PTX | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | YGB | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | Prerequisite(s): minimum 45 hours |
| PTX | 486 | Peer Mentoring in STEM | Advanced students learn and apply mentoring skills in science classes or teaching labs. | Y | SEM | Y | YGB | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ACO 486 or BIO 486 or LSC 486 or MAT 486 or PTX 486 or STP 486 OR Visiting University Student |
| PTX | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-6 | | Prerequisite(s): Barrett Honors student; minimum 45 hours |
| PTX | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better; minimum 45 hours |
| PTX | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| PTX | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-6 | | Prerequisite(s): Barrett Honors student; minimum 45 hours |
| PTX | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-7 | | Prerequisite(s): minimum 45 hours |
| PTX | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | YGB | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-3 | | Prerequisite(s): minimum 45 hours |
| PTX | 565 | Laboratory Leadership, Policy and Practice | Focuses on essential laboratory management functions, knowledge and skills required to successfully function as a laboratory manager and/or senior-level scientist in clinical, academic, research and applied science laboratories (e.g., forensic science laboratories). Topics include quality assurance and quality control; laboratory accreditation and audits; standards for specific accrediting bodies including but not limited to CLIA, CAP, ASCLD/LAB, OSHA; documentation and sample accessioning; laboratory safety and chemical hazard programs; validation studies and protocol development; certification of individual scientists; and overall laboratory management "best practices." | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only FOR 565 or LSC 565 or PTX 565 |
| PUP | 190 | Sustainable Cities | Introduces technological, social, and cultural principles and innovations for cities under the notion of sustainability and sustainable development within the global, regional, and local contexts. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | (HU or SB) & G | Credit is allowed for only PUP 190 or SOS 111 OR Visiting University Student |
| PUP | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-3 | | Pre-requisites: Freshman standing; Maximum 25 hours |
| PUP | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| PUP | 200 | Cities in Cinema | Environmental, aesthetic, social, economic, political cultural, and other factors influencing global cities seen through films from around the world. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | HU & H & G | |
| PUP | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| PUP | 301 | Introduction to Urban Planning | Theoretical and practical aspects of city planning. Interrelationships among physical planning, environment, government, and society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |

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| PUP | 343 | Latinas/os and the Environment | Examines the nexus among race/ethnicity, migration, class and the built and natural environment. Explores the proposition that Latina/o and other ethnic minorities and socioeconomically disadvantaged populations bear a disproportionate burden of environmental challenges and its consequences for equality, health and quality of life. Key topics include environmental racism, vulnerability and resilience, climate change, community organizing, and mobilization. Pays considerable attention to community-based efforts to deal with environmental problems affecting the Latina/o population in the U.S. Southwest. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): ENG 101 or 105 or 107 with C or better OR minimum 24 hours; Credit is allowed for only ASB 343 or PUP 343 or SOS 343 or TCL 343 or ASB/PUP/SOS/TCL 394 (Latinos and the Environment) |
| PUP | 360 | Urban Geography | External spatial relations of cities, internal city structure, and spatial aspects of urban problems in various parts of the world, particularly in the United States. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only GCU 361 or PUP 360 OR Visiting University Student |
| PUP | 361 | Planning Workshop | Basic site planning and design techniques. Collection and analysis of information and basic planning research. Report writing and public presentation skills. | N | PRA | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 4 | | Prerequisite(s): PUP 301 with C or better; Minimum 45 hours |
| PUP | 362 | Journey Stories: People and Place in Motion | Explores journeys, storytelling and geographies--real and imagined. Draws on novels, novellas, short stories, film and video in illuminating stories and storytelling as transformative of self, place and culture in human and more-than-human worlds. Enjoins journey stories through the trilogy movement, place and identity; signature themes in cultural geography that resonate across the arts, humanities and social sciences. Students respond to artfully rendered journeys in personal ways via word, image and sound, creating their own journeys en route. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | HU | Prerequisite(s): minimum 45 hours; Credit is allowed for only GCU 362 or PUP 362 or PUP 394 (Journey Stories: People & Place in Motion) OR Visiting University Student |
| PUP | 363 | History of Planning | Historical overview of western urban and regional planning and planning theory, focusing on the 19th and 20th centuries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): PUP 301 with C or better OR Visiting University Student |
| PUP | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| PUP | 410 | Public Participation in Planning | Theory and practice of public participation in planning. Examines and critiques participation techniques and roles of planners. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): PUP 301 with C or better OR Visiting University Student |
| PUP | 411 | Environment, Justice and Cities | Concepts of environmental, social and ecological justice as they relate in particular to the urban realm. Examines urban impacts on environmental systems, and against this backdrop applies theories of justice to critically analyze the social distribution of environmental benefits and burdens embedded in urban space. Examines the way in which urban space is produced; how rights to that space vary; and how environmental, economic and social inequalities shape urban justice issues. Examines cities in the developed and developing world, as well as the environmental impacts on the regions providing resources and receiving urban waste. Also discusses justice implications for future generations and nonhuman life. Emphasizes the role urban planners can play in identifying and mitigating justice issues in the urban environment. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only PUP 411 or PUP 494 (Environment, Justice & Cities) or PUP 598 (Environment, Justice & Cities) OR Visiting University Student |
| PUP | 412 | History of the City | The city from its ancient origins to the present day. Emphasizes European and American cities during the last five centuries. Requires advanced critical thinking and evaluative skills appropriate to students at the junior or senior level as analytical essays and an in-depth research paper are required in addition to regular tests and quizzes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | (L or HU) & H | Prerequisite(s): ENG 101, 105, or 107 with C or better; PUP 301 with C or better |
| PUP | 420 | Theory of Urban Design | Analyzes the visual and cultural aspects of urban design. Theories and techniques applied to selected study models. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; PUP 301 with C or better OR Visiting University Student |
| PUP | 424 | Planning Methods | Methods for urban planning research. Emphasizes research design, quantitative and qualitative methods, survey research, and data analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 4 | | Prerequisite(s): PUP 301 with C or better OR Visiting University Student |
| PUP | 425 | Urban Housing Issues | Nature, dimensions, and problems of urban housing, government policy environment, and underlying economics of the housing market. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | SB | Prerequisite(s): PUP 301 with C or better; Credit is allowed for only PUP 425 or PUP 525 |
| PUP | 430 | Transportation Planning and the Environment | Overview of transportation planning from the perspective of land use planning, economic development, environmental planning, and social needs. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): PUP 301 with C or better OR Visiting University Student |
| PUP | 432 | Planning and Development Control Law | Case studies on police power, eminent domain, zoning, subdivision controls, exclusion, preservation, urban redevelopment, and aesthetic and design regulation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): PUP 301 with C or better OR Visiting University Student |

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| PUP | 434 | Economic Development Planning | Provides a broad overview of urban economic development planning in the U.S. This overview includes the role and goals of economic development planning in today's global information economy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; PUP 301 with C or better OR Visiting University Student |
| PUP | 436 | City Structure and Planning | Political structure and organization of government as it relates to planning. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; PUP 301 with C or better OR Visiting University Student |
| PUP | 442 | Environmental Planning | Environmental planning problems, including floodplains, water quality and quantity, solid and hazardous waste, air quality, landslides, and noise. | N | PRA | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): PUP 301 with C or better OR Visiting University Student |
| PUP | 445 | Women and Environments | Examines the role women play in shaping the built environment; ways built/natural forms affect women's lives. Focuses on contemporary U.S. examples. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | C | Prerequisite(s): junior, senior, post-baccalaureate undergraduate student, degree- or nondegree-seeking graduate student, or post-baccalaureate graduate |
| PUP | 451 | Geodesign and Urban Planning | Geodesign is a design and planning method which tightly couples the creation of design proposal with impact simulations informed by geographic contexts, systems thinking and digital technology. Covers the fundamental theory, concepts and frameworks of geodesign. Students become familiar with the geodesign process by reviewing case studies including specific case study applications from University of New South Wales and Arizona State University. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): GIS 205 or PUP 301 with C or better; Credit is allowed for GIS 451 or GIS 551 or PUP 451 or PUP 551 or GIS/PUP 494 (Geodesign and Urban Planning) or GIS/PUP 598 (Geodesign and Urban Planning) OR Visiting University Student |
| PUP | 452 | Ethics and Theory in Planning | Ethics and theory of professional planning practice in urban and regional communities. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; PUP 301 with C or better OR Visiting University Student |
| PUP | 462 | Graphic Design for Planners | Covers a synthesis of graphic design concepts for communication of complex data as well as advanced report production and public presentation skills. | N | PRA | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): PUP 301 with C or better OR Visiting University Student |
| PUP | 465 | Sustainable Urbanism | Examines the history, practice and core ideas of "sustainable urbanism," including leading thinkers, tools and strategies up to the present day. Topics include codes, metrics, certifications, charters, the Sustainable Development Goals and the New Urban Agenda. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prereq(s) w/C or better: Sustainability major or in a sustainability concentration; SOS 110; SOS 111 or PUP 190; min 45 hours OR non-Sus major, non-sus conc; PUP 301; Credit is allowed for only PUP 465 or PUP 565 or SOS 465 OR Visiting University Student |
| PUP | 481 | Fundamentals of Spatial Optimization | Covers the fundamentals of optimization for spatial analysis. Introduces math-based optimization methods, specifically linear programming, integer programming, and branch and bound. Provides the basics for use and application of GIScience and spatial analysis methods for suitability analysis and network analysis. Objectives include: reviewing basics of linear algebra; formulating and solving optimization problems using linear and integer programming; applying raster and vector GIS methods to site suitability analysis, shortest path, and service area problems; and integrating GIS into problem formulation and result visualization. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): GIS 205 or 211; MAT 170, 270, 271, or 272 with C or better; Credit is allowed for only GIS 461 or GIS 561 or PUP 481 or PUP 581 OR Visiting University Student |
| PUP | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Pre-requisites: Urban Planning undergraduate student |
| PUP | 485 | International Field Studies | Organized field study, culture and language in specified international locations. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | G | Pre-requisite: Junior standing; Credit is allowed for only GCU 485 or GPH 485 or LAP 485 or POR 485 or PUP 485 or 585 |
| PUP | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-6 | | Prerequisite(s): Barrett Honors student |
| PUP | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| PUP | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | Prerequisite(s): junior, senior, postbaccalaureate undergraduate student, degree- or nondegree-seeking graduate student, or postbaccalaureate graduate OR Visiting University Student |
| PUP | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-7 | | |
| PUP | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-3 | | |

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| PUP | 501 | Planning, History and Theory | Comprehensive review of planning profession within a political, governmental, multicultural, and gender framework. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) |
| PUP | 505 | GeoDesign Principles | Systematic exploration and evaluation of alternative complex human-environmental systems using spatially and temporally explicit theories, data and methods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 2 | | Prerequisite(s): GIS 601 and 602, or PUP 576; Credit is allowed for only GIS 505 or PUP 505 |
| PUP | 510 | Public Participation in Planning | Explores the history, theory and practice of public participation in urban planning, including the emergence and uses of participation in the planning field; how to manage different types of processes; and the relationship between participation and social equity. Starts by addressing foundational concepts, the political context of planning, and the history of public involvement in planning decision-making. Next, delves into the process of preparing a public participation plan and explores a range of commonly used information sharing and consensus building techniques. Covers how to effectively lead public meetings and analyze information gathered. The latter part of the class focuses on special topics pertaining to public participation. These include bottom up, community-led processes, overcoming communication issues, changing opportunities for participation in the information age, engaging diverse groups, and participatory processes in the Phoenix region. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; Credit is allowed for only PUP 510 or PUP 598 (Public Participation Planning) |
| PUP | 515 | International Planning and Development | Introduces globalization, international development, international planning practices and policies, urbanization and urban and regional planning in developing nations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 520 | Planning Practice, Ethics and Processes | Reviews past and current theoretical developments related to social change perspectives, the role and ethics of planners. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking) |
| PUP | 525 | Urban Housing Issues | Nature, dimensions, and problems of urban housing, government policy environment, and underlying economics of the housing market. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Pre-requisites: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only PUP 425 or 525 |
| PUP | 531 | Planning and Development Control Law | Case studies on police power, eminent domain, zoning, subdivision controls, exclusion, preservation, urban redevelopment, and aesthetic and design regulation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 535 | Water Law and Planning | In-depth study of legal materials providing substantive knowledge of water law, water management issues, and land use planning options. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 542 | Environmental Planning | Environmental policies and their relationship to environmental planning practices. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PUP 442 or PUP 542 |
| PUP | 544 | Urban Land Use Planning | Theory and methods of urban land use planning, including the rational planning process, comprehensive, functional, and neighborhood plans. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 548 | Global Perspectives on Urban Resilience Planning | Theory and applications connecting sustainability sciences and practice to urban environmental planning. Sustainable urban development, restoration, and preservation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 550 | Transportation and the Environment | Examines transportation planning from the perspectives of land use planning, economic development, environmental planning, and social needs. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 551 | Geodesign and Urban Planning | Geodesign is a design and planning method which tightly couples the creation of design proposal with impact simulations informed by geographic contexts, systems thinking and digital technology. Covers the fundamental theory, concepts and frameworks of geodesign. Students become familiar with the geodesign process by reviewing case studies including specific case study applications from University of New South Wales and Arizona State University. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; Credit is allowed for GIS 451 or GIS 551 or PUP 451 or PUP 551 or GIS/PUP 494 (Geodesign and Urban Planning) or GIS/PUP 598 (Geodesign and Urban Planning) |
| PUP | 553 | Urban Infrastructure Anatomy and Sustainable Development | Understanding how built environment infrastructure systems interact with ecosystem services is critical for policies and decisions directing urban sustainability. Brings together students from several disciplines to develop a semester-long research project focused on a particular urban sustainability problem in Phoenix. During the semester, students are given background on how infrastructure systems work and are interdependent, and explore tools and methods for urban sustainability assessment with peers from several disciplines. As a class, students evaluate a particular urban sustainability problem for Phoenix, interact with local policy and decision makers in developing solutions, and present their findings at the end of the semester to the ASU community. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit for only CEE 507 or 598(Urban Infrastruct Anatomy/Sustainable Dev) or PUP553 or 598(Urban Infrastruct Anatomy/Sustainable Dev) or SOS547 or SOS598 (Urban Infrastr Anatomy & Sustain Dev) |

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| PUP | 561 | Urban Design Workshop | Workshop course focuses on applying knowledge and skills in a "real world" setting, developing meaningful planning and design proposals for existing urban areas. | N | STO | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 562 | Tribal Community Planning | Study of tribal planning and best practice including underlying social, political and environmental issues. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 564 | Transportation Systems Professional Seminar | Provides a cross-disciplinary exploration of multimodal transportation systems, with particular emphasis on those issues affecting the state of Arizona. Designed for graduate students in the interdisciplinary Transportation Systems Certificate program (though open to all graduate students), the course offers a broad overview of key concepts; transportation modes (road, rail, air, transit, non-motorized); geographic settings (rural, urban, parks, tribal lands, international trade); and issues (economics, equity, planning, safety, finance, regulation, environment, public participation and alternative fuels). Features speakers from various fields and academic disciplines related to transportation, introducing a variety of perspectives, terminology and methods. Designed as a graduate-level seminar, emphasizes active participation by all students in group discussions based on required readings and information presented by guest lecturers and the instructor. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PUP 564 or PUP 591 (Transportation Systems Pro Sem) |
| PUP | 565 | Sustainable Urbanism | Examines the history, practice and core ideas of "sustainable urbanism," including leading thinkers, tools and strategies up to the present day. Topics include codes, metrics, certifications, charters, the Sustainable Development Goals and the New Urban Agenda. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PUP 465 or PUP 565 or SOS 465 |
| PUP | 571 | Quantitative Methods for Planners | Theory, methods, and techniques of demographic and economic analysis utilized in urban planning. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 576 | GIS Workshop | GIS as a tool to address large, multifaceted problems. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 577 | Communication and Visualization Tools in Planning | Covers graphic and verbal skills required to effectively communicate planning information and ideas. Emphasizes digital graphics and other computer-based tools and presentation formats, focusing on applying visual strategies and tools most often used by planners to make a persuasive argument. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 2 | | Prerequisite(s): degree- seeking or nondegree- seeking graduate student; PUP 570 and 571 with C or better |
| PUP | 579 | Qualitative Methods for Planners | Covers key qualitative skills and techniques that planners require, including research design and the understanding of validity and reliability issues, case study research approaches, qualitative data collection strategies, and strategies for analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |
| PUP | 581 | Fundamentals of Spatial Optimization | Covers the fundamentals of optimization for spatial analysis. Introduces math-based optimization methods, specifically linear programming, integer programming, and branch and bound. Provides the basics for use and application of GIScience and spatial analysis methods for suitability analysis and network analysis. Objectives include: reviewing basics of linear algebra; formulating and solving optimization problems using linear and integer programming; applying raster and vector GIS methods to site suitability analysis, shortest path and service area problems; and integrating GIS into problem formulation and result visualization. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GIS 461 or GIS 561 or PUP 481 or PUP 581 |
| PUP | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Pre-requisite: Urban/Environmentl Planning MUEP student |
| PUP | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |

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| PUP | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Prerequisite(s): Urban and Environmental Planning graduate student |
| PUP | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Pre-requisites: Urban and Environmental Planning graduate student |
| PUP | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | IND | Y | Z3 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): Urban and Environmental Planning graduate student |
| PUP | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-4 | | |
| PUP | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | Pre-requisites: Urban and Environmental Planning graduate student |
| PUP | 642 | Urban and Regional Economic Analysis | Land use and locational impact of economic activity and the urban real property market. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |
| PUP | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |
| PUP | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |
| PUP | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |
| PUP | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |
| PUP | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-12 | | |
| PUP | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | IND | Y | Z3 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | |
| PUP | 701 | Urban Planning Colloquium | Presents and discusses new research findings and methods in urban planning. | N | SEM | Y | YGB | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 710 | Current Planning Theory and Practice | Explores and critically evaluates planning theories and approaches with the objective of articulating new ideas for planning research. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 724 | Planning Methods for Doctoral Students | Tools useful for urban planning research; emphasis on research design and survey methods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) |
| PUP | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| PUP | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| PUP | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Geographical Sciences and Urban Planning | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| QBA | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Economics | 1-12 | | Pre-requisites: Graduate Students only (degree and non-degree seeking) |
| RAS | 216 | Engineering Electrical Fundamentals | Introduces modeling of electrical systems using mathematical and scientific principles. Covers electrical circuit analysis techniques including Kirchhoff's and Ohm's laws, series and parallel circuit elements, equivalent elements and circuits, and nodal analysis. These techniques are developed for DC, AC, and transient conditions. Also introduces the basic structure of a modern electronic measurement system and relates this structure to measurement accuracy, precision and resolution. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): MAT 265 or 270 with C or better; Credit is allowed for only EGR 216 or RAS 216 OR Visiting University Student |
| RAS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 0.25-4 | | |
| RAS | 304 | Embedded Systems Design Project I | Design, implement and debug an embedded electromechanical system through an in-depth design project. Develops professional and engineering skills in this project setting. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 202 with C or better; EGR 216 or RAS 216 with C or better; EGR 219 with C or better; Credit is allowed for only EGR 304 or RAS 304 OR Visiting University Student |
| RAS | 314 | Embedded Systems Design Project II | Applies design principles to conceptualize, implement and characterize an embedded electromechanical system in a project setting. Project emphasizes communication with project stakeholders; applying a human-centered design approach in the context of an embedded system; critical thinking in developing system specifications and evaluating a prototype relative to these specifications; and increasing technical competence. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 304 or RAS 304 with C or better; Credit is allowed for only EGR 314 or RAS 314 OR Visiting University Student |
| RAS | 401 | Professional Design Project I | First half of a comprehensive project experience based on cumulative knowledge and skills gained in earlier coursework. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | L | Prerequisite(s): EGR 313, EGR 314, EGR 315, EGR 316, MFG 318, or RAS 314 with C or better; ENG 101, 105, or 107 with C or better; Credit is allowed for only EGR 401 or RAS 401 |
| RAS | 402 | Professional Design Project II | Second half of a comprehensive project experience based on cumulative knowledge and skills gained in earlier course work. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 401 or RAS 401 with C or better taken within one previous term; Credit is allowed for only EGR 402 or RAS 402 |
| RAS | 433 | Transforms and Systems Modeling | State-space and transform-domain modeling and analysis of electrical and electromechanical systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 216 or RAS 216 with C or better; EGR 455 or RAS 455 with C or better; MAT 274 or 275 with C or better; Pre- or corequisite(s): MAT 342 or 343; Credit is allowed for only EGR 433 or RAS 433 OR Visiting University Student |
| RAS | 455 | Robotic Systems I | Analysis and design of robotic systems focusing on kinematics, dynamics, coordinate transformations and modeling. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 217 with C or better; EGR 219 with C or better; Credit is allowed for only EGR 455 or EGR 545 or EGR 598 (Robotic Systems I) or RAS 455 or RAS 545 OR Visiting University Student |
| RAS | 456 | Robotic Systems II | Design of robotic systems focusing on dynamics, modeling and controlling a robot. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): EGR 455 or RAS 455 with C or better; Credit is allowed for only EGR 456 or EGR 546 or EGR 598 (Robotics Systems II) or RAS 456 or RAS 546 OR Visiting University Student |
| RAS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-12 | | |
| RAS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 0.25-4 | | |
| RAS | 545 | Robotic Systems I | Analysis and design of robotic systems focusing on kinematics, dynamics, coordinate transformations and modeling. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EGR 455 or EGR 545 or EGR 598 (Robotic Systems I) or RAS 455 or RAS 545 |

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| RAS | 546 | Robotic Systems II | Design of robotic systems focusing on dynamics, modeling and controlling a robot. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | |
| RAS | 550 | Mechatronic Systems | Presents a clear and comprehensive approach to the area of mechatronic systems, including the sensors, actuators, microcontrollers and applications which are found at the heart of everyday products and devices. Provides a systems-level approach to integrating these elements into a functioning device. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only EGR 550 or RAS 550 |
| RAS | 555 | Mechatronics Device Innovation | Project-based course on the design of mechatronic devices to address needs identified by hospital-based clinicians. Students work in teams with physicians to develop a novel mechatronic device while in parallel an entrepreneurial mindset is fostered. The design process includes: needs finding; problem identification; prior art searches; strategy and concept generation; estimation; sketching; sketch modeling; machine elements, ergonomics and prototyping. Emphasizes the development of creative designs that is motivated by analytical models. Also includes lectures on specific aspects pertinent to novel devices including intellectual property, marketing, licensing and startups and lean launchpad for startups, provided by Skysong Innovations. Significant communication component as students present ideas in class and at an industry forum. Students also write a publication quality final paper, which they are encouraged to submit to a conference or journal. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EGR 494 (Mechatronics Device Innovation) or EGR 598 (Mechatronics Device Innovation) or RAS 555 |
| RAS | 556 | System Control and Optimization | Topics include state-space models, Lyapunov stability, controllability and observability, optimization and optimal control, and nonlinear systems and control. Includes both theories and real-world engineering examples/demos, and students apply the advanced control system approaches to self-selected course projects. Prior knowledge in classical linear control theory is necessary to be successful in this course. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EGR 556 or EGR 598 (System Control & Optimization) or MAE 506 or RAS 556 |
| RAS | 557 | Foldable Robotics | Organized around new types of robots being developed in research labs and industry across the country, foldable robots are designed and built using layered, flat sheets of a wide variety of materials and folded up to create both form and motion. Design of these devices begins with initial prototypes and proceeds through implementation and optimization, with a focus on application-specific projects that seek to solve problems of cost, parallelism, complexity and time using a relatively fast and easy prototyping method. Students delve deeper into the analytical problems associated with foldable mechanisms in topics such as design, kinematics, manufacturing, dynamics, simulation, optimization and stiffness analysis. Familiarity with programming fundamentals, scripted languages like Python or Matlab, linear algebra, differential equations, calculus, trigonometry and vector math is strongly suggested. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 3 | | Prerequisite(s): Ira A. Fulton graduate student; Credit is allowed for only EGR 494 (Foldable Robotics) or EGR 557 or EGR 598 (Foldable Robotics) or RAS 557 |
| RAS | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RAS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RAS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RAS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RAS | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RAS | 599 | Thesis | Supervised research focused on preparation of a thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| RAS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RAS | 799 | Dissertation | Supervised research focused on preparation of a dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | School of Manufacturing Systems and Networks | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RCR | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RCR | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RCR | 691 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RCR | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RCR | 791 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RCR | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RCR | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRO | Y | GNA | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-12 | | Prerequisite(s): Edson College graduate student |
| RCR | 799 | Dissertation | Supervised research focused on preparation of a dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Edson College of Nursing and Health Innovation | Edson College of Nursing and Health Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RDG | 291 | Children's Literature | Focuses on the reading, comprehension, interpretation and analysis of traditional, classic and contemporary children's literature. Provides an overview of the historical development of these texts. Explores the aesthetics of children's literature as a type of literature and its value as an art form. Deepens students' awareness of the role that children's literature plays in the social and cultural context in a multicultural American society. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | HU | |
| RDG | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| RDG | 322 | Language Literacy 1 in Elementary Schools | Theoretical knowledge and pedagogical skills for implementing a high-quality reading program. Course objectives and topics are aligned to standards for reading and research from the International Reading Association (IRA), Arizona College and Career Ready Standards (ACCRS), Interstate Teacher Assessment and Support Consortium (InTASC) standards, and the National Reading Panel Report (2000). Focuses on emergent literacy, phonemic awareness, phonics, fluency, vocabulary and comprehension. Presents strategies and assessments to support students of a variety of ability levels and cultural backgrounds with a specific focus on the struggling readers and English language learners. For education majors only. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program; Credit is allowed for only RDG 322 or SPE 325 |
| RDG | 323 | Literacy Processes in Content Areas | Principles and practices for planning subject matter units of instruction that explicitly address learning with texts across academic disciplines. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program OR Visiting University Student |
| RDG | 413 | Literacy Methods of Instruction and Assessment for Diverse Learners | The second of two required literacy courses for teacher certification. Focuses on instructional practices, assessment and interventions based upon scientifically-researched teaching methods, including systematic, explicit instruction in the essential components of literacy, multi-tiered systems of support and assessment-driven instruction. Content includes information and training on dyslexia and other types of reading challenges students may face when learning to read. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student; TEL 331; minimum 39 hours |
| RDG | 505 | Language and Literacy Across the Lifespan | Provides a foundational understanding of language and literacy development over the course of the lifespan. Addresses early literacy skills, decoding, comprehension, and affective factors of literacy. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate student |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
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| RDG | 507 | Content Area Literacy | Theory, teaching strategies, and practical application concerning learning from text across subject matter disciplines. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RDG | 508 | Essential Elements of Elementary Content Area Literacy (K-8) | Presents theory, rationale, and teaching strategies concerning learning from oral, print, and electronic texts across subject-matter disciplines. Emphasizes practical application of content area literacy principles. Familiarizes participants with the literate lives of today's youth, facilitate participants' inquiry into strategies to motivate students in content learning, and provide strategies to improve students' comprehension and application of content material. Readings, online inquiries, and assignments focus on application of course content. Emphasizes implications of recent research and theory in content literacy and adolescent literacy. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RDG | 510 | Literacies, Digital Technologies and Learning | Explores how literacies are changing as a result of emerging digital media and technologies, and the implications of these cultural and technological shifts for literacy teaching and learning. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RDG | 512 | Theoretical Foundations in Language and Literacy | Introduces theoretical lenses useful in understanding issues in language and literacy education and research. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RDG | 515 | Multimodal Literature for Children and Adolescents | Designed for classroom teachers, librarians and other interested literacy educators as part of the Masters of Arts degree in Literacy Education. Focuses on the analysis of children's, young adult and multimodal literature; understanding the modes of representation and communication used in these texts; and the various sociocultural roles these texts play in contemporary society. Provides participants with the opportunity to read, enjoy, analyze and discuss a wide variety of children's and young adult literature. Also explores numerous authors, illustrators, genres, formats and themes of children's and young adult literature. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): RDG 505; RDG 510; RDG 512 |
| RDG | 518 | Supporting Language and Literacy for Diverse Learners | Provides a foundation of theory and research related to literacy instruction for culturally and linguistically diverse learners. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): RDG 505; RDG 510; RDG 512 |
| RDG | 519 | Writing Throughout the Lifespan | This language and literacy course provides a foundational understanding of writing development, instruction and assessment. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): RDG 505; RDG 510; RDG 512 |
| RDG | 520 | Essential Elements of Elementary Literacy (K-8) | Intended for practicing teachers, focuses on the development of a comprehensive approach to Reading and Writing Instruction K-8. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RDG | 530 | Literacy Methods, Assessment and Reflection for Children (Pre-K to Grade 5) | Literacy methods and assessment course with a nine-week practicum experience utilizing assessment and instructional techniques for individualized reading instruction for children in pre-kindergarten through fifth grade. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 6 | | Prerequisite(s): RDG 505; RDG 510; RDG 512 |
| RDG | 531 | Language and Literacy I | Focuses on the theoretical knowledge and pedagogical skills necessary to equip future teachers to plan and implement high-quality reading and writing instruction in a classroom setting. Course objectives and topics are aligned to standards for reading and research from the International Reading Association (IRA), Arizona College and Career Ready Standards (ACCRS), Interstate Teacher Assessment and Support Consortium (InTASC) standards, and the National Reading Panel Report (2000). Focuses on reading readiness, language development, phonemic awareness, phonics, fluency, vocabulary and comprehension. Presents strategies and assessments to support struggling readers as well as a variety of ability levels and cultural and linguistic backgrounds to include English language learners. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): Teachers College graduate student; Credit is allowed for only RDG 531 or SPE 538 |
| RDG | 532 | Language and Literacy II | Builds on the theoretical knowledge and pedagogical skills presented in the previous course. Uses diagnostic assessments in the planning and implementation of intervention literacy lessons for struggling readers/writers in a classroom setting as part of the course case study assignment. Includes differentiated instructional and assessment strategies to address the needs of diverse learners to include English language learners. Also includes an emphasis on writing and composition to ensure future teachers have the knowledge necessary to teach all forms of writing in the elementary classroom. Includes an overview of the historical development of children's literature and the criteria necessary for analyzing and selecting all genres of quality children's literature. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): Teachers College graduate student; Pre- or corequisite(s): RDG 531 |

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| RDG | 540 | Literacy Methods, Assessment and Reflection for Adolescents and Adults (Grade 6-Adult) | Literacy methods and assessment course with a nine-week practicum experience utilizing assessment and instructional techniques for individualized reading instruction for adolescents (grade 6-12) and adults (age 16 and above not in K-12 setting). | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 6 | | Prerequisite(s): RDG 505; RDG 510; RDG 512 |
| RDG | 550 | Practicum Experiences in Elementary and Secondary Reading | Practicum experience utilizing assessment and instructional techniques for classroom settings. See RDG 557 for State of Arizona reading endorsement. | N | PRA | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RDG | 555 | Formal Measures of Literacy | Understanding the attributes of standardized tests and applying this information to analyze, select, and explore their use. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RDG | 556 | Assessment and Procedures in Elementary and Secondary Reading | Techniques for classroom and clinical reading/literacy assessment and instruction. Emphasizes continuous assessment. May be taken concurrently with RDG 550 or 557. Recommended for State of Arizona reading endorsement. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RDG | 563 | Children's Literature | Selects and uses children's literature and related nonprint media to support the elementary school curriculum. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student or undergraduate postbaccalaureate |
| RDG | 572 | Literacy Teacher Leader | Provides a foundation in educational and instructional leadership that support continuous school literacy improvement. Also provides opportunities to apply these fundamentals by creating and conducting literacy workshops/professional development for a group of teachers or other literacy educators. Meets the leadership requirement for the AZ Reading Endorsement and serves as the capstone class for the Master of Arts in Curriculum and Instruction with a concentration in Language and Literacy. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Curriculum and Instruction (Literacy Education) MA student; Credit is allowed for only RDG 572 or RDG 598 (Literacy Teacher Leader) |
| RDG | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 597 | Capstone | Provides a foundation in practitioner action research and literacy leadership with opportunities to apply these fundamentals by creating, conducting and researching literacy professional development for literacy educators and other community practitioners. Meets the leadership requirement for the AZ Reading Endorsement, addresses the International Literacy Association Standards for Literacy Professionals, and serves as the capstone class for the Master of Arts in Curriculum and Instruction with a concentration in Language and Literacy. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Literacy Education MA student |

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| RDG | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 683 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| RDG | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking) or Postbaccalaureate Undergraduate student |
| REA | 380 | Real Estate Fundamentals | Real estate for the student/consumer with an emphasis on the applied aspects of each area of real estate specialization. Not open to Real Estate majors. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): minimum 2.00 GPA; minimum 56 hours OR nondegree-seeking student; minimum 2.00 GPA, OR degree- or nondegree-seeking graduate student OR Visiting University Student |
| REA | 401 | Real Estate Appraisal | Factors affecting the value of real estate. Theory and practice of appraising and preparation of the appraisal report. Appraisal techniques. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): FIN 300, 302, 303 or REA 380 with C or better; minimum 2.50 GPA; minimum 56 hours OR Visiting University Student |
| REA | 411 | Real Estate Law | Legal and ethical aspects of land ownerships, interests, transfer, finance development, and regulations of the real estate industry. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prereq(s): W.P. Carey BA or BS BUS mjr or non-BUS stdnt w/ min 56 hrs & min 2.50 gpa; FIN 300, 302, or 303 or REA 380 w/ C or better OR degree- or nondegree-seeking grad stdnt; Credit allowed for only LES 411 or REL 411 OR Visiting University Student |
| REA | 441 | Real Estate Land Development | Neighborhood and city growth. Municipal planning and zoning. Development of residential, commercial, industrial, and special purpose properties. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): W.P. Carey BA or BS Business major or non-business student with minimum 56 hours and minimum 2.50 GPA; FIN 300, 302, or 303 or REA 380 with C or better OR degree- or nondegree-seeking graduate student OR Visiting University Student |
| REA | 456 | Real Estate Investments | Analyzes investment decisions for various property types. Cash flow and rate of return analysis. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): FIN 300, 302, 303 or REA 380 with C or better; minimum 2.50 GPA; minimum 56 hours OR Visiting University Student |
| REA | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | GNA | W. P. Carey School of Business | Department of Finance | 1-12 | | |

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| REA | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Finance | 1-4 | | Prerequisite(s): W. P. Carey BA or BS major OR non-Business major; minimum 56 hours; minimum 2.50 GPA OR undergraduate nondegree-seeking student; minimum 2.50 GPA OR degree- or nondegree-seeking graduate student OR Visiting University Student |
| REA | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Finance | 1-12 | | Pre-requisites: W.P. Carey degree seeking Graduate student |
| REA | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Finance | 1-12 | | |
| RED | 501 | Urban Economic and Real Estate Development Principles | Explores the basic principles of urban economics and their application to real estate decision making. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RED | 502 | Real Estate Valuation-Finance and Capital Markets | Addresses the concepts of valuation applied to real estate and teaches how to apply these principles. Intermediate- to advanced-level course in mortgage finance, and associated capital market innovations. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RED | 503 | Real Estate Market Analysis | Focuses on market analysis and market data gathering methods, means, and techniques necessary in identifying market opportunities and developing specific market strategies for successful real estate development. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RED | 504 | Real Estate Site Analysis, Master Planning and Design | Analyzes the physical characteristics of a property, including the site and physical area, legal, political, economic, and financial facts that impact the highest and best use of a property and what can be built upon the property. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RED | 505 | Land Use Law and Public Entitlement Process | Covers a basic understanding of the legal and practical zoning and governmental land entitlement process. Examines the legal history, structure, and implications of zoning, as well as the fundamentals of "real life" situations that occur in the entitlement and real estate development field. Provides a broad overview of this process from a legal and development viewpoint, but is not intended to be a comprehensive analysis of all entitlement issues. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RED | 506 | Real Estate Law for Developers | Covers the nature of property and the legal system as it relates to purchase agreements, title, surveys, declarations of covenants, defining easements, and licenses among other related topics. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate |
| RED | 507 | Synthesis Project #1 Residential Development | Employs the students learning through application of developing a specific parcel of land. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate |
| RED | 508 | Real Estate Engineering and Construction | Explores the basic principles of engineering and construction of real estate development projects. Reviews construction technologies within the framework of architectural design and engineering as well as construction means, methods, and systems. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RED | 509 | Advanced Financial Analysis for Commercial Real Estate | Teaches more complex financial analysis of income-producing property, including various decision-making tools such as Monte Carlo, option pricing, assessing alternatives, and how to build these into financial models. Also teaches financial analysis of business structures to determine potential outcomes such as debt and equity structures, waterfalls, claw backs, and other business and ownership concepts. Emphasizes strategic alternatives, assessing risk and conversion events. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 2 | | Prerequisite(s): Real Estate Development MRED student |
| RED | 510 | Real Estate Development Business and Project Management | Teaches management of real estate development companies and process. Students learn the various aspects of project management, financial management and project accounting, lending relations and managing loans and pay applications as well as dispute resolution and strategic partnerships. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 2 | | Prerequisite(s): Real Estate Development MRED student |
| RED | 511 | Design of the Built Environment | Teaches the built environment and how that applies to creation of places, market positioning, capturing value and the importance of good design to the business of real estate. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 2 | | Pre-requisite: MRED student; Credit is allowed for only RED 511 or 691 (Real Estate Dev Project Mgmt) |
| RED | 512 | Real Estate Law for Developers | Teaches issues faced by developers such as various types of financing structures, including special districts, TIF and bond financing. Covers issues and process of raising capital and various forms of securing equity. Discusses private placement memorandums, limited liability companies, partnerships and public private partnerships. Students also learn about environmental law, income tax issues, negotiation, and alternative dispute resolution. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 2 | | Pre-requisite: MRED student; Credit is allowed for only RED 512 or 691 (Adv Real Estate Finance/Analys) |

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| RED | 513 | Advanced Real Estate Engineering, Construction Management and Sustainable D 2 | Covers various construction delivery methods, construction project management and scheduling, construction contracts, mechanics and materialmans liens, and pay applications. Students also learn about sustainability and the built environment. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 2 | | Pre-requisite: MRED student; Credit is allowed for only RED 513 or 691 (Real Estate Dev. Project Mgmt) |
| RED | 514 | Synthesis Project #2 Income Property Development | Through application to a specific problem given by faculty, students work in teams to analyze and seek solutions to development of land for an income-producing property. Students investigate a specific parcel of land, performing due diligence, preparing a market and segmentation analysis, defining highest and best use(s), designing a solution, preparing residual land value analysis, defining a product offering, pricing points, building design, site planning and comparative valuation analysis. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 3 | | Prerequisite(s): Real Estate Development MRED student |
| RED | 515 | Synthesis Project #3 Capstone Project Mixed-Use Property Development | Employs all that the students have learned through application to a specific problem given by faculty. Students work in a team to analyze and seek solutions to development of land for a complex, mixed-use project. Students investigate a specific parcel of land and are required to perform due diligence, prepare a market and segmentation analysis, define highest and best use(s), design a solution, prepare residual land value analysis, define a product offering, price points, building design, site planning and comparative valuation analysis. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Finance | 4 | | Pre-requisite: Master of Real Estate Development major; Credit is allowed for only RED 515 or 598 (Ret Anlys; High Dens Mix Use) |
| RED | 516 | Real Estate Capital Markets | Covers capital markets on a macro level with an emphasis on real estate. Real estate is a capital-intensive business that necessitates investors and developers regularly securing significant amounts of debt and equity through capital markets. The real estate capital market consists of public, private, individuals and institutional investors that invest money, either directly or indirectly, into real estate. Explores sources of capital for the purchase, development and ownership of real property by evaluating the interaction of real estate space markets with the real estate capital markets. Students gain an understanding of the historic and current capital market participants of the public and private, debt and equity, commercial real estate capital markets. Also explores the use of capital in various real estate investment strategies and defines the major indices that measure public and private real estate investment returns over time. | N | LEL | N | Z1 | W. P. Carey School of Business | Department of Finance | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only RED 516 or RED 598 (Finance - Capital Markets) |
| RED | 517 | Real Estate Financial Decision Making | Explores the risk, its meaning and measurement associated with real estate investment and development and how these are incorporated into real estate business decision making including capital market, valuation, market growth, operating, construction, leasing/sales, finance/leverage and tax risks. Explores how to apply these risks to financial analysis and decision making. Students learn the various typical risks incurred when buying, owning, operating, redeveloping and developing real estate and how to identify and incorporate known and unknown risks into real estate business decision making process. Covers the fundamentals of decision theory and various models of judgement used in real estate business including use of factors outside the parameters of the normal financial model. Introduces concepts such as real options analysis, trade-offs, opportunity costs, risk/return trade-offs, as well as various models used for risk measurement and assessment including the capital asset pricing and arbitrage pricing theory and tools option pricing models. | N | LEL | N | Z1 | W. P. Carey School of Business | Department of Finance | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only RED 517 or RED 598 (Real Estate Financial Decision Making) |
| RED | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | W. P. Carey School of Business | Department of Finance | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| RED | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Finance | 1-4 | | |
| RED | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | W. P. Carey School of Business | Department of Finance | 1-12 | | |
| REL | 100 | Religions of the World | Introduces the history of religious traditions of the world, including Buddhism, Christianity, Hinduism, Islam, Judaism, and others. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Credit is allowed for only REL 100 or REL 200 OR Visiting University Student |
| REL | 101 | Religion, Culture and Public Life | Explores how religions are conditioned by cultural values and operate in the political sphere. | Y | LEC | Y | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | |

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| REL | 107 | Religion and Globalization | Explores how different religions interact with the various processes of globalization, including how the world's major religions have been transformed by economic, political, cultural, and technological aspects of globalization. Topics include religious terrorism, human rights, religion, and gender. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Credit is allowed for only REL 107 or SGS 107 OR Visiting University Student |
| REL | 111 | Introduction to Asia | Offers a basic introduction to the geography, history, cultures, states, and societies of South and Southeast Asia as well as China, Japan, and Korea. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H & G | Credit is allowed for only HST 111 or REL 111 |
| REL | 133 | Elementary Biblical Hebrew | Offers an introduction to Biblical Hebrew, the language in which most of the books of the Hebrew Bible/Old Testament are written. Provides the basic tools to understand and translate Biblical Hebrew texts. Covers the alphabet, basic vocabulary, morphology and syntax. Emphasizes a linguistic, literary and historical approach to the biblical text. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G | Credit is allowed for only HEB 133 (HEB 131) or JST 133 (JST 131) or REL 133 (REL 131) |
| REL | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-3 | | Pre-requisites: Freshman standing; Maximum 25 hours |
| REL | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |
| REL | 200 | Exploring the World's Religions | Writing-intensive course introducing analytical skills necessary for understanding religious traditions. Beliefs, practices, and communities of several religious traditions of the world. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; maximum 75 hours; Credit is allowed for only REL 100 or REL 200 OR Visiting University Student |
| REL | 201 | Religion and the Modern World | Introduces the nature and role of religious beliefs and practices in shaping the lives of individuals and societies, with particular attention to the modern world. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| REL | 202 | Religion and Popular Culture | Explores various interectors between religion and the popular media, including music, news, advertising, the visual arts, literature, performance, and film. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & C | Credit is allowed for only FMS 202 or REL 202 OR Visiting University Student |
| REL | 203 | Saints and Sinners: Explorations in Sacred Biography | Comparison of the role of biography across religions to examine the process of categorizing people as saints or sinners. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | |
| REL | 205 | Life, Sex and Death | Ways that religions have understood birth, sexuality, death, and the passing of generations. Examples from traditions throughout the world. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | |
| REL | 207 | Ritual, Symbol, and Myth | Ritual, symbol, and myth as types of religious expression, with examples selected from the nonliterate religions of the world. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| REL | 210 | Introduction to Judaism | Beliefs, ceremonies, festivals, and institutions of Judaism emphasizing the contemporary era. Assumes no previous knowledge about Judaism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | Prerequisite(s): ENG 101 or 105 or 107 with C or better; Credit is allowed for only JST 210 or REL 210 |
| REL | 211 | Jews and Judaism in America | Chronological analysis of Jews and Judaism in American history and letters. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | SB & H & C | Credit is allowed for only HST 211 or JST 211 or REL 211 |
| REL | 225 | Africana Religious Studies | Introduces the history and development of African American and Black Diasporic religious traditions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & C | |
| REL | 230 | Introduction to Jewish Civilization | Overview of Jewish civilization from antiquity to the present. Answers the following questions: Who are the Jews? What do Jews believe? How did Jews interact with non-Jews? What was the lasting contribution of Jews to the world? In the attempt to answer these questions, provides the skills of being a good college student. Presents Judaism as an evolving civilization with an overarching distinctive culture but with a variety of subcultures and ethnic diversity. Presents the Jewish civilization through literature, films, music, and internet resources, with an overview of its complexity and diversity. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H & G | Credit is allowed for only HST, JST or REL 230 |
| REL | 233 | Intermediate Biblical Hebrew | Completes the study of Biblical Hebrew grammar. Prepares students to translate simple texts from Hebrew Bible and use critical editions of the biblical text. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G | Prerequisite(s): HEB 133 (HEB 131), JST 133 (JST 131), or REL 133 (REL 131) with C or better; Credit is allowed for only HEB 233 (HEB 132) or JST 233 (JST 132) or REL 233 (REL 132) OR Visiting University Student |
| REL | 240 | Introduction to Southeast Asia | Interdisciplinary introduction to the cultures, religions, political systems, geography, and history of Southeast Asia. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & G | Credit is allowed for only ASB 240 or GCU 240 or HST 240 or POS 240 or REL 240 or SGS 240 OR Visiting University Student |
| REL | 245 | Introduction to India and South Asia | Provides an introduction to the history and major contemporary political, economic, social, religious and cultural features of the South Asia region at large and of selected South Asian nations in particular. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H & G | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only HST 245, POS 245, REL 245, SGS 245 or SLC 245 |

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| REL | 260 | Introduction to Islam | Examines Islamic beliefs, ceremonies, festivals, and institutions. Assumes no prior knowledge about Islam. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Credit is allowed for only HST 260 or REL 260 |
| REL | 270 | Introduction to Christianity | Beliefs, ceremonies, festivals, and institutions of Christianity, emphasizing the contemporary era. Assumes no previous knowledge about Christianity. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | |
| REL | 272 | Heretics, Saints and Emperors: Christianity in the Ancient World | Origins, development and expansion of Christianity; major themes and tensions from the New Testament world to the beginning of the Middle Ages. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only HST 272 or REL 272 (REL 372) OR Visiting University Student |
| REL | 282 | PreHispanic Native Am Wrldview | Surveys cosmological traditions of indigenous civilizations on the Pre-Columbian American continents | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | |
| REL | 287 | Topics in Film, Media, and Religion | Explores specialized topics in the study of film, media and religion. Analyzes how religious values, identities and practices related to various cultural traditions are constructed, communicated and presented through films and media. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Credit is allowed for only FMS 287 or REL 287 |
| REL | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |
| REL | 300 | The Future of Religions | Critical theorists of modern religious and secular beliefs argued that both theism and atheism have had their martyrs and tyrants. Nietzsche proclaimed "God" of the West dead, Marx unmasked religion as opium for the oppressed masses, and Freud analyzed religious future as an unconscious illusion. The future of secular progress has become equally suspect in the wake of the Holocaust, Hiroshima, the gulags, the killing fields of Cambodia, Rwanda. Globally motivated terror revealed itself as capable of religious as much secular justifications. The future of faith and reason has become a doubly open theoretical and practical question in philosophy, religious studies, literary study, critical theory, cultural and gender studies, and all sciences. Applies theoretical and methodological tools to critically exam beliefs, practices, and communities and their role in both generating and transforming the ethical and spiritual discontents of the global age. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only HON 394 (The Future of Religions) or PHI 303 or REL 300 |
| REL | 301 | Comparative Mysticism | Comparative examination of Eastern and Western mystical traditions from antiquity to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| REL | 307 | Religion: Theory and Practice | Examines the intellectual history of academic study of religion through various theoretical approaches, major themes, and thinkers. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; REL 101 with C or better OR Visiting University Student |
| REL | 310 | Western Religious Traditions | Religious traditions of Judaism, Christianity, and Islam, comparing their doctrinal, institutional, and ritual systems and social histories. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours |
| REL | 311 | Israeli Society and Culture | Different partitions of the Israeli society, based on ethnic origin, by religious affiliation or by political association. Depicts how Israel is an absorbing immigration state. Israel is a welfare state and the course covers aspects of a welfare state, such as health, retirement, public transportation, art, higher education and more. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only HEB 348 or HEB 394 (Israeli Culture and Society) or JST 348 or REL 311 or SLC 348 OR Visiting University Student |
| REL | 312 | History and Memory of the Holocaust | In-depth study of the history of the genocide of Jews, the rise of modern antisemitism within the context of Nazi Germany, and the memory and memorialization of the Holocaust post 1945. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 369 or JST 369 or REL 312 or HST 304 (Shoah: History, Memory, and Representation) or HST 394 (History of the Holocaust) |
| REL | 313 | Anti-Semitism in the Media | By examination and discussion of various media, explores the phenomenon of modern anti-Semitism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; FMS 100 with C or better OR Visiting University Student |
| REL | 314 | Jewish Philosophy | The history of Jewish philosophy from its origins in the Hebrew Scriptures to postmodern expressions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with a C or better; minimum 30 hours; Credit is allowed for only HST 390 or JST 314 or PHI 390 or REL 314 |
| REL | 315 | Hebrew Bible (Old Testament) | Nature, content, background, historical situation, and message of the books of the Hebrew Bible in English translation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only JST 315 or REL 315 OR Visiting University Student |

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| REL | 316 | Literary Readings of the Hebrew Bible | Literary analysis of two of the main genres of the Hebrew Bible: narrative art and poetry. Students learn the main literary conventions of biblical prose and poetry, and how these conventions are applied or subverted. Each class comprises the study of a literary aspect, close readings, and thematic discussions. Biblical texts are read only in translation. They are situated in the religious, literary and artistic traditions that have developed on their basis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ENG 316, HEB 316, JST 316, REL 316 OR Visiting University Student |
| REL | 318 | Contemporary American Jewish Identities | Analyzes the complexity and diversity of the contemporary American Jewish community in religious and secular affairs. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (HU or SB) & C | Prerequisite(s): ENG 102, 105 or 108 with C or better; Minimum 24 hours; Credit is allowed for only JST 318, REL 318 or SOC 375 |
| REL | 319 | Religion, Violence and America | In-depth study of ways in which religion and violence have shaped American history, culture and identity. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105 or 108 with C or better; Minimum 24 hours; Credit is allowed for only REL 319 or 394 (Religion, Violence & America) |
| REL | 320 | American Religious Traditions | Examines the formation, development, and interaction of major American religious traditions (indigenous, African American, Asian American, and Euro-American). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & C & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 24 hours OR Visiting University Student |
| REL | 321 | Religion in America | History of religion in America with attention to issues of historiography, pluralism, gender, race, ethnicity, politics, and social reform. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & C & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| REL | 323 | African American Religion | Examines the experiences, motivations, and contributions of a number of figures associated with African American religion. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours |
| REL | 324 | Sacred Healing and Arts of the Africana World | Multidisciplinary exploration of religion and religiosity with respect to Black cultural developments such as music, art, food and healing. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| REL | 326 | Hispanic Religion, Culture and Healing | U.S. Hispanic and Latin American religious history with special attention to what are mestizo hybrid cultures and their healing methods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only REL 326 or TCL 328 OR Visiting University Student |
| REL | 330 | Native American Worldviews | Presents worldviews through the art, architecture, writing, mythology, ritual and folklore of tribes in Native America. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| REL | 331 | Indigenous American Religious History | Explores religion in post-European contact Indigenous American history, including hybrid adaptation and revitalization movements. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & C & H | Prerequisite(s): ENG 102,105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| REL | 333 | Biblical Hebrew Literature I | Advanced study of Biblical Hebrew. Deepens understanding of the grammar and composition of the Hebrew Bible. Translates texts of different literary genres (narrative, legal, poetic, prophetic) and different periods. Introduces the basic principles of textual criticism and different approaches to interpret the texts of the Hebrew Bible. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G | Prerequisite(s): HEB 233 (HEB 132), JST 233 (JST 132), or REL 233 (REL 132) with C or better; Credit is allowed for only HEB 333 (HEB 231) or JST 333 (JST 231) or REL 333 (REL 231) OR Visiting University Student |
| REL | 334 | Biblical Hebrew Literature II | Readings in prophetic and wisdom texts of the Hebrew Bible and cognate literature (Dead Sea Scrolls, inscriptions, etc.). Addresses advanced topics in Biblical Hebrew language and literature, as well as in translation and interpretation. Topics and texts change annually. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G | Prerequisite(s): HEB 333 (HEB 231), JST 333 (JST 231), or REL 333 (REL 231) with C or better; Credit is allowed for only HEB 334 (HEB 232) or JST 334 (JST 232) or REL 334 (REL 232) OR Visiting University Student |
| REL | 338 | Daode Jing: Way to the West | At 5,000 words, the Daode Jing [Tao-te ching, "the Scripture of the Way and its Powers," attributed to the Sage Laozi] is perhaps the shortest religious book in the world. It is also the most widely misinterpreted. In China, Daoists, Buddhists and Confucians have each taken its short, pithy statements as warrant for their very different belief systems. In the West, missionaries, new-age pundits, hippies, rock-stars, mystics and LSD advocates each claim to understand the "true meaning" of Laozi's mystical words. But "the farther one travels, the less one knows..." Students read representative samples of these explanations to understand why this brief book of wisdom has endured for over 2000 years. Requires no knowledge of Chinese. Presents all Chinese texts in the translations of the instructor. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only CHI 338 or REL 338 OR Visiting University Student |
| REL | 343 | Daoism | Introduces the history, doctrines, and practices of Taoism from the mid-second century CE up to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & G & H | Prerequisite(s): minimum 24 hours; ENG 102, 105, or 108 with C or better; Credit is allowed for only CHI 343 or REL 343 OR Visiting University Student |
| REL | 344 | Religion and Values in Japanese Life | Japanese values expressed in the life and annual cycles of the family, local and national identities, and popular culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Prerequisite(s): ENG 102, 105 or 108 with C or better; Minimum 24 hours |

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| REL | 345 | Asian Religious Traditions | Introduces the major concepts of religious beliefs, rituals, and practices in Hinduism and Buddhism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Prerequisite(s): ENG 102, 105 or 108 with C or better; Minimum 24 hours |
| REL | 346 | Chinese Religions | Examines the history and practices of Chinese religions with particular attention to culture, society, and history. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only CHI 346 or REL 346 OR Visiting University Student |
| REL | 347 | Religions of India | In-depth analysis of major Indian religious traditions in historical and contemporary context, with attention to theologies, textual genres, doctrines, rituals, political and cultural expressions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| REL | 348 | Religion and Culture in Southeast Asia | In-depth study of the religious diversity of Southeast Asia including Hinduism, Buddhism, Islam, Christianity, spirit cults and ancestral religions. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102 or 105 or 108 with C or better; minimum 24 hours; Credit is allowed for only REL 294 (Southeast Asia Global Crossroads) or REL 348 |
| REL | 349 | Nature, Sustainability and Religion | Explores how world religions have conceptualized the natural world, what they have contributed to the current environmental crisis and how they might also serve as inspiration to address the crisis. By focusing on Judaism, Christianity and Islam, the course introduces students to the field of religion and ecology and explores its relationship to other academic disciplines such as environmental philosophy and ethics, justice studies and gender studies. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only HPS 349 or JST 349 or REL 349 or SOS 349 or JST, REL, or SOS 394 (Religion and Ecology) or JST, REL, or SOS 394 (Religion and Environment) |
| REL | 350 | Hinduism | Studies diverse forms of Hinduism through its institutions, literature, folklore, art, and architecture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| REL | 351 | Buddhism | Doctrines, practices, and institutions of the Buddhist religion, emphasizing its role in the history and culture of Asian societies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| REL | 352 | Modern Buddhism | Focuses on modern issues related to Buddhism with special attention to colonialism, nationalism, the development of the nation-state and globalization. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105 or 108 with C or better; Minimum 24 hours; Credit is allowed for only REL 352 or 394 (Modern Buddhism) |
| REL | 353 | Zen and Japanese Culture | Students conduct historical, philosophical and sociological analyses of some of the fundamentals of Zen, mainly those of Japanese tradition. Examines the influence of Zen thoughts on value, culture and society in both pre-modern and modern Japan. Classes consist of lectures, documentary films and discussion sessions. Taught in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only JPN 354 or JPN 394 (Zen and Japanese Culture) or REL 353 or SLC 354 or SLC 394 (Zen and Japanese Culture) OR Visiting University Student |
| REL | 354 | Religions of Korea | Explores major religious traditions and folk religions in Korea. Covers diverse topics such as mythology, indigenous practices, doctrinal and meditation Buddhism, early and Neo-Confucianism and Christianity as well as the new religions of modern times. Discusses the development of religious ideas and practices in light of the political, cultural and social milieus. Focuses on cultural importation and adaptation as well as interaction and conflict among the different religious traditions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102 or 105 or 108 with C or better; minimum 24 hours; Credit is allowed for only KOR 354 or REL 354 |
| REL | 355 | Japanese Cities and Cultures to 1800 | Relations among ideas and literary, visual, and performing arts of the ancient aristocracy, medieval samurai, and early modern townspeople. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | |
| REL | 356 | Buddhism in America | Examines diverse Buddhist traditions in the U.S. among Asian-American communities and converts to this religion. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours |
| REL | 357 | Theravada Buddhism in South and Southeast Asia | Examines Theravada Buddhist institutions, practices, and communities in ancient and contemporary south and southeast Asia. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours |
| REL | 360 | Ancient Greek Religion | Surveys ancient Greek religion, including its gods, ritual practices and festivals. Analyzes the development of the religion over time, and how both ancient and modern figures interpreted its meaning. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 101 (or ENG 105 or 107) with C or better; Credit is allowed for only GRK 362, REL 360, SLC 362 or SLC 394 (Ancient Greek Religion) |
| REL | 361 | Roman Religion | Roman religion was never static, despite the best efforts of the Roman state to make it so. Understands the artifacts and procedures of Roman state cult from its earliest origins to the late empire, using ancient literary sources, archaeology throughout the ages and modern scholarly theories. Clarifies the forces that influenced development and change in Roman religion, both internal and external. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only LAT 361 or REL 361 or SLC 361 or SLC 394 (Roman Religion) OR Visiting University Student |

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| REL | 362 | Islam and Islamic Societies in Africa: Social and Political History | An in-depth study of the fundamental principles of Islam. Course will examine various forms of development of Muslim societies and institutions in Africa through time. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours; Credit is allowed for only AFR 372 (or AFS 372) or REL 362 or SGS 366 or AFS 394/REL 394/SGS 394 (Islam and Islamic Societies in Africa: Social and Political History) |
| REL | 363 | Islam and World Affairs | Advanced examination of complex trends to construct the roles of Islam as a belief, its institutions, leaders and ordinary believers in contemporary world affairs. Studies different developments, including the rise of (political Islam) fundamentalism, to subsequent changes in the Muslim world, challenges Muslims face, and domestic and international conflicts. Challenges students to reconceptualize and broaden their understanding of the powerful presence of religion in this era of globalization. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours. Credit is allowed for only AFR 373 (or AFS 373) or REL 363 |
| REL | 364 | Islam in Eurasia and Central Asia | Examines the changing role of Islam in Eurasia and Central Asia through history and interprets current transformations in the region. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105 or 108 with C or better; Minimum 24 hours; Credit is allowed for only REL 364 or 394 (Islam in Eurasia & Central Asia) |
| REL | 365 | Islamic Civilization | Global historical survey of Islamic cultures and societies up to the modern period. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only HST 336 or REL 365 OR Visiting University Student |
| REL | 366 | Islam in the Modern World | Examines the worldwide transformations of Islamic religion, cultures, and societies in the modern period. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 24 hours; Credit is allowed for only HST 339 or REL 366 OR Visiting University Student |
| REL | 367 | Religion, Philosophy and Culture in Japan | Examines the influence of Japanese thoughts on value, culture and society while surveying the major religious and philosophical traditions in both pre-modern and modern Japan focusing on Shinto, Confucianism, Daoism, Buddhism and New Religions. Classes consist of lectures, documentary films and discussion sessions. Taught in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only JPN 367 or JPN 394 (Religion, Philosophy, and Culture in Japan) or REL 367 or SLC 367 OR Visiting University Student |
| REL | 369 | Women in Islam | Examines the roles women have played through Islamic history (Middle East) and the changing discourse on gender identity. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | |
| REL | 371 | New Testament | Origins and literature of early Christian communities; historical investigations of the types of oral and written tradition in the New Testament. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | |
| REL | 374 | Witchcraft and Heresy in Europe | Background, origins, and development of the Inquisition; persecution of women and marginal groups. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & H | Prerequisite(s): ENG 102, 105 or 108 with a C or better; minimum 30 hours; Credit is allowed for only HST 361 or REL 374 OR Visiting University Student |
| REL | 375 | Lost Scriptures, Forgotten Gospels | Wide diversity of early Christianity and its suppressed and lost texts, which have been found in modern times. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR Visiting University Student |
| REL | 376 | Virgin Mary in History, Film, and Culture | Introduces formation and development of cult of the Virgin Mary; analyzes transformations of Mariology within historical, cinematic, and cultural contexts. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L or HU | Prerequisite(s): ENG 102, 105, or ENG 108 with C or better; Credit is allowed for only FMS 376 or REL 376 |
| REL | 377 | Religion in Russia | Examines the history of the various religious traditions of Russia and the former USSR from an interdisciplinary perspective. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours OR Visiting University Student |
| REL | 378 | Religion, War and Peace | In-depth study of the religious, political and ethical dimensions of violence and war. Compares perspectives of Christian, Jewish and Islamic traditions as well as secular viewpoints. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L | Prerequisite(s): ENG 102, 105 or 108 with C or better; Minimum 24 hours; Credit is allowed for only POS 378, REL 378 or 394 (Religion, War and Peace) |
| REL | 379 | Religion, Nationalism, and Ethnic Conflict | Examines the role of religion in national and ethnic conflict in the contemporary world. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only REL 379 or SGS 343 OR Visiting University Student |
| REL | 381 | Religion and Moral Issues | Manner in which human religiousness relates to social concerns, e.g., sexuality, the environment, bioethical issues, and violence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| REL | 382 | Magick, Religion and Science | Relationship and conflict among magic, religion and science in the West from antiquity to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L or HU | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 24 hours |

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| REL | 383 | Religion and Sports | Religion and sport in America are both long-held and passionately maintained cultural components. The first part provides a framework for understanding scholarly analyses and approaches regarding the intersections of religion and sport primarily in the 20th and 21st centuries. Indeed, religious sentiments and doctrines have played and continue to play an important role in creating today's American sporting culture. The second part seeks to understand particular arguments framing sports as a space of religious expression or more boldly as a religion in the United States. To gain various perspectives, students engage with various materials including scholarly works, recorded lectures and podcasts, popular culture videos, and conduct qualitative interviews with student athletes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only ASB 383 or REL 383 or REL 394 (Religion and Sports) |
| REL | 385 | Contemporary Western Religious Thought | Introduces contemporary Jewish and Christian thought. Topics include religion and politics, problem of evil, interpretations of God, and feminist theology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 24 hours |
| REL | 387 | Religion and Conflict: Theories and Cases | In-depth study of religion and conflict across multiple traditions and regions. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 24 hours; Credit is allowed for only REL 387 or 394 (Religion and Conflict: Theories and Cases) |
| REL | 388 | Religion, Ethics, and International Politics | Religious and ethical dimensions of international politics. Addresses historical and contemporary ideas, movements, issues and events. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only POS 388 or REL 388 OR Visiting University Student |
| REL | 389 | Black Religion: Sex, Power and Eroticism | Explores sexuality and eroticism in the context of the religion, more specifically, the religion of the African Diaspora and Black religious experience in the Americas. Takes an interdisciplinary journey into the intersections of race, sexual norms and mores, and gender dynamics as it pertains to religious praxis, identity and embodied faith. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; min 24 hrs; Credit is allowed for only AFR 368 or AFR 394 (Black Religion: Sex, Power, and Eroticism) or AFS 394 (Religion:Sex,Power,Eroticism) or REL 389 or WST 394 (Religion, Sex, Power, Eroticism) |
| REL | 390 | Women, Gender and Religion | Examines the role of women and the construction and practice of gender identities across religious traditions and cultures. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only REL 390 or WST 390 OR Visiting University Student |
| REL | 391 | Historical Perspectives on Philosophy and Religion | Comprehensive, advanced study of central concepts in the philosophy of religion in the history of Western philosophy. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or ENG 108 with C or better; minimum 30 hours; Credit is allowed for only HST 357 or PHI 391 or REL 391 |
| REL | 393 | Religion and Sex | Examines what issues are involved in incorporating sexuality into religion and how/why religious traditions seek to control sexuality. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours |
| REL | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |
| REL | 396 | Islam and Politics | Examines Islamic political ideas with respect to texts, history, society and movements from Muhammad to the present day. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only HST 396 or REL 396 (REL 460) OR Visiting University Student |
| REL | 401 | Sacred Scriptures and Social Choices | Examines relationships among contemporary moral issues and the sacred scriptures to support choices at individual, group, and public levels. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & G | |
| REL | 405 | Problems in Religious Studies | Selected topics in religious studies; involves students in research interests of instructor. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Religious Studies major; REL 307 with C or better |
| REL | 406 | Religious Studies Capstone I | Develops skills necessary for conducting and presenting in-depth research in the field of religious studies. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1 | | Prerequisite(s): Religious Studies major; REL 307 with C or better; senior standing |
| REL | 407 | Religious Studies Capstone II | Uses previously developed research to produce original research project in religious studies. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 2 | | Prerequisite(s): REL 406 |
| REL | 410 | Judaism in Modern Times | Variety of expressions of Judaism and Jewishness in the modern period. Topics may include American Judaism or religious responses to the Holocaust. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | |

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| REL | 411 | Judaism and the Beginnings of Christianity | Studies the beginnings of Christianity in relation to Judaism: their common context, the process of their distinction and their mutual influence. Through a historical and thematic approach, explores the parallel construction of Jewish and Christian identities. Combines readings from primary sources (Hellenistic Judaism, Qumran, New Testament, Early Christianity, Rabbinic Judaism) and up-to-date scholarly literature. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | Prerequisite(s): ENG 101,105,107,108 or HST 100,102 or REL 100 or SLC 142, 202 w/ C or better; Credit is allowed for only HEB/JST/REL 411 or HEB 394 (Judaism & the Origins of Christianity) or HEB 494 (Judeo-Hellenistic Lit) OR Visiting University Student |
| REL | 413 | Sacred Crimes: Religion and Violence | Religion is capable of doing great good in the lives of humans, leading them to personal betterment and positive social contributions. Yet, throughout human history religion has also led some individuals to engage in acts of violence and other dangerous behaviors. This course explores the history of several religious traditions and texts and their complicated connections to violence and criminality. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | G & H | Prerequisite(s): ENG 102, 105, or 108 w/ C or better; Credit is allowed for only CRJ 423 or FOR 413 or REL 413 or FOR 494 (Sacred Crimes: Religion, Violence & Crim) or REL 494 (Sacred Crimes: Religion, Violence & Crim) OR Visiting University Student |
| REL | 420 | Religion in American Life and Thought | Influence of religion on American society, culture, and ideas; the distinctive character of religion in America. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU | |
| REL | 429 | Studies in European Literature and Culture | Literary, cultural, and historical issues. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s) with C or better: ENG 101, 105, 107; ENG 200; one ENG 200- or 300-level literature course OR ENG 101, 105, 107; min 45 hours; Credit is allowed for only CEL 429 or ENG 429 or REL 429 or SLC 429 or THE 429 OR Visiting University Student |
| REL | 450 | Philosophical and Spiritual Issues in Death and Dying | From Plato to Maimonides to Heidegger to Kubler-Ross, scholars, clinicians and spiritual writers have recognized that attitudes about death and dying contribute to understandings of human existence. Recalling the ancient Socratic, biblical and other spiritual traditions of the cura animarum (care for and cure of the soul) and joining contemporary post/secular conversations relevant to integration of body-mind-spirit, this course introduces basic concepts and practices of care ethics and spirituality. Focuses on relations among existential (ontological), therapeutic (psychosomatic), and spiritual (religious) dimensions of care. Theoretically, the course is inter-faith in approach, holistic in scope, and specialized in content. Practically, students examine real-life issues in care ethics and spirituality from multiple perspectives. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only IAS 450 or MAS 550 or PHI 450 or PHI 494 (Issues in Death & Dying) or REL 450 or REL 494 (Issues in Death & Dying) OR Visiting University Student |
| REL | 454 | History of Genocide | Examines the individuals and institutions responsible for the most infamous episodes of state-sanctioned violence in the 20th century. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | G & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only FOR 454 or HST 454 or REL 454 OR Visiting University Student |
| REL | 459 | God and the Problem of Suffering | Examines whether a Western theistic conception of God (that is, an omniscient, omnibenevolent, omnipotent being--the God of the three main Western religions) is compatible with the existence of what appears to be an abundance of pointless suffering in the world. Addresses the logical and evidential problem of (moral and natural) evil, as well as a variety of proposed theodicies through the study of philosophical texts, literature and film. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only PHI 422 or REL 459 or PHI 494 (God and the Problem of Suffering) or REL 494 (God and the Problem of Suffering) |
| REL | 461 | Different Voices Within Contemporary Islamic Discourse | Examines modern Muslim discourse on major contemporary issues such as Shari'a, Jihad, secularism, gender, civil rights, democracy, extremism, religious violence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AFR 480 or REL 461 or SGS 442 |
| REL | 470 | Religion in the Middle Ages | Religious aspects of medieval life and thought; variety of forms of dissent, heresy, and reform movements from the 4th to 13th centuries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | |
| REL | 471 | Reformation and Modern Christianity | Protestant Reformation to contemporary Christian movements; includes factors in the dissolution of the Medieval Christian synthesis, variety of reform movements and reformation patterns, Catholic counter-reform measures, formation of liberal theology, ecumenical movement, and the World Council of Churches. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H | |
| REL | 480 | Religion and Global Politics | Explores the nature and role of religion in international politics in the modern period. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | L & G | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only REL 480 or SGS 441 OR Visiting University Student |
| REL | 483 | Religion and Science | Investigates the correlation between science and religion as an interdisciplinary study from a historical perspective. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | |

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| REL | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Pre-requisite: Minimum CUM GPA of 2.00 |
| REL | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| REL | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| REL | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | |
| REL | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-7 | | |
| REL | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-3 | | |
| REL | 501 | The Study of Religion I: Genealogies, Disciplines and Power. | Explores the historical formation and theoretical foundations of the study of religions. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| REL | 502 | The Study of Religion II: Epistemology, Practice and Mediation | Engages with advanced contemporary studies of religions. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| REL | 503 | Black Intellectual Thought and Radical Imaginary | Brings together philosophy, religion and history to explore the ways Black intellectuals have developed new ways of being, seeing and thinking. Critically examines the lives, work and writings of Africana religious studies as they engage religion, race, gender and modernity. Although increasingly critical of "religion" and religious institutions, prophets, philosophers and poets creatively employed religious and spiritual language, scholarship, symbols and ideals as potent weapons in opposition to racial, religious, gendered and economic oppressions globally. By creatively linking both activism and scholarship would be also pioneering contributions to a number of academic disciplines including religious studies, journalism, Africana studies, history, sociology, literature, womanist/feminist studies and justice studies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only AFR 494 (W.E.B. Du Bois & Religious Imagination) or REL 494 (W.E.B. Du Bois & Religious Imagination) or REL 503 or REL 591 (W.E.B. Du Bois & Religious Imagination) |
| REL | 504 | Digital Humanities: Critical Theory and Methods | Digital technologies are now intricately woven into our lives--whether it's in terms of authoring a paper in a text editor, sending texts and emails, or doing data analysis. Popular narratives of the "big" and the "new" celebrate and sometimes bemoan the ways that these tools shape our communication, access to information, habits and even our physical bodies. Focuses on the histories of these technologies, their operations, popular conceptions about such tools, and their affordances and limits for humanities scholarship. Students learn how to leverage digital technologies, but also how to critically read them. Broad ranging; in addition to surveying the "big tent," students are encouraged to utilize their final projects to engage with specific disciplinary digital tools and methods relevant to their scholarly work. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CDH 501 or HST 504 or REL 504 |
| REL | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | |
| REL | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| REL | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | |
| REL | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | |

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| REL | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1 | | |
| REL | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| REL | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | |
| REL | 603 | Teaching World Religions | Seminar designed to prepare participants to teach a course similar to ASU's REL 100. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Pre-requisites: Phd or Masters student in Religious Studies |
| REL | 620 | Theories in the Anthropology of Religion | Premised on the study of religion as formations of discourse that are embedded in cultural contexts and histories and involve people, practices and texts. This seminar provides the literacy and competence to critically examine and be conversant in the following areas of emphasis: (1) classical and contemporary theories in the anthropology of religion; including foundational authors such as Marx, Mauss, Durkheim, Weber, Geertz, Sahlins and Tambiah, and contemporary works by Cannella, Kean, Pels, Asad, and others; (2) themes like ritual, time, practice, discourse, memory, material culture and commodification; and (3) the anthropological study of particular religious traditions, e.g., the anthropology of Buddhism, Islam or Christianity. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only REL 620 or ASB 691 (AnthroTheories of Religion) or REL 691 (Anthro of Religion) or REL 691 (AnthroTheories of Religion) or REL 691 (Theories in Anthro of Religion) |
| REL | 621 | Ethnography Theory and Methods | Ethnographic theory and method approaches to recording and studying lived cultural practice. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): Religious Studies MA or PhD student; Credit is allowed for only REL 621 or REL 591 (Ethnography Theory and Method) or REL 691 (Ethnography Theories and Methods) |
| REL | 626 | Themes in the Anthropology of Religion | Under this rubric, faculty offer seminars on thematic concerns such as: the anthropology of ritual, memory, modernity, post-colonialism, conflict and revolution, hybridity, peacemaking and secularism, semiotics, conversion, iconography, embodiment, material culture. Topics may vary depending on instructor. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| REL | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | |
| REL | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | |
| REL | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| REL | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-15 | | |
| REL | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1 | | |
| REL | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-15 | | |
| ROM | 101 | Elementary Romanian Language and Culture I | First course in a four-semester sequence that teaches Romanian as a foreign language at ASU. Provides the development of basic speaking, listening, writing, reading and cultural awareness skills. Interactive classroom activities focus on practicing everyday Romanian and ultimately enable students to successfully handle a variety of simple tasks in straightforward social situations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | HU & H & G | Students may not enroll in ROM 101 if credit with C or better earned in ROM 102, ROM 201, ROM 202, ROM 313, ROM 314, ROM 411, ROM 412 OR Visiting University Student |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|--------|-------------------|--|
| ROM | 102 | Elementary Romanian Language and Culture II | Advances the development of basic speaking, writing, reading and cultural awareness skills. Interactive classroom activities focus on practicing everyday Romanian and ultimately enable students to successfully handle a variety of tasks in straightforward social situations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | HU & H & G | Prerequisite(s): ROM 101 with C or better OR Visiting University Student |
| ROM | 201 | Intermediate Romanian Language and Culture I | Third course in a four-semester sequence that teaches Romanian as a second language at ASU. This module is the first part of an intermediate-level course, emphasizing both oral and written communication through the development of speaking, writing, reading and cultural awareness skills. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | HU & H & G | Prerequisite(s): ROM 102 with C or better OR Visiting University Student |
| ROM | 202 | Intermediate Romanian Language and Culture II | Second part of an intermediate-level course placing emphasis on both oral and written communication through the development of speaking, writing, reading and cultural awareness skills. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | HU & H & G | Prerequisite(s): ROM 201 with C or better OR Visiting University Student |
| ROM | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| ROM | 310 | Migration and Identity: Digital Storytelling | Represents a fusion of basic theoretical concepts such as globalization, migration, transnationalism and identity with personal narratives in the digital space. Structured in four sections in which students (a) learn a basic theoretical framework of migration studies; (b) listen to and reflect on narratives of migration and identity; (c) learn about digital storytelling; and (d) produce their own digital autobiographical account or interview a migrant. Students engage in a dialogue throughout the course, both in the classroom and in the virtual space (in online discussion forums). In this oral history course, students are at the center of the production of digital stories. At the end of the course students also have the opportunity to provide peer feedback and critically engage in the stories produced in class. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 108 with C or better; Credit is allowed for only ROM 310 or SLC 310 or SLC 394 (Migration and Identity-Digital Storytelling) OR Visiting University Student |
| ROM | 313 | Romanian Composition and Conversation | Develops skills in written Romanian and correct oral expression. Must be taken in sequence with ROM 314. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H & G | Prerequisite(s): ROM 201 OR Visiting University Student |
| ROM | 314 | Romanian Composition and Conversation | Continuation of ROM 313. Develops skills in written Romanian and correct oral expression. Must be taken in sequence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H & G | Pre-requisite: ROM 313 |
| ROM | 343 | Culture and Society Transformation | Uses video documentaries and movies to explore the way in which cultural values, economic background and human interaction impact and transform societies. Societal changes in Central and Eastern Europe make a good case study for contrasting and comparing with other societies and understanding global trends and issues in today's world. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & G | Prereq(s): ENG 101, 105, or 107 with C or better; Credit for only ASB 345 or ASB 394 (Cult & Soc Transform) or JUS 343 or JUS 394(Cult & Soc Transform) or ROM 343 or SLC 343 or SLC 394 (Cult & Soc Transform) or SOS 344 or SOS 394 (Cult & Soc Transform) |
| ROM | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 0.25-4 | | |
| ROM | 411 | Advanced Spoken and Written Romanian I | Improvement of spoken and composition skills. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H & G | Prerequisite(s): ROM 101 with C or better; ROM 201 with C or better; ROM 313 with C or better; ROM 314 with C or better OR Visiting University Student |
| ROM | 412 | Advanced Spoken and Written Romanian II | Improvement of spoken and composition skills. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H & G | Prerequisite(s) with C or better: ROM 101; ROM 201; ROM 313; ROM 314; ROM 411 |
| ROM | 442 | Dracula and Vampire Lore | Vampire stories are not only local phenomena placed in Transylvania, as the common stereotype is incessantly spread. Legends about Dracula and the Count himself may be "untrue," but events that took place during the life and reign of the Wallachian Voevode Vlad Tepes, better known as Vlad the Impaler, are nonfictional. He ruled during the time of the Ottoman Empire extension to Europe and his fight against the Turks give us thought on the altered understanding of Vlad as a vampire figure. Occurring and recurring in continuously changed environments, Count Dracula affects everyone to the same degree, but still remains as secret and elusive as before, pitted against a vision of mysterious spaces that evoke the faraway castles from Whitby, UK (the origin of Stoker's Dracula), from Bran and Poenari Castles in Transylvania as well as the visions of Jules Verne's Castle of the Carpathians. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G & H | Prereq(s): ENG 101, 105 or 107 w/C or better; Credit for only ROM 442 or SLC 442 or SLC 494 (Drac&Vamp Belief in the Wrld) or SLC 494 (Drac&Vamp Castles) or SLC 494 (Drac&Vamp Lore) or SLC 494 (Drac:Between Myth&Hist) OR Visiting University Student |
| ROM | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| ROM | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|---|
| ROM | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | REC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| ROM | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| RTH | 284 | Recreational Therapy Lab | Facilitates hands-on structured experiential learning activities to develop skills and abilities in a variety of recreational therapy interventions (e.g., adapted sports, community integration, creative arts, leisure education, meditation). Students practice and integrate cognitive learning with associated psychomotor skills required to develop proficiency with leadership and practice of the specific recreation activity. | Y | LAB | Y | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-3 | | |
| RTH | 364 | Foundations of Recreation Therapy | Overview of the fundamentals of therapeutic recreation. Introduces the delivery of treatment services for individuals with a variety of illnesses and disabling conditions experienced throughout the lifespan. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| RTH | 384 | Recreational Therapy Practicum | Facilitates a structured fieldwork experience with classroom instruction to integrate knowledge and develop skills and abilities in recreational therapy. Students gain direct service experience with health care, human services, education or recreation programs under the supervision of recreational therapists. | N | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3-12 | | Pre- or corequisite(s): RTH 364 (PRM 364) OR Visiting University Student |
| RTH | 400 | Intervention Techniques in Recreational Therapy | In-depth analysis of theoretical and philosophical approaches to therapeutic recreation practice with emphasis on various facilitation techniques used in therapy. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Pre- or corequisite(s): RTH 364 (PRM 364) OR Visiting University Student |
| RTH | 406 | Program Design and Administration in Recreational Therapy | Examines management strategies and standards of practice applied in a variety of therapeutic recreation programs. Students write a comprehensive program plan including methods of assessment, documentation, service planning, service delivery and evaluation. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): RTH 364 (PRM 364); RTH 384 (PRM 384) OR Visiting University Student |
| RTH | 413 | Leadership and Professional Development in Recreational Therapy | Examines therapeutic recreation leadership theory and strategies, current professional issues, and refinement of professional philosophy and competencies that enable transition from student to professional. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): RTH 364 (PRM 364) OR Visiting University Student |
| RTH | 440 | Advocacy in Therapeutic Recreation | Explores trends and issues facing the field of therapeutic recreation and applies advocacy practices to promote awareness and access. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CRD 563 or RTH 440 (PRM 440) OR Visiting University Student |
| RTH | 450 | Therapeutic Recreation and Community Health | Explores health and social needs among vulnerable populations through classroom instruction and field exposure to maximize understanding and skill mastery assessing, planning and facilitating recreational therapy activities to promote community well-being. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only PRM 550 or RTH 450 (PRM 450) OR Visiting University Student |
| RTH | 453 | Inclusive Community Sport | Examines historical and contemporary perspectives shaping the organization and delivery of competitive and cooperative sport and recreation at the local, regional, national and international levels. Emphasizes exploration of barriers to sport and recreation among diverse sociocultural groups (age, disability, gender, race, etc.) and strategies to facilitate access and participation through a continuum of program delivery options including adapted sport and therapeutic recreation. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CSM 453 or PRM 453 or RTH 453 OR Visiting University Student |
| RTH | 455 | Recreational Therapy and Play with Children, Youth and Families | In-depth study of the philosophical concepts, principles and techniques of play and recreation applied in practice to promote holistic health and well-being among children, youth and families. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Pre- or corequisite(s): CDE 244 or RTH 364 (PRM 364) with C or better if completed OR Visiting University Student |
| RTH | 460 | Assessment and Documentation in Recreational Therapy | In-depth study of the therapeutic recreation assessment process, including examination of interview techniques, assessment instruments, treatment planning, outcomes, evaluation, research, and documentation. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Corequisite(s): RTH 364 (PRM 364) OR Visiting University Student |
| RTH | 463 | Senior Internship | Supervised guided experience in selected agencies. | N | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3-12 | | Prerequisite(s): CRD 403 or RTH 413 (PRM 413) with C or better; Credit is allowed for only CRD 463 or CSM 463 or NLM 463 or PRM 463 or RTH 463 or TDM 463 |
| RTH | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-3 | | |
| RUS | 101 | Elementary Russian I | Structural grammar and basic vocabulary. Introduces and reinforces aural/oral reading and writing skills. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | | Students may not enroll in RUS 101 if credit with C or better earned in RUS 102 or RUS 201 or RUS 202 |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-------------------|--|
| RUS | 102 | Elementary Russian II | Structural grammar and basic vocabulary. Introduces and reinforces aural/oral reading and writing skills. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | | Prerequisite(s): RUS 101 with C or better OR Visiting University Student |
| RUS | 141 | Russian Civilization: From Tsars to Putin | For centuries, Russians have argued about who they are as a people and a nation by turning to their history, religion, literature, arts and language. With a foundation in Russian history and geography and using primary sources, we survey debates over Russian history and civilization to understand how Russians have imagined themselves and their nation and empires. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G & H | Pre- or corequisite(s): ENG 101, 105, or 107 with C or better if completed; Credit is allowed for only HST 141 or RUS 141 or SLC 141 OR Visiting University Student |
| RUS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEL | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| RUS | 201 | Intermediate Russian I | Systematic review of grammar. Develops vocabulary through reading and writing. Drill in aural/oral skills. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): RUS 102 with C or better OR Visiting University Student |
| RUS | 202 | Intermediate Russian II | Systematic review of grammar. Develops vocabulary through reading and writing. Drill in aural/oral skills. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): RUS 201 with C or better; Credit is allowed for only RUS 202 or RUS 295 OR Visiting University Student |
| RUS | 211 | Conversational Russian I | Intensive aural/oral drill to supplement reading and grammatical skills acquired in RUS 101, 102, 201 and 202. Target proficiency level: Intermediate Low. Required of Russian majors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): RUS 102 with C or better; Corequisite(s): RUS 201, 202, or 295 OR Visiting University Student |
| RUS | 212 | Conversational Russian II | Intensive aural/oral drill to supplement reading and grammatical skills acquired in RUS 101, 102, 201 and 202. Target proficiency level: Intermediate Low. Required of Russian majors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): RUS 102 with C or better; Corequisite(s): RUS 201, 202, or 295 OR Visiting University Student |
| RUS | 241 | Russian Pop Culture: Protest and Propaganda | How does Russian culture reflect recent history? How does official culture and various counter movements frame Russia's political present, the country's relationship with its neighbors and multiethnic communities at home? From mainstream entertainment to independent alternatives, Russian artists are addressing changes happening in a country rocked by authoritarianism, corruption and militarism. Under the guise of strengthening the nation's "spiritual bonds," Russian authorities are promoting nationalism, religious dogmatism and uncritical nostalgia for the Soviet past. Protesting these trends are independent artistic initiatives, proposing counter-narratives, social critiques and calls for action. Students learn about the politics of Russian culture today by engaging with texts, films, music and media projects. All course materials and instruction are in English. Students with sufficient language proficiency have an option to analyze sources in Russian. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only HST 241 or RUS 241 or SLC 241 or HON/HST/RUS/SGS/SLC 294 (Russian Pop Culture: Protest and Propaganda) OR Visiting University Student |
| RUS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| RUS | 295 | Russian for Heritage Speakers | Heritage speakers of Russian learn to consciously analyze their passive knowledge of Russian grammar and learn grammatical analysis so that they can master advanced grammatical structures which their native Russian peers use in college-level superior proficiency discourse. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Students may not enroll in RUS 295 if credit with C or better earned in RUS 202 |
| RUS | 311 | Russian Society I | Activates and practices Russian speaking, writing and reading skills; continues a broad introduction to Russian grammar and culture--the customs, behaviors, interests and traditions of the Russian people. Target proficiency level: Intermediate. Required of Russian majors and minors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): RUS 202 or 295 with C or better OR Visiting University Student |
| RUS | 312 | Russian Society II | Activates and practices Russian speaking, writing and reading skills; continues a broad introduction to Russian grammar and culture--the customs, behaviors, interests and traditions of the Russian people. Target proficiency level: Intermediate. Required of Russian majors and minors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): RUS 202 or 295 with C or better OR Visiting University Student |
| RUS | 322 | Scandals and Scoundrels: The Nineteenth-Century Russian Novel | An in-depth study of the Golden Age of Russian literature, including novels of Pushkin, Lermontov, Gogol, Khvoshchinskaia, Turgenev, Dostoevsky, Tolstoy, and Chekhov. Taught in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| RUS | 323 | Russian Literature and Revolution: The Twentieth Century | An in-depth study of 20th-Century Russian prose and poetry by Zinovieva-Annibal, Gorky, Bely, Babel, Mayakovsky, Platonov, Pasternak, Erofeev, Petrushevskia, and other writers. Taught in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G | Pre-requisites: ENG 102, 105 or 108; Credit is allowed for only RUS or SLC 323 |
| RUS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| RUS | 411 | Russian Language, History and Culture I | Students read, listen to, discuss and analyze such authentic materials as Internet forums, blogs, advertisements, various genres of nonfictional writing and TV reporting. Expands knowledge of contemporary culture and history. Target proficiency level: Advanced Low. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): RUS 312 with C or better OR Visiting University Student |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|--|
| RUS | 412 | Russian Language, History and Culture II | Students read, listen to, discuss and analyze such authentic materials as Internet forums, blogs, advertisements, various genres of nonfictional writing and TV reporting. Expands knowledge of contemporary culture and history. Target proficiency level: Advanced Low. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): RUS 312 with C or better OR Visiting University Student |
| RUS | 421 | Pushkin | Pushkin's poetry, plays, and prose fiction, including Eugene Onegin, The Little Tragedies, Tales of Belkin, Queen of Spades and The Captain's Daughter. Taught in English. Does not satisfy the Liberal Arts and Sciences language requirement for BA degree. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| RUS | 423 | Dostoevsky and Tolstoy | An in-depth study of Dostoevsky's and Tolstoy's major works, including "Crime and Punishment", "Brothers Karamazov", and "Ana Karenina". Taught in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| RUS | 425 | Chekhov and Russian Drama | An in-depth study of Chekhov's major works, representative short stories and major plays, including "The Cherry Orchard" and "Three Sisters". Taught in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only RUS 425 or THE 425 OR Visiting University Student |
| RUS | 430 | Russian Short Story | Detailed study of representative works of the Russian short story genre. Includes authors from both Imperial and Soviet Russia. Instructed in Russian. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; RUS 312 with C or better OR Visiting University Student |
| RUS | 439 | Art in Exile: Vladimir Vladimirovich Nabokov | In English. The scandalous success of Lolita (1955) allowed Vladimir Nabokov to retire from teaching at Cornell University and move to Switzerland to devote himself to fiction, translation, criticism and lepidoptery. This was only one of the many metamorphoses that Nabokov, a Russian noble, underwent while in exile, moving from Russia to the Crimea, Cambridge UK, Berlin, Paris, Cambridge MA, Ithaca, Hollywood and finally Montreux. Examines the Russian roots of Nabokov's Russian (in translation) and American novels about exile: his first novel, Mary (1926), The Defense (1929), Glory (1932), and his tribute to 19th-century Russian literature, The Gift (1938), which he considered his greatest Russian novel. These are followed by Lolita (1955), Pnin (1957) and Pale Fire (1962), his memoirs, Speak, Memory (1966), and some essays and short stories. Films include Lolita by Stanley Kubrick (1962) and Adrian Lyne (1997). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 102 or 105 or 108 with C or better; Credit is allowed for only RUS 439 or SLC 439 or ENG/RUS/SLC 494 (Art in Exile: Vladimir Vladimirovich Nabokov) |
| RUS | 440 | Russian Mass Media | Explores various aspects of modern Russian life through printed mass media, especially Internet media sources, and helps to develop advanced spoken, listening, reading and written skills in Russian. Students work with live television news broadcasts and investigate the most important general sources of electronic information, including electronic newspapers and the main Russian Web sites on a wide range of issues such as culture and the arts, government and politics, business and economics, armed conflicts, and accidents and catastrophes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): RUS 211 with C or better; RUS 212 with C or better. Credit is allowed for only RUS 440 or RUS 494 (Russian Mass Media) OR Visiting University Student |
| RUS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| RUS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| RUS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| RUS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| RUS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| RUS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SAO | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Office of the Provost | Office of the Provost | 1-4 | | |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| SAO | 196 | Study Abroad Office Placeholder | Reserved for undergraduate participants in Study Abroad Office (SAO) Partnership and Exchange study abroad programs. This placeholder course remains on the student's academic record until the student's record is updated by SAO following the completion of the student's study abroad program. This course is then dropped and replaced with the ASU courses, credits, and grades equivalent to the coursework completed abroad. Students must register for at least the number of credits equivalent to full-time study at ASU (i.e., 12 hours during the fall and spring semesters, or 1-6 hours during the summer session). Students participating in an SAO Partnership program must register for the topic "SAO: Study Abroad Program"; participants in an SAO Exchange Program must register for the topic "SAO: Exchange Program." NOTE: This placeholder course is not an indication of the level of coursework or the total number of credits the student may complete abroad. Acceptance to an ASU Study Abroad Office program is required. | Y | LEC | Y | OPT | Office of the Provost | Office of the Provost | 1-18 | | |
| SAO | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Office of the Provost | Office of the Provost | 1-4 | | |
| SAO | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Office of the Provost | Office of the Provost | 1-4 | | |
| SAO | 596 | Study Abroad Office Placeholder | Reserved for graduate participants in Study Abroad Office (SAO) Partnership and Exchange study abroad programs. This placeholder course remains on the student's academic record until the student's record is updated following the completion of the student's study abroad program. This course is then dropped and replaced with the ASU courses, credits, and grades equivalent to the coursework completed abroad. Students must register for at least the number of credits equivalent to full-time study at ASU (i.e., 9 hours during the fall and spring semesters, or 1-6 hours during the summer session). Students participating in an SAO Partnership program must register for the topic "SAO: Study Abroad Program"; participants in an SAO Exchange Program must register for the topic "SAO: Exchange Program." NOTE: This placeholder course is not an indication of the level of coursework or the total number of credits the student may complete abroad. Acceptance to a Study Abroad program is required. | N | LEC | Y | OPT | Office of the Provost | Office of the Provost | 1-18 | | |
| SBS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-4 | | |
| SBS | 200 | Introduction to Social and Behavioral Sciences | Overview of the social and behavioral sciences, indicating their contributions to society and emphasizing interdisciplinary integration | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | |
| SBS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-4 | | |
| SBS | 300 | Careers in Psychology | Professional and academic careers in psychology, with a focus on both career and adult development. Provides opportunities to enhance self-assessment and evaluation strategies for both academic planning and postbaccalaureate professional pursuits while also addressing current issues that affect us at any stage of development. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SBS | 301 | Cultural Diversity | Critical analysis of the complexities of the cultural politics of difference in the contemporary United States. Through interdisciplinary and comparative study, examines a range of theoretical and public/popular cultural discourses about the cultural contributions, experiences, perspectives of, by, and about U.S. residents of diverse racial, ethnic, class, gender, sexual, and transnational origins or identities. Analyzes the social conditions and historical precedents that have shaped current diversity concepts and debates, deepening knowledge and understanding of multiple perspectives on these issues and their relevance to social and behavioral sciences. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | (L or SB) & C | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum junior standing OR Visiting University Student |
| SBS | 302 | Qualitative Methods | Basic methodological issues in the systematic application of qualitative analysis of human social life. Surveys range of qualitative methods used by social and behavioral scientists. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | |
| SBS | 303 | Quantitative Methods | Concepts underlying design and implementation of quantitative research methods. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | |
| SBS | 304 | Social Statistics I | Statistical techniques of the social and behavioral sciences. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | CS | |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| SBS | 335 | Power and American Democracy | Explores how persistent patterns of marginalization and privilege impede the realization of democratic ideals in U.S. society. In particular, unpacks how, in practice, different forms of political power reinforce or challenge persistent patterns of marginalization and privilege. In combination with the study of power as the repression and control of others' actions, the course also explores power as exercised in the collective production of social boundaries. Students learn how to better analyze, critique and engage with different forms of power operating in U.S. society. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only POS 335 or SBS 335 or POS 394 (Power and American Democracy) or SBS 394 (Power and American Democracy) |
| SBS | 339 | Grassroots Social Movements | Explores how groups mobilize collectively to produce social, political, economic and cultural change, with an emphasis on the United States. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ASB 339 or POS 339 or SBS 339 or SOC 339 OR Visiting University Student |
| SBS | 342 | Mexico-U.S. Borderlands | Contemporary examination of socioeconomic and political dimensions of border communities, and formation of Mexican-origin communities within and outside the Southwest. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & C | Credit is allowed for only ASB, SBS or SOC 342 |
| SBS | 356 | Central American Studies | Part of the summer ASU study abroad Costa Rica Program, which is a language and social sciences immersion program in the capital city, San Jose. A summer offering permits students to enroll in the program without conflicting with full course loads during the fall or spring semester. However, the course is proposed as a stand-alone course that can be offered in a regular semester as well. | N | REC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | Credit is allowed for only ASB 356 or GCU 356 or POS 354 or SBS 356 or SOC 356 |
| SBS | 374 | Cultures and Politics of the Internet | Explores the culture and politics of the Internet in global perspective, including virtual communities, free software, copyleft, blogs, and hacktivism. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | Credit is allowed for only ASB, POS, SBS or SOC 374 |
| SBS | 389 | Ethnographic Field Lab | Hands-on, guided ethnographic qualitative research and interpretative analysis. | N | LAB | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-6 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 389 or SBS 389 or SOC 389 OR Visiting University Student |
| SBS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-4 | | |
| SBS | 404 | Social Statistics II: Multivariate Analysis | Analysis of variance, multiple regression, dummy variable regression, path analysis, and related topics. Computer application to problem solving. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | CS | Prerequisite(s): SBS 303 with C or better; SBS 304 with C or better |
| SBS | 430 | Aging and Social Policy | Guides students through an exploration of social policies and policymaking that address the needs of older adults and their families. Situates the experiences of older adults in the context of their environment, examining social welfare policies that affect the rights and interests of older adults. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SBS | 447 | Citizenship, Nationalism and Identity | Critical examination of citizenship, national belonging and identities by examining contemporary social issues and discourses from global and comparative perspectives. Aims to understand complexities of national belonging that go beyond legal, formal citizenship, such as how cultural, racial/ethnic, class and gender differences challenge the limits of national citizenship. Explores case studies that show how members of different societies demonstrate their positions as legitimate national citizens in different and often conflicting ways, especially in order to defend social justice and human diversity. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & C & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 447 or POS 447 or SBS 447 OR Visiting University Student |
| SBS | 450 | Topics in Local/Global | Examines links among social, political, economic changes at local, national, global levels. May be repeated for credit when topics vary. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | |
| SBS | 456 | Studies in Forensic Linguistics | Focuses on the three main aspects of that branch of applied linguistics, namely language and the law, court cases where language is the central dispute, and linguistic evidence. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 456 or FOR 456 or PAX 456 or SBS 456 |

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| SBS | 460 | Global Cities | This close look at megacities in the global south decisively challenges the outdated impression that the rest of the world's cities still lag way behind the U.S. and Europe. The social sciences' debate over "global cities" anchors our examination of the reorganization of metropolitan social space under impact of neoliberal globalization since the 1970s. Explores urban inequalities of slums and dreamworlds; compares vernacular and transnational styles of urbanism (in architecture, design, markets, consumerism, jobs, ads, ways of living); and asks how transnational flows of people, capital and culture have reconfigured ethnic relations and national identities rooted in global cities. Students become virtual transnational flâneurs, tacking between the slums and skyscrapers of global cities, and conduct guided research on a global megacity to investigate how the production of the global city changes the lived space and urban culture of local residents, and how they respond. We ask, whose city is it? | N | LEL | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | Prerequisite(s): minimum junior standing; Credit is allowed for only ASB 442 or SBS 460 |
| SBS | 480 | Global Justice | Explores questions of justice that cross national borders, including delivery of foreign aid, immigration and military intervention. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | G | Prerequisite(s): minimum 45 hours; Credit is allowed for only JHR 494 (Global Justice) or JHR 550 or JHR 598 (Global Justice) or POS 480 or SBS 480 OR Visiting University Student |
| SBS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | |
| SBS | 490 | Senior Thesis I | Supervised, independent, interdisciplinary research and writing on an intellectual issue or social problem chosen by the student. First part of a six-semester-hour sequence, followed by SBS 491. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | |
| SBS | 491 | Senior Thesis II | Supervised, independent, interdisciplinary research and writing on an intellectual issue or social problem chosen by the student. Second part of a six-semester-hour sequence. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | |
| SBS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| SBS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| SBS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-4 | | |
| SBS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| SBS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-3 | | |
| SBS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-4 | | |
| SCM | 200 | Society, Supply Chains and You | Examines the history of supply chains from a domestic and global perspective, the major functions within a supply chain (the Supply Chain), and how supply chains have led to advancements in economics and improved quality of life (Society). Also discusses how technology has led to more efficient supply chains and policies' role in supply chain management and competitiveness. | N | LEC | N | Z1 | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | |
| SCM | 245 | Logistics for the Maritime Environment | Looks at ocean shipping from a civilian shipping perspective. Students gain a greater understanding of the costs associated with ocean shipping. Examines what it takes to clear customs and ship goods across global borders. Also looks at how the sea has affected civilization and how the application of ocean logistics continues to affect the world we live in today. | N | LEC | N | Z1 | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): MAT 117 with C or better OR Visiting University Student |
| SCM | 279 | Maritime Logistics Application Capstone | Uses data and statistics to analyze the efficiency of logistics operations. Students apply the skills and knowledge learned in military/maritime environments and demonstrate a knowledge of the specific demands of those environments using emerging technology such as predictive analytics, process automation and artificial intelligence. | N | LEC | N | Z1 | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): SCM 245 with C or better |
| SCM | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 1-4 | | |

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| SCM | 300 | Global Supply Operations | Explores modern global integrated supply chain management. Covers traditional supply chain topics such as procurement, inventory management, operations, quality management, customer service, performance management and analytics, logistics and transportation. Also discusses issues related to sustainability, humanitarian logistics, ethical business practices and supply chain analytics in the context of evolving supply chains around the world. Students discover how business processes, performance metrics and modern supply chain IT tools aid in the management and growth of effective and efficient supply chains. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prereq(s) w/C or btr: BUS or Non-BUS maj w/min 2.50GPA; ACC 231,232 or 261; CIS 105,236 or CON 251; ECN 221,231 or STP 280; MAT 210,251,265 or 270 OR Engr Mgt maj; CSE 205; IEE 380; MAT 266; Pre/coreq(s): ACC 241,242 or 271 OR Visiting University Student |
| SCM | 303 | Honors Global Supply Operations | Provides an overview of supply chain management, specifically for Barrett Honors students. Explains principles and concepts from a managerial perspective and how they are used for decision making. Course topics include supply management, operations management and logistics management as applied to a supply chain system. Discusses planning, forecasting, performance measurement and improvement, and collaboration from the perspective of providing excellent customer service. Current topics of interest include the impact of sustainability, security and globalization on managing today's supply chains with an emphasis on supply chain technology. Class methodology focuses on an open-forum discussion of principles and a detailed analysis of case studies. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): W.P. Carey BA or BS major; Barrett Honors student; ECN 221 or 231 with C or better; Pre- or corequisite(s): ACC 241, 242, or 271 |
| SCM | 314 | Analytics for Logistics | Focuses on practical tools and technology for real-world decision making, financial and performance analytics. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): W.P. Carey BA or BS major; SCM 300 or 303 with C or better OR Visiting University Student |
| SCM | 315 | Business Decision Models | Covers quantitative tools used to aid decision making in supply chain management. Focuses on analytics using technology and software to include Tableau and Microsoft Excel. Other topics include the use of tools in performance management, project management and supply chain finance. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): MAT 211, 266, or 271 with C or better; SCM 300 or 303 with C or better OR Visiting University Student |
| SCM | 344 | Applied Logistics Management | Presents a synthesis of the principles in global logistics (and supply chain) emphasizing the operation and integration of activities such as transportation, inventory, warehousing, facility location, customer service, packaging and materials handling. Examines applicable technology supporting each activity. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Pre- or corequisite(s): SCM 314 with C or better if completed OR Visiting University Student |
| SCM | 345 | Logistics Management | Provides a deep analysis of many logistics services to include: global logistics, customer service and order management, distribution/fulfillment operations, demand and inventory planning and management, network analysis and design, and transportation operations, carrier selection, costing and negotiation. In addition, reviews current logistics technology process support and integration, as well as how emerging technology is changing the future of logistics. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): W.P. Carey Supply Chain Management BS major; Pre- or corequisite(s): SCM 315 with C or better if completed OR Visiting University Student |
| SCM | 354 | Procurement of Services | Discusses management of the supply function for logistics-based organizations. Allows students to better understand the nature of procuring a service, contracting that service and establishing appropriate performance metrics. Also focuses on supply chain finance, performance management and analytics. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): SCM 300 or 303 with C or better OR Visiting University Student |
| SCM | 355 | Supply Management | Discusses management of the supply function, including organization, procedures, supplier selection, quality, inventory decisions and price determination. Students also review project management and governance, supply chain strategy and change management. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 3 | L | Prerequisite(s): W.P. Carey Supply Chain Management BS major; ENG 101, 105, or 107 with C or better; SCM 300 or 303 with C or better OR Visiting University Student |
| SCM | 380 | Supply Chain Management Foundations | Explores how organizations effectively and efficiently buy things, make things and move things. Topics include procurement, inventory management, manufacturing and operations, as well as logistics and transportation. Students learn about the primary supply chain challenges organizations face and the strategies used to meet customer expectations. Also addresses supply chain issues related to sustainability, ethics, global business and analytics. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prereq(s): Applied Business and Technology Solutions BA, Entrepreneurial Leadership BA, or non-Business major; min 2.00 GPA; min 30 hours OR nondegree-seeking undergrad student OR degree- or nondegree-seeking grad student OR Visiting University Student |
| SCM | 385 | Business and Sustainability I | First of two related courses; provides a general overview of sustainability topics that are important to business today with a focus on consumer products and services and the social and environmental impact of the organizations that provide them. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): SCM 300, SCM 380, or SOS 110 with C or better; minimum 60 hours; Credit is allowed for only SCM 385 or SOS 385 OR Visiting University Student |
| SCM | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 1-4 | | |

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| SCM | 432 | Planning and Control Systems for Supply Chain Management | Covers processes essential to the determination and direction of the flow of resources needed to produce goods and services. Uses Microsoft Excel for supporting analysis. Includes processes, methods, technology and financial impact to forecast, manage inventory, plan needed capacity, determine resources needed for production, determine priority and sequencing of activities, perform master scheduling and material requirements planning. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): W.P. Carey Supply Chain Management BS major; SCM 315 with C or better; SCM 345 with C or better; Pre- or corequisite(s): SCM 355 OR Visiting University Student |
| SCM | 440 | Quality Management/Measurement | Provides a broad introduction to quality management frameworks and tools, with an emphasis on supply chain and operations management issues. Introduces modern quality management approaches including Total Quality Management, Lean and Six Sigma. Students learn how to define quality for a product or service, develop appropriate measurement systems, and apply statistical and systems thinking to control and improve the underlying processes. Covers quality awards and performance excellence programs and quality management systems such as the ISO 9000 family of standards. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): W.P. Carey Business (Retail Management) BA or Supply Chain Management BS major; SCM 300 or 303 with C or better OR Visiting University Student |
| SCM | 445 | Advanced Logistics Management | Logistics processes account for approximately 8% of U.S. GDP; therefore, the efficient and effective execution of these processes is critical to supply chain managers in corporations, government entities and nonprofit organizations. Includes an overview of the processes involved to include customer service, performance management, analytics, technology and supply chain strategy. Includes a survey of the institutions and players in the processes, and the analytical tools to evaluate their efficiency and effectiveness. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): SCM 344 with C or better OR Visiting University Student |
| SCM | 455 | Research and Negotiation | Supply management ensures an organization has resources (i.e., materials, services, equipment) to deliver on promises to stakeholders. This happens by strategically designing supply systems for categories of spend and creating favorable supply agreements. A real-world class project and a real-time contract negotiation simulation helps students understand (1) the relationship among organizational, supply management and purchase category objectives; (2) frameworks and tools to analyze the supply conditions of a category, specifically spend analysis, market/demand analysis and price/cost analysis; (3) how to develop category strategies to ensure adequate and highest value resource supply into the future; (4) the translation of category strategies into manageable supply contracts; and (5) the requisite skills and processes for planning and executing successful contract negotiations. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): W.P. Carey Supply Chain Management BS major; SCM 355 with C or better OR Visiting University Student |
| SCM | 463 | Global Supply Chain Management | With increased globalization and offshore sourcing, global supply chain management is becoming an important issue for many businesses. Like traditional supply chain management, the underlying factors behind the trend are reducing the costs of procurement and decreasing the risks related to purchasing activities. The big difference is that global supply chain management involves a company's worldwide interests and suppliers rather than simply a local or national orientation. Enables students to appreciate the challenges of operating supply chains across international boundaries including how to manage various salient issues including sociocultural, economic, technological and political factors that may shape decisions relating to sourcing and moving goods and services across different geographical boundaries. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 3 | G | Prerequisite(s): W. P. Carey BA or BS major; SCM 300, 303, or 380 with C or better OR Visiting University Student |
| SCM | 479 | Supply Chain Strategy | Discusses supply chain strategy at the strategic level and from a systems point of view in an open-forum and detailed analysis of case studies. Students work in teams to investigate and report on key supply chain functions, drivers and metrics within an integrated system to include network design, innovation, technology enablement, customer service, sustainability, coordination and management of the critical areas of the supply chain. Includes additional focus on project management, corporate social responsibility and governance and financial implications. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 3 | L | Prerequisite(s): W.P. Carey Supply Chain Management BS major; ENG 101, 105, or 107 with C or better; SCM 355 with C or better; SCM 432 with C or better OR Visiting University Student |
| SCM | 485 | Business and Sustainability II | Second of two related courses focusing on the environmental, social and economic dimensions of sustainable technologies and exposes students to a variety of related concepts and theories. Describes technology hotspot analysis, life cycle assessment and a variety of models of technology forecasting and diffusion. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): SCM 385 or SOS 385 with C or better; Credit is allowed for only SCM 485 or SCM 494 (Business and Sustainability II) or SOS 485 |

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| SCM | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 1-6 | | Prerequisite(s): Barrett Honors student |
| SCM | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | W. P. Carey School of Business | Department of Supply Chain Management | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| SCM | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 1-4 | | Prerequisite(s): minimum 60 hours OR Visiting University Student |
| SCM | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 1-7 | | |
| SCM | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Supply Chain Management | 1-3 | | |
| SCM | 501 | Fundamentals of Operations and Supply Chain Management | This contemporary class explores basic operations and supply chain management topics, including process analysis, managing waiting lines, inventory, quality and general supply chain issues and concepts. Designed for students with limited business experience and without an undergraduate supply chain degree to set a foundation of understanding. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): degree-seeking graduate student |
| SCM | 502 | Operations and Supply Chain Management | Explores supply chain management topics including environmental, project and supply chain processes. Additionally, covers processes in the areas of new product introduction development; quality control; TQM (Total Quality Mgt). | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 2-4 | | Prerequisite(s): W. P. Carey MBA or Global Logistics MS student |
| SCM | 515 | Decision Models for Supply Chain Management | Covers decision modeling approaches for supply chain management such as optimization, simulation and decision analysis. Focuses on technology enablement, performance management and analytics, and strategy change and management. Emphasizes modeling using spreadsheet-oriented approaches. Additionally, focuses on financial spreadsheet analysis and its use in optimization. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 2-4 | | Prerequisite(s): W. P. Carey MBA or Global Logistics MS student |
| SCM | 516 | Descriptive and Predictive Analytics | Provides a survey of concepts, structure and analytical tools that lay the foundation for employing quantitative techniques (descriptive and predictive) to gain insights that help decision makers make better decisions. Familiarizes students with descriptive statistics, probability and probability distributions, confidence intervals, hypothesis testing, linear regression, logistic regression and forecasting methods | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): W. P. Carey Business Analytics MS or Global Logistics MS student |
| SCM | 517 | Business Process Analytics | Addresses the use of analytics tools and techniques to enhance the ability of quality management approaches to improve processes. Introduces modern quality management approaches including six sigma and design for six sigma. Covers the define, measure, analyze, improve and control (DMAIC) improvement cycle: the core process used to drive six sigma projects. DMAIC refers to a data-driven improvement cycle used for improving, optimizing and stabilizing business processes and designs. Provides an analytics roadmap to help users work through the DMAIC problem-solving process. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): W. P. Carey MBA or Business Analytics MS student |
| SCM | 518 | Analytical Decision Modeling | Explains the skills and knowledge necessary for mastery of the use of quantitative modeling tools and techniques to support a variety of business decisions. Also explores deterministic optimization techniques, including linear programming, nonlinear programming, integer programming; network models and a brief introduction to metaheuristics. Covers the use of these models for a variety of common business problems. Practical application of these models uses Excel and standalone software. Also studies how to ensure that these solutions work in a wide variety of situations (what-if analysis). | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): W. P. Carey MBA or Business Analytics MS student |
| SCM | 519 | Quantitative Risk Management | Addresses the skills and knowledge necessary to model situations where uncertainty is an important factor. Covers models including decision trees, queuing theory, Monte Carlo simulation, discrete event simulation and stochastic optimization. Uses these models for a variety of common business problems and requires implementation of these models using Excel and standalone software. Studies how to ensure that these solutions work in a wide variety of situations (what-if analysis). Describes each of these methods in detail. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): Business Analytics MS student |

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| SCM | 520 | Strategic Procurement | Applies principles, philosophies and processes of supply management to facilitate the continuous improvement and strategic design of an organization's supply management system on a global basis. Focuses on topics like performance management and analytics, project management and governance and finance. Provides a comprehensive understanding of supply management and its impact on the organization. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Prerequisite(s): W. P. Carey MBA or Global Logistics MS student; SCM 502 with C or better |
| SCM | 521 | Supply Management and Negotiation | Explores the supply management process of selecting, developing and executing of appropriate sourcing strategies and processes. Covers the importance or driving cost, quality and relationship management, as well as organizational change impacts on supply management of a business. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 2-4 | | Prerequisite(s): SCM 520 |
| SCM | 532 | Supply Chain Cost and Design Issues | Strategic design and development of supply chains. Focus on cost-management tools applied to supply chain design and supplier management. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 1-4 | | Pre-requisites: W.P. Carey degree seeking Graduate student |
| SCM | 541 | Logistics in the Supply Chain | Covers theories and practices of modern logistics management within a market-driven supply chain. Begins with an outline of reasons why some operations are not efficient, then introduces management tools to improve efficiency and responsiveness followed by application of analytical tools to evaluate the current logistic management practices. Topics include logistics strategy, demand management, distribution and warehouse management, distribution/warehouse design and location decisions, transportation and delivery frequency, reverse logistics, humanitarian logistics and responsive supply chains. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 2-4 | | Prerequisite(s): W. P. Carey degree-seeking graduate student |
| SCM | 542 | Logistics, Globalization, and Economic Development | Global trade, global networks and the influence those networks have on economic development worldwide. Exposes geographic, economic and sociopolitical perspectives on these issues and invites students to draw conclusions from an increasingly informed perspective. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Pre-requisite: SCM 502 and 541; Co-requisite: SCM 515 |
| SCM | 545 | Cases in Global Logistics | Capstone experience for students in the MS in Global Logistics program. Synthesizes learnings from previous courses and applies this learning to specific issues that have a major global logistics component. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 3 | | Pre-requisite: SCM 502, 515, 541 and 542 |
| SCM | 551 | Operations Planning and Execution | Studies management of the conversion of raw materials to finished goods including scheduling, work-in-process inventory management, and postponement/customization. Students gain a deeper understanding of the integrated supply chain of plan, source, make, deliver and return. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SCM | 581 | Management of Technology and Innovation | Technology life cycles, technology forecasting, new product development process, innovation teams, innovation best practices. | N | LEC | N | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 2-4 | | |
| SCM | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | N | LEC | N | Z1 | W. P. Carey School of Business | Department of Supply Chain Management | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SCM | 587 | Project Management | Provides a comprehensive understanding of project management with particular focus on planning, scheduling and control of business processes. Emphasizes understanding team dynamics and risk analysis, as well as program management tools, governance and enabling of technology to drive supply chain processes. | N | LEC | N | GNA | W. P. Carey School of Business | Department of Supply Chain Management | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SCM | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 1-12 | | Pre-requisites: W.P. Carey degree seeking Graduate student |
| SCM | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | N | LEC | N | Z1 | W. P. Carey School of Business | Department of Supply Chain Management | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SCM | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Supply Chain Management | 1-12 | | |
| SCM | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 1-12 | | |
| SCM | 791 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | LEC | Y | OPT | W. P. Carey School of Business | Department of Supply Chain Management | 1-12 | | Prerequisite(s): W. P. Carey graduate student |
| SCM | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | W. P. Carey School of Business | Department of Supply Chain Management | 1-15 | | |

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| SCM | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | LEC | N | Z3 | W. P. Carey School of Business | Department of Supply Chain Management | 1 | | |
| SCM | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | W. P. Carey School of Business | Department of Supply Chain Management | 1-15 | | |
| SCN | 201 | Discovering the Deserts of the Southwest | Introduces deserts of the Southwest. Explores the Southwest desert flora, fauna and geology with particular focus on the Sonoran Desert. Introduces desert habitats, identification of local animals and plants, ecology and adaptations of desert organisms, desert climates and geographical features and human cultures and impacts. This lab course requires field experiences. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 4 | | |
| SCN | 202 | Sustainability Science Literacy for Engaged Global Citizens | Introduces relevant science concepts and issues that are essential for sustainability literacy. Includes topics related to water, energy and climate. Grounded in UN's Sustainable Development Goals (SDGs) and linked to the Arizona K-12 and NGSS science standards, introduces foundational science concepts related to and their relationship to grand local and global sustainability challenges. Includes a range of lab and field experiences, emphasizing issues facing Arizona and its surrounding regions as examples. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 4 | SG & G | |
| SCN | 205 | Tropical Ecology and Sustainable Living | To better understand the astonishing diversity of tropical ecosystems, students work together to investigate the ecology and cultures of Neotropical ecosystems: how they were formed and how they are changing. Students also examine their own cultural perspectives and beliefs. Focuses on four areas: (1) background on the history and present-day society of Costa Rica; (2) living in Costa Rica, community, family and education; (3) the relationships between food systems, ecology, conservation and sustainability; and (4) the location of Costa Rica, the rainforests' impact on the world, climate, cultures and contributions to science. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Credit is allowed for only SCN 205 or SCN 305 or SCN 505 |
| SCN | 207 | Introduction to Biomimicry | Foundational course that introduces everyone, no matter their discipline or background, to the emerging field of biomimicry. Biomimicry is the practice of looking to nature for strategies to solve human challenges. We are living in a time when scientists and researchers are finding sustainable solutions to solve local and global challenges by looking to nature and imitating how nature solves similar challenges. Get inspired and look at the world through a whole new lens--one inspired by nature! | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 4 | | |
| SCN | 208 | Nature and Society: An Introduction to Environmental Studies | Introduces environmental studies and urban environmental practices. Widespread environmental problems such as biodiversity loss, resource depletion and environmental change and degradation are among the most pressing global issues of our day. Identifies and explores some of the pressing questions in the field regarding complex environmental problems and solutions from a global perspective. Explores social science and humanities approaches to environmental issues and addresses environmental practices that foster individual and community well-being, environmental quality in cities and urban sustainability. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 4 | SG & G | Credit is allowed for only SCN 208 or SCN 294 (The Exploration of Environmental Studies) |
| SCN | 209 | Introduction to Environmental Education Project | Covers topics in environmental education that assist students with being able to learn about and investigate their environment in order to make intelligent and informed decisions. | Y | LEC | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | |
| SCN | 250 | Physical Science by Inquiry | Laboratory-based development of concepts and reasoning skills in the physical sciences. Emphasizes open-ended investigations, dialogues between the instructor and individual students, and small group discussions. Helps students think of physical science as an active process of discovery in which they can participate. Helps preservice teachers understand inquiry and develop inquiry skills. Liberal arts students gain experience in the scientific process. Useful for students who wish to improve their science preparation before taking further science courses. Forms foundation for scientific literacy. | N | LAB | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 4 | SQ | Credit is allowed for only SCN 250 or 294 (Physical Science by Inquiry) |
| SCN | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |

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| SCN | 300 | Foundations of Environmental Education | Introduces environmental education, including the philosophy, historical development, resource identification, curriculum development, field trips and other activities designed to provide the structure and development of the field of environmental education. Explores the antecedents to the present-day field and connects the field of environmental education to curricular programs that are an outgrowth of perceived and actual need in the field of environmental education. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | |
| SCN | 301 | Ecology and Natural History of the Sonoran Desert | Overview of the plants, animals, and geology of the desert ecosystem based on the Arizona K-12 Science Standards. Provides students with basic knowledge of the Sonoran Desert characteristics and its relationship to the total school curriculum. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 4 | SG | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SCN | 302 | Environmental Education: A Global Perspective | Ignites questions, wonder and reflection about how we educate ourselves and future generations as stewards of this planet. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | L & G | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| SCN | 303 | Environmental Education Internship | Provides opportunities to learn more about natural sciences and local history; outdoor education and field trip course facilitation and training; individual and group development; facility care and maintenance including landscaping, gardening and carpentry; and the restoration and maintenance of the grounds and teaching materials. Supports and/or develops education projects and programs as outlined by the locations' Educational Outreach office. Various other tasks include: field trip coordination, development of curriculum and classroom materials, hands-on fieldwork, school outreach, off-site outreach events support, and Outdoor Education event support. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-3 | | Prerequisite(s): minimum 45 hours |
| SCN | 304 | Sonoran Desert Flora | Plants and plant communities support much of the diversity of life in the Sonoran Desert and the surrounding regions. Covers the fundamentals of ecology from the perspective of plants including population, community and ecosystem ecology. Also includes identification and classification of plants and plant communities in the Sonoran Desert region. Incorporates practical field exercises designed to acquaint the student with plant community analysis, classification and description. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours |
| SCN | 305 | Tropical Ecology and Sustainability | To better understand the astonishing diversity of tropical ecosystems and sustainable practices, students work together to investigate the ecology and cultures of the neotropical ecosystems: how they were formed and how they are changing. Students also examine their own cultural perspectives and beliefs. Focuses on four areas: (1) background on the history and present-day society of Costa Rica; (2) living in Costa Rica, community, family and education; (3) the relationships between food systems, ecology, conservation and sustainability; and (4) the location of Costa Rica, the rainforests' impact on the world, climate, cultures and contributions to science. | Y | LEC | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only SCN 205 or SCN 305 or SCN 505 OR Visiting University Student |
| SCN | 307 | Biomimicry: Nature's Sustainable Solutions | Covers the interdisciplinary field of biomimicry and how we learn from nature. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | G | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SCN | 308 | Urban Environmental Education | Environmental education and educators translate the complex web of earth systems science, sustainability, environmental issues and environmental change for the public. Provides opportunity to understand and experience the interface between humans and the planet to facilitate ecological literacy and ecologically responsible behavior. Assists students in becoming more sensitive to and aware of earth systems and environmental change. Also provides the knowledge, skills and motivation for understanding sustainable living in the urban environment. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SCN | 309 | Environmental Education Project | Covers topics in environmental education that assist students with being able to learn about and investigate their environment in order to make intelligent and informed decisions. | Y | LEL | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SCN | 310 | Biodiversity Conservation: An Educational Inquiry | The world is in a period of unprecedented environmental change. Examines the causes and consequences of one of the most prominent forms of change in the modern era--changes in biological diversity. Explores the scientific evidence that shows how and why Earth's biological resources are being altered, how these changes impact ecosystems and the benefits various ecosystems provide to society. Describes the social and economic consequences of biodiversity loss and understands current management strategies used to curb changes in our planet's biological resources. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 4 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only SCN 310 or SCN 294 (Biodiversity Conservation) or SCN 494 (Biodiversity Conservation) OR Visiting University Student |

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| SCN | 311 | Nature Mindfully | Provides an opportunity for students to do in-depth exploration of the reciprocal relationship between human beings and the natural world. Introduces students to what is currently meant by the term ecopsychology, which studies the relationship between human beings and the natural world through ecological and psychological principles. Participants cultivate the knowledge and skills to integrate mindfulness-based best practices with natural settings. As a species, we came of age with nature, and a need for nature still resides within the architecture of our bodies and minds. Abundant research demonstrates physical and psychological benefits of interacting with nature. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours |
| SCN | 400 | Sustainability Science for Teachers | Explores the challenges of sustaining human health and well-being on Earth due to human exploitation of natural resources. Seeks sustainable solutions through science, technology and society acting at global and local levels. Covers diverse approaches used by scientists, scholars and practitioners to study and assess human-environment interactions pertaining to sustainability challenges and solutions. Focuses on how to teach sustainability concepts in the K-8 classroom. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only SCN 400 or SCN 401 OR Visiting University Student |
| SCN | 401 | Sustainability Science, Technology, and Society | Explores the challenges of sustaining human health and well-being on Earth due to human exploitation of natural resources. Prepares students to think and engage critically with the world around them. Seeks sustainable solutions through science, technology and society acting at global and local levels. Uncovers diverse approaches used by scientists, scholars and practitioners to study and assess human-environment interactions pertaining to sustainability challenges and solutions. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): non-Teacher Preparation student; minimum junior standing; Credit is allowed for only SCN 400 or SCN 401 OR Visiting University Student |
| SCN | 411 | Science in Elementary Schools | Science education standards, curriculum, instructional and assessment strategies for all children. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours; Credit is allowed for only EED 411 or SCN 411 |
| SCN | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| SCN | 501 | Ecology and Natural History of the Sonoran Desert | Gives students an opportunity to study the common plants and animals of the southwest Sonoran Desert. Study also includes their distribution, adaptations, behavior and ecology. Also includes the physical geography and geology of the region. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SCN | 502 | Outdoor Education | Ignites question, wonder and reflection related to the ways we educate ourselves and the next generations as stewards of this planet. Through lived experiences, classroom exercises, relevant readings, individual and group projects and activities, students gain a wider and deeper appreciation of ecological, sustainability and science education. Explores the historical and philosophical foundations of the diverse emphases and uses of outdoor, experiential education and place-based education. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SCN | 504 | Sonoran Desert Flora | Plants and plant communities support much of the diversity of life in the Sonoran Desert and the surrounding regions. Covers the fundamentals of ecology from the perspective of plants including population, community and ecosystem ecology. Also includes identification and classification of plants and plant communities in the Sonoran Desert region. Incorporates practical field exercises designed to acquaint the student with plant community analysis, classification and description. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SCN | 505 | Tropical Ecology and Sustainable Development | To better understand the astonishing diversity of tropical ecosystems and sustainable practices, students work together to investigate the ecology and cultures of the neotropical ecosystems: how they were formed and how they are changing. Students also examine their own cultural perspectives and beliefs. Focuses on four areas: (1) background on the history and present-day society of Costa Rica; (2) living in Costa Rica, community, family and education; (3) the relationships between food systems, ecology, conservation and sustainability; and (4) the location of Costa Rica, the rainforests' impact on the world, climate, cultures and contributions to science. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SCN 205 or SCN 305 or SCN 505 |

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| SCN | 507 | Learning from Nature: Biomimicry and STEM | Offers an introduction to biomimicry, an emerging discipline that seeks to learn from nature to solve human problem. "Biomimicry" (from bios, meaning life, and mimesis, meaning to imitate) is a new discipline that studies nature's best ideas and then imitates these designs and processes to solve human problems. With an emphasis on getting outside and exploring the land, focuses on observing, appreciating and learning from nature and natural systems in our local environment. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SCN | 508 | Urban Environmental Education | Environmental education and educators translate the complex web of earth systems science, sustainability, environmental issues and environmental change for the public. Gives students an opportunity to understand and experience the interface between humans and the planet to facilitate ecological literacy and ecologically responsible behavior. Assists in becoming more sensitive to and aware of earth systems and environmental change and also provides the knowledge, skills and motivation for understanding sustainable living in the urban environment. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SCN | 509 | Environmental Education Project | Covers topics in environmental education that assist students with being able to learn about and investigate their environment in order to make intelligent and informed decisions. | Y | LEL | Y | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SCN | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SDO | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): Master of Human Resources and Employment Law or Master of Legal Studies student |
| SDO | 501 | U.S. Law and Legal Analysis: Masters | Introduces the U.S. legal system and the types of legal reasoning used by legal professionals. Provides the necessary instruction to use legal reasoning in both academic work and professional endeavors, including reading and evaluating legal cases, statutes and public policy. Students complete extensive written legal analysis exercises, draft case briefs and complete discussion board posts critically analyzing current legal issues. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources and Employment Law, Master of Laws, or Master of Legal Studies student; Credit is allowed for only SDO 501 or SDO 598 (US Law & Legal Analysis-Masters) |
| SDO | 503 | Professional Writing: Masters | Writing strategies, techniques and genres for use in professional business environments. Presents techniques for crafting and using appropriate workplace grammar and spelling, written structure for memos, emails, reports and presentations, and communication style in a professional setting. Introduces distinct methods for writing for a digital environment as well as general writing skill improvement for success in a professional academic program. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): Human Resources and Employment Law MHREL, Laws LLM, or Legal Studies MLS student; Pre- or coreq(s): SDO 501 or 598 (US Law/Legal Analysis-Masters); Credit for only SDO 503 or SDO 598 (Prof Writ & Comm-Masters) or SDO 598 (Prof Writing-Masters) |
| SDO | 504 | Professional Communication: Masters | Facilitates understanding human communication relative to small group projects, public speaking and interpersonal relationships in the professional environment. Specifically introduces the theory and practice of human communication. Explores communication topics related to interpersonal, small group and public communication. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501 or 598(US Law/Legal Analysis-Master); Credit allowed for only SDO 504 or SDO 598 (Prof Communication:Masters) |
| SDO | 510 | Business Organizations: Masters | Covers the primary forms of business organizations: partnerships, limited partnerships, limited liability companies and corporations. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Mast); Credit is allowed for only SDO 510 or SDO 598 (Business Organizations-Mast) |
| SDO | 511 | Administrative Agencies/Regulation: Masters | Begins with an accelerated introduction to federal administrative agencies, the sources and boundaries of their authority, and options for redress for parties aggrieved by administrative actions. Also briefly examines state administrative agencies in the same light. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS stdnt; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Masters); Credit allowed for only SDO 511 or SDO 598 (Admin Agencies & Reg-Masters) |

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| SDO | 512 | Compliance and Ethics: Masters | Focuses on developing competencies for building and leading an effective corporate compliance and ethics program. Students gain a broad understanding of compliance and ethics oversight, along with the skills necessary to identify corporate risks, develop policies and procedures, provide compliance training, investigate issues, resolve disputes and create effective compliance documents for board governance, audit committee and senior management use. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or coreq(s): SDO 501 or 598 (US Law/Legal Analysis - Master); Credit allowed for only SDO 512 or SDO 598 (Compliance & Ethics - Masters) |
| SDO | 513 | Sports Law: Masters | Studies law, policy and problem solving in the context of the sports industry at all levels. Exposes students to professional, amateur and international sports law issues, examining those issues in a problem-focused manner. The requirements of the course are designed to challenge the students. Expects students to think about, and not just read, the materials assigned. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis - Master); Credit is allowed for only SDO 513 or SDO 598 (Sports Law - Masters) |
| SDO | 514 | Intellectual Property: Masters | Surveys the laws conventionally grouped as intellectual property with a focus on patents, copyrights and trademarks. Explores the policy rationales for each body of law. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501; Credit is allowed for only SDO 514 or SDO 598 (Intellectual Property-Master) |
| SDO | 515 | Criminal Law: Masters | Reviews and analyzes different principles of the fundamentals of criminal law, including: the principles of punishment, burdens of proof, actus reus (acts and omissions), mens rea (mental states), presumptions, causation, strict liability, defenses and homicide | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): Human Resources & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS student; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Mast); Credit allowed for only SDO 515 or SDO 598 (Criminal Law-Mast) |
| SDO | 516 | Criminal Procedure-Masters | Consider the basic principles of criminal procedure and the methods by which the criminal justice system functions. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS student; Pre-or coreq(s):SDO 501 or SDO 598 (US Law/Legal Analysis-Masters); Credit is allowed for only SDO 516 or SDO 598 (Criminal Procedure-Masters) |
| SDO | 517 | Construction Law: Masters | Uses case studies based on actual construction projects as the primary teaching tool. Topics include: types of construction contracts, relationships among the owners, architects/engineers, general contractors, subcontractors and material suppliers on a project. Additionally, express and implied warranties; the role of the schedule and claims related to scheduling; change orders and concealed site condition claims; mechanics' liens, stop notices and other payment remedies; types of insurance and insurance coverage disputes on construction projects; proving damages; and the trial of a construction case and the use of expert witnesses. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws or Master of Legal Studies student; Pre- or corequisite(s): SDO 501 or 598 (US Law/Legal Analysis - Master); Credit allowed for only SDO 517 or SDO 598 (Construction Law-Masters) |
| SDO | 518 | Fundamentals of Contract Law: Masters | Explores the fundamental principles of contract law under the common-law and Uniform Commercial Code statutory provisions. Focuses on issues of contract formation and interpretation, defenses to enforcement, warranties and conditions, and remedies for breach of contract. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS stdnt; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Mast); Credit allowed for only SDO 518 or SDO 598 (Fundamentals of Contract Law-Mast) |
| SDO | 519 | Environmental Law: Masters | Introductory survey of the fundamental concepts underlying sustainability and environmental policy, as well as the necessary legal foundation for understanding environmental law. Also, examines the main environmental law statutory schemes. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws or Master of Legal Studies student; Pre- or coreq(s): SDO 501 or 598 (US Law/Legal Analysis - Master); Credit is allowed for only SDO 519 or SDO 598 (Environmental Law - Masters) |
| SDO | 520 | Patent Law: Masters | Key principles, concepts and applications of patent law and practice. Patent law is one of the most dynamic and highest stakes area of legal practice. From a practical perspective, covers the basis of the patent system, the requirements of, process of obtaining patents, characteristics and valuation of patents, strategies for enforcing and defending patent assertions. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501 or 598 (US Law/Legal Analysis - Master); Credit is allowed for only SDO 520 or SDO 598 (Patent Law - Masters) |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|------------------------------------|------------------------------------|-------|-----------------|--|
| SDO | 521 | Property Law: Masters | Provides an introductory survey of legal rules and constructs that allocate interests in real and personal property that govern the acquisition, definition, scope and enforcement of those interests. Also examines how a wide range of legal doctrines and instruments help to balance competing public policy goals involving the nation's vast spectrum of scarce and valuable assets. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources and Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501 or 598 (US Law/Legal Analysis - Master); Credit is allowed for only SDO 521 or SDO 598 (Property - Masters) |
| SDO | 522 | Conflict Theory: Masters | Focuses on conflict before resolution strategies are considered. Thus, concentrating on the sources and nature of conflict--how and why it escalates, de-escalates or persists, and the conditions under which it can be constructive or destructive. Designed to give a better understanding of the meaning and dynamics of conflict to broaden understanding of how conflict resolution strategies operate within the broader structure of conflict situations. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws or Master of Legal Studies student; Pre- or corequisite(s): SDO 501 or 598 (US Law/Legal Analysis-Master); Credit is allowed for only SDO 522 or SDO 598 (Conflict Theory-Masters) |
| SDO | 523 | Organization & Workplace Dispute Resolution: Masters | Examines the complexity of workplace conflict through the role of organizational climate and culture, and the core communication challenges and strategies for managing workplace conflict. Focus is paid to providing the tools, such as team building and positive management, to address and create healthy conflict in the workplace. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or coreq(s): SDO 501 or 598 (US Law/Legal Analysis-Master); Credit is allowed for only SDO 523 or SDO 598 (Org & Work Disp Resol-Master) |
| SDO | 524 | Psychology of Conflict: Masters | The field of conflict resolution draws its foundational theory from a variety of interdisciplinary perspectives. One of those key perspectives is social psychology. Focuses on providing an empirically grounded understanding of social psychology as it relates to conflict processes and conflict resolution. In this context, the course discusses foundational principles within social psychology, the influence of individual-focused factors, the psychology of intergroup dynamics and other key topics. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501; Credit is allowed for only SDO 524 or SDO 598 (Psychology of Conflict-Masters) |
| SDO | 525 | Tort Law: Masters | High-level introduction to torts. Covers various types of tort causes of action, their various elements, defenses and factual patterns that fit those specific tort causes of action. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): Human Resources & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS stdnt; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Masters); Credit allowed for only SDO 525 or SDO 598 (Tort Law-Masters) |
| SDO | 526 | Divorce & Family Mediation: Masters | Learn the very essence of the family mediator, explore the structure of family mediation, and effective qualities and attitudes. Explains essential mediator techniques and how to use foundational and advanced mediator strategies. Addresses ethical challenges and special circumstances in mediation. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501; Credit is allowed for only SDO 526 or SDO 598 (Divorce and Family Mediation-Master) |
| SDO | 527 | Dispute System Design: Masters | Dispute Systems Design (DSD) is the process of identifying, designing, employing and evaluating an effective method by which your organization can resolve internal conflicts. Students learn a brief history of dispute resolution models, then show how, by using a foundation of mindfulness toward businesses, employees/stakeholders can revise an existing dispute resolution system or design one from scratch utilizing an analytic framework in dispute design. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources and Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501; Credit is allowed for only SDO 527 or SDO 598 (Dispute Systems Design - Masters) |
| SDO | 528 | Data Privacy & Protection: Masters | Students learn the regulatory and operational landscape surrounding data privacy and protection. More specifically, risks that impact businesses operating within the United States and internationally, regulatory framework, and steps needed to mitigate the risks associated with data privacy and protection. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501; Credit allowed for only SDO 528 or SDO 598 (Data Privacy and Protection-Masters) |
| SDO | 529 | US Constitutional Law: Masters | Surveys the law surrounding the allocation of governmental power between federal, state and tribal governments and the distribution of governmental authority within the federal government. It is a pervasive subject in the sense that such constitutional questions can emerge in such disparate areas of legal practice as immigration, corporations and securities, family law, criminal law, banking and insurance. Deals with individual rights protected by the U.S. Constitution. Specific areas include due process, freedom of expression and religion, and equal protection. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS student; Pre- or coreq(s): SDO 501 or SDO 598(US Law/Legal Analysis-Masters); Credit allowed for only SDO 529 or SDO 598(US Constitutional Law-Masters) |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|------------------------------------|------------------------------------|-------|-----------------|--|
| SDO | 530 | Risk Assessment and Management: Masters | Covers risk and ways to assess and manage it within legal boundaries and obligations. Students gain a broad understanding of risk management and the interconnection between risk, strategy, compensation, compliance and governance. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501; Credit is allowed for only SDO 530 or SDO 598 (Risk Assessment/Mgt-Masters) |
| SDO | 531 | Employment Law: Masters | Covers employment law topics including testing, privacy, FLSA, benefits, rights to compensation, workplace emotional injuries, termination, and employer risk management strategies. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Practice) MLS student; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Masters); Credit allowed for only SDO 531 or SDO 598 (Employment Law-Masters) |
| SDO | 532 | Conducting Fact Investigations: Masters | Focuses on understanding and developing competencies for conducting fact investigations and reporting which result from allegations of misconduct and other violations of an organization's code of conduct. Students learn that fact investigations, also called internal investigations, can potentially create legal, financial and reputational risks for an organization if not conducted properly. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501; Credit is allowed for only SDO 532 or SDO 598 (Fact Investigation and Reporting-Masters) |
| SDO | 533 | Fraud Examination: Masters | Examines fraud and its impact on society. Fraud is a relentless evil that targets businesses, individuals and the government and results in financial, reputational and emotional costs. Examines the nature of fraud, why people commit fraud and how to lessen opportunities for fraud. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501; Credit is allowed for only SDO 533 or SDO 598 (Fraud Examination) |
| SDO | 534 | Health Industry Compliance: Masters | Focuses on the particular laws and regulations that significantly impact the health care industry. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501; Credit is allowed for only SDO 534 or SDO 598 (Health Care Industry Compliance-Masters) |
| SDO | 535 | Negotiation: Masters | Offers a basic introduction to the concepts, instruments, functions and theories of modern negotiation giving students some of the information needed to better understand the dynamics of interpersonal, business and legally related negotiation. Begins with a discussion of negotiations as interpersonal communication. Examines avoiding exploitation in mixed-motive exchanges. Explores distributive bargaining strengths and weaknesses. Examines the use of integrative bargaining techniques and those settings in which they might be best used. Finally, reviews the landscape of legal jurisprudence in order to apply appropriate ideologies and techniques to the complex adaptive system of American business and personal interaction in the shadow of the law. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): Human Resources & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS stdnt; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Master); Credit allowed for only SDO 535 or SDO 598 (Negotiation-Master) |
| SDO | 536 | Financial Ind Compliance: Masters | Covers compliance risk management programs in the financial services industry. The fundamental concepts students understand include: recent compliance program trends and hot topics, industry regulators and key legislative requirements, role and responsibility of the compliance officer (and compliance team members), core components of an effective compliance program and real-world practices and perspectives to manage compliance risks. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources and Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501; Credit is allowed for only SDO 536 or SDO 598 (Financial Industry Compliance-Masters) |
| SDO | 537 | Financing Ventures: Masters | Explores the laws, regulations, governmental agencies, instruments, strategies, funding sources and market forces that impact early stage ventures' efforts to raise capital. The legal aspects focus on Regulation D of the 1933 Securities Act, which sets out exemptions from the standard disclosure and registration requirements of US securities laws and regulations. The strategic fund raising aspects explores sources of capital, fund raising techniques, when and who to approach when capital needs to be raised, and how market forces and participants view the use of various financing options. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501; Credit is allowed for only SDO 537 or SDO 598 (Financing Early Stage Ventures-Masters) |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|------------------------------------|------------------------------------|-------|-----------------|---|
| SDO | 538 | Entrepreneurship, Law and Strategy: Masters | Overview of strategy and the law that are most crucial to educating potential entrepreneurs and lawyers who are interested in starting a business. Addresses the five potential major areas of evolution for a startup: the concept, seed, growth, sustaining and exit stages of the business. Focuses on topics around the formation of a company, growing and managing the business for long-term success. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies stndt; Pre- or coreq(s): SDO 501 or 598 (US Law/Legal Analysis-Masters); Credit allowed for only SDO 538 or SDO 598 (Entrepreneur Law&Strategy: Idea to Exit) |
| SDO | 540 | Immigration Law: Masters | Provides an overview of the history of immigration law, policy and current events. Examines the tension between constitutional immigration powers and federal statutes versus the states' abilities to control immigration within their borders. Provides generalized knowledge of various forms of immigration relief. Students practice their research and writing skills as well as analyze the morality and human rights issues that are at play within the immigration context. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501 or 598 (US Law/Legal Analysis - Master); Credit allowed for only SDO 540 or SDO 598 (Immigration Law-Masters) |
| SDO | 541 | HR and Employment Law: Masters | Provides an introduction to the management of human resources, in an overview perspective. Students also gain a general understanding of the fundamentals of human resource management and employment laws and policies, and how they apply to organizations. Topics covered are: compensation and benefits, staffing, training and development, performance appraisals, organizational management, policy and maintaining effective relationships with employees. Exposes students to the dynamics of how the human resource department and the company strategically work together to balance employee morale and return on investment. Initiates a well-rounded learning experience of HRM and the effects on business operations. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Practice) MLS student; Pre- or coreq(s): SDO 501 or 598 (US Law/Legal Analysis-Masters); Credit is allowed for SDO 541 or LAW 598/SDO 598 (HR & Employment Law) |
| SDO | 542 | Regulation of Small Businesses: Masters | Introduces the wide array of regulations that businesses must navigate. (licensure, taxation, insurance and employment rules as well as other laws and regulations triggered by commerce). Additionally, provides a background into the agencies that create and enforce many of the regulations that impact small business and the legal basis for their ability to do so. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS student; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Masters); Credit allowed for only SDO 542 or SDO 598 (Regulation of Small Business) |
| SDO | 543 | Business Relationships: Masters | Introduces the legal frameworks that impact how business and individuals work together to achieve business and individual goals. Topics covered include contracts, strategic partnerships, IP licensing arrangements, franchising, and others. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Practice) MLS student; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Masters); Credit allowed for only SDO 543 or SDO 598 (Business Relationships) |
| SDO | 544 | Evidence: Masters | Focuses on the principles and practices governing the competency of witnesses and presentation of evidence, including the rules of exclusion and roles of lawyer, judge and jury under the adversary system. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Practice) MLS student; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Masters); Credit is allowed for only SDO 531 or SDO 598 (Evidence-Masters) |
| SDO | 545 | Arbitration: Masters | Focuses upon the law, policy and practices relating to arbitration process, using a third-party neutral to render a decision for disputing parties, as it is utilized in consumer and commercial sectors. The class will focus on the Federal Arbitration Act, important policy implications of arbitration, and issues that organizations and individuals should consider when both contemplating entering an arbitration agreement and participating in an arbitration process. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Practice) MLS student; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Masters); Credit is allowed for only SDO 545 or SDO 598 (Arbitration-Masters) |
| SDO | 546 | Mediation: Masters | Studies the process in which a trained neutral third party assists others in resolving a dispute or planning a transaction. Trains students in basic mediation skills through readings, lectures, video demonstrations and simulations, and discussions. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Practice) MLS student; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Masters); Credit is allowed for only SDO 546 or SDO 598 (Mediation-Masters) |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|------------------------------------|------------------------------------|-------|-----------------|---|
| SDO | 547 | Land Use Regulation: Masters | Surveys modern land use planning with an emphasis on the legal framework used to resolve conflicting land uses | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS student; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Masters); Credit allowed for only SDO 547 or SDO 598 (Land Use Regulation-Masters) |
| SDO | 548 | Water Law: Masters | Provides an introductory survey of the fundamental concepts underlying water law, as well as the necessary legal foundation for understanding sustainable water policy and management. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Practice) MLS student; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Masters); Credit is allowed for only SDO 548 or SDO 598 (Water Law-Masters) |
| SDO | 549 | Family Law: Masters | Primarily focuses on the law of marriage and divorce including the law governing entry into marriage, the legal consequences of being married, and the dissolution of the marital status. Topics include: the law of marriage, child custody, child support, alimony, division of property, the rights and obligations of unmarried cohabitants, and the establishment of paternity rights and obligations. In addition, touches upon issues of domestic violence, child abuse and neglect and assisted reproductive technologies. Relevant Arizona Statutes are referred to throughout the course where appropriate as examples, but the course is not limited to Arizona law. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Employment Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Practice) MLS student; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Masters); Credit is allowed for only SDO 549 or SDO 598 (Family Law-Masters) |
| SDO | 550 | Energy Law and Policy: Masters | Examines energy law in the United States, with a focus on law and policy in an era of renewable energy portfolio standards, energy efficiency mandates and greenhouse gas emissions reductions regimes for electric and natural gas utilities. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501; Credit is allowed for only SDO 550 or SDO 598 (Energy Law & Policy - Masters) |
| SDO | 551 | Duties, Obligations and Rights in the Workplace: Masters | Examines the fundamental employee rights and employer obligations established by federal law and encompasses an examination of the National Labor Relations Act; the Worker Adjustment and Retraining Notification Act; the Equal Pay Act; the Occupational Safety and Health Administration; Worker's Compensation; the Family Medical Leave Act; the Pregnancy Discrimination Act; and the Genetic Information Nondiscrimination Act. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Empl Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS stdnt; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Mstrs); Credit is allowed for only SDO 551 or SDO 598 (Duties, Obligs & Rts in Wplc-Mstrs) |
| SDO | 552 | Employment Discrimination: Masters | Focuses primarily on Title VII of the Civil Rights Act of 1964, the Age Discrimination in Employment Act, and the Americans with Disabilities Act. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Empl Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS stdnt; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Mstrs); Credit is allowed for only SDO 552 or SDO 598 (Empl Discrimination - Mstrs) |
| SDO | 553 | Amateur Sports Law: Masters | Examines amateur sports law from legal, business and problem-solving (policy) perspectives. Focuses primarily on interscholastic and intercollegiate athletics, including an examination of gender and racial equity issues. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources and Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501; Credit allowed for only SDO 553 or SDO 598 (Amateur Sports Law - Masters) |
| SDO | 554 | Sports Career Planning & Business Communication: Masters | Addresses the hard and soft skills required to excel in a career in the sports industry. Content includes proper personal branding such as an online profile, cover letters, resumes, emailing, business communication skills and networking. Also includes guidance on strategic career planning, research and writing skills to build a career plan and familiarize students with the sports industry. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources and Employment Law, Master of Laws or Master of Legal Studies student; Pre- or corequisite(s): SDO 501; Credit is allowed for only SDO 554 or SDO 598 (Sports Career Planning & Bus Comm - Masters) |
| SDO | 555 | Professional Sports Law: Masters | Studies law, policy and problem solving in the context of the sports industry at the professional level, from both a legal and a business perspective. Exposes students to professional sports law issues, examining those issues in a problem-focused manner. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Empl Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS stdnt; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Mstrs); Credit is allowed for only SDO 555 or SDO 598 (Prof Sports Law - Mstrs) |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|------------------------------------|------------------------------------|-------|-----------------|--|
| SDO | 556 | Sports Analytics: Masters | Allows students to develop and apply analytical skills that are useful in nearly every career. Although the course focuses on applications in the sports context and uses approaches that are rapidly becoming important in the business of sports analytics, this is not a survey course about issues in sports. Instead, this class is about curiosity, storytelling and logic. An understanding and interest in both sports and numbers make this class good. General curiosity makes it great. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Empl Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS stdnt; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Mstrs); Credit is allowed for only SDO 556 or SDO 598 (Sports Analytics - Mstrs) |
| SDO | 557 | Sports Business Strategy: Masters | Explores the sports business ecosystem and the various stakeholders who play a role in sports business. Beyond stakeholders, the course discusses the various applications within sports business from marketing to venues. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Empl Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS stdnt; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Mstrs); Credit is allowed for only SDO 557 or SDO 598 (Sports Business Strategy-Mstrs) |
| SDO | 558 | Copyright Law: Masters | Includes topics such as copyright bundle of rights, registration, remedies, fair use, work made for hire contracts, licensing and assignments. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Empl Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS stdnt; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Mstrs); Credit is allowed for only SDO 558 or SDO 598 (Copyright Law - Masters) |
| SDO | 559 | Trademark and Unfair Competition Law: Masters | Trademark law is indisputably the most fun area of the law. This course covers, from a practical perspective, the basis and use of the trademark system; the requirements for, process of obtaining, opposing and enforcing trademarks and related rights; and the overlapping federal, state and common law rights and doctrines involved in trademark and unfair competition law including cybersquatting, false advertising and the right of publicity. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Empl Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS stdnt; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Mstrs); Credit is allowed for only SDO 559 or SDO 598 (TM & Unfair Competition Law-Mstrs) |
| SDO | 564 | American Indian Law: Masters | Examines the foundations of the contemporary relationship between Indian Nations, the United States government and the state governments. Topics include the history of federal Indian policy, the doctrine of discovery, tribal sovereignty, the federal trust relationship, federal power in Indian affairs, tribal treaty rights and modern day issues. Devotes particular attention to jurisdictional issues, including the framework for determining civil and criminal authority in Indian Country. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; Pre- or corequisite(s): SDO 501; Credit is allowed for only SDO 564 or SDO 598 (American Indian Law - Masters) |
| SDO | 566 | Advanced Topics in Sports Law: Masters | Studies law, policy and problem solving in the context of the sports industry, at all levels. Exposes students to professional, amateur and international sports law issues, examining those issues in a problem-focused manner. A variety of industry professionals give the lectures, and each section focuses on a specific topic within the realm of sports. The requirements of the course are designed to challenge the students. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Empl Law MHREL, Laws LLM, Legal Studs MLS, or Legal Studs (PatentPrac) MLS stdt; SDO 598 (SprtsLaw-Mstr); Pre- or coreq(s):SDO 501 or SDO 598 (US Law/Legal Anlysis-Mstr); Credit allowed for only SDO 559 or LAW 598/SDO 598 (AdvTopics SprtsLaw) |
| SDO | 567 | Advanced Topics in Criminal Law: Masters | Considers principles of criminal procedure with analytical emphasis on the right to counsel during trial, appellate and post-conviction proceedings. Also examines developments in the criminal justice system derived from the study of wrongful convictions during the Innocence Era. Students read portions of a summary treatise relevant to specific subject areas of criminal law and procedure, case law, law review articles, periodicals and case materials. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Empl Law MHREL, Laws LLM, Legal Stud MLS, or Legal Stud (Patent Prac) MLS std; SDO 515 or 598 (Crim Law-Mstrs); Pre- or coreq(s): SDO 501 or 598 (US Law/Legal Anly-Mstrs); Credit is allowed for SDO 567 or 598 (Adv. Top in Crim Law-Mstrs) |
| SDO | 568 | Integrating Legal Principles and Business Practices: Masters | Survey course covers various substantive topics with a focus on applying the basic legal principles covered via court decisions and other reading assignments. Requires a basic understanding of "black letter law," but this is not a course that asks MLS students to provide the same level of nuanced legal analysis as would be asked of law students. Instead, merging business acumen and legal analysis is valued above a depth of legal understanding. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Empl Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS stdnt; Pre- or coreq(s): SDO 501 or SDO 598 (US Law/Legal Analysis-Mstrs); Credit is allowed for only SDO 568 or SDO 598 (Integ Leg Pp & Busi Pract-Mstrs) |
| SDO | 569 | Advanced HR and Employment Law: Masters | Covers the laws that govern the rights and duties between employers and employees. Goes beyond knowledge of the law and focuses on the application of the legal knowledge to scenarios HR professionals encounter in both the private and public sector. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): HR & Empl Law MHREL, Laws LLM, Legal Studies MLS, or Legal Studies (Patent Prac) MLS stdnt; SDO 531 or 598 (Empl Law); Pre- or coreq(s): SDO 501 or 598 (US Law/Lgl Anly); Credit is allowed for only SDO 569 or SDO 598 (Adv Top in HR & Emp Law) |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|------------------------------------|------------------------------------|--------|-----------------|---|
| SDO | 578 | Advanced Construction Law: Masters | An in-depth analysis of modern trends in construction law as the field is undergoing radical change under the pressures imposed by mass construction defect and construction material product defect class action lawsuits. Explores the historical forces that have caused courts to struggle with traditional concepts of contract and tort liability applicable to construction viewed as a service and principles of liability more applicable to viewing construction as a product. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prereq(s): Master of Human Resources & Employment Law, Master of Laws, or Master of Legal Studies student; SDO 517 or 598 (Construction Law-Masters); Pre- or coreq(s): SDO 501; Credit is allowed for only SDO 578 or SDO 598 (Adv Construction Law-Masters) |
| SDO | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): Master of Human Resources and Employment Law or Master of Legal Studies student |
| SDO | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): Master of Human Resources and Employment Law or Master of Legal Studies student |
| SDO | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): Master of Human Resources and Employment Law or Master of Legal Studies student |
| SDO | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): Master of Human Resources and Employment Law or Master of Legal Studies student |
| SDO | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): Master of Human Resources and Employment Law or Master of Legal Studies student |
| SDO | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SDO | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): Master of Human Resources and Employment Law or Master of Legal Studies student |
| SDO | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): Master of Human Resources and Employment Law or Master of Legal Studies student |
| SDO | 685 | Human Resource and Employment Law Capstone | Develops a perspective on how the law interacts and impacts the human resources industry. Understanding and applying solutions for rapidly changing legal requirements related to employment is an essential part of business success. Analyzing the current HR legal environment to understand and plan for risk, opportunities and requirements is the starting point for creating a compliant and effective HR system. Students evaluate the impact of legal changes within Arizona, the United States and internationally, placing emphasis on ethical decision making. Students learn how to successfully navigate legal changes within the employment realm and manage relationships with employee groups. | N | PRA | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): Human Resources and Employment Law MHREL student; Pre- or corequisite(s): SDO 501 |
| SDO | 701 | Contract Review and Structure for Professionals: Masters | Helps students learn how to work with contracts by exploring the general parts of a contract, the purposes of contracts, and reviewing contracts with an eye on supporting business interests. Although students learn some drafting techniques, the focus of the course is not on drafting entire contracts from scratch. Rather, students learn how to review contracts within a specific framework and recognize how contract language affects a party's legal rights. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): LAW 515 or SDO 518; SDO 501 or SDO 598 (US Law/Legal Analysis-Masters); Credit is allowed for only SDO 701 or SDO 598 (Contract Review & Structure for Prof - Masters) |
| SEA | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Ocean Futures | 0.25-4 | | |
| SEA | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Ocean Futures | 0.25-4 | | |
| SEA | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Ocean Futures | 0.25-4 | | |
| SEA | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Ocean Futures | 0.25-4 | | |
| SEA | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OP3 | College of Global Futures | School of Ocean Futures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SEC | 501 | Solar Engineering and Commercialization I | Examines the fundamentals of the solar energy enterprise regarded from a systems engineering perspective. Examines solar energy technology, economic issues and policy matters and reviews the impact of these three areas on the design process and system operation of photovoltaic systems at the residential and commercial scales. Objectives include learning the basic principles in photovoltaic system design; thinking critically and seriously about the nature of solar energy and its use; formulating views and insights regarding energy resources, conservation, photovoltaic economics, government subsidies; and expressing and defending these views orally and in writing. Includes lectures, case studies, interactive classroom projects and guest speakers. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; Credit is allowed for only SEC 501 or SEC 598 (PV Systems Engineering) |
| SEC | 502 | Solar Engineering and Commercialization II | Examines the fundamentals of the solar energy enterprise at the utility scale--the components, the design process, the economic issues, and the policy matters in large-scale photovoltaic systems--in both the design of these systems (both central plant and aggregated forms) and their interface with the existing (and future) electrical grid. The course educational Objectives include: learning the principles in utility-scale photovoltaic system design; thinking critically and seriously about the interaction of photovoltaic systems with the national grid; formulating views and insights regarding energy resources, conservation, economics, government incentives, and so on, at the utility scale; and expressing and defending these views orally and in writing. Includes lectures, case studies, interactive classroom projects and guest speakers. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 3 | | Prerequisite(s): SEC 501; Credit is allowed for only SEC 502 or SEC 598 (Solar Commercialization) |
| SEC | 510 | Solar Energy and Policy | Elucidates and amplifies the importance, role and mechanisms of solar energy policy. Underscores the significance of policy in the successful deployment of solar energy. Complements other courses in the curriculum of the Professional Science Masters (PSM) in Solar Energy, which is largely centered on engineering concepts and techniques. Content is guided by the principle that technical considerations alone are inadequate to stimulate future expansion of solar energy. Additionally, it is stressed that policy considerations are critical to any potential transition to a solar energy economy. Typically taken in conjunction with DC summer workshop "Science Outside the Lab," but may be taken by others as stand-alone course. Course consists of lectures and discussions of policy instruments at the national, state and local scales. Visiting experts from the energy industry provide their personal experience and real-world perspective. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GCU 510 or GCU 598 (Solar Energy & Public Policy) or SEC 510 or SEC 598 (Solar Energy & Public Policy) |
| SEC | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SEC | 588 | Solar Energy Colloquium | Discussion-oriented class focusing on topical issues in solar energy. Knowledge of thermodynamics or electric power systems is recommended to succeed in this course. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 3 | | Prerequisite(s): Engineering graduate student; Credit is allowed for only MAE 588 or SEC 588 |
| SEC | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SEC | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | YGB | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SEC | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SEC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | School for Engineering of Matter, Transport and Energy | 1-4 | | |
| SED | 111 | Exploration of Science Teaching | General overview of the profession of the science educator with a look at student, teachers, curricula, and classroom techniques. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|----------------------------------|---|-------|-----------------|---|
| SED | 322 | Classroom Leadership in Secondary Schools | Theories and practices for managing and maintaining secondary classrooms for learning; strategies for home/school communication; and leadership roles for teachers. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | L | Prerequisite(s): admission to the Professional Program; ENG 101, 105, or 107 with C or better |
| SED | 396 | Clinical Experience I | Applies course content in middle/secondary setting grades 6-12. Emphasizes observation, pupil management, planning and delivering instruction, and assessment. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): admission to the Professional Program |
| SED | 397 | Clinical Experience II | Applies course content in a middle/secondary school setting grades 6-12. Emphasizes observation, pupil management, planning and delivering instruction, and assessment. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 0-1 | | Prerequisite(s): admission to the Professional Program |
| SED | 398 | Clinical Experience | Applies course content in middle/secondary setting grades 6-12. Emphasizes observation, pupil management, planning and delivering instruction, and assessment. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | Prerequisite(s): admission to the Professional Program |
| SED | 403 | Secondary Principles, Curriculum and Methods | Advanced level of development of knowledge and skills of instructional planning and methods of teaching and evaluating in the secondary school. Requires observation/participation. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |
| SED | 404 | World and Native Language Methods and Assessment for K-12 Classrooms | Provides educators with a guided exploration of current methods, assessments and techniques related to teaching world and native languages in K-12 contexts; i.e., communication in languages other than English. Students deepen their understanding of language teaching pedagogy and expand their repertoire of teaching strategies and techniques for addressing the diverse learning needs of all students. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 4 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; Credit is allowed for only SED 404 or SED 504 |
| SED | 464 | Middle-School Curr/Org | Educational implications of the characteristics of a diverse adolescent population on middle-level organization and components, curriculum, instructional strategies, assessment. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |
| SED | 478 | Student Teaching: Secondary Education (Grades 6-12) | Student teaching in middle/secondary setting grades 6-12: synthesized experience in curriculum, instruction, assessment and classroom management. | Y | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3-15 | | Prerequisite(s): admission to the Professional Program |
| SED | 480 | Special Methods of Teaching Social Studies | Interdisciplinary approaches; production and collection of materials. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| SED | 481 | English Teaching Methods for Secondary Schools | Instructional, organizational, and presentation methods for English in secondary schools. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; minimum 56 hours |
| SED | 482 | Science Teaching Methods for Secondary Schools I | Methods of instruction, organization, and assessment of science for secondary and middle grade schools. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; minimum 56 hours |
| SED | 483 | Science Teaching Methods for Secondary Schools II | Instructional methods for incorporating student-centered learning activities into the secondary science classroom. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; SED 482; minimum 56 hours |
| SED | 485 | Special Methods of Teaching Social Studies: Community Resources | Instructional methods for social studies in secondary schools. | N | LEC | N | Z1 | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; minimum 56 hours; Credit is allowed for only SED 485 or SED 494 (Methods of Teaching History: Community Resources) |
| SED | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| SED | 496 | Clinical Experience III | Applies course content in middle/secondary setting grades 6-12. Emphasizes observation, pupil management, planning and delivering instruction, and assessment. | Y | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): admission to the Professional Program |
| SED | 501 | Introduction to Effective Instruction | Introductory course for certification program in secondary education. Emphasizes developing basic classroom management, instruction, and evaluation. Includes a field assignment of at least 120 hours. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SED | 504 | World and Native Language Methods and Assessment for K-12 Classrooms | Provides educators with a guided exploration of current methods, assessments and techniques related to teaching world and native languages in K-12 contexts, i.e., communication in languages other than English. Students deepen their understanding of language teaching pedagogy and expand their repertoire of teaching strategies and techniques for addressing the diverse learning needs of all students. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 4 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; Credit is allowed for only SED 404 or SED 504 |
| SED | 510 | General Methods and Assessment | Provides an overview and application of teaching methods, unit planning, and research for secondary teachers. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SED | 511 | ELA Methods and Assessment | Methods in design, instruction and assessment of English Language Arts (ELA) for secondary schools. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SED | 512 | Secondary Mathematics Methods and Assessment | Mathematical knowledge for learning, teaching and assessment in grades 7 through 12. Focuses on methods for developing conceptual understanding of mathematics concepts through inductive, inquiry-based, problem-centered learning and teaching. Emphasizes concept development through visualization using concrete, digital and real-world representations; purposeful questions; and generalization of patterns. Focuses on theories of mathematics learning; design of learning sequences concrete-to-pictorial-to-abstract; visible thinking routines; teaching rehearsals; brain science messages for mathematics learning; and practices for creating equitable mathematics learning environments and students' positive growth mindset. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SED | 513 | Science Teaching Methods for Secondary School | Focuses on inquiry-based processes, lesson design, teaching methods and content overview to support science instruction in secondary and middle grades. | N | LEL | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SED | 514 | Methods of Teaching Secondary Social Studies | Methods in design, instruction and assessment of the social studies subjects for secondary schools. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; admission to the secondary teacher preparation professional program |
| SED | 520 | Science Methods for Early Adolescence | Examines the interrelationships between theory and practice in teaching science. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SED | 522 | Secondary School Curriculum Development | Social processes, issues, principles, patterns, and procedures in curriculum development. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Pre-requisite: Graduate student |
| SED | 533 | Middle/Secondary Instruction, Management, and Assessment | Analyses of procedures, methods, techniques, and experiments in teaching in secondary schools. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Pre-requisites: Must be a graduate student |
| SED | 544 | Creating Classroom Climates | Emphasizes classroom management and instructional strategies for establishing positive classroom climates that facilitate learning. Includes field experience. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SED | 547 | Teaching Mathematics in the Middle Grades (5-9) | Strategies and methodologies to teach mathematics in the middle grades (5-9). | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SED | 557 | Internship I | Develops knowledge and skills for effective classroom management, establishing a positive classroom environment, and examining K-12 learner behavior. Provides opportunities for students to engage as a teacher and learner in a classroom setting. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-8 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 557 or SED 557 or SPE 556 |
| SED | 560 | Teaching Mathematics with Technology | Strategies and methodologies to teach mathematics with technology, focusing mainly on the middle grades (5-9). | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SED | 561 | Teaching Science with Technology | Strategies and methodologies for effective technology-enhanced science classrooms and improved learning. Models student-driven inquiry teaching throughout the course. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SED | 567 | Internship II | Develops knowledge and skills for effective classroom management, establishing a positive classroom environment and effective lesson delivery. Reinforces the application and evaluation of the NIET Aspiring Teacher Rubric. Provides opportunities for students to engage as a teacher and learner in a classroom setting. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-8 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 567 or SED 567 or SPE 570 |
| SED | 571 | Apprentice Teaching I | Semester one of apprentice teaching in an elementary (EED)/secondary (SED)/special education (SPE) setting for students who are currently working as the teacher of record. Introduces classroom management, curriculum, instruction and assessment supervised and reinforced by a clinical instructor. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 571 or SED 571 or SPE 571 |
| SED | 574 | Apprentice Teaching II | Semester two of apprentice teaching in an elementary (EED)/secondary (SED)/special education (SPE) setting for students who are currently working as the teacher of record. Reinforced application of developing proficiency in classroom management, curriculum, instruction and assessment occurs through supervision and individualized support by a clinical instructor. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 574 or SED 574 or SPE 574 |
| SED | 576 | Internship III | Develops knowledge and skills for creating learning experiences for a range of learners, executing instructional cycles, using assessment methods and reflecting on best teaching practices. Provides opportunities for pre-service educators to engage as a teacher and learner in a professional experience setting. | Y | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-8 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 576 or SED 576 or SPE 576 |
| SED | 578 | Residency/Student Teaching in Secondary Education | Student teaching in a secondary (SED) school classroom. Synthesized experience in curriculum, instruction, and classroom management. This course builds upon previous professional experiences to extend learning in a classroom setting and to obtain practice and feedback to continuously improve educator knowledge and skills. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SED | 579 | Apprentice Teaching III | Semester three of apprentice teaching in an elementary (EED)/secondary (SED)/special education (SPE) setting for students who are currently working as the teacher of record and enrolled in the masters plus certification program. Continued development toward proficiency in classroom management, curriculum, instruction and assessment. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 579 or SED 579 or SPE 579 |
| SED | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 593 or SED 593 or SPE 593 |
| SED | 596 | Residency/Student Teaching | Student teaching in elementary (EED), secondary (SED), or special education school classrooms. Synthesized experience in curriculum, instruction and classroom management. | Y | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-8 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 596 or SED 596 or SPE 596 |
| SER | 215 | Software Enterprise: Personal Process | Software engineering; personal software processes for individual professionalism; time and defect estimation, yield, and productivity. Software tools. Project based. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): CST 200 or SER 200 with C or better |
| SER | 216 | Software Enterprise: Personal Process and Quality | Introduces software engineering, software lifecycle models, personal software processes for individual professionalism, time and defect estimation, yield and productivity, software testing and quality management. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Pre- or corequisite(s): CSE 310, SER 222, or TGM 410 with C or better if completed OR Visiting University Student |
| SER | 221 | Programming Languages and Their Execution Environment | Introduces the fundamental programming language concepts of data, type, control, abstraction, and structure; software development and execution environments; programming language paradigms. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): CST 200 or SER 200 with C or better; Credit is allowed for only CST 220 or SER 221 |
| SER | 222 | Design and Analysis of Data Structures and Algorithms | Data structures and related algorithms for their specification, complexity analysis, implementation and application. Sorting and searching. Professional responsibilities that are part of program development, documentation and testing. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): CSE 205 or SER 200 with C or better; MAT 243 or 300 with C or better OR Software Engineering MS student OR Engineering Science (Software Engineering) MSE student OR Master of Computer Science student OR Visiting University Student |
| SER | 232 | Computer Systems Fundamentals | Logic design, number systems and arithmetic, Boolean algebra, digital systems components and hardware description languages. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | CS | Pre- or corequisite(s): SER 100 or CSE 110; MAT 117, 170, 171, 210, 251, 265, or 270 with C or better if completed or ALEKS score of 61 or higher; Credit is allowed for only CST 150 or SER 232 OR Visiting University Student |
| SER | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 1-4 | | |
| SER | 315 | Software Enterprise: Design and Process | Software process from the design perspective. Engineering design process, user-centered design and software safety design. User interface, software architecture and design patterns and software design constraints. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Software Engineering BS major; CSE 310, SER 222, or TGM 410 with C or better; Pre- or corequisite(s): FSE 100 with C or better if completed; CSE 360 or SER 216 with C or better if completed OR Visiting University Student |
| SER | 316 | Software Enterprise: Construction and Transition | Best practices in software construction in the context of a team project, including refactoring, defensive programming, unit testing, and configuration and release management. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Software Engineering BS major; CSE 310, SER 222, or TGM 410 with C or better; CSE 360 or SER 216 with C or better OR Visiting University Student |
| SER | 321 | Principles of Distributed Software Systems | Design and implementation of distributed software components; process and memory management underlying software applications; sockets, protocols, threads, XML, serialization, reflection, security, and events. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): CSE 310, SER 222, or TGM 410 with C or better; Pre- or corequisite(s): CSE 330 or SER 334 with C or better if completed; Credit is allowed for only CST 420 or SER 321 OR Visiting University Student |
| SER | 322 | Principles of Database Management | Fundamental methods in modeling and managing data-oriented systems. Relational, object and hierarchical data modeling techniques. Query languages including SQL. Semantics of transaction processing. Modern trends in data management including unstructured data, NoSQL and Graph databases. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): SER 222 with C or better; Credit is allowed for only ACO 220 or ACO 320 or CSE 412 or IFT 300 (or IFT 433) or SER 322 OR Visiting University Student |
| SER | 332 | Introduction to Graphics and Game Development | Foundations of graphics as used in modern rendering and basic principles of the game development pipeline. Graphics and math concepts and their application in games, graphics and visualization. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): CSE 205 or SER 200 with C or better |

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| SER | 334 | Operating Systems and System Programming | Fundamentals of operating systems: run-time environments, process management, scheduling, synchronization techniques, memory management and file management. Introduces programming concepts and tools for developing operating system modules, system utilities and low-level applications in POSIX environments. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): CSE 230 or EEE 230 with C or better; CSE 240 with C or better; Pre- or corequisite(s): CSE 310, SER 222, or TGM 410 with C or better if completed OR Software Engineering MS or Master of Comp Science student OR Visiting University Student |
| SER | 335 | Engineering Secure Software Systems | Software engineering principles applied to securing software systems. Software life cycle processes contextualized to security needs of software. Software requirements analysis and software verification and validation practices for security. Software architecture security assessment. Software engineering organization policies for security, including threat modeling and assessment, vulnerability classification, risk management, and preparing for security audits. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Pre- or corequisite(s): CSE 330 or SER 334 with C or better if completed; SER 315 with C or better if completed; SER 316 with C or better if completed; SER 321 with C or better if completed OR Visiting University Student |
| SER | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 1-4 | | |
| SER | 401 | Computing Capstone Project I | First half of a comprehensive project experience based on cumulative knowledge and skills gained in earlier coursework. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Software Engineering BS major; SER 316 with C or better; senior standing or postbaccalaureate |
| SER | 402 | Computing Capstone Project II | Second half of a comprehensive project experience based on cumulative knowledge and skills gained in earlier coursework. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Software Engineering BS major; SER 401 with C or better |
| SER | 415 | Software Enterprise: Inception and Elaboration | Third course in the four-course enterprise sequence. Students perform inception (project launch) and elaboration (requirements analysis) activities in project teams. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | L | Prerequisite(s): Software Engineering BS major; ENG 101, 105, or 107 with C or better or postbaccalaureate student; SER 315 with C or better OR Visiting University Student |
| SER | 416 | Software Enterprise: Project and Process Management | Project-centric course focusing on applying software process, project management, and technical leadership. Final course in the software enterprise sequence. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Software Engineering BS major; SER 316 with C or better |
| SER | 421 | Web-Based Applications | Distributed Web applications, their design, architecture and supporting technologies; user-interaction concepts and technologies; design and implementation of software servers for Web systems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): SER 321 with C or better OR Software Engineering graduate student OR Visiting University Student |
| SER | 422 | Web Application Programming | Design and implementation of Web application. Languages, frameworks, technologies, tools and methods used to realize Web client and server solutions. Approaches for securing, testing as well as determining the quality and reliability of Web applications. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): IFT 433 or SER 321 with C or better OR Software Engineering graduate student OR Visiting University Student |
| SER | 423 | Mobile Systems | Mobile applications, their architecture, design, and supporting technologies; mobile device operating systems and frameworks; synchronizing mobile applications, support for inter-application data-exchange; accessing and manipulating special-purpose device capability such as location, orientation and input modality. Practices for securing mobile runtimes and optimizing run-time performance. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): SER 321 with C or better OR Software Engineering MS student OR Engineering Science (Software Engineering) MSE student OR Visiting University Student |
| SER | 431 | Advanced Graphics | Topics in real-time rendering and graphics hardware. Uses graphics processing unit hardware to implement rendering of higher-order surfaces and special effects. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): SER 332 with C or better or graduate Software Engineering student |
| SER | 432 | Game Engine Architecture | Functional requirements of a modern game engine architecture. Students work in teams to develop advanced features for a game engine. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): SER 332 with C or better or graduate Software Engineering student |
| SER | 450 | Computer Architecture | Price/performance analysis, instruction set design, RISC/CISC, processor design and implementation, pipelining, instruction-level parallelism, memory hierarchy, storage and I/O systems. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): CSE 230 or EEE 230 with C or better OR Software Engineering MS student OR Visiting University Student |
| SER | 456 | Embedded Interfaces: Sensors and Actuators | Electromechanical sensors and electrical actuators, analog-to-digital and digital-to-analog conversion, hardware and software interfaces for embedded systems. | N | LEL | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): CSE 120, EEE 120, or SER 232 with C or better; CSE 205 with C or better OR Software Engineering MS student; Credit is allowed for only CST 598 (Embedded Interfaces: Sensors and Actuators) or SER 456 OR Visiting University Student |
| SER | 460 | Software Analysis and Design | Object-oriented and structured analysis and design; software architecture and design patterns; component-based development; software safety and reliability. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prereqs w/min C: Comp Sci, Comp Sys Engr or Geo Info Sci major; CSE 360 OR Sftwr Eng major; CSE 310, SER 222 or TGM 410; SER 315 or 316 OR Comp Sci & Eng or online CS nondegree grad stdnt; Credit allowed for CSE 460/SER 460 OR Visiting University Student |

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| SER | 463 | Introduction to Human Computer Interaction | Design, evaluate, and implement interactive software intended for human use. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prereqs w/minC: Cmp Sci BS or Cmp Sys Eng BSE or GIS BS; CSE310 OR Dig Cltr (Mda Prcs) BA/BS or Inf BS; CPI310 OR Sftwr Eng BS; SER315 or 316; CSE310 or SER222 OR Cmp Sci & Eng or Sftwr Eng grd st; Crdt only CSE463 or SER463 OR Visiting University Student |
| SER | 464 | Software Quality Assurance and Testing | Software quality assurance (SQA), software quality metrics, software configuration management, software verification and validation, reviews, inspections, understanding software testing process, functional testing, structural testing, model-based testing, integration, system, and regression testing techniques, software life cycle models and software testing, testing distributed software, bug management, and use of testing tools. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 3 | | Prereqs w/min C:ComSci, ComSysEng, GeolInfoSci maj; CSE 360 OR SftwrEng maj; CSE 310, SER 222, or TGM 410; SER 315 or 316 OR CompSci&Eng or Online CS nondegree grad; Credit for CSE 464 or CSE 598 (SftQualAssrTst) or SER 464 OR Visiting University Student |
| SER | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Software Engineering | 1-12 | | Prerequisite(s): Software Engineering BS major; CSE 240 with C or better; SER 216 with C or better; SER 222 with C or better |
| SER | 486 | Embedded C Programming | Programming concepts for embedded systems. Interfacing and controlling LED, LCD, keypads, buttons. Embedded OS concepts. Timers and interrupts. Serial communication. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): CSE 310, SER 222, or TGM 410 with C or better; SER 321 with C or better OR Software Engineering MS student OR Visiting University Student |
| SER | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Software Engineering | 1-6 | | Prerequisite(s): Barrett Honors student |
| SER | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Ira A. Fulton Schools of Engineering | Software Engineering | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| SER | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 1-4 | | Prerequisite(s): CSE 330 or SER 334 with C or better OR Visiting University Student |
| SER | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Ira A. Fulton Schools of Engineering | Software Engineering | 1-3 | | |
| SER | 501 | Advanced Data Structures and Algorithms | Advanced algorithms and how they are effectively applied to solve problems. Algorithm design, analysis, classification, optimization, and application. Practice implementing and employing algorithms to solve realistic problems. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Fulton Engineering graduate student |
| SER | 502 | Emerging Languages and Programming Paradigms | Emerging programming languages, their design, description, implementation, and advanced features; API design, including facilities for creating secure distributed applications, facilities supporting software services, naming and composition; language paradigms and the resulting implications on execution; run-time systems and storage management; approaches to compilation and execution. Requires ability to program in an object-oriented programming language and knowledge of data structures, algorithms, and analysis. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Fulton Engineering graduate student |
| SER | 515 | Foundations of Software Engineering | Software engineering overview, with an emphasis on component and service-based architectures, reliability, safety, dependability and software reuse. Introduces software engineering research methods and critical inquiry. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Software Engineering MS graduate student |
| SER | 516 | Software Agility | Focuses on quality software construction principles in an agile community context. Agile methods, open source communities, coding best practices, configuration management, software delivery and building in quality. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Software Engineering MS student |
| SER | 517 | Software Factory Capstone | One-semester capstone culminating experience for graduate students. Student teams work through concurrent product and service offering lifecycles in a project context. Covers concepts including opportunity assessment, risk management, technology evaluation, licensing models, resource planning, delivery models such as hosted, turnkey, Software as a Service (SaaS), technology acquisition, outsourcing, governance, quality assurance, software certification, and continuous process improvement. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Software Engineering MS student |

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| SER | 531 | Semantic Web Engineering | State-of-the-art semantics-based approaches and tools that can be leveraged to enrich and enhance today's big data. Covers approaches to ontology engineering, searching and filtering relevant information, representing big data, modern applications of these methods and techniques for Web-based intelligent applications and services. Discusses applications of semantic technology that could improve the processing of big data. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Fulton Engineering graduate student; Credit is allowed for only SER 594 (Semantic Web) or CST 594 (Semantic Web) or SER 531 |
| SER | 533 | Database-Centric Enterprise Applications Development | Solutions for enterprise software systems based on relational database technology. Persistence solutions in middleware frameworks. O/R, XML, and scalability issues. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Fulton Engineering graduate student |
| SER | 540 | Internet-Enabled Embedded Devices | Accessing hardware devices through Internet, including Applets, HTTP, custom byte streams, XML-RPC, SOAP. Building network-based applications that interface hardware. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Fulton Engineering graduate student |
| SER | 554 | Distributed Computing | Topics in distributed systems, including communications, distributed operating systems, fault-tolerance, and performance issues. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Fulton Engineering graduate student |
| SER | 574 | Advanced Software Design | Presents some of the latest advancements in the area of software design and architecture, aiming to help students develop analytical thinking skills which are essential to a successful career in software engineering. Modeling has become the primary communication vehicle in many areas of software engineering, and particularly in the intersection of software and systems engineering. Presents different approaches to software modeling and design for applications in systems engineering. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 3 | | Prerequisite(s): Software Engineering MS student; SER 515 with C or better; Credit is allowed for only SER 574 or SER 594 (Advanced Software Design) |
| SER | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SER | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Ira A. Fulton Schools of Engineering | Software Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SER | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | REC | Y | Z1 | Ira A. Fulton Schools of Engineering | Software Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SER | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Software Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SER | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SER | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Ira A. Fulton Schools of Engineering | Software Engineering | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SER | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Software Engineering | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SER | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Ira A. Fulton Schools of Engineering | Software Engineering | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SES | 100 | Introduction to Exploration | Science and engineering of Earth, solar system, and space exploration. Experimental design, engineering design; teaming; the professions of science and engineering. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | CS | Prerequisite(s): ALEKS score of 61 or higher or Pre- or corequisite(s): MAT 170, 171, 210, 251, 265, or 270 with C or better if completed OR Visiting University Student |
| SES | 106 | Habitable Worlds | Are we alone in the Universe? If so, why? If not, where are our cosmic cousins? Such questions, once the domain of science fiction, are on the verge of being answered with science facts. Astronomers are discovering planets around other stars. Planetary scientists are exploring the worlds in our solar system. Biologists are unlocking the secrets of metabolism and evolution. Geoscientists are determining how the Earth supports life. And as we struggle to build a sustainable future for ourselves, all of us are finding out how technologically advanced civilizations rise and how they might fall. This course surveys these topics. In the process, students master basic concepts from across the major areas of science and learn what makes the Earth a habitable world. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 4 | SQ | |

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| SES | 107 | A Solar System Journey | Introduces modern planetary science--the exploration of our solar system by astronomers, geologists, chemists, physicists, engineers, astronauts and even biologists. Studies the historical and modern science of the Sun, planets, moons, rings, asteroids and comets in our solar system, and about new planets being found in other solar systems. Covers the scientific method as well as the specific techniques used in modern planetary science and space exploration that enable us to apply what we learn about our solar system neighbors to the study of our home planet, and vice versa. | N | LEL | N | GNA | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 4 | SG | Credit is allowed for only SES 107 or SES 194 (A Solar System Journey) |
| SES | 121 | Earth, Solar System and Universe | The Earth, solar system and universe are diverse and dynamic, featuring galaxies, solar systems, suns, planets and moons. Each type of feature is characterized by a suite of processes and features, such as volcanoes, landslides and climate. As scientists and engineers, we want to understand what is going on in our world. Understanding past events helps begin to predict future events. With the Earth, we examine past events and current natural processes to understand how this past and these processes affect humans. Accordingly, this course examines the processes, materials and features observed and inferred on the Earth, in the Solar System, and in the Universe. The course is purposely designed to be rather holistic, exploring concepts from stellar evolution, atmosphere and oceans on Earth and in extraterrestrial objects, plate tectonics, volcanoes and mountain building. Both SES 121 and SES 123 must be taken together to secure SQ General Studies credit. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | SQ | |
| SES | 122 | History of the Earth and Solar System | The Earth and solar system have a long and interesting history, spanning nearly five billion years. Earth and other objects in the solar system have evolved over time, punctuated by a series of events, such as mountain building, volcanic eruptions, impacts and extinctions. As scientists and engineers, we want to understand what events have occurred in our world and which aspects directly affect us or are most interesting. Understanding past events helps us comprehend what has happened and begin to predict future events. With the Earth, examines past events and current natural processes to understand how this past and these processes affect humans. Accordingly, examines the history of the Earth and solar system in the context of the processes, materials and features that can be observed and inferred. Explores the history of the Earth and solar system from a broad, interdisciplinary, perspective. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): SES 121 with C or better |
| SES | 123 | Earth, Solar System and Universe Laboratory | Studies astronomical and geological processes through observations and measurements. Requires field trips and evening telescopic observing. Both SES 121 and SES 123 must be taken together to secure SQ General Studies credit. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1 | SQ | Pre- or corequisite(s): SES 121 with C or better if completed OR Visiting University Student |
| SES | 124 | History of the Earth and Solar System Laboratory | Studies astronomical and geological processes and life through observations and measurements. Requires field trips and evening telescopic observing. | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1 | | Prerequisite(s): SES 123 with C or better; Pre- or corequisite(s): SES 122 with C or better if completed |
| SES | 126 | Exploration of the Universe | Introduces the basic principles of modern astronomy, with a focus on "Exploration Science," or the methods by which we explore our planet, our solar system, other stars, and even other galaxies. How do we explore? What is the "scientific method"? How is modern science carried out? Study of such questions helps form a solid foundational core for a major in the science of astrophysics--a major that spans many aspects of the universe as a whole. Don't be surprised if class includes stories about how ASU research is proceeding, or how a lesson in class is relevant to some research experience. A key goal is for you to be excited and informed about the incredible era of Earth and space exploration that we're all a part of! | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): SES 121 with C or better; Pre- or corequisite(s): MAT 170, 171, 210, 251, 265, or 270 with C or better if completed |
| SES | 128 | Exploration of the Universe Lab | Introduces the basic principles of modern astronomy, with a focus on "Exploration Science," or the methods by which we explore our planet, our solar system, other stars, and even other galaxies. How do we explore? What is the "scientific method"? How is modern science carried out? Study of such questions helps form a solid foundational core for a major in the science of astrophysics--a major that spans many aspects of the universe as a whole. A key goal is for you to be excited and informed about the incredible era of Earth and space exploration that we're all a part of! | N | LAB | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1 | | Prerequisite(s): SES 123 with C or better; Pre- or corequisite(s): SES 126 with C or better if completed |

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| SES | 141 | Energy In Everyday Life | Energy permeates our everyday life and is at the heart of understanding how the world around us works. What is energy? How is energy used in the biological, chemical, electrical and mechanical systems that impact our daily lives? What would our world be like if there was a nearly infinite supply of inexpensive energy? This multidisciplinary survey course offers learners the opportunity to master practical job skills: the ability to observe, gather data, and think critically to make order-of-magnitude estimates. | N | LEL | N | GNA | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 4 | SQ | Credit is allowed for only SES 141 or SES 194 (Energy in Everyday Life) |
| SES | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-3 | | |
| SES | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | |
| SES | 220 | Biology of a Changing Earth | Offers a broad survey of basic biological principles, with an emphasis on aspects of biology that are particularly important in the context of interdisciplinary Earth and environmental sciences. Explores how life on Earth has emerged and diversified and how the ubiquity of this life affects the Earth's chemistry, land surface and climate. As many of our current environmental issues are a direct consequence of human impacts on organismal physiology, biodiversity patterns, or ecosystem processes, strongly focuses on application of biological knowledge. Includes weekly laboratory exercises. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): GLG 108 with C or better OR GLG 110 with C or better; GLG 111 with C or better OR SES 121 with C or better; SES 123 with C or better OR Visiting University Student |
| SES | 225 | Global Biogeochemical Cycles | Exposes students to the coupled biogeochemical cycles that link Earth's biosphere, hydrosphere, atmosphere and lithosphere. These cycles operate at the very long time-scales that stabilize Earth's climate and the very short time-scales that support the biosphere. Explores processes and changes through time and the human influence on these systems. Topics include: the rock cycle and the hydrologic cycle; biogeochemical systems; carbon, nutrient and oxygen cycles; global climate change; human forcing on the ecosphere; and future climate scenarios. Strongly emphasizes developing an understanding of the complex interactions among different systems and processes. Specific student interests inform some of the topics covered, and participation in the discussions and analyses are crucial to the success of this class. Develops understanding through readings, class discussion, in-class problem solving, written projects and student presentations. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): BIO 100, BIO 182, BIO 282, or SES 220 with C or better; CHM 101, or both CHM 107 and 108, or CHM 113, or CHM 114 with C or better; GLG 108, or both GLG 110 and 111, or both SES 121 and 123 with C or better OR Visiting University Student |
| SES | 230 | Coding for Exploration | A series of lectures and computer labs on data processing and analysis in Earth and space sciences using Python. Introduces programming with scratch and python. Numerical methods for data analytics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | CS | Prerequisite(s): AST 111, GLG 101, or SES 121 with C or better; Pre- or corequisite(s): MAT 265 or 270 with C or better if completed OR Visiting University Student |
| SES | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | |
| SES | 307 | Space Works I: Design, Build, Test | Provides an introduction to: (1) project design and fabrication, including the application of NX CAD software, training and use of the Space Works additive manufacturing equipment, and the implementation of a project from prototype through completion within a dedicated maker space; (2) analytical modeling and its application to planetary exploration; (3) space mission design and implementation; and (4) leadership training, including project organization, schedules, budgets and technical report writing. A key element includes interacting with and learning from engineers and scientists working on space projects. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Pre- or corequisite(s): MAT 265 or 270 with C or better if completed; Credit is allowed for only SES 307 or SES 394 (ASU SpaceWorks Project Level 1:Applied Design....) OR Visiting University Student |
| SES | 311 | Essentials of Astrobiology: Exploration for Life in the Universe | Origin and evolution of life on Earth. Strategies to explore for life in the cosmos. Possible field trips to explore regional geological analogues. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): BIO 181 (188), CHM 113 or PHY 121; MAT 265 or 270 |
| SES | 330 | Practical Electronics and Instrumentation | Applied principles of electronics and mechanical design as used by the modern instrument builder, using a systematic approach to the design process: Identify a scientific problem, develop specifications necessary to solve the problem, develop a prototype solution, test solution for plausibility, break down problem into components, design and build the solution then test in a relevant environment. Builds on introduction to circuits and engineering concepts from prerequisite courses. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 4 | | Prerequisite(s): EEE 202 with C or better; MAE 201 or 212 with C or better; PHY 131 and 132 with C or better (or PHY 151 with C or better) OR Visiting University Student |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------------|-------|-----------------|--|
| SES | 350 | Engineering Systems and Experimental Problem Solving | Introduces integration of scientific and engineering computational methods into scientific research and successful exploration. Provides an active, project-based environment for learning science and engineering by means of a common set of computational tools. Also provides a detailed overview of procedural and object-oriented programming with an emphasis on problem solving. Students solve problems by developing software in an interpreted language (Python). Problems may include visualizing data, interfacing with hardware, or solving numeric problems. Covers procedural programming concepts including data types, variables, control structures, arrays, and data I/O. Covers object-oriented programming concepts including object creation and use, object interaction, and the design of simple classes. Covers software engineering concepts including testing, incremental development, understanding requirements, and teamwork. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | CS | Prerequisite(s): MAT 267, 272, or 275 with C or better; PHY 151 with C or better, or both PHY 131 and 132 with C or better OR Pre- or corequisite(s): AST 301 OR Visiting University Student |
| SES | 376 | Communicating Astronomical and Planetary Sciences I | Develops science communication writing skills, specifically focusing on communicating scientific concepts and scientific results to a variety of audiences including astronomers and the general public. Through lectures, readings and discussions, introduces the characteristics of written science communication and public engagement within the context of astronomical and planetary sciences to include investigations into the ethics of science communication. Students gain proficiencies in science communication writing, visual data production and various digital technologies through relevant, project-based assignments, digital portfolio creation and contributions to a class blog. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): AST 111 with C or better; AST 112 with C or better; ENG 102, 105, or 108 with C or better OR Visiting University Student |
| SES | 377 | Communicating Astronomical and Planetary Sciences II | Develops science communication oral skills, specifically focusing on communicating scientific concepts and scientific results to a variety of audiences including astronomers and the general public. Through lectures, readings and discussions, introduces a variety of techniques for producing and presenting effective oral science presentations within the context of astronomy and planetary sciences. Students gain proficiencies in public speaking, visual data production and various digital technologies through relevant, project-based assignments, including digital portfolio creation and contributions to a class blog. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; SES 376 with C or better OR Visiting University Student |
| SES | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | |
| SES | 401 | Earth and Space Exploration Colloquium | Colloquium is an opportunity to gain exposure to research that is taking place beyond the School of Earth and Space Exploration (SESE). Colloquium facilitates the cross-disciplinary growth that is always evolving in SESE. Also provides an opportunity for all members of SESE to gather in one location to interact and learn about science. | N | LEC | Y | YGB | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SES | 405 | Exploration Systems Engineering | Provides an introduction to systems engineering with an emphasis on the following topics: the systems engineering process, requirements, design fundamentals, subsystem fundamentals, trade studies, integration, technical reviews, case studies and ethics. Prepares the student for the capstone spacecraft/mission design course. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): MAT 266 or 271 with C or better; PHY 121 and 122 (or PHY 150) with C or better |
| SES | 407 | Space Works II: Model, Fabricate, Test | Provides students with: (1) experience in complex project design and fabrication, including the application of NX software for thermal and structural modeling, use of the Space Works additive manufacturing equipment, and the testing of a team project within space-like conditions; (2) training in clean room protocol; (3) electrostatic discharge training; and (4) preparation of a Preliminary Design Review document which includes a team presentation. A key element includes interacting with and learning from engineers and scientists working on space projects. | N | LEL | N | GNA | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): SES 307 with C or better; Credit is allowed for only SES 407 or SES 494 (ASU SpaceWorks Project Level 2-Model, Fab, Test) OR Visiting University Student |
| SES | 410 | Senior Exploration Project I | Design and development of an Earth, solar system, or space exploration project. Conceptualization, design, development, deployment, data analysis, communication. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): Earth and Space Exploration BS major; ENG 101, 105 or 107 with C or better; minimum senior standing OR Visiting University Student |
| SES | 411 | Senior Exploration Project II | Continuation of SES 410. Development of Earth, solar system, or space exploration project. Conceptualization, design, development, deployment, data analysis, communication. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Pre-requisites: ENG 101, ENG 105 or ENG 107; SES 410 |

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| SES | 421 | Foundations of Planetary Science | Provides a quantitative survey of the physical, chemical and geological processes that govern the formation and evolution of planetary bodies. Students (figuratively) tour the major planets, both terrestrial and giant, along with their diverse satellites and the myriad populations of "small bodies" such as comets and asteroids. The course centers on our solar system, but applies the foundational principles of planetary science to the study of exoplanets, including the remote characterization of both rocky and gas-rich exoplanets. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): AST 301 with C or better OR MAT 266 or 271 with C or better; PHY 121 with C or better; PHY 122 with C or better OR MAT 266 or 271 with C or better; PHY 150 with C or better OR Visiting University Student |
| SES | 480 | Teaching Earth and Space Sciences | Provides a practical review and active exploration of educational research and theory, published and online resources, and best practices, to inform effective teaching of the Earth and space sciences at the high school and undergraduate levels. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; AST 111, AST 112, GLG 101, GLG 102, GLG 108, GLG 110, SES 106, SES 121, or SES 122 with C or better; Credit is allowed for only SES 480 or SES 494/GLG 490 (Teaching Earth and Space Science) |
| SES | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): minimum 45 hours |
| SES | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-6 | | Prerequisite(s): Barrett Honors student |
| SES | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| SES | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | |
| SES | 495 | Undergraduate Thesis | Guided research culminating in the completion and presentation of an undergraduate thesis based on supervised research. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum senior standing OR Visiting University Student |
| SES | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-3 | | Prerequisite(s): minimum 45 hours |
| SES | 501 | SESE Colloquium | Colloquium is an opportunity to gain exposure to research that is taking place beyond the School of Earth and Space Exploration (SESE). Colloquium facilitates the cross-disciplinary growth that is always evolving in SESE. It also provides an opportunity for all members of SESE to gather in one location to interact and learn about science. | N | LEC | Y | YGB | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GLG 500 or SES 501 |
| SES | 502 | Exploring SESE Research | Weekly series of talks by faculty in the School of Earth and Space Exploration (SESE) about their current research. | N | LEC | Y | GNA | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GLG 591 (Faculty Research Seminar) or SES 502 |
| SES | 510 | Graduate Exploration Project I | Design and development of an Earth, solar system or space exploration project. Conceptualization, design, development, deployment, data analysis, communication. First part of a year-long project for the development and testing of experiments and instruments for scientific exploration. Expects students to define the mission and develop an experiment while applying realistic science-based goals and constraints to their design work. | N | PRA | N | GNA | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): Exploration Systems Design MS student; minimum 9 hours of CEN, EEE, IEE, or MAE graduate courses with C or better; minimum 6 hours of AST, GLG, or SES graduate courses with C or better |
| SES | 511 | Graduate Exploration Project II | Development of Earth, solar system or space exploration project. Conceptualization, design, development, deployment, data analysis, communication. Second of a year-long project for the development and testing of experiments and instruments for scientific exploration. Expects students to define the mission and develop an experiment while applying realistic science-based goals and constraints to their design work. | N | PRA | N | GNA | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 3 | | Prerequisite(s): Exploration Systems Design MS student; SES 510 with B or better |
| SES | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SES | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | |
| SES | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): School of Earth and Space Exploration master's student |
| SES | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | GNA | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SES | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SES | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-4 | | |
| SES | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): School of Earth and Space Exploration master's student |
| SES | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-12 | | Prerequisite(s): School of Earth and Space Exploration graduate student |
| SES | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-15 | | Prerequisite(s): School of Earth and Space Exploration doctoral student |
| SES | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SES | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Liberal Arts and Sciences | School of Earth and Space Exploration | 1-15 | | Prerequisite(s): School of Earth and Space Exploration doctoral student |
| SFS | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-3 | | |
| SFS | 215 | Fundamentals of Sustainable Food Systems | Introductory food course provides students with a panoramic understanding of American agriculture. Explores American-grown food through history, policy, society, business innovation, and environmental sustainability. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | L | Prerequisite(s): ENG 101, 102, 105, 107, or 108 with C or better; Credit is allowed for only AGB 215 or SFS 215 or SOS 215 OR Visiting University Student |
| SFS | 216 | The Sustainable Plate | Introductory food course explores agriculture by subsectors, such as livestock, grains and fruits and vegetables. Students learn how dietary choices affect health, the environment, and the people who produce and process food. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): ENG 101, 102, 105, 107, or 108 with C or better; Credit is allowed for only AGB 216 or SFS 216 or SOS 216 OR Visiting University Student |
| SFS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-4 | | |
| SFS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-4 | | |
| SFS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Global Futures | School of Sustainability | 1-12 | | |
| SFS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | IND | Y | Z1 | College of Global Futures | School of Sustainability | 1-6 | | Prerequisite(s): Barrett Honors student |
| SFS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | IND | Y | Z1 | College of Global Futures | School of Sustainability | 1-6 | | Prerequisite(s): Barrett Honors student |
| SFS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-4 | | |
| SFS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| SFS | 560 | Tools and Tactics for Food Policy Change | Reviews competing theories, models and analytical frameworks for understanding the policy-making process. Provides advanced knowledge of the tools and strategies necessary to achieve food policy reform. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): Food Policy and Sustainability Leadership certificate student; Corequisite(s): SFS 561 |
| SFS | 561 | Food and Farm Immersion Experience | Exposes students to farmers, ranchers and supply chain businesses that are the focus of, or are otherwise directly impacted by, food and agriculture policies and programs. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): Food Policy and Sustainability Leadership certificate student; Corequisite(s): SFS 560 |
| SFS | 562 | Managing Natural Resources for Food Production | Highlights the relevance of natural resource conservation for ensuring healthy agricultural, food and environmental systems, as well as the various approaches to achieving sustainable systems. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): SFS 560; Corequisite(s): SFS 563 |

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| SFS | 563 | Applied Food Policy Immersion Experience | Intensive seminar on leadership reviews leadership theories, builds leadership skills, and engages students in question-and-answer sessions with food policy leaders from a variety of sectors on the ASU campus and across Metro-DC. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): SFS 560; Corequisite(s): SFS 562 |
| SFS | 564 | American Agriculture in the Global Context | American agriculture both impacts, and is impacted by, the production and demands of other countries. Considers global food trends, global food policy governance regimes and institutions, and explores current controversies. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): SFS 560; SFS 562 |
| SFS | 565 | Organizational Leadership | Culminating research-based class organizes students into small teams and chooses a topic from a list of contemporary policy controversies provided by the professor. Class work requires original research, creation of policy solutions, and development of strategies to achieve proposed solutions. Each team produces a professional report to be broadly shared with sustainable food system advocates. The professional report is expected to advance food policy knowledge generally and provide certificate graduates visibility to highlight their accumulated skills. Organizes assignments so that students have individual assignments that must be completed and submitted for individual grades. Teamwork is also a highly valued skill for leaders and for this reason, a component of a student's grade is based on the final team report and presentation. | N | PRA | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): Food Policy and Sustainability Leadership certificate student; SFS 560; SFS 563; Pre- or corequisite(s): SFS 564 |
| SFS | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Global Futures | School of Sustainability | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SFS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRO | Y | Z1 | College of Global Futures | School of Sustainability | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SFS | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SFS | 596 | Capstone | Required capstone where students conduct research and write a professional report of publishable quality based on the research. | N | LEL | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): Sustainable Food Systems MS student |
| SFS | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SGS | 101 | Thinking Globally | Survey of globalization processes in historical context, including economic, political, cultural and technological dynamics, and human efforts to analyze and address contemporary global issues. Provides a grounding in patterns of global social change and diverse theoretical approaches to understanding them. Topics addressed vary and may include the emergence and dynamics of capitalism, trade, labor, economic inequality and development; the interstate system, democracy, nationalism, colonialism and post-colonialism; global governance, social movements and resistance to globalization; immigration, environmental and health challenges; media, art and identities including race, ethnicity, language and religion. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | Credit is allowed for only SGS 101 or SGS 301 |
| SGS | 107 | Religion and Globalization | Explores how different religions interact with the various processes of globalization, including how the world's major religions have been transformed by economic, political, cultural, and technological aspects of globalization. Topics include religious terrorism, human rights, religion, and gender. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | HU & G | Credit is allowed for only REL 107 or SGS 107 OR Visiting University Student |
| SGS | 111 | Global History Since 1500 | Surveys Africa, the Americas, and Eurasia; changes in communication, communities, demography, economics, environment, politics, religion, technology, warfare, and women. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | HU & H & G | Credit is allowed for only HST 101 or SGS 111 OR Visiting University Student |
| SGS | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-3 | | |
| SGS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-4 | | |
| SGS | 203 | Contemporary Global Trends | Gives a grounding in patterns of international politics and global social change. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | |
| SGS | 204 | Professional Global Career Development | Orients the student to working in global contexts and to thinking critically about careers in the global arena. Focuses on working in organizational settings distinctly global. Three modules: nation-state, corporations, and working international organizations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | |
| SGS | 240 | Introduction to Southeast Asia | Interdisciplinary introduction to the cultures, religions, political systems, geography, and history of Southeast Asia. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | (HU or SB) & G | Credit is allowed for only ASB 240 or GCU 240 or HST 240 or POS 240 or REL 240 or SGS 240 OR Visiting University Student |

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| SGS | 245 | Introduction to India and South Asia | Provides an introduction to the history and major contemporary political, economic, social, religious and cultural features of the South Asia region at large and of selected South Asian nations in particular. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | HU & H & G | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only HST 245, POS 245, REL 245, SGS 245 or SLC 245 |
| SGS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-4 | | |
| SGS | 301 | Principles of Global Studies | Advanced overview of globalization processes in historical context, including economic, political, cultural and technological dynamics, and human efforts to analyze and address contemporary global issues. Provides a grounding in patterns of global social change and diverse theoretical approaches to understanding them. Topics addressed vary and may include the emergence and dynamics of capitalism, trade, labor, economic inequality and development; the interstate system, democracy, nationalism, colonialism and post-colonialism; global governance, social movements and resistance to globalization; immigration, environmental and health challenges; media, art and identities including race, ethnicity, language and religion. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | G | Prerequisite(s): minimum 45 hours; Credit is allowed for only SGS 101 or SGS 301 OR Visiting University Student |
| SGS | 303 | Global Trends | Analyzes the process of globalization across boundaries through the investigation of the determinants and ramifications of globalization from the vantage of modern social sciences. Students are expected to conduct and articulate independent critical analyses toward a more in-depth understanding of this social phenomena, global history, and particularly the global economy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SGS | 304 | Foundations of Cross-Cultural Awareness | Addresses the theory and practice of studying, working and/or living in cultures other than your own, and focuses on cultural preparation to learn successfully in diverse cultures. Develops an awareness of intercultural sensitivity and recognizes its value, gains specific intercultural competencies (as defined within the course), and enables students to better understand their own culture so they can understand their host culture at a more meaningful level. Because of the variety of locations where students study or intern, focuses on culture-general skills, not culture-specific ones. Students also gain career development skills to prepare them to apply to study abroad programs and related scholarships, and guidance on how to best utilize international experiences for maximum benefit and long-term career planning. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only SGS 304 or SGS 394 (Cross-Cultural Awareness) or SGS 394 (Foundations of Cross-Cultural Awareness) OR Visiting University Student |
| SGS | 305 | Empirical Political Inquiry | Logic of political inquiry, including research problems, concepts, hypotheses, theories, measurement, data collection, and analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only POS 301 or SGS 305 OR Visiting University Student |
| SGS | 315 | Energy Policy | Examines the regulation of energy production and consumption in the U.S. at the federal, state and local levels. Identifies energy stakeholders in the U.S. and examines how they have shaped U.S. policies around energy. Explains past and current U.S. energy policies and how energy needs have shaped U.S. relations with other countries. Compares U.S. energy policies to that of other countries in the world, as well as how Arizona's energy policies compare to other states within the U.S. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only SGS 315 or SOS 315 OR Visiting University Student |
| SGS | 320 | Mechanisms of Global Governance | One of the fundamental issues in the social sciences concerns the problematic attainment of social order, which is the principal aim of governance. Presents the five principal mechanisms purported to account for social order, and illustrates these by providing empirical examples of each; includes film clips. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SGS | 321 | International Institutions and Global Governance | Provides an in-depth examination as to how the international community organizes itself, through international institutions, to deal with serious international issues, and how the institutions of international governance can be improved. Studies diverse examples of international institutions primarily from the perspective of international relations (IR) theory and the role of international law (IL). | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours |

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| SGS | 323 | International Development | Provides an introduction to the theories underlying international development and the remaining challenges facing academics, researchers, and policymakers in solving issues contributing to global poverty. Gives an overview of the state of the world, illustrating how indicators of economic growth and well-being are unequally distributed across countries. Conceptualizes the leading factors believed to drive these patterns and discusses the historical approaches to solving these problems. Gives particular attention to examples of policies and development strategies that either strengthened or weakened economies in the past. Second half of the course details current factors that continue to threaten development, such as poor health and education practices, limitations in agricultural growth and food security, and heightened risk due to climate change. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only SGS 323 or SGS 394 (International Development) or SOS 394 (International Development) |
| SGS | 324 | Global Trade in Real Time | Practical aspects of global trade including historic background, negotiations, supply chain, global terms, transportation, chartering, marine insurance, international arbitration, foreign exchange, letters of credit, barter, ethics, leadership, networking, country analysis and introduction to global management theories. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours or minimum junior standing OR Visiting University Student |
| SGS | 325 | Globalization and Socio-Economic Justice | Addresses a trend producing increasing interconnectedness of economies and societies, as well as creating new conflicts and divisions. Provides greater understanding of global forces, as well as the effect of these forces on global economic justice. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; minimum 2.00 GPA; Credit is allowed for only JUS 325 or SGS 325 or SOC 325 OR Visiting University Student |
| SGS | 330 | Globalization and the Environment: Problems and Solutions | Assesses the impact of globalization on the earth's environment. Examines such issues as biodiversity loss to pollution to urbanization to climate change, among others, and assess how globalization has driven, impacted or improved these environmental problems. Emphasis on understanding the social, political and economic factors that have contributed to global environmental change and the degree to which globalization processes are something 'new', as well as on examining the ability of communities, nations and transnational institutions to manage these global problems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SGS | 340 | Violence, Conflict and Human Rights | Interdisciplinary examination of the evolution and role of human rights in global society. Major themes include the political struggles over enforcement of human rights and curtailment of violence against individuals. Pays close attention to the role of non-governmental organizations and diplomacy in advancing human rights norms and also examines America's role in human rights, both at home and abroad. Focuses on the causes and effects of violence and human rights abuses in the context of torture, the "war on terror," and crimes against humanity. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SGS | 341 | Humanitarian Crisis and International Intervention | Focuses on political, legal, and ethical issues raised by decision about military interventions in genocide and humanitarian crisis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | |
| SGS | 343 | Religion, Nationalism, and Ethnic Conflict | Examines the role of religion in national and ethnic conflict in the contemporary world. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only REL 379 or SGS 343 OR Visiting University Student |
| SGS | 344 | Facing the Past: Truth, Memory, Denial After Atrocities | The past has never been so present as it is today. Over the last two decades, the world has shown an increasing interest in uncovering the hidden and forgotten histories of state-sponsored atrocities and acknowledging the fate of victims and survivors. Studies this movement for the recovery of truth, memory, and moral responsibility includes a wide range of actors and takes a number of different forms. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | |
| SGS | 350 | Economic Development and Globalization | Major issues and models in economic development. Studies development policy and foreign aid practiced since the 1970s and recent critique of these practices. Analyzes the mistakes made in the last 40 years, and potential for improving the practice of foreign aid. Contemporary issues in development economics, including the impacts of bad governance, foreign aid, corruption, war, military intervention and democracy on economic growth with emphasis on policy evaluations in health, education, microfinance and monitoring corruption. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours |

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| SGS | 360 | Cultural Aspects of Globalization | Cultural aspects of globalization, starting with a theoretical discussion of what culture is and then weaving this discussion into an empirical examination of UNESCO's World Heritage program as a practical means of studying the role of culture in globalization. A number of questions guide our inquiry: What is culture? What forms does it take? Can culture be preserved? If so, what are the consequences? How is the UNESCO World Heritage Program structured? How does it conceive culture? What is its understanding of the global and the role of the local in it? | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours |
| SGS | 361 | World Society: Imagining the World | Studies global processes by conceptualizing the world as a world society. This means that globalization is not just people being more interconnected enabling faster interactions. It suggests that interactions and institutions throughout the world are increasingly part of a whole, of a global consciousness, and while boundaries such as national boundaries are important, they do not delimit "society." The global is not just what is outside of national society or beyond the nation-state: it also constitutes what is inside the nation-state. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only SGS 361 or SGS 394 (World Society) |
| SGS | 366 | Islam and Islamic Societies in Africa: Social and Political History | An in-depth study of the fundamental principles of Islam. Course will examine various forms of development of Muslim societies and institutions in Africa through time. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | G | Prerequisite(s): AFR 200 (or AFS 200) or minimum 45 hours; Credit is allowed for only AFR 372 (or AFS 372) or REL 362 or SGS 366 or AFS 394/REL 394/SGS 394 (Islam and Islamic Societies in Africa: Social and Political History) |
| SGS | 370 | Geopolitics | Geopolitics is a field that deals with war, conflict and the politics of animosity and violence. It calls special attention to the distribution of power on a global scale, and to the spatial scales at which power, authority and control operate. At one time, this involved studying how various "great powers" and "wise men" carved up the world according to their goals and interests. But power is everywhere! To name only a few examples, it is present in the ways that NGOs operate in conflict zones, in global health advocacy and awareness, in media coverage of distant catastrophes and seemingly immanent risks, and in disaster management and emergency response plans. Scholars in this field study topics such as war, diplomacy, conflict, migration, religious strife, terrorism and similar fields. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours or minimum junior standing; Credit is allowed for only SGS 370 or SGS 394 (Global Geopolitics) OR Visiting University Student |
| SGS | 377 | Arizona, Immigration, Latinos and Politics | Contemporary immigration and its related issues have generated significant debates, reforms and responses by government officials, businesses and private citizens, to name but a few in this country. This course provides a much-needed framework for understanding some of the immigration issues in Arizona and the country generally. It also focuses on some of the political responses by Latinos and their significant mobilization at the local, state and federal levels. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only JUS 377 or POS 377 or SGS 377 or TCL 377 or HST/JUS/POS/SGS/TCL 394 (Arizona, Immigration, Latinos and Politics) OR Visiting University Student |
| SGS | 379 | The Resource Curse | Explores the paradox known as the resource curse, examining the argument, its mechanisms for impeding development, and its effects. Examines successes and failures, and in doing so, examines the mechanisms of the resource curse and the potential to overcome the negative consequences of resource wealth for developing countries. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only POS 379 or POS 394 (The Resource Curse) or SGS 379 or SGS 394 (The Resource Curse) OR Visiting University Student |
| SGS | 381 | Modern Southeast Asia | Vietnam, Laos, Cambodia, Thailand, Burma, Malaysia, Singapore, Brunei, Indonesia, and Philippines since 1750: imperialism, revolution, and independence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | SB & G & H | Pre-requisite(s): ENG 102, 105 or 108 with a C or better; Minimum 30 hours; Credit is allowed for only HST 391 or SGS 381 |
| SGS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-4 | | |
| SGS | 401 | Political Statistics | Basic concepts in statistics as they facilitate the description, explanation, and prediction of social and political phenomena. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | CS | Prerequisite(s): DAT 401, POS 301 or SGS 305 with C or better; Credit is allowed for only POS 401 or SGS 401 OR Visiting University Student |
| SGS | 441 | Religion and Global Politics | Explores the nature and role of religion in international politics in the modern period. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | L & G | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only REL 480 or SGS 441 OR Visiting University Student |
| SGS | 442 | Different Voices Within Contemporary Islamic Discourse | Examines modern Muslim discourse on major contemporary issues such as Shari'a, Jihad, secularism, gender, civil rights, democracy, extremism, religious violence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): ENG 102 or 105 or 108 with C or better; Credit is allowed for only AFR 480 (or AFS 480) or REL 461 or SGS 442 |

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| SGS | 454 | Gender, Culture, and Development | In-depth analysis of gender roles related to health, family, work, education and politics in developing countries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | (L or SB) & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; WST 100 or 300 or minimum 45 hours; Credit is allowed for only SGS 454 or SOS 447 or TCL 447 or WST 447 or TCL 598 (Gender, Culture & Development) OR Visiting University Student |
| SGS | 466 | Migration, Environment and Global Security | Human mobility within and across borders is on the rise with rapid globalization and infrastructural investments. National concerns over human security and resource allocation have prompted discussion over the drivers and consequences of emerging migration patterns related to environmental stressors. The objective is to gain perspective on the environmental refugee debate and learn how governments, donors, and international agencies are currently tackling the problem. Students are introduced to cross-disciplinary concepts of migration and environmental stressors (e.g., natural disasters, climate change, water scarcity, soil erosion) in order to understand and discuss recent scientific work, and investigate the challenges in documenting this phenomenon and its consequences on global security. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only POS 466 or SGS 466 or GCU/POS/PUP/SGS/SOS 494 (Migration, Environment, & Global Security) or GCU/GSC/PUP 598 (Migration, Environment, & Global Security) OR Visiting University Student |
| SGS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-12 | | |
| SGS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| SGS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| SGS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-4 | | |
| SGS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-7 | | |
| SGS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Politics and Global Studies | 1-3 | | |
| SGS | 501 | Global Theory | Examines theoretical and analytical frameworks employed by institutions to frame action related to increased global uncertainty including economic, sociological, psychological, decision theory, gaming and institutional behavior frameworks. Uses case studies in key global issue areas such as climate change/natural hazards, energy security, urbanization, food security, security, failed states. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SGS | 502 | Global Institutions and Actors | Examines key types of global institutions, (1) multinational businesses, e.g., Toyota, (2) international development organizations, e.g., the World Bank, and (3) voluntary organizations, e.g., the Red Cross/Crescent, in terms of the roles that they play in shaping localized outcomes. Using case studies, explores the impact of international actors in terms of the power and influence that they exert through international treaties, standards, information diffusion, influence on local governments and other organizations, dissemination of international "best practice." | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SGS | 503 | Methods: Global Decision Making Under Uncertainty | Examines and critically assesses approaches and methods used in decision making and planning under uncertainty in global contexts, e.g., scenarios, SWOT, risk analysis, contingency planning, gaming, economic forecasting, anticipation-foresight techniques, decision making under complex conditions, and rapid assessment techniques. Explores the strengths and weaknesses of different approaches under varying conditions, synergies achievable through application of multiple methodologies, and normative assumptions underlying various methodologies. Students gain "hands-on" experience in the use of a variety of techniques through assignments based on real-world situations. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): SGS 501; SGS 502; Pre- or corequisite(s): SGS 504 |

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| SGS | 504 | The Individual As Decision Maker in Cross-Cultural Global Contexts | Focuses on the role of the Individual decision maker in cross-cultural contexts, acting in the context of globally engaged institutions. The individual is virtually always embedded in an institutional environment whether as manager, planner, advocate, frequently acting as part of a team. It is recognized that the various agents/stakeholders involved in addressing an issue, negotiating a deal, in a global context, almost invariably hold significantly different worldviews, cultural norms and decision-making styles. Deals with the individual decision maker in both public and private decision-making milieus. Discusses modes of intervention and initiative. Addresses issues of leadership, reconciliation of different decision-making modes, and acting effectively in cross-cultural environments. Emphasizes decision making under high uncertainty, using case studies, e.g., pending nationalizations or privatization. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): SGS 501; SGS 502; Pre- or corequisite(s): SGS 503 |
| SGS | 505 | Preparation for the Global Field Project | Prepares students for the global field project. In addition to scheduled classes, each student meets with her/his advisor at regular intervals during the semester to prepare for the Global Field Project. During the semester, students prepare a work plan for their Global Field Project, including objectives of the exercise, specifications of deliverables. Network building is an important secondary objective, and development of an esprit de corps among Global Studies masters students. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Politics and Global Studies | 3 | | Prerequisite(s): SGS 501; SGS 502; Pre- or corequisite(s): SGS 503; SGS 504 |
| SHS | 205 | Exploring Communication Disorders in Children and Adults | Introduces hearing, language, and speech problems in children and adults. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |
| SHS | 230 | Peering into the Human Brain | An introductory look into the cognitive and language functions of the human brain, and the resulting behavioral consequences of injury, disease and disorders. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | SG | |
| SHS | 250 | Introduction to Phonetics | Introduces English phonetics with emphasis on phonetic transcription, articulation, phonology and disorders of speech. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Speech and Hearing Science BS major, minor, or BIS concentration student, or Communication Sciences and Disorders certificate student; minimum 45 hours OR Visiting University Student |
| SHS | 300 | Foundations of Rehabilitation Science | Provides a foundation to rehabilitation science and covers an overview of rehabilitation professions and work settings including acute care, rehabilitation centers, long-term care facilities and in-home services. Also provides an introduction to clinical methods, patient privacy and professional ethics as well as an overview of rehabilitation process and continuum for children and adults. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |
| SHS | 310 | Anatomical and Physiological Bases of Speech | Noncadaveric study of anatomical systems that underlie human speech and language, including respiration, phonation, articulation, and related nervous system processes. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BIO 160 or 201 with C or better; SHS 250 with C or better OR Visiting University Student |
| SHS | 311 | Hearing Science | Studies the physical characteristics of sound and of the structure and function of the human auditory system. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): PHY 101 with C or better OR PHY 111 and 113 with C or better OR Visiting University Student |
| SHS | 340 | Chronic Illness, Disability and the Environment | Over a billion people worldwide are estimated to live with some form of disability; however, disability is diverse in its association with chronic health conditions. Individuals with disabilities are vulnerable to deficiencies in health and social services. Depending on the group and setting, persons with disabilities may experience greater vulnerability to chronic illness, co-morbid conditions, age-related conditions, engaging in health risk behaviors and higher rates of premature death. Provide an overview of disability groups and the associated health conditions that impact their lives as well as discussion of the barriers to health care including health care costs, availability of services and physical barriers in the community. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |
| SHS | 360 | Rehabilitation for Children and Adolescents in Educational Settings | Gives an overview of habilitation services for children from early intervention through adolescence in terms of physical, occupational and speech therapy, as well as other support services and their role with early intervention, educational settings, pediatric rehabilitation contexts. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours |
| SHS | 367 | Language Science | Psychological processes, linguistic principles and social influences relating to language and communication. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | SB | Prerequisite(s): minimum 30 hours OR Visiting University Student |
| SHS | 375 | Speech Science | Normative aspects of speech, hearing, and language. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): SHS 250 with C or better; SHS 311 with C or better; Pre- or corequisite(s): SHS 310 with C or better if completed OR Visiting University Student |

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| SHS | 400 | Topics in Neuroscience | Covers in-depth important and emerging developments in neuroscience, emphasizing lectures that include readings of recent reviews and contemporary publications in peer-reviewed journals. Includes a significant writing component; students learn skills for writing scientific publications and grant applications. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BIO 360 with C or better; Credit is allowed for only BIO 400 or KIN 400 or PSY 400 or SHS 400 |
| SHS | 401 | Principles of Audiology | Introduces hearing disorders and the purposes and procedures for basic clinical tests of auditory function. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): SHS 311 with C or better; Credit is allowed for only SHS 401 or SHS 501 OR Visiting University Student |
| SHS | 402 | Clinical Methods and Treatment of Communication Disorders | Principles and techniques for planning speech and language intervention, including observation experiences. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Pre- or corequisite(s): SHS 470, 485, or 565 with C or better if completed OR Visiting University Student |
| SHS | 410 | Deaf Culture | Provides students with an overview of issues related to deaf, hard of hearing and comprehensive vision hearing loss (CVHL). Topics include historical, cultural, educational and political issues, technology, arts and literature as it relates to the deaf community. Taught primarily in English. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | C | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ASL 410 or ASL 494 (Deaf Culture) or SHS 410 or SHS 494 (Deaf Culture) or SLC 410 or SLC 494 (Deaf Culture) OR Visiting University Student |
| SHS | 461 | Accent Modification | Increases speech intelligibility in non-native English speakers by changing their English pronunciation skills. International students learn the pronunciation of American English vowels and consonants, intonation and stress patterns, and rhythm of speech. Conducts pre- and post-assessments of the students' intelligibility to determine the need for improvement on specific sounds and speech patterns. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 2 | | |
| SHS | 465 | Speech and Language Acquisition | Speech and language development in the normal child; introduces disorders. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | SB | Prerequisite(s): SHS 250 with C or better; Credit is allowed for only SHS 465 or SHS 565 OR Visiting University Student |
| SHS | 470 | Developmental Speech and Language Disorders | The nature of speech and language disorders in children | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): SHS 465 with C or better OR Visiting University Student |
| SHS | 473 | Implementation of Treatment Plans for Individuals with Communication Disorders | Students will learn to follow written treatment plans, individual education programs, individual support plans or protocols developed by the supervising speech-language pathologist. Opportunities to learn methods for eliciting therapy targets and to apply critical thinking and problem solving during therapy will be provided. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): admission to Speech-Language Pathology Assistant certificate |
| SHS | 483 | Professional Issues and Ethical Considerations for the SLPA | Studies licensure laws, professional conduct, and ethical practice in the field of speech language pathology. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): admission to Speech-Language Pathology Assistant certificate |
| SHS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): minimum 45 hours |
| SHS | 485 | Acquired Speech and Language Disorders | Acquired speech and language disorders across the lifespan. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): SHS 310 with C or better; SHS 367 with C or better OR Visiting University Student |
| SHS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): Barrett Honors student |
| SHS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| SHS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | |
| SHS | 496 | Aural Rehabilitation | Approaches to aural rehabilitation of children and adults. Introduces educational audiology and assistive listening devices. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): SHS 311 with C or better; SHS 375 with C or better; SHS 401 with C or better; Credit is allowed for only SHS 496 or SHS 596 OR Visiting University Student |
| SHS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| SHS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-3 | | |
| SHS | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite: MS Communication Disorders, Doctor of Audiology, or PHD Speech and Hearing Science student |
| SHS | 501 | Introduction to Audiology | Introduces hearing disorders and the purposes and procedures for basic clinical tests of auditory function. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): SHS 311 with C or better; Credit is allowed for only SHS 401 or 501 |

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| SHS | 502 | Basic Audiometry | Covers the bases, purposes, rationales, and procedures for the core clinical tests of auditory function in adults and children. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): Doctor of Audiology or Speech and Hearing Science PhD student |
| SHS | 504 | Amplification I | Operation, electroacoustic measurement, selection, and prescriptive fitting of amplification devices. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): Doctor of Audiology or PHD Speech and Hearing Science student |
| SHS | 505 | Sign Language for Audiologists and Speech Pathologists | Facilitates effective manual and alternative methods of communication with deaf individuals in clinical settings. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 508 | Pediatric Audiology | Covers the development of the auditory system and the disorders that can result in hearing loss in children birth to 18 years of age, the diagnostic test techniques used to assess hearing in children from birth to 5 years of age, and best practices for auditory intervention at each stage of childhood. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Doctor of Audiology or PHD Speech and Hearing Science student |
| SHS | 510 | Amplification II | Verification and validation of hearing aid performance, benefit, and satisfaction. Fitting considerations for pediatric and geriatric populations. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): SHS 504 with B- or better |
| SHS | 511 | Auditory Perception by the Hearing Impaired | Psychophysical methods and behavioral aspects of hearing, with an emphasis on the perceptual consequences of sensorineural hearing loss. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Doctor of Audiology or PHD Speech and Hearing Science student |
| SHS | 512 | Topics in Management of Medical Aspects of Speech-Language Pathology | Focuses on varying topics in management of medically based speech and language disorders. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 513 | Auditory Neuroscience | Covers knowledge of neuroanatomy and neurophysiology of the auditory system. Topics include: cochlear functions, central auditory processing of simple and complex sounds, neural basis of auditory perception including speech and music. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree-seeking graduate student |
| SHS | 516 | Auditory Evoked Potentials | Electrophysiologic assessment of the peripheral and central auditory nervous system. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): Doctor of Audiology or Speech and Hearing Science PhD student |
| SHS | 517 | Balance Assessment | Clinical analysis and treatment of balance disorders and dizziness. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): Doctor of Audiology or Speech and Hearing Science PhD student |
| SHS | 518 | Rehabilitative Audiology | Study and clinical application of rehabilitative services for managing the effects of hearing impairment across the lifespan. Covers and applies principles of patient- and family-centered care. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Doctor of Audiology or PHD Speech and Hearing Science student |
| SHS | 520 | Auditory Pathologies/Disorders and Otoneurologic Applications | Familiarizes students with major pathologies and disorders of the human auditory system. Examines advanced otologic, neurologic, and audiologic approaches in the differential diagnosis and treatment of peripheral and central disorders of the auditory system. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): Speech and Hearing Science graduate student |
| SHS | 522 | Tinnitus/Advanced Audiometry | Discusses assessment and intervention procedures beyond the basic audiologic test battery. Includes a special focus on the mechanisms, evaluation and treatment of tinnitus. Examines the prevention, identification and management of hearing loss due to noise exposure. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Speech and Hearing Science graduate student |
| SHS | 523 | Central Auditory Processing Disorders | Discusses assessment and intervention procedures beyond the basic audiologic test battery and for special populations. Examines relevant new audiologic tests and procedures. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): SHS major; SHS 502 and SHS 513 |
| SHS | 524 | Counseling in Communication Disorders | Theories of counseling emphasizing the psychological and emotional impact and management of individuals with communication disorders and their families. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): MS Communication Disorders, Doctor of Audiology, or PHD Speech and Hearing Science student |
| SHS | 525 | Audiology Practice Management | Business practice issues, quality assurance, and professional ethics for the practicing audiologist. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Doctor of Audiology or PHD Speech and Hearing Science student |
| SHS | 526 | Launch to Clinical Methods in Audiology | Introduces clinical practices in audiology. Covers principles of evidence-based practices and ethical and professional conduct, the basics of billing and coding, report writing and clinical documentation, and infection control practices, as well as how to perform a speech and language screening. Introduces policies, procedures and software specific to the ASU Speech & Hearing Clinic operations, which is pertinent to success in clinical rotations. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): Audiology AuD student |
| SHS | 538 | Clinical Methods and Simulation in Speech Language Pathology | Provides the knowledge and skills in clinical methods for treatment and diagnosis in speech-language pathology. Topics cover essential information to participate in screening and prevention opportunities, to structure and implement therapy goals and strategies, to apply for internships, and to administer and interpret informal and formal diagnostic tests. | N | LEL | Y | GNA | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): MS Communication Disorders major. |

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| SHS | 539 | Professional Issues in Speech-Language Pathology | Covers professional issues in speech-language pathology to ensure that students meet the professional knowledge requirements set forth in the American Speech-Language-Hearing Association (ASHA) certification standards. The topics cover essential information that the student needs to have in order to meet graduation requirements, comply with ASHA's ethical requirements, complete ASHA certification requirements, comply with Arizona state licensure requirements, prepare for a Clinical Fellowship Year and be involved in education and advocacy for the profession of Speech-Language Pathology. | N | LAB | Y | GNA | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): Communication Disorders MS student |
| SHS | 541 | Data Analysis in Auditory and Language Neuroscience | Common statistical analyses for the interdisciplinary field of auditory and language neuroscience. Covers fundamental topics of statistics and their applications in this specialty area of neuroscience. Various data types, experimental designs and statistical analyses that are common in the field of auditory and language neuroscience. Through several hands-on activities, students learn to implement and to apply different statistical analyses to auditory and language data. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Speech and Hearing Science graduate student |
| SHS | 542 | Applied Research Methods in Auditory and Language Neuroscience | Team-taught course covering fundamental topics of experiment design and their applications in auditory and language neuroscience. Students learn about the fundamentals of experimental design, and their application in psychoacoustics, EEG, ERP and MRI. A series of hands-on activities require that students analyze existing experiments and a final project requires that students design a new experiment. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Speech and Hearing Science graduate student |
| SHS | 543 | Functional Neuroimaging of Language and Related Processes | Functional neuroimaging for anyone who is interested in its application to study brain functions including language, speech and auditory psychophysics. Functional MRI is a prominent method to see into the human brain. Its use as a research tool in the field of neuroscience (and language neuroscience in particular) has grown exponentially over the past decade. Through a combination of lecture, readings and practicum exercises, this course provides a broad introduction into functional MRI research, including how MRI can generate images; how these signals relate to neuronal activity; and how to design and analyze meaningful functional MRI experiments to investigate the neural computations of language, speech, hearing and other related functions. Students also review recent functional neuroimaging literature, and gain hands-on experience collecting and analyzing fMRI datasets. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SHS 543 or SHS 598 (Functional Neuroimaging of Cognition) |
| SHS | 544 | Introduction to Genetics: Implications for Health, Disease and Society | Foundational concepts in human genetics and precision health. Covers how genetic variations influence health conditions and their behavioral and environmental correlates. Considers complex societal and ethical issues involving genetics. Open to students from a diverse range of clinical, scientific and population health-oriented academic programs. | N | LEL | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SHS 544 or SHS 494/SHS 598 (Introduction to Genetics: From Molecules to Clinic) or SHS 598 (Molecules, Markers, Management: Intro Genetics) |
| SHS | 550 | Development, Assessment, Intervention: School-Age Children | Covers development, assessment and intervention of children from 6 years to 21 years of age, with a focus on school education. Includes child development of anatomical, neurophysiology, cognitive, motor, perceptual, speech, language, reading, writing and hearing aspects. Also addresses service delivery models in different contexts in children with atypical development in the different areas. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 4 | | Pre-requisite: SHS 540 |
| SHS | 552 | Physiological Measures of Auditory Function | Focuses on the measurement of otoacoustic emissions and acoustic immittance. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): Doctor of Audiology or Speech and Hearing Science PhD student |
| SHS | 555 | Cochlear Implants | Covers the research and clinical aspects of cochlear implantation with a focus on the principles of speech coding strategies. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): Doctor of Audiology or Speech and Hearing Science PhD student |
| SHS | 560 | Development, Aging, Assessment, Intervention in Adults | Covers development, aging, assessment and intervention in adults with a focus on the elderly and the contexts for their service delivery. Includes changes in the adults related to anatomy, neurophysiology, cognitive, motor, perceptual, speech, language, literacy and hearing aspects. Also addresses service delivery models in different contexts where elderly and young adults with acquired disabilities are served. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 4 | | Pre-requisite: SHS 550 |
| SHS | 565 | Speech and Language Acquisition | Speech and language development in the normal child; introduces disorders with added focus on common disorders of acquisition. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SHS 465 or SHS 565 |

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| SHS | 567 | Neural Bases of Communication Disorders | Neuroscience and its application to matters of normal and disordered communication. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): MS Communication Disorders, Doctor of Audiology, or PHD Speech and Hearing Science student |
| SHS | 568 | Special Populations in Communication Disorders | Covers basic knowledge of etiological aspects (genetics, embryology) and clinical assessment/intervention issues relevant for children with complex medical and developmental disabilities that impact communicative development. Places special emphasis on children with cleft lip and/or palate. Addresses interprofessional roles and team-based management of complex conditions and the development of evidence-based approaches to assessment and intervention in communicative development. Because of the growing knowledge of genetic etiologies in our field, SLPs will increasingly be in a position to make informed referrals to genetics professionals. Therefore, this course includes practical how-to information on spotting genetic red flags and referring for genetic counseling services. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): degree-seeking graduate student; Credit is allowed for only SHS 568 or SHS 598 (Special Populations in Comm Disorders) |
| SHS | 570 | Communication Disorders and Multicultural Populations | Studies racial and ethnic biases and the communication behaviors and disorders in various cultural groups. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): MS Communication Disorders, Doctor of Audiology, or PHD Speech and Hearing Science student |
| SHS | 571 | Augmentative Communication and Language Programming | Focuses on individuals across the age span who are unable or who are at risk for being unable to communicate with spoken language. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): MS Communication Disorders, Doctor of Audiology, or PHD Speech and Hearing Science student |
| SHS | 572 | Language Assessment and Intervention in Infants and Toddlers | Focuses on the birth to 3-year-old population who are at risk for or who have communication and language disabilities. Examines early developmental risk factors for speech and language delays and evidence-based assessment methods for young children and their families. In addition, explores models of early intervention delivery in homes, clinics, schools and through telepractice and their application in multicultural environments. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): Auditory and Language Neuroscience MS or Communication Disorders MS or Speech and Hearing Science (Auditory and Language Neuroscience) PhD student |
| SHS | 573 | Language Assessment and Intervention with School-Age Populations | Focuses on later language development, linguistic demands of academic settings, assessment and intervention strategies for older children and adolescents. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): MS Communication Disorders, Doctor of Audiology, or PHD Speech and Hearing Science student |
| SHS | 574 | Management of Feeding and Swallowing Disorders | Focuses on assessment and intervention of people with swallowing and feeding disorders. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): MS Communication Disorders, Doctor of Audiology, or PHD Speech and Hearing Science student |
| SHS | 575 | Aphasia and Related Neurogenic Language Disorders | Assessment and treatment of acquired neurolinguistic impairment. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2-3 | | Prerequisite(s): MS Communication Disorders, Doctor of Audiology, or PHD Speech and Hearing Science student |
| SHS | 576 | Neuromotor Speech Disorders | Evaluation and treatment of the dysarthrias and apraxia of speech. Emphasizes acquired adult disorders. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2-3 | | Prerequisite(s): MS Communication Disorders, Doctor of Audiology, or PHD Speech and Hearing Science student |
| SHS | 577 | Current Assessment, Intervention and Research in Autism | Addresses communication disorders in children and adults with autism, as well as evaluation and intervention across a variety of settings and theoretical frameworks. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 578 | Fluency Disorders | Provides the master's level student in speech language pathology understanding of the nature and treatment of stuttering and other fluency disorders. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 2 | | Corequisite(s): Communication Disorders MS student |
| SHS | 579 | Voice and Resonance Disorders | Provides an academic and clinical understanding of voice and voice-related disorders (including resonance and respiration). Includes the impact of voice and voice-related disorders on quality of life and ability to meet communicative ADLs (activities of daily living). Addresses principles of assessment and intervention. Requires students to identify and use relevant evidence-based resources to develop clinical materials to maintain and rehabilitate functional communication and to support interactions with patients, students, caregivers and colleagues. Utilization of evidence-based resources is a skill that speech-language pathologists use throughout their careers, and it represents best practice. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): Communication Disorders MS student |
| SHS | 580 | Clinical Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): degree-seeking graduate student |
| SHS | 581 | Traumatic Brain Injury and Cognitive Linguistic Disorders | Studies the nature, characteristics, and clinical management of cognitive and communicative impairments accompanying right hemisphere damage, TBI, and dementia. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SHS | 582 | Differential Diagnosis of Communication Disorders | Procedures for assessing speech/language disorders in children and adults. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): MS Communication Disorders, Doctor of Audiology, or PHD Speech and Hearing Science student |
| SHS | 584 | Clinical Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-6 | | Prerequisite(s): degree-seeking graduate student |
| SHS | 585 | Articulation and Phonology: Assessment and Intervention | Assessment and treatment of developmental articulation and phonological disorders. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2-3 | | Prerequisite(s): MS Communication Disorders, Doctor of Audiology, or PHD Speech and Hearing Science student |
| SHS | 586 | Language Essentials for Teaching Reading | Focuses on the fundamentals of literacy instruction and assessment in children enrolled in preschool through high school. Although speech-language pathologists (SLPs) are not the primary reading teachers for students, they play an important role in improving learning in all areas of language, both oral and written. For this reason it is crucial for SLPs to have foundational knowledge in reading and writing development. Recommend a clear understanding of typical language development and language disorders. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SHS 586 or SHS 598 (Language Essentials for Teaching Reading) or SHS 598 (Reading Decoding) |
| SHS | 587 | Language Assessment and Intervention with Preschool Populations | Focuses on preschool language disorders and assessment and intervention strategies for preschool children. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): MS Communication Disorders, Doctor of Audiology, or PHD Speech and Hearing Science student |
| SHS | 588 | Bilingual Language Acquisition | Examines bilingual language development and language processing in children through adulthood across multiple languages. | N | SEM | N | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 589 | Audiology Grand Rounds | Grand Rounds bridges clinical and academic knowledge through case studies, application of emerging research, and clinical workshops. | N | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): degree-seeking graduate student |
| SHS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Health Solutions | College of Health Solutions | 1 | | |
| SHS | 596 | Aural Rehabilitation | Approaches to aural rehabilitation in children and adults. Introduces educational audiology and assistive listening devices. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Credit is allowed for only SHS 496 or 596 |
| SHS | 597 | Bilingual Speech-Language Pathology | Reviews speech and language assessment and intervention practices with bilingual populations from infants to adults. | N | SEM | Y | OPT | College of Health Solutions | College of Health Solutions | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 598 | Special Topics | Topical courses not offered in regular course rotation—e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 701 | Scientific Writing and Presentation in Communication Sciences and Disorders I | Basics of launching a research project. Helps students gain an independent perspective of a research field, become competent in critical questioning and analysis of literature, learn how to develop a research question and initiate a research plan. | N | SEM | N | GNA | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): Ph.D. student; Credit is allowed for only SHS 701 or SHS 790 (Critical Thinking & Developing Research Questions OR Scientific Writing & Presentation 1) |
| SHS | 702 | Scientific Writing and Presentation in Communication Sciences and Disorders II | Covers the specific parts of an APA style research manuscript, including the structure of the Introduction, Method, Results and Discussion. Also introduces other alternate research manuscript styles such as those used in the biosciences. Discusses strategies and recommendations for creating a successful research presentation. | N | SEM | N | GNA | College of Health Solutions | College of Health Solutions | 1 | | Requisite(s): Ph.D. student; Credit is allowed for only SHS 702 or SHS 790 (Scientific Writing & Presentation 2) |
| SHS | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SHS | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SHS | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Health Solutions | College of Health Solutions | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SLB | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | |
| SLB | 508 | Strategic Planning for the Future in Sports: MSLB | Examines the future of the sports industry through the lens of multiple legal and business professionals who have had successful careers in sports. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only SLB 508 or SLB 598 (Strategic Planning for the Future in Sports) |
| SLB | 510 | Amateur Sports Law: MSLB | Studies law, policy and problem solving in the amateur sports context, focusing primarily on interscholastic and intercollegiate athletics. Title IX and racial equality in sports. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 676 or SLB 510 or LAW 791 (Amateur Sports Law) or LAW 791 (Non-Professional Sports Law) |
| SLB | 511 | Career Strategies & Business Communications in the Sports Industry | Focuses on examining job opportunities in the sports industry and the development of strategies for obtaining a position suitable to the talents and abilities of individual students. Students refine their skills in terms of searching for a job. Students also develop a career plan, beginning with an entry-level position for those who have worked in the industry or a next-level position for students currently working in the area. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): College of Law student; Credit is allowed for only SLB 511 or LAW 598 (Strategic Career Planning) |
| SLB | 512 | Professional Sport Law: MSLB | Studies law, revenue, branding and problem solving in the professional sports context, focusing primarily on professional sports league governance and regulation, labor relations, representing and marketing players and coaches, and issues of equity and race. Also examines international issues related to professional sports. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): College of Law student; Credit is allowed for only LAW 675 or LAW 691 (Non-Amateur Sports Law) or LAW 691 (Professional Sports Law) or SLB 512 |
| SLB | 513 | Sports Law and Business | Studies law, policy and problem solving in the context of the sports industry at all levels. Exposes professional, amateur and international sports law issues, examining those issues in a problem-focused manner. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student |
| SLB | 514 | Negotiations & Alternative Dispute Resolutions in the Sports Industry | Provides a working or basic knowledge of contract law, with in-depth instruction with regard to negotiating and drafting in the sports context. As their final project, students select a player, coach, university or club and then negotiate a contract. Negotiation sessions are held during class sessions and students evaluate each other, as well as receiving evaluation from the professor. Replicates the negotiation process in the sports industry. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only SLB 514 or LAW 598 (Contracts in the Sports Industry) |
| SLB | 515 | Sports Business Strategies & Executive Decisions | Sports can involve a jog around campus or big business. Sports are interesting, important and a vivid context to learn about consumers, organizations, diverse stakeholders, media and entertainment, partnerships and sponsorship, highly competitive strategies in finance and marketing, managing community venues, big events, and other relevant business topics. Maintains a pragmatic, experiential, yet well-grounded focus, studying the role, nature and dynamics of sports business both in and around "sports industries" and in and around "conventional businesses." Builds and "tests" knowledge and exercise skills related to sports business analysis, decision making, communication and both strategy development and execution. Intellectually rigorous, yet fun. Develops a sophisticated, yet practical understanding of the nature, contexts and dynamics of sports business. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only SLB 515 or MKT 591 (Sports Business Strategy and Industry Dynamics) |

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| SLB | 516 | Revenue Generation in the Sports Industry | Develops an appreciation for and understanding of the multiple stakeholders and diverse interests in and around sports business, and of their constantly changing and interactive impact on sports business practice and performance. Gives broad exposure to the major revenue generating domains in the sports industry. Explores the fundamentals of marketing and applies those fundamentals to the domains of sponsorship, endorsement, media, ticketing, merchandising and fundraising as means to create and maintain revenue streams. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): College of Law student; Credit is allowed for only SLB 516 or MKT 591 (Sports Business Development) |
| SLB | 517 | Marketing for Sports Organizations | Studies the role, nature and dynamics of sports business and builds knowledge and skills related to sports marketing analysis, decision making and strategy development and execution. Intellectually challenging and demanding, yet fun. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): College of Law student; Credit is allowed for only SLB 517 or MKT 598 (Sports Marketing) |
| SLB | 518 | Sports Analytics | Develops and applies analytical skills that are useful in nearly every career. Although the course focuses on applications in the sports context and uses approaches that are rapidly becoming important in the business of sports analytics, this is not a survey course about issues in sports. Instead, this class is about curiosity, storytelling and logic. An understanding and interest in both sports and numbers make this class good. General curiosity makes it great. | N | LEC | N | GNA | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): College of Law student; Credit is allowed for only SLB 518 or MKT 591 (Sports Analytics) |
| SLB | 519 | Pro Sport Team Operations and Legal Issues: MSLB | Deals with various legal issues confronted by the Team Counsel of a professional sports team. Reviews the business, risk management, intellectual property and financial issues that raise in connection with the operation of a team. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): Master of Sports Law and Business student; Credit is allowed for only LAW 670 or SLB 519 or SLB 598 (Pro Team Sports:Legal Issues in Business Operation) |
| SLB | 520 | Sports Venue Construction: Legal and Financial Issues: MSLB | Studies the structure and issues related to stadium financing in professional and collegiate sports. Covers issues related to professional league expansion and team relocation. Discusses carefully read assigned materials. | N | SEM | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): Master of Sports Law and Business student; Credit is allowed for only LAW 671 or SLB 520 |
| SLB | 521 | Risk Management for Venues: MSLB | American tort law, particularly the foundational elements of duty-breach-causation-harm, as well as causation and reasonableness, as a means of understanding the nature of risk and the tools available to address it in the many circumstances that arise during live sports and entertainment events. | N | SEM | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): Master of Sports Law and Business student; Credit is allowed for only LAW 673 or SLB 521 |
| SLB | 522 | NCAA Compliance, Infractions and Enforcement: MSLB | Provides a real-world view of a Division I Power 5 Conference Compliance Office and the manner in which such an office directs its institution's efforts to maintain compliance with National Collegiate Athletic Association and member conference legislation governing intercollegiate athletics. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): Master of Sports Law and Business student; Credit is allowed for only LAW 674 or SLB 522 or SLB 598 (Infractions/Compliance-Intercollegiate Athletics) |
| SLB | 523 | MLB's Impact on Law and Society: MSLB | Examines how MLB served as a catalyst for change in American law and society post WWII, and the legal and business developments that have shaped modern professional baseball. Addresses such diverse topics as the integration of African-American players into MLB and diversity in MLB; labor relations (collective bargaining, free agency, labor stoppages and drug testing); league operations; franchise relocation; expansion; globalization of the game; the business and marketing of the game in the digital age and the resulting legal implications; and the state of the game in the 21st century. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): Master of Sports Law and Business student; Credit is allowed for only LAW 672 or SLB 523 |
| SLB | 524 | Law and Business of Sports Branding: MSLB | Examines legal and business issues associated with personal and business branding, particularly in the context of professional and collegiate sports. Discusses and analyzes issues relating to: (1) what constitutes a "brand" and how a "brand" is developed; (2) the recent surge in personal branding by athletes, entertainers and other celebrity personalities; (3) athletes and other celebrities who have transformed their fame into personal branding platforms that support large business enterprises; (4) the basic principles of trademark law and how those principles apply to business and personal brands; (5) regulation and control of brands in professional and collegiate sports, and the Olympics; (6) licensing and corporate sponsorship; and (7) ambush marketing. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-3 | | Prerequisite(s): Master of Sports Law and Business student; Credit is allowed for only LAW 677 or SLB 524 |
| SLB | 525 | Sports Big Events: Law/Biz/Ops: MSLB | Teaches the business, legal and operational issues of major sporting events. Examines bid preparation, marketing, sales, ticketing, operational, security, volunteer, sponsorship, legal and other issues related to these events. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 2-4 | | Prerequisite(s): Master of Sports Law and Business student; Credit is allowed for only SLB 525 or SLB 598 (Sports Big Events:Law/Biz/Ops-MSLB) |

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| SLB | 581 | U.S. Law and Legal Analysis Through Sport: MSLB | The U.S. legal system and the types of legal reasoning used by legal professionals. Provides the necessary instruction to use legal reasoning in both academic work and professional endeavors, including reading and evaluating legal cases, statutes and public policy. Students complete written legal analysis exercises, draft case briefs and participate meaningfully in class by critically analyzing current legal issues. | N | LEC | N | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): Master of Sports Law and Business student |
| SLB | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): College of Law student |
| SLB | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | REC | Y | Z1 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SLB | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SLB | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): College of Law student |
| SLB | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): College of Law student |
| SLB | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand). | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-4 | | Prerequisite(s): College of Law student |
| SLB | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | |
| SLB | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OP6 | Sandra Day O'Connor College of Law | Sandra Day O'Connor College of Law | 1-12 | | Prerequisite(s): College of Law student |
| SLC | 103 | Beginning Navajo I | Designed for non-Navajo speakers to develop basic skills in speaking, reading and writing in the Navajo language. Specifically focuses on pronunciation, sounds, basic vocabulary and simple conversation. First of four levels of the Navajo language. | N | LEL | N | GNA | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | Credit is allowed for only AIS 101 or AIS 194 (Beginning Navajo I) or SLC 103 or SLC 194 (Beginning Navajo I) OR Visiting University Student |
| SLC | 104 | Beginning Navajo II | Designed for non-Navajo speakers to continue basic skills in speaking, reading and writing in the Navajo language. Emphasizes a continued focus on pronunciation, sounds, basic vocabulary and simple conversation. Second of four levels of the Navajo language. | N | LEL | N | GNA | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | Prerequisite(s): AIS 101 or SLC 103; Credit is allowed for only AIS 102 or AIS 194 (Beginning Navajo II) or SLC 104 OR Visiting University Student |
| SLC | 115 | Japanese Popular Culture: Anime, Manga and Film | Examines different media of Japanese popular culture such as comics (manga), animation (anime) and film for evidence of how the Japanese express their self identity in Japanese society. By separating the media into themes such as technology and the future, war/apocalypse/disaster, violence in society, gender and sexuality, and human relations, understands the Japanese culture (and social consciousness) more intimately. Students view films, read scholarly articles on the subject matter, and actively participate in the course through written papers and discussion. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Credit is allowed for only JPN 115 or SLC 115 |
| SLC | 120 | Introduction to Chinese Culture | Introduces geographical, historical, literary, and intellectual premises of Chinese culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only CHI 120 or SLC 120 OR Visiting University Student |
| SLC | 123 | Gods and Monsters: Comparative Mythology | Guides students in comparing mythologies of a number of different cultures, including ancient Greek, Asian, Middle Eastern, European and American aboriginal traditions. Roots readings and assessments in the relevant literature from each tradition. Introduces students to (short selections from) texts from a variety of cultures, including ancient Greek epic and tragedy, the Ramayana, Norse eddas, the various flood stories from Mesopotamian cultures, African creation and Mesoamerican creation myths, and the legend of King Arthur. In addition, students encounter oral tradition and folklore from the Brothers Grimm, African-American trickster stories, American folklore, vampire legends, and Native American oral tradition. These types of texts invite discussion of cultural appropriation and the modern uses of such traditions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | |

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| SLC | 140 | Greek and Latin Roots in Bioscientific Terminology | Introduces students to the ancient Greek and Latin root words most commonly used in biological, medical, and other scientific terminology, and gives practice identifying them in context. The knowledge of these root words enables students to memorize with greater ease and increased retention the bioscientific terminology they encounter in other coursework as well as in their medical or scientific profession. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Credit is allowed for only BIO 140 or GRK 140 or LAT 140 or SLC 140 OR Visiting University Student |
| SLC | 141 | Russian Civilization: From Tsars to Putin | For centuries, Russians have argued about who they are as a people and a nation by turning to their history, religion, literature, arts and language. With a foundation in Russian history and geography and using primary sources, we survey debates over Russian history and civilization to understand how Russians have imagined themselves and their nation and empires. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G & H | Pre- or corequisite(s): ENG 101, 105, or 107 with C or better if completed; Credit is allowed for only HST 141 or RUS 141 or SLC 141 OR Visiting University Student |
| SLC | 142 | Ancient Greek Civilization | Ancient Greek civilization and culture. Studies (in roughly equal parts) the art, archaeology, literature, culture and history of ancient Greece from prehistoric times until after the conquests of Alexander the Great (the Hellenistic Age). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Credit is allowed for only GRK 142 or SLC 142 |
| SLC | 143 | Roman Civilization | Introduces ancient Roman civilization from the earliest times (ca. 1200 BCE) through the fall of the Western Empire (CE 476) and the reign of the Byzantine Emperor Justinian (6th c. CE). Examines ancient Roman society, history, art, architecture, literature, mythology and legends. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Credit is allowed for only LAT 143 or LAT 194 (Roman Civilization) or SLC 143 or SLC 194 (Roman Civilization) |
| SLC | 144 | The Ancient Mediterranean | Provides a comprehensive introduction to the Mediterranean world, focusing on (but not limited to) the period of the classical Greeks and Romans. Provides some history of the area, but focuses on the classical world and its interaction with the cultures that surrounded it, including Semitic, Near Eastern, and North African cultures, as well as some of the lost cultures of the area such as the Minoans and Etruscans. Introduces the sources that provide information about these cultures (literary, art historical and archaeological sources), and teaches students to think critically and write persuasively about these sources. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only SLC 144 or SLC 194 (The Ancient Mediterranean) |
| SLC | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | Pre-requisites: maximum 25 hours |
| SLC | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEL | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| SLC | 201 | Introduction to Linguistics | Examines the nature and diversity of world languages, linguistic structures and functions of language, language variation, pragmatics, and language acquisition. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU or SB | |
| SLC | 202 | Exploring Cultures: Words, Images, Stories | Introduces the fundamentals of cultural analysis to help students understand the ways in which the languages and literatures they are learning are embedded in a broader cultural context. With an emphasis on comparative perspectives and theoretical discussion, teaches methods of inquiry that enable students to formulate their own research questions and draw on their individual backgrounds as School of International Letters and Cultures majors, no matter the language, country, period or artistic medium they focus on. All course materials and instruction are in English. Interested students are encouraged to bring in and address primary and secondary sources in the target language of their focus. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | |
| SLC | 203 | Intermediate Navajo I | Designed for those who have some comprehension of the Navajo language, and have a beginner's level speaking ability. Continuation of Beginning Navajo; aimed to develop skills in speaking, reading, and writing in Navajo by focusing on pronunciation, vocabulary, conversational studies, and verb conjugation. Third of four levels of the Navajo language. | N | LEL | N | GNA | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | Prerequisite(s): AIS 101 or SLC 103; AIS 102 or SLC 104; Credit is allowed for only AIS 201 or or AIS 394 (Intermediate Navajo I) or SLC 203 OR Visiting University Student |
| SLC | 204 | Intermediate Navajo II | Designed for those who have some understanding of the Navajo language and can speak some Navajo. Continuation of previous coursework; develops skills in speaking, reading and writing in Navajo by focusing on pronunciation, vocabulary, conversational studies and verb conjugation. Fourth and final level of Navajo. | N | LEL | N | GNA | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | Prerequisite(s): AIS 101 or SLC 103; AIS 102 or SLC 104; AIS 201 or SLC 203; Credit is allowed for only AIS 202 or AIS 394 (Intermediate Navajo II) or SLC 204 OR Visiting University Student |

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| SLC | 212 | Language and Culture Clash | Not limited to language majors and does not require any previous knowledge of a foreign language or culture. Students complete course projects using the material of their cultures of interest (the language they are taking interest in, including English). Focuses on the following topics in linguistics and cross-cultural communication: cultural norms, cultural conceptualizations, cultural scripts (as linguistic concepts), equivalence, communication failures. Emphasizes hands-on analysis, and also familiarizes participants with the basic concepts in the fields of cross-cultural linguistics and cross-cultural psychology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (HU or SB) & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only SLC 212 or SLC 294 (Language&Culture Clash/Communctn&Miscommunication) |
| SLC | 214 | The World's Game: History and Culture of Soccer | Provides a survey of the cultural significance and global reach of soccer, both historically and in contemporary culture. Students study materials from around the world in several mediums; they view films that explore the cultural impact of the game; read literary works that focus on soccer; and engage with scholarly articles and contemporary news media dedicated to the game. Provides a comprehensive sense of the history, personalities, rivalries, fandom, and even the finances and scandals related to the world's game. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): Credit is allowed for only HST 214 or HST 294 (The Beautiful Game: History & Culture of Soccer) or SLC 214 or SLC 294 (The Beautiful Game: History & Culture of Soccer) |
| SLC | 221 | Survey of Ancient Greek Literature | Introductory survey of ancient Greek literature. Familiarizes students with the important literary genres, texts, and authors of the ancient Greeks from Homer to the Hellenistic period. All readings in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Credit is allowed for only GRK 221 or SLC 221 |
| SLC | 222 | Survey of Roman Literature | Introductory survey of Roman literature. Familiarizes students with the literary genres, texts and authors of the Romans from the origins of the Latin language to the Silver age. All readings in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Credit is allowed for only LAT 222, SLC 222, LAT 294 (Roman Literature in Translation) or SLC 294 (Roman Literature in Translation) |
| SLC | 223 | Introduction to Greek and Roman Mythology | Familiarizes students with the characters and events of ancient Greek and Roman myths through their literary manifestations, and moves beyond mere narrative to consider the possible interpretations and functions of these myths, thus revealing the central concerns of ancient society and giving insights into the working of our own society and its literary and artistic traditions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Credit is allowed for only GRK 223 or LAT 223 or SLC 223 |
| SLC | 241 | Russian Pop Culture: Protest and Propaganda | How does Russian culture reflect recent history? How does official culture and various counter movements frame Russia's political present, the country's relationship with its neighbors and multiethnic communities at home? From mainstream entertainment to independent alternatives, Russian artists are addressing changes happening in a country rocked by authoritarianism, corruption and militarism. Under the guise of strengthening the nation's "spiritual bonds," Russian authorities are promoting nationalism, religious dogmatism and uncritical nostalgia for the Soviet past. Protesting these trends are independent artistic initiatives, proposing counter-narratives, social critiques and calls for action. Students learn about the politics of Russian culture today by engaging with texts, films, music and media projects. All course materials and instruction are in English. Students with sufficient language proficiency have an option to analyze sources in Russian. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only HST 241 or RUS 241 or SLC 241 or HON/HST/RUS/SGS/SLC 294 (Russian Pop Culture: Protest and Propaganda) OR Visiting University Student |
| SLC | 245 | Introduction to India and South Asia | Provides an introduction to the history and major contemporary political, economic, social, religious and cultural features of the South Asia region at large and of selected South Asian nations in particular. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H & G | Prerequisite(s): ENG 101 or 105 or 107 with C or better; Credit is allowed for only HST 245 or POS 245 or REL 245 or SGS 245 or SLC 245 |
| SLC | 250 | Middle East Culture in a Global Perspective | Introduces a broader view and examination of Arab culture in a global perspective. Increases students' knowledge of Arab culture, promotes awareness and understanding of Arab customs, values, attitudes and cultural diversity. Using an interdisciplinary thematic approach, students explore and analyze cultural differences, misunderstandings, stereotypes, and be able to explain how they contribute to Islamophobia and other misconceptions about Arabic culture. Thematic areas of emphasis include the Arab family, fine art/music, food, gender identities, religious life, political conflict and war, Islamic tradition and exile and immigration. Taught in English and requires no knowledge of Arabic. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ARB 250 or ARB 294 (Arab Cultures in a Global Perspective) or SLC 250 or SLC 294 (Arab Cultures in a Global Perspective) OR Visiting University Student |
| SLC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |

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| SLC | 304 | Digital Humanities for Language Majors | Not limited to language majors (Slavic or otherwise). Students complete course projects using the material of their language of interest (the language they are taking interest in, including English). This course focuses on the following topics in digital humanities: (a) audio-visual representation of the content in humanities, (b) computer-assisted learning and assessment, (c) digitizing printed resources, (d) data and text mining, (e) working textual corpora, (f) statistical analysis, (g) computational lexicography, (h) data extraction and manipulation. While emphasizing hands-on skills, this course also familiarizes its participants with the basic concepts in the fields of digital humanities. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | CS | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only SLC 304 or SLV 304 |
| SLC | 310 | Migration and Identity: Digital Storytelling | Represents a fusion of basic theoretical concepts such as globalization, migration, transnationalism and identity with personal narratives in the digital space. Structured in four sections in which students (a) learn a basic theoretical framework of migration studies; (b) listen to and reflect on narratives of migration and identity; (c) learn about digital storytelling; and (d) produce their own digital autobiographical account or interview a migrant. Students engage in a dialogue throughout the course, both in the classroom and in the virtual space (in online discussion forums). In this oral history course, students are at the center of the production of digital stories. At the end of the course students also have the opportunity to provide peer feedback and critically engage in the stories produced in class. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 108 with C or better; Credit is allowed for only ROM 310 or SLC 310 or SLC 394 (Migration and Identity-Digital Storytelling) OR Visiting University Student |
| SLC | 320 | Compassion: A Dialogue Between the Humanities, the Sciences and the Arts | Explores different aspects of compassion, understood as an emotion, a mental disposition and a motivation to action. Brings together the sciences, the humanities and the arts for an engaging conversation on the biology, history and ethics of compassion. Studies how scientists, philosophers and religious traditions understand empathy and compassion across cultures and languages. Examines various settings such as health care, justice and politics with attention to systemic oppression (e.g., gender, race, sexual orientation). Also explores how mindfulness and the arts (such as literature, film and dance) can promote compassion. Guest lecturers from various disciplines enrich our perspectives and guide us through practice. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only SLC 320 or SLC 394 (Compassion: Dialogue btwn Humanities/Sciences/Arts) OR Visiting University Student |
| SLC | 321 | Modern Korean Literature | Introduces various genres of Korean literature written from the seventeenth century to the present in English translation. Aims to help students to understand the history of modern Korean literature in transnational and transdisciplinary contexts. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only KOR 321 or SLC 321 |
| SLC | 331 | Arabic/Islamic Culture and Literature | General introduction to the Middle East that synthesizes cultural, social, and literary information. Focuses on the experiences of ordinary Middle Eastern people to convey a grassroots sense of the Middle East. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ARB 331 or SLC 331 OR Visiting University Student |
| SLC | 333 | China | Political, economic, social, and cultural history of the Chinese people from early times to the 17th century. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 30 hours; Credit is allowed for only CHI 333, HST 383 or SLC 333 |
| SLC | 334 | Modern China: 1700 to the Present | Political, economic, social, and cultural history of the Chinese people from the 17th century to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & G & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 384 or SLC 334 OR Visiting University Student |
| SLC | 336 | Interpreting China's Classics | Study of selected Confucian and/or Taoist classics and ways they have been read in both Asian and Western scholarship. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 30 hours; Credit is allowed for only CHI 336, HST 386 or SLC 336 |
| SLC | 340 | Approaches to International Cinema | Offers a historical survey of major film movements from across the world's national cinemas from the silent era to this day. Explores key cinematic works, situating them in their aesthetic, cultural and political contexts, and tracing their impact on the global cinematic culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 w/C or better; Credit is allowed for only FMP 340 or FMP 394 (Approach to Int'l Cinema) or FMS 341 or FMS 394 (Approach to Int'l Cinema) or SLC 340 or SLC 394 (Approach to Int'l Cinema) OR Visiting University Student |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|--|-------|-----------------|---|
| SLC | 343 | Culture and Society Transformation | Uses video documentaries and movies to explore the way in which cultural values, economic background and human interaction impact and transform societies. Societal changes in Central and Eastern Europe make a good case study for contrasting and comparing with other societies and understanding global trends and issues in today's world. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & G | Prereq(s): ENG 101, 105, or 107 with C or better; Credit for only ASB 345 or ASB 394 (Cult & Soc Transform) or JUS 343 or JUS 394(Cult & Soc Transform) or ROM 343 or SLC 343 or SLC 394 (Cult & Soc Transform) or SOS 344 or SOS 394 (Cult & Soc Transform) |
| SLC | 344 | Classics and Comics | Explores the connections between the classical tradition of Ancient Greek and Roman literature and the modern American superhero comic book tradition. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 101 or 105 or 107 with C or better; Credit is allowed for only GRK 344 or LAT 344 or SLC 344 or GRK/LAT/SLC 394 (Classics and Comics) or SLC 494 (Classics and Comics) |
| SLC | 345 | Ancient Greece I: Bronze Age through the Peloponnesian War | Traces Greek History from its prehistoric beginnings through the Peloponnesian War (431-404 B.C.), with a special focus on the Archaic (ca. 800-480 B.C.) and Early Classical periods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only GRK 347 or HST 347 or SLC 345 OR Visiting University Student |
| SLC | 346 | Ancient Greece II: Late Classical and Hellenistic Period | Traces the transformation of the Greek world between the end of the Peloponnesian War (404 B.C.) and the absorption of the last major Greek state by growing power of Rome (30 B.C.), with special attention to how Greeks in this period lived and thought and how the period's political and economic changes helped to create new forms of culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only GRK 346 or HST 346 or SLC 346 |
| SLC | 347 | Modern Israeli Literature in Translation | Modern Hebrew, or Israeli Hebrew, started at the end of the 19th century in Europe and today it is the language of the State of Israel. During this short period modern Hebrew developed literature with its unique local characteristic, as well as universal ideas. Reads and examines four books against their social and historical background. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ENG 347 or HEB 347 or JST 347 or SLC 347 or ENG/HEB/JST/SLC 394 (Modern Hebrew Literature in Translation) |
| SLC | 348 | Israeli Society and Culture | Different partitions of the Israeli society, based on ethnic origin, by religious affiliation or by political association. Depicts how Israel is an absorbing immigration state. Israel is a welfare state and the course covers aspects of a welfare state, such as health, retirement, public transportation, art, higher education and more. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101 or ENG 105 or ENG 107 with C or better; Credit is allowed for only HEB 348 or HEB 394 (Israeli Culture and Society) or JST 348 or REL 311 or SLC 348 OR Visiting University Student |
| SLC | 350 | Food and Culture: The Mediterranean Lifestyle in Italy | Analyzes the Mediterranean lifestyle (food and eating practices) in Italy from a historical/cultural, scientific and sociological perspective. Students first examine the history and regional cultures of the Mediterranean diet in Italy as they analyze its rich biological diversity and history of cultural exchange. Students then gain an understanding of the critical nutrients of the Mediterranean diet and of the scientific evidence for its health benefits, especially how it can help prevent chronic diseases like obesity and type 2 diabetes, which affect more than half of all adults in the U.S. In addition, students keep a food log for one week, which they then analyze in terms of the critical nutrients of the Mediterranean diet. Finally, Italian food cannot be studied without preparing it! As UNESCO points out, the sharing of food is an important part of the Mediterranean lifestyle. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit allowed for only ITA 350 or ITA 394 (Food & Culture: Mediterranean Lifestyle in Italy) or SLC 350 or SLC 394 (Food & Culture: Mediterranean Lifestyle in Italy) OR Visiting University Student |
| SLC | 351 | Tales of Troy | Provides an in-depth exploration of the ancient Greek archaic primary source material, including literary, art historical and archaeological sources. Uses stories about the Trojan War as a theme for the course, but does not limit exploration of the literature, art, history and culture of archaic Greece. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GRK 351 or GRK 394 (Tales of Troy) or LAT 394 (Tales of Troy) or SLC 351 or SLC 394 (Tales of Troy) OR Visiting University Student |
| SLC | 352 | The Rise and Fall of Ancient Athens | Comprehensive coverage of the cultural and historical world of the ancient Greek civilization from the end of the Greco-Persian wars in 479 BCE through the rise and decline of Athens (including the Peloponnesian War with Sparta) to the final defeat of the Greek cities by Philip of Macedon in 338 BCE. This holistic study addresses not only the history of this period but also its literature, art and philosophy, with an emphasis on how these phenomena relate to one another. This period advanced to the state that was regarded by later civilizations as their peak, and which inspired Rome and Europe in the Renaissance. Athens, as the cultural center of Greece at this time, boasted the tragedies of Aeschylus, Sophocles, and Euripides, the comedies of Aristophanes, the history of Thucydides, the philosophy of Plato, and the artistic achievement of the Parthenon. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GRK 352 or GRK 394 (Glory that was Greece) or LAT 394 (Glory that was Greece) or SLC 352 or SLC 394 (Glory that was Greece) OR Visiting University Student |

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| SLC | 353 | Alexander and His Empires | Comprehensive coverage of the cultural and historical world of the ancient Greek civilization from the ascent of Alexander the Great to the Macedonian throne in 338-336 BCE, through the existence of the kingdoms that followed his conquests, until their final subjugation by the Roman Empire in 31 BCE. This holistic study addresses not only the history of this period, but also its literature, art, religion, philosophy and science, with an emphasis on how these phenomena relate to one another. This was a period of massive economic and military expansion (including colonization), accompanied by social dislocation and cultural and scientific innovation. In these respects, this period has much to teach us today. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GRK 353 or GRK 394 (Alexander and His Empires) or SLC 353 or SLC 394 (Alexander and His Empires) OR Visiting University Student |
| SLC | 354 | Zen and Japanese Culture | Students conduct historical, philosophical and sociological analyses of some of the fundamentals of Zen, mainly those of Japanese tradition. Examines the influence of Zen thoughts on value, culture and society in both pre-modern and modern Japan. Classes consist of lectures, documentary films and discussion sessions. Taught in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only JPN 354 or JPN 394 (Zen and Japanese Culture) or REL 353 or SLC 354 or SLC 394 (Zen and Japanese Culture) OR Visiting University Student |
| SLC | 355 | Religious Practice of People in Modern Japan | Examines the influence of Japanese religions on Japanese value, culture and society while surveying the major religious traditions of modern Japan focusing on Shinto, Buddhism and new religions. Also explores current religious practices in Japan and how religion interacts with the government, community groups and daily lives of people. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only JPN 355 or SLC 355 or JPN 394 (Religious Practice of People in Modern Japan) or SLC 394 (Religious Practice of People in Modern Japan) OR Visiting University Student |
| SLC | 356 | Rome from Village to Empire | Provides an in-depth exploration of Republican Roman literature and explores how these primary sources shaped and were shaped by ancient Rome's history and culture during its formative Republican period. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only LAT 356 or LAT 394 (Rome Before the Empire) or SLC 356 or SLC 394 (Rome Before the Empire) OR Visiting University Student |
| SLC | 357 | Rome's First Emperor | Provides an in-depth exploration of Roman literature during the Augustan period, and explores how these primary sources shaped and were shaped by ancient Rome's history, literature and culture during its formative Republican period. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only LAT 357 or LAT 394 (Augustus and the Creation of the Roman Empire) or SLC 357 or SLC 394 (Augustus and the Creation of the Roman Empire) OR Visiting University Student |
| SLC | 358 | Saving the Roman Empire | In his autobiographical epitaph, the Res Gestae, Augustus, founder of the Roman Empire, claimed to have restored Rome to her former glory. His moral, social and political reforms solidified Roman control of the world and the imperial family's hold on ruling her. Through the next five hundred years, as the power of the empire waned and waxed, Augustus's successors turned time and again to reforming the empire and restoring her to her former glory - to saving the Roman Empire. In doing so they had to deal with problems both external and internal; sometimes their ideas worked, often they did not. Ultimately they failed, and Rome and the western empire fell in CE 476. Examines the rise, decline and fall of the Roman Empire from the perspective of internal and external problems the Empire faced, and asks which reforms worked, which did not work, and why. What could have been done differently? Should anything have been done differently, or was the western Roman Empire always doomed? | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GRK 294/HST 294/LAT 294/SLC 294 (Saving the Roman Empire) or LAT 358 or LAT 394/SLC 394 (Saving the Roman Empire) or SLC 358 OR Visiting University Student |
| SLC | 360 | Greece and Rome at War | Covers ancient Greek and Roman warfare and features military historical staples like strategy, tactics, logistics, battles and leadership. Other topics that intersect this exploration of ancient warfare include ethnolinguistic identity, state formation, religion, gender, imperialism, military theory, medicine, monumental building and slavery. Students acquire wide knowledge of the relevant history and are encouraged to critically think about essential themes in historical studies. Also features a strong interactive component, including group discussions, theory-crafting and presentations. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only GRK 360 or HST 397 or LAT 360 or SLC 360 OR Visiting University Student |
| SLC | 361 | Roman Religion | Roman religion was never static, despite the best efforts of the Roman state to make it so. Understands the artifacts and procedures of Roman state cult from its earliest origins to the late empire, using ancient literary sources, archaeology throughout the ages and modern scholarly theories. Clarifies the forces that influenced development and change in Roman religion, both internal and external. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only LAT 361 or REL 361 or SLC 361 or SLC 394 (Roman Religion) OR Visiting University Student |

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| SLC | 362 | Ancient Greek Religion | Surveys ancient Greek religion, including its gods, ritual practices and festivals. Analyzes the development of the religion over time, and how both ancient and modern figures interpreted its meaning. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 101 or ENG 105 or ENG 107 with C or better; Credit is allowed for only GRK 362, REL 360, SLC 362 or SLC 394 (Ancient Greek Religion) |
| SLC | 363 | Ancient Magic and Witchcraft | Examines magical spells, curses, amulets and other materials from ancient Greece and Rome. Students read anthropological discussions of magic worldwide to understand how ancient magic operated, what its function was within Greco-Roman society, and how it developed over the centuries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GRK 363 or LAT 363 or SLC 363 or GRK 394/LAT 394/REL 394/SLC 394 (Magic and Witchcraft in Antiquity) OR Visiting University Student |
| SLC | 367 | Religion, Philosophy and Culture in Japan | Examines the influence of Japanese thoughts on value, culture and society while surveying the major religious and philosophical traditions in both pre-modern and modern Japan focusing on Shinto, Confucianism, Daoism, Buddhism and New Religions. Classes consist of lectures, documentary films and discussion sessions. Taught in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only JPN 367 or JPN 394 (Religion, Philosophy, and Culture in Japan) or REL 367 or SLC 367 OR Visiting University Student |
| SLC | 370 | Japanese Aesthetics: Art and Beauty in Japan | Surveys the history of Japanese art and beauty and investigates several issues of Japanese aesthetics from historical, philosophical and sociological perspectives. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only JPN 370 or JPN 394 (Japanese Aesthetics: Art & Beauty in Japan) or SLC 370 or SLC 394 (Japanese Aesthetics: Art & Beauty in Japan) OR Visiting University Student |
| SLC | 371 | Language Hegemony and Culture | Historical and cultural analysis of language and the ideological constructs imposed upon resident populations in the Southwest North American region since 1540. Analyzes the suppositions, ideologies, premises and mechanisms by which Spanish and English became imposed among Native peoples and later national populations of Mexicans during the 19th century and continuing with their descendants and migrating populations crossing the bifurcated border. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 371 or HST 371 or SLC 371 or SPA 371 or TCL 371 or ASB/HST/SLC/SPA/TCL 394 (Language Hegemony & Culture in SW North America) |
| SLC | 373 | Roman History I: Foundations and Republic | Traces the growth of Roman power from Rome's humble beginnings in the eighth century B.C. to its domination of the Mediterranean and the transformation of the Roman Republic into the Roman Empire after the Battle of Actium (31 B.C.). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 373 or LAT 373 or SLC 373 |
| SLC | 374 | Roman History II: The Roman Empire | The Roman Empire from the reign of the first emperor, Augustus (27 B.C.-A.D. 14), to that of Justinian (A.D. 527-565), focusing on the lives of the Roman emperors, the society and culture of the empire, and the profound changes that eventually contributed to the empire's collapse. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only HST 374 or LAT 374 or SLC 374 |
| SLC | 375 | Intercultural Communication in Korea | Focuses on the fundamental knowledge of Korean intercultural values and communication. Explores and analyzes Korean communication styles and patterns in regard to the relationship between language use in cross-cultural communication, social meaning and cultural motivations. While the main focus is on Korean language, course is conducted in a comparative and interdisciplinary manner on how communicative strategies differ between Korea and other countries (such as China, Japan and the U.S.) due to underlying differences in their cultural values. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & G | Prerequisite(s): minimum 30 hours; Credit is allowed for only KOR 375 or KOR 394 (Intercultural Communication in Korea) or SLC 375 or SLC 394 (Intercultural Communication in Korea) |
| SLC | 380 | Natural Disasters: Environmental and Cultural Resilience in Italy | The Italian peninsula is home to some of the most diverse physical and geological landscapes on earth. Over time, natural disasters such as earthquakes, volcanic eruptions and landslides have transformed Italian culture, creating a distinct, reciprocal and enduring relationship between nature and Italian society. Studies pivotal natural disasters that have occurred throughout Italian history, including the Mt. Vesuvius, Pompeii and Etna volcanic eruptions; the Messina, Belice Valley, Campania, Friuli and L'Aquila earthquakes; and the Vajont landslide. Identifies and measures the physical and geological features of Italy that make it susceptible to natural disasters. Incorporates a variety of sources designed to give students both a theoretical and practical understanding of Italian culture and natural disasters. Uses class discussions, collaborative projects, creative writing, academic texts, personal narratives, films, videos, guest lectures and current articles. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ITA 380 or SLC 380 or HON/ITA/SLC 394 (Natural Disasters: Environmental & Cultural Resilience) OR Visiting University Student |
| SLC | 385 | Cinema and Culture of Spain | Offers a historical and cultural survey of major films from Spain. Studies key works with a focus on their aesthetic, cultural, political and historical context. Trains students to develop the skills to critically view how films are constructed, how films create meanings and values, and how films are connected to the cultural and historical contexts in which they are created and watched. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only SLC 385 or SPA 385 or FMS 394 (Cinema and Culture of Spain) or SLC 394 (Cinema & Culture of Spain) or SPA 394 (Cinema & Culture of Spain) OR Visiting University Student |

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| SLC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEL | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| SLC | 401 | Translation Theory and Practice | Translation theories and professional practices and ethics; bibliography, computer technology, and sample texts for natural and social sciences and humanities. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 301; SPA 412; Credit is allowed for only SLC 401 or SPA 440 OR Visiting University Student |
| SLC | 410 | Deaf Culture | Provides students with an overview of issues related to deaf, hard of hearing and comprehensive vision hearing loss (CVHL). Topics include historical, cultural, educational and political issues, technology, arts and literature as it relates to the deaf community. Taught primarily in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | C | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ASL 410 or ASL 494 (Deaf Culture) or SHS 410 or SHS 494 (Deaf Culture) or SLC 410 or SLC 494 (Deaf Culture) OR Visiting University Student |
| SLC | 414 | French and Italian Popular Culture | Popular culture no longer holds the ancillary role traditionally reserved for whatever does not carry the definition of high culture. That popular culture is instead able to provide us with very relevant insights on the identity of a nation and a people is now widely accepted. As a consequence, this class aims at examining popular culture-related artifacts in Italy and France in order to shed a light on crucial issues such as the culture of food and its historical and social significance; the meaning of fashion and design within an urban context, with a special attention to gender roles; the importance of the comics, given in particular the exceptional success the bande dessinée genre is currently enjoying in France throughout the whole age range of the population; the show business with a particular attention to music; and the social function and role of sport with respect to the two dominant sports in both countries (soccer and cycling). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better OR minimum 45 hours; Credit is allowed for only FRE 414 or ITA 414 or SLC 414 OR Visiting University Student |
| SLC | 415 | Korean Popular Culture | Explores representations of Korean culture and society with special attention to the Korean Wave, the cultural phenomenon known as hallyu. Focuses on how K-pop circulates, negotiates and translates Korean culture as these products participate in the transnational culture market and attract global audience and fandom. Examines the meanings of various politics and how Korean popular culture alters, enhances or intervenes in politics. Looks at how K-pop is not a fixed and unchanging entity, but rather a set of representations that are constantly adapting and shifting to reflect economic and political conditions. Requires no Korean language ability; assumes no background knowledge in Korean culture or history; all course materials are in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better OR minimum 45 hours; Credit is allowed for only KOR 415 or SLC 415 OR Visiting University Student |
| SLC | 420 | Emotions Across Languages, Cultures and History | Presents the main academic approaches to emotions that have been developed in the humanities and social sciences. Explores, among other topics: the different notions and constructions of emotions in various languages, societies and time periods; the cross-linguistic and cross-cultural use of metaphorical expressions of emotions; the social functions of emotions; the use of emotions in the formation of identities. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only KOR 420 or SLC 420 or HEB 494/HEB 598/KOR 494/KOR 598/SLC 494/SLC 598 (Emotions Across Language, Culture, & History) OR Visiting University Student |
| SLC | 421 | Japanese Literature in Translation | Readings selected by theme or genre or period from various works of Japanese literature in English translation. May be repeated when topics vary. Graduate students by permission. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| SLC | 423 | Italian Organized Crime in Films and History | Through an analysis of historical, anthropological, literary, political and cinematic texts, explores representations of the Italian organized crime in Italian and American films from the early 20th century to today. Discovers different "Mafias" originating in Italy, but whose reach extends much further, such as the Cosa Nostra in Sicily, the Camorra in Naples, and the 'Ndrangheta in Calabria. Examines the fiction, stereotypes, myths and legends surrounding the mafia through a scrupulous analysis of some of the most important American and Italian films portraying mafia culture. Italians have used the medium of film to address the issue of the mafia, raising awareness about the harsh reality of life in the mafia and the ways in which it reaches into every aspect of Italian politics and society. Explores how Italian mafia films subvert international fascination with the mafioso by disrupting the glamorized myths that are mainly perpetuated by American popular cinema. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better or min 45 hours; Credit for only FMS 423 or ITA 423 or SLC 423 or ITA 494/SLC 494 (Italian Organized Crime in Films & History) or FMS 494/ITA 494/SLC 494 (Mafia & Film) OR Visiting University Student |

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| SLC | 425 | Globalization: From Colonialism to Climate Change | Allows students to engage with the broader experience of globalization by examining cultural material in relation to the circumstances and conditions of the globalization process. Organized chronologically and divided into four units: the period before European hegemony, the era of European colonialism and imperialism, the period of decolonization and modernization, and the contemporary context. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| SLC | 428 | Arab Women's Writing | Offers a survey of Middle Eastern women's literary work in English translation. Themes focus on a comprehensive view of women's writing through several lenses, including: gender, religion and socio-political systems to introduce women's writing in modern Arabic literature through the prisms of Arabic literary criticism and feminist theory within historical contexts. Explores different genres, including autobiographical, short stories and novels, and cinematic production. Selective literary texts include leading 20th-century female writers whose works in translation represent a wide range of geographical, ideological and cultural influence. Featured writers include Rajaa al Sania, Latifa Zayyat, Radwa Ashur, Hanan al-Shaykh, Nawal Al Sadawi and others. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ARB 428 or ARB 494 (Arab Women Writing Across Generations/ in Eng) or SLC 428 or SLC 494 (Arab Women Writing Across Generations/ in Eng) OR Visiting University Student |
| SLC | 429 | Studies in European Literature and Culture | Literary, cultural, and historical issues. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s) with C or better: ENG 101, 105, 107; ENG 200; one ENG 200- or 300-level literature course OR ENG 101, 105, 107; min 45 hours; Credit is allowed for only CEL 429 or ENG 429 or REL 429 or SLC 429 or THE 429 OR Visiting University Student |
| SLC | 430 | Buddhist Meditation in East Asia | Surveys various types of Buddhist meditation in different schools, starting from those of India, and more from East Asia, particularly Japan. Investigates the pragmatic function of each meditative technique, how some of the fine/performing/martial arts were integrated with Buddhist ideas to become "meditation in action." | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only JPN 430 or SLC 430 or JPN 494 (Buddhist Meditation in Asia) or SLC 494 (Buddhist Meditation in Asia) OR Visiting University Student |
| SLC | 439 | Art in Exile: Vladimir Vladimirovich Nabokov | In English. The scandalous success of Lolita (1955) allowed Vladimir Nabokov to retire from teaching at Cornell University and move to Switzerland to devote himself to fiction, translation, criticism and lepidoptery. This was only one of the many metamorphoses that Nabokov, a Russian noble, underwent while in exile, moving from Russia to the Crimea, Cambridge UK, Berlin, Paris, Cambridge MA, Ithaca, Hollywood and finally Montreux. Examines the Russian roots of Nabokov's Russian (in translation) and American novels about exile: his first novel, Mary (1926), The Defense (1929), Glory (1932), and his tribute to 19th-century Russian literature, The Gift (1938), which he considered his greatest Russian novel. These are followed by Lolita (1955), Pnin (1957) and Pale Fire (1962), his memoirs, Speak, Memory (1966), and some essays and short stories. Films include Lolita by Stanley Kubrick (1962) and Adrian Lyne (1997). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 102 or 105 or 108 with C or better; Credit is allowed for only RUS 439 or SLC 439 or ENG/RUS/SLC 494 (Art in Exile: Vladimir Vladimirovich Nabokov) |
| SLC | 440 | Film Theory and Criticism | Examines the major positions and issues in film theory from an historical perspective. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, ENG 105, ENG 108, or FMS 100 with C or better; Credit is allowed for only FMS 461 or SLC 440 OR Visiting University Student |
| SLC | 441 | Fairy Tales | Foundational texts from the oral and written traditions collected and edited by the Brothers Grimm and those created by Hans Christian Andersen in the 19th century, as well as the reception of these tales primarily in the print and visual media of Germany, Europe and the United States, provide a basis of comparison for students to critically reflect on the function of the tales in the 19th century and particularly in the contemporary 20th- and 21st-century global communities. Students perceive the myriad ways in which ancient tales can be re-imagined to reflect different sociocultural environments (more than 50% of the material comes from outside the U.S.) and understand the contemporary theoretical debate on the study of these tales and popular culture. Taught in English with German minors/majors doing some of the reading and writing assignments and the final paper/project in the target language. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GER 441 or SLC 441 OR Visiting University Student |

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| SLC | 442 | Dracula and Vampire Lore | Vampire stories are not only local phenomena placed in Transylvania, as the common stereotype is incessantly spread. Legends about Dracula and the Count himself may be "untrue," but events that took place during the life and reign of the Wallachian Voevode Vlad Tepes, better known as Vlad the Impaler, are nonfictional. He ruled during the time of the Ottoman Empire extension to Europe and his fight against the Turks give us thought on the altered understanding of Vlad as a vampire figure. Occurring and recurring in continuously changed environments, Count Dracula affects everyone to the same degree, but still remains as secret and elusive as before, pitted against a vision of mysterious spaces that evoke the faraway castles from Whitby, UK (the origin of Stoker's Dracula), from Bran and Poenari Castles in Transylvania as well as the visions of Jules Verne's Castle of the Carpathians. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G & H | Prereq(s): ENG 101, 105 or 107 w/C or better; Credit for only ROM 442 or SLC 442 or SLC 494 (Drac&Vamp Belief in the Wrld) or SLC 494 (Drac&Vamp Castles) or SLC 494 (Drac&Vamp Lore) or SLC 494 (Drac:Between Myth&Hist) OR Visiting University Student |
| SLC | 444 | Heroes, Ancient and Modern | Explores the heroic literature of the ancient Greeks and Romans, then traces the classical tradition and reception of the classical hero in medieval and modern texts. Incorporates history, art history and material culture from the relevant societies to supplement study of the texts involved. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only GRK 444, LAT 444, SLC 444 or SLC 494 (Heroes: Ancient and Modern) |
| SLC | 445 | Holocaust, War and German Memory | Examines representations of the Holocaust from across different media (literature, film, architecture, memoir, photography) and from across multiple generations of German engagement with this period in history. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 102, ENG 105, ENG 108, FMS 100, FMS 200, JST 210, or JST 230 with C or better; Credit is allowed for only FMS 445 or GER 445 or JST 445 or SLC 445 OR Visiting University Student |
| SLC | 446 | Weimar-Era German Film | Examines early film production in Germany during the period of the Weimar Republic. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, ENG 105, ENG 108, FMS 100, or FMS 200 with C or better; Credit is allowed for only FMS 446 or GER 446 or SLC 446 OR Visiting University Student |
| SLC | 447 | German Modernism | Examines examples of modernism in literature, art and film from German-speaking Europe. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only GER 447 or SLC 447 |
| SLC | 450 | Experimental Narrative | Examines texts that experiment with form, content and narrative perspective within print, film and digital media. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only ENG 447 or FMS 442 or SLC 450 OR Visiting University Student |
| SLC | 451 | Chinese Cultural History I | China's classics in translation studied both for their intrinsic ideas and for the origins of Chinese thought. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (HU or SB) & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 55 hours; Credit is allowed for only CHI 451, HST 451 or SLC 451 |
| SLC | 452 | Chinese Cultural History II | Evolution of Confucian thought, its synthesis with Taoism and Buddhism, and modern reactions against, and uses of, Confucian traditions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & G & H | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 55 hours; Credit is allowed for only CHI 452 or HST 452 or SLC 452 |
| SLC | 455 | Berlin: Migration, Arts and Activism | Deals with the culture and politics, arts and activism of migrants in Germany based on the example of Berlin, using historical and contemporary examples. Critically engages with such concepts as migration and identity, transnationalism, assimilation, multilingualism, artivism, activism, xenophobia and racism. Examines examples from various art forms, including film and the creative arts, literature, media and social media to help understand the impact of migration and immigrants on Germany and German society and compares it to experiences in other countries, especially the U.S. A focus on Berlin allows an in-depth and focused micro-observation of the differences and commonalities of various immigrant groups and responses of the local communities in a defined urban space. In order for students to reflect on the impact of migration in German society and the migrants themselves, also looks at migration through the lens of movements for social change and justice. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only GER 455 or SLC 455 |

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| SLC | 457 | Premodern Korea in a Global Context | Offers a comprehensive outline of the literary and cultural traditions of premodern Korea from historical and crosscultural perspectives. Targets both undergraduate and graduate students. Gives students an opportunity to read a variety of texts ranging from literary works, historical, philosophical and religious documents, diaries and travelogues, to important recent scholarly works in the field. Identifies representative literary works and terms. Discusses important topics and issues on premodern Korean literature and the cultural exchange between Korea and Japan, and Korea and China, bringing to bear students' own thoughts and ideas which are articulated in their final research papers. All readings are available in English translation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): minimum 45 hours; Credit is allowed for only KOR 457 or SLC 457 or KOR 494 (Pre-modern Korean Literature and Cultural Exchange) or SLC 494 (Pre-modern Korean Literature and Cultural Exchange) OR Visiting University Student |
| SLC | 459 | Latin American Jewish Culture | Focuses on forms of cultural production in Latin America marked by or under the aegis of Jewish diasporic identity from the late nineteenth century to the present. While Jewish immigrants and Latin Americans of Jewish descent may be found in all Latin American societies, cultural production is found concentrated in countries like Argentina, Brazil, Mexico and Chile. Investigates essentially cultural versions of a sociohistorical consciousness, and ranges across a broad spectrum of Latin American Jewish texts in an investigation of what forms of production have emerged to represent this important immigrant component of Latin American national societies. Examines novels and other literary works, along with photography and films, and looks at theme, motifs, characters that can be identified with what might be called a Jewish consciousness or Jewish sensitivity. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only JST 459 or JST 494 (Jewish Latin American Culture) or SLC 459 or SLC 498 (Jewish Latin American Culture) or SPA 459 or SPA 498 (Jewish Latin American Culture) |
| SLC | 460 | Brazilian Society Through Music | Surveys Brazilian popular music in the 20th and 21st centuries, focusing on one main question: What images of Brazil have been imagined by Brazilian popular music in various socio-political contexts? Working with various genres, discusses how issues pertaining to race, social class, and citizenship have contributed to shape the Brazilian popular music scene and its representations of Brazil both at home and abroad. Taught in English. However, students who have completed POR 202 or POR 321 have the option of completing the assignments in Portuguese. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only POR 460 or POR 494 (Contemporary Brazilian Popular Music) or SLC 460 or SLC 494 (Contemporary Brazilian Popular Music) OR Visiting University Student |
| SLC | 465 | Intercultural Communicative Competence | Focuses on the importance of culture(s) and the ways in which culture(s) effects and interrelates with communication. Communicating across cultures is very important in order for us to be able to function in a globalized, diverse world, e.g., workplace, city. Using our own experiences and discussions as well as the readings, course increases our sensitivity, understanding and awareness of our own culture(s) as well as other culture(s). Approaches the study of intercultural communicative competence in a theoretical and practical way. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only GER 465 or SLC 465 or GER 494 (Intercultural Communicative Competence) or SLC 494 (Intercultural Communicative Competence) |
| SLC | 472 | Transatlantic Encounters: Brazil and Portugal | Lectures, readings and discussion of important aspects of history and cultural context of Portugal-Brazil relations. Topics from music, art, folklore, literature, history and politics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only POR 472 or SLC 472 OR Visiting University Student |
| SLC | 475 | Latin American Film | Examines the role of film in contemporary Latin American culture; films viewed and analyzed as casebook examples. Focuses on the aesthetics and generic conventions of contemporary Latin American films. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, 108, FMS 100, or SLC 202 with C or better; Credit is allowed for only FMS 475 or SLC 475 or SPA 475 or THE 475 or FMS 494/SLC 494/SPA 494/THE 494 (Latin American Film) OR Visiting University Student |
| SLC | 479 | Introduction to Teaching Foreign Languages | Introduces teaching methodologies, language learning, and current best practice in teaching foreign languages in U.S. middle and high schools. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SLC | 480 | Methods of Teaching Foreign Languages | Teaching foreign languages and literatures at secondary and college levels. Does not meet the The College of Liberal Arts and Sciences General Studies requirement for humanities and fine arts. Required for admission to SED 478. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): SLC 479 with C or better |
| SLC | 481 | Technical and Scientific Translation | Resources, practices, strategies, and lexicon for translation of professional texts in subjects such as engineering, architecture, agriculture, computer technology, electronics, and physical and biological sciences. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 301 with B or better; SPA 412 with B or better; Credit is allowed for only SLC 481 or SPA 441 |
| SLC | 482 | Business and Financial Translation | Resources, practices, strategies, and lexicon for translation of professional texts in subjects such as economics, finance, insurance, management, marketing, accounting, advertising, and real estate. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 301 with B or better; SPA 412 with B or better; Credit is allowed for only SLC 482 or SPA 442 |
| SLC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |

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| SLC | 485 | Translation of Legal Texts | Provides guided practice in the successful completion of professional translation tasks in the legal field. Studies the origin and traditions of contrasting legal approaches as each system of governance (Civil Law Tradition and Common Law Tradition) perceives reality and structures its institutions to reflect differing cultural and linguistic norms. Students work with a broad selection of legal texts involving property rights, family law and commercial law. Places particular emphasis on criminal law. Analyzes legal texts from several Latin American countries as well as from Spain for content and translated into English. Similarly analyzes and translates into Spanish specialized texts currently used in Maricopa County Superior Court. | N | LEL | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 301 with B or better; SPA 412 with B or better; Credit is allowed for only SLC 485 or SPA 443 (or SPA 410) OR Visiting University Student |
| SLC | 486 | Medical Translation | Guided practice in the successful completion of professional translation tasks in the medical and scientific domain: medical correspondence, discharge instructions, medical information for patients, general information on topics related to the medical field with a focus on low-literacy issues. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 301 with B or better; SPA 412 with B or better; Credit is allowed for only SLC 486 or SLC 494 (Medical Translation) or SPA 444 |
| SLC | 490 | Consumer Culture in Latin America | Provides an in-depth study of consumer culture in contemporary Latin America, including the analysis of television series, music, literary texts, commercials, ads and films produced in or about Latin America since the turn of the 21st century. Knowledge of Portuguese and Spanish is a plus, but not necessary. Taught in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only POR 490 or SLC 490 or SPA 490 or HON/POR/SLC/SPA 494 (Consumer Culture in Latin America) OR Visiting University Student |
| SLC | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| SLC | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| SLC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEL | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| SLC | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-7 | | Prerequisite(s): minimum 56 hours |
| SLC | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| SLC | 510 | Computer-Assisted Language Learning Praxis | Offers graduate students an in-depth practical experience in Computer-Assisted Language Learning (CALL) praxis, including tools, approaches to using technology in the language classroom, the techniques and best practices of online instruction, and the development of a teaching portfolio. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only APL 558 or SLC 510 |
| SLC | 515 | Second-Language Acquisition | Discusses and applies theories of second-language acquisition. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SLC 515 or SPA 515 |
| SLC | 545 | Concepts of Literary Criticism | Aims and methods of modern literary scholarship. Discusses major theories of literary analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SLC 545 or SPA 545 |
| SLC | 546 | Heritage Language Pedagogy | Sociolinguistic and pedagogical issues around the teaching and learning of heritage languages. Through a close examination of seminal articles in the field of heritage language pedagogy and research, students gain an understanding of the issues that concern these students and the teaching of this population. Defines the field, describes heritage language learners, and discusses the goals and sociolinguistic concerns of HL instruction. Also reviews the most appropriate teaching methodologies and principles for the heritage language classroom, especially in relation to literacy development. Contains a practical component that includes observations together with lesson plan and material development to prepare future teachers for effective classroom experiences and/or language program development. Course requirements include critical essays, online discussions, class observations, lesson plans and a research/applied paper. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SLC 546 or SPA 546 or SPA 598 (Heritage Language Pedagogy) |

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| SLC | 547 | Applied Linguistics: Online Learning | Technology has changed the way we teach and learn languages. Examines how online language learning is informed by research and theory; explores how different tools and environments can support online language learning. Familiarizes students with research methods and tools used to examine online language learning. Participants either design and develop the instructional materials for an online course of their choice or design and conduct a research project. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SLC 547 or SPA 547 or SLC 598 (Topics in Applied Linguistics: Online Learning) or SPA 598 (Topics in Applied Linguistics: Online Learning) |
| SLC | 551 | Global Approaches to Translation | Familiarize students with various approaches to translation practice. Examines issues related to the cultural role of translation. Students [re]prepare a translation, justification of translation choices, and discussion of the complexities posed by the translation. Readings address a broad array of translation theories, with most focused on translation as a globally theorized phenomenon in the 20th and 21st centuries. Readings and discussions focus on how one translates, and on translation as a culture-making enterprise inextricably tied to the questions of who translates, in what context, for whom, and to what ends. Students understand translation theories from different eras and cultures; understand how translation is implicated in different forms of intercultural contact (colonialism, commerce, proselytization); gain experience translating texts from a source language into English; and can explain why they translated the way they did. | N | RSC | N | GNA | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SLC | 557 | Computer-Assisted Language Learning | Explores the field of computer-assisted language learning. Traces the development of computer-assisted language learning (CALL) over the last three decades. Focuses on research that explores how computer technology can help facilitate second language development; relies primarily on empirical data to do so. Examine established as well as new research methods in CALL. Participants participate in one research study and apply theoretical and practical aspects of CALL in these projects. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only APL 557 or ENG 557 or SLC 557 |
| SLC | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SLC | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SLC | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SLC | 596 | Second Language Methodologies | Provides a solid overview of current methodologies in foreign/second language teaching and learning, including the World-readiness standards for learning languages and the Proficiency Guidelines of the American Council on the Teaching of Foreign Languages (ACTFL). Focuses on current pedagogical trends and theories in several areas of second language acquisition, including grammar and vocabulary, reading, writing, listening and speaking, and intercultural competence. Also provides opportunities to obtain practice in creating and adapting instructional materials, preparing and implementing individual lesson plans, written and oral assignments, and exams. Focuses on discussing student diversity in today's classrooms and differences between heritage and second language learners. Students have the opportunity to research a topic of their interest. Course consists of lectures, discussion, hands-on experience to encourage meaningful and collaborative learning. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking grad stdnt; Credit only allowed for CHI 591 (Lang Teach Mthd & Prin) or CHI 596 or SLC 591 (Lang Teach Mthd & Prin) or SLC 596 or SPA 591 (Teach Mthd) or SPA 591 (Lang Teach Mthd & Prin) or SPA 596 |
| SLC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SLC | 602 | Comparative Cultural Theory | Trains SILC Ph.D. students in a range of theories and methods of cultural analysis and comparison, and explores some of the conceptual tools used in the production of comparative studies scholarship. Exposes students to texts by authors from diverse historical and geopolitical contexts and encourages them to reflect upon these various commentaries on the nature and interpretation of culture and cultural production. Discussion centers on the relationship between cultural production and material realities and on the interdependence of cultural production and social, economic and political issues. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SLC | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SLC | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SLC 691 or SPA 691 |
| SLC | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SLC | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-15 | | |
| SLC | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SLC | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SLV | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 0.25-4 | | |
| SLV | 304 | Digital Humanities for Language Majors | Not limited to language majors (Slavic or otherwise). Students complete course projects using the material of their language of interest (the language they are taking interest in, including English). This course focuses on the following topics in digital humanities: (a) audio-visual representation of the content in humanities, (b) computer-assisted learning and assessment, (c) digitizing printed resources, (d) data and text mining, (e) working textual corpora, (f) statistical analysis, (g) computational lexicography, (h) data extraction and manipulation. While emphasizing hands-on skills, this course also familiarizes its participants with the basic concepts in the fields of digital humanities. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | CS | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only SLC 304 or SLV 304 |
| SLV | 440 | History of Slavic Languages | Comparative evolution of East Slavic, West Slavic, and South Slavic languages from the earliest record to the standardizing of national languages in the 19th and 20th centuries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SLV | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SLV | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| SLV | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| SLV | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-7 | | |
| SLV | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| SLV | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SMC | 562 | Advanced Human Factors | In-depth study of the issues, methods, and findings in industrial and organizational psychology. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Human Systems Engineering | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PSY 562 or SMC 562 |
| SOC | 101 | Introductory Sociology | Fundamentals of sociology, organization of human groups and society, processes of interaction, and social change. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Credit is allowed for only SOC 101 or SOC 301 OR Visiting University Student |
| SOC | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-3 | | Pre-requisites: Freshmen; maximum 25 earned hours |

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|---------|-------------|--|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-------------------|---|
| SOC | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | |
| SOC | 201 | Careers in Sociology | Introduces students to the program in sociology and aids in career exploration and development for sociology majors and nonmajors who may be interested in declaring this as a major. Students learn what careers and jobs sociologists do and what skills can be translated into practice for a sociological career in different professions. Students learn how to prepare for the job market through the creation of various written materials as well as through professional development and networking opportunities. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1 | | Credit is allowed for only FAS 201 or SOC 201 |
| SOC | 210 | Sociology of Murder | Sociological perspectives on various forms of murder and types of murderers. Also considers forms of punishment for murder. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | Credit is allowed for only FOR 210 or SOC 210 |
| SOC | 220 | Sociology of Sport | Examines sports in American society as a source of socialization and an institution where gender, race/ethnicity, and class interact. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | |
| SOC | 241 | Modern Social Problems | Race relations, poverty, unemployment, and other current issues. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | |
| SOC | 264 | Sociology of Gender | Examines how society influences perceptions of difference and identity within institutions and interactions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & C | Prerequisite(s): ENG 101, 105, 107, or 111 with C or better; Credit is allowed for only FAS 264 or SOC 264 OR Visiting University Student |
| SOC | 270 | Sociology of Race and Ethnicity | Examines how racial, ethnic and cultural identities and structures are related to various social, political and economic institutions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & C | |
| SOC | 290 | Introduction to Social Science Research | Students learn the fundamentals of how social research is conducted and use critical thinking skills to access, analyze, interpret and summarize research. Students gain an appreciation for the value of social research in our everyday lives. Explores both qualitative and quantitative methods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): CDE 232, FAS 101, or SOC 101 with C or better; Credit is allowed for only FAS 290 or SOC 290 OR Visiting University Student |
| SOC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | |
| SOC | 298 | Honors Directed Study | Independent study or practicum under the supervision of a faculty member. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-6 | | Prerequisite(s): Barrett Honors student |
| SOC | 303 | Transborder Theory | Studies historical, cultural, and economic theories contributing to understanding the emergence of Mexican and Latina/o origin populations in the Americas. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only SOC 303 or TCL 303 OR Visiting University Student |
| SOC | 312 | Adolescence | In-depth examination of the developmental and social processes that help explain modern adolescence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): CDE 232, PSY 101, SOC 101, or TEL 215 with C or better; minimum 24 hours; Credit is allowed for only CDE 312 or SOC 312 OR Visiting University Student |
| SOC | 314 | Transborder Latin American Migration to the U.S. | Historical/contemporary overview of Mexican and other Latin American migration into and within the U.S.; factors affecting population movement, settlement patterns and migrants' incorporation into society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | (L or SB) & H & C | Prerequisite(s): ENG 101, 105 or 107 with a C or better; minimum 45 hours; Credit is allowed for only SOC 314 or TCL 314 OR Visiting University Student |
| SOC | 315 | Sociology of Dating, Relationships and Marriage | In-depth study of dating, intimate relationships and marriage across different social settings from a sociological perspective. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): FAS 101, PSY 101, or SOC 101 with C or better; minimum 24 hours OR Visiting University Student |
| SOC | 320 | Transborder Community Development and Health | Emphasizes core concepts and practices relevant to regional community development and health, including demographic health indicators, individual, and community models. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only SOC 320 or TCL 321 OR Visiting University Student |
| SOC | 324 | Sociology of Work and Organizations | Historical and comparative examination of changes in the structure and meaning of work and current shifts in people's work lives with a focus on race, ethnicity, gender, social class and social networks. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only FAS 324 or SOC 324 OR Visiting University Student |
| SOC | 325 | Globalization and Socio-Economic Justice | Addresses a trend producing increasing interconnectedness of economies and societies, as well as creating new conflicts and divisions. Provides greater understanding of global forces, as well as the effect of these forces on global economic justice. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; minimum 2.00 GPA; Credit is allowed for only JUS 325 or SGS 325 or SOC 325 OR Visiting University Student |
| SOC | 328 | Migration and Culture | Examines migration and culture embedded in a transnational field of social, economic and political processes. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 340 or SOC 328 OR Visiting University Student |
| SOC | 331 | Environmental Sociology | Analyzes human organizational responses to population growth, technological change, and environmental stressors on both a national and global scale. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & G | Prerequisite(s): minimum 45 hours |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| SOC | 332 | The Modern City | In-depth analysis of the growth, characteristics, and problems of the modern city. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | G | Prerequisite(s): FAS 101, PSY 101, or SOC 101 with C or better; minimum 24 hours OR Visiting University Student |
| SOC | 333 | Population | Global trends in population growth, composition, and distribution; theories, policies, and impact of population trends on environmental quality and development. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & G | |
| SOC | 334 | Technology and Society | Development of technology in relation to society, work, science, the environment, public health, and cultural values related to social change. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | L or SB | Prerequisite(s): ENG 101, 105 or 107 with C or better; minimum 45 hours; Credit is allowed for only ASB 344 or SOC 334 OR Visiting University Student |
| SOC | 339 | Grassroots Social Movements | Explores how groups mobilize collectively to produce social, political, economic and cultural change, with an emphasis on the United States. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ASB 339 or POS 339 or SBS 339 or SOC 339 OR Visiting University Student |
| SOC | 340 | Social Deviance | Sociological analysis of behaviors, identities and groups that are contrary to established social norms. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): SOC 101 OR Visiting University Student |
| SOC | 342 | Mexico-U.S. Borderlands | Contemporary examination of socioeconomic and political dimensions of border communities, and formation of Mexican-origin communities within and outside the Southwest. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & C | Credit is allowed for only ASB, SBS or SOC 342 |
| SOC | 343 | Social Demographics of Latino Populations | Provides an introduction to social demography of Latinos in the U.S. from the 19th century to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & C | Prerequisite(s): minimum 45 hours; Credit is allowed for only SOC 343 or TCL 342 |
| SOC | 350 | Inequality and Diversity in Education | Advanced exploration of various dimensions of diversity in relation to educational systems and outcomes. Through sociological and psychological research, case studies and films, students examine how educational inequality is created and reproduced through individual actions and institutional constraints. Also considers the connection between schooling and human rights and ways in which educational inequality may be addressed. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | L & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; AFR 212, APA 200, APA 210, CDE 232, JUS 210, TCL 210, or minimum 24 hours; Credit is allowed for only AFR 350, APA 350, CDE 350, JUS 365, SOC 350, or TCL 360 OR Visiting University Student |
| SOC | 352 | Social Change | Patterns of social change, resistance to change, and change-producing agencies and processes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & G & H | |
| SOC | 353 | Death and Dying in Cross-Cultural Perspective | Scientific and humanistic approaches to the study of death and dying from the perspective of anthropology and allied disciplines. Uses a global, comparative approach across space and time from the earliest human burials to contemporary funeral events. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3-4 | (HU or SB) & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 353 or SOC 353 OR Visiting University Student |
| SOC | 354 | The Global Politics of Human Rights | Examines political forces that have shaped gradual construction of an international human rights regime and a universal culture of rights, including civil and political rights, as well as economic, social, and cultural rights. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only JUS 352 or SOC 354 OR Visiting University Student |
| SOC | 355 | Human Rights Organizations and Institutions | Investigates the emergence and evolution of the organizations and institutions designed to promote and protect human rights at global, regional and national scales. Explores reasons why it is necessary to institutionalize human rights, the trial and error process that led to postwar international human rights regime, challenges and the future of human rights. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only JUS 355 or SOC 355 OR Visiting University Student |
| SOC | 356 | Central American Studies | Part of the summer ASU study abroad Costa Rica Program, which is a language and social sciences immersion program in the capital city, San Jose. A summer offering permits students to enroll in the program without conflicting with full course loads during the fall or spring semester. However, the course is proposed as a stand-alone course that can be offered in a regular semester as well. May be repeated once for credit. | N | REC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | Credit is allowed for only ASB 356 or GCU 356 or POS 354 or SBS 356 or SOC 356 |
| SOC | 360 | Sociological Psychology | Interaction patterns between the sociocultural order and individuals; socialization process; norms, roles, and statuses; collective behavior. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): SOC 101, PSY 101(PGS 101), FAS 101, or FAS 330 with C or better; Minimum 24 hours |
| SOC | 363 | Men and Masculinity | Sociological analysis of how masculine identity is defined, negotiated, and variously constructed depending upon class, ethnicity, age, and sexual orientation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): SOC 101 |
| SOC | 364 | Popular Culture and Society | Studies the social approaches to popular culture, focusing on the function of various forms (literature, film, theatre, and music). | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | Prerequisite(s): minimum 45 hours |
| SOC | 365 | Sociology of Mass Communication | Sociological exploration of the major mass media as a communicative process in American society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | |
| SOC | 366 | Film and Society | Studies the social approaches to film as an art form, mass medium, and ideological construct. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | |

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|---------|-------------|---------------------------------------|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| SOC | 371 | Inequality and Sustainability | Efforts to shift societies onto a sustainable trajectory are facing profound challenges from the degree and dynamics of global inequalities of income, wealth, and life chances. Data and ideas from a spectrum of disciplines are employed to examine, analyze, and criticize the prospects for redressing global inequalities in a sustainable manner. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 371 or ASB 394 (Inequality and Sustainability) or SOC 371 or SOS 371 or SOS 394 (Inequality and Sustainability) |
| SOC | 374 | Cultures and Politics of the Internet | Explores the culture and politics of the Internet in global perspective, including virtual communities, free software, copyleft, blogs, and hacktivism. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | Credit is allowed for only ASB 374, POS 374, SBS 374 or SOC 374 |
| SOC | 378 | Migration and Society | Application of social scientific theories and principles in order to understand the social and ethnic consequences of international migration with a focus on the United States. Students will communicate views formulated from empirical evidence and reasoned analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & C | Prerequisite(s): ASB 102 or SOC 101 with C or better; 45 minimum hours |
| SOC | 389 | Ethnographic Field Lab | Hands-on, guided ethnographic qualitative research and interpretative analysis. | N | LAB | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-6 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 389 or SBS 389 or SOC 389 OR Visiting University Student |
| SOC | 390 | Social Statistics I | Descriptive and inferential statistical methods for analysis of social data. Computer applications. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | CS | Prerequisite(s): MAT 142 or higher with C or better OR Visiting University Student |
| SOC | 391 | Applied Research Methods | Learn how to apply methodological approaches to social research questions. Learn to evaluate, interpret, synthesize, produce and present research. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | L or SB | Prerequisite(s): CDE 232, FAS 101, or SOC 101 with C or better; ENG 101, 105, or 107 with C or better; PSY 230, SBS 304, SOC 390, or STP 226 with C or better; Credit is allowed for only FAS 361 or SOC 391 OR Visiting University Student |
| SOC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | |
| SOC | 399 | Supervised Research Experience | Practical, firsthand experience within current faculty research projects in family studies or child development or sociology. May be repeated for total of 6 hours. | Y | RSC | Y | GNA | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FAS 390 or SOC 399 OR Visiting University Student |
| SOC | 400 | Perspectives on Aging | Broad overview of gerontological issues; e.g., physical aging, retirement, living options, caregiving, theoretical background, death. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB | |
| SOC | 410 | Race, Medicine, and the Body | Explores how body and embodiment and race and ethnicity are constructed within and by biomedical sciences and technology development. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only SOC 410 or TCL 410 OR Visiting University Student |
| SOC | 415 | Families and Social Policy | Family considered from the institutional viewpoint; in-depth look at its historical development and its adaptation to a changing culture; analysis of the family system in many cultures. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): FAS 101, PSY 101, or SOC 101 with C or better; minimum 30 hours OR Visiting University Student |
| SOC | 418 | Aging and the Life Course | Examines aging as a process of change and adaptation over the lifespan, patterned by social, cultural, and historical forces. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & H | Prerequisite(s): FAS 101, PSY 101, or SOC 101 with C or better; minimum 30 hours; Credit is allowed for only CDE 418 or SOC 418 OR Visiting University Student |
| SOC | 420 | Sociology of Religion | Interrelationship of culture, society, and religion; religion and social stratification; religious, economic, and political institutions; social change and religion. Emphasizes American society and institutions. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| SOC | 421 | Education and Society | Uses contemporary sociological perspectives to examine effects of schools and schooling on individuals and society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 421 or SOC 421 OR Visiting University Student |
| SOC | 424 | Women and Health | Women as health care workers and an in-depth analysis of issues of health, illness, and health care for women. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): FAS 101, FAS 330, PSY 101, or SOC 101 with C or better; minimum 30 hours OR Visiting University Student |
| SOC | 425 | Women, Work, and Justice | Examines gender inequality in the workplace, including the nature of women's work, theoretical issues, and models for promoting gender justice at work. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | (L or SB) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only JUS 420 or SOC 425 |
| SOC | 426 | Social Inequalities | Examines stability and change in social inequalities based on class, race and gender. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SOC | 427 | Sociology of Health and Illness | Social aspects of illness and sociological analysis of the healthcare system and its practitioners. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |

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| SOC | 432 | Racial Justice | Racial inequality remains a dominant theme in understanding social, legal, and economic justice in the U.S. today. Explores controversial topics surrounding race and justice. Emphasizes current legal, economic, political, and social conceptual frameworks. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only JUS 432 or SOC 432 OR Visiting University Student |
| SOC | 435 | Advanced Marriage and Family Relationships | In-depth examination of research, issues, and trends relating to marriage and family interaction. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; FAS 101, FAS 331, PSY 101, or SOC 101 with C or better; minimum 30 hours; Credit is allowed for only FAS 435 or SOC 435 OR Visiting University Student |
| SOC | 437 | Women, Power, and Politics | The roles and treatment of women within various political contexts. Specific focus may vary with instructor. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | G | Prerequisite(s): minimum 45 hours; Credit is allowed for only POS 437 or SOC 437 OR Visiting University Student |
| SOC | 443 | Sociology of Corporations | Examines corporations as social institutions and the implications of their status as a legal person on politics, culture, and economy. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | |
| SOC | 445 | Globalization, Development, and Resistance | Explores the interconnections among globalization, development, and grassroots movements for social change in Africa, Asia, and Latin America. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | |
| SOC | 448 | Epidemics and Society | How epidemics occur; how they are perceived in society; how epidemics affect society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & G | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SOC | 451 | Comparative Sociology | Cross-cultural study of basic social institutions; the methodology of cross-cultural research. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB & G | |
| SOC | 455 | Human Rights and Sustainability | Addresses the connections between human rights and environmental sustainability. Legal and scholarly approaches linking these areas present new perspectives for addressing some of the greatest challenges of our time, given the important resource dimensions of economic and social rights and the human dimensions of sustainability. Yet human rights demands and environmental concerns are not always in harmony. Explores these tensions and opportunities by examining three substantive areas: urban ecology and human rights, the human right to food, and the human rights implications of extractive industries such as oil and mining. Following an introduction to the key concepts of human rights and sustainability, explores the substantive areas through theoretical and empirical readings on each; grassroots accounts of struggles over environment-related human rights; and selections from literature and film that illustrate the environmental justice issues at stake. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | (L or SB) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only JUS 456 or JUS 497 (Seminar in Human Rights) or SOC 455 or SOS 456 |
| SOC | 456 | Political Sociology | Social factors associated with voting; nature and structure of the electorate and political parties and the nature of national and international power structure. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | |
| SOC | 457 | Global Social Movements | Examines how groups mobilize across borders to pursue social goals, including equality, justice, peace, and salvation in a global context. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | SB & G | |
| SOC | 460 | Leadership, Research, and Collaboration in Community Change | Advanced understanding of leadership and the development of proposals for innovative plans that enhance the well-being of children, youth and families. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): minimum 60 hours; Credit is allowed for only FAS 460 or FAS 498 (Leadership Research & Collaboration in Change) or SOC 460 |
| SOC | 469 | Multivariate Statistics for Social Sciences | Provides instruction and hands-on experience with statistical methods for examining the effects of multiple variables. Focuses on multivariate techniques and how statistical techniques can lead to a better understanding of substantive issues. As this is an applied course, lectures and coursework focus more on the application and interpretation of multivariate techniques than on the mathematics behind the statistical techniques. Topics typically include data visualization, correlation, simple regression, multiple regression, logistic regression, multinomial regression, ordinal regression, and principal component analysis. Also teaches how to conduct these statistical techniques and undertake basic programming in the R computer program. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): DAT 300, ECN 221, GIS 270, PSY 230, SOC 390, or STP 226 with C or better; Credit is allowed for only CDE 469 or GIS 469 or SOC 469 or CDE 498/GIS 494 (Multivariate Statistics for Social Sciences) OR Visiting University Student |
| SOC | 483 | Sociological Theories | Social issues explored through sociological theories. Ideological factors in theory, philosophical issues, the nature of theory and its relationship with methodology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better; SOC 101 with C or better; minimum 45 hours OR Visiting University Student |
| SOC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | |
| SOC | 486 | Contemporary Theory | Contemporary issues and crises in social theory with major focus on particular theorists. Ideological factors in theory, philosophical issues, the nature of theory and its relationship with methodology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | SB | Prerequisite(s): SOC 101 or 301 OR Visiting University Student |

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| Subject | Catalog Nbr | Course Title | Course Description | Allow Mult Enroll | Component Primary | Crse Repeatable | Grading Basis | College | Department | Units | General Studies | Requirements |
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| SOC | 490 | Advanced Sociological Research Methods | In-depth investigation of sociological research and its application to social issues. | N | LEL | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; PSY 230, SOC 390, or STP 226 with C or better; SOC 101 with C or better; SOC 290 with C or better; SOC 483 with C or better; minimum 45 hours OR Visiting University Student |
| SOC | 491 | Advanced Sociological Perspectives | Students reflect on the knowledge and skills they have gained in their sociology courses and explore how to apply their sociological training outside of the university as they further their education or join the labor force. | N | LEL | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; PSY 230, SOC 390, or STP 226 with C or better; SOC 290 with C or better; SOC 483 with C or better; minimum 45 hours OR Visiting University Student |
| SOC | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-6 | | Prerequisite(s): Barrett Honors student |
| SOC | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| SOC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | |
| SOC | 497 | Honors Colloquium | A class emphasizing discussion, written and/or oral presentation by students, and active participation. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-6 | | Prerequisite(s): Barrett Honors student |
| SOC | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-7 | | |
| SOC | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-3 | | |
| SOC | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOC | 501 | Social Statistics | Understands and uses statistics for applications in the social sciences. | N | LEC | N | GNA | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): Degree- or Nondegree-seeking graduate; Credit is allowed for only CDE 501, SOC 501 or SOC 598 (Statistics for Social Sciences) |
| SOC | 505 | Applied Regression Analysis | Multiple linear regression topics relevant to social science data analysis. Computer applications. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisites: Credit is allowed for only FAS or SOC 505; Graduate students only (degree and non-degree) |
| SOC | 507 | Categorical Data Analysis | Logistic regression and related topics relevant to categorical data analysis in social sciences. Computer applications. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisites: Credit is allowed for only FAS or SOC 507; Graduate students only (degree and non-degree) |
| SOC | 508 | Structural Equation Analysis for the Social Sciences | Theory and application of structural equation modeling. Path analysis and latent variable models such as CFA, multiple group analysis and models for longitudinal data. Projects involve conducting analyses and writing results. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisites: Credit is allowed for only FAS or SOC 508; Graduate students only (degree and non-degree) |
| SOC | 509 | Event History Analysis | Proportional hazards models and other methods for analyzing longitudinal data and establishing hazard rates of events for exploratory variables. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Pre-requisites: Credit is allowed for only FAS or SOC 509; Graduate students only (degree or non-degree) |
| SOC | 510 | Bayesian Analyses in the Social Sciences | Discusses principles and practices of Bayesian approaches to statistical inference and modeling. Topics include: philosophical underpinnings of Bayesian inference; associated interpretations of probability; univariate and multivariate models prevalent in the social sciences; Markov chain Monte Carlo estimation; data-model fit; model comparisons procedures; missing data analyses. Course consists of lectures, demonstrations of software, reading assignments, homework assignments and a project. Exposes students to key concepts in Bayesian methods and gains technical foundations necessary to be consumers and contributors to applied and methodological research. Assumes previous knowledge of statistics through multiple regression, and recommends additional topics: multivariate statistics, latent variable modeling, probability theory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CDE 591 (Bayesian Analyses in the Social Sciences) or CDE 591 (Introduction to Bayesian Analyses) or FAS 510 or SOC 510 |
| SOC | 512 | Secondary Data Analysis | Works with existing data to produce a publishable article. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only FAS or SOC 512 |
| SOC | 515 | Studies of the Family | Current developments in the study of marriage and the family. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOC | 516 | Family Demography | Current developments in the study of family demography. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | |

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| SOC | 523 | Social Stratification | Overviews significant themes, issues, and bodies of work in the field of social stratification, a fundamental topic of sociological inquiry. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | |
| SOC | 533 | Demographic Methods | Emphasizes methods and techniques in demographic analyses such as life tables. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | |
| SOC | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOC | 585 | Sociological Theory | Analyzes major sociological theories, from classical to contemporary. | N | SEM | N | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOC | 586 | Capstone I | Professional exploration and goal specification for non-thesis capstone project. | N | PRA | N | GNA | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree-seeking graduate student in the Sanford School of Social and Family Dynamics; Credit is allowed for only FAS 586 or SOC 586 |
| SOC | 587 | Capstone II | Develops professional expertise and area of focused interest. | N | RSC | N | GNA | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): FAS 586 or SOC 586. Credit is allowed for only FAS 587 or SOC 587 |
| SOC | 588 | Capstone III | Applies developed expertise and knowledge to professional goal. | N | PRA | N | GNA | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): CDE 501 or SOC 501; CDE 531 or SOC 585; FAS 500 or SOC 500; FAS 587 or SOC 587; 12 additional graduate-level hours in CDE, FAS, and/or SOC; Credit is allowed for only FAS 588 or SOC 588 |
| SOC | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOC | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOC | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | |
| SOC | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | |
| SOC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOC | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOC | 603 | Perspectives in Sociological Inquiry | Provides an overview of core theoretical frameworks and associated analytic approaches in sociology. Taught by faculty members from across the university with sociological training or research interests, providing students with foundational and advanced research tools as well as introducing them to ongoing research at ASU, the distinctive contributions of sociological perspectives to inter- and transdisciplinary projects, and potential opportunities for research residency. | N | SEM | N | GNA | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOC | 685 | Applied Social Theory | Overviews main classical and contemporary theoretical paradigms and concepts in sociology and provides advanced training on using them to build empirical analytic models. Students identify theoretical perspectives appropriate for research questions, build corresponding conceptual frameworks, and formulates testable hypotheses. Seminar format and therefore students' active participation is expected. | N | SEM | N | GNA | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOC | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | |
| SOC | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOC | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-12 | | |

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| SOC | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOC | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOC | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | Sanford School of Social and Family Dynamics | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 100 | Introduction to Sustainability | Introduces basic concepts, global trends, and local responses, philosophical, ethical, and cultural dimensions. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | G | Prerequisite(s): Non-Sustainability majors or non-Sustainability concentrations OR Visiting University Student |
| SOS | 101 | Introduction to Applied Mathematics for the Life and Social Sciences | Introduces quantitative techniques as applied to problems in the life and social sciences. Includes challenges like understanding the complexities of the human genome or the implications of globalization for infectious disease, human health, and economic stability. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | MA | Prerequisite(s): MAT 117 or higher with C or better or ALEKS score of 61 or higher; Credit is allowed for only AML 100 or SOS 101 OR Visiting University Student |
| SOS | 110 | Sustainable World | Lays the groundwork for understanding the fundamental geological, biological, and social processes that gave rise to the world we live in and continue to maintain its viability for human life. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | SB | |
| SOS | 111 | Sustainable Cities | Introduces technological, social, and cultural principles and innovations for cities under the notion of sustainability and sustainable development within the global, regional, and local contexts. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | (HU or SB) & G | Credit is allowed for only PUP 190 or SOS 111 OR Visiting University Student |
| SOS | 117 | Food System Sustainability | Food systems are particularly important for human societies to sustain and are also particularly vulnerable to multiple threats related to the interconnected sustainability challenges we face. Introduces the concepts and issues involved in food systems sustainability. Divided into four modules, the first three of which address the other systems with which food systems interact--socio-ecological, socio-cultural and socio-technical systems. The final module addresses the future of food systems. Teaches students about the main issues in food system sustainability and allows students to enhance their critical thinking skills by applying them to the many sustainability challenges associated food system activities via solutions-based learning including the social, ecological, economic and institutional dimensions. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | |
| SOS | 171 | The Thread of Energy | Follows the thread of energy through every aspect of our lives. Discusses the technical, social, legal, and policy contexts of all energy resources, including present and unconventional fossil fuels, nuclear power, and renewable resources. Addresses energy use throughout history, the influence of energy on quality of life, the role it plays in political strategies and environmental quality, how it shapes our neighborhoods and cities, its contribution to our personal comfort and national security, and how its importance is reflected in the worlds of business and the humanities. Its dual role is as a stand-alone introduction to energy, and as a first step to more advanced studies of energy in the natural, technical, and social sciences. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | SB & G | Credit is allowed for only GCU 171 or SOS 171 OR Visiting University Student |
| SOS | 181 | Technological, Social, and Sustainable Systems | Introduces the importance and role of technological, social, and sustainable systems in the modern world. Provides a framework for the theory and practice of sustainable engineering. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | HU | Credit is allowed for only CEE 181 or FSE 181 or SOS 181 |
| SOS | 182 | Water Planet | Overview of the processes that control water supply to natural ecosystems and human civilizations. Part I introduces the basic science that helps us understand the water planet, including the hydrologic cycle, glaciers and ice; rivers, oceans, and natural hazards associated with water such as flooding, landsliding and tsunamis. Part II covers some of the management and resource allocation topics that face humanity today, including droughts, groundwater contamination, impacts on fisheries, conflicts over water, patterns of water use, and effects of global climate change on future water supplies. Uses water issues facing Arizona and California as examples. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 4 | SQ | Credit is allowed for only GLG 108 or SOS 182 OR Visiting University Student |

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| SOS | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | SEM | Y | OPT | College of Global Futures | School of Sustainability | 1-3 | | |
| SOS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-4 | | |
| SOS | 201 | Introduction to ASU and School of Sustainability for Transfer Students | Introduces all ASU transfer students to the unique elements, culture, challenges and opportunities of the university. | N | LEC | N | YGB | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): Sustainability BA or BS or Sustainable Food Systems BS major; minimum 24 hours OR Visiting University Student |
| SOS | 210 | Society and Environment | Examines the interaction among social processes, key environmental issues, and nature's role as a resource at global and regional scales. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | G | Credit is allowed for only GPH 210 or SOS 210 |
| SOS | 211 | Calculus and Probability for the Life and Social Sciences | Introduces two of the most important and useful mathematical frameworks used to study natural and social phenomena: probability and calculus. Probability is used to describe an attitude of mind toward some proposition whose truth is not certain. Calculus is the branch of mathematics used to study the behavior and dynamics of functions: calculus is the mathematical study of change. Students gain the basic competence needed for applying probability and calculus when thinking about and research problems in sustainability. Focuses on and discusses applications, the meaning of important concepts, the origins of the rules of derivation and integration, and logic behind why the methods work. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | MA | Prerequisite(s): AML 100 or SOS 101 with C or better OR Visiting University Student |
| SOS | 212 | Systems, Dynamics and Sustainability | Introduces the evaluation and construction of mathematical models used in the life and social sciences. Includes the basic steps in developing a model, analyzing it, and testing it with actual data. Covers the first steps concerning how to use formal mathematical techniques including developing equation-based relationships, plotting graphs, linear regression, and solving equations using computer software. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): SOS 211 OR Visiting University Student |
| SOS | 215 | Fundamentals of Sustainable Food Systems | Introductory food course provides students with a panoramic understanding of American agriculture. Explores American-grown food through history, policy, society, business innovation, and environmental sustainability. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | L | Prerequisite(s): ENG 101, 102, 105, 107, or 108 with C or better; Credit is allowed for only AGB 215 or SFS 215 or SOS 215 OR Visiting University Student |
| SOS | 216 | The Sustainable Plate | Introductory food course explores agriculture by subsectors, such as livestock, grains and fruits and vegetables. Students learn how dietary choices affect health, the environment, and the people who produce and process food. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): ENG 101, 102, 105, 107, or 108 with C or better; Credit is allowed for only AGB 216 or SFS 216 or SOS 216 OR Visiting University Student |
| SOS | 220 | Systems Thinking | Introduces systems thinking and complexity science, with an emphasis on analytical relevance for thinking about a myriad of issues involved in sustainability. Hones students' abilities to read critically, articulate their views clearly, and think about the many systems that shape their lives. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): PUP 190 or SOS 111 with C or better; SOS 110 with C or better OR Visiting University Student |
| SOS | 230 | Professional Skills in Sustainability | Builds interpersonal competence, which is a key competence in sustainability. Students work on a small hands-on sustainability project in order to practice professional skills in four domains: teamwork, project management, self-directed and continuous learning, and stakeholder engagement. Students learn how to effectively collaborate in teams, use project management tools to achieve quality products in time, innovate their ways of learning, and create productive dialogue with stakeholders. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): PUP 190 or SOS 111 with C or better; SOS 110 with C or better |
| SOS | 231 | Careers in Sustainability | Aids in career exploration and development for School of Sustainability majors. Explores values, motivations and career options. Students learn how to approach the job search and how to communicate sustainability to employers; also how to prepare a quality résumé, cover letter, and gain a better understanding of the benefits of networking. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): Sustainability BA or BS major or Sustainable Food Systems BS major; PUP 190 or SOS 111 with C or better; SOS 110 with C or better; minimum 45 hours OR Visiting University Student |
| SOS | 232 | Professional Skills in Sustainability Practice | Students learn how to effectively and compassionately communicate, engage in collaborative teamwork, use project management tools to achieve quality products on time, innovate their ways of self-directed and continuous learning, engage with stakeholders on solutions, and ensure mindful self-care. Students work on a sustainability project, practicing this set of professional skills in a real-world context. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; PUP 190 or SOS 111 with C or better; SOS 110 with C or better OR Visiting University Student |
| SOS | 246 | Exploring Sustainability Research | Introduces diverse research in sustainability, along with research concepts, approaches and career opportunities. Also helps students navigate how to pursue research opportunities as an undergraduate student. | N | RSC | N | Z1 | College of Global Futures | School of Sustainability | 1 | | Credit is allowed for only SOS 246 or SOS 294 (Exploring Sustainability Research) |
| SOS | 272 | Economic Justice | Surveys key environmental justice issues and movements. Uses interdisciplinary social science perspectives to review and analyze U.S. and international case studies. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | SB | Credit is allowed for only ASB 272 or SOS 272 |

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| SOS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-4 | | |
| SOS | 300 | Advanced Concepts and Integrated Approaches in Sustainability | Integrates disciplinary contributions to sustainability, teaches advanced concepts in sustainability, and explores methods for identifying sustainability challenges and generating solutions. Focuses on diversity of sustainability research, and integrates specialized approaches in sustainability. Advanced concepts in sustainability, including systems-thinking, complexity, nonlinearity, cascading effects, coupled natural-human systems, governance, future thinking, unintended consequences, normative concerns, transformation, power, participation, and equity. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): SOS 100, 110, 111 or PUP 190 with C or better; minimum 45 hours OR Civil Engineering (Sustainable Engineering) BSE major OR Visiting University Student |
| SOS | 309 | History and Philosophy of Sustainability | Examines sustainability issues in a broadly interdisciplinary way, but with a special emphasis on humanities perspectives, focusing on human ideas, values and institutions as they have evolved over time. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): ENG 102 or 105 or 108 with C or better; minimum 25 hours; Credit is allowed for only HST 308 or PHI 322 or SOS 309 or BIO/HST/PHI/SOS 394 (History & Philosophy of Sustainability) |
| SOS | 310 | Equity, Justice and Sustainability | Introduces the "social justice" aspects of sustainability science and practice. Sustainability problems are a special class of problems arising from a complex set of issues spread across time, space and institutional scales. These problems can threaten underlying social, economic and ecological systems which are highly intertwined and interdependent. Explores these issues through study of both theory and practice. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): PUP 190 or SOS 111 with C or better; SOS 110 with C or better OR Visiting University Student |
| SOS | 311 | Future Thinking and Strategies | Offers a critical introduction to future-oriented theories and methods. Explores anticipation in contemporary society through a series of cases studies that probe real-world sustainability issues and how the future is created and contested. By characterizing and critiquing future-oriented practices across governmental, academic and private sectors, offers a critical perspective on different methodological approaches and the implications of their use. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): PUP 190 or SOS 111 with C or better; SOS 110 with C or better OR Visiting University Student |
| SOS | 314 | Basic Energy Science | Explains the concepts of the science of energy for those without a background in engineering. Allows non-engineering students to better grapple with the issues that surround sustainable energy issues. Covers the most common methods of electricity generation as well as renewable technologies and fuels. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SOS | 315 | Energy Policy | Examines the regulation of energy production and consumption in the U.S. at the federal, state and local levels. Identifies energy stakeholders in the U.S. and examines how they have shaped U.S. policies around energy. Explains past and current U.S. energy policies and how energy needs have shaped U.S. relations with other countries. Compares U.S. energy policies to that of other countries in the world, as well as how Arizona's energy policies compare to other states within the U.S. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only SGS 315 or SOS 315 OR Visiting University Student |
| SOS | 320 | Society and Sustainability | Establishes an understanding of the human, social, and cultural dimensions of sustainability from multi- and interdisciplinary perspectives and at a variety of spatial and temporal scales. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | L or SB | Prereq(s) with C or better: Sust or Bus (Sust) mjr; ENG 101, 105 or 107; SOS 110; SOS 111 or PUP 190 OR Non-Sust mjr with 2 of the following courses: SOS 100, SOS 110, SOS 111 or PUP 190, SOS 300; ENG 101, 105 or 107 OR Visiting University Student |
| SOS | 321 | Policy and Governance in Sustainable Systems | Explores the wide array of political questions that are raised when we view the Earth's environment as an integrated, global system. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prereqs: Sustainability or Business (Sust) major; SOS 110 & SOS 111 (or PUP 190) w/C or better OR Non-Sustainability major with 2 of the following courses: SOS 100, SOS 110, SOS 111 (or PUP 190), SOS 300 w/C or better OR Visiting University Student |
| SOS | 322 | International Development and Sustainability | Historical roots of the idea of development; economic theories of growth and their implications for sustainability; interrelationship among population growth, food security, poverty, inequality, urbanization, technological change, international trade, and environmental change at local, regional and global scale. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prereqs: Sustainability or Business (Sust) major; SOS 110 & SOS 111 (or PUP 190) w/C or better OR Non-Sustainability major with 2 of the following courses: SOS 100, SOS 110, SOS 111 (or PUP 190), SOS 300 w/C or better OR Visiting University Student |

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| SOS | 323 | Sustainable Urban Dynamics | Human and physical processes shaping urban ecologies and environments; human-environment interactions in the context of an urban region; effect of the institution and regulatory framework on the ability of social and urban-ecological systems to be resilient and sustainable; urban design, materials, transport, planning, and regulation. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prereqs: Sustainability or Business (Sust) major; SOS 110 & SOS 111 (or PUP 190) w/C or better OR Non-Sustainability major with 2 of the following courses: SOS 100, SOS 110, SOS 111 (or PUP 190), SOS 300 w/C or better OR Visiting University Student |
| SOS | 324 | Sustainable Energy Technology and Systems | Comprehensive survey of current and future energy systems; thermodynamics and energy analysis; environmental, economic and social impacts; resources, technologies and infrastructure for electricity and transportation. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prereqs: Sust or Business (Sust) mjr; SOS 110 & SOS 111 (or PUP 190) w/C or btr OR Non-Sust mjr w/ 2 courses: SOS 100, SOS 110, SOS 111 (or PUP 190), SOS 300 w/C or btr; Credit is allowed for only EVE 411 or SOS 324 OR Visiting University Student |
| SOS | 325 | The Economics of Sustainability | Applies economic principles to the allocation of environmental goods and services, external environmental effects, and environmental public goods; decision-making under uncertainty, adaptation to and mitigation of environmental change. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prereqs: Sustainability or Business (Sust) major; SOS 110 & SOS 111 (or PUP 190) w/C or better OR Non-Sustainability major with 2 of the following courses: SOS 100, SOS 110, SOS 111 (or PUP 190), SOS 300 w/C or better OR Visiting University Student |
| SOS | 326 | Sustainable Ecosystems | How human activities and management practices alter biodiversity, ecosystem functioning, and the provisioning of ecosystem services; use of economic and other social science perspectives to estimate the value of ecosystem services; evaluation of options for achieving the sustainable flow of services from ecosystems. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prereqs: Sustainability, Sustain Food Syst, or Business (Sust) major; SOS 110; SOS 111 or PUP 190 OR Non-Sustainability major with 2 of the following courses: SOS 100, SOS 110, SOS 111 (or PUP 190), SOS 300 with C or better OR Visiting University Student |
| SOS | 327 | Sustainable Food and Farms | Food systems and sustainability. Theories of food security, rural livelihood sustainability, and food sovereignty. Critically examines the social, ecological, economic, and institutional dimensions of the many sustainability challenges associated food system activities (production, processing, distribution, consumption, waste). Students develop a food system framework and apply knowledge to an assessment of the sustainability of one aspect of the local food system. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prereqs: Sustainability, Sustain Food Syst, or Business (Sust) major; SOS 110; SOS 111 or PUP 190 OR Non-Sustainability major with 2 of the following courses: SOS 100, SOS 110, SOS 111 (or PUP 190), SOS 300 with C or better OR Visiting University Student |
| SOS | 328 | Sustainability and Enterprise | Examines the evolving interface between sustainability and human enterprise. Explores and reviews key fundamental concepts in the sustainability arena, including economic and scientific drivers and select historical and structural aspects that create the current context for the enterprise and sustainability interface found today. Delves into more specific case studies of attempts by current businesses to become greener and more sustainable, exploring challenges and opportunities that are commonly found as well as how decisions are often made in today's business settings and by whom. Explores alternative enterprise models and examples of businesses that are using the current context to redefine the sustainability and enterprise. Given the emergent nature of this effort, uses timely and real-world examples from current events where possible. Explores and applies an integrated approach to sustainability and enterprise. Readings include popular texts, original research articles and current events. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): Sustainability or Business (Sustainability) major; SOS 110 and 111 (or PUP 190) with C or better; OR Non-Sustainability major with 2 courses: SOS 100, 110, 111 (PUP 190), SOS 300 with C or better OR Visiting University Student |
| SOS | 330 | Sustaining the Commons | Equips students with tools to analyze the conditions in which communities can be successful in managing their common resources such as forest, water and clean air. Students learn the institutional analysis and development framework to evaluate such collective action problems. Applies this approach of analysis to various sustainability topics from irrigation systems and fisheries to climate change and energy systems in urban environments. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |

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| SOS | 343 | Latinas/os and the Environment | Examines the nexus among race/ethnicity, migration, class and the built and natural environment. Explores the proposition that Latina/o and other ethnic minorities and socioeconomically disadvantaged populations bear a disproportionate burden of environmental challenges and its consequences for equality, health and quality of life. Key topics include environmental racism, vulnerability and resilience, climate change, community organizing, and mobilization. Pays considerable attention to community-based efforts to deal with environmental problems affecting the Latina/o population in the U.S. Southwest. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): ENG 101 or 105 or 107 with C or better OR minimum 24 hours; Credit is allowed for only ASB 343 or PUP 343 or SOS 343 or TCL 343 or ASB/PUP/SOS/TCL 394 (Latinos and the Environment) |
| SOS | 344 | Culture and Society Transformation | Uses video documentaries and movies to explore the way in which cultural values, economic background and human interaction impact and transform societies. Societal changes in Central and Eastern Europe make a good case study for contrasting and comparing with other societies and understanding global trends and issues in today's world. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | SB & G | Prereq(s): ENG 101, 105, or 107 with C or better; Credit for only ASB 345 or ASB 394 (Cult & Soc Transform) or JUS 343 or JUS 394(Cult & Soc Transform) or ROM 343 or SLC 343 or SLC 394 (Cult & Soc Transform) or SOS 344 or SOS 394 (Cult & Soc Transform) |
| SOS | 346 | Developing Research Skills | Guides students in developing research skills such as posing questions and hypotheses, collecting and analyzing data, and presenting and communicating research outcomes and their applications to problem solving or solution building. | N | RSC | N | Z1 | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only SOS 346 or SOS 394 (Sustainability Research Design & Practice) OR Visiting University Student |
| SOS | 349 | Nature, Sustainability and Religion | Explores how world religions have conceptualized the natural world, what they have contributed to the current environmental crisis and how they might also serve as inspiration to address the crisis. By focusing on Judaism, Christianity and Islam, the course introduces students to the field of religion and ecology and explores its relationship to other academic disciplines such as environmental philosophy and ethics, justice studies and gender studies. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only HPS 349 or JST 349 or REL 349 or SOS 349 or JST, REL, or SOS 394 (Religion and Ecology) or JST, REL, or SOS 394 (Religion and Environment) |
| SOS | 353 | The Western Diet | Covers political, ethical, social and cultural issues inherent in the U.S. food system. Topics include examination of U.S. food guidance; the food system and food environment; the history of food and farm policy; food security and aspects of sustainability in relation to food system impacts on the health of humans, society and the environment. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only NTR 353 or SOS 353 OR Visiting University Student |
| SOS | 363 | From Cells to Society: Understanding Complexity | Equips students with concepts and empirical examples they need to understand the role of complexity in the world around them. Complexity science is based on the fundamental principle that entities and phenomena in the world around us are systems composed of many parts that interact to produce their global characteristics. For example, cells interact to produce organs and tissues, which in turn interact to produce physiological processes (i.e., the capacity to metabolize food to produce new compounds and energy) and physical infrastructure (skeletal and muscular structure) which produce organisms. Organisms, (e.g., humans) interact to form groups, villages, cities, nations. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AML/ASB/BIO/SOS 394 (From Cells to Societies) or ASB 363 or BIO 363 or CAS 363 or SOS 363 OR Visiting University Student |
| SOS | 370 | Ethics of Eating | This multidisciplinary course examines the elements of modern food systems and current ethical issues regarding food production, distribution and consumption. Also provides a foundation for investigating the effects of social inequality in food systems and global and local responses to address those challenges. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | L or SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ASB 370 or ASB 394 (Production, People, and Environments) or ASB 394 (Ethics of Eating) or SOC 370 or SOS 370 or SSH 370 |
| SOS | 371 | Inequality and Sustainability | Efforts to shift societies onto a sustainable trajectory are facing profound challenges from the degree and dynamics of global inequalities of income, wealth, and life chances. Data and ideas from a spectrum of disciplines are employed to examine, analyze, and criticize the prospects for redressing global inequalities in a sustainable manner. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ASB 371 or ASB 394 (Inequality and Sustainability) or SOC 371 or SOS 371 or SOS 394 (Inequality and Sustainability) |
| SOS | 372 | Earth Science in Arizona and the Southwest | Place-based application of geology and allied Earth sciences to explore and interpret the geologic history, natural resources, natural hazards and modern landscapes of Arizona and Southwestern North America. Integrates case studies of relationships of Earth systems to history, resilience, and sustainability of Southwestern communities and lifeways. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better; GLG 101, GLG 102, GLG 110, GPH 111, or SES 121 with C or better; MAT 117 or higher with C or better; Credit is allowed for only GLG 301 or SOS 372 OR Visiting University Student |

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| SOS | 373 | Minerals, Energy, and Society | Studies the science and technology of the minerals and energy industries, how these industries interact with society, and how these interactions may change in the future. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): ENG 101, ENG 105 or ENG 107 with C or better; GLG 101, GLG 102 or GLG 110 or GPH 111 or SES 121 or Junior standing; Credit is allowed for only GLG 304, GLG 394 (Minerals, Energy & Society) or SOS 373 |
| SOS | 374 | Earth's Critical Zone | The Earth's near surface environment (the "critical zone") supports most life and is the dynamic interface between the solid Earth and its fluid envelopes where much of the geologic record is produced. We now know that we face rapid climate change and the consequences of changes in land use, water resources, and ecosystems. Critical to planning a response to, or mitigation of, environmental change is understanding how the Earth surface works. Focuses on how changes to the environment manifest themselves in the critical zone-- in the form and function of the Earth's surface (landforms, water resources, soils, ecosystems). Offers a quantitative introduction to the form and function of the processes impacting the Earth's critical zone to build an understanding of the interactions of physical, chemical and biotic processes in shaping the surface and determining fluid, solute and sediment fluxes. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s) with C or better: CHM 101 or higher or PHY 101 or higher; both GLG 101 and 103, or both SES 121 and 123, or SES 225; MAT 170, 171, 210, 251, 265, or 270; Credit is allowed for only GLG 327 or SOS 374 OR Visiting University Student |
| SOS | 375 | Humans and the Environment: What's the Connection? | How do diverse human groups across global ecosystems (desert, tropics, arctic, alpine, urban) interact with and adapt to their environments and how are these relationships changing in response to globalization, climate change and other social, historical and political-economic drivers? Cultures situated in landscapes are the basis for an incredible global diversity of worldviews and behaviors that in turn affect how humans experience and "use" their environments. This course will provide an introduction to current and benchmark literature and methods in environmental and ecological anthropology that address people-environment interactions. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | (L or SB) & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ASB 375 or SOS 375 OR Visiting University Student |
| SOS | 380 | Entrepreneurship for American Indian Sustainability | Concentrates on developing a product or service idea, creating an entrepreneurial model and plan to implement the product or service in the context of an AI sustainable venture (profit and nonprofit). Begins with a review of established AI context with additional focus on tribal economic development throughout the course. The innovation process executed during the semester and the resulting product/service ideas and choices. Students are also encouraged to embark on new venture ideas as well. Students are then introduced to all aspects of venture (profit and non-profit) and entrepreneurial model creation, including strategy, product/service development planning, marketing, operations, alliances, management, finance and investment. In parallel, teams continue refinement and, where possible, further prototyping of the idea they chose from the previous semester and/or creation of new high-impact, high-potential ideas. | N | LEL | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AIS 385 or AIS 394 (Entrepreneurship for American Indian Sustainability) or SOS 380 |
| SOS | 385 | Business and Sustainability I | First of two related courses; provides a general overview of sustainability topics that are important to business today with a focus on consumer products and services and the social and environmental impact of the organizations that provide them. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): SCM 300, SCM 380, or SOS 110 with C or better; minimum 60 hours; Credit is allowed for only SCM 385 or SOS 385 OR Visiting University Student |
| SOS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-4 | | Prereqs: Sustainability or Business (Sust) major; SOS 110 & SOS 111 (or PUP 190) w/C or better OR Non-Sustainability major with 2 of the following courses: SOS 100, SOS 110, SOS 111 (or PUP 190), SOS 300 w/C or better OR Visiting University Student |
| SOS | 412 | Conservation in Practice | Global biodiversity patterns, processes, and conservation; global environmental change; sustainable use of natural resources; emphasizing international approaches to conservation biology. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only BIO 412 or SOS 412 |
| SOS | 414 | Urban and Environmental Health | Integrates theory and practice of social sciences (including anthropology, demography, and human geography) to understand environmental contexts of health, particularly urban. | N | SEM | Y | OPT | College of Global Futures | School of Sustainability | 3 | SB | Prerequisite(s): AML 100, ASB 100, 102, 222, 223, ASM 104, SOS 100, 110, 111 with C or better; minimum 45 hours |
| SOS | 421 | Landscape Ecology | Discusses how landscape heterogeneity interacts with ecological processes, and implications for biodiversity conservation, resource management, and landscape and urban planning. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): BIO 320 with C or better; Credit is allowed for only BIO 421 or BIO 521 or SOS 421 or SOS 521 OR Visiting University Student |

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| SOS | 424 | Dynamic Modeling in Social and Ecological Systems | Introduces the development and use of dynamic mathematical models to study social and ecological phenomena. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 4 | | Prerequisite(s): MAT 210, 251, 265, or 270 with C or better; Credit is allowed for only ASM 424 or BIO 424 or SOS 424 OR Visiting University Student |
| SOS | 429 | Human Impacts on Ecosystem Functioning | Explores our current understanding of how humans are impacting the functioning of ecosystems and how changes in ecosystems would affect provisioning of ecosystem services and ultimately human well-being. The two primary drivers of ecosystem change are growth of the human population and increased consumption per capita. These drivers affect the Earth's cycles of carbon, nitrogen and water, as well as regional and global-scale changes in biodiversity and climate. Includes an in-depth discussion of scenarios for the next 50 and 100 years, which articulate costs and benefits of alternative development pathways in terms of climate change, food production, clean water and biodiversity. Scenarios of change in biodiversity lead to the topic of the consequences of biodiversity change for the functioning of ecosystems from the point of view of their productivity and stability. Human activities have disrupted several biogeochemical cycles including nitrogen and carbon cycles. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): BIO 320 (or SOS 326); Credit is allowed for only BIO 429, BIO 528, SOS 429, SOS 528, or SOS 494/598 (Human Impacts on Ecosystem Functioning), or BIO 494/598 (Human Impacts on Ecosystem Functioning) |
| SOS | 433 | Sustainable Water Use | A clustered learning network on the problem of water scarce regions, includes insights from hydrology, engineering, biology, economics and public policy. May be repeated once for credit. | N | SEM | Y | OPT | College of Global Futures | School of Sustainability | 3 | | |
| SOS | 434 | People and Nature: Ecosystem Services | Explores the drivers of biodiversity change and the consequences they have for human wellbeing, taking both an ecological and an economic perspective. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Pre-requisites: MAT 117 or SOS 101; junior standing. Credit is allowed for only BIO 434, SOS 434, or BIO 494 (Ecosys Servcs:People&Nature) |
| SOS | 435 | U.S. Energy: Pathways to Sustainability | Organized around four mores of energy and environmental policy: energy supply, technology for efficiency, environmental sustainability and infrastructure. Also incorporates the wider context of energy and the environment in the society in which we live, taking into account our historic past and future potential life experience with energy availability and use. Through critical examination and analysis of these mores, students apply knowledge to the creation of a comprehensive energy and environmental policy plan that addresses past conditions, present states and future possibilities. | N | SEM | N | GNA | College of Global Futures | School of Sustainability | 3 | | Credit is allowed for only SOS 435 or SOS 494 (Energy and Environmental Policy) or SOS 494 (US Energy: Pathways to Sustainability) or SOS 555 or SOS 594 (Energy & Environmental Policy) |
| SOS | 441 | Mathematical Concepts and Tools in Sustainability | Explores various mathematical analysis and models pertinent to sustainability science drawn from both social and natural sciences and introduced in a problem-based context. Demonstrates basic concepts from game theory such as pure-strategy and mixed-strategy Nash equilibriums in such classic games as prisoner's dilemma, hawk-dove, coordination. Explores the evolutionary dynamics of these games through the replicator equations. Studies important concepts of stability and regime shift for selected problems. Also discusses some basic solution concepts in cooperative game theory (depending on interest and time). | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s) with C or better: AML 253, or SOS 210(or SOS 294 Intro to Math Tools & Modeling). Credit is allowed for only AML 441 or 494 (Math Concepts & Tools in Sustainability) or SOS 441 or 494 (Mathematical Concepts and Tools in Sustainability) |
| SOS | 442 | Sustainability Indicators | Measures of sustainability (or sustainable development), focusing on sustainability indicators and indices (SIIs). Discusses key conceptual and methodological issues on gauging sustainability and examines a wide range of sustainability indicators and indices that have been commonly used at global, regional and local scales. | N | SEM | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): minimum 45 hours. Credit is allowed for only SOS 442, 494 (Sustainability Indicators and Indices), 542 or 598 (Sustainability Indicators and Indices) |
| SOS | 444 | Climate Change, Society and Sustainability | Provides foundational knowledge of climate change science and examines the social, cultural and political intersections of climate change. Examines how climate change impacts different ecosystems and societies and how societal response to climate change has evolved in the U.S. and around the world. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only SOS 444 or SOS 494 (Social Dimensions of Climate Change) or SOS 544 or SOS 598 (Social Dimensions of Climate Change) OR Visiting University Student |
| SOS | 447 | Gender, Culture, and Development | In-depth analysis of gender roles related to health, family, work, education and politics in developing countries. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | (L or SB) & G | Prerequisite(s): ENG 101, 105 or 107 w/ C or better; WST 100 or 300 or minimum 45 hours; Credit is allowed for only SGS 454 or SOS 447 or TCL 447 or WST 447 or TCL 598 (Gender, Culture & Development) OR Visiting University Student |

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| SOS | 456 | Human Rights and Sustainability | Addresses the connections between human rights and environmental sustainability. Legal and scholarly approaches linking these areas present new perspectives for addressing some of the greatest challenges of our time, given the important resource dimensions of economic and social rights and the human dimensions of sustainability. Yet human rights demands and environmental concerns are not always in harmony. Explores these tensions and opportunities by examining three substantive areas: urban ecology and human rights, the human right to food, and the human rights implications of extractive industries such as oil and mining. Following an introduction to the key concepts of human rights and sustainability, explores the substantive areas through theoretical and empirical readings on each; grassroots accounts of struggles over environment-related human rights; and selections from literature and film that illustrate the environmental justice issues at stake. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | (L or SB) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only JUS 456 or JUS 497 (Seminar in Human Rights) or SOC 455 or SOS 456 |
| SOS | 463 | Political Ecology of the Border | Examines the political ecology of the human-environment relationship in Mexico and on the U.S.-Mexican border. Through case studies, students learn about the most pressing environmental issues facing human populations and their communities on both sides of the U.S.-Mexican border and the various ways in which these issues are dealt with. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | SB & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 463 or SOS 463 or TCL 443 |
| SOS | 465 | Sustainable Urbanism | Examines the history, practice and core ideas of "sustainable urbanism," including leading thinkers, tools and strategies up to the present day. Topics include codes, metrics, certifications, charters, the Sustainable Development Goals and the New Urban Agenda. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prereq(s) w/C or better: Sustainability major or in a sustainability concentration; SOS 110; SOS 111 or PUP 190; min 45 hours OR non-Sus major, non-sus conc; PUP 301; Credit is allowed for only PUP 465 or PUP 565 or SOS 465 OR Visiting University Student |
| SOS | 467 | Art and Ecology | Designed for students with advanced independent studio art practices or sustainability studies students who have an interest in the way that their lives and practices engage environments. Through readings, slide presentations, discussions, guest visits, hands-on activities and screenings, explores the work of many contemporary ecological artists engaging with environments and environmental issues from a multitude of angles. Artists engage land remediation, agriculture, socio-ecological justice, sustainable materials, landscape design and much more. As cultural workers must be informed, the course content addresses some basic literacy with regard to environmental concerns and shares examples of realized accessible sustainable solutions. In addition to learning about ecologies and artists, students complete three art or research projects, inspired by assignments. | N | STO | Y | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ART 467 or ART 494 (Art and Ecology) or ART 567 or ART 598 (Art and Ecology) or SOS 467 or SOS 494 (Art and Ecology) or SOS 567 or SOS 598 (Art and Ecology) |
| SOS | 474 | Collaborative Design Development I | Team-based product development course featuring applied projects. Open to senior students from business, engineering, design, and other disciplines. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 5 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ENT 464 (or MGT 464) or GRA 464 or IND 464 or SOS 474 OR Visiting University Student |
| SOS | 475 | Collaborative Design Development II | Team-based product development course featuring applied projects. Open to senior students from business, engineering, design, and other disciplines. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 5 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only ENT 465 (MGT 465) or GRA 465 or IND 465 or SOS 475 OR Visiting University Student |
| SOS | 476 | Earth's Past Climates: The Key to our Sustainable Future | Dynamic interactions among the oceans, earth surface and atmosphere that control Earth's climate in its present state, in the context of past climates and projections for future climates. Assesses the factors that affect the trajectory of future climate change, and the sources and measurement of the critical climate parameters that are essential for guiding decisions for a sustainable future. Also considers recent climate science-related controversies, as well as assessments of scientific statements related to these controversies. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only GLG 476 or GLG 576 or SOS 476 or SOS 576 or GLG 494 (Climate Sci Sustain) or GLG 598 (Climate Sci Sustain) or SOS 494 (Climate Sci Sustain) or SOS 598 (Climate Sci Sustain) |

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| SOS | 480 | Achieving Career Success in Sustainability | The need for sustainability-minded workers and leaders has never been more important than right now. Yet sustainability as a career track is still very new and means different things to different people. Challenges students to explore their own ambitions and "personal brands," to shape their work personas, to model the behaviors and competencies that build long-term career success, and to uncover the sustainability potential of any job, whether or not "sustainability" is in the job title. | N | SEM | N | GNA | College of Global Futures | School of Sustainability | 3 | | Pre- or corequisite(s): SOS 110, SOS 111, PUP 190 with C or better if completed; Credit is allowed for only SOS 480 or SOS 494 (Achieving Career Success in Sustainability) |
| SOS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Global Futures | School of Sustainability | 1-12 | | Prerequisite(s): School of Sustainability undergraduate student |
| SOS | 485 | Business and Sustainability II | Second of two related courses focusing on the environmental, social and economic dimensions of sustainable technologies and exposes students to a variety of related concepts and theories. Describes technology hotspot analysis, life cycle assessment and a variety of models of technology forecasting and diffusion. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): SCM 385 or SOS 385 with C or better; Credit is allowed for only SCM 485 or SCM 494 (Business and Sustainability II) or SOS 485 |
| SOS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Global Futures | School of Sustainability | 1-6 | | Prerequisite(s): Barrett Honors student |
| SOS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | IND | N | Z1 | College of Global Futures | School of Sustainability | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| SOS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | SEM | Y | OPT | College of Global Futures | School of Sustainability | 1-4 | | Prerequisite(s): Sus or Bus Sus major; SOS 110 w/C or better; SOS 111 or PUP 190 w/C or better OR non-Sus major w/2 of the following courses: PUP 190, SOS 100, SOS 110, SOS 111, SOS 300 w/C or better OR Visiting University Student |
| SOS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Global Futures | School of Sustainability | 1-7 | L | Prerequisite(s): School of Sustainability undergraduate student; ENG 101, 105 or 107 with C or better; minimum 9 hours of SOS upper-division courses |
| SOS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | SEM | Y | Z1 | College of Global Futures | School of Sustainability | 1-3 | | |
| SOS | 501 | Foundations of Sustainability | Provides a knowledge base to help students to succeed in the online MSL program. Supports MSL students in the four learning threads of the program, which include communications and sustainability, global context, strategic sustainability and sustainability leadership. | N | LEC | N | YGB | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 502 | Tools and Techniques for Sustainability | Forthcoming federal legislation and Executive Orders will set new standards for operational efficiencies, energy and water conservation, use of renewable energy sources, and waste minimization in the Army and Army National Guard. Tools and Techniques for Sustainability presents a systems approach to meet those standards by integrating principles of sustainability into existing Army policies, procedures, and reporting systems. The course features the Framework for Sustainable Strategic Development as an organizing framework to analyze systems and develop strategic plans to move toward sustainability. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): Global Sustainability Leadership certificate student; Pre-or co-requisite: SOS 501 |
| SOS | 503 | Operationalizing Sustainability | Sustainability is a means to addressing the significant physical, statutory, and regulatory requirements that affect and can encumber the Army's ability to train Soldiers at ranges and maneuver areas across the United States. With hundreds of imperiled species proposed for federal protection in the next few years, threatened and endangered species and sensitive habitat will continue to be a concern. Participants in Operationalizing Sustainability will explore how innovative training practices, improved land and natural resource management practices, and enhanced community relationships can ensure continued access to the land and water assets needed to maintain readiness and can help to 'win hearts and minds.' Proactive approaches to promoting well-being for soldiers, families, civilians, neighbors, and communities, both at installations and downrange, are stressed. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): Sustainability Leadership certificate student; SOS 501; SOS 502 |

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| SOS | 504 | Energy and the Built Environment | Provides practical approaches to applying sustainability principles and practices to public works activities, housing, facilities operations and management, military construction, master planning, and energy management. Presents approaches to implement high-performance sustainable building design, construction, operation and management, maintenance, and deconstruction. Also covers cost-effective, innovative strategies, such as highly reflective and vegetated roofs, to minimize consumption of energy, water, and materials. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): Sustainability Leadership certificate student; SOS 501; SOS 502 |
| SOS | 505 | Sustainable Military Acquisition and Logistics | Sustainable Military Acquisition and Logistics provides practical approaches to applying sustainability principles and practices to all areas of procurement, acquisition, and logistics. Through weapon systems acquisition or procurement of installation goods and services, the Army hopes to drive innovation and promote sustainability while reducing costs. The inclusions of energy and resource efficiency and other sustainability criteria in acquisition and procurement decisions can reduce long-term operation and maintenance costs, conserve resources, and continue to expand innovation throughout the supply chain. This course introduces the application of sustainability principles to procurement and acquisition, transportation, and materiel. The use of life cycle analysis and multicriteria assessment for all 10 classes of supply is also featured significantly in the course. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): Sustainability Leadership certificate student; SOS 501; SOS 502 |
| SOS | 508 | Pathways to Sustainability | Covers the fundamentals of sustainability and sustainability science. Gives beginning graduate students, or prospective graduate students, a broad look at sustainability using global examples that prepare them for future coursework in the field. As such, exposes students to the concepts and competencies, with examples, that are essential for achieving sustainability outcomes. Explains, in detail, the essential competencies a student of sustainability must attain in order to be appropriately equipped for graduate coursework and/or working in the field. Finally, examines sustainability leadership; that is, how to move from the what and the why of sustainability challenges to the how to use knowledge and skills to initiate sustainability solutions in various organizations. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 509 | Leading Sustainability Transitions | The vast majority of organizations must significantly change their operational models in order to become sustainable. Leaders must determine how to champion this change, generate momentum, and align internal reward systems to facilitate these transitions. Exposes students to different change models that are applicable to private, public and nonprofit organizations. Introduces a variety of practical cases that serve as a foundation to apply different frameworks that help transition organizations toward being sustainable. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 510 | Perspectives on Sustainability | University-wide course covering basic perspectives on sustainability. Uses case studies; faculty and students from engineering, architecture, social sciences, and natural sciences exchange ideas on the major challenges faced in forming a sustainable future at the local, national, and global levels. | N | SEM | Y | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): School of Sustainability graduate student |
| SOS | 511 | Advanced Sustainability Problem Solving | Conveys advanced procedures of how to identify and analyze sustainability problems and how to develop solution visions and strategies that can solve and mitigate sustainability problems. Introduces and facilitates training in how to use an integrated framework for sustainability problem solving, which is applicable to all sustainability-related professions. Prepares students for their applied projects on sustainability solutions. | N | LEC | Y | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): School of Sustainability graduate student |
| SOS | 512 | Environmental and Resource Economics | Microeconomic theory applied to problems of the environment and natural resources, principles of nonmarket valuation of the environment, market failures in the provision of environmental goods and services, dynamic management of natural capital stocks, the economics of sustainable development. | N | SEM | Y | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 513 | Science for Sustainability | Key ideas, concepts and principles of sustainability science that focuses on the dynamic relationship between society and nature. Examines the structure, functioning and dynamics of coupled human-environment systems (CHESs) on local, regional and global scales with a systems perspective. Covers major sustainability science issues including: fundamentals of ecology, energy, agro-food systems, renewable and non-renewable resource systems, economic development and human well-being. | N | SEM | Y | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SOS | 514 | Human Dimensions of Sustainability | Concepts and definitions of the human dimensions of sustainability; the role of attitudes and values in shaping sustainability goals, practices, and programs; the diversity of values and socio-cultural contexts relating to sustainability; bottom-up and top-down sustainable policy development, social data collection methodologies. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GCU or SOS 514 |
| SOS | 515 | Industrial Ecology and Design for Sustainability | The conceptual, ethical, and practical challenges in the design, manufacture, and life cycle performance of products; environmental evaluation via materials flow analysis and life cycle assessment; global economic, environmental, cultural, and social aspects of competitive and functional product development and manufacture. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Credit is allowed for only CEE 582 or SOS 515 |
| SOS | 516 | Science, Technology and Public Affairs | Explores the political, economic, cultural, and moral foundations of science and technology policy and governance in democratic society. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only BIO 515 or GLG 547 or HSD 515 or PAF 547 or SOS 516 |
| SOS | 517 | Sustainability and Enterprise | Examines the evolving interface between sustainability and human enterprise. Explores and reviews key fundamental concepts in the sustainability arena, including economic and scientific drivers and select historical and structural aspects that create the current context for the enterprise and sustainability interface found today. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SOS 517 or SOS 591 (Sustainability and Enterprise) |
| SOS | 518 | Uncertainty and Decision Making | Knowledge is always incomplete, yet decisions must be made. Explores uncertainty and its relation to decision making, with a particular focus on the ways that science and science-derived information is applied with the intent of improving decisions. Explores the many meanings and origins of uncertainty, using theoretical and case-based approaches. A central theme is the relation among uncertainty, scientific prediction, and decision making, especially in politically charged issues, for example as related to management of the environment. Ultimately understands how effective decisions can be made in the face of inevitable uncertainties and contested knowledge. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only ASB 517 or BIO 517 or BIO 591 (Uncertainty & Decision Making) or HSD 517 or POS 527 or SOS 518 |
| SOS | 519 | Research Data Management | Provides foundations of sound research data management. Upon completion of the course, students are aware of tools and approaches to effectively manage research data from project inception through publication of both findings and data. Topics include sound data management principles, version control, database concepts, metadata generation, data management plans, research collaboration, and tools for data processing (e.g., spreadsheets, R). This is a hands-on course in which students perform exercises with sample data and/or their own research data. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SOS 519 or SOS 494 (Research Data Management) or SOS 598 (Research Data Management) |
| SOS | 520 | Research Design and Methods for Sustainability | Provides skills and knowledge that help students design their own research and place it in the context of other disciplines or bodies of work. Not a "methods" class because no specific method is taught indepth. Instead, it is an initial introduction to the research design process and is intended as a platform through which students develop the skills to appreciate and contextualize the approaches taken (and methods used) by others, and during which they can identify the types of specific training they require as they define their own research. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Pre- or corequisite(s): SOS 510; Credit is allowed for only SOS 520 or SOS 598 (Intro Design/Mthds) |
| SOS | 521 | Landscape Ecology | Discusses how landscape heterogeneity interacts with ecological processes, and implications for biodiversity conservation, resource management, and landscape and urban planning. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only BIO 421 or BIO 521 or SOS 421 or SOS 521 |
| SOS | 522 | Qualitative Methods for Sustainability Problems | Theory and application of qualitative methods to sustainability research and practice. Students define and frame a sustainability problem and apply a range of qualitative methods to it, articulate the strengths and weaknesses of these methods, and have a framework for assessing the appropriate use and evaluation of qualitative methods. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SOS 522 or SOS 591 (Qualitative Methods for Sustainability Problems) |
| SOS | 525 | Social-Ecological-Technical Systems (SETS): Domains and interfaces | Guide students in developing an integrated approach and framework for thinking about complex systems in a sustainability context. Presents overviews of content, theories and methods from each of the SETS domains (Social, Ecological and Technical Systems); primarily focuses on how to bring these domains together. Explores the SETS interfaces (intersections) from an integrated perspective and equips students to make those linkages in their research and in subsequent elective courses. Each semester students use a sustainability problem or theme to explore the concepts presented in the course. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SOS | 526 | Sustainability Science: Interactions Between Human and Environmental Systems | Addresses core ideas in sustainability science--an emerging field of research dealing with the interactions between human and environmental systems. The problem that motivates the course is the challenge of sustainability: improving the well-being of present and future generations in ways that conserve the planet's life support systems over the long term. Students critically discuss a set of presentations and papers covering the field in a systematic way, drawing on and integrating contemporary research from earth systems science, resource economics, institutional analysis, ecology, geography, development studies, health sciences, engineering, and other disciplines. Covers from the theory of sustainability to its multiple applications in the field and explores the impacts of different value systems on both theory and applications. | N | SEM | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 526 or GCU 526 or SOS 526 or BIO 591 (Sust Sci: Int Btwn Hum &Env Sys) or GCU 591 (Sust Sci: Int Btwn Hum &Env Sys) or SOS 591 (Sust Sci: Int Btwn Hum &EnvSys) |
| SOS | 527 | Environmental Ethics and Policy Goals | Advanced seminar in applied environmental ethics, focusing on the most influential and policy-relevant approaches in the field of environmental ethics. Core topics include the historical and philosophical foundations of alternative understandings of environmental responsibility; the debate over utility and preservation in environmental policy argument; and the interplay of ethical principles, scientific knowledge and societal priorities in environmental decision making. Consideration of the ethical and value dimensions of biodiversity conservation, wilderness protection, environmental valuation, environmental activism, climate change and sustainability, among other challenges. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only BIO 527 or SOS 527 or BIO 591 (Environ Ethics & Policy Goals) |
| SOS | 528 | Human Impacts on Ecosystem Functioning | Explores our current understanding of how humans are impacting the functioning of ecosystems and how changes in ecosystems would affect provisioning of ecosystem services and ultimately human well-being. The two primary drivers of ecosystem change are growth of the human population and increased consumption per capita. These drivers affect the Earth's cycles of carbon, nitrogen and water, as well as regional and global-scale changes in biodiversity and climate. Includes an in-depth discussion of scenarios for the next 50 and 100 years, which articulate costs and benefits of alternative development pathways in terms of climate change, food production, clean water and biodiversity. Scenarios of change in biodiversity lead to the topic of the consequences of biodiversity change for the functioning of ecosystems from the point of view of their productivity and stability. Human activities have disrupted several biogeochemical cycles including nitrogen and carbon cycles. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; Credit is allowed for only BIO 429, BIO 528, SOS 429, SOS 528, or SOS 494/598 (Human Impacts on Ecosystem Functioning), or BIO 494/598 (Human Impacts on Ecosystem Functioning) |
| SOS | 529 | Research Seminar in Environmental and Sustainability Economics | Runs in parallel with the ASU-wide biweekly seminar in Environmental and Resource Economics in that class sessions consist exclusively of these seminar sessions. Research presentations in the seminar are given by graduate students, faculty and visiting speakers. | N | SEM | Y | OPT | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 530 | International Development and Sustainability | Historical roots of the idea of development; economic theories of growth and their implications for sustainability; interrelationship among population growth, food security, poverty, inequality, urbanization, technological change, international trade, and environmental change at local, regional and global scale. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 531 | Achieving Career Success in Sustainability | The need for sustainability-minded workers and leaders has never been more important than right now. Yet sustainability as a career track is still very new and means different things to different people. Students explore their own ambitions and "personal brands," to shape their work personas, to model the behaviors and competencies that build long-term career success, and to uncover the sustainability potential of any job, whether or not "sustainability" is in the job title. | N | SEM | N | GNA | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): SOS 510; Credit is allowed for only SOS 531 or SOS 598: Achieving Career Success in Sustainability |
| SOS | 532 | Sustainable Urban Dynamics | Human and physical processes shaping urban ecologies and environments; human-environment interactions in the context of an urban region; effect of the institution and regulatory framework on the ability of social and urban-ecological systems to be resilient and sustainable; urban design, materials, transport, planning, and regulation. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 533 | Sustainable Water | Hydrological, legal, political, and ecological implications of alternative water management strategies; effect of institutional and regulatory frameworks; changes in water demand and supply due to human (population growth, economic changes) and natural (drought, climate change) factors | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SOS | 534 | Sustainable Energy and Material Use | Sustainable engineering; overall energy needs and impacts; thermodynamics, heat transfer, and fluid mechanisms; atmospheric energy systems; field investigation; current and future urban energy systems. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only CEE 516 or SOS 534 |
| SOS | 535 | Sustainable Ecosystems | How human activities and management practices alter biodiversity, ecosystem functioning and the provisioning of ecosystem services; use of economic and other social-science perspectives to estimate the value of ecosystem services; evaluation of options for achieving the sustainable flow of services from ecosystems. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only ELS 535 or SOS 535 |
| SOS | 536 | Food System Sustainability | Broad view of food systems and the sustainability of such systems. Concepts, theory, methods and empirical analyses from diverse disciplines, including agro-ecology, agronomy, political science, agricultural economics, geography, anthropology, and food and nutrition studies. Students choose a theme that is a core concern to food system sustainability and pursue that theme in diverse course activities and through engaging in the broader food system we are embedded in as residents in the Phoenix area. Culminates with a term paper/project that synthesizes experience and knowledge, providing a unique perspective on their role in food systems. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 537 | Disasters as Opportunity for Sustainability | Explores how disasters can give rise to sustainability transitions and sustainability solutions. Disasters are revealing crisis. As hazards roll into disasters they lay bare the underlying conditions of socio-ecological vulnerability and inequities that affect almost all aspects of daily life. They also affect the infrastructures and institutions supporting daily life. This realization stimulates improvisation and ideas for just, green, inclusive and resilient futures. Investigates case studies to reconstruct how people, affected by and surviving a disaster, advanced sustainability transitions and reduced disaster risk. Uses an interdisciplinary perspective to analyze these transitions, drawing on theories of change from sustainability transitions and transformation as well as disaster management research. Moreover, students ground the literature in concrete experiences as shared through guest speakers, professional experiences, documentaries and an applied project. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only PAF 568 (CPP 537) or SOS 494 (Disasters as Opportunities for Change Towards Sust) or SOS 537 or SOS 598 (Disasters as Opportunities for Change Towards Sust) |
| SOS | 539 | Human Well-Being and Sustainability | Many of us take it for granted that human well-being is the ultimate end of sustainability or sustainable development. But what is a well-being, really? Social scientists collect empirical data and develop indices, indicators and other proxies to represent and measure well-being; but is it the kind of phenomenon that can be explained? In other words, is there a correct theory of human well-being? How does one measure well-being? Moreover, what are we to make of the relationship between well-being and sustainability? Where do these two concepts coincide? Where do they come apart? Does human well-being presuppose a commitment to sustainability? If the ultimate end of sustainability is human well-being, then is sustainability a redundant concept? This interdisciplinary course tackles such questions by critically examining the most prominent philosophical theories of well-being and by considering how they might be reconciled with relevant empirical evidence. Also spends considerable time reflecting on the problems that arise with respect to measuring well-being, particularly in the context of public policy. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only HPS/PHI/SOS 591 (Human Well-Being and Sustainability) or PHI 538 or SOS 494 (Human Well-Being and Sustainability) or SOS 539 |
| SOS | 540 | Statistical Modeling for Sustainability | Equips students with sufficient knowledge of statistical theory and methods of applied data analysis to begin conducting empirical analyses in their domains of interest; bring students to a high level of competency in using a cutting-edge statistical software package (Stata) for data management and data analysis tasks; expose students to applications of statistical methods in the economics/policy/social science sustainability literatures in order to develop an understanding for how statistical tools are operationalized in the research world; and develop an appreciation for the careful synthesis of social and natural science theory, knowledge of data and its limitations and command of statistical tools that constitute quality empirical research. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 4 | | Prerequisite(s): degree- or non-degree-seeking graduate student; Credit allowed for only AML, ESS or SOS 540 |

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| SOS | 541 | Mathematical Concepts and Tools in Sustainability | Explores various mathematical analysis and models pertinent to sustainability science drawn from both social and natural sciences and introduced in a problem-based context. Demonstrates basic concepts from game theory such as pure-strategy and mixed-strategy Nash equilibriums in such classic games as prisoner's dilemma, hawk-dove, coordination. Explores the evolutionary dynamics of these games through the replicator equations. Studies important concepts of stability and regime shift for selected problems. Also discusses some basic solution concepts in cooperative game theory (depending on interest and time). | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit allowed for only AML 494 (Math Concepts & Tools in Sustainability), AML 541, SOS 494 (Math Concepts & Tools in Sustainability), SOS 541 or SOS 598 (Math Concepts & Tools in Sustainability) |
| SOS | 542 | Sustainability Indicators | Measures of sustainability (or sustainable development), focusing on sustainability indicators and indices (SIs). Discusses key conceptual and methodological issues on gauging sustainability and examines a wide range of sustainability indicators and indices that have been commonly used at global, regional and local scales. | N | SEM | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only SOS 442, 494 (Sustainability Indicators and Indices), 542 or 598 (Sustainability Indicators and Indices) |
| SOS | 544 | Climate Change, Society and Sustainability | Provides foundational knowledge of climate change science and examines the social, cultural and political intersections of climate change. Examines how climate change impacts different ecosystems and societies and how societal response to climate change has evolved in the U.S. and around the world. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SOS 444 or SOS 494 (Social Dimensions of Climate Change) or SOS 544 or SOS 598 (Social Dimensions of Climate Change) |
| SOS | 545 | Creating Sustainable Organizations | Sustainability is a strategic concern for managers in all types of organizations: private, public and nonprofit. Forward-thinking managers are redefining their operational strategies to balance economic development, environmental quality and social justice needs. By drawing on practical cases and a real-time project with a local client, students explore these connections through multiple lenses. Topics covered include creating organization change, involving stakeholders, transformational vs. incremental sustainability, sustainability market strategies, strategic alliances, enhancing the organization value from sustainability initiatives, and assessing organization sustainability. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; Credit is allowed for only PAF or SOS 545 |
| SOS | 546 | Life Cycle Assessment for Civil Systems | Covers fundamental and advanced concepts of the life cycle assessment framework exploring products, services, activities and infrastructure systems. Examines key concepts for system boundary selection, functional unit selection, inventorying, impact assessment and interpretation stages with a focus on energy and environmental assessment. Advanced concepts include allocation of effects, problem formulation for assessing footprints versus decisions or policies, and assessment of infrastructure interdependencies and supply chains. Exposes tools and data sources and presents approaches for evaluation of sensitivity and uncertainty of results. Encourages students with broad sustainability interests to enroll and explore how life cycle assessment can aid their work by shifting their views from direct to cradle-to-grave effects. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only CEE 506 or CEE 598 (Lifecycle Assessment) or SOS 546 or SOS 598 (Lifecycle Assessment) |
| SOS | 547 | Urban Infrastructure Anatomy and Sustainable Development | Understanding how built environment infrastructure systems interact with ecosystem services is critical for policies and decisions directing urban sustainability. Brings together students from several disciplines to develop a semester-long research project focused on a particular urban sustainability problem in Phoenix. During the semester, students are given background on how infrastructure systems work and are interdependent, and explore tools and methods for urban sustainability assessment with peers from several disciplines. As a class, students evaluate a particular urban sustainability problem for Phoenix, interact with local policy and decision makers in developing solutions, and present their findings at the end of the semester to the ASU community. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree-or nondegree-seeking graduate. Credit for only CEE 507 or 598(Urban Infrastruct Anatomy/Sustainable Dev) or PUP553 or 598(Urban Infrastruct Anatomy/Sustainable Dev) or SOS547 or SOS598 (Urban Infrastr Anatomy & Sustain Dev) |

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| SOS | 548 | Transformational Sustainability Entrepreneurship | Familiarizes students with concepts and examples of sustainable entrepreneurship models that are radically different from conventional business models. With a focus on small- and medium-sized enterprises, students learn about structure and function of sustainability-oriented benefit corporations (B Corps), cooperatives, business incubators, impact investment companies and other models. Discusses each model in general and then illustrates through one or more business case studies from around the world. Guest speakers (sustainability entrepreneurs) from Arizona, interdisciplinary peer teaching and learning, online elements, a field visit, and review panels provide a diverse and active learning environment. Open to graduate students from across Arizona State University and has included in the past students from as many as 7 different graduate programs. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate; Credit is allowed for only SOS 548 or SOS 598 (Transformational Sust Entrepreneurship) |
| SOS | 549 | ESG Reporting and Ethics | Prepares accounting and finance-oriented students to lead organizations. Explores corporate governance topics including sustainability reporting and related ethical issues from the perspectives of accounting and finance professionals. Corporations employ different governance structures each with its strengths, weaknesses and differing ethical norms. Corporate governance is changing quickly now with thousands of companies that are incorporating environmental, social and governance (ESG) issues and metrics into their internal finance and accounting operations and their external reporting. Utilizes cases supplemented with articles (no textbook) along with substantial discussion and writing components. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): Business graduate student; Credit is allowed for only ACC 581 or ACC 591 (Corporate Gov, Ethics & Sustainability Rptg) or SOS 549 |
| SOS | 552 | Advanced Earth Systems Engineering and Management | Advanced introduction to earth systems engineering and management, and the technological, economic and cultural systems underlying the terraformed Earth. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Credit is allowed for only CEE 581 or SOS 552 |
| SOS | 553 | Changing Human-Nature Relationships | Explores key concepts in Western and non-Western thinking now intersecting in the Anthropocene to influence human interactions with and descriptions of Nature. Humans may protect Nature, but simultaneously use/overuse resources and drive change in social-ecological systems. Examines evolving assumptions about Nature, values/world views, progress, change, uncertainty, rationality, knowledge, tradeoffs and control/management, using a range of theoretical lenses (e.g., environmental/ecological/historical anthropology, culture, geography, ecology, economics, institutions, economic development, complex systems and sustainability science). Also studies a set of iconic Human-Environmental challenges and examines how theories and assumptions explain behaviors and human, ecological and policy outcomes. In turn, focuses on lessons that emerge for interdisciplinary scholarship. Encourages students to apply methods, concepts and theories to their evolving research questions. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASB 530 or SOS 553 |
| SOS | 555 | US Energy: Pathways to Sustainability | Organized around four mores of energy and environmental policy: energy supply, technology for efficiency, environmental sustainability and infrastructure. Also incorporates the wider context of energy and the environment in the society in which we live, taking into account our historic past and future potential life experience with energy availability and use. Through critical examination and analysis of these mores, students apply knowledge to the creation of a comprehensive energy and environmental policy plan that addresses past conditions, present states and future possibilities. | N | SEM | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree-or nondegree-seeking graduate. Credit for only SOS 435,SOS 494 (Energy & Environ Policy) or SOS 494- US Energy: Pathways-to Sustain or SOS 555 or 594 (US Energy: Pathways to Sustainability) or SOS 594 (Energy & Environmntl Policy) |
| SOS | 557 | Global Sustainability Research Preparation | First part of the project track of the double-degree master's program Global Sustainability Science (GSS). The project track runs from semester 1 to semester 3/4. This course prepares GSS students to develop their research proposal as well as to conduct sustainability research in transnational teams. | N | RSC | N | OPT | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): School of Sustainability graduate student |
| SOS | 558 | Global Sustainability Research Project | Takes a solutions-oriented sustainability learning approach in which students work on real-world sustainability solutions and collaborate in small teams coached by instructors. Trains students in the use of an analytical-evaluative framework for sustainability solutions and applies it to different solution efforts. | N | RSC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SOS 558 or SOS 594 (Global Sustainability Research) |

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| SOS | 559 | Global Sustainability Science Perspectives Seminar | Seminar fulfills four functions: (1) students get familiar with sustainability research areas and faculty across ASU, based on the collective interest of the GSS cohort; (2) students receive training on scientific writing; (3) students have the opportunity to participate in a community of sustainability students that supports exchange, bonding and peer-teaching; and (4) students reflect on and provide feedback on the GSS program and their academic development, as well as receive feedback on their pathway through the program and beyond (career opportunities). | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): SOS 557 |
| SOS | 567 | Art and Ecology | Designed for students with advanced independent studio art practices or sustainability studies students who have an interest in the way that their lives and practices engage environments. Through readings, slide presentations, discussions, guest visits, hands-on activities and screenings, explores the work of many contemporary ecological artists engaging with environments and environmental issues from a multitude of angles. Artists engage land remediation, agriculture, socio-ecological justice, sustainable materials, landscape design and much more. As cultural workers must be informed, the course content addresses some basic literacy with regard to environmental concerns and shares examples of realized accessible sustainable solutions. In addition to learning about ecologies and artists, students complete three art or research projects, inspired by assignments. | N | STO | Y | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ART 467 or ART 494 (Art and Ecology) or ART 567 or ART 598 (Art and Ecology) or SOS 467 or SOS 494 (Art and Ecology) or SOS 567 or SOS 598 (Art and Ecology) |
| SOS | 570 | Fundamentals of CAS Science | Many phenomena of critical relevance to human society are dynamic systems that change over individual and evolutionary time scales, and are highly interactive, both within and between systems. That is, they are complex adaptive systems (CAS), and thus share isomorphic properties like near-decomposability, hierarchical organization, scale-free networks, self-organized criticality, and emergence. Fundamentals of CAS science explores the diverse, interdisciplinary applications of a complex adaptive systems across the social, behavioral, and life sciences. | N | SEM | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ASM 570 or BIO 570 or CAS 570 or SOS 570 |
| SOS | 571 | Sustainable Energy Technologies and Systems | Provides a primer on the scientific, technological and social aspects of energy. Includes three core modules: (1) primer on physical, economic and environmental metrics used to measure energy; (2) a review of power systems and electricity generation technologies; and (3) a review of transportation systems and fuel/vehicle technologies. Focuses on energy technology and also incorporates discussions of the human dimensions of energy systems. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 572 | Sustainable Energy Transitions | A sustainable future requires a transition away from fossil fuels. This process is far more complex than a simple substitution of fuels. Energy transitions are multifaceted and complex social phenomena, involving economic, technological and political processes that unfold across decades. Delves into these processes for past energy transitions, addressing how energy use evolved throughout history, how it influenced urbanization and socioeconomic development, and how technological change facilitates and constrains energy transitions. What do past energy transitions tell us about how easy or hard it will be to undergo another energy transition? | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 573 | Sustainable Energy Policy | Provides a comprehensive survey of energy policies that are shaping the transition to sustainable energy. For context, begins with two views of energy transitions: interdisciplinary socio-technical perspectives and conventional environmental economic perspectives. Next, examines theory and case studies for numerous policies, including carbon pricing, regulatory standards, subsidies, utility regulation, community energy and innovation policies. Lastly, discusses the political drivers and energy system impacts of energy policies. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 574 | Data Analytics for Sustainable Energy | Examines the data sources, methodologies and metrics used to measure sustainable energy and explores how they are used to shape public policy and track progress toward sustainability goals. The metrics, which relate to cost, efficiency and environmental impacts, provide the foundation for assessing the relative merits of energy technologies and systems based on a variety of criteria. In addition to quantitatively evaluating a multiplicity of energy sources and systems, the course builds skills in research methods, data analytics and critical thinking. | N | LEC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SOS | 575 | Sustainable Energy Research Seminar | Seminar-based course for sustainable energy Ph.D. students focusing on research skills for interdisciplinary energy research. Taken over two years. Second-year students are expected to take on more of a leadership role in the class and to contribute more developed research presentations in the spring semester. The seminar has a different focus in the fall and spring. In the fall, the course focuses on research methods. In the spring, the course focuses on the process of generating research ideas and writing effective research proposals. | N | SEM | Y | GNA | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 576 | Earth's Past Climates: The Key to our Sustainable Future | Dynamic interactions among the oceans, earth surface and atmosphere that control Earth's climate in its present state, in the context of past climates and projections for future climates. Assesses the factors that affect the trajectory of future climate change, and the sources and measurement of the critical climate parameters that are essential for guiding decisions for a sustainable future. Considers recent climate science-related controversies and assessments of scientific statements related to these controversies. | N | SEM | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only GLG 476 or GLG 576 or GLG 494/598 (Climate Science for Sustainability) or SOS 476 or SOS 576 or SOS 494/598 (Climate Science for Sustainability) |
| SOS | 577 | Interdisciplinary Writing Seminar | If you want your work to make a difference in the world, you need to be able to communicate your ideas to diverse audiences in a way that is interesting and accessible. Teaches students to write clearly, persuasively and ethically to people in their disciplines, in other disciplines, and outside academia. Approaches writing as a way to think critically and refine ideas, as well as to communicate them to others. | N | SEM | Y | GNA | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is only allowed for ESS 577 or SOS 577 or SOS 598 (Interdisciplinary Writing) or SOS 598 (Writing Seminar) |
| SOS | 578 | Writing Papers for Publication | Students produce a draft of a research paper for submission to a peer-reviewed journal. Analysis of exemplary published papers and narrative strategies, along with peer review, support the writing process. | N | SEM | N | GNA | College of Global Futures | School of Sustainability | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SOS 578 or SOS 598 (Writing Papers for Publication) |
| SOS | 579 | Proposal Writing | Proposal writing and reviewing with a focus on the NSF dissertation improvement grant format. Discusses professional development. | N | SEM | N | OPT | College of Global Futures | School of Sustainability | 3 | | Credit is allowed for only ASM 579 or SOS 579 |
| SOS | 581 | Synthesis for Sustainability Research | Aimed at students who have already gained training in content areas and are writing their research or projects for publication in peer-reviewed journals or other outlets. Challenges students to link their own research to other disciplines and the broader field of sustainability research. | N | RSC | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): SOS 510; SOS 520; SOS 525; Corequisite(s): SOS 596 or 599 |
| SOS | 582 | Project Management for Sustainability | Provides exposure to the tasks and challenges facing project managers, i.e., those people responsible for the vital function of managing complex projects in sustainability in today's environment. Successful project managers have the abilities and skills to simultaneously manage people, schedules, risks, and resources while delivering successful outcomes. This course is a prerequisite for the MSUS culminating experience. | N | LEC | N | OPT | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): Graduate Sustainability major; SOS 510. Pre- or corequisite: SOS 511 |
| SOS | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | College of Global Futures | School of Sustainability | 1-12 | | |
| SOS | 589 | Community of Graduate Student Scholars | Provides the opportunity to develop new skills, to foster cohort building, to interact with other students and faculty, and to network and build support with the alumni network. Overseen by a faculty member but is primarily directed by the students. All MA or MS students take this course each semester. Although there is an overall structure as demonstrated in the course schedule, the specific content of the course varies each semester depending on the needs and interests of the students. | N | LEC | Y | YGB | College of Global Futures | School of Sustainability | 1 | | Prerequisite(s): School of Sustainability graduate student |
| SOS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Global Futures | School of Sustainability | 1-12 | | |
| SOS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Global Futures | School of Sustainability | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z2 | College of Global Futures | School of Sustainability | 1-12 | | |
| SOS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Global Futures | School of Sustainability | 1-12 | | |
| SOS | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | STO | Y | OPT | College of Global Futures | School of Sustainability | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SOS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | LEC | Y | Z3 | College of Global Futures | School of Sustainability | 1 | | |
| SOS | 596 | Capstone: Scientific Paper | MA/MS students are required to devote six hours to conducting research and writing a scientific paper of publishable quality based on the research. The paper topic, the research methodology, and the written format must be approved by the supervisory committee. Students must decide if they will complete the paper on their own or as a group. | N | RSC | Y | GNA | College of Global Futures | School of Sustainability | 1-6 | | Prerequisite(s): Sustainability MA or MS student; SOS 510 |
| SOS | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics and highly specialized courses responding to unique student demand). | Y | SEM | Y | OPT | College of Global Futures | School of Sustainability | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | N | RSC | Y | Z2 | College of Global Futures | School of Sustainability | 1-12 | | |
| SOS | 656 | Human Rights and Sustainability | Addresses the connections between human rights and environmental sustainability. Legal and scholarly approaches linking these areas present new perspectives for addressing some of the greatest challenges of our time, given the important resource dimensions of economic and social rights and the human dimensions of sustainability. Yet human rights demands and environmental concerns are not always in harmony. Explores these tensions and opportunities by examining three substantive areas: urban ecology and human rights, the human right to food, and the human rights implications of extractive industries such as oil and mining. Following an introduction to the key concepts of human rights and sustainability, explores the substantive areas through theoretical and empirical readings on each; grassroots accounts of struggles over environment-related human rights; and selections from literature and film that illustrate the environmental justice issues at stake. | N | SEM | N | GNA | College of Global Futures | School of Sustainability | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only JUS 656 or SOS 656 or JUS 691 (Human Rights & Sustainability) |
| SOS | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Global Futures | School of Sustainability | 1-12 | | |
| SOS | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | College of Global Futures | School of Sustainability | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SOS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z2 | College of Global Futures | School of Sustainability | 1-15 | | |
| SOS | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | Y | Z3 | College of Global Futures | School of Sustainability | 1 | | |
| SOS | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Global Futures | School of Sustainability | 1-15 | | |
| SPA | 101 | Elementary Spanish I | Fundamentals of the language. Emphasizes listening, speaking, reading, and writing. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): Spanish Placement Test score of 0-249; Students may not enroll in SPA 101 if credit with C or better earned in SPA 102, 110, 111, 201, 202, 203, 204, 210, 313, 314, 315, 316, 325, or 412 OR Visiting University Student |
| SPA | 102 | Elementary Spanish II | Fundamentals of the language. Emphasizes listening, speaking, reading, and writing. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): SPA 101 w/ C or better OR Spanish Placement Test score of 250-369; Students may not enroll in SPA 102 if credit w/ C or better earned in SPA 110, 111, 201, 202, 203, 204, 210, 313, 314, 315, 316, 325 or 412 OR Visiting University Student |

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| SPA | 103 | Beginning Spanish for Bilingual and Heritage Students | First course for Spanish heritage learners who grew up in an environment where Spanish was frequently spoken and are oftentimes capable of understanding spoken Spanish but encounter considerable difficulties in producing the language. Designed for students who were naturally exposed to Spanish-speaking environments, typically during childhood and have receptive skills in Spanish. Builds on the linguistic competence students already have in order to help them expand their conversational skills in a wide variety of contexts. Also covers basic grammar structures. Develops conversational skills in Spanish, expands vocabulary, strengthens listening abilities, teaches more about Spanish written language, and develops reading skills in a confidence-building environment. Through oral and listening activities, videos, class discussions, group-work and written and Web assignments, students achieve greater flexibility in their abilities in the language in a wide range of social contexts. Learners deepen their knowledge of their cultural heritage and develop an appreciation for the cultural and linguistic variation present in the Spanish-speaking world. Special emphasis on Spanish varieties and cultures in the U.S. to explore students' linguistic and cultural heritage in the United States. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | Prerequisite(s): SPA 101 or Español Placement Test score of 0-100; Students may not enroll in SPA 103 if credit with C or better earned in SPA 102, 110, 111, 201, 202, 203, 204, 210, 313, 314, 315, 316, 325, 412, or 416 OR Visiting University Student |
| SPA | 110 | Intensive Spanish I | First-semester intensive course for students who (1) have never taken Spanish language courses before, or (2) have studied Spanish for one year at the high school level, or (3) have authorization from the Spanish section. This six-hour course meets on Mondays, Tuesdays, Wednesdays and Thursdays for 75 minutes in the classroom. To achieve the maximum level of proficiency, the course focuses on the development of speaking and written skills. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 6-8 | G | Prereq(s): Spanish Placement Test score of 0-249; Students may not enroll in SPA 110 if credit w/ C or better earned in SPA 101 or 102 or 111 or 201 or 202 or 203 or 204 or 210 or 313 or 314 or 315 or 316 or 325 or 412 OR Visiting University Student |
| SPA | 111 | Fundamentals of Spanish | Primarily for students with two years of high school Spanish who need review to enter second-year study. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | | Students may not enroll in SPA 111 if credit earned in SPA101, 102, 201, 202, 203, 204, 311, 312, 313, 314, 315, 316, 325, or 412 |
| SPA | 118 | Basic Spanish for Health Care Professionals | Focuses on helping students develop basic oral Spanish skills that allow them to interact with patients in health care settings. Health care-related vocabulary, simple medical scenarios and basic grammar form the majority of the course curriculum. Students are responsible for completing virtual oral dialogues with a partner each week. Requires no prior knowledge of Spanish. | N | LEL | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Spanish Placement Test score of 0-369 OR Visiting University Student |
| SPA | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| SPA | 201 | Intermediate Spanish | Continuation of fundamentals. Emphasizes the development of the skills of reading, listening comprehension, speaking, writing, and culture. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prereq(s): SPA 102, 110, or 111 with C or better OR Spanish Placement Test score of 370-420; Students may not enroll in SPA 201 if credit with C or better earned in SPA 202, 203, 204, 210, 313, 314, 315, 316, 325, or 412 OR Visiting University Student |
| SPA | 202 | Intermediate Spanish | Continuation of fundamentals. Emphasizes the development of the skills of reading, listening comprehension, speaking, writing, and culture. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | G | Prerequisite(s): SPA 201 or 203 with C or better OR Spanish Placement Test with a score of 421-520; Students may not enroll in SPA 202 if credit with C or better earned in SPA 204, 210, 313, 314, 315, 316, 325, or 412 OR Visiting University Student |
| SPA | 203 | Intermediate Spanish I for Bilinguals | In lieu of SPA 201. For heritage learners who have been exposed to Spanish from the household, relatives or community and who can understand and hold a basic conversation in the language. Builds on the skills students already have in order to expand their written and oral proficiency for real communication in a confidence-building environment. Students also explore their cultural heritage and learn about Hispanic cultures in the United States and the language diversity of its speakers. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | C & G | Prereq(s): SPA 102, 103, 110 or 111 with C or better OR Espanol Placement test score of 101-369; Students may not enroll in SPA 203 if credit with C or better earned in SPA 201, 202, 204, 210, 313, 314, 315, 316, 325 or 412 OR Visiting University Student |
| SPA | 204 | Intermediate Spanish II for Bilinguals | For heritage learners who have been exposed to Spanish from the household, relatives or community and who can understand and hold a conversation in the language. Builds on the Spanish language skills students already have in order to expand their written and oral proficiency in a nurturing environment. Students also learn about Hispanic cultures, traditions and customs in the United States and Latin America and the language diversity of its speakers. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 4 | C & G | Prerequisite(s): SPA 201 or 203 w/ C or better OR Espanol Placement Test score of 370-520; Students may not enroll in SPA 204 if credit w/ C or better earned in SPA 202, 210, 313, 314, 315, 316, 325, or 412 OR Visiting University Student |

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| SPA | 210 | Intensive Spanish II | Second-semester intensive course for students who have authorization from the Spanish section. This six-hour course that meets on Mondays, Tuesdays, Wednesdays and Thursdays for 75 minutes in the classroom. To achieve the maximum level of proficiency, the course is focused on the development of speaking and written skills. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 6-8 | G | Prerequisite(s): SPA 102 or SPA 111 with B or better OR SPA 110 with C or better; Credit is allowed for only SPA 201 and SPA 202, or SPA 203 and SPA 204, or SPA 210 |
| SPA | 218 | Intermediate Spanish for Health Care Providers | Intermediate Spanish course that focuses on helping students develop oral Spanish skills that allow them to interact with patients in the health care settings. Health care-related vocabulary, the impact of culture on health care, medical scenarios and intermediate grammar form the majority of the course curriculum. Students are responsible for completing virtual oral dialogues with a partner each week. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): SPA 118 OR Visiting University Student |
| SPA | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| SPA | 313 | Spanish Conversation and Composition | Designed to develop skill and accuracy in spoken and written Spanish. Required of majors; SPA 313 and 314 must be taken in sequence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): SPA 202, 204, or 210 with C or better OR Spanish placement test score of 521+; Students may not enroll in SPA 313 if credit with C or better earned in SPA 314 or SPA 315 or SPA 316 or SPA 325 or SPA 412 OR Visiting University Student |
| SPA | 314 | Spanish Conversation and Composition | See SPA 313. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): SPA 313 or 315 with C or better; Students may not enroll in SPA 314 if they have received a C or better in SPA 412 OR Visiting University Student |
| SPA | 315 | Advanced Spanish I for Bilinguals | In lieu of SPA 313. For heritage learners who have been exposed to Spanish from the household, relatives or community and who can speak and understand the language. Students strengthen their written and oral language to use them fluently in professional and academic contexts. Provides a rich cultural context to critically examine issues related to language and Spanish speakers in the United States. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | C | Prerequisite(s): SPA 202, 204, or 210 with C or better OR Espanol placement test with score of 521+; Student may not enroll in SPA 315 if credit with C or better earned in SPA 313 or SPA 314 or SPA 316 or SPA 325 or SPA 412 OR Visiting University Student |
| SPA | 316 | Advanced Spanish II for Bilinguals | In lieu of SPA 314. For heritage learners who have been exposed to Spanish from the household, relatives or community and who can read and write in the language. Students continue to strengthen their written and oral language to develop advanced skills for use in professional, educational and academic contexts. Provides a dynamic cultural context to critically examine issues related to Hispanic communities, bilingualism and education in the United States. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L & C | Prerequisite(s): ENG 101, 105 or 107 with C or better; SPA 313 or 315 with C or better; Students may not enroll in SPA 316 if credit with C or better earned in SPA 314 or SPA 412 OR Visiting University Student |
| SPA | 317 | Spanish for the Professions | Advanced-level course that serves as an introduction to the Spanish for the Professions minor or certificate. Develops oral and written skills that prepares students to use their Spanish in their careers and/or professional fields of interest. Also covers several cultural points that facilitate effective interaction with Spanish speakers in the professional world and global community. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | G | Prerequisite(s): SPA 314 or 316 OR Visiting University Student |
| SPA | 318 | Advanced Spanish for Health Care Professionals | Advanced Spanish course that focuses on helping students develop oral Spanish skills that allow them to interact with patients in the health care settings. Health care-related vocabulary, the impact of culture on health care, medical scenarios and advanced grammatical structures form the majority of the course curriculum. Students are responsible for completing virtual oral dialogues with a partner each week. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): Spanish Language Placement Score of 521+ or any upper-division Spanish course OR Visiting University Student |
| SPA | 319 | Business Correspondence and Communication | Organization and presentation of clear, effective business communications; vocabulary applicable to modern business usage. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): SPA 314 or 316 OR Visiting University Student |
| SPA | 325 | Introduction to Hispanic Literature | Critical approach to and analysis of literary types, including poetry, drama, short story, and novel. Required of all majors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): SPA 313, 314, 315, 316, 412, 413, or 416 with C or better OR Visiting University Student |
| SPA | 371 | Language Hegemony and Culture | Historical and cultural analysis of language and the ideological constructs imposed upon resident populations in the Southwest North American region since 1540. Analyzes the suppositions, ideologies, premises and mechanisms by which Spanish and English became imposed among Native peoples and later national populations of Mexicans during the 19th century and continuing with their descendants and migrating populations crossing the bifurcated border. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 371 or HST 371 or SLC 371 or SPA 371 or TCL 371 or ASB/HST/SLC/SPA/TCL 394 (Language Hegemony & Culture in SW North America) |

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| SPA | 382 | Spanish for Biomedical Sciences | Focuses on developing the communicative skills necessary to engage students with the human aspect of health in Spanish. Students develop cultural and linguistically appropriate skills which address the communication needs across the healthcare continuum, to provide culturally competent services. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): SPA 202, 204, or 210 with C or better or Spanish placement test score of 521+; Credit is allowed for only BIO 382 or BIO 394 (Spanish Biomedical Sciences) or SPA 382 or SPA 394 (Spanish Biomedical Sciences) OR Visiting University Student |
| SPA | 385 | Cinema and Culture of Spain | Offers a historical and cultural survey of major films from Spain. Studies key works with a focus on their aesthetic, cultural, political and historical context. Trains students to develop the skills to critically view how films are constructed, how films create meanings and values, and how films are connected to the cultural and historical contexts in which they are created and watched. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only SLC 385 or SPA 385 or FMS 394 (Cinema and Culture of Spain) or SLC 394 (Cinema & Culture of Spain) or SPA 394 (Cinema & Culture of Spain) OR Visiting University Student |
| SPA | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| SPA | 400 | Fundamentals of Spanish Linguistics | Introduces the discipline and methods of linguistics through the study of Spanish data. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & G | Pre- or corequisite(s): SPA 412, 413, or 416 OR Visiting University Student |
| SPA | 401 | Spanish Oral Communication for the Professions | Explores the process of creating and delivering effective public communication in the Spanish language in the context of serving U.S. Latinx community (e.g., government, nonprofit organizations, schools, media). Topics include the cultural conventions of public speaking in Spanish, perceptions of others, the articulation of verbal and nonverbal messages, and techniques of oral presentation and persuasion. This course is practice-oriented and aims at reducing students' anxiety in public presentations, emphasizing research, design and delivery, and trains students on how to evaluate their performance and that of others. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): SPA 314 or 316 OR Visiting University Student |
| SPA | 402 | Written Communication for the Professions | Students hone their Spanish literacy (reading and writing) skills in the context of serving U.S. Latino clients in the community (e.g., schools, government agencies, social work settings, medical settings) or reporting on issues of interest to the Hispanic community. Students read and understand documents in Spanish that they would come across in the process of assisting monolingual Spanish-speakers in the public sector or doing research on the Hispanic community (e.g., birth certificates, academic transcripts, medical reports, criminology documents, newspaper or magazine articles). Students gain practice in creating written documents in Spanish that would assist their communication with Latino clients in formal (professional) and informal contexts or that would allow them to report intelligently on issues of interest to the Hispanic community. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | C | Prerequisite(s): SPA 314 or 316; Credit is allowed only for SPA 494 (Spanish Written Communication) or SPA 402 OR Visiting University Student |
| SPA | 403 | Spanish Grammar and Stylistics for the Professions | Students raise their level of awareness of appropriate grammatical, lexical and stylistic forms to use in their oral and written communication with U.S. Latino clients in formal (professional) and informal contexts in the community (e.g., schools, government agencies, social work settings, medical settings) or for reporting on issues of interest to the Hispanic community. Students enhance their analytical skills by analyzing and comparing Spanish oral and written discourse for genre-appropriate features (stylistics), grammaticality, mechanics, coherence and for a logical flow of ideas in public documents and oral discourses meant for a U.S. Latino audience. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): SPA 314 or 316; Credit is allowed for only SPA 494 (Span Gram & Stylistics for Pro) or SPA 403 OR Visiting University Student |
| SPA | 404 | Spanish in U. S. Professional Communities | Students investigate linguistic issues that impact the U.S. Latino community's interaction with professionals (e.g., interaction with service providers in schools, government agencies, social work settings, medical settings; language planning at state and local levels; Spanish spoken in different regions in the U.S.; Spanish language assessment of public sector employees; creation of Spanish for Professional Purposes courses). Students also learn to report on issues of interest to the Hispanic community. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | (L or HU) & C | Prerequisite(s): ENG 101, 105 or 107 with C or better; SPA 314 or 316; Students who have credit for SPA 494 (Spanish in the Community) may not enroll in SPA 404 OR Visiting University Student |

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| SPA | 405 | Latino Cultural Perspectives for the Professions | Requires students to investigate the Latino cultural perspectives that underlie and affect communication in the professional world. Students come to understand the historical context that has affected the lives of Latino community in the U.S. and take a critical look at values traditionally associated with Latino culture (e.g., the importance of family ties, fatalism, honor, respecting elders, machismo or marianismo), which provide background information for professionals in the public sector who need to serve the needs of the Hispanic community. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | (L or HU) & C & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; SPA 314 or 316; Credit is only only for SPA 405 or SPA 494 (Latino/a Cultural Perspect Pro) OR Visiting University Student |
| SPA | 406 | Introduction to Spanish/English Medical Interpretation | Provides an introduction to interpretation theory and practice with a specific focus on interpretation for medical fields. Constitutes an academic introduction to the field and does not certify students to be medical interpreters. Students who enroll in this course should have an advanced level of conversational Spanish. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): SPA 314, SPA 316, or SPA 394 (Intro to Spanish for the Prfssions); Credit is allowed for only SPA 406 or SPA 494 (Interp for Mdical/Law Enfrmnt Prsonnl) or SPA 494 (Intro to Spanish/Eng Mdicl & Legal Interp) OR Visiting University Student |
| SPA | 412 | Advanced Conversation and Composition | Oral and written Spanish communication skills, with particular attention given to developing fluency and facility. Required of majors. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): SPA 314, 316, or 413 with C or better; Credit is allowed for only SPA 412 or SPA 416 OR Visiting University Student |
| SPA | 413 | Spanish Grammar in Context | Intensive analysis of the Spanish language. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | G | Prerequisite(s): SPA 314, 316, 412, or 416 with C or better OR Visiting University Student |
| SPA | 414 | Spanish for Sustainability and Environmental Studies | Provides language skills to engage in meaningful communication and official transactions in sustainability and environmental studies with an intermediate to high level of Spanish speaking, reading and writing competence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): SPA 314 or 316 with C or better; Credit is allowed for only SPA 394 (Spanish for Sustainability) or SPA 414 |
| SPA | 416 | Advanced Spanish Conversation and Composition for Spanish Heritage Learners | Oral and written Spanish communication skills for Spanish heritage learners to expand and strengthen advanced skills for use in a variety of contexts such as professional, educational and academic. Provides a dynamic cultural context to critically examine topics of culture, history, linguistics and literature from authors from Latin America where students learn to distinguish and write different types of texts such as narrative, descriptive, journalistic, advertising and scientific-technical. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; SPA 314, 316, or 413 with C or better; Credit is allowed for only SPA 412 or SPA 416 OR Visiting University Student |
| SPA | 417 | The Sounds of Spanish | Analyzes the speech sounds of the Spanish language, including articulatory and acoustic phonetics as well as phonology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | CS or SB | Prerequisite(s): SPA 412, 413, or 416 with C or better OR Visiting University Student |
| SPA | 418 | Architecture of Spanish | Introduces the syntax of the Spanish language by analyzing different word categories, their groupings in phrases, and the structure of both simple and complex sentences. Advanced course that requires some previous knowledge of basic structures of the language and their internal structure. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): SPA 412 or 413 with C or better OR Visiting University Student |
| SPA | 419 | Spanish Around the World | Spanish dialectology and variationist/quantitative sociolinguistics. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | CS & C | Prerequisite(s): SPA 400 with C or better OR Visiting University Student |
| SPA | 420 | Applied Spanish Linguistics | Applies linguistic principles to the teaching of Spanish. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L | Prerequisite(s): ENG 101, 105 or 107 with C or better; SLC 201 or SPA 400 with C or better OR Visiting University Student |
| SPA | 421 | Spanish in the Southwest | Discussion and linguistic analysis of Southwest Spanish. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | C | Prerequisite(s): SPA 412 or 416 with C or better OR Visiting University Student |
| SPA | 425 | Understanding Spain: Literature and Culture Before 1700 | Surveys Spanish literature from its beginning to 1700. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; SPA 325 OR Visiting University Student |
| SPA | 426 | Literature and Society in Modern Spain | Surveys Spanish literature from 1700 to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU | Prerequisite(s): SPA 325 OR Visiting University Student |
| SPA | 427 | Colonial and Postcolonial Latin American Literature | Surveys major works, figures, and movements from Colonial period to 1880. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; SPA 325 OR Visiting University Student |
| SPA | 428 | Foundational Texts of Latin American Literature Since Modernismo | Surveys major works, figures, and movements from 1880 to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; SPA 325 OR Visiting University Student |
| SPA | 429 | Writing Mexico: Major Texts | Selected readings from pre-Columbian writers/poets (e.g., Macuilxochitl) through the novel of the Revolution to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G | Prerequisite(s): ENG 101, 105, or 107 with C or better; SPA 325 OR Visiting University Student |
| SPA | 434 | Drama of the Golden Age | Dramatic works of Lope de Vega, Calderon de la Barca, and their contemporaries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): SPA 325 OR Visiting University Student |
| SPA | 440 | Translation Theory and Practice | Translation theories and professional practices and ethics; bibliography, computer technology, and sample texts for natural and social sciences and humanities. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 301; SPA 412; Credit is allowed for only SLC 401 or SPA 440 OR Visiting University Student |

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| SPA | 441 | Technical and Scientific Translation | Resources, practices, strategies, and lexicon for translation of professional texts in subjects such as engineering, architecture, agriculture, computer technology, electronics, and physical and biological sciences. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 301 with B or better; SPA 412 with B or better; Credit is allowed for only SLC 481 or SPA 441 |
| SPA | 442 | Business and Financial Translation | Resources, practices, strategies, and lexicon for translation of professional texts in subjects such as economics, finance, insurance, management, marketing, accounting, advertising, and real estate. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 301 with B or better; SPA 412 with B or better; Credit is allowed for only SLC 482 or SPA 442 |
| SPA | 443 | Translation of Legal Texts | Provides guided practice in the successful completion of professional translation tasks in the legal field. Studies the origin and traditions of contrasting legal approaches as each system of governance (Civil Law Tradition and Common Law Tradition) perceives reality and structures its institutions to reflect differing cultural and linguistic norms. Students work with a broad selection of legal texts involving property rights, family law and commercial law. Places particular emphasis on criminal law. Analyzes legal texts from several Latin American countries as well as from Spain for content and translated into English. Similarly analyzes and translates into Spanish specialized texts currently used in Maricopa County Superior Court. | N | LEL | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 301 with B or better; SPA 412 with B or better; Credit is allowed for only SLC 485 or SPA 443 (or SPA 410) OR Visiting University Student |
| SPA | 444 | Medical Translation | Guided practice in the successful completion of professional translation tasks in the medical and scientific domain: medical correspondence, discharge instructions, medical information for patients, general information on topics related to the medical field with a focus on low-literacy issues. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 301 with B or better; SPA 412 with B or better; Credit is allowed for only SLC 486 or SLC 494 (Medical Translation) or SPA 444 |
| SPA | 449 | Latin American Cinema: The Dead and the Disappeared | Studies Latin American politics and culture through film with particular focus on recent periods of Latin American history in which there have been social upheavals, dictatorships and state repression, and dirty wars. Discusses film as an art form with specific aesthetic goals, a tool to effect change within society, a mode of cultural and social expression, and a vehicle for reconciling collective trauma and preserving memory. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | G & H | Prerequisite(s): ENG 102, 105, or 108 w/C or better; Credit allowed for only FOR 449, LAS 449, SPA 449, FOR 494 (Lat Am Cinema: Dead & Disap), LAS 494 (Lat Am Cinema: Dead & Disap), SPA 494 (Lat Am Cinema: Dead & Disap) OR Visiting University Student |
| SPA | 456 | 20th-Century Spanish American Fiction | Major works and movements. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): SPA 325 |
| SPA | 459 | Latin American Jewish Culture | Focuses on forms of cultural production in Latin America marked by or under the aegis of Jewish diasporic identity from the late nineteenth century to the present. While Jewish immigrants and Latin Americans of Jewish descent may be found in all Latin American societies, cultural production is found concentrated in countries like Argentina, Brazil, Mexico and Chile. Investigates essentially cultural versions of a sociohistorical consciousness, and ranges across a broad spectrum of Latin American Jewish texts in an investigation of what forms of production have emerged to represent this important immigrant component of Latin American national societies. Examines novels and other literary works, along with photography and films, and looks at theme, motifs, characters that can be identified with what might be called a Jewish consciousness or Jewish sensitivity. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only JST 459 or JST 494 (Jewish Latin American Culture) or SLC 459 or SLC 498 (Jewish Latin American Culture) or SPA 459 or SPA 498 (Jewish Latin American Culture) |
| SPA | 464 | Jaitón Works in Chicano/a Literature | Representative literature in Spanish and English by Mexican Americans, emphasizing sociocultural as well as literary values. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (HU or SB) & C | Prerequisite(s): SPA 325 OR Visiting University Student |
| SPA | 470 | Law, Societies and Justice in Latino-America | Reviews justice-related sociological and criminological theories in the target language. Introduces the application of social theories and human right principles to the issues affecting Latino communities both in Latin America and the United States. Students engage in critical inquiries and focused research to develop culturally sensitive and insightful solutions to criminal and justice-related topics that affect Latinos in their communities (physical or virtual). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | SB & G | Prerequisite(s) with C or better: ENG 102, 105 or 108; SPA 202 or 204 OR Spanish Placement Test score of 421-520 OR Español Placement Test score of 370-520; Credit allowed for JUS 475, SPA 470 or JUS/SPA 494 (Law, Societies & Justice in Latino-America) |
| SPA | 471 | Civilization of the Indohispanomexicano Southwest | Political, intellectual, social, economic, and artistic development of the Spanish-speaking people of the Southwest. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & C | Prerequisite(s): ENG 101, 105 or 107 with C or better; SPA 314 or 316 OR Visiting University Student |
| SPA | 472 | Latin American Society: Five Case Studies | Growth of the institutions and cultures of Spanish American people. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & H & G | Prerequisite(s): SPA 314 or 316 |
| SPA | 473 | Old and New Spaniards: Culture and Civilization of Spain | Political, intellectual, social, economic, and artistic development of the Spanish nation from its origin to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (HU or SB) & G | Prerequisite(s): SPA 314 or 316 OR Visiting University Student |
| SPA | 474 | Revolutionary Mexico and Postmodern Revisions | Examines diverse aspects of Mexican culture since the 1910 Revolution. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G | Prerequisite(s): ENG 101, 105 or 107 with C or better; SPA 314 or 316 OR Visiting University Student |

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| SPA | 475 | Latin American Film | Examines the role of film in contemporary Latin American culture; films viewed and analyzed as casebook examples. Focuses on the aesthetics and generic conventions of contemporary Latin American films. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, 108, FMS 100, or SLC 202 with C or better; Credit is allowed for only FMS 475 or SLC 475 or SPA 475 or THE 475 or FMS 494/SLC 494/SPA 494/THE 494 (Latin American Film) OR Visiting University Student |
| SPA | 481 | Dictatorships and Dirty Wars: Latin American Cinema from Resistance to Reconciliation | Examines aspects of Latin American politics and culture of and through the optic of social unrest. Examines films focusing on the period(s) of recent Latin American history in which there have been social upheavals, dictatorships and state repression, "dirty wars": understood as clandestine wars waged on the citizenry by the government, social movements from below. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only LAS 481 or SPA 481 or ENG 494 (Dictatorships/Dirty Wars:Lat Am Cinema) or SPA 494 (Dictatorships/Dirty Wars:Lat Am Cinema) |
| SPA | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SPA | 485 | Chicano/a Short Story: Espanglish, Barrio y Xicanisma | Critical study of contemporary short stories by Mexican American authors, with emphasis on their Spanish-language writings. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | L & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; SPA 325 OR Visiting University Student |
| SPA | 486 | Chicano/a Novel: Última, Rafa y Lala | Social and literary contexts of representative novelists, emphasizing their Spanish-language writings. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): SPA 325 OR Visiting University Student |
| SPA | 487 | Chicano/a Drama: Pachucos, Vendidos y Cerezitas | Representative dramatic works, with emphasis on the history and development of this genre from its regional origins to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | C | Prerequisite(s): SPA 325 |
| SPA | 490 | Consumer Culture in Latin America | Provides an in-depth study of consumer culture in contemporary Latin America, including the analysis of television series, music, literary texts, commercials, ads and films produced in or about Latin America since the turn of the 21st century. Knowledge of Portuguese and Spanish is a plus, but not necessary. Taught in English. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only POR 490 or SLC 490 or SPA 490 or HON/POR/SLC/SPA 494 (Consumer Culture in Latin America) OR Visiting University Student |
| SPA | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | | Prerequisite(s): Barrett Honors student |
| SPA | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| SPA | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| SPA | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-7 | | |
| SPA | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| SPA | 515 | Second-Language Acquisition | Discusses and applies theories of second-language acquisition. | N | LEL | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SLC 515 or SPA 515 |
| SPA | 520 | Preparing for Professional Careers | Professional training of graduate students who pursue an academic job. Guides these students through their career and provides the tools they need to navigate their new and demanding academic life, not only as current students but also as future faculty. Among others topics, covers the following: research, publishing, surfing the Internet and the library for articles and books, bibliographical matters, conferences and presentations, professional ethics, choosing a dissertation director, writing and publishing the dissertation, first job search, differences among institutions, cover letters, CVs, tenure issues, and balance of personal and professional life. Explores all the practicalities of the academic profession to direct students to the right track from the first day of graduate school. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPA | 536 | Generation of 1898 | Works of Unamuno, Baroja, Azorín, and their contemporaries, studied against the ideological background of the turn of century in Spain. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 537 | Women in Spanish Literature | Major female writers and their texts from Spanish literature (María de Zayas, Ángela Grassi, Concepción Arenal, Emilia Pardo Bazán, Carmen Laforet, Paloma Pedrero) interpreted via current feminist and other critical theories. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 538 | Chicana Writers | Major female figures and works in Spanish or translation by contemporary writers (Zamora, Castillo, Corpi, Anzaldúa, L.D. Cervantes, D. Chávez, Duarte, Cisneros) interpreted via current feminist and other critical theories. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPA | 540 | History of the Spanish Language | Analyzes and discusses the development of Spanish from Vulgar Latin to the present day. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |

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| SPA | 541 | Spanish Language in America | Discusses and analyzes various regional and social varieties of Spanish in the Americas. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 542 | Studies in the Spanish of the Southwest | Examines bilingualism and the social and regional dialects of Spanish in the Southwest. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 543 | Structure of Spanish | Analyzes and discusses data on selected topics in Spanish morphology, semantics, and syntax. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 544 | Spanish Phonology | Surveys problems of Spanish phonology within the context of recent phonological theory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 545 | Concepts of Literary Criticism | Aims and methods of modern literary scholarship. Discusses major theories of literary analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SLC 545 or SPA 545 |
| SPA | 546 | Heritage Language Pedagogy | Sociolinguistic and pedagogical issues around the teaching and learning of heritage languages. Through a close examination of seminal articles in the field of heritage language pedagogy and research, students gain an understanding of the issues that concern these students and the teaching of this population. Defines the field, describes heritage language learners, and discusses the goals and sociolinguistic concerns of HL instruction. Also reviews the most appropriate teaching methodologies and principles for the heritage language classroom, especially in relation to literacy development. Contains a practical component that includes observations together with lesson plan and material development to prepare future teachers for effective classroom experiences and/or language program development. Course requirements include critical essays, online discussions, class observations, lesson plans and a research/applied paper. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SLC 546 or SPA 546 or SPA 598 (Heritage Language Pedagogy) |
| SPA | 547 | Applied Linguistics: Online Learning | Technology has changed the way we teach and learn languages. Examines how online language learning is informed by research and theory; explores how different tools and environments can support online language learning. Familiarizes students with research methods and tools used to examine online language learning. Participants either design and develop the instructional materials for an online course of their choice or design and conduct a research project. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SLC 547 or SPA 547 or SLC 598 (Topics in Applied Linguistics: Online Learning) or SPA 598 (Topics in Applied Linguistics: Online Learning) |
| SPA | 550 | Spanish for Reading Knowledge | Teaches nonspeakers of foreign language, or those with only basic notions of the language, how to read in a foreign language at an advanced level. Emphasizes developing reading and translation skills through exposure to a variety of texts (journalistic, historical, literary and scientific). Requires no previous knowledge of Spanish. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SPA 550 or SPA 598 (Spanish for Reading Knowledge) |
| SPA | 552 | Chicano/Chicana Film | Major figures and films by contemporary filmmakers (Sylvia Morales, Cheech Marín, Gregory Nava, Lourdes Portillo, Roberto Rodríguez, Evelina Fernández) interpreted via critical film theory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPA | 553 | Latin American Feminist Film | Examines Latin American feminist films in the context of contemporary Latin American culture; films viewed analyzed as casework examples. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): Degree- or Nondegree-seeking graduate; Credit is allowed for only SPA 553 or 583 (Feminist Filmmaking) |
| SPA | 564 | 19th-Century Spanish Prose Fiction | Principal figures and works of realism in the 19th-century novel, with emphasis on Galdós. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 566 | Generation of 1927 | Major poets of the Generation of 1927, with emphasis on works of Lorca, Guillen, Salinas, and Aleixandre. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 567 | Contemporary Spanish Novel | Major works of post-Civil War Spanish fiction. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 568 | Cervantes | Extensive analysis of the prose and theater of Cervantes as a key figure of the Spanish Golden Age. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 569 | Studies in Spanish Film | Examines major figures and films in Spanish cinema. Critically interprets films through current film theory, history, and critical theory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 572 | Spanish American Drama | Major contributions of Spanish American drama, with emphasis on contemporary dramatists. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 573 | Spanish American Essay | Major works of the essay, within the framework of intellectual history and literary movements. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 576 | Contemporary Spanish American Short Story | Principal short stories of the <i>Nueva Narrativa Hispanoamericana</i> within the context of contemporary theories of the narrative. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 577 | Regional Spanish American Literature | Figures and works of major national (Peru, Argentina, Chile, and Mexico) and regional (Caribbean) literatures. Topics offered on a rotating basis. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SPA | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SPA | 582 | Studies in Latin American Film | Examines the role of film in contemporary Latin American culture; films viewed and analyzed as casebook examples. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | |
| SPA | 586 | Chicano/Chicana Short Novel | Major novels and figures in Spanish or translation by contemporary Chicano novelists (Hinojosa-S., Méndez, Morales, Cota-Cárdenas, Cisneros) interpreted via current narrative theory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPA | 587 | Chicano/Chicana Drama | Major works of Chicano/a drama, with emphasis on contemporary playwrights (Valdez, Portillo-T., Morton, Moraga, Gómez-Peña) interpreted via current critical drama theory and other methods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPA | 588 | Chicano/Chicana Essay | Major figures and essays in Spanish or translation by contemporary essayists (Rendón, Anzaldúa, Villanueva, Rodríguez, Mora, Stavans) interpreted via current critical theory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPA | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SPA | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SPA | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SPA | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | |
| SPA | 596 | Second Language Methodologies | Provides a solid overview of current methodologies in foreign/second language teaching and learning, including the World-readiness standards for learning languages and the Proficiency Guidelines of the American Council on the Teaching of Foreign Languages (ACTFL). Focuses on current pedagogical trends and theories in several areas of second language acquisition, including grammar and vocabulary, reading, writing, listening and speaking, and intercultural competence. Also provides opportunities to obtain practice in creating and adapting instructional materials, preparing and implementing individual lesson plans, written and oral assignments, and exams. Focuses on discussing student diversity in today's classrooms and differences between heritage and second language learners. Students have the opportunity to research a topic of their interest. Course consists of lectures, discussion, hands-on experience to encourage meaningful and collaborative learning. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | | Prerequisite(s): degree- or nondegree-seeking grad stdnt; Credit only allowed for CHI 591 (Lang Teach Mthd & Prin) or CHI 596 or SLC 591 (Lang Teach Mthd & Prin) or SLC 596 or SPA 591 (Teach Mthd) or SPA 591 (Lang Teach Mthd & Prin) or SPA 596 |
| SPA | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPA | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SPA | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SLC 691 or SPA 691 |
| SPA | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |

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| SPA | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | |
| SPA | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SPA | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-12 | | |
| SPA | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-15 | | |
| SPA | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1 | | |
| SPA | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-15 | | |
| SPE | 222 | Orientation to Education of Exceptional Children | Introduces legal aspects of special education and community services to support students with disabilities. Also examines the nature and characteristics of students with disabilities as defined by federal law. Introduces high-leverage practices (HLPs) in special education to promote effective, inclusive practices for K-12 students with disabilities. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | SB & C | |
| SPE | 223 | Intersection of Society, Disabilities and Inclusion | Examines foundational factors affecting the impact of a disability on: equity, inclusion, personality, life circumstances, support systems and members of society. Future educators enhance their knowledge of varied inclusive experiences. Emphasizes the understanding of individual characteristics, cultural differences, civil rights and stereotypes. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | |
| SPE | 317 | Special Education for Culturally and Linguistically Diverse Children and Youth | General issues and practical applications regarding the education of culturally and linguistically diverse students with disabilities. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 30 hours |
| SPE | 321 | Classroom and SPE Assessment | Norm-referenced and criterion-referenced assessment and evaluation of student learning to determine eligibility, plan individualized programs and monitor progress of students with disabilities. Includes academic, language disorders and transition assessments. Emphasizes integration and adaptation of curriculum, instruction and evaluation for all students. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student; minimum 39 hours |
| SPE | 323 | Effective Practices and Behavior Interventions: Supports for Exceptional Students | Create, evaluate and analyze behavioral interventions and strategies for effective management of classroom behavior for all students, including those with learning exceptionalities across all learning environments and settings. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |
| SPE | 325 | Language Literacy 1 in Elementary Schools | Theoretical knowledge and pedagogical skills for implementing a high-quality reading program. Course objectives and topics are aligned to standards for reading and research from the International Reading Association (IRA), Arizona College and Career Ready Standards (ACCRS), Interstate Teacher Assessment and Support Consortium (InTASC) standards, and the National Reading Panel Report (2000). Focuses on emergent literacy, phonemic awareness, phonics, fluency, vocabulary and comprehension. Presents strategies and assessments to support students of a variety of ability levels and cultural backgrounds with a specific focus on the struggling readers and English language learners. For education majors only. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program; Credit is allowed for only RDG 322 or SPE 325 |
| SPE | 365 | Concepts, Principles and Foundations of Behavior Analysis | Focuses on the behavior of organisms (humans, animals and organizations) from an operant learning theory perspective. Students learn the philosophical underpinnings of the field of applied behavior analysis as well as basic concepts and principles that can be used to change behavior. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |

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| SPE | 366 | Measurement and Experimental Analysis of Behavior | Covers measurement and experimental design used by behavior analysts in schools, clinics and other community settings. Students gain knowledge and skills in data collection methods commonly used by behavior analysts, learn to graph data to measure improvement, and examine trends and patterns in the data. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SPE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | Prerequisite(s): minimum 45 hours |
| SPE | 396 | Clinical Experience I | Provides opportunities for students to engage as a teacher and learner in a variety of classroom settings that serve students with visual impairments. Fulfills two (2) of six (6) required semester hours of practicum in Special Education: Visual Impairments. Develops knowledge and skills for effective implementation of strategies for teaching skills and adaptations specific to visual impairments. Introduces the TAP instructional rubric, the college professionalism rubric, backwards design of a direct instruction lesson plan, and strategies for co-teaching. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-2 | | Prerequisite(s): admission to the Professional Program |
| SPE | 397 | Clinical Experience II | Develops knowledge and skills for effective classroom management, establishing a positive classroom environment, and effective lesson delivery. Continues use of the TAP instructional rubric, the college professionalism rubric, and strategies for co-teaching. Provides opportunities for students to engage as a teacher and learner in a classroom setting. Emphasizes focused observation; co-planning with a placement teacher; and co-teaching lessons to a whole group, small group and individual students. Successful completion of this course fulfills two (2) of eight (8) required semester hours of practicum as required by SBR R7-2-608 for an Elementary Education Teaching Certificate or two (2) of eight (8) required semester hours of practicum as required by SBR R7-2-602 for a Special Education Teaching Certificate. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2 | | Prerequisite(s): admission to the Professional Program; Credit is allowed for only EED 397 or SPE 397 |
| SPE | 400 | Language Development and Disorders | Language development course for the general education or special education teacher candidate. Covers how language develops and disorders from infancy through adulthood. Topics include the receptive and expressive language (prelinguistic communication, phonology, morphology, syntax, semantics, pragmatics) in speaking, listening, reading and writing for infants through adults with and without related disabilities. Students also understand the principles of prevention, assessment and intervention within the school environment and across multiple ecologies through transdisciplinary practices. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours |
| SPE | 404 | Instructional Design for Culturally and Linguistically Diverse Students | Provides a foundation in instructional design to meet the academic and linguistic needs of culturally and linguistically diverse students, with a focus on English language learners. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours; Credit is allowed for only BLE 404 or ELL 504 or SPE 404 |
| SPE | 410 | Mathematics in Elementary Schools | Methods of teaching mathematics to all students at the K-8 level, instructional planning and assessment. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours; Credit is allowed for only EED 412 or MTE 412 or SPE 410 |
| SPE | 411 | Special Education History and Law | Emphasizes historical and current state and federal laws impacting students with disabilities and ethical processes and procedures for instruction and services. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student; minimum 39 hours |
| SPE | 416 | Quality Practices in the Collaborative Classroom | Develops skills, strategies, and a knowledge base for preservice teachers in building collaborative partnerships with special educators. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-3 | | Prerequisite(s): admission to the Professional Program |
| SPE | 417 | Inclusion Practices at the Secondary Level | Applies curricular practice and how preservice teachers work with students with special needs in middle and secondary levels. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| SPE | 423 | Evidence-Based Practices for Students with Exceptional Needs | Focuses on implementing evidence-based methods and instructional supports, in a variety of settings, for students with mild to moderate disabilities in K-12 schools. Candidates utilize data from a variety of assessments to develop educational plans and support resources. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |
| SPE | 424 | Evidence-Based Practices for Students with Intensive Exceptional Needs | Foundational special education methods course provides aspiring teachers the opportunity to develop evidence-based practices by analyzing data from a variety of sources to inform instructional decision-making processes including assessment, environment and transition to support students with intensive exceptional needs in a goal-oriented educational community. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |

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| SPE | 430 | Professional Practices, Foundations and Collaborative Teaching in Special Education | Methods and issues in cooperative teaching for students with disabilities in the general education classrooms. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | L | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; ENG 101, 105, or 107 with C or better; minimum 56 hours |
| SPE | 431 | Collaborative Teaching Methods for General Education Classroom Environments | Methods and issues in cooperative teaching for special education students in general education classrooms. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| SPE | 441 | Reading and Writing Braille | Provides future teachers of students with visual impairments with the knowledge and skills for reading and writing braille that enable mastery of the literacy braille code. Students produce braille using a variety of methods, research resources for braille materials and electronic devices that support the braille teacher and student, and explore methods for teaching braille to readers of all ages. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours |
| SPE | 442 | Teaching Methodologies for Students with Visual Impairments | Provides a foundation for understanding the education of students with visual impairments (VI) with past and current practices and philosophies situated in the context of special education. Begins with a brief history of VI education, legislation and educational philosophies, including the prevalence of visual impairment in society and an overview of the visual system. Prospective teachers of students with VI learn to assess, plan and implement strategies that support students in accessing academic content, career objectives and activities of everyday living across the lifespan. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours |
| SPE | 443 | Foundations of Instruction for Students with Visual Impairments | Principles of curricular and instructional design for children with visual impairments with respect to licensure (pre-K-12). Emphasizes selecting, developing and adapting curricular and instructional units/themes/lessons so that they are appropriate for children within the licensure range. Students demonstrate knowledge of basic terminology related to the function of the human vision system and the implications for teaching and learning. Also discusses adaptations and modifications, especially of the general education curriculum. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SPE | 444 | Diagnostic and Assessment: Procedures for the Visually Impaired | Future teachers of the visually impaired learn to interpret medical records, conduct assessment, establish meaningful and measurable goals for an ISFP or IEP, and make recommendations for classroom accommodations, modifications and goals. Examines the impact of strategies with dual sensory loss and deaf-blindness for students in the classroom. Following an overview of the senses of hearing, touch, taste, smell as well as the vestibular and proprioceptive senses, the course examines how each sensory system supports access to information. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours |
| SPE | 445 | Orientation and Mobility for Teachers of the Visually Impaired | Leads future teachers of the visually impaired (TVIs) to become familiar with the philosophy and history of orientation and mobility. Explores the skills taught in orientation and mobility and experiences techniques taught to demonstrate those skills including concepts, protective techniques, sighted guide, pre-cane techniques, guide dogs and electronic aids in order to be a confident and efficient traveler. Emphasizes early concept development and mobility for students with visual impairment and multiple disabilities. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SPE | 446 | Modes of Communication | Explores multimodal teaching methods (i.e., braille, typing, script, note-taking, sound reproduction systems, listening skills, electronic reading devices and calculation) to support students who are blind or have visual impairments with communication. Students participate in laboratory experiences, so students can develop and demonstrate competencies in the skill of reading, producing and teaching braille as well as the skill of identifying and using assistive technology. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): SPE 441 |
| SPE | 447 | Student Teaching for Teachers of the Visually Impaired | Student teaching in preK-12 school classrooms is a synthesized experience in curriculum, instruction and classroom management. Successful completion fulfills six (6) required semester hours of education courses, including practicum in grades prekindergarten-12, which teach knowledge and skills such as learning theory, classroom management, methods and assessment, as required by the Standard Visually Impaired Special Education Certificate. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-12 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |
| SPE | 448 | Assessing and Improving Challenging Behavior in Schools and Clinics | Prepares future educators and clinicians to assess and determine the function of challenging behaviors among individuals of varying ages and skill levels. Students gain knowledge and experience with development of function-based interventions designed to increase socially significant skills and reduce maladaptive behaviors. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Behavior Analysis minor OR Visiting University Student |

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| SPE | 449 | Assessment and Program Planning for Diverse Learning Needs | Provides guided opportunities for future educators and clinicians to conduct skills assessments, create socially significant instructional plans, and design educational programming that is individualized and focused on maintenance and generalization of skills taught. Students explore the use of applied behavior analysis to improve and increase socially significant behaviors and skills for individuals with a variety of learning needs. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Behavior Analysis minor OR Visiting University Student |
| SPE | 450 | Professional and Ethical Practice in Behavior Analysis Service and Supervision | Provides a comprehensive overview of the Behavior Analyst Certification Board (BACB) Ethics Code for behavior analysts, emphasizing responsible conduct of a behavior analyst, respect for client dignity, confidentiality and ethics in supervision. Students examine common ethical dilemmas and research the history, trends and issues within human services fields. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Behavior Analysis minor OR Visiting University Student |
| SPE | 478 | Student Teaching: Special Education (Grades K-12) | Student teaching in special education classrooms grades K-12: synthesized experience in curriculum, instruction, assessment and classroom management. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 8 | | Prerequisite(s): admission to the Professional Program |
| SPE | 496 | Clinical Experience III | Applies course content in an instructional setting serving students with visual impairments. Emphasizes observation, pupil management, assessment, planning and delivering instruction to students with visual impairments. Continues use of the TAP instructional rubric, the college professionalism rubric, and strategies for co-teaching. Emphasizes focused observation; co-planning with a placement teacher; and co-teaching lessons. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; minimum 56 hours |
| SPE | 501 | Introduction to Research and Evaluation in Education | Overview of educational inquiry from controlled, quantitative to qualitative, naturalistic. Emphasizes locating and critically interpreting published research. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only COE 501 or ECD 503 or PPE 501 or SPE 501 or TEL 501 |
| SPE | 502 | Language and Communication Methods and Assessment | Theory and practice of language and communication development from infancy through adolescence. Explores language and communication disorders in children with and without disabilities and children who are culturally linguistically diverse speakers. Includes phonological processing, syntactical rules and pragmatics/social communication embedded in culture; and how to use formal and informal assessment data for intervention and differentiation of instruction. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 503 | Collaboration, Consultation and Family-Centered Practices | Provides definitions, models, activities and exploration in the various roles in collaboration, consultation and teamwork in the field of special education. Explores connections in depth with families, professionals and support personnel across disciplines and agencies. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SPE 503 or SPE 540 or SPE 541 |
| SPE | 504 | Elementary Methods in Content Areas | Advanced level of development of knowledge and skills of instructional planning and methods of teaching and evaluating in elementary schools. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 550 or SPE 504 |
| SPE | 505 | Collaborative Transition Planning for Students with Moderate to Severe Support Needs | Provides an introduction to transition planning for students with moderate to severe disabilities, focusing on person-centered planning and collaborative practices with families and interagency professionals. Places primary emphasis on understanding employment resources, community participation, collaborative practices, family systems and person-centered planning. Emphasizes understanding diversity in values, beliefs and traditions. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 506 | Advanced Methods Assessment, Curriculum Planning and Instructional Strategies in Moderate/Severe | Prepares teachers with the skills to effectively work with children and young adults with moderate to severe/profound disabilities (i.e., intensive support needs). Topics focus on assessment, curriculum planning and instructional strategies using evidence-based practices. Activities include direct observation and assessment techniques in inclusive environments; designing curriculum within multiple contexts with a focus on access to the general education in inclusive environments; selecting and implementing behavioral, communicative and instructional strategies; collaborative practices; and supporting across the educational lifespan of students. Emphasizes current research-based evidence to support students with intensive support needs. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): TEL 510 or degree- or nondegree-seeking graduate student |

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| SPE | 507 | Augmentative and Alternative Communication for Students with Intensive Support Needs | Focuses on issues and strategies for teaching communication to individuals with intensive support needs (i.e., students with moderate to severe/profound disabilities such as intellectual disability, autism or multiple disabilities). This terminology is reflective of a support-based model of disability rather than a deficits-based model. Discusses specific assessment and intervention strategies as they relate to augmentative and alternative communication systems. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 508 | Serving Students with Moderate to Severe Disabilities | Provides an overview of the characteristics of individuals with moderate to severe disabilities (intellectual disabilities, multiple disabilities, sensory impairment and physical disabilities); characteristics of this population; and the associated support needs in inclusive environments. Topics focus on the historical and legal contexts that influence services for this population; supports-based assessment and instruction; and key issues related to person-centered, collaborative planning for children, youth and adults with moderate to severe disabilities. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 509 | Individualized Positive Behavior Supports for Students with Intensive Support Needs | Knowledge and skills to assess, implement and evaluate positive behavior supports for students with intensive support needs (moderate to severe/profound intellectual disability, autism spectrum disorder, multiple disabilities), terminology reflective of a support-based model of disability rather than a deficits-based model. Students learn and apply the foundations of positive behavior supports, understanding the function of behavior and developing replacement behaviors, and implementing plans from a person-centered perspective that reflects the cultural needs of individuals and their families while drawing on interdisciplinary team members' expertise. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 510 | Assistive Technology Supports for Students with Intensive Support Needs | Focuses on specialized health care needs, policies and procedures for working with students with intensive support needs (i.e., students with moderate to severe/profound disabilities such as intellectual disability, autism or multiple disabilities). This terminology is reflective of a support-based model of disability rather than a deficits-based model. Provides an overview of methods for accommodating students including task or environmental modifications, assistive technology and adaptive equipment options. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 512 | Individuals with Intellectual Disability | Etiology, diagnosis and management of individuals with intellectual disability. Current trends in prevention, programming and teacher preparation. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): graduate student (degree seeking or nondegree seeking). Credit is allowed for only SPE 312 or SPE 512 |
| SPE | 513 | Instruction and Assessment for Learners with Exceptionalities | Focuses on methods, instruction and assessment in special education for K-12 students with mild and moderate disabilities, emphasizing assessment terminology, procedures and ethical principles, reading, writing, behavior and social-emotional learning. Also focuses on collaboration, co-teaching and partnering with families. Builds a foundation for methods and assessment in special education. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 520 | Verbal Behavior | Based on the theories of B. F. Skinner, this course increases student knowledge and understanding of the role of verbal behavior in learning and communication. Students gain experience recognizing the function of communication, applying standardized assessment measures to assess and develop targeted interventions to address communication challenges. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 521 | Foundations of Autism Spectrum Disorders | Increases the understanding of characteristics of individuals with autism. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 522 | Advanced Methods of Instruction and Assessment for Learners with Exceptionalities | Focuses on methods, instruction and assessment in special education for K-12 students with mild and moderate disabilities, emphasizing mathematics, writing, content area learning, social skills, transition, strategy instruction, and self-determination. Extends and builds upon the methods and assessment concepts in previous course work. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): SPE 513 |
| SPE | 524 | Effective Classroom Behavior Management | Addresses behavioral management techniques for children with special needs, including the organization and delivery of instruction and functional behavioral analysis. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SPE | 525 | Measurement, Data Display, Interpretation and Experimental Design | Examines data collection techniques, design methodologies, visual analysis and interpretation approaches. Students gain expertise and practical experience in the interpretation and application of experimental design to inform decision making. Focuses on evaluation of the effectiveness of interventions through use of behavior analytic technologies in clinical and applied settings. Students learn to interpret and describe behavior in behavior analytic terms and explain concepts and approaches in everyday language. Students research and evaluate skill assessment approaches through strategic review of the behavior analytic literature. Course addresses single-subject methodologies to inform design and delivery of effective instruction and clinical interventions. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 526 | Concepts and Principles of Applied Behavior Analysis | Provides an overview of and introduction to the basic concepts and principles of applied behavior analysis. Students gain understanding of behavior analytic process and terminology, defining and providing examples of concepts and principles and applying to a range of situations. Applied behavior analysis is the process of systematically applying interventions based upon the principles of learning theory to improve socially significant behaviors to a meaningful degree, and to demonstrate that the interventions employed are responsible for the improvement in behavior. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 527 | Behavior Analytic Assessment | Focuses on assessment procedures of applied behavior analysis. Students learn to determine the need for behavior-analytic services; identify, design and prioritize socially significant behavior change goals; conduct assessments of relevant skill strengths and deficits; conduct preference assessments; describe the common functions of problem behavior; conduct a descriptive assessment of problem behavior; conduct a functional analysis of problem behavior and interpret functional assessment data. Critically evaluates environmental variables in order to make informed recommendations for behavior change. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 531 | Methods of Applied Behavior Analysis for Exceptional Populations | Methods based on the principles and concepts of applied behavior analysis. Students learn to operationally define problem behavior, conduct functional behavior assessment and generate recommendations for the development of behavior analytic interventions. Students gain knowledge and understanding of specific scientifically valid behavior change procedures. Discusses and applies their corresponding literature base. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 534 | Assessment and Evaluation for Children with Special Needs | Norm-referenced and criterion-referenced assessment and evaluation of student learning to determine eligibility, plan individualized programs, and monitor progress of students with disabilities. Includes assessments in academic areas, language disorders and transition. Emphasizes integration and adaptation of curriculum, instruction and evaluation for all students. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 535 | Curricula, Methods, Technology, and Adaptations in Special Education | Develops strategies for effective adaptation of special education and general education curriculum through use of technology. Includes methods for addressing special needs in reading, math and language disorders. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 536 | Characteristics of Children with Behavioral Disorders | Variables contributing to behavior patterns of behaviorally disordered children. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 538 | Language and Literacy I | Focuses on the theoretical knowledge and pedagogical skills necessary to equip future teachers to plan and implement high-quality reading and writing instruction in a classroom setting. Course objectives and topics are aligned to standards for reading and research from the International Reading Association (IRA), Arizona College and Career Ready Standards (ACCRS), Interstate Teacher Assessment and Support Consortium (InTASC) standards, and the National Reading Panel Report (2000). Focuses on reading readiness, language development, phonemic awareness, phonics, fluency, vocabulary and comprehension. Presents strategies and assessments to support struggling readers as well as a variety of ability levels and cultural and linguistic backgrounds to include English language learners. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): Teachers College graduate student; Credit is allowed for only RDG 531 or SPE 538 |
| SPE | 540 | Family-Centered Practices | Provides definitions, models, activities and exploration in the various roles in collaboration, consultation and teamwork in the field of special education. In-depth exploration of connections with families, professionals and support personnel across disciplines and agencies. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SPE | 541 | Consultation Frameworks and Issues | Models, activities, and roles of educational consultants working with families, professionals, and support personnel across disciplines and agencies. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 548 | Cross-Categorical Foundations: LD, ED, MR, & PI/OHI | Foundations course compares cognitive, motor, and affective developmental and educational issues across LD, ED, MR, and PI/OHI. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 555 | Inclusive Practices for Diverse Learners | Adapting instruction and assessment to meet the needs of all learners in inclusive settings. Includes the creation of plans to address challenging classroom behaviors. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 556 | Internship I | Develops knowledge and skills for effective classroom management, establishing a positive classroom environment, and examining K-12 learner behavior. Provides opportunities for students to engage as a teacher and learner in a classroom setting. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-8 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 557 or SED 557 or SPE 556 |
| SPE | 558 | Special Education Foundations: Law, IEPs, Assessment and Ethical Practice | Provides special education professionals with knowledge and skills to improve the academic achievement and functional performance of children with disabilities, including the use of scientifically based instructional practices, to the maximum extent possible. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 559 | Methods for Teaching Diverse Learners | Apprentice teachers select a specific population, based on placement (mild to moderate or moderate to severe), for individualized investigation. Utilizes practical strategies for curriculum development and IEP implementation. Gains a deeper understanding of their practice by analyzing and reflecting for the purposes of monitoring and adjusting instruction. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Pre-requisite: MEd Special Education (Teacher Certification) major |
| SPE | 560 | Behavior Change Procedures: Implementing Interventions in Behavior Analysis | Examines scientifically validated behavior change procedures. Students gain experience critically analyzing and selecting interventions informed by measurement, data display and interpretation. Students gain experience in application of knowledge by conducting a behavior change project, analyzing, interpreting and presenting results. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 561 | Characteristics/Diagnosis of Learning Disabilities | Theories related to learning disabilities, including identification and characteristics. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 562 | Personnel Supervision and Organizational Behavior Management in Educational Settings | Focuses on the use of data informed procedures for training, management, supervision and support of behavior health practitioners in educational settings. Students gain experience and develop expertise with organizational behavior management (OBM) techniques. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 563 | Philosophical Foundations of Applied Behavior Analysis in Educational Settings | Reviews the history and foundations of the field of applied behavior analysis in educational settings. Interprets the impact and utility of radical behaviorism and experimental analysis of behavior in classrooms, clinics, homes and community settings. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 564 | Controversial Therapies; Science, Fad and Pseudoscience in Educational Settings | Investigates the role and impact of fads, pseudoscience, false beliefs, dubious assumptions and spurious reasoning on treatment decisions of professionals, politicians, educators, parents and clients in educational settings. Interprets philosophical positions and traditions that influence and inform consumers in selection of treatments. Examines and designs responsible evaluation and strategies for effective communication. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 565 | Behavior Change Systems | Focuses on applied behavior analysis-based behavior change systems and procedures. Students learn to identify, implement, manage and supervise interventions based on fundamental elements of behavior change. Addresses behavior change considerations, including ethical use of behavior change systems and ongoing data collection for fidelity and progress monitoring. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): SPE 531; SPE 566; degree- or nondegree-seeking graduate |
| SPE | 566 | Applied Behavior Analysis in Inclusive Settings | Examines definitions, characteristics, assumptions and basic principles of applied behavior analysis. Describes and applies fundamental elements of behavior change, including reinforcement schedules, modeling, shaping, chaining and other behavior change procedures. Activities center on the design and delivery of social skill interventions with individuals with special needs in inclusive settings. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SPE | 567 | Ethics of Applied Behavior Analysis | Addresses knowledge and application of the Behavior Analyst Certification Board (BACB) Ethics Code for Behavior Analysts. Examines and resolves ethical dilemmas which may be encountered by behavior analysts. Addresses roles and responsibilities of members of a multidisciplinary treatment team composed of educators, behavior analysts, parents, learners and other professionals. Students conduct risk-benefit analysis of evidence-based treatment approaches and develop declarations of professional practices and procedures for behavior analysts. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 568 | Behavior Assessment | Focuses on critical aspects of applied behavior analysis, experimental design and the identification and implementation of effective assessment methodologies. Addresses client-centered responsibilities of the behavior analyst including problem identification, measurement, assessment, data collection and analysis. Students gain experience conducting functional behavior assessment and stimulus preference assessment to inform intervention design. Emphasizes measuring and ensuring treatment integrity. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): SPE 531; SPE 566; degree- or nondegree-seeking graduate. Credit is allowed for only SPE 568 or SPE 598 (Behavioral Assessment) |
| SPE | 569 | Research Methods in Applied Behavior Analysis | Students gain expertise and practical experience in the interpretation and application of experimental design to inform decision making. Focuses on evaluation of the effectiveness of interventions through use of behavior analytic technologies in clinical and applied settings. Students learn to interpret and describe behavior in behavior analytic terms and explain concepts and approaches in everyday language. Students research and evaluate skill assessment approaches through strategic review of the behavior analytic literature. Course addresses single-subject methodologies to inform design and delivery of effective instruction and clinical interventions. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; SPE 531; SPE 566 |
| SPE | 570 | Internship II | Develops knowledge and skills for effective classroom management, establishing a positive classroom environment and effective lesson delivery. Reinforces the application and evaluation of the NIET Aspiring Teacher Rubric. Provides opportunities for students to engage as a teacher and learner in a classroom setting. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-8 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 567 or SED 567 or SPE 570 |
| SPE | 571 | Apprentice Teaching I | Semester one of apprentice teaching in an elementary (EED)/secondary (SED)/special education (SPE) setting for students who are currently working as the teacher of record. Introduces classroom management, curriculum, instruction and assessment supervised and reinforced by a clinical instructor. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 571 or SED 571 or SPE 571 |
| SPE | 572 | Testing and Measurement in Gifted Education: Methods | Covers current and historical aspects of testing and measurement in the field of gifted education. Topics include: the history and purposes of IQ testing, definitions of various types of tests, purposes of testing for gifted education services, ability tests and achievement measures, how tests are used in Arizona in programs for gifted learners. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SPE 572 or SPE 591 (Testing&Measurement Gifted Ed) |
| SPE | 573 | Differentiating Instruction for Gifted Learners: Teaching Methods | Explores the design of differentiated curriculum and instruction for gifted learners in elementary and secondary education | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Pre-requisite: Graduate student (degree seeking or nondegree seeking); Credit is allowed for only SPE 573 or 591 (Diff Curriculum Gifted Child) |
| SPE | 574 | Apprentice Teaching II | Semester two of apprentice teaching in an elementary (EED)/secondary (SED)/special education (SPE) setting for students who are currently working as the teacher of record. Reinforced application of developing proficiency in classroom management, curriculum, instruction and assessment occurs through supervision and individualized support by a clinical instructor. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 574 or SED 574 or SPE 574 |
| SPE | 575 | Survey, Issues, and Foundations for the Exceptional Student | Explores the foundations of special education through characteristics and eligibility of exceptional students. Analyzes historical, political, social, and legal factors impacting special education services for exceptional students. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 576 | Internship III | Develops knowledge and skills for creating learning experiences for a range of learners, executing instructional cycles, using assessment methods and reflecting on best teaching practices. Provides opportunities for pre-service educators to engage as a teacher and learner in a professional experience setting. | Y | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-8 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 576 or SED 576 or SPE 576 |
| SPE | 578 | Residency/Student Teaching in Special Education | Student teaching in special education school classrooms. Synthesized experience in curriculum, instruction and classroom management. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SPE | 579 | Apprentice Teaching III | Semester three of apprentice teaching in an elementary (EED)/secondary (SED)/special education (SPE) setting for students who are currently working as the teacher of record and enrolled in the masters plus certification program. Continued development toward proficiency in classroom management, curriculum, instruction and assessment. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 579 or SED 579 or SPE 579 |
| SPE | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 581 | Dual Certification Residency | This eight-week residency experience meets the special education (SPE) requirement for dual certification in elementary and special education. Includes practicum-based experiences and supervision in curriculum, instruction and classroom management. | N | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-8 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 585 | Creativity: Foundations of Research and Development in Gifted Education | Explores nature of creativity in terms of philosophical underpinnings, empirical evidence, human development, self-actualization, and the ecology surrounding the creative event. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 586 | Advising the Gifted Learner: Social and Emotional Needs | Focuses on educational planning and guidance, social and emotional development, and family problem solving regarding needs of gifted children. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 587 | Special Populations in Gifted Education | In-depth analysis of major controversies in educating the gifted, including nature/nurture, the role of mental tests, and sex differences. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 588 | The Gifted Learner: Foundations of Identification, Education and Development | Gifted children's characteristics, identification, needs, school and home environments, definitions, and misunderstandings. Research by Pressey, Stanley, Terman, and others. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 589 | Gifted Education Programming: Models, Methods and Services | Approaches for designing and implementing optimal and comprehensive gifted education services in a broad range of educational settings. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Special Education Graduate student |
| SPE | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 593 or SED 593 or SPE 593 |
| SPE | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Special Education Graduate student |
| SPE | 596 | Residency/Student Teaching | Student teaching in elementary (EED), secondary (SED), or special education school classrooms. Synthesized experience in curriculum, instruction and classroom management. | Y | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-8 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only EED 596 or SED 596 or SPE 596 |
| SPE | 597 | Capstone | Applies theoretical and practical information presented through coursework in a real-world setting. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Special Education Graduate student |
| SPE | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|--------------------------------------|---|-------|-----------------|--|
| SPE | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Pre-requisite: Special Education Graduate student |
| SPE | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SPE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Pre-requisite: Special Education Doctoral student |
| SPF | 301 | Culture and Schooling | For the professional teacher preparation program. Overview of the cultural, social, and political milieus in which formal schooling takes place in the United States. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| SPF | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-12 | | |
| SPF | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| SPF | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Pre Requisite: Must be Post Bacc UG, Non Degree Graduate or Degree Graduate |
| SPF | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Pre Requisite: Must be Post Bacc UG, Non Degree Graduate or Degree Graduate |
| SSH | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | |
| SSH | 300 | Food and Culture | Uses the case of food to explore how culture shapes human well-being, including the impact of political-economic systems on what we have and chose to eat. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | (L or SB) & C | Pre-requisite: ENG 101, 105, 107, or ENG 111; Credit is allowed for only ASB or SSH 300 |
| SSH | 301 | Global History of Health | Examines disease and health transitions in broadest context of human history, from primate ancestors to hunter-gatherers, to transcontinental contact, colonialism, industrialization, urbanization. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | SB & G & H | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 301 or HST 301 or SSH 301 OR Visiting University Student |
| SSH | 314 | HIV/AIDS: Science, Behavior, and Society | Overview of the basic biological, behavioral, and psychosocial aspects of HIV disease and AIDS. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only MIC 314 or SSH 314 OR Visiting University Student |
| SSH | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | |
| SSH | 402 | Community Partnerships for Global Health | Supervised community-based activities relevant to a global perspective on contemporary U.S. health. Addresses community-identified issues using appropriate methodologies. | N | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3-9 | SB | Prerequisite(s): ASB 100; minimum 45 hours; Credit is allowed for only ASB 452 or SSH 402 OR Visiting University Student |

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| SSH | 403 | Cross-Cultural Studies in Global Health | Direct investigations of society, ecology, and health in international settings. | N | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 3-6 | (L or SB) & G | Prerequisite(s): ASB 100; ENG 101, 105, or 107 with C or better; Credit is allowed for only ASB 443 or SSH 403 OR Visiting University Student |
| SSH | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-4 | | |
| SSH | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SSH | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRA | Y | Z1 | College of Liberal Arts and Sciences | School of Human Evolution and Social Change | 1-12 | | |
| SSP | 142 | Sports Performance Practical Training | Introduces protocols used when preparing athletes to perform at the highest intensity levels. Practical experience enables better appreciation of science and precise detail required to deliver effective sports performance programs and recognition of differences in training protocols among populations. | N | LEL | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | |
| SSP | 242 | Resistance Training Foundations for Performance | Applied course that reviews the fundamental science behind resistance training and provides the student with opportunities to improve execution and learn appropriate coaching strategies for the foundational lifts used in a sports performance setting. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Pre- or corequisite(s): SSP 142 with C or better if completed OR Visiting University Student |
| SSP | 275 | Experiential Seminar for Sports Science | Experiential course designed to introduce students to the various career opportunities in the field of sports performance training or sports science. Students review current research, training concepts, discuss evidence-based practice in sports performance. Explores guest speaker and peer discussions on current trends in the field. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 101; Pre- or corequisite(s): SSP 242 OR Visiting University Student |
| SSP | 315 | Exercise and Sport Physiology | Develops an understanding of the body's abilities to perform various types and intensities of exercise and sport, to adapt to stressful situations, and to improve its physiological capacities. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): BIO 160 or 201 with C or better; Corequisite(s): SSP 316 (EXW 316) OR Visiting University Student |
| SSP | 316 | Exercise and Sport Physiology Laboratory | Allows for exploration and application of exercise physiology theories in controlled experiments measuring performance capacities. | N | LAB | N | GNA | College of Health Solutions | College of Health Solutions | 1 | | Prereq(s): BIO 160 or 201 w/C or better; Coreq(s): non-Exercise & Wellness BS or non-Kinesiology BS maj: SSP 315 (EXW 315); Pre- or coreq(s): Exercise & Wellness BS or Kinesiology BS maj: KIN 340 w/C or better if completed OR Visiting University Student |
| SSP | 320 | Coaching Leadership, Performance Team and Facility Management | Discusses leadership traits and philosophies necessary to be an impactful coach and team leader. Reviews management details necessary to successfully operate a performance center and meets the business acumen competencies for the NSCA Certified Strength and Conditioning Specialist (CSCS) examination. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only EXW 320 or SSP 320 OR Visiting University Student |
| SSP | 325 | Applied Anatomy and Biomechanics of Sport and Movement | Provides a detailed introduction into the mechanics of motion and the underlying anatomy that provides the structure for that motion. Students learn to appreciate the consequences of external forces, how the body generates internal forces to maintain position, the consequences on the structure of handling the forces and an applied knowledge of how the result of these forces is motion. Emphasizes applying biomechanical principles to analysis of human performance and understanding the background for movement optimization science and the reduction of injury potential through movement correction. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 4 | | Prerequisite(s): BIO 201 with C or better; KIN 101 with C or better OR Visiting University Student |
| SSP | 423 | Performance Testing and Technology | A detailed presentation of laboratory and field-based methods used to evaluate athletic performance and measure effectiveness and progress of sports performance training routines. Students are shown the skills to evaluate the most effective tools, techniques and technologies available to carry out individual and team based assessments. Students are exposed to the best practices of performance testing and the wide range of available methods to determine different performance measures, allowing them to make the most effective and cost-efficient choice when asked to make those decisions in the field. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): SSP 315 (EXW 315); SSP 316 (EXW 316); SSP 325 OR Visiting University Student |

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| SSP | 434 | Plyometrics, Sports Movement and Conditioning | Applied course providing students with experience and knowledge in plyometric exercise, sprint technique, sports movement skills and sport conditioning program design. Information applies to professionals working with individuals in whom a major goal of their physical activity program is to maximize human performance potential either for personal fitness goals or success in specific sports or for applications in occupational athletes (military, fire and police). Guides students in development of techniques and skills critical to safe, effective and motivating instruction of advanced speed, agility and conditioning exercises and programs for varying individuals and teams. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): SSP 325; Pre- or corequisite(s): SSP 315 (EXW 315); Credit is allowed for only EXW 534 or SSP 434 (or EXW 434) OR Visiting University Student |
| SSP | 460 | Resistance Training Application and Theory | Covers advanced resistance training and performance programming methodologies. Applies to professionals working with individuals in whom a major goal of their physical activity program is to maximize human performance potential either for personal fitness goals or success in specific sports or for applications in occupational athletes (military, fire and police). Guides students in development of techniques and skills critical to safe, effective and motivating instruction of advanced resistance training exercises and programs for varying individuals and teams. Addresses a significant number of core competencies identified for the NSCA Certified Strength and Conditioning Specialist (CSCS) examination. | N | LEC | N | OPT | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): EXW 215, EXW 216, or SSP 242 with C or better; minimum 60 hours; Credit is allowed for only SSP 530 (or EXW 530) or SSP 460 (or EXW 460) OR Visiting University Student |
| SSP | 461 | Performance Programming Components and Periodization | Culminating course allows students to construct complete performance training programs using all of the performance activity components (power, conditioning and strength) learned throughout the degree program. Students select how to apply correct periodization models to their program designs based on athlete or client needs and experience. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s) with C or better: EXW 330, KIN 335, or SSP 325; KIN 340 or SSP 315 (EXW 315); Credit allowed for only SSP 461 or EXW 494/598 (Plyometrics & Power Transfer Exercise) or EXW 598 (Plyometrics & Power Training) OR Visiting University Student |
| SSP | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): SSP 275 with C or better; SSP 315 (EXW 315) with C or better; SSP 325 with C or better |
| SSP | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Health Solutions | College of Health Solutions | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SSP | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-3 | | |
| SSP | 501 | Data Collection, Analysis and Interpretation in Strength and Conditioning | Discusses the use of evidence-based practice and scientific principles to assess athletes, analyze the results and interpret the data for application. Provides a comprehensive understanding of the theories and methods which provide the framework for implementing strength and conditioning programs. Explores research methods and examines ethical and cross-cultural considerations when collecting testing data. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SSP | 530 | Advanced Performance Programming | Covers the application of periodization principles to the design of a comprehensive performance-based training program including appropriate assessment and recovery strategies. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 530; KIN 540 |
| SSP | 534 | Measurement and Monitoring in Sport and Fitness | Sports and/or tactical performance coaching involves the integration of athlete monitoring and readiness techniques. Presents the student with the assessment knowledge necessary to provide feedback for the sport coach and athlete to utilize in planning their performance. Covers information regarding the theory behind quantitative analysis techniques, proper equipment usage, data processing, and the connection of all of the above to exercise science principles. Students also gain experience utilizing advanced equipment and technologies common in the performance field. Additionally, students make recommendations and assign exercises to correct impaired movement, when appropriate. | N | LEL | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): KIN 540 |
| SSP | 560 | Performance Sports Coaching | Discusses the use of evidence-based practice and scientific principles to design the optimal training session for athletes. Application of lessons learned from motor learning, skill acquisition and sport psychology shift the focus of training sessions to learning rather than performance outcomes. | N | LEC | N | GNA | College of Health Solutions | College of Health Solutions | 3 | | Prerequisite(s): Strength and Conditioning MS student |
| SSP | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | PRA | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SSP | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SSP | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SSP | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Health Solutions | College of Health Solutions | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SSP | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | LEC | Y | Z3 | College of Health Solutions | College of Health Solutions | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SST | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-3 | | |
| SST | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| SST | 220 | Introduction to Social Transformation | Introduces key concepts in the study of social change, social innovation, and social transformation. Studies examples of social movements, social activism, community organizing, and coalition building and how such efforts have transformed society and culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Credit is allowed for only APA 220 or JUS 220 or SST 220 |
| SST | 235 | Disability, Justice and Advocacy | Overarching history of the disability rights movement and how it is similar to and different from other civil and rights movements. Examines how policies and activism are interconnected within this movement, in addition to looking at other human categories related to disabilities such as gender, sexuality, race and socioeconomic status. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | C | Credit is allowed for only COM 235 or JUS 235 or SST 235 or WST 235 |
| SST | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| SST | 301 | Mixed Research Methods for American Communities | Provides a foundation in the concepts and tools of community-based participatory research for studying American cultures, including how to identify and utilize appropriate quantitative and qualitative research methods for working with diverse American communities. Students learn to take part in participant observation, conduct surveys, interviews and focus groups as well as explore existing data sets to conduct secondary data analysis and utilize visual and narrative means of data collection and presentation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; MAT 117, 142, 170 or completion of MA General Studies course; minimum 2.00 GPA; minimum 24 hours |
| SST | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| SST | 428 | Critical Race Theory | In-depth analysis of the ways in which race has been historically utilized, constructed, and contested in American civil society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only AFR 428, APA 428, JUS 428 or SST 428 OR Visiting University Student |
| SST | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| SST | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-6 | | Prerequisite(s): Barrett Honors student |
| SST | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-6 | | Prerequisite(s): Barrett Honors student |
| SST | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| SST | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-7 | | |
| SST | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-3 | | |
| SST | 501 | Foundations of Social Transformation | Introduces the foundations of social transformation and social change. Looks at social transformation through an interdisciplinary lens and explores the connections between the objective and subjective factors that enable or inhibit social transformation in different contexts. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SST | 510 | Social and Cultural Pedagogy: Theoretical and Practical Issues | Engages students with the academic literature and scholarly debates on social and cultural pedagogy, reviews practical lessons from the field, and provides an overview of different areas of intervention and professional practice. Considers the historical, local, and international dimensions of social and cultural pedagogy, illustrating them with selected case studies. Encourages the study of social and cultural pedagogy using a critical and interdisciplinary perspective. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SST | 520 | Learning Technologies in Native Education | As the Internet and digital devices become more accessible in Indian country, educators are increasingly developing digital systems for formal and informal learning environments. From distance learning systems to digital language learning and apps for informal learning, this course reviews types of educational technologies in different American Indian and Indigenous educational settings, highlighting the relationship among technical affordances, pedagogical approaches, and social impacts. Students (1) understand how technical affordances shape learning in face-to-face and online environments; (2) describe the relationship between digital learning tools and curricular and programmatic objectives; and (3) describe and propose the basic limitations and possibilities of types of educational technologies for specific American Indian and Indigenous educational settings. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SST | 530 | Culture and Education | Examines the relationship between local cultures, local knowledge and education. Drawing from comparative and international education and paying particular attention to the world's most marginalized populations--Indigenous peoples. Additionally, explores historical trajectories of education, the global expansion of schooling, state and international education and language policies, as well as notions of local/Indigenous resistance, agency, response and educational innovation. Three major sections comprise the course: (1) patterns in education and language policy for historically underrepresented and underserved populations; (2) the role of families, communities and local and place-based pedagogies; and (3) alternative models of education toward social transformation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SST 530 or SST 591 (Culture and Education) |
| SST | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| SST | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| SST | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| SST | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| SST | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| SST | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| SST | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| SST | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Social Transformation | 1 | | |
| SST | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| SST | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | IND | Y | Z2 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |

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| SST | 604 | Sexuality Studies | Examines the social construction of sexuality, sexual identities and cultures, including LGBT people and other non-normative gender and sexual formations not captured by modern LGBTQ categories. Studies genders and sexualities that both pre-date current LGBT subjectivities and community formations, as well as develops theoretical and analytic tools to examine future gender and sexual possibilities. Interrogates forms of heterosexuality, heteronormativity and homonormativity, from an intersectional perspective. Examines issues and institutions that impact and are impacted by sexuality as a vector of power, such as sexual stratification, carceral genders and sexualities, reproductive rights/justice, sexual health and justice, HIV/AIDS and disease, sex work, the state and legal system, and transnational and diasporic sexualities, just to name a few. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SST | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| SST | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| SST | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| SST | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-15 | | |
| STC | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 501 | Theories of Data and Society | Surveys the development of social theory with regard to structures of knowledge and data exchange. Prepares students to engage in theory building and deploy theoretical frameworks that inform and support their social research. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 505 | Theories of Social Technology | Examines key theories of social technologies from social and behavioral perspectives. Examines the political dimensions of technologies; technology's role in constructing social structures; and how mobile technologies encourage, structure and delimit social interaction. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 510 | Data Wrangling | Provides a technical grounding in the processes of extracting, processing and combining data for the purposes of understanding social and institutional changes. Introduces structures of the Web, programming for the extraction of data, storing data effectively, and basic tools for manipulating, visualizing, summarizing and transforming collected data. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 512 | Data, Places, People and Things | While the Web continues to be our front door to networked data, the fastest growing segment of internet traffic is produced and consumed by sensors and embedded systems. Examines the ways in which these data may be acquired and used, and how new locative technologies may be prototyped to help understand their social impact. | N | LEL | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only STC 512 or STC 598 (Mobile & IoT Systems) |
| STC | 520 | Advocacy and Social Technology | Examines the potential for social technology in advocating for social change. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 525 | Politics and Social Technology | Concerns the political implications of social technology. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 527 | Ethics and Policies of Social Data | Explores the applied ethics of data, and how this relates to public policy, both from a social and an institutional perspective. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 528 | Communicating Data Science | Making use of data means more than just designing algorithms that work consistently. Big data is useless if it cannot be effectively communicated to those who need it, whether that is policy makers, managers or the public at large. Participants acquire techniques that allow them to effectively communicate complex data in writing, verbally, visually and through interfaces. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| STC | 530 | Algorithmic Society | Examines perspectives on the algorithmic turn, including the emergence of software studies, big data, platformed sociability and automation. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 535 | Networked Social Technology | Surveys human and social behaviors from the perspective of networks, with an emphasis on social technology. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 536 | Networked Publics | Traces the move from mass society to networked society and the changes this has led to in the public sphere, political participation and systems of governance. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 537 | Technologies of Community | Examines the ways in which communities form, manage themselves, and improve through the use of networked technologies. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 539 | Social Search and Filtering | Traces the role of search (and search engines) in the development of networked knowledge; how this biases social access to information; and the technologies of filtering, ranking and sorting that increasingly affect social access to information. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only STC 539 or STC 598 (Search, Algorithms, and Society) |
| STC | 540 | Critical/Cultural Approaches to Social Technology | Examines critical and cultural studies approaches to social technologies. Explains a critical/cultural studies approach to social issues and the cultural and social dimensions of technologies. Explores how social technologies both shape and are shaped by power and how cultural understandings of technology contribute to the shaping of everyday life. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 545 | Games as Social Technology | Explores how games as networked and collaborative technologies facilitate community formation, interaction and development. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 547 | Political Economy of Social Technologies | Examines the economic, political and material structures of contemporary social and participatory media. Considers patterns of ownership, regulatory policy, corporate ideology and practice, intellectual property, the nature of labor in the information economy, and more, all with an eye toward understanding how social technologies are developed, distributed and deployed. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 550 | Computational Social Methods I | Provides a foundation in the structure of scholarly inquiry and research design in the context of data and society. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 551 | Computational Social Methods II | Extends exposure to advanced computational methods in the practice of social science. | N | SEM | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 570 | Social Data Projects | Participants collaborate on a substantial project relating to social use of data. In the process they bring to bear their theoretical and technical skills and demonstrate professional interaction and communication skills. Participants also produce a public portfolio of their work during their graduate program. | N | PRA | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | REC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| STC | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1 | | Prerequisite(s): Social Technologies MA student |
| STC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STC | 599 | Thesis | Supervised research focused on preparation of a thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | New College of Interdisciplinary Arts and Sciences | School of Social and Behavioral Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STM | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Ira A. Fulton Schools of Engineering | Dean, Ira A. Fulton Schools of Engineering | 1-12 | | |
| STP | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| STP | 226 | Elements of Statistics | Basic concepts and methods of statistics, including descriptive statistics, significance tests, estimation, sampling, and correlation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | CS | Prerequisite(s): MAT 117 or 142 or other course meeting General Studies MA requirement with C or better or ALEKS score of 61 or higher OR Visiting University Student |
| STP | 231 | Statistics for Life Science | Concepts and methods of statistics; display and summary of data, interval estimation, hypothesis testing, correlation, regression. Applications to biological sciences. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | CS | Prerequisite(s): MAT 117 or 142 or higher with C or better or ALEKS score of 61 or higher OR Visiting University Student |
| STP | 280 | Probability and Statistics for Researchers | Methods for data summary, numerical summary measures, probability concepts, discrete and continuous probability distributions, expected values, statistics, sampling distributions, point estimation, and introduction to statistical inference for a single parameter. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | CS | Prerequisite(s): MAT 251, 265, or 270 with C or better OR Visiting University Student |
| STP | 281 | Statistical Analysis for Researchers | Confidence intervals, hypothesis testing, one- and two-factor analysis of variance, simple linear regression, multiple regression, chi-square tests, and introduction to statistical quality control. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): MAT 266 or 271 with C or better; STP 280 with C or better OR Visiting University Student |
| STP | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| STP | 298 | Honors Directed Study | Independent study or practicum under the supervision of a faculty member. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| STP | 310 | Design and Analysis of Experiments | Factorial and nested designs, randomized designs, randomized complete block designs, Latin squares, fixed and random effects, expected mean squares, multiple comparisons, and analysis of covariance. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 320 with C or better; STP 226 with C or better OR STP 281 or 420 with C or better OR Visiting University Student |
| STP | 311 | Regression and Time Series Analyses | Simple linear regression, multiple linear regression, indicator variables, influence diagnostics, stepwise selection, logistic regression, introduction to time series models, autocorrelation, and some ARIMA models. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 320 with C or better; STP 226 with C or better OR STP 281 or 420 with C or better OR Visiting University Student |
| STP | 315 | Statistical Computing | Statistical techniques using a professional statistical programming language (e.g., SAS, R). Emphasizes correct methods, writing and presentation of results | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): ACO 320 with C or better; STP 226 with C or better OR STP 280, 310, or 311 with C or better OR Visiting University Student |
| STP | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-4 | | |
| STP | 420 | Introductory Applied Statistics | Introductory probability, descriptive statistics, sampling distributions, parameter estimation, tests of hypotheses, chi-square tests, regression analysis, analysis of variance, and nonparametric tests. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | CS | Prerequisite(s): MAT 210, 251, 265, or 270 with C or better OR Visiting University Student |
| STP | 421 | Probability | Laws of probability, combinatorial analysis, random variables, probability distributions, expectations, moment-generating functions, transformations of random variables, and central limit theorem. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 267 or 272 with C or better; Credit is allowed for only ACT 415 or ACT 515 or STP 326 or STP 421 or Visiting University Student |
| STP | 425 | Stochastic Processes | Markov chains, stationary distributions, pure jump processes, 2-D order processes, and other topics in stochastic processes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 342 or 343 with C or better; MAT 371 with C or better; STP 421 with C or better OR Visiting University Student |
| STP | 427 | Mathematical Statistics | Limiting distributions, interval estimation, point estimation, sufficient statistics, and tests of hypotheses. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): ACT 415 or STP 421 with C or better; STP 281 or 420 with C or better OR Visiting University Student |
| STP | 429 | Applied Regression | Statistical inference for controlled experimentation. Multiple regression, correlation, analysis of variance, multiple comparisons, and nonparametric procedures. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | CS | Prerequisite(s): STP 420 with C or better OR Visiting University Student |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--|---|-------|-----------------|---|
| STP | 450 | Nonparametric Statistics | Rank- and order-based tests and estimation procedures for 1 sample and 2 or more related or independent samples, measures of correlation, and introduction to resampling methods, including bootstrap and randomization tests. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): STP 311 with C or better OR Visiting University Student |
| STP | 451 | Quality Improvement | In-depth concentration on statistical process control for attribute and variables data, process capability analysis and measurement systems analysis. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): STP 310 with C or better OR Visiting University Student |
| STP | 452 | Multivariate Statistics | Statistical analysis of multivariate data including methods for preparation and presentation of multivariate data, MANOVA, discriminant analysis, principal component analysis, factor analysis, cluster analysis, random forests and classification trees. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): MAT 343 with C or better; STP 311 with C or better OR Visiting University Student |
| STP | 460 | Categorical Data Analysis | Statistical methods for the analysis of categorical (discrete, count) data. Topics include exact and approximate tests and confidence intervals for one- and two-binomial proportions, contingency tables, generalized linear models, logistic regression and loglinear models. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): MAT 272 with C or better; STP 310 with C or better; STP 311 with C or better OR Visiting University Student |
| STP | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z2 | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-12 | | |
| STP | 485 | Statistics Capstone | Students work in a team and partner with a client to solve a real-world problem requiring statistical analyses. Emphasizes problem development, integration of technical skills, teamwork and communication among the students and with the client. Requires regular meetings and presentations with team, client and faculty advisor. | N | LEL | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): STP 310 with C or better; STP 311 with C or better; senior standing |
| STP | 486 | Peer Mentoring in STEM | Advanced students learn and apply mentoring skills in science classes or teaching labs. | Y | SEM | Y | YGB | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ACO 486 or BIO 486 or LSC 486 or MAT 486 or PTX 486 or STP 486 OR Visiting University Student |
| STP | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-6 | | Prerequisite(s): Barrett Honors student |
| STP | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| STP | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | |
| STP | 495 | Undergraduate Research | Supervised research in statistical or probability studies. | N | RSC | Y | GNA | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | Prerequisite(s): minimum 45 hours. Credit is allowed for only MAT 494 (UG Research in Math) or STP 495 |
| STP | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 1-7 | | |
| STP | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-3 | | |
| STP | 501 | Theory of Statistics I: Distribution Theory 3 | Introduces rigorous probability theory, including distributions and expectations of random variables, transformations of random variables and order statistics, generating functions and basic limit concepts. Supplements the understanding of applied statistics with a firm grasp of the probabilistic underpinnings of theoretical statistics. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): graduate student (degree seeking or nondegree seeking); Credit is allowed for only STP 501 or STP 598, Theory of Statistics I |
| STP | 502 | Theory of Statistics II: Inference | Presents techniques and basic results of mathematical statistics at a rigorous level. Develops the structure of statistical inference procedures, including the principles of data reduction, theory of estimation, confidence sets, hypothesis testing, and prediction for common parametric models. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): STP 501 with B- or better; Credit is allowed for only STP 502 or STP 598, Theory of Statistics II |
| STP | 505 | Bayesian Statistics | Provides knowledge of Bayesian statistical methods. Covers the essential conceptual ideas for Bayesian analysis and discusses a variety of computational ideas that facilitate a Bayesian analysis in real-world applications. Assumes a mathematical and statistical maturity that is required for admission as a graduate student in statistics, including exposure to mathematical proof, linear algebra, multiple semesters of calculus, exposure to coding and a basic course in statistical concepts and methods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only STP 505 or STP 598 (Bayesian Statistics) |
| STP | 526 | Theory of Statistical Linear Models | Multinomial distribution, distribution of quadratic forms, full and nonfull rank models, generalized inverses, unbalanced data, variance components, and the large sample theory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| STP | 527 | Statistical Large Sample Theory | Types of convergence, central limit theorems, theory of maximum likelihood estimation, efficiency, robustness, influence functions, theory of bootstrap methods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 530 | Applied Regression Analysis | Method of least squares, simple and multiple linear regression, polynomial regression, analysis of residuals, dummy variables, and model building. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 531 | Applied Analysis of Variance | Factorial designs, balanced and unbalanced data, fixed and random effects, randomized blocks, Latin squares, analysis of covariance, and multiple comparisons. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 532 | Applied Nonparametric Statistics | One-sample test, tests of 2 or more related or independent samples, measures of correlation, and tests of trend and dependence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 533 | Applied Multivariate Analysis | Discriminant analysis, principal components, factor analysis, cluster analysis, and canonical correlation. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 535 | Applied Sampling Methodology | Simple random, stratified, cluster sampling; variance estimation in complex surveys; nonparametric superpopulation approaches; nonresponse models; computational methods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 540 | Computational Statistics | Presents computational tools for statistical inference and data analysis. Uses R software (the lingua franca of statistics) in a wide variety of examples. Emphasizes simulation of random variables, Monte Carlo experiments, evaluation of statistical models via cross-validation, construction of confidence intervals via bootstrap and hypothesis testing via permutations. Focuses on the numerical solution of least squares problems, on stepwise methods for model building and on estimation of regression models for high-dimensional data. Presents computational tools for maximum likelihood estimation with an emphasis on estimation of logistic regression models. Assumes a mathematical and statistical maturity that is required for admission as a graduate student in statistics, including mathematical proofs, linear algebra, multiple semesters of calculus, coding and statistical concepts. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only STP 540 or STP 598 (Computational Statistics) |
| STP | 550 | Statistical Machine Learning | Modern computing power has enabled the development of powerful tools for uncovering complex high-dimensional relationships in data. These tools form the basic components of the broad interrelated areas known as statistics, machine learning, big data, artificial intelligence and data science. Covers the methods which are most important in applications of statistical machine learning. Focuses on developing an intuitive understanding of these methods and their practical application. Useful background knowledge includes basic computing skills (e.g., R or python), linear algebra and calculus (preferable some exposure to multivariate calculus). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only STP 550 or STP 598 (Machine Learning / Statistical Learning) |
| STP | 551 | Time Series Analysis | Familiarizes students with and enables them to implement univariate and multivariate modern time series models. Considers univariate time series models including the family of autoregressive (fractionally) integrated moving average (ARIMA) models, dynamic linear models (aka state-space) models, Markov switching models, generalized autoregressive conditionally heteroskedastic (GARCH) and stochastic volatility (SV) models. Considers multivariate time series models including vector autoregressive (VAR) models, factor-augmented VARs, dynamic factor models and various time-varying covariance models. The inferential approach of this course is predominantly Bayesian, so briefly introduces key ingredients of Bayesian inference, model selection and criticism. Introduces the main Monte Carlo methods for Bayesian inference, such as MC integration, sampling-importance-resampling (SIR), Markov chain Monte Carlo (MCMC) and sequential MC (SMC). All classroom examples and implementations as well as projects are carried out by the open-source statistical software R. Useful background knowledge includes basic computing skills (e.g., R or python), linear algebra and calculus (preferably some exposure to multivariate calculus). | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only STP 551 or STP 598 (Time Series) |
| STP | 560 | Experimental Statistics in Biology | Principles of experimental design, hypothesis testing and advanced data analysis in the biological sciences using statistical software (R and/or SAS). Applies statistical topics to biological data and emphasizes the identification of the appropriate statistical methodology. Topics include exploratory data analysis with visualization, experimental design, categorical data analysis, generalized linear modelling, survival analysis, CART methods and power analysis. | N | LEC | N | GNA | New College of Interdisciplinary Arts and Sciences | School of Mathematical and Natural Sciences | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; BIO 614 |

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| STP | 581 | Statistical Consulting Clinic | Provides practical experience in the application of statistical theory and methods to problems from a wide variety of disciplines, exposing students to a diverse range of data types and clients. Develops nontechnical consulting skills, for example explaining statistical concepts to non-statisticians, writing reports, and making oral presentations. | N | PRA | Y | GNA | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 3 | | Prerequisite(s): STP 530 with B or better; STP 531 with B or better; Credit is allowed for only STP 581 or STP 598 (Statistical Consulting) |
| STP | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| STP | 784 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-12 | | |
| STP | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-15 | | |
| STP | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1 | | |
| STP | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Mathematical and Statistical Sciences | 1-15 | | |
| STS | 101 | Introduction to Science, Technology and Society | Overview of the basic issues, definitions and literature involved in the study of science, technology and human systems. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Credit is allowed for only STS 101 or STS 304 OR Visiting University Student |
| STS | 102 | Engineering for All | Challenges students to uncover hidden valuable connections among a variety of disciplines while creatively seeking and solving problems in teams. Students learn and practice skills for how groups function and identify innovation while addressing the tensions between our inherent drives to seek and solve, to share and to sell. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Credit is allowed for only ASU 194 (Engineering for us all) or STS 102 |
| STS | 110 | Global Technology and Development | Introduces awareness and understanding of how technology, processes of globalization, and society influence one another. Credit is given for only STS 317 or 110. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB & G | Credit is allowed for only STS 110 or 317 |
| STS | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |

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| STS | 235 | Technology and Urban Systems | Focuses on the relationship between technology and urbanization, especially on how technological innovation and change impact all aspects of urban systems, including urban social and economic development, sustainability, governance, environmental, and community change. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| STS | 260 | Politics of Science and Technology | Explores the relationship among government, politics, science, and technology, especially the interdependence of public policy and science and technological pursuits. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | |
| STS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| STS | 301 | Research in Science and Technology Studies | Examines methods of inquiry in the social sciences with emphasis on STS, including both qualitative and quantitative approaches, philosophy of science, and scientific revolutions. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | |
| STS | 302 | Philosophy of Science and Technology | Focuses on the nature and implications of science as a body of knowledge, set of practices, specific methods, and how these differ from other human enterprises and activities. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| STS | 303 | History of Science and Technology | Examines the history of technology within social, cultural, political, and economic contexts and the critical relationship between society and technology. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | H | Prerequisite(s): minimum 45 hours |
| STS | 304 | Science, Technology and Society | Overview of the major issues associated with the study of science, technology, and human systems, including theoretical approaches. Credit is given for only STS 304 or 101. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only STS 101 or STS 304 OR Visiting University Student |
| STS | 305 | Science and Social Theory | Explores the different theoretical traditions that inform social interpretations of science, including awareness of the historical traditions that define these interpretations. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | |
| STS | 306 | Social Effects of Science and Technology | Examines the effects of science and technology on social life and the contexts in which those effects manifest. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | |
| STS | 317 | Science, Technology, and Global Engagement | Overview of international issues associated with both the development and deployment of technologies, including matters concerning international relations. Credit is given for only STS 317 or 110. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB & G | Credit is allowed for only STS 110 or 317 |
| STS | 318 | Science, Technology, and Government | Examines the foundations of the interrelationship of science, technology, and democratic governance, with emphasis on the American political system. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | |
| STS | 325 | Science, Technology, and Public Policy | Examines the interaction of science and technology with American domestic policy. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | |
| STS | 328 | Science, Technology, and Culture | Overview of technology and international cultures, including cultural definitions of science and technology. May intersect issues of culture and religion. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | |
| STS | 329 | Technology in Developing Countries | Covers specific issues relating to building technological capability in newly industrializing countries. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB & G | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| STS | 330 | Information Technology and Globalization | Examines the intersection of advances in information technology and globalization and the impact of these processes on human systems. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB & G | |
| STS | 331 | Ethical Issues in Science and Technology | Examines the interconnections between values and science and technology by examining such topics as computers and privacy, medical malpractice, reproductive technologies, patents, and hazardous facilities. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | |
| STS | 332 | Global Issues in Science and Technology | Examines contemporary international debates in science and technology and how those issues impact globalization. | N | SEM | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | |
| STS | 364 | Science, Technology, and National Security | Examines how changing technologies impact all aspects of national security policy in the United States. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| STS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| STS | 401 | Statistics in Science and Technology Studies | Introduces statistical techniques for the social sciences, including the role and rationale of statistics, descriptive measures, associational measures, and inferential statistics. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | CS | Prerequisite(s): General Studies MA requirement satisfied OR Visiting University Student |
| STS | 425 | Law, Values, Science and Technology | Examines the interconnections of law, values, and science and technology with a view to establishing their reciprocal relationships. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| STS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | |
| STS | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | | Prerequisite(s): Barrett Honors student |
| STS | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-6 | | Prerequisite(s): Barrett Honors student |
| STS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| STS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-7 | | |

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| STS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-3 | | |
| SWG | 501 | Human Behavior and the Social Environment I | Human behavior in the social environment, focusing on conception through middle childhood, analyzing theories of human development within an integrative multidimensional framework. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 502 | Human Behavior and the Social Environment II | Human behavior in the social environment, focusing on adolescence to end of life and systems-level influences. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 510 | Foundation Practice I | Basic social work methods with emphasis on the problem-solving process as it pertains to individuals, families, and small groups. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work MSW student; Pre- or corequisite(s): SWG 501 with C or better if completed |
| SWG | 511 | Foundation Practice II | Theory and methods of direct practice with groups and selected practice models. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Master or Doctor Social Work student; SWG 510 with C or better |
| SWG | 514 | Bridge Seminar I | Professional social work practice at the master's level. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work - Advanced Standing - Advanced Generalist or Social Work - Advanced Standing - Direct Practice or Social Work - Advanced Standing (Planning, Administration and Community Practice) MSW student |
| SWG | 515 | Bridge Seminar II | Generalist practice problem-solving skills with diverse individuals, groups, families and systems at the master's level. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Pre- or corequisite(s): SWG 514 |
| SWG | 516 | Social Work Skills Seminar | Focuses on the acquisition of practice skills for advanced interaction with individuals, families, groups and communities. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Corequisite(s): SWG 514; SWG 515 |
| SWG | 519 | Research Methods in Social Work | Conceptual foundations and methods of nomothetic research in social work. Includes problem identification, hypothesis formulation, measurement, sampling, and experimental design. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 520 | Domestic Violence Fatality Review | Covers the concept of domestic violence fatality review and applies it to the analysis of de-identified cases. Students closely examine an array of deaths and the social, cultural, economic and historical contexts within which they take place. They build case time lines; identify case antecedents; assess the degree of coordination, communication and collaboration among community agencies, organizations and stakeholders; and develop possible preventive interventions. Case types addressed include: male- and female-perpetrated intimate partner homicides, familicide and suicide. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWG 520 or SWG 598 (Domestic Violence: Fatality Analyses) or SWU 420 or SWU 494 (Domestic Violence: Fatality Analyses) |
| SWG | 526 | Mental Health for Sentencing | Helps justice system professionals understand existing mental health diagnoses, the DSM-5, and how specific DSM-5 categories are associated with specific types of crime. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 527 | Mitigation of Death and Life Cases | Issues and skills for practicing as a mitigation specialist in cases of death and life without parole. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 528 | Presentence Investigations | Examines the functions and objectives of presentence investigation reports and prepares students to perform different types of investigations for limited and general jurisdiction courts for local, state and federal courts. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 529 | Alternatives Penal Sanctions | Prepares individuals to practice as sentencing advocates on defense teams, as consultants to problem-solving courts, or as private presentence investigators hired by the defense to advocate for alternatives to incarceration. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 531 | Social Policy and Services | Conceptual, analytical, and historical perspectives on the social welfare institution. Emphasizes poverty and inequality. Principles of policy analysis. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 533 | Diversity, Oppression and Social Justice in Social Work | Explores issues of social inequality related to disability, ethnicity, gender, race, and sexual orientation. Emphasizes populations of the Southwest. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 540 | Professional Experience I: Introduction to the Profession | Explains the historical origins of the social work profession, discusses the values and ethics unique to the profession, and familiarizes students with resources available at the school and the university for students enrolled in the MSW online program. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work - Standard Program MSW student; Credit is allowed for only SWG 540 or SWG 598 (Professional Seminar I) |
| SWG | 541 | Field Practicum I | With SWG 542, two consecutive semesters (480 hours) of supervised social work practice in an approved placement. | N | PRA | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work MSW or PhD student; Pre- or corequisite(s): SWG 510 with C or better if completed |

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| SWG | 542 | Field Practicum II | See SWG 541 | N | PRA | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work MSW or PhD student; SWG 510 with C or better; SWG 541 with a Y grade; Pre- or corequisite(s): SWG 511 with C or better if completed |
| SWG | 545 | Domestic Violence and National AmeriCorps Service | Provides students with basic domestic violence education and training in preparation for working with domestic violence survivors in the community, as well as support throughout their first semester of internship placement. Provides training in evidence-based interventions, including the implementation of an evidence-based safety decision aid, a tool to enhance risk assessment, safety planning, and referral to additional community resources. Also emphasizes the unique mission of AmeriCorps members through the Corporation for National & Community Service. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWU 416 or SWU 494 (Domestic Violence Americorp Serv Practicum) or SWG 545 |
| SWG | 546 | Approaches to Teen Dating Violence Prevention | Covers theoretical and practice frameworks for understanding and preventing teen dating violence. Specifically, provides an overview of intimate partner violence in the adolescent developmental context, considers risk factors and impacts of victimizations and investigates methods of assessing and preventing dating violence in multiple contexts. Students critically engage with how practitioners and researchers might engage in dating violence risk reduction and prevention throughout the course, building up to a final project in which they develop their own prevention program. Focuses on issues of gender throughout the semester, and highlights the importance of community-based and culturally-responsive prevention and intervention. Students have the opportunity to think critically about the current understanding of dating violence, explore their own attitudes, and develop ideas for effective intervention and prevention | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 554 | Overview of Addictions | Addictions and their impact upon society including alcohol, legal and illegal drugs, gambling, the Internet, sex and pornography. Focuses on the etiology of addictions that impact our society on a micro, mezzo and macro level. Provides an ecological perspective to view human behavior across the life span as it relates to addictive behaviors. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWG 554 or SWG 591 (Overview of Addictions) or SWU 498 (Overview of Addictions) |
| SWG | 556 | Immigrants and Refugees | Provides basic conceptual approach to understanding immigrant and refugee issues and how these factors influence social work practice with immigrant and refugee populations. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWU 456 or SWG 556 or SWG 591 (Immigrants and Refugees) |
| SWG | 557 | Southwest Borderland Immigration Issues | Reviews immigration history, trends, policies, and legislation. Focuses on immigrant experience from economic, educational, social, political, familial perspectives in Southwestern U.S. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWG 557 or SWU 457 |
| SWG | 558 | Introduction to Behavioral Health Services | Explores mental health. Develops a basic understanding of mental health and co-occurring conditions. Gains an understanding of public- and employer-financed contemporary behavioral health services with a focus on Arizona models. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWU 458 or SWG 558 or SWG 591 (Introduction to Behavioral Health Services) |
| SWG | 559 | Spirituality and the Helping Professions | Provides a framework for spiritually and culturally competent practice with diverse populations. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWU 459 or SWG 559 or SWG 591 (Spirituality & Helping Profession) or SWG 598 (Spirituality and the Helping Professions) |
| SWG | 560 | Legal Issues in Social Work | How the law relates to social work practice, administration and policy. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWU 460 or SWG 560 or SWG 591 (Legal Issues in Social Work) |
| SWG | 561 | Lesbian, Gay, Bisexual, Transgender and Queer Issues | Historical, socio-cultural introduction to lesbian, gay, bisexual and transgender communities and their resilience to challenges and barriers. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWU 461 or SWG 561 or SWG 591 (Lesbian and Gay Issues) |
| SWG | 562 | Global Social Welfare | Analyzes social work's response to international social issues and human need from the perspectives of globalization, development and human rights. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWG 562 or SWG 591 (International Social Work) or SWU 462 or SWU 498 (International Social Work) |

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| SWG | 563 | Multicultural Perspectives on Community Development | Analyzes solutions to contemporary social and economic problems from a global perspective. Focuses on local community issues; helps community members from diverse ethnic and cultural backgrounds understand differences and their impact on social behavior. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWU 463 or SWG 563 or CRD 494, CRD 598, NLM 494, PAF 494, PAF 591, SOS 494, SSH 494, SWG 591, or SWU 498 (Multicultural Perspective on Community Development) |
| SWG | 564 | Critical Issues in Child Welfare I | Promotes the acquisition of critical thinking in relation to systemic child welfare issues, namely racial and socioeconomic inequities, efficacy of interventions and services, and workforce capacities and sustainability. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWG 564 or SWG 591 (Child Networking I) |
| SWG | 565 | Critical Issues in Child Welfare II | Promotes the acquisition of critical thinking in relation to systemic child welfare issues, namely racial and socioeconomic inequities, efficacy of interventions and services, and workforce capacities and sustainability. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWG 565 or SWG 591 (Child Networking II) |
| SWG | 566 | Critical Issues in Child Welfare III | Promotes the acquisition of critical thinking in relation to systemic child welfare issues, namely racial and socioeconomic inequities, efficacy of interventions and services, and workforce capacities and sustainability. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWG 566 or SWG 591 (Child Networking III) |
| SWG | 570 | Aging in Perspective | Biopsychosocialspiritual perspectives on aging, including intergenerational matters, international trends, policies, programs, services and issues unique to populations of the Southwest. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWG 570 or SWG 591 (Aging Soc Wk Perspective) |
| SWG | 571 | Mental Health Aspects of Aging | Older adult mental health assessment, treatment, planning, policy and service delivery from a cross-cultural, interprofessional, intergenerational, international and continuum-of-care perspective. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWG 571 or SWG 591 (Mental Health & Aging) |
| SWG | 572 | Interprofessional Approaches to Healthy Aging | In-depth examination of healthy aging, interprofessional practice and interprofessional practice approaches designed to foster healthy aging for older adults. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 573 | Policies to Promote Healthy Aging | Age-based policy process and various social policies/programs that address financial, medical and psychosocial needs of older Americans. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 576 | War and Disaster | Covers traumatic and stressful aspects of natural and mass disaster and war for individuals, families and communities and implications for working with those affected. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWG 576 or SWG 591 (War and Disaster) |
| SWG | 577 | Traumatic Death: Theory, Counseling and Practice | Explores the various experiences of grief, trauma and bereavement through a phenomenological perspective and using creativity, art, literature, poetry, indigenous wisdom and evidence-based research. Practice techniques and psychosocial care to the traumatically bereaved. Examines the micro, mezzo and macro aspects of death and grief in contemporary society. Theory, philosophy and direct practice with individuals, families and groups experiencing traumatic death and grief. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Pre-requisite: Degree- or Nondegree-seeking graduate; Credit is allowed for only SWG 577, 591 (Trauma & Death Counseling) or 598 (Trauma&Death: Counseling, Theory, &Practice Issues) |
| SWG | 579 | Critical Response to Mitigate Stress | Provides tools to deregulate the nervous system from sympathetic to parasympathetic when encountering stress personally and professionally in life. Looks at the psychological and physiological aspects of stress as well as the interdisciplinary nature of self care, accomplished via mindful self-reflection, meditation, somatic exercises, healthy lifestyles and student conversation on how this material can practically best be used in our lives. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | IND | Y | Z1 | Watts College of Public Service and Community Solutions | School of Social Work | 1-12 | | Prerequisite(s): Master or Doctor Social Work student |
| SWG | 585 | Macro Social Work Practice | Examines communities and human service organizations as social systems. Introduces strategies for initiating planned change. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| SWG | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | IND | Y | Z1 | Watts College of Public Service and Community Solutions | School of Social Work | 1-12 | | Prerequisite(s): Master or Doctor Social Work student |
| SWG | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Social Work | 1-12 | | Prerequisite(s): SWG 606, 610, 623, or 645 with C or better; Pre- or corequisite(s): SWG 614 with C or better if completed; SWG 632 with C or better if completed; SWG 646 with C or better if completed |
| SWG | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 1-4 | | Prerequisite(s): Master of Social Work student |
| SWG | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | IND | Y | Z2 | Watts College of Public Service and Community Solutions | School of Social Work | 1-12 | | |
| SWG | 603 | Social Work Practice in Health/Behavioral Health Settings | Advanced social work practice in health and behavioral health settings, focusing on enhancement of client functioning and quality of life. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWG 542 with grade of Y or MSW Social Work (Advanced Direct Practice) or MSW Social Work (Planning, Administration and Community Practice) major |
| SWG | 604 | Advanced Social Work Practice in Health | Addresses the crucial social work practice issues of health and healthcare in the new millennium. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work (Advanced Direct Practice) MSW or Social Work (Policy, Administration and Community Practice) MSW student or SWG 542 with Y grade |
| SWG | 606 | Assessment of Mental Disorders | Theories and concepts of mental health and illness. Attention to classification systems and nomenclature used in assessing mental disorders. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work (Advanced Direct Practice) MSW or Social Work (Planning, Administration and Community Practice) MSW student; SWG 511 with C or better; SWG 542 with Y grade |
| SWG | 608 | Ecological Approach to Practice with Children, Youth, and Families | Provides a theoretical and practical orientation to working with children, youth, and families from an ecological strengths perspective. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work (Advanced Direct Practice) MSW or Social Work (Policy, Administration and Community Practice) MSW student or SWG 542 with Y grade |
| SWG | 609 | Advanced Child Welfare Practice with Children, Youth and Families | Furtheres the acquisition of advanced practice skills and strategies for promoting the safety, permanency and well-being of children and families in the context of child welfare social work. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work MSW student; SWG 542 with Y grade or Social Work (Advanced Direct Practice) MSW or Social Work (Policy, Administration and Community Practice) MSW student |
| SWG | 610 | Advanced Social Work Practice III | Knowledge and skills for advanced practice with individual and families. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work - Advanced Standing - Advanced Generalist MSW student OR SWG 542 with Y grade; Pre- or corequisite(s): SWG 640 with C or better if completed |
| SWG | 611 | Family Therapy | Prepares students to develop and practice essential skills to provide family therapy in an ethically and culturally appropriate manner. Students learn to work with diverse family structures such as grandparents raising grandchildren, LGBTQ+ families, single parent families, adoptive families, multigenerational families and refugee families. Applies all topics to families living in Arizona communities. Derives skills from the following theories: Bowenian family therapy, structural family therapy, experiential family therapy, CBT with families, solution-focused approach to family therapy and narrative family therapy. Role plays include: essential skills needed for initial sessions; the dynamics of roles and boundaries within families; intervening with families in the child welfare system; intervening with families experiencing illness or trauma; and significant family issues such as incest, transgenerational trauma, deportation and substance misuse. Prepares students to conduct family therapy in a wide variety of settings and with relevant topics facing families today. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work (Advanced Direct Practice) MSW or Social Work (Policy, Administration and Community Practice) MSW student or SWG 542 with Y grade |
| SWG | 612 | Social Work with Groups | Practices applications of knowledge and skill to social work with groups. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Pre-requisite: SWG 542 with grade of Y or MSW Social Work (Advanced Direct Practice) or MSW Social Work (Planning, Administration and Community Practice) major |

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| SWG | 613 | Advanced Social Work Practice in Behavioral Health | This advanced direct practice course builds on the knowledge and skills established in foundation courses by expanding clinical application and skills using selected practice frameworks with corresponding interventions. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work MSW student; SWG 542 with Y grade or Social Work (Advanced Direct Practice) MSW or Social Work (Policy, Administration and Community Practice) MSW student |
| SWG | 614 | Advanced Generalist Social Work Practice IV | Knowledge and skills for advanced practice with groups and communities. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWG 640 with C or better |
| SWG | 617 | Advanced Social Work Practice with Children and Adolescents | Theory, research, and intervention that focus on children and adolescents. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work MSW student; SWG 542 with Y grade or Social Work (Advanced Direct Practice) MSW or Social Work (Policy, Administration and Community Practice) MSW student |
| SWG | 618 | Advanced Practice in Domestic Violence | Theory, research, intervention, and prevention strategies relevant to child maltreatment, partner abuse, and elder abuse. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWG 542 with grade of Y or MSW Social Work (Advanced Direct Practice) or MSW Social Work (Planning, Administration and Community Practice) major |
| SWG | 619 | Practice-Oriented Research | Accelerated course in application of scholarly and scientific principles to field practice, problem formulation, interventional procedures, and impact assessment. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWG 519 with C or better or MSW Social Work (Advanced Direct Practice) or MSW Social Work (Planning, Administration and Community Practice) major |
| SWG | 621 | Integrative Seminar | Explores the fit between theoretical frameworks and practice with clients. Requires presentation of empirical studies with clients. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWG 606 with C or better; SWG 619 with C or better; SWG 641 with Y; Pre- or coreq(s): SWG 613 with C or better if completed OR SWG 617 with C or better if completed OR SWG 661 with C or better if completed; SWG 642 with Y if completed |
| SWG | 623 | Program Evaluation | Research design techniques and data collection in human service agencies and communities. Analysis for program evaluation and needs assessment. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work (Advanced Direct Practice) MSW or Social Work (Planning, Administration and Community Practice) or Social Work (Advanced Generalist) MSW major OR SWG 519 with C or better; SWG 542 with Y grade |
| SWG | 626 | Crisis Intervention and Short-Term Treatment | Comprehensive analysis of crisis and solution-focused brief intervention strategies and approaches used in advanced social work practice. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 630 | Brief Social Work Intervention | Concepts and techniques of solution-focused, systematic, and strategic approaches to therapy in the context of brief therapy. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWG 542 with grade of Y or MSW Social Work (Advanced Direct Practice) or Social Work (Planning, Administration and Community Practice) major |
| SWG | 632 | Policy Practice | Develops advanced knowledge and skills in social welfare policy analysis, policy formulation, and advocacy and intervention for policy change. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work (Advanced Direct Practice) MSW, Social Work (Advanced Generalist) MSW, Social Work (Planning, Administration and Community Practice) MSW student OR SWG 531 with C or better; SWG 542 with Y grade |
| SWG | 633 | Child Welfare Policy and Programs | Explores the issues and processes shaping child welfare policy and practice to formulate, analyze, implement, evaluate and disseminate evidence-informed policies and interventions at all system levels. Examines state and federal functions associated with oversight, leadership and system redesign in public child welfare. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work (Advanced Direct Practice) MSW or Social Work (Policy, Administration and Community Practice) MSW student or SWG 542 with Y grade |
| SWG | 640 | Professional Seminar II: Applying Theory to Advanced Generalist Social Work Practice | Applies social work's knowledge base to advanced generalist social work. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work - Advanced Standing - Advanced Generalist MSW major OR SWG 542; Credit is allowed for only SWG 640 or SWG 598 (Professional Seminar II) |
| SWG | 641 | Advanced Practicum: Direct Practice I | With SWG 642, two consecutive semesters (480 hours) of supervised social work practice in an approved placement related to the student's career goal. | N | PRA | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work (Advanced Direct Practice) MSW student OR SWG 542 with Y grade; minimum 3.00 GPA |
| SWG | 642 | Advanced Practicum: Direct Practice II | With SWG 641, two consecutive semesters (480 hours) of supervised social work practice in an approved placement related to the student's career goal. | N | PRA | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWG 641 with Y grade; minimum 3.00 GPA |

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| SWG | 643 | Advanced Practicum: Planning, Social Work Administration, and Community Practice I | With SWG 644, two consecutive semesters (480 hours) in social work practice in an approved placement related to the student's career goal. | N | PRA | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prereq(s): Social Work Adv Standing (Policy, Admin & Community Prac) MSW student OR SWG 542 with Y grade; min 3.00 GPA; Pre- or coreq(s): SWG 681 with C or better if completed; SWG 682 with C or better if completed; SWG 685 with C or better if completed |
| SWG | 644 | Advanced Practicum: Planning, Social Work Administration, and Community Practice II | With SWG 643, two consecutive semesters (480 hours) in social work practice in an approved placement related to the student's career goal. | N | PRA | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWG 681 with C or better; SWG 682 with C or better; SWG 685 with C or better; SWG 643 with Y grade; minimum 3.00 GPA; Pre- or corequisite(s): SWG 623 with C or better if completed; SWG 632 with C or better if completed |
| SWG | 645 | The Professional Experience III | With SWG 646, two consecutive semesters (480 hours) of supervised social work practice in an approved placement related to the student's career goal. | N | PRA | N | YGB | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work - Advanced Standing - Advanced Generalist MSW student OR SWG 542 with Y grade; SWG 640 with C or better; Pre- or corequisite(s): SWG 610 |
| SWG | 646 | The Professional Experience IV | With SWG 645, two consecutive semesters (480 hours) of supervised social work practice in an approved placement related to the student's career goal. | N | PRA | N | YGB | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWG 610 with C or better; SWG 645 with Y grade; minimum 3.00 GPA; Pre- or corequisite(s): SWG 614 |
| SWG | 647 | The Domestic Violence Movement: An Intersectional Framework | Provides training and education in preparation for political and community advocacy to address domestic violence and sexual assault from a macro social work perspective. Provides education in the history of the domestic violence movement, including its roots in the feminist perspective and the rape crisis movement. Furthermore, students critically analyze the domestic violence movement, examining the role of marginalized populations within the movement as well as unintended consequences of the movement. Concludes by planning for the future of the domestic violence movement, including next steps in policy advocacy, programming and community engagement. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 648 | Intimate Partner Violence Risk Assessment | Examines the use of intimate partner violence (IPV, aka, domestic violence) risk assessment in social work practice with survivors of IPV. Examines theories and research that explain, define and describe IPV risk assessment; the intended uses and predictive value of the various available IPV risk assessment instruments; and the use of IPV risk assessment instruments in social work practice interventions, including within risk informed collaborative interventions (e.g., the Lethality Assessment Program). Presents an evidence-based practice framework for the use of risk assessment in social work practice. Encourages students to think critically about the use of risk assessment across social work practice settings. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 654 | Introduction to Sexual Abuse | Develops general knowledge and skills for working with persons who have been impacted by sexual abuse. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 655 | Quality of Life, Mastering Mindfulness | The alchemy of a mindfulness practice blends with key elements of a balanced lifestyle to create health and wellbeing. Explores stress reduction, self-care and factors that contribute to quality of life. Through Socratic inquiry and a critical thinking lens, addresses the challenge of making sustainable lifestyle changes toward wellbeing and provides evidence-based practice and skills to support health at every level--physical, mental and emotional. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Assessment of Integrative Health Modalities (certificate) or degree-seeking graduate student |
| SWG | 656 | Treating the Whole Person | Treating the "whole person" is curated through the lens of science, positive psychology, cognitive behavioral therapy and the practice of mindfulness. Through actionable tools, intervention, treatment planning and experiential learning this course balances practice and research with real-world application. The "whole person" is viewed through an ecological perspective which utilizes a person's own cognitive resilience in developing long-term prevention tools to sustain change that takes into account multicultural practices and client preferences. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Assessment of Integrative Health Modalities (certificate) or degree-seeking graduate student |

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| SWG | 657 | Holistic Therapies for Modern Times | We are becoming a global community in regard to health and patient care. Evidence-based practice in North America is just one point of view. Over the past several decades consumers and health care providers have been increasingly curious about seeking information, knowledge and treatment regarding alternative modalities. Health professionals are broadening their viewpoints to integrate other healing traditions in the course of patient treatment. Explores ecopsychology, transpersonal healing, expressive arts, indigenous and traditional healing practices, contemplative and somatic practices. Offers learning opportunities to understand and explore how these teachings can be partnered with allopathic/Western medicine. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Assessment of Integrative Health Modalities (certificate) or degree-seeking graduate student |
| SWG | 661 | Cognitive Behavioral Models and Interventions | Knowledge and skills to understand and apply cognitive-behavioral approaches to treatment (CBT), including diagnostic information and empirically supported interventions targeted to individuals, families and groups across the lifespan. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work (Advanced Direct Practice) MSW student OR Pre- or corequisite(s): SWG 542 with Y grade |
| SWG | 662 | Social Work Practice With Adolescents | Advanced elective focuses on working with adolescents in a variety of intervention settings (e.g., mental health agencies and schools). | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Pre-requisite: SWG 542 with grade of Y OR MSW Social Work (Advanced Direct Practice) or Social Work (Planning, Administration and Community Practice) major; Credit is allowed for only SWG 591 (Social Work Practice With Adolescents) or 662 |
| SWG | 663 | Clinical Trauma Treatment | Explores the assessment and treatment of PTSD in people throughout the lifespan. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Pre-requisite: SWG 542 with grade of Y OR MSW Social Work (Advanced Direct Practice) or Social Work (Planning, Administration and Community Practice) major; Credit is allowed for only SWG 591 (Clinical Trauma Treatment) or 663 |
| SWG | 664 | Evidence-Based Approaches to Treatment of Substance Use Disorders | Knowledge and skills to understand substance abuse disorders, including diagnostic information and evidence-based interventions targeted to individuals, families and groups. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Pre-requisite: SWG 542 with grade of Y OR MSW Social Work (Advanced Direct Practice) or Social Work (Planning, Administration and Community Practice) major; Credit is allowed for only SWG 591 (Treatment Substance Use Disorders) or 664 |
| SWG | 681 | Social Work Administration | Administrative skill building and theory application within human service nonprofit social work settings. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work Advanced Standing (Advanced Direct Practice) MSW or Social Work Advanced Standing (Policy, Administration and Community Practice) MSW student OR SWG 542 with Y grade |
| SWG | 682 | Community Participation Strategies | Reviews strategies to involve citizens and the consumers of social and human services in community decision-making systems. Participation is viewed as a means to facilitate the empowerment of oppressed peoples. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work Advanced Standing (Advanced Direct Practice) MSW or Social Work Advanced Standing (Policy, Administration and Community Practice) MSW student OR SWG 542 with Y grade |
| SWG | 685 | Program Planning in Social Services | Social services planning process; includes needs assessment, goals and objectives, program design, budgeting, management information systems, and program evaluation. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work (Advanced Direct Practice) MSW or Social Work (Planning, Administration and Community Practice) MSW student OR SWG 542 with Y grade; SWG 585 with C or better |
| SWG | 686 | Developing Grants and Fund Raising | Identifies potential funding sources, technical and interpersonal/political aspects of proposal development and fund raising. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| SWG | 687 | Public Policy and Advocacy | Covers public policy at the federal level, including administrative, legislative and judicial policy. Students understand how to develop congressional policy and methods to engage in advocacy at the federal level to impact macro social work practice. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only SWG 687 or SWG 591 (Advocacy and Public Policy) |
| SWG | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | Watts College of Public Service and Community Solutions | School of Social Work | 1-12 | | Prerequisite(s): Master or Doctor Social Work student |

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| SWG | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 1-12 | | Prerequisite(s): Master of Social Work or Master of Social Work Advanced Standing student |
| SWG | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | SEM | Y | Z1 | Watts College of Public Service and Community Solutions | School of Social Work | 1-12 | | Prereq(s): SWG 606 w/ C or better; SWG 610 w/ C or better; SWG 623 w/ C or better; SWG 640 w/ C or better; SWG 645 w/ Y grade; Pre- or coreq(s): SWG 614 w/ C or better if completed; SWG 632 w/ C or better if completed; SWG 646 w/ Y grade if completed |
| SWG | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | IND | Y | Z3 | Watts College of Public Service and Community Solutions | School of Social Work | 1 | | Pre-requisites: MSW, MSW Adv Standing, or PhD student |
| SWG | 718 | Critical Qualitative Research Methods | Provides a comprehensive overview of critical qualitative research methods in social work and other related disciplines that challenge social inequities and strive for social justice. Students independently design a critical qualitative research project from start to finish. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): doctoral student |
| SWG | 719 | Quantitative Research Methods | Provides the tools for independently designing and conducting methodologically sound, ethical, quantitative research that advances social work and social welfare knowledge. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Pre-requisite: Doctoral student |
| SWG | 720 | Philosophy of Science Issues in Social Work | Critical examination of social science, social work practice, and policy in terms of philosophical assumptions and varying frames of reference. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Pre-requisite: Master or Doctor Social Work student. |
| SWG | 721 | Statistics | Logic and application of statistical methods for analyzing social welfare-based data pertaining to social work. Includes ethical issues concerning the appropriate application, interpretation and use of social research, as well as the potential limitations and biases of applications that fail to adequately consider issues of population diversity. Students learn to independently design a research project from start to finish employing statistical analysis of primary data. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Pre-requisite: doctoral major |
| SWG | 722 | Pedagogy in Social Work | Prepares doctoral students to teach for the profession of social work. Provides an opportunity for students to develop or enhance their philosophy of teaching, their attitudes toward learning, teaching and students, and the knowledge and skills necessary to teach effectively. Explores teaching to the diverse students present in social work programs, the challenges that teaching presents and the responsibilities that come with social work education. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Doctoral student; Credit is allowed for only SWG 722 or SWG 791 (Pedagogy in Social Work) |
| SWG | 723 | Research and Professional Development | Provides an opportunity for doctoral students to concentrate their energies and attention on preparing for the next step of their academic career: moving away from a class-based model of education to a self-directed and independent model of education. Students have an opportunity to focus on the next steps of their academic career, including preparing for academic conferences, developing a research agenda, identifying/engaging with mentors, creating materials for professional development, academic writing and the academic job market. Students have multiple opportunities for independent work and practice presenting their ideas, requesting feedback and facilitating discussion. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): doctoral student; Credit is allowed for only SWG 723 or SWG 791 (Proposal Development) |
| SWG | 731 | Welfare State | Examines the evolution of the welfare state as a problem of political economy. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Pre-requisite: Doctoral student; Credit is allowed for only SWG 731 or 791 (Welfare State) |
| SWG | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 1-12 | | Pre-requisite: Master or Doctor Social Work student. |
| SWG | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 1-12 | | Pre-requisite: Master or Doctor Social Work student. |
| SWG | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Social Work | 1-15 | | Pre-requisite: Master or Doctor Social Work student. |

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| SWG | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | IND | Y | Z3 | Watts College of Public Service and Community Solutions | School of Social Work | 1 | | |
| SWG | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | IND | Y | Z2 | Watts College of Public Service and Community Solutions | School of Social Work | 1-15 | | Pre-requisite: Master or Doctor Social Work student. |
| SWU | 171 | Introduction to Social Work | Descriptive and historical perspectives of social problems, social justice issues and society's response to them. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | SB & H | |
| SWU | 180 | Introduction to Lesbian, Gay, Bisexual and Transgender (LGBT) Studies | A historical, socio-cultural introduction to lesbian, gay, bisexual, transgender, transsexual, and intersexed communities and their resilience to challenges and barriers. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | SB & C | |
| SWU | 181 | Economics: A Social Issues Perspective | Introduces economic principles through the lens of contemporary social issues for social work and related fields. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Credit is allowed for only SWU 181 or SWU 194 (Economic and Social Issues in Perspective) OR Visiting University Student |
| SWU | 182 | Social Services Perspective of Government | Explores levels of government and policy practice in advancing social and economic justice and effective social services within the Southwest. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | SB | Credit is allowed for only SWU 182 or SWU 194 (AZ/National Government: Social Work Perspective) OR Visiting University Student |
| SWU | 183 | Introductory Ethics: A Social Issues Perspectives | Introductory exploration of ethics from a historical and multicultural perspective viewed through the lens of contemporary social issues. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | HU | Credit is allowed for only SWU 183 or SWU 194 (Intro Ethics: Social Issues Perspective) OR Visiting University Student |
| SWU | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 1-4 | | |
| SWU | 250 | Stress Management Tools I | Helps students develop an understanding and behaviors to create a healthy balance in their lives by studying the bio/psycho/social aspects of wellness. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | SB | |
| SWU | 291 | Social Service Delivery Systems | Federal, state, private not-for-profit and for-profit social service delivery system's purpose, structure, and professional roles. Includes 40 volunteer hours. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): PSY 101 or SOC 101; Pre- or corequisite(s): SWU 171 with C or better if completed OR Visiting University Student |
| SWU | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 1-4 | | |
| SWU | 295 | Foundations of Social Work Practice | Theoretical foundation and skill base for effective culturally competent communication and interviewing with individuals, families, small groups, and larger systems. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | SB & C | Prerequisite(s): PSY 101 or SOC 101; Pre- or corequisite(s): SWU 171 with C or better if completed OR Visiting University Student |
| SWU | 302 | Human Biology for Social Workers | Overview of human anatomy and physiology, and the reciprocal relationship between physical and social environments. May be repeated for credit. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | |
| SWU | 303 | Micro Human Behavior and the Social Environment | Human behavior in the social environment throughout the life cycle, analyzing theories of human development within an integrative multidimensional framework. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | L or SB | Prerequisite(s): Comm Advoc & Soc Pol BA major; ENG 101, 105 or 107 with C or better OR ENG 101, 105 or 107 with C or better; PSY 101 or SOC 101; SWU 171 with C or better; SWU 291 with C or better; SWU 295 with C or better OR Visiting University Student |
| SWU | 306 | Ethics in Social Services | Focuses on following the NASW Code of Ethics in making ethical decisions in social service settings. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; PHI 101, PHI 105, or SWU 183; SWU 171 with C or better; SWU 291 with C or better; SWU 295 with C or better OR Community Advocacy and Social Policy BA major OR Visiting University Student |
| SWU | 310 | Social Work Practice I | Introduces social work methods, emphasizing the following skills: relationship development, cross-cultural interviewing, communication patterns, and case-recording. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWU 171 or SWU 271 with C or better; SWU 291 with C or better; SWU 295 with C or better; Pre- or corequisite(s): SWU 303 with C or better if completed |
| SWU | 311 | Integrative Social Work Practice | Social work practice skills emphasizing cross-cultural interviewing, assessment and professional recording. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWU 171 with C or better; SWU 291 with C or better; SWU 295 with C or better; Pre- or corequisite(s): SWU 306; Corequisite(s): SWU 312 OR Visiting University Student |

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| SWU | 312 | Integrative Social Work Practice Skills | Applies social work content from SWU 311 focusing on practice skills and professional behavior. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWU 171 with C or better; SWU 291 with C or better; SWU 295 with C or better; Pre- or corequisite(s): SWU 306; Corequisite(s): SWU 311 OR Visiting University Student |
| SWU | 320 | Research Methods in Social Work | Applies critical research principles and methods to conceptualizing problems, informing social work practice and evaluating practice. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Pre- or corequisite(s): SWU 311 with C or better if completed; SWU 312 with C or better if completed OR Community Advocacy and Social Policy BA major OR Visiting University Student |
| SWU | 321 | Statistics for Social Workers | Teaches social work students how to use and interpret descriptive and inferential statistics in social work practice. May be repeated for credit. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | CS | Prerequisite(s): MAT 142 or an MA general studies course OR Visiting University Student |
| SWU | 332 | Social Policy and Advocacy | Contemporary social, political and economic issues. Special emphasis on advocating for oppressed populations. Analysis and development of social welfare policies and programs. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Community Advocacy and Social Policy major or Public Service and Public Policy major; POS 110 or POS 310 or SWU 182 OR Visiting University Student |
| SWU | 340 | Macro Human Behavior and the Social Environment | Human behavior in the social environment, focusing on groups, organizations and communities and examining theoretical perspectives in a macro context. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | SB | Pre- or corequisite(s): Community Advocacy and Social Policy BA major OR SWU 303 with C or better if completed OR Visiting University Student |
| SWU | 349 | Stress Management Tools II | Developing mindful strategies toward managing stress, developing instinct awareness; healthy decisions in nutrition, relationship with self, others and creating a personal carbon footprint. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | SB | Credit is allowed for only SWU 349 or SWU 294 (Stress Management Tools II) OR Visiting University Student |
| SWU | 350 | Whole Person Health Across the Lifespan | Development of mindful strategies toward managing stress and identification, implementation and integration of skills and knowledge for well-being across the lifespan. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| SWU | 351 | Sustainable Living, Mindful Eating | Addresses issues related to foods we eat, how we eat, and impacts of choices on health, the environment, locally and globally. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| SWU | 374 | Diversity and Oppression in a Social Work Context | Issues of social inequality related to race, ethnicity, gender, sexual orientation, and disability. Emphasizes populations of the Southwest. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | C | Prerequisite(s): Community Advocacy and Social Policy BA major or Social Work BSW major OR Visiting University Student |
| SWU | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| SWU | 404 | Social Work Practice in Health Care Settings | Overview of social work practice in a variety of health care settings including inpatient care, outpatient care, community health clinics, hospitals, skilled nursing facilities, hospices and home care. Highlights health care systems, social justice issues in health care and access to health care on both a domestic and global scale. Addresses how future hospital social workers can provide comprehensive care for patients through addressing health care, mental health and substance use concerns through a biopsychosocial approach. Discusses social work practice in the health care setting to be a part of a better and brighter health care future. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWU 171 with C or better; minimum 45 hours; Pre- or corequisite(s): SWU 291 with C or better if completed; Credit is allowed for only SWU 404 or SWU 498 (Introduction Health Practice) OR Visiting University Student |
| SWU | 410 | Social Work Practice II | Knowledge and skills in social work practice with individuals and families. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work BSW major; PHI 101 or PHI 105 or PHI 306 or SWU 183; SWU 311 with C or better; SWU 312 with C or better; Corequisite(s): SWU 412; SWU 413 OR Visiting University Student |
| SWU | 411 | Social Work Practice III | Knowledge and skills in social work practice with groups, communities, and organizations. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work BSW major; SWU 410, 412, or 413 with C or better; Corequisite(s): SWU 414; SWU 415 OR Visiting University Student |
| SWU | 412 | Field Instruction I | 16 hours a week of supervised practice in an approved placement. "Y/E" grade only. | N | PRA | N | YGB | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work BSW major; SWU 311 with C or better; SWU 312 with C or better; minimum 2.00 GPA; Corequisite(s): SWU 410; SWU 413 OR Visiting University Student |
| SWU | 413 | Field Instruction Seminar | Field-focused seminar, including practice evaluation. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work BSW major; SWU 311 with C or better; SWU 312 with C or better; Corequisite(s): SWU 410; SWU 412 OR Visiting University Student |

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| SWU | 414 | Field Instruction II | 16 hours a week of supervised practice in an approved placement. Y/E grade only. | N | PRA | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work BSW major; SWU 410 with C or better; SWU 412 with Y grade; SWU 413 with C or better; minimum 2.00 GPA; Corequisite(s): SWU 411; SWU 415 OR Visiting University Student |
| SWU | 415 | Integrative Field Seminar | Field-focused seminar to help students integrate practice and theory. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work BSW major; SWU 410 with C or better; SWU 412 with C or better; SWU 413 with C or better; Corequisite(s): SWU 411; SWU 414 OR Visiting University Student |
| SWU | 416 | Domestic Violence and National AmeriCorps Service | Prepares students for working with domestic violence survivors in the community and to implement evidence-based practices in domestic violence services. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only SWU 416 or SWU 494 (Domestic Violence Americorp Serv Practicum) or SWG 545 OR Visiting University Student |
| SWU | 417 | Technology, Interpersonal Relationships and Abuse | Examines the influence, impact and role of information communication technologies within interpersonal relationships. Draws from theoretical concepts, current events and student experiences to understand the risks and benefits to incorporating mediated communications into personal relationships. Also examines ways that technology can further abuse and mistreatment of marginalized groups by reviewing research about online harassment, cyberbullying, cyberstalking, monitoring, surveillance, and other forms of online exploitation. Students use readings, lectures and assignments to understand ethical implications when incorporating technology into our social lives. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): minimum 45 hours |
| SWU | 418 | Global Violence Against Women | Examines experiences of and responses to violence against women (VAW) from global perspectives. Throughout the semester students explore drivers and consequences of violence against women across geographic and practice contexts. Examines critical approaches and evidence-based practice modalities. While the focus of the course is on women's experiences of violence, students have opportunities to explore a wide range of identities related to gender, sexual orientation, race, social status and differing abilities. Draws from local expertise in the practice community and offers integration of classroom content with contemporary issues related to both policy and practice at the local, state, national and international levels. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): minimum 45 hours |
| SWU | 420 | Domestic Violence Fatality Review | Covers the concept of domestic violence fatality review and applies it to the analysis of de-identified cases. Students closely examine an array of deaths and the social, cultural, economic and historical contexts within which they take place. They build case time lines; identify case antecedents; assess the degree of coordination, communication and collaboration among community agencies, organizations and stakeholders; and develop possible preventive interventions. Case types addressed include: male- and female-perpetrated intimate partner homicides, familicide and suicide. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only SWG 520 or SWG 598 (Domestic Violence: Fatality Analyses) or SWU 420 or SWU 494 (Domestic Violence: Fatality Analyses) OR Visiting University Student |
| SWU | 432 | Social Policy and Services | Contemporary social, political, and economic issues. Special emphasis on poverty and inequality in the Southwest. Analysis and development of social welfare policies and programs. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work BSW major; ECN 211 or SWU 181; POS 110, POS 310, or SWU 182; SWU 311 with C or better; SWU 312 with C or better; Corequisite(s): SWU 410; SWU 412; SWU 413 OR Visiting University Student |
| SWU | 442 | Child Welfare Practice | Focuses on the characteristics, strengths, and service needs of families and children in the Child Welfare System. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): Social Work BSW major; SWU 410 with C or better; SWU 412 with C or better; SWU 413 with C or better OR Visiting University Student |
| SWU | 450 | Mastering Mindfulness | Facilitates mastering mindfulness practice. Students teach a lesson and develop a training proposal that will be implemented and evaluated. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWU 250; SWU 349 |
| SWU | 454 | Overview of Addictions | Addictions and their impact upon society including alcohol, legal and illegal drugs, gambling, the Internet, sex and pornography. Focuses on the etiology of addictions that impact our society on a micro, mezzo and macro level. Provides an ecological perspective to view human behavior across the life span as it relates to addictive behaviors. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only SWU 454 or SWU 498 (Overview of Addictions) or SWG 554 |

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| SWU | 456 | Immigrants and Refugees | Provides basic conceptual approach to understanding immigrant and refugee issues and how these factors influence social work practice with immigrant and refugee populations. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | C | Prerequisite(s): minimum junior standing; Credit is allowed for only SWU 456 or SWU 498 (Immigrants & Refugees) or SWG 556 OR Visiting University Student |
| SWU | 457 | Southwest Borderland Immigration Issues | Reviews immigration history, trends, policies, and legislation. Focuses on immigrant experience from economic, educational, social, political, familial perspectives in Southwestern U.S. | N | SEM | N | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 3 | C | Credit is allowed for only SWU 457 or SWG 557 |
| SWU | 458 | Behavioral Health Services | Behavioral health conditions; their impact on the individual, family and community; and historical and contemporary service models. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only SWU 458 or SWU 498 (Behavioral Health Services) or SWG 558 OR Visiting University Student |
| SWU | 459 | Spirituality and the Helping Professions | Provides a framework for spiritually and culturally competent practice with diverse populations. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only SWU 459 or SWU 498 (Spirituality and the Helping Professions) or SWU 498 (Spirituality & Helping Profession) or SWG 559 |
| SWU | 460 | Legal Issues in Social Work | How the law relates to social work practice, administration and policy. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): minimum junior standing; Credit is allowed for only SWU 460 or SWU 498 (Legal Issues in Social Work) or SWG 560 OR Visiting University Student |
| SWU | 461 | Lesbian, Gay, Bisexual, Transgender, and Queer Issues | Historical, socio-cultural introduction to lesbian, gay, bisexual and transgender communities and their resilience to challenges and barriers. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | C | Prerequisite(s): minimum junior standing; Credit is allowed for only SWU 461 or SWU 498 (Lesbian/Gay Issues) or SWG 561 OR Visiting University Student |
| SWU | 462 | Global Social Welfare | Analyzes social work's response to international social issues and human need from the perspectives of globalization, development and human rights. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | G | Prerequisite(s): minimum junior standing; Credit is allowed for only SWG 562 or SWU 498 (International Social Work) or SWU 462 |
| SWU | 463 | Multicultural Perspectives on Community Development | Analyzes solutions to contemporary social and economic problems from a global perspective. Focuses on local community issues; helps community members from diverse ethnic and cultural backgrounds understand differences and their impact on social behavior. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): junior standing; Credit is allowed for only SWU 463 or SWG 563 or CRD 494, CRD 598, NLM 494, PAF 494, PAF 591, SOS 494, SSH 494, SWG 591, or SWU 498 (Multicultural Perspective on Community Development) |
| SWU | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | N | LEC | N | Z1 | Watts College of Public Service and Community Solutions | School of Social Work | 1-12 | | |
| SWU | 488 | Advocacy Strategies | Comprehensive advocacy approach that spans administrative, legislative and community strategies. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Social Work | 3 | | Prerequisite(s): SWU 303; SWU 306; SWU 320; SWU 340; SWU 350; SWU 374; senior standing OR Visiting University Student |
| SWU | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Social Work | 1-6 | | Prerequisite(s): Barrett Honors student |
| SWU | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | IND | N | Z1 | Watts College of Public Service and Community Solutions | School of Social Work | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| SWU | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 1-4 | | |
| SWU | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | N | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Social Work | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| SWU | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Watts College of Public Service and Community Solutions | School of Social Work | 1-3 | | Pre-requisite: Bachelor of Social Work student |

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| TAM | 505 | Navigating Global and Regional Business Environments | Globalization has dramatically expanded opportunities for international trade, investment and economic development, but potential trade disputes, international financial crises, political risks, international environmental regulations and ethical dilemmas in global business have also emerged. Develops analytical tools for understanding the rapidly changing and dynamic global business environment, especially in the era of 4th Industrial Revolution. With these tools, managers are better prepared to manage risks and take advantage of opportunities in the global economy. Deals with the regional business environment. Begins with a brief geographical, demographic and cultural overview of the region, and develops tools for analysis useful to assessing the business environment. While the emphasis is on a specific region, the same tools could be applied to any region of the world. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TAM 505 or TGM 515 |
| TAM | 511 | Global Accounting: Managing with Numbers | Covers the fundamentals of financial accounting and managerial accounting in a global environment. Financial accounting focuses on providing useful information to users for external decision making. By understanding the structure and process of preparing a balance sheet, income statement and statement of cash flows, students learn how to interpret, analyze and evaluate domestic and international companies. Managerial accounting focuses on providing useful information for internal decision making. By identifying and understanding different types of cost information, students learn how to utilize and prepare cost-volume profit analysis, relevant cost analysis, activity-based costing and performance evaluation within global organizations. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TAM | 521 | Financial Value Creation for Leaders | Covers fundamental concepts and practices of modern financial management within a market-oriented framework. Develops analytical skills for sound financial decision making and management. Emphasizes practical applications and equips learners with tools necessary to make investment and financing decisions in a global setting. Achieves learning via problem solving, video lectures, case analysis and discussions. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TAM | 530 | Data Analytics and Digital Transformation in a Global World | Leaders must harness the data revolution and engender digital transformation in their organizations to be successful within and across societies in the 21st century. Provides knowledge and skillsets in the ever broadening range of types, forms and uses of data, data tools, data technologies and platforms for dynamic decision making. Provides learners with critical skillsets in visualizations and dash-boarding that transform mere data into information and insights. Provides knowledge on how organizations benefit from a fourth industrial revolution technologies including sensors (IoT), Blockchain, artificial intelligence (AI), and augmented reality (AR) that move data-driven insights from the front-lines to the boardroom. Also examines implications for stakeholder relationship management, privacy, security and regulations that are shaping and are shaped by the data revolution and digital transformation. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TAM | 531 | Project and Operations Leadership | Strategies and challenges associated with leading projects and designing and improving service and manufacturing processes. Topics include project management, value-chain structures, supplier partnerships, logistics, risk management and value-stream mapping. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TAM | 534 | Global Venture Creation | Covers the most essential topics for first-timer startup founders. Teaches how to quickly identify and test new business ideas, and how to launch a new venture when an idea worth pursuing is found. Provides a good understanding of the entrepreneurial journey and what is involved when launching a new business. Students develop a new business idea, build and test business model and deliver a professional business pitch at the end of the course. Highly experiential and involves a great deal of customer interactions. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TAM 511; TAM 541 |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|--|
| TAM | 541 | Strategy in a Competitive World | Focuses on choices that have an impact on the performance of the entire organization or business start up. Includes the problems faced by, and the decisions made by, executive leaders who have to balance the needs and expectations of stakeholders including customers, shareholders and employees with the requirements of local country practices and government regulations. Analyzes problems and decisions from the point of view of the founder, general manager or chief executive who has responsibility for the welfare of the entire organization. By focusing on policy decisions, concerns the choice of goals as well as the organization; management and deployment of scarce resources to pursue these goals within the context of an imperfect, changing and competitive world. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TAM | 542 | Global Leadership and Personal Development | Personal leadership development is optimized by grounded reflection, self knowledge and continuous learning as we interact with others. Therefore, the personal development part of this course cultivates introspective and skill-building competencies that include conceptual grounding that is based in an experiential learning focus. Discusses self- and other-awareness and engages in group/team interaction, as well as conducts individual self-assessments and individual feedback. In addition to developing ourselves at the personal level, developing ourselves as leaders at the organizational level is imperative to sustainability of the company. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird graduate student |
| TAM | 557 | Global Marketing in a Digital Age | The customer experience is being transformed across the world due to technological transformations but continues to vary across societies and regions. Leaders need to be fluent with the marketing mix (4Ps), namely pricing, product, promotion and place, and how these tools could be used to add value to firms in national and international settings and how they could be effectively applied to create, price, communicate and deliver value to customers and important stakeholders using quantitative and qualitative analysis. Leaders and managers need to be knowledgeable about macro issues such as market orientation, segmentation, targeting and positioning and their strategic implications for customer, competitor and context analysis to be successful. Leaders need to utilize decision tools to create competitive advantage and understand the similarities and differences in domestic and global marketing. Leaders must also be able to harness digital transformation and broader tools of the 4th industrial revolution such as artificial intelligence to design powerful customer experiences and marketing in today's globalized and technological world. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TAM | 582 | Communicating and Negotiating in a Dynamic Global World | Improves global mindset and negotiation skills by focusing on cross-cultural issues, communication issues and negotiation in cross-cultural environments. Provides an in-depth examination of culture, its managerial implications and negotiation. Explores various methodologies to understand and measure national cultures. Embarks on a rigorous and practical journey to examine the impact of national culture, no matter how it is measured, on communication dynamics in a cross-cultural environment and focuses on specific skill sets to help students succeed in such situations. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TAM | 589 | Global Field Seminar | Businesses confront significant differences among countries in regard to industry structures as well as economic, political, societal and cultural forces, especially in the new era of Industry 4.0. These differences create new challenges and opportunities for businesses that extend their activities internationally. Given the tremendous diversity and rapidly changing business environment across the globe, it is important to address (1) the forces impacting a country's business environment, (2) the implications of these factors for business strategies. Provides a framework and an analytical approach to study the dynamics of business environment in a particular region. Conducted on the ground in country, focuses on-site visits to companies and/or government entities, and interactive discussions with speakers. Emphasizes contemporary issues relevant to understanding the business environment. | Y | SEM | Y | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| TAM | 597 | Integrative Project | Integrates business subjects covered in the program online. Helps students fine tune their business plans and prepare presentations for potential fund raising. Provides tools for effective presentation, preparing pitch deck for fund raising and successful negotiation of the term sheets. Learning is achieved via lectures, discussions, presentations and role play as negotiators. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | Prerequisite(s): TAM 511; TAM 521; TAM 534; TAM 541; TGM 505; TGM 540; TGM 551; TGM 579 |
| TCL | 101 | Latinas/os in the U.S. | Historical and contemporary issues in Latina/o communities in the U.S.; focuses on the diverse economic, sociological, cultural and political status. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | HU & C | |
| TCL | 111 | Latinx Cultural Studies | Interdisciplinary analysis of customs, values, belief systems, and cultural symbols; special attention is given to cultural continuity and change. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | HU & C | |
| TCL | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-3 | | |
| TCL | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-4 | | |
| TCL | 201 | Transborder Society and Culture I: Interdisciplinary Approaches | Intensive overview of Mexican origin and Latina/o populations through various sociological, historical, anthropological, economic, political, cultural, literary, and analytical lenses. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | HU & C | |
| TCL | 202 | Transborder Society and Culture II: Contemporary Issues | Examines contemporary transborder culture; issues of health, gender, class, race, sexuality, family, colonialism, community development, migration and well being, within a transnational context. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB & C | |
| TCL | 210 | Introduction to Ethnic Studies in the U.S. | Covers diversity of experiences and relations among racial and ethnic groups in the United States. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | C | Credit is allowed for only AFR 212 or APA 210 or JUS 210 or TCL 210 OR Visiting University Student |
| TCL | 211 | Latinx Poetics | Writing seminar on Latina, Latino and Latinx poetics; intensive creative writing workshop. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | HU & C | |
| TCL | 220 | Transborder Latina/o Expressive Culture | Examines media, literature, performance, and visual art grounded in the historical experiences of transborder Latina/o communities. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | (L or HU or SB) & C | Prerequisite(s): ENG 101, 105, or 107 with C or better or minimum 24 hours OR Visiting University Student |
| TCL | 230 | The Expressive Culture of Latin America and the Caribbean: A Transborder Perspective | Interdisciplinary social science introduction to various forms of cultural expressions found throughout Latin America and the Caribbean region and in Latina/o communities within the United States. Uses a transborder perspective to examine how migration, race, ethnicity, gender, power, history and identity shape and influence different aspects of Latina/o culture and identity. Focuses on the study of a wide array of expressive practices including music, dance, verbal arts, myths and folktales, festivals, sports and food in Mexico, the Spanish Caribbean and their counterpart Latina/o communities in the United States. Class lectures and readings introduce basic concepts such as ethnography, ethno-musicology, culture, representation and globalization. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | (L or HU or SB) & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ASB 220 or TCL 230 OR Visiting University Student |
| TCL | 275 | Culture, Language and Learning | Examines the dynamic and complex interplay of language, culture and learning within and across individuals, groups, institutions and cultures in diverse multicultural, multilingual and transborder contexts. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB & C | Credit is allowed for only ASB 275 or TCL 275 |
| TCL | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-4 | | |
| TCL | 303 | Transborder Theory | Studies historical, cultural, and economic theories contributing to understanding the emergence of Mexican and Latina/o origin populations in the Americas. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB | Prerequisite(s): minimum 45 hours; Credit is allowed for only SOC 303 or TCL 303 OR Visiting University Student |
| TCL | 304 | Transborder Research Methods | Emphasizes critical skills: quantitative/qualitative, spatial, archival, and reflexive methodologies, including ethnographic, biographical, historical, and mapping. | N | RSC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB & C | Prerequisite(s): minimum 45 hours |
| TCL | 305 | Transborder Practicum and Field Research | Field work with faculty incorporating practical experience while honing research skills and ability. | N | PRA | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Pre- or corequisite(s): TCL 303 with C or better if completed; TCL 304 with C or better if completed |
| TCL | 310 | Folklore of the Southwest | Analyzes the folk beliefs, practices and expression of Mexican-origin and other Latinx populations. Focus includes art, music, performance and every day practices. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | HU & C | Prerequisite(s): ENG 101, 105, or 107 with C or better or minimum 24 hours |
| TCL | 314 | Transborder Latin American Migration to the U.S. | Historical/contemporary overview of Mexican and other Latin American migration into and within the U.S.; factors affecting population movement, settlement patterns and migrants' incorporation into society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | (L or SB) & H & C | Prerequisite(s): ENG 101, 105 or 107 with C or better; minimum 45 hours; Credit is allowed for only SOC 314 or TCL 314 OR Visiting University Student |
| TCL | 315 | Latinx Family Structures | Traditional and changing family relationships of Mexican-origin and Latinx populations; emphasizes gender and intergenerational relations and impact of modern society on traditional family values. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB | Prerequisite(s): ENG 101, 105, or 107 with C or better or minimum 24 hours |

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| TCL | 321 | Transborder Community Development and Health | Emphasizes core concepts and practices relevant to regional community development and health, including demographic health indicators, individual, and community models. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only SOC 320 or TCL 321 OR Visiting University Student |
| TCL | 323 | Latina/o Health Issues | Health issues among U.S. Latina/o populations; interplay among political economy, health, family, culture and community. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB & C | Prerequisite(s): ENG 101, 105, or 107 with C or better or minimum 24 hours OR Visiting University Student |
| TCL | 326 | Health of Chicanas and Latinas | Examines gender, ethnicity, and health; critical issues affecting health status of Chicanas and Latinas. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB & C | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| TCL | 327 | Health and Migration | Focuses on health status among various immigrants; health trajectories following migrations, adaptive behaviors, health practices, and the role of policy. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better or minimum 24 hours |
| TCL | 328 | Hispanic Religion, Culture and Healing | U.S. Hispanic and Latin American religious history with special attention to what are mestizo hybrid cultures and their healing methods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | HU & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours; Credit is allowed for only REL 326 or TCL 328 OR Visiting University Student |
| TCL | 331 | Mexican American History to 1900 | Mexican American history from pre-Hispanic origins to frontier journeys north through 19th-century life in the U.S. Southwest. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB & H & C | Prerequisite(s): ENG 102, 105 or 108 with a C or better; minimum 30 hours; Credit is allowed for only HST 331 or TCL 331 OR Visiting University Student |
| TCL | 332 | Mexican American History Since 1900 | Traces the formation of Mexican American communities across the rural and urban U.S. and examines 20th-century immigration from Mexico. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB & H & C | Prerequisite(s): ENG 102, 105 or 108 with a C or better; minimum 30 hours; Credit is allowed for only HST 332 or TCL 332 OR Visiting University Student |
| TCL | 335 | Historical Studies in Race, Crime, and the Law | Studies the historical relationship between the criminal justice system in the United States and a segment of society that has traditionally faced official and unofficial discrimination: American racial minorities. Focuses on the experiences of Mexican Americans and Africans Americans with the criminal justice system. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): ENG 101 with C or better; ENG 102 with C or better; Credit is allowed for only AFR 335 or HST 323 or TCL 335 OR Visiting University Student |
| TCL | 340 | Chicana/o and Latina/o Politics and Policy | Historical/contemporary analysis of Chicana and Chicano political ideologies, attitudes, strategies, and movements; relations with governmental agencies; and public policy issues. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | L & C | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| TCL | 341 | Latinas/os and the City | Examines major contemporary issues affecting Latina/o communities in U.S. cities. Explores elements and trends in the urban social fabric and landscape associated with a growing Latino presence and its connection with ethnic diversity, transnationalism, cultural resistance and resilience. Pays particular attention to the political economy and planning of Latino communities in the Southwest with selected comparison drawn from other U.S. cities. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | C | Prerequisite(s): ENG 101, 105, or 107 with C or better OR minimum 24 hours OR Visiting University Student |
| TCL | 342 | Social Demographics of Latino Populations | Provides an introduction to social demography of Latinos in the U.S. from the 19th century to the present. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB & C | Prerequisite(s): minimum 45 hours; Credit is allowed for only SOC 343 or TCL 342 |
| TCL | 343 | Latinas/os and the Environment | Examines the nexus among race/ethnicity, migration, class and the built and natural environment. Explores the proposition that Latina/o and other ethnic minorities and socioeconomically disadvantaged populations bear a disproportionate burden of environmental challenges and its consequences for equality, health and quality of life. Key topics include environmental racism, vulnerability and resilience, climate change, community organizing, and mobilization. Pays considerable attention to community-based efforts to deal with environmental problems affecting the Latina/o population in the U.S. Southwest. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): ENG 101 or 105 or 107 with C or better OR minimum 24 hours; Credit is allowed for only ASB 343 or PUP 343 or SOS 343 or TCL 343 or ASB/PUP/SOS/TCL 394 (Latinos and the Environment) |
| TCL | 348 | The Borders of Language | In-depth focus on language use, multilingualism and social life in borderlands contexts, in and out of school. Explores the historical and contemporary dimensions of language use in the borderlands, including Indigenous languages, English and Spanish, and hybrid forms. Also introduces theories and methods in the field of linguistic anthropology. Students conduct research on everyday linguistic practice and connect it to broader sociopolitical realities. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | L | Prerequisite(s): ENG 101, 105 or 107 with C or better; Credit is allowed for only ASB 348 or ASB 394 (The Borders of Language) or ENG 348 or ENG 394 (The Borders of Language) or TCL 348 or TCL 394 (The Borders of Language) |
| TCL | 350 | Mexican and Chicana/o Artistic Production | Overview of Mexican and Chicana/o artistic production from colonial times to present; emphasizes religious and folk art. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | HU & C & G | Prerequisite(s): ENG 101, 105, or 107 with C or better or minimum 24 hours |
| TCL | 351 | Chicana/o and Latina/o Art | Intensive analysis of contemporary Chicana/o and Latina/o art movement as appraised within the context of contemporary American art and the art of Mexico. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | HU & C | Prerequisite(s): ENG 101, 105, or 107 with C or better or minimum 24 hours |
| TCL | 352 | Chicana/o Film | Explores how Chicano and Chicana filmmakers have interpreted the Chicano experience through the medium of film. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | C | Credit is allowed for only FMS 352 or TCL 352 |

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| TCL | 355 | Transborder Digital Media Making | Covers digital media-making with a focus on issues relating to the U.S.-Mexico border region, specifically within the Phoenix community. | N | LEL | N | GNA | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only FMP 355 or TCL 355 or FMP 394 (Intro to Transborder Digital Media Making) or TCL 394 (Intro to Transborder Digital Media Making) |
| TCL | 360 | Inequality and Diversity in Education | Advanced exploration of various dimensions of diversity in relation to educational systems and outcomes. Through sociological and psychological research, case studies and films, students examine how educational inequality is created and reproduced through individual actions and institutional constraints. Also considers the connection between schooling and human rights and ways in which educational inequality may be addressed. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | L & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; AFR 212, APA 200, APA 210, CDE 232, JUS 210, TCL 210, or minimum 24 hours; Credit is allowed for only AFR 350, APA 350, CDE 350, JUS 365, SOC 350, or TCL 360 OR Visiting University Student |
| TCL | 362 | Urban Communication: Reinventing the Latinx City | Explores and reflects on the impact of mediated representations of Latinx ethnic enclaves in the configuration of notions of community, citizenship and sense of belonging. Also looks at the role of media in identity formation as a way of engaging and challenging cultural, social and political ideologies and struggles in urban contexts. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only COM 362 or COM 394 (Urban Communication: Reinventing the Latinx City) or TCL 362 or TCL 394 (Urban Communication: Reinventing the Latinx City) OR Visiting University Student |
| TCL | 363 | Transborder Mexican and Chicano/a Literature of Southwest North America | Development of Chicana and Chicano literature; study of genres and themes; attention to literary antecedents. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 363 or TCL 363 OR Visiting University Student |
| TCL | 370 | Signs of Aliens: Semiotics of Film and Popular Culture | Introduces semiotics and cultural studies; looks at various meanings ascribed to the sign of the alien. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | HU | Credit is allowed for only FMS 370 or TCL 370 |
| TCL | 371 | Language Hegemony and Culture | Historical and cultural analysis of language and the ideological constructs imposed upon resident populations in the Southwest North American region since 1540. Analyzes the suppositions, ideologies, premises and mechanisms by which Spanish and English became imposed among Native peoples and later national populations of Mexicans during the 19th century and continuing with their descendants and migrating populations crossing the bifurcated border. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 371 or HST 371 or SLC 371 or SPA 371 or TCL 371 or ASB/HST/SLC/SPA/TCL 394 (Language Hegemony & Culture in SW North America) |
| TCL | 373 | Latina/Chicana Issues | Critical examination of the roles Mexican American, Chicana, and/or Latina immigrant women play historically, socially, and politically in the United States and along the border. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB & C | Prerequisite(s): WST 100 (or WST 300) with C or better or minimum 30 hours; Credit is allowed for only TCL 373 or WST 373 OR Visiting University Student |
| TCL | 377 | Arizona, Immigration, Latinos and Politics | Contemporary immigration and its related issues have generated significant debates, reforms and responses by government officials, businesses and private citizens, to name but a few in this country. This course provides a much-needed framework for understanding some of the immigration issues in Arizona and the country generally. It also focuses on some of the political responses by Latinos and their significant mobilization at the local, state and federal levels. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only JUS 377 or POS 377 or SGS 377 or TCL 377 or JUS/HST/POS/SGS/TCL 394 (Arizona, Immigration, Latinos and Politics) OR Visiting University Student |
| TCL | 378 | Globalization: Migration, Mass Media, McDonald's | Explores the impact of globalization on local societies and cultures by focusing on the international migration of peoples, the global expansion of capitalism and global mass media and popular culture. Examines both the socioeconomic causes and consequences of globalization, as well as how local peoples around the world have been affected by, participated in and resisted the forces of globalization. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | (L or SB) & C | Prerequisite(s): ENG 101, 105, 107, or 111 with C or better; Credit is allowed for only ASB 378 or TCL 378 |
| TCL | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-4 | | |
| TCL | 410 | Race, Medicine, and the Body | Explores how body and embodiment and race and ethnicity are constructed within and by biomedical sciences and technology development. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 45 hours; Credit is allowed for only SOC 410 or TCL 410 OR Visiting University Student |
| TCL | 422 | U.S.-Mexico Border Health | Focuses on identifying health issues affecting Latino/Mexican families in the U.S.-Mexico borderlands using basic epidemiological techniques to analyze regional data. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): TCL 321 with C or better |
| TCL | 424 | Theory and Practice of Community Development and Health | Foundations of methodology of community mapping and establishment of community diagnosis, media literacy and advocacy applications for community-based public health. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB | Prerequisite(s): TCL 321 with C or better |
| TCL | 443 | Political Ecology of the Border | Examines the political ecology of the human-environment relationship in Mexico and on the U.S.-Mexican border. Through case studies, students learn about the most pressing environmental issues facing human populations and their communities on both sides of the U.S.-Mexican border and the various ways in which these issues are dealt with. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 463 or SOS 463 or TCL 443 |

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| TCL | 444 | The Ethnography of Mexico and the Borderlands | Students learn basic principles of ethnographic research and obtain a better understanding of the social, ecological, cultural, political and economic processes affecting people in Mexico and in the U.S.-Mexico borderlands. Through case studies, students become aware of the variety of issues shaping the lives of those living in these regions. Focuses on contemporary issues such as migration, economy, gender, labor, health and the environment. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | SB & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only ASB 464 or TCL 444 or TCL 598 (The Ethnography of Mexico and the Borderlands) OR Visiting University Student |
| TCL | 447 | Gender, Culture, and Development | In-depth analysis of gender roles related to health, family, work, education and politics in developing countries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | (L or SB) & G | Prerequisite(s): ENG 101, 105 or 107 w/ C or better; WST 100 or 300 or minimum 45 hours; Credit is allowed for only SGS 454 or SOS 447 or TCL 447 or WST 447 or TCL 598 (Gender, Culture & Development) OR Visiting University Student |
| TCL | 448 | Teaching Chicana and Chicano Studies in the Schools | Approaches/techniques for infusion of transborder studies content into elementary and secondary curriculum; designed for teachers who work with Mexican and Latino origin students. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): minimum 45 hours |
| TCL | 464 | Latina/o Literature | Development of Latina/o literature. Study of genres and themes; attention to literary antecedents of the new U.S.-based Latina literature. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | (L or HU) & C | Prerequisite(s) with C or better: ENG 101, 105, or 107; ENG 200; one ENG 200- or 300-level literature course OR ENG 101, 105, or 107; min 45 hours; Credit is allowed for only ENG 458 or FMS 464 or TCL 464 OR Visiting University Student |
| TCL | 471 | Latinos In Hollywood | Studies representations of Latinos in film; stereotyping, politics of metaphor, allegory, star discourse, self-representation, resistance and independent film. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | HU & C | Prerequisite(s): minimum 45 hours; Credit is allowed for only FMS 471 or TCL 471 OR Visiting University Student |
| TCL | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | |
| TCL | 485 | Chicana and Latina Writers | Critical reading of Mexican American women authors; emphasis on contemporary (post-1970) poetry, novels, short stories, and essays. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | (L or HU) & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours OR Visiting University Student |
| TCL | 490 | Transborder Queer Performativity | Explores a rich and diverse body of border-crossing performative expression created by queer and/or Latina/o artists. Course readings and discussions include solo and collaborative works with an emphasis on solo autobiographical performance scripts as well as performer interviews and performance scholarship. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | HU & C | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 45 hours; Credit is allowed for only TCL or WST 490 |
| TCL | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Transborder Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| TCL | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Transborder Studies | 1-6 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| TCL | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-4 | | |
| TCL | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-7 | | Prerequisite(s): Transborder Chicana/o and Latina/o Studies BA major; minimum 56 hours |
| TCL | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | N | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Transborder Studies | 1-3 | | |
| TCL | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TDM | 205 | Introduction to Travel and Tourism | Provides an overview of tourism and its impacts on communities, cultures, economies and environmental systems. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | G | |
| TDM | 225 | Introduction to Resort and Hotel Management | Introduces local, national and international lodging and food service industries. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | |
| TDM | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |
| TDM | 345 | Meeting and Convention Planning | Basic aspects and skills in planning meetings and conventions. Industry and market overview of certified meeting planners. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): TDM 205 or RTM 373 with C or better OR Visiting University Student |

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| TDM | 350 | Tourism, Recreation and Sports Marketing | Critical examination of marketing principles in leisure and related industries in diverse settings, including local, national, and international. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 210, CSM 201 or TDM 205; ENG 102, 105 or 108 with C or better; MAT 142 or higher with C or better; minimum 45 hours; Credit is allowed for only CRD 350 or CSM 350 or PRM 350 or TDM 350 OR Visiting University Student |
| TDM | 372 | Tourism Planning | Applies economic and regional development concepts and theories to destination product development. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; MAT 142 or higher with C or better; TDM 205 with C or better; minimum 2.50 GPA; minimum 45 hours OR Visiting University Student |
| TDM | 386 | Convention Sales and Management | The role of convention and visitors bureaus or resort managers, including economic impacts of markets, structure, governance, membership, and advertising. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | |
| TDM | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |
| TDM | 401 | Managing Tourism and Leisure Enterprises | Basic principles of administration and their application in successful administrative situations. Analyzes administrative function, structure, and policies. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 210 or PRM 210 with C or better; CSM 203, NLM 203, PRM 203, or TDM 372 with C or better; minimum 2.50 GPA; Credit is allowed for only CRD 401 or CSM 401 or PRM 401 or TDM 401 OR Visiting University Student |
| TDM | 402 | Assessment and Evaluation of Community Services | Introduces applied leisure research with emphasis on program evaluation, research design, data collection techniques, and data analysis. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): CRD 210 or PRM 210; Credit is allowed for only CRD 402 or CSM 402 or NLM 402 or PRM 402 or TDM 402 OR Visiting University Student |
| TDM | 415 | Tourism Transportation Systems | Examines the role of various modes of transportation in domestic and international tourism development. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): TDM 205 or RTM 373 with C or better |
| TDM | 448 | Heritage and Cultural Tourism | Provides a solid conceptual understanding of the issues, problems, and management implications associated with heritage and cultural tourism. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): TDM 205 with C or better; Credit is allowed for only TDM 448 or CRD 598 (Heritage and Cultural Tourism) OR Visiting University Student |
| TDM | 458 | International Tourism | Global examination of international tourism and its significance as a vehicle for social and economic development. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | G | |
| TDM | 463 | Senior Internship | Supervised guided experience in selected agencies. | N | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3-12 | | Prerequisite(s): CRD 403 or RTH 413 (PRM 413) with C or better; Credit is allowed for only CRD 463 or CSM 463 or NLM 463 or PRM 463 or RTH 463 or TDM 463 |
| TDM | 475 | Entrepreneurial Recreation and Tourism | Explores basic business principles and innovative processes involved in starting a small business in the commercial recreation and tourism industry. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only PRM 475 or TDM 475 OR Visiting University Student |
| TDM | 480 | Sustainable Tourism | Tourism has a multitude of impacts, both positive and negative, on people's lives and on the environment. Critically analyzes the environmental, economic, and socio-cultural aspects of tourism development, and strategies to attain balance among these three dimensions to guarantee its long-term sustainability. | N | LEC | N | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): PRM 120 or TDM 205 or minimum 60 hours OR Visiting University Student |
| TDM | 481 | Sustainable Food Management in Tourism | Focuses on the fundamentals of sustainability, sustainable food systems, relationships between food and tourism, and the applications of sustainable food practices in different types of global tourism. Defines sustainable development, explains the importance of sustainable food systems, recognizes the relationship between local food systems and global food challenges. Connects the challenges of creating and maintaining sustainable food systems with the needs of tourists and tourism destinations; defines leakage in reference to tourism and food. Creates and applies sustainability assessment criteria to food systems in a variety of different tourism spaces. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Pre-requisite: Junior standing; Minimum 60 hours |
| TDM | 482 | Sustainable Revenue Management | Introduces the fundamental economic principles that underlie revenue management and the practical application of new analytical technological services in the hotel and resort industry. Uses experienced revenue managers from local resorts and hotels as regular guest speakers and IdeaS system (a revenue management analytics subsidiary of SAS). | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Pre-requisites: MAT 142 or higher; Minimum 72 hours |

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| TDM | 483 | Sports Tourism | Examines the relationship between sports and tourism, and the role of recreation and amateur sports as an economic and community development strategy. Also considers the motives, behaviors and experiences of sport tourists; the impacts of sport tourism; and trends in sports tourism. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only CSM 483 or PRM 483 or TDM 483 OR visiting University Student |
| TDM | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | |
| TDM | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-6 | | Prerequisite(s): Barrett Honors student |
| TDM | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-6 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| TDM | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | |
| TDM | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| TDM | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-3 | | |
| TDM | 520 | Sustainable Thinking in Tourism I | First in a series of two courses introducing students to the basic concepts of sustainability and their application and implications for tourism. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TDM | 521 | Sustainable Thinking in Tourism II | Second in a series of two courses focusing on how to measure, assess, and plan for sustainability in the tourism industry. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): TDM 520 with C or better |
| TDM | 530 | Sustainable Tourism Destination Planning and Management I | Applies sustainable economic and regional development concepts and theories to destination planning and management. Students learn the fundamentals of sustainable planning, including stakeholder involvement and meeting community needs. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TDM | 531 | Sustainable Tourism Destination Planning and Management II | Applies sustainable economic and regional development concepts and theories to destination planning and management. Students learn the fundamentals of sustainable planning, including stakeholder involvement and meeting community needs. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): TDM 530 |
| TDM | 540 | Sustainable Food Management in Tourism | Focuses on the fundamentals of sustainability, sustainable food systems, relationships between food and tourism, and the applications of sustainable food practices in different types of global tourism. Students learn to define sustainable development; explain the importance of sustainable food systems, recognize the relationship between local food systems and global food challenges; connect the challenges of creating and maintaining sustainable food systems with the needs of tourists and tourism destinations; define leakage in reference to tourism and food; and create and apply sustainability assessment criteria to food systems in a variety of different tourism spaces. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TDM | 550 | Managing the Sustainable Tourism Business | Through case study analysis, students learn how sustainability impacts business operations, how successful sustainable businesses identify and assess alternative resource management techniques, and evaluate operational models for embedding sustainability practices into their business models. | N | LEC | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TDM | 561 | Best Practices Workshop Preparation | First in a series of two courses investigating and sharing best practices in sustainable tourism. Provides an overview of best practices and innovative actions in tourism. A destination or business is identified to be used as a case study. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1 | | Pre- or corequisite(s): TDM 521 with C or better |
| TDM | 562 | Best Practices Workshop Presentation | Second in a series of two courses investigating and sharing best practices in sustainable tourism. Provides an overview of best practices and innovative actions in tourism. A presentation of a best practices case study is conducted for the class. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1 | | Prerequisite(s): TDM 561 with C or better |
| TDM | 570 | Sustainable Tourism | Critically examines the environmental, economic, and socio-cultural aspects of tourism development, and strategies to attain balance among these three dimensions to guarantee its long-term sustainability. | N | SEM | N | GNA | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TDM | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| TDM | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TDM | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Community Resources and Development | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 101 | Professional Educator Series: The Student Experience | Introduces all new first-time Mary Lou Fulton Teachers College students to the unique elements, culture, challenges and opportunities of their university. Introduces future educators to the professional educator series and the themes that underpin the series, to include design-thinking, principled innovation, professional identity and legacy-minded thinking and actions. | N | SEM | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): Mary Lou Fulton Teachers College freshmen OR Visiting University Student |
| TEL | 102 | Professional Educator Series: Community Contexts | Explores the community context that impacts children and youths with specific focus on issues of diversity and social justice. Includes a service-learning component addressing a community-identified concern. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): Teachers College student |
| TEL | 111 | Exploration of Education | Education as an instrument in the development of the individual and society and its significance as an American Institution. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | SB | |
| TEL | 171 | Professional Educator Series: Equity in Education | Analyzes educational issues that are limiting equitable education experiences for children, youth and adults in educational systems birth-college and proposes solutions to meet those needs. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | |
| TEL | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| TEL | 200 | Social Embeddedness of Educational Endeavors | Serves as a pathway toward self discovery and professional identity. Course readings, reflections and self assessments help students develop personal and professional goals and goal-setting strategies. Course assignments provide students with a greater level of understanding regarding the reciprocal influences among community and culture and the student's life experiences. Students have an opportunity to clearly define themselves and share topics they are passionate about, as well as locate how they might fit into and contribute to their community. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | |
| TEL | 201 | Professional Educator Series: My Community Footprint | Explores the community context that impacts children and youths with specific focus on issues of diversity and social justice. Future educators enhance their knowledge, skills and attitudes of the professional educator series themes of design-thinking, character and moral development, professional identity, and legacy-minded thinking and actions. | Y | LEC | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): Teachers College student |
| TEL | 202 | Professional Educator Series: My Impact | Advances future educators' knowledge and skills as they apply the professional educator series themes of design-thinking, character and moral development, professional identity, and legacy-minded thinking and actions to become master learners and change agents for civic engagement and toward their personal and professional growth and fulfillment. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): Teachers College student |
| TEL | 203 | Collaborating, Planning and Implementing Instruction in Diverse Contexts | Prepares future educators to work with participants in a variety of learning environments and diverse contexts. Emphasizes innovative outcome-based and learner-centered approaches to planning and implementing instructional activities constructed using collaborative design-thinking. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | |
| TEL | 208 | Literacy in a Changing World | Examines literacy in the social context and the changing nature of literacy in the 21st century. Areas of inquiry include how students' cultural backgrounds and identities can serve as resources for literacy learning, linguistic diversity, media literacies, multi-modal literacies, and critical literacies. Explores issues of equity and social justice including the role of literacy to empower people into making positive changes in their lives and society. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | HU | |
| TEL | 212 | Understanding the Culturally Diverse Learner | Surveys cultural and linguistic diversity in American education, including education equity, pluralism, learning styles, and roles of schools in a multiethnic society. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | HU & C | |

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| TEL | 215 | Introduction to Child and Adolescent Development | Emphasizes the cognitive, social-emotional, and physical domains of child and adolescent development. From a knowledge base of theory, research, and current issues, students apply learning to developmentally appropriate principles and practices that guide relationships and learning experiences for all children. Uses available technologies; emphasizes the complex ecosystem of culture, ethnicity, family, and school. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | SB | |
| TEL | 270 | Professional Educator Series: Connecting Research to Practice | Assists students in shifting from a student perspective of education to a teacher perspective of education as they explore what it means to be a professional educator. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | |
| TEL | 271 | Professional Educator Series: Inclusivity in Practice | Students continue shifting from a student perspective of education to a teacher perspective of education by connecting newly expanding knowledge with experiences in the field to assist them in preparing for a career as an educator with specific focus on inclusivity and supporting students with a range of learner assets, abilities and needs. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | |
| TEL | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| TEL | 300 | Community, Family, and Education | Addresses education in a community and family context. Analyzes education and identifies education-focused community challenges in a broad variety of settings and across multiple times and places. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): TEL 200 OR Visiting University Student |
| TEL | 310 | Instructional Thought and Action: Instructional Design and Planning | Compares and contrasts theories of learning as well as how to identify and apply instruction based on these theories to foster rich student learning. Addresses a diversity of learners and perspectives, in differentiated contexts, across all specific professional educator pathways. Teaches aspects of instructional design and planning as prospective educators design instruction to meet student needs. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; TEL 203 or minimum 39 hours |
| TEL | 311 | Instruction and Management in the Inclusive Classroom | Planning and delivering instruction, organizing and managing classrooms, and making adaptations for English language learners and students with special needs. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| TEL | 313 | Technology in an Educational Setting | Focuses on using technology in an education setting and addresses the integration of technology in curricular areas for all students. Students receive a broad-based introduction to using and integrating technology into many different educational settings. | N | LEL | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): General Studies CS course OR Visiting University Student |
| TEL | 315 | Child and Adolescent Development | Physical, cognitive, social, and emotional development during childhood and adolescence; developmentally appropriate principles and practices to facilitate development for all students. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | L or SB | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| TEL | 316 | Teaching, Imagination, and Creativity | Engages students in critical thinking and the complex terrain of aesthetic theory and intellectual, academic work and teaching practice. Students apply aesthetic consciousness teaching by teachers developing imagination, creativity, and intuition as tools to use every day in their classrooms. Emphasis on how teachers can integrate the arts into the curriculum, use the arts to support academic content, and develop aesthetic consciousness as a way of becoming attuned to the teaching environment as well as to learners' diverse cultures, talents, and needs. The arts will also be studied as multi-cultural and socio-cultural phenomena, aiding teachers to become consciously attuned to the culturally diverse learner within the larger society. consciousness as a way of becoming attuned to the teaching environment as well as to learners' diverse cultures, talents, and needs. Also studies the arts as multicultural and sociocultural phenomena in support of these ends, aiding teachers to become consciously attuned to the culturally diverse learner within the larger society. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Pre-requisites: Education majors; Minimum junior standing |
| TEL | 317 | Instructional Thought and Action: Learning Environment and Management | Develops and implements strategies and intervention for effective management of the classroom to promote the learning of students with and without disabilities. Creates plans for maintaining a positive, productive and culturally relevant classroom environment. Incorporates age-appropriate techniques addressing individual, social and academic competence. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; TEL 203 or minimum 39 hours |
| TEL | 318 | Instructional Thought and Action: Assessment for Learning | Prospective educators examine theories of assessments exploring why we assess, how we assess, and the ways assessments are interpreted in classroom settings. Emphasizes designing, selecting, implementing, and/or evaluating appropriate assessments specific to pathways and for students with diverse educational needs across all grade levels. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; TEL 203 or minimum 39 hours |

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| TEL | 320 | Introduction to Gifted Education | Overview of a variety of issues related to gifted students from preschool through high school. Provides background in order to create an optimal experience for students, parents and teachers when working with gifted students. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| TEL | 331 | Foundations of Literacy: The Science of Reading | In this educator core course, prospective educators gain a foundation in literacy development and instruction, including the science of reading, phonological awareness, vocabulary development, reading fluency, reading comprehension, and written and oral expression, with a specific emphasis on phonics. Content focuses on understanding the reading process, language development, the sequence of learning to read across a developmental continuum, the essential components of reading instruction, and an introduction to scientifically based approaches to teaching reading. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student; minimum 39 hours |
| TEL | 332 | Disciplinary Literacy Methods | Prospective educators identify the specific literacy practices and challenges students face within their academic discipline and apply research-based instructional strategies for delivering differentiated instruction. Content focuses on instructional and assessment strategies in order to develop essential academic vocabulary, comprehension and critical thinking within each academic discipline. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| TEL | 340 | Families, Communities and Cultures: Cultivating Networks of Culturally Responsive Relationships | Helps prospective educators develop an understanding of the role that families and communities play in schooling practices and the skills to cultivate culturally responsive practices. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | SB | Prerequisite(s): minimum junior standing OR Visiting University Student |
| TEL | 355 | Internship: Initial | Initial professional experience provides aspiring teachers with supervised opportunities to integrate theory and practice and apply knowledge and skills while working collaboratively with educators and peers in classrooms and other field settings. | Y | LEL | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-5 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; minimum 39 hours |
| TEL | 366 | Internship: Intermediate | Intermediate professional experience provides aspiring teachers with supervised opportunities to integrate theory and practice and apply knowledge and skills while working collaboratively with educators and peers in classrooms and other field settings. | Y | LEL | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-5 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; minimum 56 hours |
| TEL | 370 | Professional Educator Series: Building a Professional Network | Engages prospective educators in collaborative experiences to examine their profession in relation to educational systems. Students develop skills and practices needed to work effectively as a professional educator. Emphasizes the importance of a well-developed professional network and student advocacy. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student; minimum 39 hours |
| TEL | 371 | Professional Educator Series: Educational Policies | Engages prospective educators in collaborative experiences to examine their profession in relation to educational policies. Exposes students to pressing educational issues with an emphasis on the importance of understanding the influence of policies, procedures and regulations as they relate to the education system. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| TEL | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| TEL | 400 | Innovation in Educational Endeavors | Pursues innovative solutions to social problems with the courage and ability to impact change in individuals, communities and organizations. Reviews community problems, challenges or areas of improvement; learns underlying principles of social enterprise; and develops innovative methods that empower individuals and support educational initiatives. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): TEL 200; TEL 300 OR Visiting University Student |
| TEL | 404 | Current Issues in Education and Policy Reform in the United States | Specialized topics related to current issues in education with a focus on education reform efforts from the late 20th century into the 21st century. Explores current reform efforts in education as part of the larger public policy agenda in the United States, analyzing how external influences shape present education systems. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only TEL 404 or TEL 494 (Current Issues in Education & Policy Reform in US) |
| TEL | 405 | History of Education and Policy Reform in the United States | Specialized topics in education history with a focus on education reform efforts from pre-Revolutionary War time to the end of the 20th century. Explores the past reform efforts in education as part of what was happening historically in the United States, analyzing how those efforts have shaped the present education systems. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only TEL 405 or TEL 494 (History of Education & Policy Reform in the US) |
| TEL | 410 | Leadership and Advocacy in Educational Endeavors | Educators who take an active stance through advocacy and leadership are well-equipped to create societal change. Students learn about styles of leadership that are fitting for this need, study advocacy techniques, then position themselves as advocates and leaders as they create a plan, with goals, to address an identified community problem, challenge or area of improvement. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): TEL 200; TEL 300; TEL 400 OR Visiting University Student |

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| TEL | 420 | Curriculum Strategies for Gifted Learners | Overview of a variety of ways in which to create and adapt curriculum for gifted students from preschool through high school. Provides a broad range of resources for classroom teachers to use in order to help gifted students work to their full potential in a heterogeneously grouped classroom. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): admission to the Professional Program |
| TEL | 430 | Learning Outside of School | Studies and methods from a variety of nonschool environments for learning and development. Teaches knowledge and skills such as methods of identifying and evaluating free-choice learning that occurs through museum going, hobbies, family learning, media, community programs, sports, public health campaigns, and more. Covers career opportunities for educators in key creative environments besides classrooms. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only TEL 430 or TEL 494 (Learning Outside of School) OR Visiting University Student |
| TEL | 431 | Learning in Workplaces | School isn't the only place where people learn! Once you get a job, most of what you learn will occur as you do your job, and that kind of learning is crucial to the development of competence and expertise. Surprisingly, seventy to eighty percent of this important learning takes place outside of formal training. Studying learning in workplaces illuminates how learning happens universally, and helps teachers and trainers design effective educational programs. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only TEL 431 or TEL 494 (Learning in Workplaces) OR Visiting University Student |
| TEL | 470 | Professional Educator Series: Career Growth and Planning | Engages prospective educators in collaborative experiences to explore career paths within education, develop career plans, and consider routines for continuous professional growth. Exposes students to pressing educational issues with an emphasis on career planning, development and growth. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| TEL | 471 | Professional Educator Series: The Principled Educator | Prepares prospective educators to examine their professional role as an advocate for themselves, their students and families, and their profession. Emphasizes the importance of understanding their professional influence as principled educators on educational practices and systems through advocacy efforts. | N | SEM | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): minimum junior standing OR Visiting University Student |
| TEL | 477 | Internship: Advanced | Advanced professional experience provides aspiring teachers with supervised opportunities to integrate theory and practice, and apply knowledge and skills while working collaboratively with educators and peers in classrooms and other field settings. | Y | LEL | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-5 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; minimum 56 hours |
| TEL | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-12 | | |
| TEL | 488 | Student Teaching | Student teaching in preK-12 classroom setting. Synthesized experience in curriculum, instruction and classroom management. | Y | PRA | Y | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 6-12 | | Prerequisite(s): MLFTC major, minor, concentration, or certificate student or Secondary Education major; minimum 56 hours |
| TEL | 489 | Educator Scholar | Requires students to demonstrate the capacity to apply possibility thinking to practical challenges by imagining new solutions and creating positive change for individuals, families or communities. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): MLFTC teacher preparation major, concentration, or certificate student; minimum 56 hours |
| TEL | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-6 | | Prerequisite(s): Barrett Honors student |
| TEL | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| TEL | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-4 | | |
| TEL | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-3 | | |
| TEL | 501 | Introduction to Research and Evaluation in Education | Overview of educational inquiry from controlled, quantitative to qualitative, naturalistic. Emphasizes locating and critically interpreting published research. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only COE 501 or ECD 503 or PPE 501 or SPE 501 or TEL 501 |
| TEL | 502 | Exploration of Education: Child/Adolescent Development and Foundations of Special Education | Provides a general pedagogical framework in the cognitive, social-emotional and physical domains of child and adolescent development and how to apply that knowledge to the learning programs for neurotypical and exceptional learners. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 504 | Learning and Instruction | Introduces psychology of learning and instruction. Includes the foundations of learning theories and their application to educational practice. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ECD 504 or TEL 504 |

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| TEL | 505 | American Educational Policy | Political, social, historical, and philosophical analyses of American education at all levels. Examines primary sources, legal findings, and case studies. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 510 | Instructional Design, Planning and Assessment | Covers learning theories, instructional design, planning and assessment. Students plan a developmentally appropriate instruction that differentiates instruction and experiences for all learners. Explores formal and informal assessments and how they can be used to identify learners' strengths and needs and accordingly adjust instruction. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 511 | Research and Evaluation in Education | Overview of educational inquiry from controlled, quantitative to qualitative, naturalistic. Emphasizes locating and critically interpreting published research and foundation for future research. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 517 | Creating Equitable Learning Environment: Decision Making and Action | Researches, develops and implements strategies and intervention for effective management of classroom behavior for students with and without disabilities. Creates plans for maintaining a positive, productive and culturally relevant classroom environment. Incorporates age-appropriate techniques addressing individual, social and academic competence. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 531 | Foundations of Literacy: The Science of Reading | First of two required literacy courses for teacher certification. Focuses on the foundations of literacy development and examines the sequence of learning to read with an emphasis on systematic phonics instruction. Introduces, examines and practices designing and delivering early and advanced literacy instruction using scientifically based approaches, assessment and remediation. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 532 | Literacy Across the Disciplines | Prospective educators identify the specific literacy practices and challenges students face within their academic discipline and apply research-based instructional strategies for delivering differentiated instruction. Content focuses on instructional and assessment strategies in order to develop essential academic vocabulary, comprehension and critical thinking within each academic discipline including face to face and digital learning environments. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 540 | Cultivating Networks of Culturally Responsive Relationships Among Families, Communities & Cultures | Helps educators develop an understanding of the role that families and communities play in schooling practices and the skills to cultivate culturally responsive practices. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 2 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 570 | Educator Scholar Community I | Pre-service and apprentice teachers examine a relevant challenge in an educational context and support a K-12 learner with navigating complex challenges in classroom contexts. This is the first course in a three-part series. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 571 | Educator Scholar Community II | Pre-service and apprentice teachers engage in an applied experience with creative curricula by designing and implementing a creative learning activity for K-12 learners. This is the second course in a three-part series. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 572 | Educator Scholar Community III | Pre-service and apprentice teachers design and implement a legacy project in a K-12 classroom that requires learners to tackle an actionable challenge, take action, and make a positive difference by thinking and acting in new ways. This is the third course in a three-part series. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 683 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | |
| TEL | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 701 | Quantitative Methods in Action Research | Quantitative methods of inquiry for action research: data collection, analysis, interpretation, complementarity analysis, evaluation and data-informed decision making. | N | LEL | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student; Credit is allowed for only EDA 701 or TEL 701 |

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| TEL | 702 | Dynamic Contexts of Education | Explores current ethical issues influencing leadership decisions with a focus on real problems in the educational setting. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student; Credit is allowed for only EDA 702 or TEL 702 |
| TEL | 703 | Innovation in Teaching and Learning | Development and psychological processes of human cognition, motivation, and performance applied to cognitively diverse, English language learners, adult professional development. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student; Credit is allowed for only EDA 703 or TEL 703 |
| TEL | 704 | Leadership for Organizational Change | Develops understanding of dynamic and systemic nature of organizations, with emphasis on leadership for building organizational capacity and learning. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student; Credit is allowed for only EDA 704 or TEL 704 |
| TEL | 705 | Systems Change and Leadership | Focuses on theoretical foundations of systems literature with a focus on education. Examines literature and scholarship that builds knowledge of educational theory on systems, and applies important related concepts to real-world problems of practice as they appear in students' current work context. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student |
| TEL | 706 | Action Research in Doctoral Studies | Prepares doctoral students for success, focusing on communities of practice, the action research process, and investigating problems of practice. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student |
| TEL | 707 | Reading the Research | Interprets and analyzes qualitative and quantitative research literature, as well as how to integrate information in professional scientific writing. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student |
| TEL | 708 | Collaborative Approaches to Data-Informed Decision Making | Examines data-informed decision making in educational learning communities, by focusing on data collection, analysis and interpretation, as well as the impact of collaborative learning communities. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student; Credit is allowed for only TEL 708 or TEL 791 (Collab approaches data-informed decision-making) |
| TEL | 709 | Directed Field-Based Study | Under the supervision of a faculty member and with the assistance of a mentor, students understand and develop their leadership, innovation and research skills. Provides an opportunity to (1) work with and learn from a leader outside students' normal spheres; (2) develop students' capacity to learn independently--to study, reflect, assess and expand their abilities as leaders, innovators and agents of change; and (3) extend and enrich student knowledge through reading and writing. | N | LEC | N | GNA | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student; Credit is allowed for only TEL 709 or TEL 792 (Directed Field Based Study) |
| TEL | 710 | Innovations In Disseminating Research | Provides graduate students with the opportunity to develop a post-degree impact plan related to the scholarship and innovations they developed through the EdD program. A post-degree impact plan enlists research and practices related to the idea of knowledge mobilization in order to optimize access to and engagement with scholarly insights and innovations. Enables students to develop strategies and resources to extend the reach and enhance the impact of their scholarship, innovations and resources among relevant stakeholder groups. | N | SEM | N | YGB | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 2 | | Prerequisite(s): Leadership and Innovation EdD student; Credit is allowed for only TEL 710 or TEL 791 (Innovations in Disseminating Research) |
| TEL | 711 | Strategies for Inquiry | Develops knowledge and skills for research and program evaluation that foster innovation in education that leads to improved student learning. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student |
| TEL | 712 | Mixed Methods in Action Research | Uses qualitative and quantitative inquiry methods in action research including concept and skill application, data collection, analysis and interpretation. | N | SEM | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student; TEL 703; TEL 705; TEL 706; TEL 707; TEL 711 |
| TEL | 713 | Qualitative Methods in Action Research | Qualitative methods situated in action research: history, design, data collection, analysis and interpretation. | N | LEC | N | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 3 | | Prerequisite(s): Leadership and Innovation EdD student |
| TEL | 780 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 783 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| TEL | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | N | LEC | Y | OPT | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEL | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Mary Lou Fulton Teachers College | Division of Educational Leadership and Innovation | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEM | 100 | Seminar in Entrepreneurship | Exposes students to careers in entrepreneurship by inviting diverse entrepreneurs to discuss their businesses and backgrounds and share their stories on starting and growing their ventures. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1 | | |
| TEM | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-4 | | |
| TEM | 200 | My Technology Venture | Introduces the concept of entrepreneurship through venture practice and self-reflection to help students understand their potential roles in a technology-driven marketplace. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | |
| TEM | 201 | Applied Social Entrepreneurship I | Introduces the concepts and the different organizational models for social entrepreneurship ventures. Explores how to: address social problems, connect stakeholders, establish self-sustained financing approach, and measure and grow the social impact in the community or society. Students develop a social business model for a social cause. Examines the social enterprise's role and impact in society. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Credit is allowed for only TEM 201 or TEM 294 (Social Entrepreneurship I) |
| TEM | 230 | Creativity and Business Innovation | Introduces concepts, models and techniques of creativity and innovation. Exposes processes related to developing creative skills and habits with an emphasis on problem solving and design. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only OMT 230 or TEM 230 OR Visiting University Student |
| TEM | 250 | Design Methodology | Outlines product design method and provides opportunity to apply it to a design project including identifying needs, setting target specifications, generating and selecting concepts, prototyping and testing. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| TEM | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-4 | | |
| TEM | 300 | Career Management for Entrepreneurs and Innovators | Career-focused seminar in preparation for students' post-graduation plans, including venture startup, job search or graduate school acceptance. Focuses on career relationship-building techniques, job-readiness skills and the development of a professional portfolio. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1 | | Prerequisite(s): minimum junior standing OR Visiting University Student |
| TEM | 301 | Applied Social Entrepreneurship II | Students explore and learn about social entrepreneurship as applied to a real-world, hands-on experience. Emphasizes innovation and the use of technology as an approach to tackling real-world social challenges and issues. Teamwork, leadership and communication skills are an important part of the student experience. Students form social entrepreneurship project teams and/or work on individual projects to assess the feasibility and sustainability of their proposed plans for long-term projects that solve problems, benefit the customer, and often, the larger community. Project work often centers on the engineering, technology, computing, sustainability, business and other needs of a not-for-profit community partner. Interdisciplinary team interaction is an integral element for project success. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only TEM 301 or TEM 394 (Social Entrepreneurship II) OR Visiting University Student |
| TEM | 311 | Opportunity Analysis | The key to making sound business decisions involves the careful analysis of the situation, intelligent use of research, and successful practice. Entails the research and implementation of strategy to determine consumer expectations utilizing the skills especially important in today's competitive and turbulent market. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): TEM 200 or TMC 110 with C or better; Credit is allowed for only OMT 311 or TEM 311 OR Visiting University Student |
| TEM | 330 | Systems Innovation | Systems thinking course that investigates how innovators can incorporate the knowledge of complex systems into the processes of technology development, product/service innovation and venture development. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only OMT 330 or TEM 330 OR Visiting University Student |
| TEM | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-4 | | |
| TEM | 400 | Technology Entrepreneurship | Explores the fundamentals and principles of entrepreneurship suitable for both undergraduate business and technology students. Instructs students on the strategic path through entrepreneurship: ideation, validation, market selection, intellectual property, fundraising, launch and profitability. Also explores the impact and implications of technology. Through this course, students have the knowledge and skills to cultivate their ideas into businesses. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s) with C or better: ENG 102, 105, or 108; TEM 200 or non-Tech Entrepreneur & Mgmt BS major; Credit is allowed for only TEM 400 or TEM 501 or TEM 598 (Tech Entrepreneur) or TEM 598 (Tech Innov & Entrepreneur) OR Visiting University Student |

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| TEM | 405 | Data-Driven Decision Making | Addresses the challenge of making choices under uncertainty. Data-driven decision making impacts a wide variety of fields, from apps to driverless cars. Covers the methodologies related to data-driven thinking including: applied statistics, behavioral economics, scenario planning, optimization, algorithms, risk and game theory. Applications to all venture developments as well as innovation | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ECN 221, EGR 280, HSE 230, or PSY 230; minimum junior standing; Credit is allowed for only TEM 405 or TEM 494 (Data Driven Decision Making) or TEM 505 or TEM 598 (Data Driven Decision Making) OR Visiting University Student |
| TEM | 407 | Venture Digital Data Analytics | Instructs students on how to develop a digital promotion and marketing plan. Reviews and examines the basic concepts of Web (SEO, SEM, clickstream, e-mail); social (Facebook, Google+); and mobile marketing (Instagram, Snapchat) and analytics to measure effectiveness. Also reviews content, influencer, video and blog marketing. Focuses on inbound marketing. Students design, test and improve by feedback a marketing project of their own design or in support of a business. Through this course, students develop the skills to digitally promote. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): MKT 300 or TMC 330; Credit is allowed for only TEM 407 or TEM 494 (Digital Promotion and Analytics) or TEM 507 or TEM 598 (Digital Promotion and Analytics) OR Visiting University Student |
| TEM | 408 | Crowdfunding, Currency and Blockchain Innovations | Focuses on the evolving process of crowdfunding and the opportunities and implications of digital innovations. Initially reviews traditional crowdfunding and the laws that have enabled a new class of investors. Topics progress to the blockchain technology-based currencies (cryptocurrencies), their structure and applications. Finally, the course broadens the conversation to smart contracts, non-currency applications and start-up opportunities in this space. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prereq(s): ECN 221 or STP 226; MAT 210; minimum junior standing; Credit is allowed for only TEM 408 or TEM 494 (Crowdfunding, Currency & Blockchain Innov) or TEM 508 or TEM 598 (Crowdfunding, Currency & Blockchain Innov) OR Visiting University Student |
| TEM | 431 | Innovation Management | Focuses on execution challenges that innovation initiatives face, including: (a) Resources: Where do the resources for innovation initiatives come from? (b) Organization: How should innovation initiatives be organized? (c) Planning: How should plans for innovation initiatives be written and through what kind of process should they be revised? Explores the processes of innovation management for various sizes of companies utilizing smaller scale, local processes to large scale, globally dispersed innovation processes and teams. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; TMC 110 with C or better or non-Technological Entrepreneurship and Management BS major; Credit is allowed for only OMT 431 or TEM 531 OR Visiting University Student |
| TEM | 450 | Design for the Developing World | Provides sustainable solutions to social problems that will improve the lives of residents in lower socio-economic communities through the integration of technology and social entrepreneurship. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): junior, senior, or graduate standing |
| TEM | 455 | Global Impact Entrepreneurship | Increases awareness and understanding of the complex nature of global poverty. Students think comprehensively about sustainable ways to address by focusing on business ventures and product design, which take advantage of local resources, networks and institutions. Students design and refine technologies and services that address the needs of communities in the developing world. Examines piloted technological innovations by ASU students in the west African nation of Ghana, India, and Latin American countries such as Mexico and Peru. Analyzes technological initiatives that have been piloted in Ghana and Peru, and attempts to create sustainable business ventures for them. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s) w/C or better: ENG 102, 105, or 108; TMC 110 or non-Tech Entrepreneurship & Management BS major; min junior standing; Credit is allowed for only TEM 455 or TEM 555 or TEM 598 (Global Impact Entrepreneurship) OR Visiting University Student |
| TEM | 481 | Consulting Project | Students learn about technology entrepreneurship through consulting with leaders and owners of businesses, not-for-profit organizations and government agencies. Requires both out-of-class consulting projects and in-class instructional sessions focused on technology entrepreneurship and business strategy, including financing, promoting, leading and growing the venture and consulting skills. | N | PRA | Y | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): minimum junior standing OR Visiting University Student |
| TEM | 482 | Startup Workshop | Students launch their own technology-related ventures with collaboration and mentorship from colleagues and faculty. This class centers on hands-on learning and is appropriate for beginning as well as maturing start-ups. Students build their entrepreneurial networks and engage with stakeholders related to their business (customers, industry partners and investors). Explores the tactical challenges that come with developing an enterprise and forms strategies and methodologies to advance the venture. | N | PRA | Y | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): FSE 301 with C or better; senior standing; Credit is allowed for only TEM 482 or TEM 598 (Startup Workshop) OR Visiting University Student |
| TEM | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-12 | | |
| TEM | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-6 | | Prerequisite(s): Barrett Honors student |

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| TEM | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| TEM | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-4 | | |
| TEM | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-3 | | |
| TEM | 501 | Technological Innovation and Entrepreneurship | Presents opportunities and challenges that accompany starting and operating a technology entrepreneurial venture by exploring the fundamentals and principles of entrepreneurship suitable for graduate business and technology students. Reviews engaging with innovation and developing the mentality of entrepreneurs. Reviews the path through entrepreneurship and developing the techniques of an innovative mindset. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TEM 400 or TEM 501 or TEM 598 (Technological Entrepreneurship) or TEM 598 (Technological Innovation & Entrepreneurship) |
| TEM | 505 | Data-Driven Decision Making | Addresses the challenge of making choices under uncertainty. Data-driven decision making impacts a wide variety of fields, from apps to driverless cars. Covers the methodologies related to data-driven thinking including: applied statistics, behavioral economics, scenario planning, optimization, algorithms, risk and game theory. Applications to all venture developments as well as innovation. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TEM 405 or TEM 494 (Data Driven Decision Making) or TEM 505 or TEM 598 (Data Driven Decision Making) |
| TEM | 507 | Venture Digital Data Analytics | Instructs students on how to develop a digital promotion and marketing plan. Reviews and examines the basic concepts of Web (SEO, SEM, clickstream, e-mail); social (Facebook, Google+); and mobile marketing (Instagram, Snapchat) and analytics to measure effectiveness. Also reviews content, influencer, video and blog marketing. Focuses on inbound marketing. Students design, test and improve by feedback a marketing project of their own design or in support of a business. Through this course, students develop the skills to digitally promote. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TEM 407 or TEM 494 (Digital Promotion and Analytics) or TEM 507 or TEM 598 (Digital Promotion and Analytics) |
| TEM | 508 | Crowdfunding, Currency and Blockchain Innovations | Focuses on the evolving process of crowdfunding and the opportunities and implications of digital innovations. Initially reviews traditional crowdfunding and the laws that have enabled a new class of investors. Topics progress to the blockchain technology-based currencies (cryptocurrencies), their structure and applications. Finally, the course broadens the conversation to smart contracts, non-currency applications and start-up opportunities in this space. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TEM 408 or TEM 494 (Crowdfunding, Currency, & Blockchain Innovations) or TEM 508 or TEM 598 (Crowdfunding, Currency, & Blockchain Innovations) |
| TEM | 511 | Technological Opportunity Evaluation | Covers methodologies to evaluate business decisions as entrepreneurs and intrapreneurs. Addresses analysis of the situation, intelligent use of research, and successful practice to help industry transfer knowledge into products and processes that benefit society. Entails the research and implementation of strategy to determine consumer expectations utilizing the skills especially important in today's competitive and turbulent market. | N | LEL | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TEM 511 or TEM 598 (Opportunity Evaluation) |
| TEM | 530 | Statistics Bootcamp for Industry | Provides foundational coverage of topics such as probability theory, descriptive statistics, sampling distributions, parameter estimation, tests of hypotheses, chi-square tests, and simple linear regression analysis, appropriate for first-year graduate students. Additionally, provides a fundamental understanding of probability theory and statistics as used in typical industrial applications. Presents and discusses illustrative problems from technology, entrepreneurship, aviation and psychology. Where possible, explores problems from the student's discipline to insure that the principles of statistics and probability are studied in the context of the student's chosen field. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Pre-requisite: Degree- or Nondegree-seeking graduate; Credit is allowed for only TEM 530 or 598 (Statistics Bootcamp for Industry) |
| TEM | 531 | Disruptive Innovation and Technological Evolution | Focuses on the processes of innovation management of various sizes of companies utilizing smaller scale, local processes to large scale, globally dispersed innovation processes and teams, with an emphasis on disruptive innovation and the evolution and forecasting of technology. Provides a survey of innovation management concepts and various technological forecasting and prediction approaches, both mathematical and nonmathematical, in conjunction with a study of the evolution of selected technologies and the management problems associated with emerging technologies. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only OMT 431 or TEM 431 or TEM 531 |

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| TEM | 532 | Advanced Analysis of Systems | Introductory course in systems analysis and modeling. Develops basic competence in formulating and solving models of systems to aid decision making. Topics include: introduction to systems and systems modeling; a simple what-if analysis; overview and review of linear algebra and matrices; problem formulation and model development in optimization; linear programming (LP), economic interpretation and sensitivity analysis; introduction to integer programming (IP); special linear programs; project schedule network development and computations; overview of heuristic algorithms. Uses selected software in examples, short problems and in a project. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TEM | 555 | Global Impact Entrepreneurship | Emphasizes the development of entrepreneurship processes and the global threads that create the fabric which we are now intertwined. Increases awareness and understanding of the complex nature of global entrepreneurship. Ties in topics such as: artificial intelligence (AI), venture capital, sustainability, impact investing, innovation, environmental social governance. Students think comprehensively about sustainable ways to address issues by focusing on business ventures which take advantage of global resources, networks and institutions. Expects students to read, discuss and collaborate with fellow students on global impact. Discusses current global events, reviews discussion boards, assigned readings and assists students in addressing both intra- and entrepreneurial opportunities. Students actively research and create executive summaries, present possible ventures and review current impact stakeholder/impact reports. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TEM 455 or TEM 555 or TEM 598 (Global Impact Entrepreneurship) |
| TEM | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 101 | Principles of Global Management | Provides the basic concepts of management with particular emphasis on the functions of management in a global environment. Examines the antecedents of globalization; the role of global environments in shaping organization structure, strategy and processes, as well as the basic principles of managing in complex cross-cultural settings. Emphasizes global institutional arrangements and macroeconomic issues. Serves as an introductory course that provides a quick snapshot of key issues facing global corporations today with each of the major themes explored more fully in the set of advanced courses that follow. Applies global business concepts in understanding global political economics, legal systems and socio-cultural environments. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | G | |
| TGM | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | Prerequisite(s): maximum 25 hours OR Visiting University Student |
| TGM | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-4 | | |
| TGM | 200 | Principles of Accounting for Global Organizations | Focuses on financial and managerial accounting and examines how outsiders evaluate businesses, nonprofits and governmental operations and how economic events are reflected in a firm's financial statements, including balance sheets and cash flow statements. Examines key accounting methods that impact a company's financial statements and how they are used by shareholders, creditors, employees and customers to make credit decisions and/or value a firm's equity securities. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management undergraduate student OR Visiting University Student |
| TGM | 204 | Principles of Marketing for Global Organizations | Explores the ways in which global marketing strategies reflect a deep understanding of markets and create valuable offerings for customers globally. Broadly speaking, marketing strategy making is comprised of segmentation, targeting and positioning. Segmentation is the process by which we segregate a relatively heterogeneous mass market into relatively homogeneous market segments. Targeting is the process by which we analyze opportunities and identify those customers where our business has the greatest prospects for success. Positioning is the process of assembling the "total offering" (product, service, distribution and price) and communicating the benefits of this "total offering" to the members of our target market. Challenges students to think critically about global competition. As such, rote learning of terms and concepts is not sufficient to prepare students to manage a business in global markets. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management undergraduate major, Global Management certificate, or International Trade certificate student OR Visiting University Student |

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| TGM | 268 | Intercultural Communication for Global Management | In a dynamic and interactive format, this course presents a framework of models and skills for building communication performance in competitive global business settings. Assists in implementing strategies for mastering interpersonal encounters, including conflict resolution, in multicultural environments. Examines theories of communication (the basic concepts, principles and skills vital for understanding and improving communication across racial, ethnic and cultural differences). Places students in experiential situations in order to develop valuable global management skills. Using cases, self-assessment questionnaires, multicultural team exercises and simulations, equips the global manager with the ability to solve problems and take advantage of opportunities in a multicultural world. Explores in depth intercultural theories from the TGM three regional areas--China, Latin America and the Middle East. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management undergraduate student |
| TGM | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-4 | | |
| TGM | 300 | Principles of Finance for Global Organizations | Equips students with the tools necessary to make strategic financing and investment decisions for value creation in a competitive global environment. Topics addressed include financial analysis and projections; working capital management; and investment management (derivation of cash flows, cost of capital, discounted cash flow valuation and capital budgeting decisions). | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management undergraduate major, Global Management certificate, or International Trade certificate student OR Visiting University Student |
| TGM | 310 | Supply Chain Operations for Global Organizations | Studies the major elements of supply chain management. Students learn how to design an integrated supply chain and evaluate the fit with the business strategy. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management undergraduate major, Global Management certificate, or International Trade certificate student OR Visiting University Student |
| TGM | 312 | Big Data in the Global Economy | Understands how multinational organizations make strategic use of Big Data to gain a competitive advantage in the global economy. Covers the important aspects of Big Data from a managerial viewpoint. Delves into the understanding of global data and how this data must be standardized to account for differences in collection methods, legal constraints and cultural interpretation to create a reliable platform for evaluation. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Applied Business & Technology Solutions BA major, Global Mgmt cert, Intl Trade cert, or Thunderbird School of Global Mgmt major; Pre- or corequisite(s): ECN 221 or STP 226 with C or better if completed OR Visiting University Student |
| TGM | 353 | Regional Management Environment | Provides future global managers with the analytical tools and frameworks for understanding the political, social, cultural and economic contexts within which business activities take place in various countries and regions throughout the world. | N | LEC | Y | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | G | Prerequisite(s): Thunderbird School of Global Management undergraduate major, Global Management certificate, or International Trade certificate student OR Visiting University Student |
| TGM | 391 | Global Business and Professional Development Skills | Required for all continuing and transfer Thunderbird students that enhances critical thinking, communication, presentations and networking skills desired for success in upper-division TGM-specific classes as well as for international internships, study abroad and post-graduation work experiences. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1 | | Prerequisite(s): Thunderbird School of Global Management undergraduate student OR Visiting University Student |
| TGM | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-4 | | |
| TGM | 400 | Advanced Topics in Global Management | Focuses on advanced topics in global management designed to synthesize knowledge acquired from global business, language and cultural coursework. | N | LEC | Y | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management undergraduate student; minimum 60 hours |
| TGM | 410 | Data Structures and Algorithms | Advanced data structures and algorithms, including stacks, queues, trees (B, B+, AVL), and graphs. Searching for graphs, hashing, external sorting. | N | LEC | N | OPT | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prereqs w/min C: Comp Math Sci, Comp Sci, Comp Sys Egr, Data Sci, Egr Mgt, Geo Info Sci, Informatic or Media Art&Sci (Med Proc) maj; CSE 220 or 240; MAT 243 or 300 OR BMI/CEN/CS/Gbl Mgt Data Sci grad; Credit for CSE 310 or TGM 410 OR Visiting University Student |
| TGM | 430 | International Trade and Regional Economic Agreements | Explores recent trends in global finance and trade and in regional trade agreements (GFTAREAs), especially as they appertain to national business environments and the global political economy. Also explores how globalization and regionalism impact business decision making and policy making at the national level and in the global political economy. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management undergraduate major, Global Management certificate, or International Trade certificate student OR Visiting University Student |

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| TGM | 460 | Global Risk Assessment and Management | Covers concept of regional and country risk as it affects foreign businesses and investors, and develops participants' abilities to identify, analyze and design management strategies for mitigating such risk. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Applied Business and Technology Solutions BA major, Global Management BGM major, International Trade BS major, or International Trade certificate student OR Visiting University Student |
| TGM | 468 | States and Markets in a Global Economy | Global managers operate in an international economy that presents tremendous opportunities as well as risks. Globalization has dramatically expanded opportunities for international trade, investment and economic development. At the same time, global managers have to deal with the prospect of trade wars, international financial crises and intensified competition over markets and resources. In addition, international organizations such as the International Monetary Fund, World Trade Organization and World Bank Group have a direct impact on international business operations. Develops analytical tools for understanding the rapidly changing and dynamic global political. With these tools, managers are better prepared to anticipate the risks and take advantage of opportunities in the global economy. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | SB & G | Prerequisite(s): Applied Business and Technology Solutions BA, Global Management BGM, Global Management certificate, International Trade BS, or International Trade certificate student OR Visiting University Student |
| TGM | 478 | Cross-Cultural Communication and Negotiation | This two-part course begins by focusing on cross-cultural communication with the ultimate purpose of helping improve global mindset. In the second part, focusing on cross-cultural negotiation helps students understand the theory and processes of global negotiation so that they can negotiate successfully in a variety of settings. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Applied Business and Technology Solutions BA, Global Management BGM, Global Management certificate, International Trade BS, or International Trade certificate student OR Visiting University Student |
| TGM | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-12 | | |
| TGM | 487 | Global Entrepreneurship | Deals with entrepreneurship and new venture creation that takes place in international and global settings. As such, it integrates many of the ideas, concepts and frameworks of international business and global management with those of traditional entrepreneurship. Starts at the firm level, looking at basic ideas of how entrepreneurs start and launch new ventures. It then expands to the industry level, looking at the role of business models in new venture creation, industry analysis, and scaling promising ideas. Focuses on the international and global levels, on topics such as cross-national comparative entrepreneurship, born-global new ventures, entrepreneurship in emerging and developing countries, and the global venture capital market. Also includes a number of special topics in global entrepreneurship, such as social entrepreneurship and family business. Finally, students have the opportunity to apply theory. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management undergraduate major, Global Management certificate, or International Trade certificate student OR Visiting University Student |
| TGM | 489 | Multinational Organizational Leadership | Explores multinational organizational management strategies, organizational practices/systems, and related managerial skills which are an essential part of global competitiveness. Develops skills to understand the application of analytical tools and frameworks, executes complex strategy, and builds and leads competitive teams and people. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management undergraduate major, Global Management certificate, or International Trade certificate student OR Visiting University Student |
| TGM | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-6 | | Prerequisite(s): Barrett Honors student |
| TGM | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| TGM | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-4 | | |
| TGM | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-7 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better |
| TGM | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | |
| TGM | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-12 | | |

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| TGM | 501 | Global Accounting | Focuses on two aspects of accounting: financial and managerial accounting. Financial accounting is about how outsiders view and evaluate an organization such as a business, a not-for-profit entity or a governmental operation. It focuses on how economic events are reflected in a firm's financial statements including a balance sheet, an income statement and a statement of cash flows. It also focuses on how financial statement information is used by various stakeholders such as shareholders, creditors, employees and customers in making decisions with regard to the firm, including credit decisions and/or valuing a firm's equity securities. Analysis and equity management accounting involves providing information, both financial and non-financial, to management and employees to aid in planning, organizing activities, and monitoring and controlling business performance. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 502 | Financial Management for Global Value Creation | Equips students with the tools necessary to make strategic financing and investment decisions for value creation in a competitive global environment. Topics addressed include financial analysis and projections; working capital management; and investment management (derivation of cash flows, cost of capital, discounted cash flow valuation, and capital budgeting decisions). | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 503 | Global Marketing | Provides a managerial orientation to the topic of global marketing in today's complex, rapidly changing international business environment. A key focus is developing competitive advantage by creating customer value. Course participants gain a fundamental understanding of marketing strategy and marketing analysis (i.e., customer, competitor and company analysis) as well as an appreciation of the basic strategic issues involved in market segmentation, market targeting and market positioning in the international arena. Also examines the major tactics/tools used by global marketers to facilitate the management of their international marketing plans (i.e., product development, pricing strategies, marketing communications, distribution management). Emphasizes developing skills for entering new markets and sustaining or growing current markets. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 504 | Managing Organizations from a Global Perspective | Covers two key aspects of successfully managing an organization in a global environment. The first component covers the strategic direction of the organization, and the second component discusses how to harness the power of people in the organization to build teams and lead people to execute the strategy. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 505 | States and Markets in a Global Economy | Global managers operate in an international economy that presents tremendous opportunities as well as risks. Globalization has dramatically expanded opportunities for international trade, investment and economic development. At the same time, global managers have to deal with the prospect of trade wars, international financial crises and intensified competition over markets and resources. In addition, international organizations such as the International Monetary Fund, World Trade Organization and World Bank Group have a direct impact on international business operations. Develops analytical tools for understanding the rapidly changing and dynamic global political. With these tools, managers are better prepared to anticipate the risks and take advantage of the opportunities they will encounter in the global economy. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 2-3 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 506 | Communicating and Negotiating Across Cultures | This dynamic and interactive course provides managers with an effective framework for achieving their goals in global management settings. Assists students to prepare for and execute time-tested strategies for achieving communication competence with persons from different cultures. Also covers negotiating in the global context. Not only examines theories of culture and communications, but also places students in an experiential situation to gain valuable skills for overcoming obstacles in global management environments. Through use of cases, multicultural team exercises, student negotiation exercises and simulations, equips the global manager with tools to solve problems and take advantage of opportunities in a multicultural world. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management graduate student |

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| TGM | 507 | Global Organizational Consulting | Consulting course provides an overview of the field of consulting and the role of the management consultant. Familiarizes students with the tools and techniques used during a consulting engagement, including project entry, problem definition, intervention planning, data collection, problem solving, alternative generation, feedback, project exit, client relations skills and project management. Requires students to work in project teams to solve business problems in organizations through the application and expansion of technical skills acquired in other classes. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 2-3 | | Prerequisite(s): TAM 541 OR TGM 517; TGM 545; TGM 557 |
| TGM | 508 | Regional Business Environment I: Emerging Markets | As an extension of states and markets in a global economy, provides an analysis of contextual factors that influence dynamic business environments by employing frameworks that integrate political, economic, geographic, and sociocultural factors in a specific regional area. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | Prerequisite(s): Thunderbird School of Global Management graduate student; TGM 505 or 515 |
| TGM | 509 | Regional Business Environment II: Developed Economies | Provides future global managers with the analytical tools and frameworks for understanding the developed markets business environment. Also provides a broad understanding of those economies in order to be successful therein. In order to succeed as managers in the environment, requires knowledge of political, social, cultural, economic, business and economic factors, both across the developed markets landscape and within individual countries. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | Prerequisite(s): TGM 505 or 515 |
| TGM | 510 | Strategies in Global Development | The nuances and challenges of development in the less-developed countries (LDCs) and in the transition economies of the world. Analyzes the economic, social, political, cultural and other challenges that LDCs and transition economies face, and the strategies they are employing in their quest for development. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 515 |
| TGM | 511 | Global Financial Accounting | Accrual accounting concepts, teaching students how to prepare and understand the content of traditional financial statements. Topics include the recognition and measurement of accounting events; preparation and analysis of income statements, balance sheets and statements of cash flows; and the measurement of revenue, expenses, assets, liabilities and stockholders' equity, including both U.S. and international principles. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 512 | Managerial Accounting and Decision Making in a Global Environment | Teach students how to use accounting information to help organizations succeed in a rapidly changing global environment. Introduce a variety of tools and techniques such as cost allocation, cost-volume-profit, relevant costing, performance evaluation, budgeting, transfer pricing, customer profitability analysis, nonfinancial performance evaluation, and/or sustainability reporting. By applying these tools and techniques to different types of global organizations, students learn how to use accounting information to make effective decisions. Throughout the course, emphasizes integrating other subject areas such as strategy, data analytics, entrepreneurship, corporate social responsibility, and/or behavioral economics into the decision analysis process. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | Prerequisite(s): Thunderbird School of Global Management graduate student; TGM 501, 511 or 517 |
| TGM | 515 | Navigating Global and Regional Business Environments | Globalization has dramatically expanded opportunities for international trade, investment and economic development, but potential trade disputes, international financial crises, political risks, international environmental regulations and ethical dilemmas in global business have also emerged. Develops analytical tools for understanding the rapidly changing and dynamic global business environment, especially in the era of 4th Industrial Revolution. With these tools, managers are better prepared to manage risks and take advantage of opportunities in the global economy. Deals with the regional business environment. Begins with a brief geographical, demographic and cultural overview of the region, and develops tools for analysis useful to assessing the business environment. While the emphasis is on a specific region, the same tools could be applied to any region of the world. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TAM 505 or TGM 515 |
| TGM | 517 | Global Accounting and Financial Management | Two-part course covering global accounting and global financial management. The first section covers financial accounting from a global perspective. Students have an opportunity to learn how to develop and use financial accounting information for external decision-making purposes. The second section equips students with the tools necessary to make strategic financing and investment decisions for value creation in a competitive global environment. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| TGM | 518 | International Finance and Trade | Covers the two major areas of international economics: international trade and international finance. Offers a detailed look at the foreign exchange market, instruments and practices, as well as related theories and government policies. Also places a significant focus on the macroeconomy and its relationship to capital flows and economic relations with other countries. Also examines the flows of goods and services in international trade and the policies that relate to this trade. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 519 | Derivatives and Risk Management: Strategies and Applications | Focuses on developing students' ability to strategize and apply financial and statistical methods to design creative solutions for risk management. Students develop (1) an understanding of derivative securities such as options, futures, forwards and swaps, and their pricing; (2) a familiarity with derivative trading strategies such as straddles, spreads, synthetics; (3) the skills to apply these derivative assets and strategies to manage diverse sources of risk, including market risk, interest rate risk, foreign exchange risk and commodity price risk; (4) the ability to manage the interest rate and default risk in fixed-income securities (requires an understanding of duration, convexity, credit default swaps); (5) a knowledge of important financial disasters and appreciation of the role played by speculators, hedge funds, arbitrage and liquidity in financial markets. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 517 |
| TGM | 521 | Managing for Global Value Creation | Equips students with the tools necessary to make strategic financing and investment decisions for value creation in a competitive global environment. Topics addressed include financial analysis and projections; working capital management and investment management (derivation of cash flows, cost of capital, discounted cash flow valuation, and capital budgeting decisions). | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 522 | Global Financial Decisions | Covers modern practices of financial decision-making and management in a market-oriented multinational framework. Topics include financial technology, cryptocurrencies, capital structure decisions, risk management involving financial derivatives and currency hedging, cross-border investment decisions, subsidiary management, and cross-border merger and acquisitions. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 2-3 | | Prerequisite(s): Thunderbird School of Global Management graduate student; TGM 517 or 521 |
| TGM | 523 | Global Investments | Surveys the investment management landscape and delivers the theory and technology attendant to intellectual and/or career pursuit in this domain. Topics explored include the domestic and international aspects of portfolio optimization; emerging markets and global asset allocation; security analysis and selection; stock sorting and screening algorithms; mutual fund performance decomposition and benchmarking; fixed income analytics and metrics; earnings quality; the franchise factor; distress prediction and credit scoring models; the behavioral finance salient; and financial derivatives from a portfolio management perspective, inter alia. A respectable floor of numeracy is advisable; a CFA® emphasis prevails. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 517 |
| TGM | 524 | Valuation of the Private Firm | Provides a practical and theoretical understanding of the valuation of non-trading private enterprises. Basic theory, methodology and application of modern financial concepts as they relate to the valuation of these types of business organizations. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 517 |
| TGM | 525 | Global Financing and Forecasting for the Private Firm | Focuses on finance concepts as applied in the real work by entrepreneurs. From the firm perspective, covers topics relevant to entrepreneurial finance, including financial statements, funding plans and venture capital. Prepares prospective general managers of entrepreneurial companies on how to make the financial decisions involved with building high-risk, high-growth new enterprises. Prepares business-minded students for careers focused on entrepreneurship and corporate entrepreneurship. Through the use of excel-based modeling, combined with lectures and readings from assigned sources, students understand aspects in finance that are critical to the entrepreneurial venture. Prepares students to deal with the various financing resources available to these same enterprises, including venture capitalists, angel investors, investment bankers and other financial stakeholders. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 517 |

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| TGM | 526 | Global Portfolio Management | Develops (1) an understanding of the pricing of derivative securities such as options, futures, forwards and swaps; (2) an understanding of derivative strategies, such as straddles, spreads, synthetics; (3) the ability to use these derivative assets and strategies to manage diverse sources of risk, including market risk, interest rate risk, foreign exchange risk and commodity price risk; (4) the ability to manage the interest rate and default risk in fixed-income securities (requires an understanding of duration, convexity, credit default swaps); (5) a broad understanding of the role played by hedge funds, arbitrage and liquidity in financial markets. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 517 |
| TGM | 527 | Global Private Equity | Overview of the private equity industry globally, its role in economy, its participants, its operations and its recent development. Covers different phases of the private equity investment process and the players involved at each stage. Phases include: setting up a fund, selection and screening of investments, exploring valuation techniques, managing and exiting investments. Emphasizes the practical aspects of private equity transactions through case studies and interactions with private equity professionals. Recommended for students interested in private equity investing, investment management, investment banking, entrepreneurship and entrepreneurial finance. Does not require previous experience in private equity or financial skills beyond those taught in the finance core classes. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 517 |
| TGM | 528 | Business Intelligence | Examines the role that business intelligence--the systematic collection, synthesis and analysis of information on the external operating environment--should play in strengthening corporate strategies and decision making. Through lectures and client-sponsored competitive assessment projects, the course has two goals: to help students understand this management tool and to train them to be able to utilize it for competitive advantage. Also addresses the related issues of corporate/industrial espionage and information security. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 545 |
| TGM | 529 | Multinational Corporate Finance (FORAD) | Applies the theories of managerial and international finance to the problems of multinational treasury management. Topics include issues and techniques in multinational funds transfers; identifying and measuring foreign exchange and interest rate risk; multinational tax planning; managing foreign exchange and interest rate risk; hedging instruments, including forward contracts, options and swaps; and financially engineered synthetics. Students also manage the financial functions of a computer-simulated multinational corporation, construct a biennial report summarizing their management results and present oral reports to a board of directors consisting of professors and invited business professionals. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 517 |
| TGM | 530 | Big Data in the Age of the Global Economy | Creating a sustainable IT-dependent competitive advantage is a major goal for forward-thinking multinational organizations. Understands how multinational organizations make strategic use of Big Data to gain a competitive advantage in the global economy. Covers the important technological aspects of big data from a managerial viewpoint. Delves into the understanding of global data and how this data must be standardized to account for differences in collection methods, legal constraints and cultural interpretation to create a reliable platform for evaluation. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | Prerequisite(s): TGM 557 |
| TGM | 531 | Multinational Value Chain | Exposes students to the strategies and challenges associated with moving goods, services, information and associated payments across complex, globally dispersed value chains to end customers. Topics include value-chain structures, supplier partnerships, cross-cultural issues, technology, data networks, global logistics, risk management and value-chain mapping. A field project provides students with an opportunity to work in teams applying the course concepts to increase customer value in a real value chain. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 532 | Leading Global Projects | Provides an overview of the global context of project leadership. Global project leaders work at the intersection of project management, leadership in a project context and cross-cultural effectiveness. Exposes students to key project leadership approaches including stakeholder management, methods for increasing inclusion on global project teams and building high-performing global project teams. Uses case studies, a simulation, several exercises and interactive discussions. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | Prerequisite(s): Thunderbird School of Global Management graduate student |

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| TGM | 536 | Global Trade Risk Assessment and Mitigation | Firms of all kinds are attempting to improve their competitive positions by strategically managing the flow of services, raw materials, work-in-process inventories and finished goods on a global basis. Global managers must be concerned with the ever-increasing number of diverse risks to their businesses posed by political, social, physical and financial forces at work globally and in specific regions and countries. Centered on state-of-the-art assessment models used by businesses and foreign investors. Issues include methods of measuring, assessing and forecasting risk, and methods of mitigating risk. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 515 |
| TGM | 537 | State Power, Business Interests and Multinational Trade Agreements | Explores the political economy of trade and multinational trade agreements, especially as they pertain to national business environments and the global economy. Covers the domestic and international politics of trade, the formation and composition of multinational trade agreements, and the implications for national and multinational companies. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 505 or 515 |
| TGM | 538 | Corporate Partners | Experiential consulting practicum involving a highly visible, rapidly growing or start-up company or entity. Engages client in a specific activity such as strategic planning, opportunity assessment, policy or procedure redesign or competitive assessment. Requires the student team to integrate various skills encountered in Thunderbird's fundamental core courses to produce the desired deliverable. Students interact directly with the client during the semester to gain insights into the client's circumstances. The project results in complex deliverables and culminates in the presentation and recommendation to the client of suggested operational options or strategic directions. | N | PRA | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 517; TGM 545; TGM 557 |
| TGM | 540 | Managing People from a Global Perspective | Explores the mix of organizational practices and people that can be the basis of sustainable competitive advantage in the contemporary global business environment. Topics covered include cross-cultural issues in managing people, traditional and emerging models of organizations, organizational culture, leadership, employee skills and motivation, reward systems and change management. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-2 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 541 | Competitive Strategy from a Global Perspective | Focuses on choices that impact the performance of the entire organization. Examines central questions: Why are some industries and firms more profitable than others? How do firms create competitive advantage? How does the choice of strategy drive organizational performance? How do firms manage scarce resources in the pursuit of strategic objectives? How do firms create unique and sustainable industry positions? | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-2 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 545 | Global Leadership and Strategy | Creating value in modern organizations comprises the strategy that the organization deploys and the way in which its leaders execute the strategy to achieve superior economic returns. Thus, this course covers two distinct but interconnected domains dealing with competitive strategy and leadership. The strategy segment focuses on how organizations choose their strategic position, build sources of competitive advantage, and design their value proposition and business models. The leadership segment illustrates the integral role that leaders play in helping an organization realize its strategic potential and focus on what it means to compete through people in a way that produces positive results for individuals, teams and organizations. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 546 | Regional Industrial Analysis | Builds on concepts introduced in competitive strategy, global strategy and regional business environment. Focuses on the analysis of the strategies adopted by competing players and their impact on the global strategies pursued by the parent organization in the context of regional industry dynamics. Covers a spectrum of topics ranging from industry cluster formation, country-specific advantage, industry versus industry ecosystem analysis, the government's role in industry and regional development including national innovation systems, demand and supply chains in regions, and emerging market challengers. Applies multiple decision-making tools and frameworks to understand the Information and Communications Technology (ICT) industry in Asia Pacific--the fastest growing region in the world. Tools and frameworks learned in this course are applicable to other regions and other industries. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 2-3 | | Prerequisite(s): TGM 545 |

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| TGM | 547 | Leading Change and Transformation in a Global Environment | Increases understanding of the nature of organizational change (through conceptual frameworks, readings and discussions). Specifies skills needed for managing change. Enhances sensitivity to the contribution and consequences of the human element as related to change. Helps student's own capacity to "thrive on change." | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | Prerequisite(s): TGM 545 |
| TGM | 548 | Global Strategy | Focuses on how global firms create value. Covers topics ranging from country-specific competitive advantage and the notion of distance to alternative global strategy archetypes and sources of competitive advantage for emerging market multinationals. The approach applies multiple decision-making tools and frameworks to untangle the complexities of managing in a global corporation. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | Prerequisite(s): TGM 545 |
| TGM | 549 | Global Leadership | Explores the concept of effective leadership within and across a variety of organizations and global contexts. Definitions of "leadership" and strategies for becoming an accomplished leader abound. Rather than attempt to narrowly focus our attention on definitions, leadership styles, and supposedly "definitive" theories of leadership, focuses on the demands of and competencies associated with excellent leadership. Most importantly, examines how leaders sense the need for and then manage organizational change. Given the increasingly complex world we live in and the ongoing and rapid rate of change, change management has become one of the most critical of leadership skills. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 551 | Global Marketing Strategy | Covers the major concepts involved in creating and sustaining customer value, analyzing the firm's macro environment, choosing whether or not to enter a foreign market, how to evaluate different foreign markets, the best methods for entering different markets, the market research design process, understanding consumer and B2B customer behavior, and ethical issues encountered in global marketing. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 2 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 552 | Global Marketing Management | Covers the functional aspects of marketing including decisions relating to segmentation, targeting, branding, product development, pricing, distribution and advertising/promotion. Students integrate their knowledge of these topics through the creation of an international marketing plan based on a product or service and in a country approved by the instructor. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 2-3 | | Prerequisite(s): TGM 557 |
| TGM | 553 | Global Customer Decision Making | Both theoretical and applied, the backbone and foundation of the course draws heavily from behavioral economics, consumer psychology and consumer information processing. Equips students with a comprehensive understanding of how and why consumers make decisions the way they do in the market (B2C). Although consumers desire to make rational decisions that maximize their utility, in reality, more often than not, they tend to make irrational and suboptimal choices. Offers why such phenomena occur and how consumers can improve their quality of decision making. Offers a richer appreciation of the heuristics and decision-making rules that consumers use and biases that affect consumer decision making. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 557 |
| TGM | 554 | Global Marketing Research | Focuses on the marketing research process from start to finish. Marketing research techniques provide competitive advantage in a global business context. Develops the necessary skills to plan a research project, collect data, analyze the data (include key statistical techniques) and report findings. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 557; TGM 558 |
| TGM | 555 | Global Product Development and Pricing | Combines global product development (GPD) and global pricing (GP). GPD examines how an organization can identify, develop and manage products for global markets. Pays special attention to issues such as the product development cycle, innovation charter, barriers to product development and effectively organizing for product development. GP provides in-depth knowledge of the field of global pricing, covering the psychology, economics and tactics of pricing for a business enterprise, product or service. Better pricing knowledge usually converts to better bottom-line results. Students learn pricing theory and tactics as well as develop hands-on pricing skills, all aimed at improving profitability. These skills can be applied across the full range of professional contexts--as entrepreneurs, brand managers, business unit managers, management and M&A consultants. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 557 |

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| TGM | 556 | Global Strategic Services Marketing | Services have come to dominate our economy. Yet there remains a naïve belief that services marketing and management is a simple adaptation of goods marketing and management. Unlike physical goods, services are co-produced with customers at a time, and in a place, of the customer's choosing. This co-production directly involves an organization's front-line employees. As a result, it is more difficult for services to be inventoried and checked for quality assurance. Provides a thorough understanding of the management and continuous improvement of service operations, including a thorough understanding of the role of customers in service operations such that service firms can design effective service experience so as to minimize service failure. Provides students with an end-to-end hands-on customer experience management (e.g., customer satisfaction and loyalty), project that involves survey design, customer experience model development, data collection, data analysis, and recommendations. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 557 |
| TGM | 557 | Global Marketing and Data Analytics | Global companies are embracing digital technologies to better understand their customers' journey and subsequent word-of-mouth discussions consumers have about their product online. This course is about understanding how multinational organizations make strategic use of Big Data to gain a competitive advantage in the global economy. It delves into the understanding of global data, choosing whether to enter a foreign market, how to evaluate different foreign markets, the best methods for entering different markets, the market research design process, understanding consumer and B2B customer behavior, and ethical issues encountered in global marketing. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 558 | Global Data Analysis for Strategic Marketing | Provides an understanding of the key statistical techniques to improve business decision making. Course complements other quantitative courses by adopting a hands-on and software- (SPSS) based approach to strategic decision making. A combination of lectures and discussions, analyses of data-based cases and software usage facilitate understanding of the material. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 557 |
| TGM | 559 | Global Brand Management | Provides a managerial orientation to the topic of global brand management. Prepares participants for a career either in the role of the "traditional brand manager" or in the role of a "manager with brand-related responsibilities." A major portion of the course is working on a global brand field project to develop a brand management/marketing plan for a brand and brand challenge of student (and team) choosing. Emphasizes the ethical dimension of global brand management; focuses on an individual brand ethics project. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 557 |
| TGM | 560 | Space for Global Future Leaders | Provides an executive, semi-technical discussion of global space economics. The space economy, while currently dominated by a few nations, is inherently global in both its basis and effects. Introduces students to the aerospace sector with specific focus on space, related industries and the affect and effects of space on all sectors. Covers the history of human space exploration and commercialization, then considers each aspect of global space economics--including technology, finance, insurance, applicable law and policy, global issues, supply chain and applications. Particularly emphasizes space applications for countries around the world and comparative advantage of different countries. Students gain an understanding of the current state of space commercialization, the ability to evaluate the effect of space on different industries, the capability to engage in space entrepreneurship and to take advantage of new capabilities and opportunities presented by space. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TGM 560 or TGM 598 (Space for Future Global Leaders) |

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| TGM | 561 | Global Space Policy and Law | The global space economy is currently transitioning from a state-dominated approach to a commercial one, which creates a need for updated perspectives about how law, policy and regulation enable or hinder these activities. Discovers the various aspects of the policy development process and investigates the implications of some specific policies, past and future. Researches the different aspects of space regulation, the challenges of keeping regulation up to speed with the pace of technology and looks at some of the tradeoffs that exist within the regulatory process. Examines traditional regulatory issues as well as future-oriented ones. Explores the various risks of commercial space enterprises. Analyzes the key issues of space policy, epistemic and institutional process as well as the drivers for space ambitions of the major powers (e.g., U.S., China, Russia, India) vs. the middle powers (e.g., UAE, U.K., Japan, Luxembourg, Nigeria). | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TGM 561 or TGM 598 (Global Space Policy and Law) |
| TGM | 562 | Global Space Entrepreneurship and Sustainability | Presents an overview of entrepreneurship and sustainable business for the global space industry. Involves acquiring a basic understanding of both global entrepreneurship and sustainable business. Students become familiar with the definitions applicable to these two topics, the basic place and role of these two domains in the global economy and relations to the global space industry, and the significance of the two domains in the creation of jobs and sustainable economic activity. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TGM 562 or TGM 598 (Global Space Entrepreneurship and Sustainability) |
| TGM | 563 | Space and Global States and Markets | Provides multiple sets of critical knowledge about how space impacts and is influenced by political economics. Begins with an overview economic and political system. Examines the financial policies of states around the world and the effects on their economics and markets, including an overview of key world financial systems and institutions. Introduces frameworks to predict economic outcomes. Given the inherently global nature of space, examines political risk, relationships and trade regimes that can affect commercial space. Explores how the political economy may evolve in space. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TGM 563 or TGM 598 (Space and Global States and Markets) |
| TGM | 567 | Career Development for the Global Creative Industries | This career acceleration and preparation course helps students interested in pursuing careers in the global creative industries by developing the professional attributes specific to and necessary for advancing in any of the various creative industries. Successful industry veterans, including ASU alumni, each bring a panel of industry guests so students get to practice their new empowering, employment abilities in "mock" interviews, pitch sessions and networking activities. Students gain insider insights and networking opportunities with these pros which they can use to develop a personal leadership and career plan to aid in their current or future professional endeavors. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| TGM | 568 | Metaverse and the Global Enterprise | Explores the global management and business dynamics for managing revenue, regulation, privacy and ethics in the metaverse, Industry 4.0 extended reality. The metaverse represents rapid evolution of the Internet as an information and communication ecosystem, combining data, sensory and emotional knowledge. It is a multiverse that interoperates digital and physical realities, delivering pervasive sensory experiences using technologies to compress space and time. This is the Web that acts in symbiosis with daily life, intertwined with what we do. First, students receive an overview of how companies conduct business in and for the metaverse. This includes metaverse product development and creation of products and value capture through unique digital artifacts such as Non Fungible Tokens (NFTs). Metaverse marketing and the collection of data about individuals' physiological responses, physical movements and potentially even emotions through brainwaves. Also covers metaverse commerce and the application of blockchain technology and decentralized finance. Second, students understand how leaders face unique organizational and societal challenges to manage in the metaverse. This includes the future of work in Augmented Reality (AR) and Virtual Reality (VR), representing new ways of collaborating. Discusses options for employee training, learning and development in the metaverse, as well as ethics, policy and governance needed to safeguard workers and global citizens. Collectively, how these trends have implications for new forms of sustainable global development. These are hallmarks of building metaverse communities in Industry 4.0. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TGM 568 or TGM 598 (Metaverse and the Global Enterprise) |
| TGM | 572 | Global Import Export Management | Requires understanding theoretic, strategic, finance and practical business principles complicated by the differences in business practices, culture, laws and currency regulations of multiple countries and regions. Focuses on important pragmatic aspects of selling and acquiring goods and services to and from trading partners in foreign markets. Today's global marketplace, while dynamic with opportunity, contains rapidly changing physical, fiscal, technological and regulatory considerations for those who manage such activities. Important concepts to be learned include establishing strategic direction, identifying and managing a multitude of risks, protecting company assets, lowering the cost of finance, building winning business relationships and profitably expanding business into new markets. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 573 | Country Risk Management | Global managers must be concerned with potential risks to their businesses posed by political, social and financial forces at work globally and in specific regions and countries. This course centers around state-of-the-art assessment models used by businesses and foreign investors. Issues include methods of measuring and forecasting risk and mitigating risk. Recommended for students interested in business risk forecasting as a function in and of itself, and in operations, marketing, and any arena in which business investors must be able to anticipate and manage risks. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 575 | Global Affairs | Examines major theories and concepts in global affairs including different schools of international relations thought and levels-of-analysis determinants of foreign policy. These theories and concepts provide key insights on contemporary global affairs issues, and are applied to real-world events and case studies. Covers the role of political economy in the separate course on states and markets in the global political economy. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 576 | Data Analysis for Global Affairs | Covers research methodologies and analytical techniques used to investigate global issues. Topics include research design, quantitative methods, qualitative methods, policy analysis and database resources. These tools are used in government, in intergovernmental organizations, in nongovernmental organizations, and in the private sector. They are applied to key issues in global affairs such as democratization and human rights, income inequality and development, political violence and international security, and political risks to foreign investors. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 515 |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|---|---|-------|-----------------|---|
| TGM | 577 | International Organizations | Examines the role of international organizations in global affairs particularly in the areas of international peace, security, humanitarian and environmental issues. Focuses on intergovernmental organizations such as the United Nations and International Criminal Court as well as regional organizations such as the North Atlantic Treaty Organization and the African Union. Also focuses on international nongovernmental organizations such as Amnesty International and International Red Cross. Examines the impact of as well as the constraints on international organizations in real-world events and case studies. Covers major economic intergovernmental organizations in the separate course on states and markets in the global political economy. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): TGM 515 |
| TGM | 579 | Communicating in a Global Context | In a dynamic and interactive format, presents a framework of models and skills for building communication performance in competitive global business settings. Assists in implementing strategies for mastering interpersonal encounters, including conflict resolution, in multicultural environments. Not only examines theories of communication, but places students in experiential situations in which they develop valuable global management skills. Using cases, self-assessment questionnaires, multicultural team exercises and simulations, equips the global manager with the ability to solve problems and take advantage of opportunities in a multicultural world. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-2 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-12 | | |
| TGM | 581 | Negotiating in a Global Context | Provide students with knowledge, skills, insights and experience necessary to be a competent negotiator. Covers theories of cross-cultural negotiation and how these impact business interactions. Students gain insight into personal and cultural underpinnings that influences cognitive, affective and negotiation behavioral processes. Expands skills in achieving communication and negotiating competence through the understanding and practice of increased appropriateness, flexibility and adaptability. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 2-3 | | Prerequisite(s): TGM 506 |
| TGM | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | LEC | Y | OPT | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-12 | | |
| TGM | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-12 | | |
| TGM | 585 | Corporate Social Responsibility in a Global Context | Provides knowledge, skills, insights and experience necessary to be a competent negotiator. Covers theories of cross-cultural negotiation and how these impact business interactions. Students gain insight into personal and cultural underpinnings that influences cognitive, affective and negotiation behavioral processes. Expands skills in achieving communication and negotiating competence through the understanding and practice of increased appropriateness, flexibility and adaptability. Corporate Social Responsibility (CSR) has become essential for corporations seeking to succeed in an intensely competitive global economy. Provides an in-depth understanding of what CSR is, how to apply it effectively in an international context and how to manage it well. Using a case-based approach, focuses on actual experiences of corporations that have used CSR strategies successfully--and unsuccessfully--to draw practical lessons for international managers. Incorporates several guest lectures from executives who share their firsthand experiences with CSR in various regions of the world. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-3 | | Prerequisite(s): TGM 586 |
| TGM | 586 | Global Entrepreneurship and Sustainable Business | Presents an overview of entrepreneurship and sustainable business. Involves acquiring a basic understanding of both the global entrepreneurship space and the sustainable business space. Students become familiar with the definitions applicable to these two topics, the basic place and role of these two domains in the global economy, and the significance of the two domains in the creation of jobs and sustainable economic activity. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | LEC | Y | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-12 | | |
| TGM | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | LEC | Y | OPT | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-12 | | |

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| TGM | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-12 | | |
| TGM | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-12 | | |
| TGM | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-12 | | |
| TGM | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | RSC | Y | Z3 | Thunderbird School of Global Management | Thunderbird School of Global Management | 1 | | |
| TGM | 596 | Thunderbird Experiential Practicum | Capstone course offering students an opportunity to apply the full range of professional skills they have acquired during graduate business and management studies. Consists of participation in a consulting project for a client system in an emerging market country, including Central America, Latin America, the Middle East, Africa, central and eastern Europe, and the whole of Asia apart from Hong Kong, Japan, Singapore, Australia and New Zealand. Serves all sectors: public/governmental, private and NGO/nonprofit. | Y | PRA | Y | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-6 | | Prerequisite(s): TGM 506; TGM 517; TGM 545; TGM 557 |
| TGM | 597 | Thunderbird Personal Leadership Development | Capstone course designed to equip students with the skills to transition from students to global managers in the 4th industrial revolution. Students create and continuously update their Career Development Plan. This plan requires them to research career options, commit to a career focus, devise a strategy, implement a networking plan, create career documents such as resumes and cover letter, prepare for interviews. Students also create their own Personal Leadership Development plan. | N | LEL | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-4 | | |
| TGM | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-12 | | |
| TGM | 601 | Megatrends: Understanding Future Drivers and Their Influences | Provides broad exposure to emerging and future transdisciplinary drivers and their influences. The lead professor for this Phoenix-based course partners with faculty from ASU colleges including the Ira A. Fulton Schools of Engineering, the Walter Cronkite School of Journalism and Mass Communication, the School of Public Affairs, and the Sandra Day O'Connor College of Law (and possibly other ASU schools or units). Representative topics span from crisis management in an era of hypercompetition and mass communications to the global legal implications of digitalization (e.g., Industry 4.0) and the emerging role of NGOs in partnering with private companies to seek shared value and sustainability. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 5 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 602 | Sustainable Futures: Building, Tapping and Creating Shared Value in a Changing World | Provides broad exposure to emerging and future transdisciplinary environmental drivers and their influences on business, nonprofit organizations and governments. Focuses on four interwoven themes. First, how do global firms create, experience and leverage shared value creation to drive innovation and growth. Second, exploration and application of contemporary models for mapping and understanding today's complex, dynamic systems, ecosystem development and cluster formation. Third, by delving into the function of multilateral agencies such as the WTO, WHO, UNHRC, UNCTAD and WBCSD in shaping and driving environmental influence on organizations, and understanding the public policy value chain. And, fourth, unbundling the impact of environment on innovation and growth success drivers in "next generation" manufacturing industries such as pharmaceuticals or precision engineering; on service industries such as banking or nonprofit organizations; on governments; and on NGOs. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 5 | | Prerequisite(s): Thunderbird School of Global Management graduate student |

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| TGM | 603 | Shaping Markets: Market Entry and Winning Strategies | Provides broad exposure to emerging and future transdisciplinary drivers and their influences. Primarily focuses on how global firms create value and thus covers a spectrum of topics ranging from country-specific competitive advantage and the notion of distance, to alternative global strategy archetypes, and sources of competitive advantage for emerging market multinationals. Integrative approach that seeks to apply multiple decision-making tools and frameworks to untangle the complexities of managing in a global corporation. Anchors the experiential segment of the course module in an emerging market setting to provide students a hands-on view of the dynamics shaping the growth markets of today and tomorrow. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 5 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 604 | Capturing Dividends: Finding, Fostering and Exploiting New Insights | Provides broad exposure to emerging and future transdisciplinary drivers and their influences with respect to innovation, technology and creativity. The lead professor for this module partners with thought and practice leaders from Thunderbird/ASU colleges and beyond. Representative topics span from understanding technology trends and their drivers to structuring for innovation and creativity success, and the leader's role and relevant skillset therein. From input to process to output, this module provides access to leading-edge best practices for seeing what others miss (successfully finding and developing valuable innovation), effectively assessing, prototyping, and validating, and winning adoption for new ideas and insights (and fostering these skills in others). | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 5 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 605 | Delivering Results I: Resourcing and Influencing to Maximize Impact | Provides broad exposure to emerging and future transdisciplinary drivers and their influences on strategy formation in global organizations. Primarily focuses on how global firms create value and thus covers a spectrum of topics ranging from country-specific competitive advantage and the notion of distance, to alternative global strategy archetypes, and sources of competitive advantage for emerging market multinationals. The approach will be integrative in that it seeks to apply multiple decision-making tools and frameworks to untangle the complexities of managing in a global corporation. Anchors the experiential segment of the course module in an emerging market setting to provide students a hands-on view of the dynamics shaping the growth markets of today and tomorrow. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 5 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 606 | Delivering Results II: Peak Dynamism Execution and Comprehensive Debrief | Provides broad exposure to emerging and future transdisciplinary drivers and their influences with respect to execution of strategy on global and local levels. The lead professor for this module partners with thought and practice leaders from Thunderbird/ASU colleges and beyond. Representative topics span from implementing global strategy, evaluating and responding to regional dynamics in fast expanding markets, bridging potential headquarter and field chasms, and executing in peak dynamism. This module provides access to leading-edge best practices for implementing strategy in fast expanding, emerging markets. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 5 | | Prerequisite(s): Thunderbird School of Global Management graduate student |
| TGM | 705 | Philosophies, Theories and Methods of Research | Provides the necessary background in the philosophy of science to better prepare students in conducting high quality productive research. Develops the process of reorienting the student's thinking from the receptive mode of thinking that occurs in traditional graduate classes to the critical mode of thinking necessary for doctoral research. Addresses key content elements including the problem of appropriately defining concepts for global management and leadership research, the problem of providing evidence in support of a claim, and the problem of identifying both philosophical assumptions in social science research as well as the epistemological and methodological constraints that those assumptions imply. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| TGM | 710 | Shaping the Future: The Fourth Industrial Revolution and Digital Transformation in a Global Economy | Addresses the Fourth Industrial Revolution (4IR) and how it differs from previous industrial revolutions, as well as the drivers, enablers, opportunities and challenges. Examines the relation between the state and market in the global economy and discusses implications of 4IR globally. Beyond the 4IR, looks at the relations between politics and economics and how they affect local, national and global outcomes. Students study how technology impacts, changes and profoundly transforms societies. Investigates human-centered technology and the response from our institutions, technology governance and the reach of Artificial Intelligence. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 715 | States and Markets in the 4th Industrial Revolution Global Economy: Applications for Global Leaders | Provides global managers and leaders with an in-depth assessment of the field of global political economy through the lens of the Fourth Industrial Revolution (4IR). Students develop the ability to critique and apply relevant concepts from 4IR to explain trends and developments in the global economy. They also use these concepts to help companies, governments and nonprofit organizations manage challenges and seize opportunities in operating in the global economy during the 4IR. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 720 | Qualitative Analysis for Systems Thinkers: Learning from the Field | Seminar in qualitative research methods including conceptualization, research design, tool choices and data collection processes with a focus on understanding and addressing leadership and management challenges applied to the student's research project. Familiarizes students with the selection and application of qualitative research methods that address real-world challenges in private and public organizations. Helps students gain a deep understanding of the rationale for and nature of field research in organizations that guide selection of the best tools to answer research questions. With an emphasis on global and 4th Industrial Revolution contexts, topics presented include an overview of qualitative research, research questions and how qualitative research may apply when conducting qualitative studies, ethics in qualitative research, and a variety of tools--interviews, focus groups, participant observation, document and artifact analysis, data synthesis and case study research method. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 730 | Systems Change and Transformation in the Anthropocene | Transnational hyper-connectivity is an essential feature of our time. Yet in government, business and civil society, our approaches to power, leadership and organization remain locked in the competition-based frameworks of the 20th century. To understand these all too common problems, we need to move beyond linear models--based on a fairly detailed knowledge of the present situation and supposed to be able to make reasonable forecasts of the future--which underlie much formal policy analysis and design. Understanding the implications of strategic behavior, nonlinear feedbacks and heterogeneous actors on policies is needed. Equally we need to understand the impact of policies at multiple scales and across a wide range of stakeholders. Assesses these topics through systems change and how this has led to transformation in the Anthropocene. The foundational premise of this course is that the traditional discipline for achieving objectives in global affairs--statecraft--is necessary but not sufficient for the networked age. New tools and strategies are needed to understand and influence a world based on connectivity. Network theory provides a starting point. Covers basic principles of network theory and helps understand their relevance to the design, development and management of fit-for-purpose networks involving business, civic organizations and nonprofits, and government. Examines case studies of different global problems--from health to human rights, war to economic renewal, the environment to terrorism. Much progress has been made in the scientific understanding of the kinds of systems--under the name of complexity. Explores the consequence of these new insights for policy. Discusses salient policy and management implications of a complex adaptive system frame. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| TGM | 740 | Leading and Managing Global Organizations: Advanced Topics | Organizations, private (business) and public (government, nonprofit and hybrid), all face chronic management and leadership problems that pose significant challenges to them. Organizations are complex and problematic entities, which is especially true for government organizations. These problems include the difficulty of designing organizations capable of coping with highly dynamic and rapidly changing environments, the challenge of developing strategies and structures for hypercompetitive conditions, and the greater complexity of managing global enterprises. Further issues addressed are the difficult task of shaping a corporate culture, managing politics and conflict between individuals and organizational units, and motivating employees who are more mobile than ever. Students learn to design incentive systems, as well as lead teams effectively. Covers how leaders of these organizations deal with these challenges. Helps students gain a deeper understanding of the nature of organizational change and the complexities that underlie them (through conceptual frameworks, organizational structure and design, the interaction of organizations with their environments and the behavior of individuals and groups within organizations; readings; and; discussions). Illuminates skills needed for managing change. Enhances sensitivity to the contribution and consequences of the human element as related to change. Helps students think about how to "thrive on and in change." | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 745 | Data Analysis for Global Leaders | Provides the quantitative tools used to conduct research in global leadership. Students study three overarching topics: (1) research design, with attention to forming hypotheses, matching appropriate research methods to those hypotheses, and operationalizing variables; (2) data structure and data sources; (3) specific quantitative techniques, including t-tests, chi-squared tests and multiple regressions. | N | LEC | N | GNA | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 750 | Problem Identification and Research Design: Directed Study | Students engage in their identification of their research problem, formulation of the research objectives and design of the action plan for their project. | N | RSC | N | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 755 | Review of Literature: Directed Study | Students engage in the review of literature of their research problem or project, exploring deep functional knowledge in managing and leading in the 4IR. | N | RSC | N | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 760 | Project Impact Assessment: Directed Study | Students engage in the assessment of the project impact, exploring deep functional knowledge in managing and leading in the 4IR. | N | RSC | N | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 765 | Independent Applied Field Research: Directed Study | Students engage in independent applied field research related to their project exploring deep functional knowledge in managing and leading in the 4IR. | N | RSC | N | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 770 | Final Project Draft: Directed Study | Students engage in developing the draft of the final draft of the applied research project, exploring deep functional knowledge of their topic of study. | N | RSC | N | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 775 | Research Project Draft Refinement: Directed Study | Students engage in the refinement of the research project draft, exploring deep functional knowledge in managing and leading in the 4IR. | N | RSC | N | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic or writing a literature review of a topic. | Y | IND | Y | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-12 | | |
| TGM | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report or publication. Assignments might include data collection, experimental work, data analysis or preparation of a manuscript. | Y | RSC | Y | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-15 | | |
| TGM | 793 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | PRO | Y | Z1 | Thunderbird School of Global Management | Thunderbird School of Global Management | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TGM | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded and no grade is assigned. | Y | RSC | Y | Z3 | Thunderbird School of Global Management | Thunderbird School of Global Management | 1 | | |
| THE | 100 | Introduction to Theatre | Introduces theatre and why it matters. Explores this dynamic art form from its roots up through our current time and how theatre functions as a part of human cultures. Students watch and analyze videos of incredible live performances and get a behind-the-scenes look at how theatre artists collaborate to create a production. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s): non-Theatre major OR Visiting University Student |

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| THE | 125 | Orientation to Theatre | Orientation to university and school resources and procedures. Academic success strategies, mentorship, goal setting. Community-building exercises. | N | REC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Performance and Movement BA, Theatre BA, Theatre (Acting) BA, Theatre (Design and Production) BA, or Theatre Exploratory BA major; freshman standing; Credit is allowed for only FMP 101 or THE 125 (THF 125) OR Visiting University Student |
| THE | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| THE | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| THE | 320 | History of the Theatre I | Centers on the historiography of world theatre as art, as a medium of cultural expression and as a social institution. Involves, along with the reading of plays, advanced methodological approaches to studying the creation of theatre within cultural and political contexts. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & H | Prerequisite(s): THF 220; minimum junior standing OR Visiting University Student |
| THE | 321 | History of the Theatre II | Traces major developments in theatre production from the 17th century to modern times. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & H | Prerequisite(s): THF 220 with C or better; minimum junior standing OR Visiting University Student |
| THE | 322 | Theatre History and Culture | Critically examines major developments in theatre history, historiography, and dramatic literature. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & H | Prerequisite(s): non-Theatre major OR Visiting University Student |
| THE | 325 | Play Reading for Educational Theatre | Assigned independent readings in plays for secondary school play production. | N | RSC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Theatre student OR Visiting University Student |
| THE | 359 | Comics, Cons, and Cosplay Phenomena | Creates an awareness and appreciation for the evolution of the comic, con and cosplay industries and related popular art forms primarily through the presentation of events that celebrate the historic and continuing contribution of the industries to art and culture. Organized in a historic timeline, beginning with ancient gods and myths, to the development of superheroes and science fiction characters beginning in the 1930s, to the impact that world conflict and social unrest and shifts had on the art form in the 1940s through 1990s, to the character reinvention and evolution during this century and fandom's impact on fashion and culture. | N | LEC | N | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only THE 359 or THE 494 (Comics, Cons and Cosplay Phenomena) or THP 494 (Comics, Cons and Cosplay Phenomena) OR Visiting University Student |
| THE | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| THE | 406 | American Multicultural Film | Examines Native, African, Asian, and Latina and Latino American films and film artists in cinema history and production. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & C | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| THE | 420 | Theatre in America | Examines the major movements and pivotal moments in the history of American theatre from the 1700s to its current state, particularly its efforts to establish an identity that reflects the unique and changing citizenry of the United States. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s): minimum 40 hours. Credit is allowed for only AMS 420 or IAP 420 or THE 420 |
| THE | 421 | Shakespeare: Stage and Film | Examines Shakespeare's plays as written texts, stage performances, and film productions. Focuses on play reading, performance analysis, and film critique. Online course. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | L or HU | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| THE | 422 | Latinx Theatre and Film | Explores issues of cultural identity through critical analysis of theatre and film by Latinx artists in the United States. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU & C | Prerequisite(s): ENG 102, 105, or 108 with C or better or Theatre MA student OR Visiting University Student |
| THE | 423 | African American Theatre | Readings, discussion, video of the history and dramatic literature of African American playwrights and theatre companies in the United States. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | C | Prerequisite(s): ENG 102, 105, or 108 with C or better or Theatre MA student OR Visiting University Student |
| THE | 425 | Chekhov and Russian Drama | An in-depth study of Chekhov's major works, representative short stories and major plays, including "The Cherry Orchard" and "Three Sisters". Taught in English. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only RUS 425 or THE 425 OR Visiting University Student |
| THE | 426 | Pre-Columbian Theatre of the Americas | Selected studies in pre-Columbian theatre forms and texts of the Aztecs, Mayans, Caribbean islands, and North American Indians. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): ENG 102, 105 or 108 with C or better, or Masters Theatre student |
| THE | 429 | Studies in European Literature and Culture | Literary, cultural, and historical issues. | N | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s) with C or better: ENG 101, 105, 107; ENG 200; one ENG 200- or 300-level literature course OR ENG 101, 105, 107; min 45 hours; Credit is allowed for only CEL 429 or ENG 429 or REL 429 or SLC 429 or THE 429 OR Visiting University Student |
| THE | 430 | History of Fashion I | Fashion is rarely set but rather evolves with eras of upheaval between one generation and the next. Clothes express the personality and rank of the individual creating an instantaneous and lasting impression. Introduces over 400 years of Western fashion history drawing parallels between the fashion and the period in which it existed. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | Prerequisite(s): minimum sophomore standing OR Visiting University Student |

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| THE | 431 | History of Fashion II: 20th-Century Fashion | A century of fashion history, drawing parallels between the fashion and the period in which it existed. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only THE 431 or THE 494 (History of Fashion II) |
| THE | 440 | Experimental Theatre and Performance | An inquiry into avant-garde and experimental theatre/performance from the 19th century to the present. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | L | Prerequisite(s): Theatre undergraduate student; ENG 101, 105, or 107 with C or better; THE 320 or 321 with C or better; THF 220 with C or better OR Visiting University Student |
| THE | 475 | Latin American Film | Examines the role of film in contemporary Latin American culture; films viewed and analyzed as casebook examples. Focuses on the aesthetics and generic conventions of contemporary Latin American films. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | (L or HU) & G | Prerequisite(s): ENG 102, 105, 108, FMS 100, or SLC 202 with C or better; Credit is allowed for only FMS 475 or SLC 475 or SPA 475 or THE 475 or FMS 494/SLC 494/SPA 494/THE 494 (Latin American Film) OR Visiting University Student |
| THE | 480 | Methods of Teaching Theatre | Applies materials, techniques and theories for theatre with students, grades 6 through 12. Emphasizes curriculum development and praxis. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 4 | | Prerequisite(s): THP 311 with B or better or graduate student; Credit is allowed for only THE 480 or THE 581 OR Visiting University Student |
| THE | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | |
| THE | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | | Pre-requisites: Barrett Honors Theatre or Film student |
| THE | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | L | Prerequisite(s): Barrett Honors Theatre or Film student; ENG 101, 105 or 107 with C or better |
| THE | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| THE | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | |
| THE | 500 | Research Methods | Course on research methods in a specific discipline. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): graduate School of Film, Dance and Theatre major |
| THE | 504 | Studies in Dramatic Theory and Criticism | Surveys dramatic theory, criticism, and aesthetics as they relate to contemporary performance. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisites: Theatre student |
| THE | 505 | Critical Theory and Performance | Surveys contemporary theories of culture as they apply to theatre and performance studies. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisites: Theatre graduate student |
| THE | 510 | Studies in Literature | Assigned individual reading program in standard sources and masterpieces in theatre literature. May be repeated for credit. | N | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| THE | 520 | Theatre History and Literature | Surveys historiographical issues and dramatic literature related to key periods in theatre history. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisites: Theatre student |
| THE | 524 | Advanced Studies in Theatre for Youth | In-depth study of the history, literature, and contemporary practice of theatre for young audiences. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Theatre Education or Theatre for Youth student |
| THE | 525 | Advanced Studies in Theatre for Youth II | Project-oriented explorations of theory and practice of contemporary theatre for youth audiences. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THE 524 with B or better |
| THE | 562 | Dramaturgy Workshop | Advanced dramaturgical technique for the contemporary theatre, including trends in new play development, festivals and productions throughout the United States. Participation in Arizona Playwriting Competition. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| THE | 581 | Methods of Teaching Theatre | Applies materials, techniques and theories for theatre with students, grades 6 through 12. Emphasizes curriculum development and praxis. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only THE 480 or THE 581 |
| THE | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisites: Theatre student |
| THE | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | N | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisites: Theatre student |
| THE | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisites: Theatre student |
| THE | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| THE | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisites: Master of Art Theatre student |
| THE | 600 | Research Methods | Course on research methods in a specific discipline. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | |
| THE | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisites: Theatre student |
| THE | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisites: Theatre student |
| THE | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | |
| THE | 700 | Research Methods | Course on research methods in a specific discipline. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre-requisite: Must be a Theatre Education or Theatre for Youth student or have instructor approval. |
| THE | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisites: Theatre student |
| THE | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-15 | | |
| THE | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-15 | | |
| THF | 101 | Acting Introduction | Introduces basic principles of acting. Topics include terminology, scene and character analysis, exercises and improvisation, audition preparation. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): non-Theatre student OR Visiting University Student |
| THF | 126 | Professional Development: Communication and Collaboration | Foundational course brings together students in several collaborative art forms to create original works and build community within the Herberger Institute. Provides introductions to the creative process and several key creative career skills: effective communication, conflict resolution, project management, building mentoring relationships, and creating equitable and inclusive project teams. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2 | | Prerequisite(s): Herberger Institute for Design and the Arts student OR Visiting University Student |
| THF | 160 | Introduction to Storytelling | Introduces the nature, structure, and operations of story, as well as the functions of narrative in societies and cultures. Several modules introduce a different mode of storytelling. Students learn to create their own stories utilizing several of the approaches introduced in the modules. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | |
| THF | 215 | Design and Composition for Theatre and Film | Introduces the aesthetic principles and practices employed by designers/artists of the stage and screen, including: basic knowledge of the elements and principles of design; conceptualization of design for theatre and film; director/designer collaboration models; methods and modes of visual communication for theatre and film (storyboards, renderings, models, etc.). | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | HU | |
| THF | 220 | Principles of Dramatic Analysis | Analysis, evaluation and interpretation of dramatic literature for theatrical and cinematic production. Emphasizes the traditional canon of dramatic literature, the language of narrative film, and traditional structures and forms of drama for stages and screens. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | L or HU | Prerequisite(s): Sidney Poitier New American Film School major or School of Music, Dance and Theatre major; ENG 101, 105, or 107 with C or better; Pre- or corequisite(s): THF 126 with C or better if completed OR Visiting University Student |
| THF | 370 | Seminar: Acting Concentration for Stage and Screen | Designed for a student's continued growth as a preprofessional acting student. Provides a series of master workshops focused on craft. In addition, under the guidance of the faculty facilitator, students receive career guidance and information to strengthen connections to the institute, the school and the university. | N | SEM | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): admitted to Theatre (Acting) BA concentration; Credit is allowed for only THF 370 or THP 394 (Acting Concentration Seminar) OR Visiting University Student |
| THF | 397 | Professional Development Seminar | Preparatory course for senior projects. Students research and create senior project proposals while formalizing faculty mentorships. | Y | SEM | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Prerequisite(s): Film BA or Performance and Movement BA or Theatre BA major; minimum 56 hours OR Visiting University Student |

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| THF | 429 | Astrobiological Arts | Is there life "out there"? Students investigate the science of astrobiology through a blend of research and creative processes. Utilizing exploration learning methods, students pursue inquiries into life in the universe and develop collaborative creative projects from initial idea to completion. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only THF 429 or HDA 494/HDA 598/SES 494/SES 598/THF 494/THF 598 (Life, the Universe & Creating: Astrobiological Art) OR Visiting University Student |
| THF | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| THF | 497 | Senior Project | Mentored practicum for culminating capstone projects. | Y | PRA | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-6 | | Prerequisite(s): Film BA, Film and Media Production BFA, Performance and Movement BA, or Theatre BA major; FMP 385, FMP 398, or THF 397 with C or better; minimum 56 hours |
| THF | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| THP | 102 | Acting I | Explores and applies basic principles of acting. Topics include terminology, scene and character analysis, exercises and improvisation, audition preparation. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Performance (Music Theatre) BM major or Performance and Movement BA major or Theatre BA major OR Visiting University Student |
| THP | 122 | Acting II | Actors learn how to mine a script for information to make the choices to develop a character such as the character's movement and vocal qualities, the character's world view and tactical choices, and how the character changes over the arc of the play or are impacted by the events and relationship shifts that take place within the script. Actors learn how to embody those choices as they act responsively and collaboratively with a scene partner. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THF 101 or THP 102 with C or better; Corequisite(s): THP 272; THP 277 OR Visiting University Student |
| THP | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| THP | 201 | Theatre Production Crew | Participation in university mainstage theatre production backstage and board operations. | Y | LAB | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | |
| THP | 202 | Acting II: Scene Study | Theatre techniques using improvisation and emotional truth. Rehearsal techniques and application of action to dramatic text. Multiple approaches. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THF 101 or THP 102 with C or better; THP 272 with C or better; THP 277 with C or better; Pre- or corequisite(s): THF 220 with C or better if completed OR Visiting University Student |
| THP | 203 | Acting III | Actors learn how to translate acting techniques from the stage to the screen. From working in the frame to relating to the camera, covers the basics of acting on screen. | N | LEL | N | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THF 101 or THP 102 with C or better; THP 272 with C or better; THP 277 with C or better; Pre- or corequisite(s): THF 220 with C or better if completed OR Visiting University Student |
| THP | 212 | Puppetry with Children | Construction and manipulation of puppets; practice in performance skills. Emphasizes educational and recreational uses of puppetry by and with children. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | |
| THP | 213 | Introduction to Technical Theatre | Procedures of technical theatre production and demonstration. Topics include design and construction of scenery, lighting, and properties. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Herberger Institute for Design and the Arts student OR Visiting University Student |
| THP | 214 | Introduction to Costuming | A survey of costume design and construction for performance. Cultivates basic sewing and crafting skills through hands-on projects. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Herberger Institute for Design and the Arts student OR Visiting University Student |
| THP | 216 | Stage Technology | Explores fundamentals and practical applications of lighting, sound and media equipment and technology for live events. | N | LEC | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): BA in The Arts, Digital Culture (Theatre) BA, Film and Media Production BFA, Performance and Movement BA, or Theatre BA major; Credit is allowed for only THP 216 or THP 494 (Stage Technology) OR Visiting University Student |
| THP | 218 | Directing I: Introduction to Directing | Overview of emergence and practice of the director's craft. Explores director's role and responsibilities, play selection, conceptualizing, ground plans, blocking. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Film and Media Production BFA, Theatre BA, Theatre (Acting) BA, or Theatre (Design & Production) BA, or Theatre (Exploratory) major; THF 220 with C or better; THP 102 with C or better OR Visiting University Student |
| THP | 222 | Acting IV | Actors dive into cross-cultural and cross-historical texts that explore, expand, and exult language itself. Actors gain mastery of multiple forms of spoken theatrical language from classical to contemporary, dramatic to post-dramatic including scripts across mediums such as theatre, film, video games, etc. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THF 101 or THP 102; THP 122 OR Visiting University Student |

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| THP | 251 | Student Production Board I | Performing arts entrepreneurship taught through the experience of operating a student-produced theatre company. Credit is available for acting, directing, design and technology. | N | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | |
| THP | 260 | Introduction to Dramatic Writing | Introduces writing for performance for stage, media and other forms. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| THP | 272 | Movement I | Movement vocabulary and physical training in relaxation, alignment, conditioning, and stage presence. Application to performance. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | |
| THP | 277 | Voice and Speech I | Exercises and techniques to free the voice and improve quality and projection. Application to performance. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | |
| THP | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| THP | 301 | Theatre Production | Participation in university mainstage theatre productions (e.g., acting, construction, stage management). | Y | LAB | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | Prerequisite(s): THP 213 or 214 with C or better OR Visiting University Student |
| THP | 302 | Acting V | Advanced practice in methods, skills and research for rehearsal and performance with a focus on styles/non-realism. | Y | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 102 with C or better; THP 122 with C or better; THP 203 with C or better; THP 222 with C or better; minimum junior standing OR Visiting University Student |
| THP | 307 | Acting: Ten-Minute Plays | Acting in theatre projects, productions, or collaborative performances in directing classes. | N | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | Prerequisite(s): THF 101 or THP 102 with C or better OR Visiting University Student |
| THP | 311 | Drama and Education: Performance Methods for Teaching | Theories, materials and techniques for teaching and facilitating drama-based methodologies for teaching and learning with emphasis on praxis. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better; minimum 25 hours OR Visiting University Student |
| THP | 317 | Stage Management | Focuses on the skills and techniques necessary to contribute to the production process as a stage manager with a focus on organization, leadership and communication. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 213 OR Visiting University Student |
| THP | 318 | Directing II: Intermediate Directing | Explores approaches to staging and composition. Studio work culminates in presentation of a fully rehearsed ten-minute play. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 218 with C or better; THP 213 or THP 214 with C or better |
| THP | 330 | Costume Design | Explores the elements of design, taking abstract ideas and formulating them into concrete forms. Encourages the student to experiment with different ideas and mediums. Emphasizes design basics, research, figure drawing, and beginning rendering techniques. Uses projects that involve complex script and character analysis to promote the student's ability to effectively communicate. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THF 215 with C or better OR Visiting University Student |
| THP | 331 | Costume Construction | Students learn the basics of clothing construction for performance, guided through sewing and finishing techniques. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): FSH 202 or THP 214 with C or better OR Visiting University Student |
| THP | 332 | Makeup | Practical guide to the theory and practice of theatrical makeup. Basic principles of stage makeup design and application. Develops and increases skills in the application and design of the medium through a combination of reading assignments, lecture, demonstration and supervised practice sessions. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Theatre (Design and Production) major or minimum 45 hours; Credit is allowed for only THP 332 or 494 (Makeup/Advanced Makeup) |
| THP | 333 | Costume Crafts | Exposes students to ancillary crafts within costume construction. The first half of the course explores dying and painting fabric for the stage and screen. The second half of the course covers millinery by making both a buckram hat and a stretched felt hat. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): FSH 202 or THP 214 with C or better; Credit is allowed for only THP 333 or THP 494 (Costume Crafts) OR Visiting University Student |
| THP | 335 | Stagecraft | Explores theatrical construction techniques and processes, developing skills through hands-on projects. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 213 with C or better or THP 301 with B or better; minimum sophomore standing OR Visiting University Student |
| THP | 340 | Scene Design | Studio projects in designing scenery for contemporary stages. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): BA in The Arts, Digital Culture (Theatre) BA, or Film and Media Production BFA major or THF 215 with C or better OR Visiting University Student |
| THP | 344 | Hand Drafting for the Live Entertainment | Explores the fundamentals and practices of technical drawing for the entertainment industry. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Herberger Institute for Design and the Arts student OR Visiting University Student |
| THP | 345 | Lighting Design | Explores principles, theories and practices of lighting design for entertainment industries. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THF 215 with C or better OR Visiting University Student |
| THP | 350 | Sound Design | Investigates the use of sound as an element of theatrical design. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| THP | 351 | Arts Management | Management, organizational behavior and human behavior in the arts; marketing, financing and budgeting for the arts. | N | LEC | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Herberger Institute for Design and the Arts student or minimum 45 hours OR Visiting University Student |

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|---------|-------------|--|--|-------------------|-------------------|-----------------|---------------|---|------------------------------------|-------|-----------------|---|
| THP | 352 | Everyday Audio Editing | Teaches the basics of editing and mixing in the Digital Audio Workstation REAPER. Employs plugins including EQ, compression (and other dynamics processing), as well as reverb (and other time-based effects), to craft a mix. Also includes an overview of editing audio to video, automation, MIDI implementation and the relationship between REAPER and other DAWs (e.g., Pro Tools, Logic). | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | CS | Prerequisite(s): minimum 45 hours; Credit is allowed for only THP 352 or THP 494 (Audio Editing) OR Visiting University Student |
| THP | 355 | Media Design for Performance | Introduces the fundamental skills, practices and theories for media and projection design for live performance, building on traditional areas of design for the theatre. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): BA in The Arts, Digital Culture (Theatre) BA, or Film and Media Production BFA major or THF 215 with C or better OR Visiting University Student |
| THP | 360 | Intermediate Playwriting | Continued development of skills in playwriting through specific exercises and completion of a full-length play. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre- or corequisite: THP 260 with C or better or Prerequisite(s): ENG 210 |
| THP | 372 | Movement II | Movement techniques for the classical and nonrealistic theatre. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 272 with B or better; minimum junior standing OR Visiting University Student |
| THP | 377 | Voice and Speech II | Introduces phonetic alphabet, exercises, and techniques for voice and speech improvement. Application to performance. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 277 with B or better; minimum junior standing OR Visiting University Student |
| THP | 385 | Acting: Shakespeare and the Spanish Golden Age | Rehearsal and performance of Shakespeare and other classical playwrights. Emphasizes understanding poetic language, vocal and physical skills. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THF 101 or THP 102 with B- or better; THP 277 with B- or better |
| THP | 387 | Acting VI | Professional film acting techniques, terminology and on-camera experience. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 302 OR Visiting University Student |
| THP | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| THP | 401 | Theatre Practicum | Production assignments for advanced students of technical production, stage and business management and design. | N | LAB | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | Prerequisite(s): THP 213 with C or better or THP 301 (Production) with B or better OR Visiting University Student |
| THP | 411 | Methods of Teaching Drama | Applies materials, techniques and theories with youth, grades pre-K-5. Emphasizes curriculum development and praxis. Regular participation with children. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 4 | | Prerequisite(s): THP 311 with A- or better or graduate student; Credit is allowed for only THP 411 or THP 511 OR Visiting University Student |
| THP | 418 | Directing III: Advanced Directing | Studio work building on skills learned in intermediate directing, culminating in the presentation of a fully rehearsed one-act play. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 318 with C or better or Herberger Master of Art or Master of Fine Arts student OR Visiting University Student |
| THP | 420 | Acting: Solo and Collaborative Performance | Creation and development of original performance art works combining text, movement, multimedia, visual art; the actor as writer, designer, performer. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THF 101 or THP 102; minimum junior standing |
| THP | 428 | Theatre Capstone/Senior Project | Senior projects course that includes a culminating creative synthesis of student's knowledge. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THF 397 with C or better |
| THP | 430 | Rigging for the Stage | Develops a hands-on knowledge of methods and principles of theatrical rigging. Focuses on safety and utilizes industry-standard equipment to assemble standard and custom rigging systems. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Herberger Institute for Design and the Arts student; Credit is allowed for only THP 430 or THP 494 (Rigging for the Stage) OR Visiting University Student |
| THP | 431 | Advanced Costume Construction | Focuses on period garments, especially corset silhouettes and the specific sewing techniques required. | N | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 331 with C or better OR Visiting University Student |
| THP | 435 | Technical Direction | Seminar in fundamental principles and practices of technical directors as managers, engineers and artisans in theatre production. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 213 with B or better; THP 301 (Theatrical Construction) with B or better; minimum junior standing OR THP 301 (Production) with B or better; minimum junior standing OR Visiting University Student |
| THP | 440 | Advanced Scene Design | Advanced studio projects in designing scenery for a variety of stage forms. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 340 with C or better or Theatre (Performance Design) MFA student OR Visiting University Student |
| THP | 441 | Scene Painting | Studio projects in painting stage scenery. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 213 with C or better OR Visiting University Student |
| THP | 442 | Rendering for Design and Production | Techniques in drawing and rendering for scenic, costume, and lighting design. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prereq(s): BA in The Arts (Entertain Design or Fash Design), Dig Cltre (Theatre) BA, Film (Film & Media Prod) BA, Film (Filmmaking Practices) BA, Film & Media Prod BFA, Film & Media Prod minor, Theatre BA, or Theatre minor OR Visiting University Student |
| THP | 445 | Advanced Lighting Design | Specialized techniques in stage lighting. Advanced application of design process, graphic techniques of design presentation, and use of qualities of light. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 344 with C or better; THP 345 with C or better OR Visiting University Student |

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| THP | 447 | Vectorworks for Live Entertainment | Explores CAD drafting fundamentals and practices for the entertainment industry through Vectorworks. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | CS | Prerequisite(s): BA in The Arts, Digital Culture (Theatre) BA, or Film and Media Production BFA major or THP 213 with C or better; Credit is allowed for only THP 447 or THP 494 (CAD Drafting) or THP 494 (Vectorworks) OR Visiting University Student |
| THP | 448 | AutoCAD for Live Entertainment | CAD drafting fundamentals and practices for the entertainment industry through AutoCAD. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | CS | Prerequisite(s): BA in The Arts, Digital Culture (Theatre) BA, or Film and Media Production BFA major, or THP 213 with C or better OR Visiting University Student |
| THP | 449 | AutoCAD 3D for Live Entertainment | Comprehension and practice of 3D drafting and rendering techniques in AutoCAD. Focuses on applications in live entertainment. | N | LEL | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 448 with C or better; Credit is allowed for only THP 449 or 494 (AutoCAD 3D) |
| THP | 450 | Theatre Organization and Management | Overview of nonprofit arts: organizational design, strategic planning, financial management, and leadership. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Herberger Institute for Design and the Arts student |
| THP | 451 | Student Production Board II | Performing arts entrepreneurship taught through the experience of operating a student-produced theatre company. Credit is available for the binary officers and administrators only. | N | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre- or corequisite(s): THP 450 OR Visiting University Student |
| THP | 452 | Arts Entrepreneurship Seminar | Challenges students to learn how individuals have used their creative skills to create new arts business models. Case studies examine how creativity can spur new opportunities in the arts industry. Students complete their own project proposals. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): HDA 252 with B or better |
| THP | 453 | Sound System Design and Engineering | Covers the design of sound systems, focusing on an understanding of the technical principles and the implications they have for design decisions. Also covers specialized topics in audio engineering including console programming, RF (wireless) coordination and the Dante protocol. Considers larger and more complicated systems by breaking them down into their more manageable component parts. With regard to loudspeaker deployment, focuses on achieving even coverage for systems, and not on the creative implications associated with consideration of imaging. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre- or corequisite(s): THP 216 or 350 with C or better if completed; Credit is allowed for only THP 453 or THP 494 (Sound System Design & Engineering) OR Visiting University Student |
| THP | 455 | Advanced Media Design | Explores advanced skills, practices and theories for media and projection design for live performance. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Dance, Film, Theatre, or The Arts BA major; THP 355 with C or better; Credit is allowed for only THP 455 or THP 555 OR Visiting University Student |
| THP | 457 | Digital Portfolio | Cross-disciplinary exploration of methods, technologies and aesthetics of portfolio presentation for professional designers and artists. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): The Arts (Fashion Design) or Theatre (Design and Production) major; minimum 56 hours; Credit is allowed for only THP 457 or THP 494 (Digital Portfolio) |
| THP | 482 | Theatre for Social Change | Interactive theatre techniques (e.g., Boal, drama therapy, playback theatre) to examine and combat institutional, social, cultural, interpersonal, and personal oppressions. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | C | Prerequisite: Minimum sophomore standing |
| THP | 483 | Acting: Viewpoints and Composition | Training in Anne Bogart's viewpoints and composition techniques; application to rehearsal and performance, and creating new work. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 202 with C or better; minimum junior standing or Performance and Movement major or MFA major |
| THP | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): Theatre or Film student |
| THP | 487 | Advanced Screen Acting | Builds on basic principles of on-camera acting to develop a range of acting styles in different formats on movie, television, computer and mobile device screens. Practical production includes a web series and community-based public service announcements. | N | SEM | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 387; Credit is allowed for only THP 487 or THP 494 (Acting: TV and Film II) |
| THP | 489 | Acting: Audition Techniques and Career Development | Familiarization with the business of performance: preparation and techniques for auditioning; self-promotion and marketing strategies; grant resources, interviews, and unions. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 102 or THF 101 with B or better; THF 220 with B or better; minimum junior standing OR Visiting University Student |
| THP | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | |
| THP | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-7 | | Prerequisites: Theatre Design & Production student |
| THP | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | |
| THP | 500 | Research Methods | Course on research methods in a specific discipline. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| THP | 501 | Performance: Solo Performance | Students begin to define their mission in art. Emphasizes the actor as a solo storyteller, speaking as herself or himself. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-8 | | Prerequisites: Master of Arts or Master of Fine Arts Theatre student |

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| THP | 505 | Graduate Colloquium | Orientation to graduate study of theatrical practice; cohort development, introduction to the advanced literature and media in the art form. | N | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1 | | Pre-requisites: Master of Fine Art Theatre student |
| THP | 511 | Methods of Teaching Drama | Applies materials, techniques and theories with youth, grades pre-K-5. Emphasizes curriculum development and praxis. Regular participation with children. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only THP 411 or THP 511 |
| THP | 512 | Puppetry Workshop | Surveys puppetry in education, puppetry as an art form in design and performance. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Graduate student |
| THP | 513 | Touring Theatre | Provides an understanding of the theories and aesthetics of touring theatre and a practice in its conceptualization, creation, administration, and production. Examines a variety of styles and methods of creating "movable" theatrical material, focusing on forms that require minimal scenic and design support. Focuses on process and working toward a quality product. | N | LEL | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Fine Arts Graduate student; Credit is allowed for only THP 513 or 598 (Touring Theatre) |
| THP | 514 | Projects in Community-Based Theatre | Theories and techniques of improvisational theatre with emphasis on youth. Stresses professional development through projects combining research, theory, and practice. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite: Master in Arts, Master in Fine Arts or PHD Theatre major |
| THP | 517 | Stage Management | Advanced study of the principles and practices of stage management in the professional theatre. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Graduate student in the Herberger Institute for Design and the Arts, the School of Community Resources and Development, or the W.P. Carey School of Business |
| THP | 518 | Advanced Directing Lab | Active discovery of directing concepts through practical exercises and collaboration; deconstruction of contemporary/classic literature. Explores director as primary artist. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisites: Master of Arts, Master of Fine Arts, or PhD Theatre student |
| THP | 519 | Directing: Works in Progress | Advanced projects in directing concentrating on a collaborative process among director, playwright, actors, and designers. Focuses primarily on new scripts or adaptations of literature. | N | STO | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Master of Arts, Master of Fine Arts, or PhD Theatre student |
| THP | 520 | Directing the New Play | Advanced methods and studies in directing, focusing on new play development. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Master of Fine Arts Theatre student |
| THP | 521 | Performance I: Acting and Movement | Advanced studio work in the performer's body, voice, emotion, and imagination; emphasizes physical diagnostics and development. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Master of Fine Arts Theatre student |
| THP | 522 | Performance I: Acting and Voice | Advanced studio work in the performer's voice; emphasizes physical awareness, vocal anatomy, training, and interpretation of texts. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Master of Fine Arts Theatre student |
| THP | 523 | Performance II: Acting and Movement | Advanced studio work in the performer's body, voice, emotion, and imagination. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Master of Fine Arts Theatre student |
| THP | 524 | Performance II: Acting and Voice | Advanced studio work in the performer's voice. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Master of Fine Arts Theatre student |
| THP | 525 | Design I: Conceptualization and Collaboration | Conceptual structures of the design process in theatre; development of creativity, flexibility, and communication in the collaborative process. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Master of Fine Arts Theatre student |
| THP | 526 | Design I: Drawing and Rendering | Development of drawing and rendering skills, techniques, and evaluation in the presentation, realization, and communication of performance design. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Master of Fine Arts Theatre student |
| THP | 527 | Design II: Conceptualization and Collaboration | Offers students the chance to develop advanced skills in creating fully realized design ideas, particularly in working with new and experimental forms. Through the coursework, readings, and projects, students develop new methods and systems of thought for dealing with challenging dramatic works. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Master of Fine Arts Theatre major |
| THP | 528 | Design II: Visualization and Presentation | Advanced skills and techniques in rendering, visualizing and presenting design ideas and materials for performance. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Master of Fine Arts Theatre student |
| THP | 529 | Viewpoints and Composition | Training in Anne Bogart's viewpoints and composition techniques; application to rehearsal, performance and creating new work. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): School of Film, Dance and Theatre MFA or PhD student |
| THP | 540 | Scene Design Applications | Conceptual and practical application of the design process including graphic and sculptural projects. Practical design problems investigated in a lab. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisites: Master of Art or Master of Fine Art Theatre student |
| THP | 545 | Lighting Design Applications | Advanced studio projects in stage lighting design. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisites: Master of Fine Arts Theatre student |
| THP | 550 | Theatre Organization and Management | Overview of nonprofit arts: organizational design, strategic planning, financial management, and leadership. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: MFA Theatre student |
| THP | 551 | Arts Management | Advanced study of the principles and practices of arts management in the nonprofit and for-profit sectors. | N | SEM | N | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Graduate student in the Herberger Institute for Design and the Arts, the School of Community Resources and Development, or the W.P. Carey School of Business |

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| THP | 552 | Arts Entrepreneurship | Project-based course in new venture creation for the arts. | N | SEM | Y | GNA | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Graduate student in the Herberger Institute for Design and the Arts, the School of Community Resources and Development, or the W.P. Carey School of Business |
| THP | 555 | Advanced Media Design | Advanced applications for skills and practices in media design for live performance, including content creation, systems design, and playback. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): Theatre MFA student; Credit is allowed for only THP 455 or THP 555 |
| THP | 556 | Performance Technology | Examines issues surrounding the integration of live performance and digital media. Students study the work of contemporary practitioners and theorists and experiment with creating their own works of digital art. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Graduate Theatre major |
| THP | 557 | The Digital Portfolio | Crossdisciplinary exploration of methods, technologies, and aesthetics for portfolio presentation for professional designers and artists. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisites: Herberger Institute of Design and the Arts Graduate student |
| THP | 560 | Dramatic Writer's Workshop | Practice and study of creating characters, dialogue, scenes, plays, and monologues for the stage. | N | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisites: Theatre Master of Arts or Master of Fine Arts student |
| THP | 561 | Scripts in Progress | Studio work with the instructor centered on revisions of original plays. | N | IND | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisites: Theatre student |
| THP | 571 | Devising I: Concept, Collaboration and Authorship | Includes five primary objectives: (1) To understand the continuum between leadership and authorship; (2) To analyze collaboration through collaborative projects; (3) To learn strategies for developing a hunch and creating a source book; (4) To conceptualize a devising project starting from three distinct prompts: visual images, literary adaptations, and site-specific space; (5) To develop a blueprint for a devising process on paper that articulates time lines, budgets, development process, methods and conceptual design. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| THP | 572 | Devising II: Methods | Introduces three devising methodologies: (1) Moment Work by Tectonic Theatre Project; (2) Frantic Assembly; and (3) site-specific/immersive theatre and audience participation. Divided into three units that introduces the vocabulary of each methodology and an autocours (student-devised work) using that specific methodology. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 571 |
| THP | 573 | Devising III: Projects | Culmination of previous coursework where students form groups for the entire semester and determine (1) their leadership/authorship structure; (2) their "hunch" or idea; (3) their preferred devising method(s); and (4) their collaborative process. Over the course of the semester, each group begins developing a 30-minute original devised work to be showcased at the end of the semester for graduate faculty and an invited audience. The pieces can occur in a FAC space or site-specific location. | N | STO | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 571; THP 572 |
| THP | 574 | Devising IV: Projects | Culmination of previous coursework where students continue to work on their culminating applied project. Each weekly seminar, a student presents a work in progress of his or her original, devised work and receives mentorship, peer review and feedback. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): THP 571; THP 572; THP 573 |
| THP | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | |
| THP | 582 | Theatre for Social Change | Advanced, interactive theatre techniques (e.g., Boal, drama therapy, playback theatre) to examine and combat institutional, social, cultural, interpersonal, and personal oppressions. | N | LEL | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Pre-requisite: Graduate or Doctoral student |
| THP | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre-requisites: Theatre student |
| THP | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | |
| THP | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisites: Master of Arts, Master of Fine Arts, or PhD Theatre student |
| THP | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisites: Theatre Master of Arts or Master of Fine Arts student |
| THP | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | SEM | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Pre-requisites: Fine Arts Graduate student |

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| THP | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEL | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-4 | | Prerequisite(s): Fine Arts graduate student |
| THP | 611 | Sites of Inquiry in Performance | Examines scholarly, artistic and pedagogical pursuits in fieldwork and site-based studies in theatre, drama and performance. Requires development and execution of a research project. | N | SEM | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Pre- or corequisite(s): THE 500 or 700 |
| THP | 618 | Theatre for Youth Practicum | Practical experience in theatre for youth projects: improvisation, education, production. | N | PRA | N | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 2-3 | | Prerequisites: Master of Fine Arts or PhD Theatre for Youth student |
| THP | 649 | Design Studio | Projects include design of scenery, costume, lighting, or sound for lab or mainstage productions. | N | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-3 | | Prerequisites: Master of Fine Arts Theatre student |
| THP | 680 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | |
| THP | 684 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisites: Master of Fine Arts or PhD Theatre student |
| THP | 692 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | |
| THP | 693 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | RSC | Y | Z1 | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite: Master of Arts, Master of Fine Arts, or PhD Theatre student |
| THP | 700 | Research Methods | Course on research methods in a specific discipline. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| THP | 783 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | RSC | Y | OPT | Herberger Institute for Design and the Arts | School of Music, Dance and Theatre | 1-12 | | Prerequisite: Master of Arts, Master of Fine Arts, or PhD Theatre student |
| TMC | 110 | Understanding the Enterprise | Introduces essential functions required in technology-based and innovative enterprises and viewed in the context of their relationship to each other; examines the enterprise's role in society. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | |
| TMC | 310 | Promotion of the Enterprise | Whether they are entrepreneurial ventures or established companies, effectively promoting products is key to enterprise performance. Focuses on how to promote products from ideation to launch to growth. Covers understanding customers (values, behavioral economics); formulating strategies (landscape, segmentation, positioning); tactics (4P's); networks and data; digital promotion and growth. Also reviews quantitative techniques (conjoint, DOE, optimization). Applies concepts to market challenges and derives optimal solutions through analysis, strategy and tactics. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; TMC 110 with C or better OR Visiting University Student |
| TMC | 320 | Funding the Enterprise | Focuses on financial resource management techniques utilized by U.S. domestic companies and covers the unique aspects of revenue accounting and its application to company operations. Concepts covered include: data capture of requisite information from various computer systems; determination of revenues generated from sales of products and services to customers; in-depth analysis of operational expenses; preparation of accounting and financial data; monthly accounting requirements; account reconciliation; monthly/quarterly/annual reporting; development and analysis of financial reports and billing. Emphasizes accounting, planning and valuation concerns, as well as financial trends and industry prospects. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better OR Visiting University Student |
| TMC | 330 | Leading the Enterprise | Comprehensive overview of leadership strategies and development as it applies to individuals, organizations and events. Applies leadership development to workplace dynamics such as technology management, entrepreneurship and globalization. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): TMC 110 with C or better or non-Technological Entrepreneurship and Management BS major OR Visiting University Student |
| TMC | 331 | Quality Assurance | Instrumentation and methodologies for materials testing and quality control in various manufacturing processes. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ABS 350, ECN 221, ECN 231, EGR 280, HSE 230, IEE 380, PSY 230, STP 226, STP 420, or STS 401 with C or better OR Visiting University Student |
| TMC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-4 | | |

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| TMC | 410 | Enterprise Operations | Emphasizes basic principles of enterprise operations management, including productivity, strategic management, global environment, forecasting, capacity planning, new technologies, location and layout strategies, supply-chain management, inventory control and scheduling. Uses common decision-making issues and related qualitative and quantitative techniques. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ABS 350, ECN 221, ECN 231, EGR 280, HSE 230, IEE 380, PSY 230, STP 226, STP 420, or STS 401; MGT 300 or TMC 330 with C or better OR Visiting University Student |
| TMC | 430 | Enterprise Strategy and Innovation | Enterprise strategic plan development and implementation, concepts of open innovation; vision, mission, steps of strategic plan development; strategic goals, objectives, tasks, schedule, resource considerations; organization's strengths and weaknesses; environmental opportunities and threats; strategy implementation, impact assessment and refinement, organizational- and management considerations, theory and practice of open innovation. | N | LEC | N | GNA | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): MGT 300 or TMC 330 with C or better OR Visiting University Student |
| TMC | 470 | Enterprise Planning and Implementation | Investigates and tests tools and techniques for effective design and management of enterprise projects and programs using computer applications. Develops and demonstrates teambuilding and leadership skills in course projects. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ABS 350, ECN 221, ECN 231, EGR 280, HSE 230, IEE 380, PSY 230, STP 226, STP 420, or STS 401; MGT 300 or TMC 330 with C or better; Credit is allowed for only OMT 570 or TMC 470 OR Visiting University Student |
| TMC | 480 | Senior Project | Capstone project experience refining skills in communication, research and information retrieval, critical analysis and criticism, and demonstrating technical competence in each student's area of study. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; TMC 430 with C or better; senior standing |
| TMC | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-7 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better |
| TMC | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-12 | | Pre Requisites: Graduate or Non Degree Students Only |
| TMC | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-12 | | Pre Requisites: Graduate or Non Degree Students Only |
| TMC | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-12 | | Pre Requisites: Graduate or Non Degree Students Only |
| TMC | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-12 | | Pre Requisites: Graduate or Non Degree Students Only |
| TMC | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1 | | Pre Requisites: Graduate or Non Degree Students Only |
| TMC | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | LEC | Y | Z2 | Ira A. Fulton Schools of Engineering | Technology Entrepreneurship and Management | 1-12 | | Pre Requisites: Graduate or Non Degree Students Only |
| TSS | 500 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 501 | A Deep History of the United States/Mexico Borderlands I | Using a comparative and relational approach, the seminar explores various layers of development starting with economic structures and culture and their impact on various aspects of transborder society including politics, social organization, demography, and cultural practice. Focuses on the period from pre-contact times to the Mexican American War. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 502 | Foundations of Transborder Studies | Using a comparative and relational approach, explores various layers of development starting with economic structures and culture and their impact on various aspects of transborder society including politics, social organization, demography, and cultural practice. Focuses on the period from the Mexican American War to the recent past. Centers on comparative economic growth and development of Mexico and the United States, the impact of unequal development on the border region and its people, and the development of a transnational society in the U.S./Mexico borderlands. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| TSS | 503 | Epistemologies and Transborder Thought | Examines different approaches to the production and critique of knowledge relevant to transborder social, political, economic, cultural, and institutional structures and processes. The complexity of these structures and processes require transdisciplinary methods of inquiry that go beyond a single set of disciplinary assumptions. Explores the transdisciplinary articulation of theory and method, and considers the strengths and limitations of various approaches and critiques. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 504 | Theories and Methods for Transborder Research | Focuses on the selection of theories and methods appropriate for transborder research. Considers the pitfalls of conducting monodisciplinary research in a stratified, differentiated and multicausal world; the most robust methods used in various approaches; the main methodological obstacles to transdisciplinary research; and the challenges of using mixed methodology. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 505 | Theories and Methods of Migration, Health & Applied Social Policy in a Transborder Context | Divided conceptually in three broad analytical areas: (1) migration with an emphasis on demography, (2) health with an emphasis on epidemiology, and (3) public policy analysis. Provides basic training in the application and interpretation of quantitative and qualitative methods and techniques commonly used in researching these areas. Applies these techniques to issues that are specific to the reality of transborder and/or transnational contexts. Students are required to apply and present an analysis in their field of interest which demonstrates their grasp of theory and method. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 506 | Theory and Methods of Transborder Media and Expressive Culture | Overview of the interdisciplinary theories and methods employed to research and analyze media and creative cultural production. Objects of analysis include literature, film, live performance, theater, Web-based media, popular culture production, and visual arts. Required readings elucidate strengths, limitations, and applicability of particular theories and methods to different types of creative expression and media production as well as to their historical and political contexts. Students engage with, critique, and contribute to the theories and methods presented in the course. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 507 | Theory and Methods of Transborder Cultural Acquisition, Language Development, and Learning | This course familiarizes graduate students with literature on relationship between culture, language, and learning, and their theoretical and methodological underpinnings within a transborder context. | N | LEC | N | Z1 | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 583 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 596 | Transborder Studies Capstone | Culminating capstone experience of the Masters of Advanced Study degree in Transborder Studies, allowing students to develop a project tailored to their interests, needs and goals. Each student has a minimum of one faculty member to support the capstone project. | N | RSC | N | GNA | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): Transborder Studies MAS student |
| TSS | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 599 | Thesis | Supervised research focused on preparation of a thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 600 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 601 | Internship in Transborder Studies | Academic internship helps students become full participants in globalized, transnational contexts through a combination of practical experiences in community organizations, readings about transnational life in globalized contexts, reflection, and discussion. | N | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| TSS | 607 | Colloquium in Transborder Studies | Provide students the opportunity to present their skills, learning, research, and topical interests before an open forum of faculty and students at the beginning of their third year and prior to their dissertation research. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 608 | Transmitting Transborder Studies to Publics and Institutions | Provides students with the most recent advancements in presenting the underlying theory, methods, and techniques in transborder analysis and application. Designed to enter multiple audiences in public, professional, academic, and school settings, course takes advantage of the latest developments in multimedia, print, and electronic technology, film, and print in order to provide systematic and detailed learning opportunities. Provides the basis of developing capacities to create and develop learning modules, and programs on issues of transborder political ecology, economic transformations, cultural development and emergence, literary constructions and projections, and issues of identity, class, and gender. Course is conducted bilingually and makes use of Spanish- and English-language resources. For this reason, it is advisable, but not required, that students are at least conversationally proficient with Spanish and English. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 609 | Prospectus Design in Transborder Studies | Provides doctoral students with the necessary tools to prepare a research proposal that could be submitted as a dissertation prospectus or to a funding agency. Students bring a well-formulated idea of the kind of research they wish to pursue for their dissertation. They also bring a clear idea of the relevant concepts, literature and methods, required to complete the proposal. | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 611 | Comparative and Transborder Perspectives on Learning | This small class emphasizes discussion, presentations by students, and written research papers. Surveys theoretical and methodological aspects related to the use of comparative and transborder perspectives to the study of education. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 612 | The Political Culture of Learning & Change in Transborder Context | Examines a variety of development and learning issues confronting linguistically and culturally diverse groups with an emphasis on immigrant children and families. Includes such topics as: (1) Theoretical foundations and their related impact on organizing interventions for learning and socialization. (2) The intersection of the development of language, culture, and learning in context of linguistic diversity and immigration. (3) The influence and impact of public policy on language minority groups of immigrant backgrounds. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 614 | Bilingualism in Diverse Acquisition and Practicing Contexts | Examines bilingualism, language in society, and languages in contact in transborder contexts and bilingual schooling. | N | SEM | N | GNA | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): PhD student |
| TSS | 615 | Dialectical Inquiry in Transborder Contexts | Introduces the application of dialectical inquiry in value-relevant grounded research methods as a complementary approach to value-free scientific inquiry into practical problems in transborder cultural acquisition, language development, and learning. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Transborder Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 683 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 695 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Transborder Studies | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 700 | Research Methods | Course on research methods in a specific discipline. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 783 | Fieldwork | Structured, supervised field experience in a field science or other discipline requiring experience in field techniques. | Y | PRA | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | RSC | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Transborder Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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| TSS | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Transborder Studies | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | N | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Transborder Studies | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TSS | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Transborder Studies | 1-15 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TWC | 104 | Critical Inquiry in Engineering | Critical thinking. Systematic evaluation of information as input to well-informed decision making. Close reading and substantive writing in a technical setting. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | L | Pre- or corequisite(s): ENG 102, 105, or 108 with C or better if completed; Credit is allowed for only EGR 104 or TWC 104 OR Visiting University Student |
| TWC | 214 | Storytelling with Data | Presents a broad overview of the field of storytelling with data. Examines how data, narrative and visuals are combined to communicate and influence the audience to some aspect of change. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | |
| TWC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-4 | | |
| TWC | 301 | Fundamentals of Writing for Digital Media | Foundational concepts and technologies of writing for a variety of digital media. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours OR Visiting University Student |
| TWC | 312 | Introduction to Visual Culture | Visual information surrounds us. We engage with it to navigate the world, to act in our personal lives, to make decisions as members of society. And, the ways that we engage--the ways we look, see and interpret visual information--are social practices. Introduces visual culture, to the ways in which images wield power, shape our views of ourselves and others, and impact our perceptions of public issues. Develops awareness, understanding and the ability to think critically about visual culture. Explores the role of images and visual representation in a range of areas such as science and medicine, the environment and conflict. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only TWC 312 or TWC 394 (Introduction to Visual Culture) OR Visiting University Student |
| TWC | 314 | Data Visualization Tools and Techniques | Covers the latest tools and techniques needed to visualize data in a range of contexts. Students practice visualizing data and learn how to assess which tools and techniques are best suited to which communication goals. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| TWC | 347 | Written Communication for Managers | Strategies, techniques and genres for developing and presenting information intended for business and other workplace audiences. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours OR Visiting University Student |
| TWC | 361 | Writing for Health Care Management | Strategies, formats, and techniques for effective writing and presentation of information for nursing professionals. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | L | Prerequisite(s): RN-BSN student; ENG 102, 105, or 108 with C or better; Credit is allowed for only TWC 361 or TWC 362 OR Visiting University Student |
| TWC | 362 | Writing in Health Professions | Focuses on effective communication practices in health-related fields, emphasizing communicating professionally with both scholarly and workplace audiences. In addition to providing a foundation in workplace communication, emphasizes information and technology literacy to help students become proficient in collecting, analyzing, interpreting and synthesizing information using appropriate tools, sources and styles. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | L | Prerequisite(s): ENG 102 or 105 or 108 with C or better; Medical Studies major or Edson Nursing and Health Innovation student; Credit is allowed for only TWC 361 or TWC 362 OR Visiting University Student |
| TWC | 371 | The Science of Science Communication | Aims to teach science students how to effectively communicate across a range of audiences about why science matters, how it works and its relevance to the way we live our lives. Students learn to communicate effectively in a digital age where content is easily accessed, but understanding that content is harder to achieve. They also learn how to measure the effectiveness of their communication of science. | N | LEC | Y | NSW | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| TWC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-4 | | |
| TWC | 401 | Fundamentals of Technical Communication | Basic information design principles for producing effective technical communication, including rhetorical and audience analysis, as well as common workplace genres and technical communication tools. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only TWC 401 or TWC 501 OR Visiting University Student |

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| TWC | 403 | Writing for Professional Publication | Analyzes the market and examines the publication process, including the roles of the author, editor, and reviewer. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 45 hours |
| TWC | 411 | Principles of Visual Communication | Principles and tools of visual communication in print and electronic media, with an emphasis on document design, including typography and color. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only TWC 411 or TWC 511 OR Visiting University Student |
| TWC | 413 | Managing and Analyzing Data | Develops the critical thinking skills students need to manage and make sense of the unending streams of data now available in the workplace and in modern life. Students learn the common formats and organizational structures of data, as well as how data are generated, inspected, queried, cleaned and modeled. Additionally, provides instruction for common tools used to accomplish these tasks. Covers basic statistical analysis as it relates to data forecasting and correlation. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| TWC | 414 | Visualizing Data and Information | Covers how to process data and information in ways that help discover what's important about the information and what the clearest way is to communicate that information. Covers how to manage data and use a variety of software tools to communicate patterns and tell visual stories, as well as how to make choices in visualization style in ways that will assist an audience to effectively interact with and process the information. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only TWC 414 or TWC 494 (Visualizing Information or Information Visualization) or TWC 514 or TWC 598 (Visualizing Information or Information Visualization) OR Visiting University Student |
| TWC | 421 | Principles of Web Authoring | Principles of writing for the Web, including information architecture, accessibility, usability and responsive design. Explores basics of markup language and content management. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only TWC 421 or TWC 521 OR Visiting University Student |
| TWC | 422 | Social Media in the Workplace | Analyzes different social media platforms and develops strategies and techniques for effective and appropriate use of social media in the workplace. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only TWC 422 or TWC 494 (Social Media in the Workplace) or TWC 522 OR Visiting University Student |
| TWC | 431 | Principles of Technical Editing | Principles and techniques of technical editing for print and electronic media, including standards, styles, copyediting, comprehensive editing and project management. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only TWC 431 or TWC 531 OR Visiting University Student |
| TWC | 435 | Global Issues in Technical Communication | Helps students understand issues that shape workplace communication in a global environment. Technical communicators are expected to be specialists who interact effectively with a broad range of audiences. Given the global nature of today's workplace, those audiences typically include people from many cultures and countries. Through readings, written assignments, and analysis of case studies, documents, and websites, explores ways in which culture and language shape professional interactions. Also examines other critical issues such as translation, localization, technology and distributed work teams that impact writing and designing documents in a globalized work environment. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | G | Prerequisite(s): minimum 45 hours; Credit is allowed for only TWC 435 or TWC 535 OR Visiting University Student |
| TWC | 436 | Project Management in Technical Communication | Effective project management processes are central to technical communication in the workplace, and project management figures prominently in job descriptions for technical communicators at all levels. Introduces the literature, tools and techniques of project management within technical communication. Focuses on learning effective project management best practices during the life cycle of technical communication projects, which may include documentation or training projects. Uses case studies and Web pages, group discussion, presentations and individual and team projects to aid in understanding and application of project management for technical communication. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only TWC 436 or TWC 494 (Project Management in Technical Communication) or TWC 536 or TWC 598 (Project Management in Technical Communication) OR Visiting University Student |
| TWC | 443 | Grant & Proposal Writing | Develops persuasive strategies and approaches for researching and writing professional funding proposals and grant applications. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only TWC 443 or TWC 543 OR Visiting University Student |
| TWC | 444 | User Experience | Explores principles, techniques and tools of user experience (UX), including user and task analysis, user-centered design and usability testing. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only TWC 444 or TWC 544 OR Visiting University Student |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|--|
| TWC | 445 | Content Strategy | Explores concepts, techniques, strategies and technologies for authoring, managing, and publishing re-usable content in online documentation, help files and other types of technical communication. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only TWC 445 or TWC 545 OR Visiting University Student |
| TWC | 446 | Technical and Scientific Reports | Explores strategies and techniques for developing informational and analytical reports in a range of genres and for a variety of audiences in scientific and technical fields. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only TWC 446 or TWC 546 OR Visiting University Student |
| TWC | 451 | Copyright and Intellectual Property in the Electronic Age | Explores issues related to copyright and intellectual property laws, with emphasis on electronic environment. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only TWC 451 or TWC 551 OR Visiting University Student |
| TWC | 452 | Information in the Digital Age | Explores the creation, organization, dissemination, and use of information; the impact of technologies; and surrounding economic, legal, and social issues. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only TWC 452 or TWC 552 OR Visiting University Student |
| TWC | 453 | Information and Communications Technology in American History | Explores the historical development of information and related technologies in the United States from colonial times to the present. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | L & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only TWC 453 or TWC 553 OR Visiting University Student |
| TWC | 454 | Information Technology and Culture | Explores the historical impact and intersection of communications technology and culture in America. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only TWC 454 or TWC 554 OR Visiting University Student |
| TWC | 455 | Digital Ethics in Internet Policy and Governance | How should we maintain and govern the internet? This course considers various ethical approaches to internet governance and maintenance, then covers the status of arguments over internet maintenance and regulation. Students apply ethical approaches and principles to arguments over contemporary issues through in-class discussion and research of topics such as free speech, content moderation, infrastructure, the digital divide, cryptocurrencies and more. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only TWC 394 (Digital Ethics in Internet Policy and Governance) or TWC 455 OR Visiting University Student |
| TWC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | |
| TWC | 490 | Capstone | Development of a professional portfolio, creation of a culminating document, and synthesis of undergraduate experience. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 87 hours |
| TWC | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-6 | | Prerequisite(s): Barrett Honors student |
| TWC | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| TWC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-4 | | |
| TWC | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-3 | | |
| TWC | 501 | Fundamentals of Technical Communication | Basic information design principles for producing effective technical communication, including rhetorical and audience analysis, as well as common workplace genres and technical communication tools. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only TWC 401 or TWC 501 |
| TWC | 504 | Applied Rhetoric and Technical Communication | Foundation in applied and technical communication. Covers the emergence and development of technical communication as a profession and field; rhetorical concepts and their application to technical and applied communication, ethical issues; and the impact of internationalization. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Technical Communication MS student |
| TWC | 505 | Research in Technical and Applied Communication | Explores the research process and methods appropriate for technical and professional communication. Provides a foundation for understanding the research process; designing and planning valid research within the context of technical and professional communication; collecting and interpreting information, ethical issues related to research; and reporting results. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Technical Communication MS student; TWC 504 |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| TWC | 506 | Research Design and Development | Focuses on the research process, including the development of research questions, selection of appropriate methods, preparation of a literature review, and design of research projects. Prepares students to design the research for their applied project or thesis. Students apply their knowledge of research methods and the research process by preparing a fully developed proposal at the conclusion of the course. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Technical Communication MS student; TWC 505; minimum 24 graduate TWC hours |
| TWC | 511 | Principles of Visual Communication | Principles and tools of visual communication in print and electronic media, with an emphasis on document design, including typography and color. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only TWC 411 or 511 |
| TWC | 514 | Visualizing Data and Information | Covers how to process data and information in ways that help discover what's important about the information and what the clearest way is to communicate that information. Covers how to manage data and use a variety of software tools to communicate patterns and tell visual stories, as well as how to make choices in visualization style in ways that will assist an audience to effectively interact with and process the information. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only TWC 414 or TWC 494 (Information Visualization or Visualizing Information) or TWC 514 or TWC 598 (Information Visualization or Visualizing Information) |
| TWC | 521 | Principles of Web Authoring | Principles of writing for the Web, including information architecture, accessibility, usability and responsive design. Explores basics of markup language and content management. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only TWC 421 or TWC 521 |
| TWC | 522 | Social Media in the Workplace | Analyzes different social media platforms and develops strategies and techniques for effective and appropriate use of social media in the workplace. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TWC 422 or TWC 522 |
| TWC | 531 | Principles of Technical Editing | Principles and techniques of technical editing for print and electronic media, including standards, styles, copyediting, comprehensive editing and project management. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only TWC 431 or TWC 531 |
| TWC | 535 | Global Issues in Technical Communication | Helps students understand issues that shape workplace communication in a global environment. Technical communicators are expected to be specialists who interact effectively with a broad range of audiences. Given the global nature of today's workplace, those audiences typically include people from many cultures and countries. Through readings, written assignments, and analysis of case studies, documents and Websites, explores ways in which culture and language shape professional interactions. Also examines other critical issues such as translation, localization, technology and distributed work teams that impact writing and designing documents in a globalized work environment. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TWC 435 or TWC 535 |
| TWC | 536 | Project Management in Technical Communication | Effective project management processes are central to technical communication in the workplace, and project management figures prominently in job descriptions for technical communicators at all levels. Introduces the literature, tools, and techniques of project management within technical communication. Focuses on learning effective project management best practices during the life-cycle of technical communication projects, which may include documentation or training projects. Uses case studies and Web pages, group discussion, presentations, and individual and team projects to aid in understanding and application of project management for technical communication. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TWC 436 or TWC 494 (Project Management in Technical Communication) or TWC 536 or TWC 598 (Project Management in Technical Communication) |
| TWC | 543 | Grant & Proposal Writing | Develops persuasive strategies and approaches for researching and writing professional funding proposals and grant applications. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only TWC 443 or TWC 543 |
| TWC | 544 | User Experience | Explores principles, techniques and tools of user experience (UX), including user and task analysis, user-centered design and usability testing. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only TWC 444 or TWC 544 |
| TWC | 545 | Content Strategy | Explores concepts, techniques, strategies and technologies for authoring, managing and publishing re-usable content in online documentation, help files and other types of technical communication. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only TWC 445 or TWC 545 |
| TWC | 546 | Technical and Scientific Reports | Explores strategies and techniques for developing informational and analytical reports in a range of genres and for a variety of audiences in scientific and technical fields. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate. Credit is allowed for only TWC 446 or TWC 546 |
| TWC | 551 | Copyright and Intellectual Property in the Electronic Age | Explores issues related to copyright and intellectual property laws; emphasizes electronic environment. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TWC 451 or TWC 551 |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|--|--|-------|-----------------|---|
| TWC | 552 | Information in the Digital Age | Explores the creation, organization, dissemination, and use of information; the impact of technologies; and surrounding economic, legal, and social issues. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TWC 452 or TWC 552 |
| TWC | 553 | Information and Communications Technology in American History | Explores the historical development of information and related technologies in the United States from colonial times to the present. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TWC 453 or TWC 553 |
| TWC | 554 | Information Technology and Culture | Explores the historical impact and intersection of communications technology and culture in America. | N | LEC | N | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only TWC 454 or TWC 554 |
| TWC | 560 | Capstone | Hands-on project in user experience. Requires a report based on research or applied work as a culminating experience. | N | SEM | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): User Experience MS student; Credit is allowed for only GIT 560 or HSE 560 or TWC 560 |
| TWC | 584 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TWC | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TWC | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | SEM | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TWC | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TWC | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TWC | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TWC | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TWC | 596 | Technical Communication Capstone | Synthesizes and applies the concepts, skills, strategies and techniques learned in courses completed for the program. Also reflects upon that work, analyzing their strengths as a technical communicator and identifying areas for growth. Demonstrates ability to respond to the needs of specific audiences and communication situations by selecting from their work to craft a substantive professional dossier that presents a compelling story of their technical communication abilities, along with a reflective statement that discusses their work in relation to program outcomes. | N | LEC | N | GNA | College of Integrative Sciences and Arts | School of Applied Professional Studies | 3 | | Prerequisite(s): Technical Communication MS student |
| TWC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| TWC | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Integrative Sciences and Arts | School of Applied Professional Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| UET | 305 | Introduction to Microelectronics | Quantifies the role of microelectronics technology and its associated skills as drivers for electronics systems development. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Prerequisite: Academic Level greater than or equal to Junior |
| UET | 331 | Electronic Materials | Physical, chemical, electromagnetic, and mechanical properties of electronic materials. Solid-state device characteristics and their material properties. | N | LEC | N | OPT | Ira A. Fulton Schools of Engineering | Engineering Programs | 3 | | Pre-requisites: EST 210; CHM 113; PHY 112 OR Applied Science (Electronic Energy Systems) BAS student |
| UNI | 110 | Critical Reading and Thinking | Prepares students to be successful in college-level academics and helps them improve their critical reading and critical thinking skills. | N | LEC | N | OPT | University College | Dean, University College | 3 | L | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |

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| UNI | 120 | Academic Success | Assists students in creating strategies for success in their academic lives. Students explore personal and academic strengths and barriers that impact success, identify and utilize university resources available to support success at ASU, acquire and enhance academic skills necessary for success in the university, and discover ways to stay on course to meet academic goals. | N | SEM | N | GNA | University College | Dean, University College | 1 | | Credit is allowed for only ASU 120 (or ASU 150) or UNI 120 OR Visiting University Student |
| UNI | 150 | Future by Design: Major and Career Exploration | Encourages self-exploration and narrative-based learning as learners discover their interests, values, personality and skills. Learners focus on their unique qualities to determine next steps in their personal and professional futures. Learning outcomes focus on futures thinking and design thinking as mindsets to "find their own voice" and determine their numerous future pathways. | N | SEM | N | OPT | University College | Dean, University College | 1 | | |
| UNI | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | GNA | University College | Dean, University College | 1-4 | | |
| UNI | 220 | Mindset Connections | Explores how students' strengths and barriers influence success (i.e., how mindset, perception and beliefs influence behavior) and discovers methods for staying focused and meeting academic, personal and professional goals. Students acquire and enhance emotional intelligence skills for success in and out of the classroom. | N | SEM | N | GNA | University College | Dean, University College | 1 | | |
| UNI | 225 | Emotional Intelligence: Leadership and Success | Develops understanding of emotional intelligence and the influence it has on leadership, success and relationships. Focuses on basic theories of emotional intelligence and applies these concepts to real-world examples. Discussion and application-based course focuses on the development of self-awareness in our daily lives. | N | SEM | N | GNA | University College | Dean, University College | 1 | | Credit is allowed for only UNI 225 or UNI 294 (Emotional Intelligence: Leadership and Success) or UNI 294 (Researching Emotional Intelligence) |
| UNI | 240 | Researching Mindfulness | Explores mindfulness and the impact it has on success as a student, an individual and in the future. Therefore, students research instructor-approved topics within the subjects of psychology, emotional regulation and mindfulness in order to deepen their understanding of how the brain and the mind influence beliefs, choices, behaviors and learning. Students develop skills that support their academic, personal and professional goals, using tools such as Dweck's Mindset Theory and Rock's SCARF Model. Develops critical thinking skills, and how to apply research to their daily lives. | N | LEC | N | GNA | University College | Dean, University College | 1 | | Credit is allowed for only UNI 240 or UNI 294 (Mastering Mindsets) |
| UNI | 250 | ASU by Design: Choosing a Major | Choosing a major can be a complex challenge involving many unknowns. Students use design thinking to address and prepare for this challenge as they explore potential majors, minors and certificates and co-curricular activities so that they can thrive academically, socially and professionally. Identifies and practices skills and competencies that are key in future careers and utilizes various ASU resources to support personal and professional growth. | N | SEM | N | OPT | University College | Dean, University College | 1 | | |
| UNI | 270 | Work by Design: Preparing for a Career | Using futures thinking and design thinking, learners explore work futures through the use of reflection, research, evaluation and practice. Learners gain self-efficacy and confidence in vital work preparation skills including exploring internships, building a resume and cover letter, practicing interviewing skills and establishing a professional online presence. Showcases various job options related to degree programs of interest. | N | SEM | N | GNA | University College | Dean, University College | 1 | | |
| UNI | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | University College | Dean, University College | 1-4 | | |
| UNI | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | University College | Dean, University College | 1-4 | | Prerequisite(s): minimum 45 hours OR Visiting University Student |
| UNI | 400 | Society and the Individual | Various social institutions, how they shape the socialization process of a group and individual and give a community meaning, values and a set of norms. Focuses on Arizona as a case study for student research inquiries. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): Bachelor of General Studies major; ENG 101, 105 or 107 with C or better; minimum 2.00 GPA; minimum 90 hours; Credit is allowed for only UNI 400 or COM 494 (Society and the Individual) OR Visiting University Student |
| UNI | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | University College | Dean, University College | 1-4 | | |
| URB | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-4 | | |
| URB | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-12 | | |

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|---------|-------------|---|--|-------------------|-------------------|-----------------|---------------|---|---------------------------------|-------|-----------------|--|
| URB | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| URB | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Watts College of Public Service and Community Solutions | School of Public Affairs | 1-4 | | |
| USL | 210 | Service Learning: Intro to Diverse Community Issues | Correlates academic coursework with community service and provides reflection opportunities that examine community needs, the importance of civic engagement and an introduction to the effects of social injustice affecting ethnic minorities and other marginalized populations in contemporary American society. Students dedicate 70 hours at a preapproved site (including Title I K-12 schools, youth programs, health services, social services, environmental programs, government agencies) directly serving a population in need or supporting activities that contribute to the greater good of our community. Weekly seminar, course readings, discussions, and reflection assignments facilitate critical thinking and a deeper understanding of cultural diversity, citizenship, and how to contribute to positive social change in our community. Provides "real-world" experiences that exercise academic skills and knowledge applicable to each student's program of study and career goals. | N | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | L & C | Prerequisite(s): ENG 101, 105, or 107 with C or better OR Visiting University Student |
| USL | 216 | Service Learning: For Educators | Examines the effects of social justice issues on student achievement. Correlates academic coursework with required community service to analyze community needs, the importance of civic engagement and community issues affecting ethnic minorities and marginalized populations in contemporary American society, particularly how it applies to our education system. Students dedicate a minimum of 70 hours at a preapproved site (including Title I K-12 schools, youth programs, health services, social services) directly serving high-needs youth or adults. Weekly seminar, course readings, discussions and reflection assignments facilitate critical thinking and a deeper understanding of cultural diversity, citizenship and social injustices, and how to utilize this knowledge in the teaching profession to better serve all students. Provides "real-world" experiences that exercise academic skills and knowledge applicable to each student's program of study and career goals. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | L & C | Prerequisite(s): Mary Lou Fulton Teachers College major; ENG 101, 105 or 107 with C or better OR Visiting University Student |
| USL | 402 | Service Learning: Education & Youth | Correlates academic coursework with community service and provides reflection opportunities that examine community needs, the importance of civic engagement, and an in-depth study of the effects of social injustice affecting ethnic minorities and other marginalized populations in contemporary American society as they apply to education in Arizona and the United States (policy, student achievement, teacher and administration effectiveness and parental involvement). Students dedicate 100 service hours at a preapproved site (including Title I K-12 schools, youth programs, health services, social services, environmental programs, government agencies), directly serving high-needs youth. Weekly seminar, course readings, discussions and reflection assignments facilitate critical thinking and a deeper understanding of cultural diversity, citizenship and the importance of civic engagement particularly how it applies to the education system. Provides real-world experiences that exercise advanced academic skills and knowledge applicable to each student's program of study and career goals. | N | PRA | Y | OPT | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours OR Visiting University Student |

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| USL | 410 | Service Learning: Diverse Community Issues | Correlates academic coursework with community service and provides reflection opportunities that examine community needs, the importance of civic engagement and an introduction to the effects of social injustice affecting ethnic minorities and other marginalized populations in contemporary American society. Students dedicate 100 hours at a preapproved site (including Title I K-12 schools, youth programs, health services, social services, environmental programs, government agencies) directly serving a population in need or supporting activities that contribute to the greater good of our community. Weekly seminar, course readings, discussions and reflection assignments facilitate critical thinking and a deeper understanding of cultural diversity, citizenship and how to contribute to positive social change in our community. Provides "real-world" experiences that exercise academic skills and knowledge applicable to each student's program of study and career goals. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | L & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours OR Visiting University Student |
| USL | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | PRA | Y | Z1 | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 1-12 | | |
| USL | 496 | Service-Learning Capstone | Graded internship that allows students to integrate coursework with a hands-on service-learning experience. Applies theory from service-learning pedagogy and educational studies to real-world application and academic success. Provides field experience for students to exercise academic knowledge and skills applicable to career experience and program studies. Students must (a) successfully assess a community need in education that correlates to current research and (b) collectively plan a sustainable service project that benefits high-needs children. The student-directed service project addresses social justice issues in education related to corresponding research. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): USL 402 or 410 |
| USL | 497 | Service-Learning Capstone Project | Graded internship that allows students to integrate coursework with a hands-on service-learning experience. Implements a sustainable service project addressing social justice issues in education. Student-directed project corresponds to research and planning completed during the previous semester. Provides field experiences for students to implement academic knowledge and skills acquired through the Educational Studies program and to create realistic solutions to national and local community issues that impact student achievement. | N | PRA | N | GNA | Mary Lou Fulton Teachers College | Division of Teacher Preparation | 3 | | Prerequisite(s): USL 496 |
| VIP | 194-CSE | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-4 | | |
| VIP | 294-CSE | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-4 | | |
| VIP | 394-CSE | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-4 | | |
| VIP | 494-CSE | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | Ira A. Fulton Schools of Engineering | Computer Science and Engineering Program | 1-4 | | |
| VTN | 101 | Elementary Vietnamese I | Basic skills in modern conversational Vietnamese and development of basic reading and writing skills, with special emphasis on tones. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | |
| VTN | 102 | Elementary Vietnamese II | Basic skills in modern conversational Vietnamese and development of basic reading and writing skills, with special emphasis on tones. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): VTN 101 with C or better OR Visiting University Student |
| VTN | 201 | Intermediate Vietnamese I | Improves speaking, listening, reading, and writing competence through dialogues, reading passages, pattern drill, and grammar and communicative exercises. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): VTN 102 with C or better OR Visiting University Student |
| VTN | 202 | Intermediate Vietnamese II | Improves speaking, listening, reading, and writing competence through dialogues, reading passages, pattern drill, and grammar and communicative exercises. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 5 | G | Prerequisite(s): VTN 201 with C or better |
| VTN | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-4 | | |
| VTN | 321 | Advanced Vietnamese and Literature I | Readings from modern, contemporary, and folk literatures as well as current periodicals. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Prerequisite(s): VTN 202 OR Visiting University Student |
| VTN | 322 | Advanced Vietnamese and Literature II | Continuation of VTN 321. Readings from modern, contemporary, and folk literatures as well as current periodicals. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of International Letters and Cultures | 3 | HU & G | Pre-requisite: VTN 321 |
| VTN | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of International Letters and Cultures | 1-3 | | |
| VTS | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |

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| VTS | 301 | Experience of America's Modern Wars | Surveys the history of America's wars, military and veterans from the American Revolution through today. Also exposes how American society has understood the role of the military and those who served, both during and after their service in American wars. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only HST 300 or MVS 301 or VTS 301 OR Visiting University Student |
| VTS | 302 | Representations and Self-Representations of Veterans in the Media and the Arts | Surveys the cultural history of veteran representations by examining various motives societies have for promoting specific kinds of representations of veterans; interrogating how media, politicians and the public construct and mythologize the image of the veteran; the ideological work these representations perform; and how veterans experience, resist or embrace and influence these images. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | H & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only COM 302 or MVS 302 or VTS 302 OR Visiting University Student |
| VTS | 376 | Writing a Personal History | Interdisciplinary writing course emphasizing theories, methodologies, and issues of composing personal histories. | N | LEC | N | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | L | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 376 or VTS 376 OR Visiting University Student |
| VTS | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| VTS | 395 | Combat in Film | Interdisciplinary approach to and qualitative method for analyzing war movies and military dramas as both historical and cinematic narratives that represent the experiences of infantry marines and soldiers in 20th- and 21st-century U.S. wars. | N | LEC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | SB & H | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 394 (Combat in Film) or ENG 395 or FMP 395 or HST 306 (Combat in Film) or HST 395 or VTS 395 OR Visiting University Student |
| VTS | 402 | Undergraduate Research | Students learn about various research tools and methodologies of use in developing individual or group research projects in the veteran studies field. Completed projects may include bibliographies, literature reviews or articles for publication. | N | RSC | N | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 3 | | Prerequisite(s): VTS 301; VTS 302 |
| VTS | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | Z1 | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-12 | | |
| VTS | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-4 | | |
| VTS | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-7 | | |
| VTS | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | RSC | Y | GNA | College of Integrative Sciences and Arts | College of Integrative Sciences and Arts | 1-3 | | |
| WAC | 101 | Introduction to Academic Writing | Combines classroom and supplemental instruction to teach academic genres of writing, including definition, summary, and analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | |
| WAC | 107 | Introduction to Academic Writing | For students for whom English is not the native language. Combines classroom and supplemental instruction to teach academic genres of writing, including definition, summary and analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | Department of English | 3 | | |
| WAC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 1-4 | | |
| WPC | 101 | Student Success in Business | Introduces students to resources that help them to succeed in the W. P. Carey School of Business. | N | LEC | N | OPT | W. P. Carey School of Business | Prebusiness Office | 1 | | Credit is allowed for only ASU 101 (or equivalent) or WPC 101 or WPC 201 or WPC 194 (Business Student Development) OR Visiting University Student |
| WPC | 148 | First-Year Introduction to Career Development | Building career skills, interests and strengths as a college student. | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 0.25 | | Prerequisite(s): Business major; minimum 12 hours; Pre- or corequisite(s): ACC 101 or WPC 101; Credit is allowed for only WPC 148 or WPC 301 or WPC 347 OR Visiting University Student |
| WPC | 150 | Business and Society | Introduces the role and purpose of business in society, specifically how we can be a force of good in people's lives, in our environment, in our community and in the world. Students learn about the different core functions in business such as accounting, economics, finance, information systems, marketing, management and supply chain management as well as how each makes decisions that impact our society. | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 3 | | |
| WPC | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | N | LEC | N | OPT | W. P. Carey School of Business | Prebusiness Office | 1-4 | | |
| WPC | 248 | Sophomore Career Narrative Design | Research methods and strategic thinking for finding internships. | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 0.25 | | Prerequisite(s): Business major; WPC 148 with C or better; minimum 30 hours; Credit is allowed for only WPC 248 or WPC 301 or WPC 347 OR Visiting University Student |
| WPC | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Prebusiness Office | 1-4 | | |

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| WPC | 300 | Problem Solving and Actionable Analytics | Provides foundational skills for exploring unstructured business problems. Covers techniques to approach decision making in a systematic manner, enabling students to become more comfortable in handling tasks or projects that are not initially well defined. Methods include exercises in brainstorming and iterating as well as use of more traditional analytical tools (such as spreadsheets and visualization software). | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 3 | | Prereq(s) w/min C: WPC maj; ACC 231,232,261; ECN 212,214; ECN 221,231; MAT 210,270 OR TechLdrshp BS or minor; min 30hrs; AME 230,CSE 110,SES 230; STP 226 OR DataSci BS; CIS 235; Pre/coreq(s) w/minC: WPC maj; ACC 241,242,271 OR Visiting University Student |
| WPC | 301 | Business Forum | Provides professional program business students with information on careers, interviewing, job hunting, and résumé skills. Must be taken in the first semester of the professional program for business students. | N | LEC | N | OPT | W. P. Carey School of Business | Prebusiness Office | 1 | | Prerequisite(s): Business BA or BS major; Credit is allowed for only WPC 148 or WPC 248 or WPC 301 or WPC 347 or WPC 348 or WPC 448 or WPC 449 OR Visiting University Student |
| WPC | 347 | Intermediate Career Management | Skills for transfer students for balancing career preparation with academic success as they transition to the W.P. Carey School of Business. | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 0.5 | | Prerequisite(s): Business major; Credit is allowed for only WPC 148 or WPC 248 or WPC 301 or WPC 347 OR Visiting University Student |
| WPC | 348 | Junior Networking Foundations | Career relationship-building techniques and full-time, job-readiness skills. | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 0.25 | | Prerequisite(s): Business major; WPC 248 or 347 with C or better; minimum 60 hours; Credit is allowed for only WPC 301 or WPC 348 OR Visiting University Student |
| WPC | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Prebusiness Office | 1-4 | | Prerequisite(s): minimum 2.00 GPA; minimum 56 hours OR Visiting University Student |
| WPC | 448 | Senior Career Transition Management | Intensive application of the job search cycle and processes for students still seeking post-graduation employment. | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 0.25 | | Prerequisite(s): Business major, WPC 348 with C or better; minimum 90 hours; Credit is allowed for only WPC 301 or WPC 448 or WPC 449 OR Visiting University Student |
| WPC | 449 | Campus to Career | Transitional skills for workplace success for students who have obtained post-graduation, full-time, college-level positions or graduate school acceptance. | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 0.25 | | Prerequisite(s): Business major; WPC 348 with C or better; minimum 90 hours; Credit is allowed for only WPC 301 or WPC 448 or WPC 449 |
| WPC | 460 | Business Capstone | Strategic management takes the view of the CEO or general manager and addresses the question of why some firms outperform others. Firm performance, therefore, lies at the core of strategic management as firms use their resources and adapt to their environments to help them win against rivals in the marketplace. To help understand what it takes for firms to succeed in today's marketplace, students learn about the key factors that influence a firm's performance, how to assess its internal and external environments and appreciate the major elements of a successful business strategy. | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 1 | | Prerequisite(s) with C or better: Applied Business and Technology Solutions BA or Entrepreneurial Leadership BA major; ACC 382; AGB 302 or MGT 302; FIN 380; MGT 380; MKT 390; SCM 380; senior standing |
| WPC | 470 | Business Administration Capstone | Develops a general manager's or business owner's perspective on how organizations can create value. Creating long-run value by repeatedly producing goods and services that customers buy at prices that cover the costs of producing them is the key to success for business organizations. The starting point for thinking about how an organization might create value and gain sustainable competitive advantage is analyzing current and future environments to understand threats and opportunities in various institutional settings around the world. Evaluates the impact of institutional settings in different countries and ethical values on decision making. Students learn how to successfully manage relations with key stakeholders including customers, employees, suppliers of capital as well as other component goods and services, and stakeholders from various levels of government in different countries. | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 3 | | Prereq(s) w/C or better: W.P. Carey (Bus Admin or Health Care) BA major; FIN 300, 302 or 303; LES 305; MGT 300 or 303 or HCD 302; MKT 300, 302 or 303; SCM 300 or 303; WPC 300; Int'l Bus course; senior standing; Credit is allowed for only WPC 470 or 480 |

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| WPC | 480 | W. P. Carey Capstone Course | Develops a general manager's or business owner's perspective on how organizations can create value. Creating long-run value by repeatedly producing goods and services that customers will buy at prices that cover the costs of producing them is the key to success for business organizations. Analyzing current and future environments to understand threats and opportunities in various institutional settings around the world is the starting point for thinking about how an organization might create value and gain sustainable competitive advantage. Evaluates the impact of institutional settings in different countries and ethical values on decision making. Students learn how to successfully manage relations with key stakeholders including customers, employees, suppliers of capital as well as other component goods and services, and stakeholders from various levels of government in different countries. | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 3 | L | Prereq(s) w/ C or btr: WPC BS mjr; ENG 101, 105 or 107; FIN 300, 302, or 303 or IEE 300 if Engr Mgmt mjr; LES 305; MGT 300 or 303; MKT 300, 302, or 303; SCM 300 or 303; WPC 300; Int'l Bus course; senior stndg; Crdit is allwd for only WPC 470 or WPC 480 |
| WPC | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | OPT | W. P. Carey School of Business | Prebusiness Office | 1-12 | | |
| WPC | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | LEC | Y | Z1 | W. P. Carey School of Business | Prebusiness Office | 1-6 | | Prerequisite(s): Barrett Honors student |
| WPC | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | LEC | N | Z1 | W. P. Carey School of Business | Prebusiness Office | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| WPC | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | W. P. Carey School of Business | Prebusiness Office | 1-4 | | Prerequisite(s): W. P. Carey BS or BA major; minimum junior standing OR Visiting University Student |
| WPC | 501 | Statistics for Business | Fundamentals of statistical analysis to aid management decision making. | N | LEC | N | OPT | W. P. Carey School of Business | Prebusiness Office | 2-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| WPC | 502 | Career Coaching | Prepares students to navigate the challenging MBA world of work. Applies theories and best practices of career management and job search to help students make informed career choices, to obtain an internship between year one and year two of the program, and to obtain a full-time position upon graduation. | N | LEC | N | OPT | W. P. Carey School of Business | Prebusiness Office | 0-4 | | Prerequisite(s): W.P. Carey MBA degree major; Credit is allowed for only WPC 502 or MGT 594 (Career Leadership) |
| WPC | 503 | Managerial Communications | Provides opportunity to develop and enhance all aspects of business communications including presentation skills, business writing, informal business communication and giving feedback. Students (1) use PowerPoint or other presentation tools to deliver an effective team presentation; (2) write an effective memo proposing a course of action to solve a business problem; (3) deliver effective feedback to peers to enable them to improve their communications skills; and (4) communicate effectively in a team problem solving setting. | N | LEC | N | OPT | W. P. Carey School of Business | Prebusiness Office | 0-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only WPC 503 or MGT 594 (Leadership Communication) |
| WPC | 504 | Fundamentals of Statistics for Managers | Provides conceptual introduction to the field of statistics and its many applications. Designed for students with limited business experience and without an undergraduate business degree. | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 3 | | Prerequisite(s): degree-seeking graduate student |
| WPC | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner and/or faculty member with whom the student works closely. | Y | LEC | Y | OPT | W. P. Carey School of Business | Prebusiness Office | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| WPC | 584 | Internship | Structured practical experience that follows a contract or plan, supervised by faculty and practitioners. | N | LEC | N | OPT | W. P. Carey School of Business | Prebusiness Office | 0-12 | | |
| WPC | 585 | Future Forward Leadership | Today organizations operate in a world that is globally and economically connected, complex and rapidly changing. Rapid technological change and start-up disrupting companies are changing the speed and nature of work. The evolving nature of work requires leaders who know how to contextualize and understand ambiguous, uncertain problems, to discover innovative and creative solutions. Future Forward Leadership develops the cognitive and leadership capabilities for this changing arena. The course builds on the knowledge gained in all of the prior courses in the MBA curriculum and applies it to ambiguous and volatile problems and issues. Team taught by faculty from across ASU and WP Carey using simulations and scenarios and hot evolving cases covering the following topics: design thinking, improvisation, super-flexibility, uncertainty, sense-making, execution through experimentation and recalibration. | N | LEC | N | GNA | W. P. Carey School of Business | Prebusiness Office | 2.5 | | Prerequisite(s): W.P. Carey MBA major |
| WPC | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | LEC | Y | OPT | W. P. Carey School of Business | Prebusiness Office | 1-12 | | |
| WPC | 594 | Conference and Workshop | Topical instruction, usually in compressed format, leading to academic credit. Often offered off campus to groups of professionals. | Y | LEC | Y | OPT | W. P. Carey School of Business | Prebusiness Office | 1-12 | | |

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| WPC | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | W. P. Carey School of Business | Prebusiness Office | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| WST | 100 | Women, Gender, and Society | Interdisciplinary introduction examining critical issues in women's studies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Credit is allowed for only WST 100 or WST 300 OR Visiting University Student |
| WST | 191 | First-Year Seminar | Small course emphasizing student-faculty discussion and interaction. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-3 | | Pre-requisites: Must be a freshman with 25 or less total earned hours |
| WST | 194 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| WST | 220 | Gender, Media and Culture | Introduction to gender and the media including magazines, films, advertising, new media, and other popular culture forms. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & C | Credit is allowed for only ENG 220 or WST 220 |
| WST | 235 | Disability, Justice and Advocacy | Overarching history of the disability rights movement and how it is similar to and different from other civil and rights movements. Examines how policies and activism are interconnected within this movement, in addition to looking at other human categories related to disabilities such as gender, sexuality, race and socioeconomic status. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | C | Credit is allowed for only COM 235 or JUS 235 or SST 235 or WST 235 |
| WST | 270 | Global Perspectives on Women | Through lectures, creative class activities and discussions, presents a comprehensive overview of gender and globalization with special emphasis on lived realities of women worldwide. Understands women's lives and gendered experiences through the issues of work, identities (nationality, race, class, age, ability), bodies and embodiment, belief systems, political economy and difference. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Credit is allowed for only WST 270 or WST 294 (Global Perspective on Women) |
| WST | 276 | U.S. Women's Movements | Historical survey of sources influential in the development of the feminist movement in the United States. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | H & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only AMS 276 or WST 276 OR Visiting University Student |
| WST | 294 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| WST | 300 | Women and Gender in Contemporary Society | Advanced interdisciplinary examination of such topics as gender, intersectionality, media and representations, sexuality, politics, health, violence and feminism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): minimum 30 hours; Credit is allowed for only WST 100 or WST 300 OR Visiting University Student |
| WST | 302 | History of Black Women in America | Advanced examination of the challenges that black women have faced historically in America and how they have responded to those challenges socially, politically, economically, and culturally. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & H | Prerequisite(s): AFR 200, WST 100, WST 300, or minimum 45 hours; Credit is allowed for only AFR 302 or HST 335 or WST 302 OR Visiting University Student |
| WST | 313 | Women and Sexuality | Explores U.S. women's sexuality in social context, including how women's sexuality is portrayed in popular media, medicine and education; how girls learn to think about sexuality; and how public policies address women's sexuality. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): WST 100 or WST 300 or minimum 30 hours OR Visiting University Student |
| WST | 320 | Gender, Drugs and Alcohol | Drug and alcohol use have multiple and diverse meanings shaped by their historical, social and cultural context. Examines how and why alcohol and drug use have been identified as social problems and the role of gender in shaping this process. Reviews multiple social and cultural aspects of gender, drug and alcohol use, as well as the emergence of gender-based health disparities within this context. Fulfills a science and society requirement. Basic scientific principles such as the formulation of research questions, data collection and analysis, have been used to develop our understanding of gender, drugs and alcohol. How society influences the nature of those questions, the perceived value attached to particular scientific studies over others, and how to critically evaluate law and policy around drugs and alcohol in light of those studies. | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): WST 100 or WST 300 or minimum 30 hours; Credit is allowed for only WST 320 or WST 394 (Gender, Drugs and Alcohol) OR Visiting University Student |
| WST | 330 | Women, Film and Culture | Critical examination of the way films can reflect, reinforce or challenge mainstream cultural ideas about women. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only ENG 336 or WST 330 OR Visiting University Student |
| WST | 331 | Asian Pacific American Genders and Sexualities | In-depth exploration of gender and sexuality issues as they relate to Asian Pacific American experiences, including interracial relationships, stereotypes, feminism, queer theory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or SB) & C | Prerequisite(s): ENG 101, 105, or 107 with C or better; APA 200 or APA 210 or minimum 24 hours; Credit is allowed for only APA 330 or WST 331 OR Visiting University Student |
| WST | 333 | Critical Perspectives on Sexuality | Examines critical theories of sexuality, including history, commerce, pleasure, LGBT issues, identity, medicalization of sexuality, disorders, sex crime, and pornography. | N | SEM | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): minimum 45 hours OR Visiting University Student |

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| WST | 334 | Class in America | Explores social class and inequality in the U.S. including history, culture, work, politics, globalization and intersections of gender, race, ethnicity and place. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only AMS 334 or ETH 333 or WST 334 OR Visiting University Student |
| WST | 335 | Lost in Space: Gender, Race, and Sexuality in Science Fiction | Surveys the complex interrelationships of biomedical research and discourses of biological difference as reflected in science fiction. Explores such questions as: How have biological scientists explained human differences along axes of gender, race, class, sexuality? In what ways have these scientific discussions manifested themselves in science fiction? | N | LEC | N | GNA | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): WST 100 or WST 300 or minimum 30 hours; Credit is allowed for only APA 394 (Science Fiction Adventures Race/Gender) or WST 335 or WST 394 (Lost in Space: Gender, Race, & Sexuality in Sci Fi) OR Visiting University Student |
| WST | 340 | Gender, Science, and Technology | In-depth examination of the complex interrelationships of gender, science, technology, and society in a number of different contexts. Looks at the participation of women in scientific and technical fields both historically and cross-culturally, and addresses such topics as: gender segregation by status and discipline, feminist theories of gender and science, the conditions under which women have succeeded in the sciences, gender and biological determinism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB | Prerequisite(s): WST 100 or 300 or minimum 30 hours OR Visiting University Student |
| WST | 341 | Latin American Women Writers | In the 20th and 21st centuries, Latin America has seen a proliferation of literature published by women authors. While this explosion of the written word owes in part to changing socioeconomic factors and the opening of the international markets, Latin American women's literary history is often ignored in the canon. Examines the concepts of feminism through a Mexican framework, starting from the point of view of Mexican women theorizing about their own. This is not a history of feminism, but it does aim to highlight certain fundamental texts and key concepts of Mexico's history from the position of women writers, including feminism's critique of social structures beyond the bounds of gender relations. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only LAS 340 or WST 341 |
| WST | 345 | Gender, Religion, and Global Violence | In-depth study of forms of gendered violence in which religion plays a key role in either the practice or perpetuation of that form of violence in a myriad of cultures and contexts. Analyzes current responses and proposes new approaches to combating or redefining these forms of violence, emphasizing the need to understand and respect the religious and cultural contexts in which these actions occur. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G | Pre-requisites: WST 100, 300 or minimum 30 hours |
| WST | 351 | Gender and Hip Hop | Interrogates the history and global proliferation of hip hop as a set of cultural and consumer practices including music, dance, art, fashion, language and entrepreneurialism. Uses an intersectional approach to unpack hip hop's contributions to larger social discourses around race, gender, gender expression, sexuality, sexual identity and sexual expression, and youth culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): minimum 45 hours; Credit is allowed for only AFR 351 or AFR 394 (Gender and Hip Hop) or JUS 351 or JUS 394 (Gender and Hip Hop) or WST 351 or WST 394 (Gender and Hip Hop) OR Visiting University Student |
| WST | 360 | Women as Healers | Advanced examination of the role of women as caregivers, healers, physicians, midwives, and nurses in different cultures and historical periods. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & G | Prerequisite(s): WST 100, WST 300, or minimum 30 hours OR Visiting University Student |
| WST | 364 | Unruly Voices: Black Women and Cultural Narratives | In-depth study of African American women writers and how they (re)define female identities and engage a critical cross-cultural dialogue within the context of cultural history in the United States. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & C | Prerequisite(s): AFR 200 or minimum 45 hours; Credit is allowed for only AFR 365 or WST 364 OR Visiting University Student |
| WST | 365 | Women and International Health | Advanced study of gender-based disparities and global health, including impact of poverty, gender discrimination, political economy, and culture. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | G | Prerequisite(s): WST 100 (or WST 300) or minimum 30 hours |
| WST | 370 | Chronicling Women's Lives | Explores the lives of a selected group of American women as a point of departure for the chronicling of contemporary women's lives. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & C | Prerequisite(s): WST 100 or 300 with C or better OR Visiting University Student |
| WST | 371 | Sex and the City: Women, Sexuality, and Popular Culture | An in-depth study of the changing media representations of young, sexually autonomous women in the city. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & C | Prerequisite(s): WST 100 or WST 300 or minimum 30 hours OR Visiting University Student |
| WST | 373 | Latina/Chicana Issues | Critical examination of the roles Mexican American, Chicana, and/or Latina immigrant women play historically, socially, and politically in the United States and along the border. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): WST 100 (or WST 300) with C or better or minimum 30 hours. Credit is allowed for only TCL 373 or WST 373 OR Visiting University Student |
| WST | 374 | Desperate Housewives | In-depth examination of the representations of women as wives and/or mothers in the popular discourse from the 20th century to current day through an analysis of various forms of popular culture such as film, magazines, popular writing and television. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Pre-requisites: Minimum 30 hours; Credit is allowed for only WST 374 or 394 (Desp Housewives: Gender, Family & Pop Culture) |
| WST | 375 | Women and Social Change | In-depth course on feminist activism and social change. Combines research and theory on a contemporary social problem with a community action experience. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): WST 100 (or WST 300) or minimum 30 hours |

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| WST | 376 | Feminist Theory | Explores feminist theories and the intersection of gender, race, ethnicity, and class through critical analyses. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | H & C | Prerequisite(s): WST 100 or 300 with C or better OR Visiting University Student |
| WST | 377 | History of American Feminist Thought | Critical analysis of the origins and development of American feminist thought and political movements. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | H & C | Prerequisite(s): WST 100 or WST 300 or minimum 30 hours OR Visiting University Student |
| WST | 378 | Global Feminist Theory | In-depth studies of global feminist theories and exploration of the intersections of gender, race, ethnicity, class, and nation through critical analysis. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | L & G | Prerequisite(s): ENG 101, 105 or 107 with C or better; WST 100 or 300 or minimum 30 hours OR Visiting University Student |
| WST | 380 | Race, Gender, and Class | In-depth examination of how social inequalities are reproduced and perpetuated. Explores the intersections of race, class and gender in culture and society. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): WST 100 or WST 300 or minimum 30 hours; Credit is allowed for only AMS 380 or ETH 380 or WST 380 OR Visiting University Student |
| WST | 382 | American Indian Women | Investigate the economic, political and ideological factors contributing to American Indian women's intellectual and creative activities. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | C | Prerequisite(s): minimum 30 hours; Pre- or corequisite(s): AIS 180 or WST 100 or WST 300 with a C or better; Credit is allowed for only AIS 381 or WST 382 |
| WST | 390 | Women, Gender and Religion | Examines the role of women and the construction and practice of gender identities across religious traditions and cultures. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; Credit is allowed for only REL 390 or WST 390 OR Visiting University Student |
| WST | 394 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| WST | 407 | Utopia/Dystopia: Science Fiction and Media | Five science fiction novels by female authors, along with many science fiction films, provide the lens through which students examine the socio-political, artistic and scientific contexts/concepts of utopian and dystopian novels and cinema. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 30 hours; Credit is allowed for only IAP 407 or WST 407 or IAP 394 (Utopia/Dystopia: Science Fiction and Media) |
| WST | 408 | Gender, Sexualities and Literacies | Presents diverse perspectives on gender, sexualities and literacies from preschool to adulthood. Focuses on race, ethnicities, sexual orientation and gender identities to provide overviews of current research on gender, sexualities and ethnicities and examines how these subjectivities are expressed in multiple modes of communication. Explores representations and performances of gender and sexualities through literacy practices in sociocultural and educational contexts. Explores related issues through textbook readings, videos, websites, activities, online discussions and projects. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): min 45 hrs; Crdit is allwd for only ENG 408 or WST 408 or ENG 494 (Gndr, Sexualities, & Lit) or ENG 598 (Gndr, Sexualities, & Li) or MAS 598 (Gndr, Sexualities, & Li) or WST 494 (Gndr, Sexualities, & Lit) OR Visiting University Student |
| WST | 413 | Queer Studies | In depth exploration of lesbian, gay, bisexual, transgender, and queer experiences in the U.S. and globally, from an interdisciplinary perspective. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & C | Prerequisite(s): WST 100 or 300 with C or better or minimum 45 hours |
| WST | 415 | Gender, Culture and Literacy | Explores the interactions and influences of gender and culture on literacy development and practice. Literacy is defined broadly as including the new literacies (e.g., blogs, wikis, zines or self publications) and multiliteracies (e.g., communication through oral, lyrical, visual, digital or written texts) within a broad view of what counts as text. Addresses varying feminist theories and perspectives on masculinities and gender in relation to literacy in home, school, community and work place settings. Participants explore their own written, digital and oral language practices through readings, videos, Web sites, Blackboard discussions, self-reflections, thought papers and action research essays. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 36 hours; Credit for only ENG 443 or ENG 494(Gender, Culture & Literacy) or MAS 598 (Gender, Culture & Literacy) or WST 415 or WST 494 (Gender, Culture & Literacy) OR Visiting University Student |
| WST | 417 | Masculinities, Femininities and Literacies | Explores perspectives on and representations of masculinities and femininities in literacy development and practice. Addresses, beginning with adolescence, a time of identity exploration, feminist and gender perspectives in relation to oral language, reading, writing and electronic communications in home, school, community, education and work settings. Examines gender performance as a local/global issue. Explores the influence of gender on written, digital and oral language practices through textbook readings, videos, websites, self-reflections, thought papers and/or alternative format responses to weekly questions on the course materials, and Blackboard discussions. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prerequisite(s): minimum 36 hours; Credit is allowed for only ENG 449 or ENG 494 (Masculinities, Femininities, and Literacies) or MAS 598 (Masculinities, Femininities, and Literacies) or WST 417 or WST 494 (Masculinities, Femininities, and Literacies) |
| WST | 420 | Women of Color in Film | An in-depth analysis of the history and representations of women of color in film and the film industry through the intersections of gender, race, sexuality, class, and nationalism. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & C | Prerequisite(s): WST 100, WST 300, or minimum 45 hours; Credit is allowed for only AFR 418 or WST 420 OR Visiting University Student |
| WST | 421 | Girlhood and Adolescence | Critical analysis of the changing construction of girlhood and female adolescence through history, memoir, fiction, myth, music, and media. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & C | Prerequisite(s): WST 100, WST 300, or minimum 30 hours OR Visiting University Student |

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| WST | 422 | Women, Law, and Social Control | Examines social, economic, and legal factors that are relevant to mechanisms of social control of women, including formal legal control and informal control through violence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only JUS 422 or WST 422 |
| WST | 428 | Gender, Madness and Justice | Interrogates the interplay among gender, madness and justice; that is, the treatment of women and men within psychological discourses both individually and within the culture at large. Utilizes a feminist and social justice perspective to interrogate a variety of subjects related to the psychology of women and gender, including histories of madness, socialization, childhood, adolescence, intelligence, eating behavior, sexuality, queerness, violence, depression, therapy and activism. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB | Prerequisite(s): WST 100 or 300 with C or better OR Visiting University Student |
| WST | 430 | Gender on the Borderlands | Examines women's status in the U.S.-Mexico borderlands through key issues such as migration, labor, violence, education, and culture. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & G | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 24 hours OR WST 100 or 300 with C or better; Credit is allowed for only ETH 430 or LAS 430 or WST 430 or JHR 598 (Gender on the Borderlands) OR Visiting University Student |
| WST | 433 | Race and Sexualities in Social Justice Movements | Investigates queer communities, social control and political resistance. Topics include collective responses to trauma/violence, heteronormativity, and variants of institutionalized racism and sexism. Gives special attention to race and sexuality intersections as well as the politics of coming out, LGBT activism, antiracist movements, the role of allies, and social movement strategies. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | | Prereq(s): ETH 100, HRC 200, or WST 100 w/C or better OR ENG 102, 105, or 108 w/C or better; minimum 36 hours; Credit is allowed for only ETH 433 or JHR 433 or WST 433 or ETH/WST 494 (Race, Sexuality, & Soc Justice Mvmts) OR Visiting University Student |
| WST | 440 | Politics of Women's Health | In-depth and interdisciplinary exploration of how women's social, cultural, and economic position affect their health and health care. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): WST 100, WST 300, or minimum 45 hours OR Visiting University Student |
| WST | 444 | Gender, Health, and Bodies | Explores gender and health from a feminist perspective, including critical analyses of medicine, science, and popular culture. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB | Prerequisite(s): WST 100 or 300 with C or better; Credit is allowed for only MAS 598 (Gender, Health, and Bodies) or WST 444 |
| WST | 447 | Gender, Culture, and Development | In-depth analysis of gender roles related to health, family, work, education and politics in developing countries. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | (L or SB) & G | Prerequisite(s): ENG 101, 105 or 107 w/ C or better; WST 100 or 300 or minimum 45 hours; Credit is allowed for only SGS 454 or SOS 447 or TCL 447 or WST 447 or TCL 598 (Gender, Culture & Development) OR Visiting University Student |
| WST | 449 | Hate Speech, Manifestos, and Radical Writings | Examines writings, speeches and texts that provoke radical or even revolutionary social change. At its core, this course asks: What is the radical and what does it do? How do radical writings function as texts, speech acts, inspirational documents, testimonies, accounts of madness, frightening moments, calls to arms, peacekeeping entities or speaking truth to power? Examines injurious speech and provocative writings that span a range of social movements and topics, including radical feminism, radical queer, Black power, indigenous rights, art and performance, anti-technology, animal rights, violence, madness and revolutionary resistance. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): minimum 35 hours; minimum 2.50 GPA; Credit is allowed for only AMS 449 or ETH 449 or WST 449 OR Visiting University Student |
| WST | 454 | Gender and Literature | Focuses on the representation of gender in literature. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | L or HU | Prerequisite(s): ENG 101, 105, or 107 with C or better; Credit is allowed for only ENG 454 or WST 454 OR Visiting University Student |
| WST | 457 | Women, Cultures, and Societies | Examines issues such as poverty, dependency, interdependency, race, class, and gender in different societies of the world. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & G | Prerequisite(s): WST 100 or 300 with C or better OR Visiting University Student |
| WST | 460 | Women and the Body | In-depth analysis of the cultural construction of the gendered body and societal prescriptions about beauty, body image, and size. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): WST 100 or 300 or minimum 45 hours OR Visiting University Student |
| WST | 467 | Ethnic Women Writers | Concentrates on selected women writers of the U.S. who are Native American, African American, Latina, and Asian-American. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & C | Prerequisite(s): WST 100 (or WST 300) with C or better; Credit is allowed for only ENG 460 or WST 467 |

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| WST | 469 | Abject Bodies and the Politics of Trash | Examines the possibilities inherent in "theorizing from the gutter"; looking at the world not from a lofty "Ivory Tower" but from the slime, the muck, the dumpster, the trash heap, the wasteland, the discarded and the downtrodden. Takes its theoretical framework from a radical 1960s manifesto called SCUM Manifesto by Valerie Solanas and from the French feminist philosophies of Julia Kristeva, who theorized the abject as a relationship with the grotesque that reveals the deep-seated fear of death. Uses these theoretical positions to examine trash, both abstractly and literally. Works through a variety of concepts ranging from actual trash, garbage, waste, toxic sludge, pollution and dirt, and tackles more abstract notions of trash such as the knowledge produced on the fringe in circuses, amusement parks, "trailer trash" zones, freak shows and the bodies of those marked as "Other" or different. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 36 hours; Credit is allowed for only AMS 469 or ETH 469 or JHR/MAS 598 (Abject Bodies and the Politics of Trash) or WST 469 OR Visiting University Student |
| WST | 470 | Gender and Popular Culture | Advanced interdisciplinary examination of how gender is constructed in various popular cultural forms such as film, television, magazines, and music. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & C | Pre-requisites: WST 100 or WST 300 or minimum 45 hours |
| WST | 471 | Women's International Human Rights | In-depth study of the core themes of a global movement for women's international human rights. Analyzes the historical evolution of the development of international human rights and women's rights within the United Nations and regional human rights systems. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): WST 100, WST 300, or minimum 45 hours; Credit is allowed for only AFR 470 or AFR 598 (Women's International Human Rights) or WST 471 OR Visiting University Student |
| WST | 473 | Indigenous and Latina/Chicana Representation | Examines from an interdisciplinary perspective contemporary issues experienced by Indigenous and Chicana/Latina women in the U.S. | N | LEC | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): ENG 102, 105, or 108 with C or better; minimum 45 hours; Credit is allowed for only ETH 473 or LAS 473 or WST 473 |
| WST | 477 | Gender and Violence | Critical examination of gender-based violence from societal, institutional and individual levels using intersectional and interdisciplinary perspectives. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | SB & C | Prerequisite(s): WST 100 or 300 or minimum 45 hours OR Visiting University Student |
| WST | 483 | Women Writers Across Cultures | Comparative approach to contemporary writings by women from around the world. | N | SEM | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | HU & G | Prerequisite(s): WST 100 or 300 with C or better OR Visiting University Student |
| WST | 484 | Internship | Structured practical experience following a contract or plan, supervised by faculty and practitioners. | Y | LEC | Y | GNA | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| WST | 485 | Women, Gender, and Leadership | Explores the gendered nature of leadership and studies strategies that enable women to lead successfully in areas such as business, education, and public service. | N | SEM | N | OPT | New College of Interdisciplinary Arts and Sciences | School of Humanities, Arts, and Cultural Studies | 3 | SB & C | Prerequisite(s): WST 100 or 300 with C or better OR Visiting University Student |
| WST | 490 | Transborder Queer Performativity | Explores a rich and diverse body of border-crossing performative expression created by queer and/or Latina/o artists. Course readings and discussions include solo and collaborative works with an emphasis on solo autobiographical performance scripts as well as performer interviews and performance scholarship. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | HU & C | Prerequisite(s): ENG 102, 105 or 108 with C or better; minimum 45 hours; Credit is allowed for only TCL 490 or WST 490 |
| WST | 492 | Honors Directed Study | Independent study in which a student, under the supervision of a faculty member, conducts research or creative work that is expected to lead to an undergraduate honors thesis or creative project. | N | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-6 | | Prerequisite(s): Barrett Honors student |
| WST | 493 | Honors Thesis | Supervised research or creative activity focused on preparation and completion of an undergraduate honors thesis or creative project. | N | RSC | N | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-6 | L | Prerequisite(s): Barrett Honors student; ENG 101, 105, or 107 with C or better |
| WST | 494 | Special Topics | Covers topics of immediate or special interest to a faculty member and students. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| WST | 498 | Pro-Seminar | Small-group study and research for advanced students within their majors. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-7 | L | Prerequisite(s): Gender, Women and Sexuality Studies major; ENG 101, 105, or 107 with C or better; WST 100 or 300 with C or better |
| WST | 499 | Individualized Instruction | Provides an opportunity for original study or investigation in the major or field of specialization, on an individual and more autonomous basis. | Y | IND | Y | GNA | College of Liberal Arts and Sciences | School of Social Transformation | 1-3 | | |
| WST | 501 | Foundations of Feminist Thought | Provides key concepts and theories that have shaped the field of women and gender studies. Also provides overview of resources for research in women's studies scholarship at ASU and prepares students to participate in the field. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only WST 501 or WST 691 (Foundations of Fem Thought) |
| WST | 502 | Interdisciplinary Gender Research Methodologies | Describes the ways in which feminist scholars conceptualize and design their research. Explores the decisions scholars make in their research including the choice of research topics, applications of feminist theories and methodologies, the choice of methods and how and why feminist scholars have increasingly incorporated interdisciplinary methods, and what is at stake in these decisions for the research design and research outcomes. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |

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|---------|-------------|---|---|-------------------|-------------------|-----------------|---------------|--------------------------------------|---------------------------------|-------|-----------------|--|
| WST | 590 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| WST | 591 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisites: degree-seeking graduate students only |
| WST | 592 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a thesis or dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| WST | 593 | Applied Project | Preparation of a supervised applied project that is a graduation requirement in some professional majors. | Y | LEC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| WST | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | LEC | Y | Z3 | College of Liberal Arts and Sciences | School of Social Transformation | 1 | | |
| WST | 598 | Special Topics | Topical courses not offered in regular course rotation--e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-4 | | |
| WST | 599 | Thesis | Supervised research focused on preparation of thesis, including literature review, research, data collection and analysis, and writing. | N | LEC | N | Z2 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| WST | 601 | Critical Concepts of Gender | Key concepts, theoretical frameworks, disciplinary and interdisciplinary approaches, and the critical debates that have shaped the field of gender studies. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Pre-requisites: degree-seeking graduate students only |
| WST | 602 | Mapping the Intersections of Gender | Theoretical concepts, metaphors, and frameworks employed by feminist scholars to understand the way gender articulates with other categories of difference. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Pre-requisites: Degree-seeking graduate students only |
| WST | 603 | Engendering Methodology | Focuses on the methodologies, epistemologies, and ethical dilemmas of researching gender. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Pre-requisites: Degree-seeking graduate students only |
| WST | 615 | Masculinities | Explores the theoretical concepts, frameworks and disciplinary and interdisciplinary approaches that have accompanied the emerging analysis of masculinity studies as a field. Interrogates the ways in which masculinities have been defined in relation to femininities and other institutionalized constructions of difference, and how these definitions have contributed to material conditions and specific socio-historical contexts in which gendered bodies are included or excluded, privileged or disadvantaged, taken for granted or contested. Considers the articulations and contestations of diverse masculinities as expressed through gender, race, sex, ethnicity, sexuality, kinship, politics, popular culture, economics, nationalism, science and medicine, and violence. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only WST 615 or WST 691 (Masculinities) |
| WST | 620 | Advanced Feminist Theory in a Transnational Context | Concentrates on transnational feminist theory and its intersections with queer theory, postcolonial theory, and critical race theory. Also looks at the ways in which (or indeed, whether) academic discourses have anything useful to say about the worlds in which we live. Among the questions we'll need to have constantly in our minds are: In what ways has feminist theorizing changed over time? Does transnational feminist theory challenge or even undermine previous feminist theoretical discussions or the perspectives you might be familiar with from your undergraduate days? What kinds of engagements do our authors have with theorists in other areas (queer studies, postcolonial studies, critical race theory)? Can you discern any sort of new feminist grand narrative emerging from these works? In what ways might our authors' perspectives help you conceptualize and contextualize your own work? | N | SEM | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only WST 620 or WST 691 (Feminist Theory) or WST 791 (Feminist Theory) |
| WST | 640 | Visual and Narrative Culture | Feminist analysis of gender representations in visual and narrative culture, including film, dramatic literature, fiction, and autobiography. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Pre-requisites: Degree-seeking graduate students only |
| WST | 690 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |

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| WST | 691 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Prerequisite(s): degree-seeking graduate student |
| WST | 701 | Research Design and Proposal Development in Gender Studies | Prepares students for careers in gender studies by developing skills in research design, proposal writing, and identifying funding outlets. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 3 | | Pre-requisites: Degree-seeking graduate students only |
| WST | 790 | Reading and Conference | Independent study in which a student meets regularly with a faculty member to discuss assignments. Course may include such assignments as intensive reading in a specialized area, writing a synthesis of literature on a specified topic, or writing a literature review of a topic. | Y | IND | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | |
| WST | 791 | Seminar | A small class emphasizing discussion, presentations by students, and written research papers. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Social Transformation | 1-12 | | Pre-requisites: Degree-seeking graduate students only |
| WST | 792 | Research | Independent study in which a student, under the supervision of a faculty member, conducts research that is expected to lead to a specific project such as a dissertation, report, or publication. Assignments might include data collection, experimental work, data analysis, or preparation of a manuscript. | Y | RSC | Y | Z1 | College of Liberal Arts and Sciences | School of Social Transformation | 1-15 | | |
| WST | 795 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | IND | Y | Z3 | College of Liberal Arts and Sciences | School of Social Transformation | 1 | | |
| WST | 799 | Dissertation | Supervised research focused on preparation of dissertation, including literature review, research, data collection and analysis, and writing. | Y | RSC | Y | Z2 | College of Liberal Arts and Sciences | School of Social Transformation | 1-15 | | |
| WWS | 460 | World War II | Explores the causes, conduct and consequences of World War II. When did World War II start? How was it fought, and what did that mean for soldiers, the homefront and millions of civilians in Japanese or German occupied regions? What did the world that emerged in its wake look like? The course explores these fundamental questions with an emphasis on multiple explanations of the causes of the war in Asia and Europe and the contingency of Allied victory. Explores the war as both a total and a global war in which perceptions of race, class and gender shaped the experience of combatants and noncombatants, many of whom died in indiscriminate bombing campaigns. Racial ideologies also led to the brutalization of soldiers, which in turn fueled the violence against civilians, as exemplified by the Holocaust and Japanese war crimes. Finally, the course turns to the global order emerging after the war and the different narratives that emerged from it. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | HU & H & G | Prerequisite(s): minimum 45 hours; Credit is allowed for only HST 460 or HST 494 (Introduction to World War II Studies) or HST 494 (World War II Studies) or JST 460 or WWS 460 OR Visiting University Student |
| WWS | 561 | Decision Points I | In-depth analysis of the origins, impact and controversies over the key decisions related to the beginning and early years of World War II, with an emphasis on the contingent nature of historical events. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| WWS | 562 | Decision Points II | In-depth analysis of the origin, impact and controversies over the key decisions related to the later years and the ending of World War II, with an emphasis on the contingent nature of historical events. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| WWS | 563 | The Lived Experience of World War II | Using the vast oral history collection of the National World War II Museum in New Orleans, Louisiana, this course examines how individuals experienced the war. A number of factors shaped how people experienced the war--whether one was a soldier, non-combatant, resistor or collaborator. Focuses on how ordinary people made sense of their experiences during the war. In addition, students explore the theory and practice of collecting and using oral histories. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): WWS 561; WWS 562 |
| WWS | 564 | The Global War | Examines the global dimensions of World War II with particular focus on those regions which have been deemphasized in Western historical discourse. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): WWS 561; WWS 562 |
| WWS | 566 | World War II Today | Analyzes the impact and legacy of World War II, with an emphasis on the roots of contemporary problems and issues. A global conflict that impacted millions of people, World War II fundamentally reshaped the political and cultural landscape of our planet. Explores the new global order that emerged after the end of World War II in 1945. While the war had immediate impacts in the postwar era, the legacy of the war continues to inform current conflicts across the globe and resonates in the current social and political order. This is especially apparent in how contemporary narratives situate, remember and memorialize the war. Uses themes to help us think historically and uncover the historical roots of the present order. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): WWS 561; WWS 562 |

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| WWS | 567 | World War II in Film | Offers a comprehensive survey of how film has represented the Second World War. Using a transdisciplinary approach, studies how films from the time of the Second World War to the present have portrayed that conflict. Compares different perspectives on the causes and results of the war, as well as engage in analysis of how important issues such as international political and economic relationships, religion, gender, ethnicity, class, race, technology and the psychological effects of violence get shown in movies about World War II. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ENG 567 or FMS 567 or WWS 567 |
| WWS | 568 | World War II in Literature | Explores the topic of World War II across fiction, non-fiction, film and other film genres. Focus areas and topics of literature covered in the course may vary from semester to semester, depending upon instructor preference. | N | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student; Credit is allowed for only ENG 568 or WWS 568 |
| WWS | 569 | Memory and Monuments | Focuses on the historical memory of World War II by examining the processes of commemoration, monument building, and memorialization. Through theoretical texts and case studies, students explore how societies remember and forget and how they create collective memory. | N | LEC | N | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| WWS | 580 | Practicum | Structured practical experience in a professional program, supervised by a practitioner or faculty member with whom the student works closely. | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| WWS | 591 | Seminar | A small class emphasizing discussion, presentations by students and written research papers. | Y | SEM | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-12 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| WWS | 595 | Continuing Registration | Used in situations where registration is necessary but where credit is not needed. Replaces arbitrary enrollment in reading and conference, research, thesis, dissertation, etc. Used by students when taking comprehensive examinations, defending theses or dissertations, or fulfilling the continuous enrollment requirement in doctoral programs. Credit is not awarded, and no grade is assigned. | Y | RSC | Y | Z3 | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1 | | Prerequisite(s): degree- or nondegree-seeking graduate student |
| WWS | 597 | Capstone | Students draw on the experiences, skills and competencies they developed throughout the WWII Studies MA program to generate a digital portfolio that showcases the breadth and depth of their MA experience. Students refine and extend work they produced in previous WWS courses and also develop reflective essays that critically assess their performance in the program, as well as essays that articulate the transferable value of the degree to potential employers or admissions committee members. Through required components in the portfolio students demonstrate competency in source analysis, comparative analysis and argumentation, as well as the ability to effectively communicate to scholarly and public audiences. | N | LEL | N | GNA | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 3 | | Prerequisite(s): 21 hours of 500-level courses with C or better including WWS 561; WWS 562; WWS 563; WWS 566 |
| WWS | 598 | Special Topics | Topical courses not offered in regular course rotation (e.g., new courses not in the catalog, courses by visiting faculty, courses on timely topics, highly specialized courses responding to unique student demand). | Y | LEC | Y | OPT | College of Liberal Arts and Sciences | School of Historical, Philosophical and Religious Studies | 1-4 | | Prerequisite(s): degree- or nondegree-seeking graduate student |